ATTACHMENT A

FIELD NOTES AND CALIBRATION RECORDS

"Rite in the Rain"®
ALL-WEATHER
LEVEL
No. 311

SLIP 4 EARLY ACTION
A0006 14L
8/24/11 – 10/17/11

"Rite in the Rain"®
ALL-WEATHER WRITING PAPER

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Project

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8/24/11 J SUND

0800 Arrive at Alki Park boat launch to meet boat
weather: cool (60's) sunny, forecast ⇒ hot (80's) sunny
Crew: J SUND, J Sexton } Integral
S Saugen - Gravity
Boat: RV Selkirk, 32' jetboat
Plan: Collect surface sediment (0-10cm) from boundary definition sampling locations BD1-BD8. Samples will be collected following Sampling and analysis Plan (dated)
Load gear on boat
0830 Health and Safety briefing
Discussed boat hazards and location of safety equipment. Went through Health and Safety Plan noting hazards associated with sampling: general

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8/24/11 J SUND

boat hazards, (pinch points, overwater) presence of hexane on boat (for decon), preservatives (nitric acid) sample bottles for equipment blank.
No concerns noted by personnel.
0845 Depart boat launch, mob to site. Decon sampling equipment (bowls, spoons) and Power Grab as per SAP
0935 Arrive @ site. Observers on Crowley dock:
Karen Keeley - EPA
Cynthia - City of Seattle
Eric Pilcher } Integral
John Lalley
Begin sample collection @ BD-1
0950 At BD-1, grab in WD = 13.4' (water depths measured using Vexilar LPS-1 LCD portable

8/24/11 J. Sund

Sounder.
Tidal height = 2.4'
K. Keeley commented on sampling technique related to measuring depth of sample collection. We noted we were using measured spoon @ this locate due to softness of sediment. At other locations will use plastic deconned ruler. (will not collect sediment that comes in contact w/ ruler).
Also asked about how we will collect intertidal. We will attempt to use grab if access allows in order to get representative sample.

1025. Complete collection @ BD1
Sample No: SD0001
Tag # 1001-1004
Move to BD-2

Photo Log

Time	Photo #	Direction	Description
0948	1399	W	@ BD 1
0959	1400	down	Grab BD 1
1030	1401	NE	@ BD 2
1041	1402	down	Grab BD 2
1044	1403	down	BD2 (Grab collect depth)
1118	1404	down	BD-4
1118	1405	W	BD-4
1119	1406	down	BD-4 sample hole
1119	1407	E	BD-4 location
1144	1408-10	down	BD-8 grab
1246	1409-12	down	Grab BD-5
1340	1413	E	@ BD-5
1348	1414	down	Grab BD5
1420	1415-16	down	Grab BD 6
1424	1417	E	Filling sample jars.

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1030 On location BD-2
Grab in, WD = 14.8'
1035 Collect sample BD-2
Sample No: SD0002
Tag # 1005-1008
1100 Complete collection BD2
Move to BD4
BD4 is located above waterline @ this point in intertidal area. Will leave boat w/ handheld GPS (Trimble Geo XH), sample bowls + spoon to collect sample.
1118 At BD4, collect sample
47° 32' 06.973' N
122° 19' 09.846' W
Sample No: SD 0005
Tag No #1009-1012
Note: abundant riprap in area, had to find location nearest target BD4 w/ sufficient sediment for sampling.

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8/24/11 JSUND

1136 Complete collection @ BD4
To BD8, 2nd intertidal location. This location is below water, will collect using Power Grab.
1141 On location BD8, grab in
1144 Collect sample BD8
WD = 13.3' Tide = 5.6'
Oversight departs
Sample No: SD0009
Tag #: 1013-1016
Grab contained riprap in jaws + sediment on either side of riprap. Sufficient sediment to sample (0-12cm available) sampled 0-10cm.
1200 Complete collection BD8
1220 To BD3. Will collect field split, additional volume for lab QA/QC + equipment rinse blanks @ this location
1230 On location BD3, grab in
WD = 17.8'

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8/24/11 J-SUND

1240 Collect sample BD-3
Sample No SD0003
Tag No 1017-1024
Collect field split
Sample No SD0004
Tag No: 1025-1028
Also collected Lab QA/QC
On SD0003, Tag #'s 1021-1024
1300 Complete collection BD-3
1310 Collect rinsate blanks
(1) bowls + spoons
(2) Power grab + bowl
(3) DI blank (lab)
1310 (1) Sample No: RB0001
Tag No: 1029-1034
1320 (2) Sample No RB0002
Tag No: 1035-1040
(bowl used to transfer
water to sample bottles)
1330 (3) Sample No: RB0003
Tag # 1041-1046
1335 Complete rinsate collection
Move to BD-5
1340 At BD-5, grab in

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8/24/11 J.SUND

WD = 20.2'
1345 Collect sample BD-5
Sample No: SD0006
Tag # 1047-1051
1405 Complete collection BD-5
Move to BD-6
1410 At BD-6, grab in
WD = 21.0'
1415 Collect sample BD6
Sample No: SD0007
Tag No: 1052-1057
1428 Complete collection BD-6
Move to BD-7
1438 At BD-7, Grab in
WD = 22.0'
1442 Collect Sample BD-7
Sample No: SD0008
Tag No: 1058 - 1063.
1455 Complete collection BD-7
and complete sample
collection for day.
Note: In between Sample
Station equipment
(bowls, spoons, Power grab)

8/24/11 J.SUND

were deconned following procedures outlined in SAP. Due to health & safety concerns, Methanol was not used in decon process. Hexane was available on board in event there was oily residue on equipment after initial decon. Hexane was not needed during this sampling event. No oily residues were observed

1510 Mob back to Alki beach boat launch. Sample bottles packed for hand delivery to ARI Tukwila

Note: Samples kept on ICE in cooler after collection & throughout day.

Note: each grab measured using plastic deconned

8/24/11 J.SUND

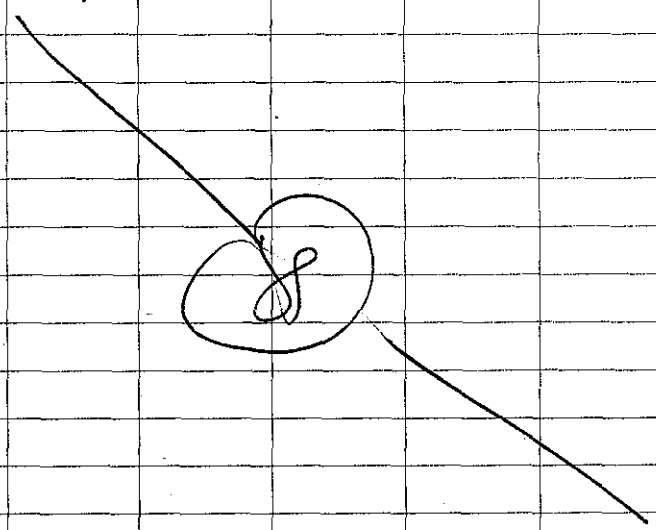
ruler. Sediment that came in contact w/ ruler was not sampled.

1530 Arrive @ boat launch, unload gear

Mob to ARI labs in Tukwila to deliver samples.

1715 Arrive @ ARI and turn over samples

1740 Depart ARI labs.



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10/4/11 WQ Monitoring J-SUND

0930 At South Park Marina to meet Gravity.
Vessel: R/V Elwah, 28' jet boat (two diesel)
Crew: J. SUND] Integral
B. LAWRENCE]
S. HINZ - GRAVITY
weather: cool, cloudy (50's)
Plan: Dredging activities begin in Slip 4 today therefore Water Quality Monitoring will also begin Today will monitor + collect grab samples @ 2 stations (compliance + ambient) during slack + ebb tide)
Brief Health & Safety meeting regarding site activities, boat safety, potential exposure to chemicals. Exposure expected to be limited. Crew will wear nitrile gloves + proper PPE @ all times.

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10/4/11 WQ Monitoring J. SUND

At request of DNR Schuchardt (SPU) we will occupy compliance + ambient stations to get a background turbidity prior to dredging.

1015 Calibrate water quality meter. (Hydrolab MS5)
~~10/4/11~~
pH 10 ± 0.01 @ 25°C (Hydrotech ZS consulting) reads
pH 4.01 Lot # A6278 Cat # 22834-56
pH reads 4.01
pH 7.0 Lot # A9085
pH reads 7.0 @ 13.6°C
Turbidity (10 NTU) Lot # 9092114 Hydrotech ZS
Turb reads =
Turbidity (20 NTU) Lot # 0021227 Hydrotech ZS
reads =
Conductivity (250 mmhos @ 25°C) 6943-41 Hydrotech ZS
reads = 255 uS/cm
DO (mg/L) is set to barometric pressure of 764 mm Hg

1120 Complete calibration, mob to ambient station

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10/4/11 J.SUND

1140 At ambient location to collect background WQ measurements.
Collect @ 3.0' + 21.6'
ambient locatn is ~ 28.0' off dolpin on S. side of mouth of slip

1145 Talked to E.Pilcher (Integral) Dredging company will not be dredging today. We will go ahead + collect water quality measurements but will not collect samples for analytical.

1200 At incorrect ambient, reposition + collect WQ measurements again @ 3.0 + 23.3'. Locatn ~ 70' from dolphin

1220 To Compliance Station to collect background meas. Collect @ 3.0' and 22.2'

15

10/4/11 J.SUND

1250 At ambient station to collect slack tide (1252pm) Water Quality Measurements

1255 Collect @ 3.0' and 26.7'.

1315 At compliance station for slack tide. Collect WQ @ 3.0' and 20.5

1325 ~~1404~~ Head back to S.Park Marina for lunch break

1405 Back to Slip 4 to collect WQ @ EB Tide (listed as 221pm on chart)

1417 At ambient location Collect WQ @ 3.0' and 22.5'

1439 At compliance location Collect WQ @ 3.0' and 21.6'

1450 Complete WQ measurements for day
Test Niskin setup for water collection on Tuesday. Equipment works well.

1618 Conduct calibratn check on Hydrolab.
pH 4.01 std; actual 4.17

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10/4/11 J. SUND

pH 7.0 std; actual pH = 6.97
cond std 250 µS/cm; actual 317 µS/cm
Turbidity @ 0 NTU reads 0 NTU (air)
Note: ran 1 step calibration on turbidity (0 NTU) as standard solutions were not reading correctly. Will bring brand new solutions tomorrow for recalibration.

1700 END

18

17

10/5/11 J. SUND

1200 At S. Park Marina to meet boat + boat crew.
Crew: J. Sund - Integral
M. Duffield - Gravity
Weather: cool, 50's, rain

1210 Talked to John Cally regarding dredge activities today. He projects they will start in next couple hours. We have plan to monitor + collect water samples @ 200pm + 330pm today. Also discussed switching over to YSI water meter for remainder of WQ monitoring events.

Using YSI 6920 / 650 MDS today. Unit was calibrated by EQUIPO this morning.
Conductivity 1000 µmhos lot # 6957
pH 7 Lot # 1808577
pH 4 Lot # 2407506
ORP - 231 mV (YSI Zobell lot # 10869)

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10/5/11 J. SUND

pH 10 Lot #1906640; DO: Air @ 760mmHg
DO (zero test), Turbidity 0, 20 + 100 NTU

1230 Decontaminate Niskin bottle setup using Liquinox wash + DI rinse.
Will use clean, dedicated tubing on niskin for each sample collected.

1240 Health + Safety briefing. Discussed site activities + boat safety. No concerns noted.

1310 Talked to J. Lally. He said dredging has not yet commenced. We will not collect a Niskin water sample unless dredg occurs. We will continue to do WQ monitoring as per schedule.

1400 At ambient station to collect WQ parameters for slack tide
Collect @ ~~0.5~~ 3.0' + 22.8'
JS 10/5/11

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10/5/11 J. SUND

At compliance. Collect @ 0.3.0' and 18.5'

1530 At ambient location to collect WQ parameters for ebb tide. WD = 25.6'
Collect @ 3.0' and 22.6'

1549 At compliance to collect WQ WD = 22.9
Collect @ 3.0' and 20.0
No dredging occurred today during monitoring schedule therefore no samples collected

1600 DO calibration check
on YSI =
pH 4.0 = 4.04
pH 7.0 = 7.02
Turb 0.0 = 0.0
Turb 20.0 = 21.0
Cond (250uS/cm) = 375 uS/cm will recalibrate
ORP (229 mV) = 220 mV

Mob back to S. Park Marina

1622 At Marina, unload gear

20

10/6/11 J.SUND

1330 Arrive @ South Park Marina for WQ monitoring.
Crew: J.SUND (Integral)
M.DUFFIELD (Gravity)

1340 Talked to E.Picher regarding status of work. No dredging occuring today, only bank excavation. Will not collect water samples but will continue w/ WQ monitoring per. schedule.

1400 Brief H+S discussion + review of scope of work for day.
Check YSI calibration
Note: recalibrated DO sensor @ 0925 on 10/6/11
Readings after calibration
T= 22.71°C DO$_{sat}$ = 30.8
DO = 10.25 mg/L cond = 72 µS/cm
pH = 7.45
(readings taken on tap water)

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10/6/11 J.SUND

pH 4.00 +/- 0.01 pH @ 25° lot #9059
reads = 4.33
pH 7.0 +/- 0.01 pH @ 25°C lot # 9127
reads = 6.92
Conductivity 1,000 µS/cm +/-1% @ 25°C lot #9214
reads = 1000 µS/cm
0 NTU, reads = 0.2 NTU
20 NTU, reads - 19 NTU
Recalibrate pH @ 4.0 + 7.0
pH 7.0 now reads 7.01
pH 4.0 now reads 3.99

1435 Talked to Dave Schuchardt (SPU) He wants us to mob to site and collect WQ measurements now as they have just completed ~30 minutes worth of dredging. Will not be dredging any more today, so will only take 1 round of WQ measurements @ ambient + compliant. He suggests for tomorrow

22

10/6/11 J. SUND

we identify an early time to monitor so that we will be out when dredging is occuring. Will review tide charts tonite.

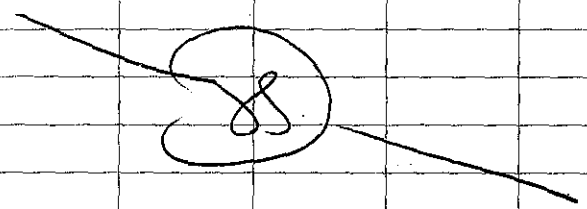
1440 Motor to Slip 4

1448 At ambient station to collect WQ measurements @ 3.0' and 22.6 (WD = 25.6)

1459 At compliance station collect @ 3.0' and 22.3 (WD = 25.3)

1510 Calibration check on Sonde.
pH 4 → 4.02
pH 7 → 7.07
cond (1000 uS/cm) → 1030 uS/cm
Turb 0 NTU → 0.4 NTU
Turb 20 NTU → 19.8 NTU.

1600 At South Park Marina.



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10/7/11 J. SUND

0915 At South Park Marina
Talked to E. Pilcher regarding today's monitoring activities. Plan is to collect WQ measurements and samples beginning @ 1130 today (when dredging is occuring) This is @ requesto of D. Schuchardt (SPU). Prior to that will observe transloading operations @ LaFarge from the water.
Will resume regular schedule of monitoring beginning w/ high tide measurement around 530 pm unless otherwise directed.

0930 Crew: J. SUND - Integral
M. Duffield - Gravity
weather: cool (50's), lt. rain, cloudy
Brief H+S + Scope of work for day discussion.

10/7/11 J. Swad

0940 Depart Marina Motor to LaFarge to observe transloading operations of both bank + dredgate material.

1000 At LaFarge. No transloading operations occurring at this time. Talked to E. Picher. He says they should be starting soon. Will wait to observe.

Check calibration of YSI
pH 4.0 → 4.00
pH 7.0 → 6.99
Cond (1000 uS/cm) → 1030 uS/cm
Turb (0 NTU) → 0.2 NTU
Turb (20 NTU) → 19.8 NTU

1020 Starting to offload barge (dredgate material) Did not observe any material release to water from the water side.

1057 Depart LaFarge + mob to Slip 4 for 1st WQ monitoring

Photo Log

Time	Photo #	Direction	Description
0959	100-0021	W	Barge @ LaFarge
0959	100-0022-0023	"	"

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10/7/11 J-SUND

event of day. This event will be during Flood tide

1110 Talked to E. Picher, dredging has not begun and therefore we will not monitor until it commences.

1120 Talked to E. Pilcher + he talked to J. Lally who said a Y4 barge was loaded ~~out~~ JS 10/7/11 today, so we will proceed w/ WQ monitoring + sampling as planned.

1130 At ambient station, collect WQ meas @ 3.0 and 16 (WD=19) Highest turbidity reading (4.9) @ 16.0, so will collect grab sample for TSS + PCBs @ this depth using 5L Niskin setup. Fill 2-1 amber + 1 ~~500ml~~ 1g OJ JS 10/7/11 Label + store on-ice. Decon Niskin + replace sample tubing.

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10/7/11 JSUND

Sample SW0001, SLY-SW02A JS 10/7/11
Sample time: 1140

1157 At compliance station, Collect WQ @ 3.0 + 17.7 (WD=20.7)
Collect water grab @ highest turbidity (7.5 @ 17.7')
Collect add'l sample for lab QA/QC
Sample Name: SW0002
SLY-SW07A JS 10/7/11
Sample Time:
Collect 4 1L amber
2 ~~500ml~~ 1g OJ HDPE JS 10/7/11

1210 Collect Field replicate @ this station. Send Niskin down to same depth as sample + collect 5L for replicate
Sample Time: 1210
Sample Name: SW0003
SLY-SW07A2
Collect 2 1L amber
1 1Lg HDPE

10/7/11 JSWD

1227 Collect EQupment rinse blank by filling niskin w/ Lab grade DI from ARI + sampling using new tubing.
Sample time: 1230
Sample name: RB0001
Collect 2 1L Amber
~~1 1g OJ~~ JS 10/7/11

1240 Collect DI water blank on Lab supplied DI by pouring from carboy to 2 1L Ambers
Sample time: 1240
Name: WB0001
All samples labeled, bagged + store on ice.

1245 To Marina. Back to office to pick up more sample containers.

1400 Back @ Marina. Waiting for high tide monitoring.

1515 Mob to Slip 4 to collect slack tide WQ + samples

10/7/11 J.JWD

@ highest turbidity (both ambient + compliance

1529 At ambient collect WQ @ 3.0 and 22.5 (WD=25.5) moved to compliance 1st
Talked to E. Pilcher re: Ebb monitoring time + sampling plan.
Will monitor ebb @ 4:30pm.
For samples, will collect water grab from depth w/ highest turbidity @ compliance + then collect from same depth @ ambient.

1740 At compliance, monitor 3.0 and 19.3 (WD=22.3)
Highest turbidity (3.9 @ 3.0)
Collect water grab w/ 5L Niskin @ this depth
Sample name: SW0004 Tag#1063-1065
Time: 1544
Collect 2 1L Amber, 1 1g OJ
Note: moving barge to stage for weekend. Potential

30

10/7/11 J-SUND

for props to kick up turbidity?

1550 Collect Ambient water grab from surface.

Sample time: 1605

name: SW0005

1-1g OJ, 2 1L amber

Tag# 1066-1068

Collected WQ @ 3.0 + 22.5 (WD=25.5)

1630 At compliance to collect ebb tide WQ.

Collect @ 3.0 and 18.8 (WD=21.8)

Collect water grab from highest turbidity (3.6 @ 3.0')

Will collect water grab from same depth @ ambient.

1645 At ambient to collect WQ @ 3.0' and 21.9 (WD=24.9)

Collect water grab @ 3.0'

→ Sample Name: SW0006 (compliance)

Time: 1635 Tag #1069-1071

2-1amber, 1 1g OJ

→ Sample Name: SW0007 (ambient)

Time: 1650 Tag # 1072-1074

2-1amber, 1 1g OJ

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10/7/11 J-SUND

Note: SL Niskin deconned b/t each station

Alconox Wash

DI rinse

+ tubing replaced @ each station

1650 Report results to ~~Jitto~~ John Lally. JS 10/7/11

Mob back to Marina

Do cal check on YSI

pH4 → 4.09

pH7 → 7.10

cond (1000 uS/cm) → 1050

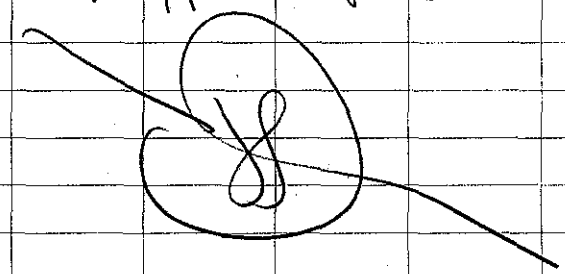
Turb (0 NTU) → 0.2 NTU

Turb (20 NTU) → 19.7 NTU

Unload samples + gear

Head to ARI labs to drop off samples.

1730 Drop off samples



10/10/11 J. SUND

0815 Arrive @ S. Park Marina
Weather: cloudy, lt rain, cool (50's)
Crew: J. SUND (Integral)
S. Hinz (Gravity)
Plan: collect WQ measurements @ compliance + ambient locations during dredging activities.
Brief H+S + Scope of work meeting.

0825 Talked to E. Picher. GCC has some repairs to do on dewatering system so dredge activities are delayed until late morning. Will monitor flood tide @ 230 pm pending dredge activities.

0900 Check calibration of YSI 6920
pH 4.0 → 4.02 Cat No FE112280-1
pH 7.0 → 6.97 Cat No FE112380-1
and 1409 mS/cm → 1.407 mS/cm Cat No FE118780-1
Turb (0 NTU) → 0.0 NTU. Lot: 022413
Turb (20 NTU) → 20.4 NTU. Lot: 0021227

10/10/11 J. SUND

Turb (100 NTU) → 102 NTU. GFS# 8188 C037723

1430 At compliance station to collect WQ measurements for flood tide (as dredging is occurring now)
Collect @ 3.0' and 20.4' (WD=23.4')

1444 At ambient collect WQ measurements @ 3.0 and 20.3 (WD=23.3')
Called turbidity numbers into E. Picher.

1520 Talked to E. Picher. Dredging has ended for day. Will collect high tide meas. @ 445 pm but forgo ebb tide.

1640 At compliance station for high tide WQ monitoring.
Collect @ 3.0 and 23.8' (WD=25.8)

1650 At ambient station for WQ
Collect @ 3.0' + 23.1' (WD=25.1')
Back to Marina. Calibrate

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10/10/11 J. Sund

Check on YSI 6920
pH 4.0 → 3.99
pH 7.0 → 6.94
Cond (1409 µmhos/cm) → 1.408 mS/cm
Turb (0 NTU) → 0 NTU
Turb (20 NTU) → 20.9 NTU
Turb (100 NTU) → 101.8 NTU.
At Marina. WQ complete for day

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10/11/11 J. Sund

0900 At S. Park Marina
weather: rain, cool (50s)
Crew: J Sund - Integral
S. Hinz - Gravity
Plan: Collect WQ meas + samples for chem. analysis @ ambient + compliance stations.
Brief H+S + scope of work discussion.
Calibration check on YSI 6920.
pH 4.0 → 3.99
pH 7.0 → 7.01
Condue (1409 µmho/cm) → ~~1.408 mS/cm~~ 1.409 mS/cm JS 10/11/11
Turb (0 NTU) →
Turb (20 NTU) → 20.8 NTU
Turb (100 NTU) → 101 NTU
1005 Talk to E. Picher will collect ~~slack~~ ebb tide meas and sample @ 1030am followed by slack tide @ 1130.

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10/11/11 J. SUND

1030 At compliance, Collect WQ meas @ 3.0' and 14.2' (WD = 17.2')
Collect sample @ highest turbidity depth.
using 5L Niskin (decontaminated)
Sample name: SW0008 Tag # 1075-1077
Time: 1040
2-1L amber, 1 lg OJ

1055 At ambient, collect WQ @ 3.0 and 14.7 (WD = 17.7)
Collect sample @ near bottom where highest turbidity obs. @ Compliance.
Sample name: SW0009 Tag # 1078-1080
Time: 1100
2-1L Amber, 1 lg OJ
Tug just passed by to go in & get barge prior to sample collection
Decon Niskin & repl. sample tubing, wrap sample containers in bubble wrap Ziploc + store on-ice

1110 Tug moving barge out of slip.

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10/11/11 J. SUND

1125 At compliance to collect WQ + samples (grab) for slack (low) tide
Collect WQ @ 3.0 + 15.5 (WD = 18.5)
Collect grab sample @ 15.5 where highest turbidity (6.4) noted during WQ
Sample name: SW0010 Tag # 1081-1083
time: 1135
2-1L Amber, 1 lg OJ
Decon Niskin + replace sample tubing

1145 At Ambient to collect WQ + grab sample.
WQ @ 3.0 + (WD:)
Collect grab sample @ near bottom where compliance collected
Sample name: SW0011 Tag # 1084-1086
time: 1155
2 1L Amber, 1 lg OJ

1205 Talked to E. Pilcher, we will request that lab run samples collected

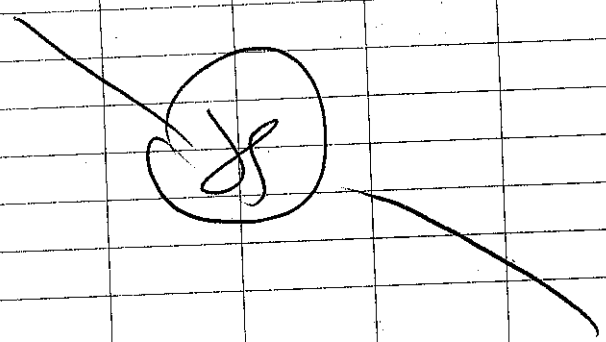
10/11/11 J. SUND

during low tide (SW0010 and SW0011). Other will be requested as "hold"
Fill out COCs. + head back to Marina. Completed WQ monitoring + sampling for day.

1220 Cal. check on YSI 6920
pH 4.0 → 4.03
pH 7.0 → 7.09
cond (1409 µmhos/cm → 1.430 mS/cm
Turb (0 NTU) → 0.0 NTU
Turb (20 NTU) → 21.3 NTU
Turb (100 NTU) → 100.0 NTU

1300 To ARI to drop off samples

1330 Drop off samples



19/12/11 J. SUND

0915 At South Park Marina
weather: cool (50s), pthy cloudy
Crew: J. SUND (Integral)
S. Hinz (Grantry)
Plan: Conduct WQ monitoring activities w/ compliance monitoring stations @ ebb (@ ~1030am) + slack (low) tide.
Brief H+S + scope of work discussion.
Calibration check on

0930 YSI 6920
pH 4.0 → 4.00
pH 7.0 → 6.97
cond (1409 µmho/cm) → 1.488 mS/cm
Turb (0 NTU) → 0.0 NTU
Turb (100 NTU) → 99.4 NTU

0945 Talked to E. Pilcher, no dredging occuring this morning therefore we won't monitor. Dredging may resume in afternoon. On standby

40

10/12/11 J.SUND

1350 Talked to E. Pilcher. Dredging just resumed @ 1345. Will collect WQ @ 300pm and ~ 500pm to capture Flood + high tide. In between two events will mob to LaFarge to observe transload operations from water

1500 At compliance, collect WQ @ 3.0' + 19.6 (WD = 22.6)

1510 At ambient, collect WQ @ 3.0 + 17.0' (WD = 20)

1518 Mob to LaFarge to observe transloading operations

1524 At LaFarge, material on barge, but ~~not~~ no activity occurring @ time. JS 10/12/11

1530 Talked to E. Pilcher, dredging is completed for day. Will collect slack meas @ 1700. Talked to E. Pilcher @ 1800 ~~At compliance, collect WQ~~ will not collect @ 1700 ~~END~~ JS 10/12/11

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10/13/11 J.SUND

~~@ 3.0 and (WD =)~~ JS 10/13/11

Calibration check on YSI 6920

pH 4.0 → 4.08

pH 7.0 → 6.91

Cond (1490 umhos/cm) → 1.480 mS/cm

Turb (0 NTU) → 0.0 NTU

Turb (100 NTU) → 100 NTU

End

JS

42

10/13/11 J.SUND

0915 At S.Park Marina
weather: cool (50s), sunny
Crew: J Sund (Integral)
S.Hinz - Gravity
Plan: Collect WQ meas + samples @ ambient + compliance during dredge activities.
Brief H+S and scope of work discussion.

1000 Calibration check (YSI 6920)
pH 4.0 → 4.08
pH 7.0 → 6.90
cond (1409 mmhos/cm) → 1.480 ms/cm
Turb (0 NTU) → 0.0 NTU
Turb (100 NTU) → 99.0 NTU.
At compliance, collect WQ @ 3.0' + 17.0' (WD=20')
Decon Niskin sample
Collect WQ sample @ highest turbidity (3.1 @ 17.0')
Sample Name: SW0012 Tag 1090-1092
Time: 1040
4 1L Amber + 2 1g plastic (extra for QA/QC

43

10/13/11 JSUND

Collect field rep @ 17.0'
Name: SW0013 Tag 1093-1095
Time: 1045
2 1L Amber, 1 1g plastic

1050 At Ambient, collect WQ @ 3.0' and 16' (WD=19')
Collect grab sample @ 16', ~~same~~ JS 10/13/11 near bottom as done for compliance.
Name: SW0014 Tag # 1096-1098
Time: 1105
2-1L Amber, 1 1g plastic

1115 Reported results to E. Pilcher

1230 At compliance, for slack tide monitoring (low tide)
Collect WQ @ 3.0' and 17.6' (WD=19.6')
Collect grab sample @ depth w/ highest turbidity (3.1 @ 17.6')
Name: SW0015 Tag 1101-1103
Time: 1240
2 1L Amber, 1 1g plastic
Prior to low tide monitoring collect equipment blank

10/13/11 J-SUND

on SL Niskin Sampler.
(decontaminated)
Name: SW0015 Tag 1099-1100
Time: 1205
2 L Amber, ~~7 lg O~~ JS 10/13/11

1247 At ambient, collect WQ
@ 3.0' and 15.0' (WD = 18')
Collect grab sample w
near bottom, as done
for compliance.
Name: SW0016
Time: 1255
2 L Amber, 1 lg Plastic

1300 Reported results to E. Pilcher.
Will run analysis on
1st set collected today
(during ebb) + hold other
samples @ lab.
No work @ LaFarge today.
Head back to Marine.
Note: samples are bagged
and on-ice
SL Niskin deconned b/t
each use.

10/13/11 J-SUND

1310 Calibration Check
pH 4.0 → 4.09
pH 7.0 → 6.95
Cond (1409) → 1.490 mS/cm
Turb (0 NTU) → 0.0 NTU
Turb (100 NTU) → 101 NTU

1345 Take samples to lab

10/14/11

0945 At Marina, weather: calm, 50°F, overcast.
Crew: B. Lawrence - Integral
S. Hinz - Gravity
Plan: Collect WQ measurements at ambient and compliance during dredging
- H&S tailgate mtg + days scope of work

1004 Calibration check - YSI 6920
pH 4.0 = 3.97
pH 7.0 = 6.96
Cond (1409 µmho/cm) = 1.524 mS/cm
Turb (0 NTU) = 0.0
Turb (100 NTU) = 97.9

1031 Collect WQ readings at compliance station
3.0' & 17.6' (water depth 20.6)

1045 Collect WQ readings at ambient station
3.0' & 18.5' water depth (21.5)

1055 mob to LaFarge to observe Transloading operations

1110 at LaFarge - no spillage observed

1116 Call E. Pilcher discuss transloading operations
mob back to Marina

1255 mob to Slip 4

1311 Collect WQ readings at compliance station
3.0' & 16.7' (WD 19.7)

1325 Collect WQ readings at ambient station
3.0 & 15.5' (WD 18.5)

1331 Call Eric. report readings, get schedule for Monday

1335 Calibration Check
pH 4 = 3.89
pH 7 = 7.00

1337 Call from Eric Pilcher - Mob to slip 4 to get barge decant water samples

1415

dredge water	92.4	NTU
water collection cell	87.4	NTU
pre-filter	39.0	NTU
post-filter	28.5	NTU

1445 Calibration Check
Cond (1409 µmho/cm) = 1.515 mS/cm
Turb (0 NTU) = 0.0
Turb (100 NTU) = 95.8
pH 4.0 = 4.01
Cond (4.45 mS/cm) = 3.991

1500 Done for the day

10/14/11

48

10/17/11

0902 At Marina weather: calm, 50°F, clear
Crew B Lawrence Integral
S Hinz Gravity
Plan: Collect WQ measurements at ambient & compliance during dredging
- H&S tailgate mtg. & days' scope

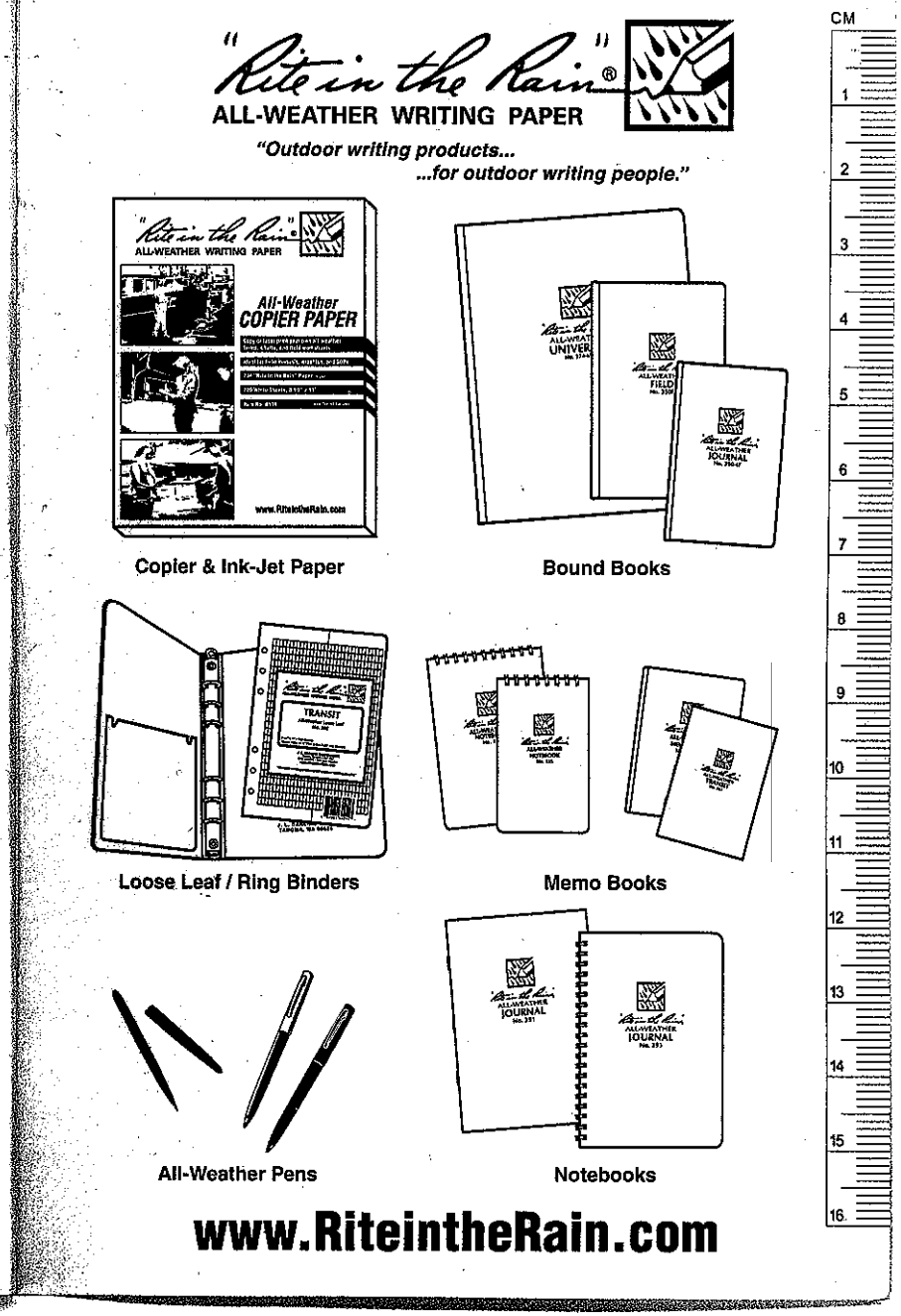
0930 Calibration check - YSI 6920
pH 4.0 = 3.87
pH 7.0 = 6.97
Cond (1409 µmho/cm) = 1.542 @ 11.60°C
Turb (0 NTU) = 0.1
Turb (100 NTU) = 96.1

call E. Pilcher report readings

1118 Collect WQ readings at compliance station
3.0' - 20.4'

1137 collect WQ readings at ambient station
3.0' - 16.5' - report readings to E. Pilcher

1150 to LaFarge to monitor transloading op.
Transloading is clean operation, no spillage observed. However, barge should be cleaned up - silt dam falling down and some sediment around outside of sediment containment area
- to lunch



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SLIP 4 EARLY ACTION

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10/17/11 to 2/14/12

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CONTENTS

PAGE	REFERENCE	DATE

10/17/11 cont'd from 8/24/11 - 10/12/11 book

1405 to Slip 4 for WQ readings either side of silt containment berm.
- S. Hinz converting coordinates

1505 Boundary Berm Turbidity sampling

Sample loc	Mudline	Sam Depth	Turb
BB-1	18.6	15.6	4.2
-2	17.1	14.1	3.6
-3	14.6	11.6	4.4
-4	18.6	15.6	3.0
-5	18.8	15.8	3.6
-6	19.1	16.1	2.9

1517 collect WQ samples (readings) at compliance station 3.0' @ 17.6'

1530 collect WQ readings at ambient station 3.0' @ 17.3'

Calibration check ~ 25°C

pH 4 = 3.99 Turb (0 NTU) = ~~0.2~~ 0.1 NTU

pH 7 = 6.99 Turb (100 NTU) = 89.3 NTU

Cond (1409 µmho/cm) = 1.604 mS/cm

1550 Done for the day

10/19/11

1000 At Marina weather slight breeze, 53°F, PtCly cloudy

Crew B. Lawrence (Integral)
S. Hinz (Gravity)

Plan: Collect WQ measurements at ambient & compliance stations, measure Turbidity either side of boundary berm, monitor transloading operation

1015 H&S tailgate & discuss scope of work

Calibration check - YSI 6920

pH 4.0 = 3.92

pH 7.0 = 6.99 @ 15.3 °C

Cond (1409 µmho/cm) = 1.644 mS/cm

Turb (0 NTU) = 0.2 NTU

Turb (100 NTU) = 92.3 NTU

to Slip 4

1147 collect WQ readings at compliance station 3.0' @ 21.8' (mudline 24.8')

1158 collect WQ readings at ambient station 3.0' @ 20.9' (mudline @ 23.9')

1207 call E. Pilcher w/ results, mob to Lafarge observe Transloading operation - nothing being spilled/dropped, but silt fence on barge is down and some overspill is on deck around containment cell. Took 2 photos

1245 at Slip 4 - prep WQ for measurement of boundary berm stations ~ 0.5 foot off bottom

Samp loc	Mudline	Samp Depth	Turb
BB-1	21.6	21.0	4.3
2	21.5	21.0	4.1
3	20.4	19.9	4.1
4	22.0	21.5	4.7
5	22.2	21.7	5.6
6	22.3	21.8	5.3

1312 Collect WQ readings at compliance station
3.0' @ 20.4' (mudline 23.4')
Collect WQ readings at ambient station
3.0' @ 19.8 (mudline 22.8)

1335 Calibration Check ~ 18.5°C
pH 4 = 4.00 Turb (0 NTU) = 0.0
pH 7 = 7.04 Turb (100 NTU) = 92.8
Cond (1409 µmho/cm) = 1.637 mS/cm

call E. Pilcher & report readings & transload ops.

Done for the day

10/21/11
1230 At Marina weather: slight breeze, 55°F, overcast
Crew: B. Lawrence (Integral)
S. Saigen (Gravity)
Plan: Collect WQ measurements at ambient & compliance stations, observe transloading ops.

1250 H&S tailgate & discuss scope of work
Calibration Check - YSI 6920
pH 4.0 = 3.96
pH 7.0 = 6.97 @ 13.72
Cond (1409 µmho/cm) = 1.724 mS/cm
Turb (0 NTU) = 0.0 NTU
Turb (100 NTU) = 86.5 NTU

to Slip 4

1331 Collect WQ readings at compliance station
3.0' @ 22.3' (mudline 25.3)

1343 Collect WQ readings at ambient station
3.0' @ 22.2 (mudline 25.2)

1505 Collect WQ readings at compliance station
3.0 @ 20.6' (mudline 23.6)

1514 Collect WQ reading at ambient station
3.0 @ 20.3' (mudline 23.3)

1525 Calibration Check @ 16.1°C
pH 4 = 4.02 Turb 0 = 0.3 NTU
pH 7 = 7.03 Turb 100 = 90.2 NTU
Cond = 1.969

1600 Done for the day

10/24/11

1440 at marina weather calm, 62°F, Partly cloudy
Crew: D Lawrence (Integral), S. Hinz (Gravity)
Plan: Collect WQ measurements at ambient + compliance stations, observe transloading ops.
1500 H&S tailgate + discuss scope of work
Calibration Check - YSI 6920
pH 4 = 4.02
pH 7 = 7.08 @ 28.3°C
Cond (1409 µmho/cm) = 1.824 mS/cm
Turb 0 = 0.0 NTU
Turb 100 = 85.4 NTU
- to Slip 4
1522 Collect WQ readings at compliance station
3.0' & 22.7' (mudline 25.7')
1532 Collect WQ readings at ambient station
3.0' & 21.4' (mudline 24.4')
- call E. Pilcher w/results, mob to LaFarge
1625 Collect WQ readings at compliance station
3.0' & 21.6' (mudline 24.6')
1634 Collect WQ readings at ambient station
3.0' & 19.5' (mudline 22.5)
Calibration Check pH 4 = 4.08, pH 7 = 7.04
Cond = 1.782
Turb 0 = 0.3 Turb 100 = 88.2
- 1659 Done for the day

8

10/28/11

1230 At Marina weather, slight breeze, 55°F, overcast
Crew B. Lawrence (Integral), S. Hinz (Gravity)
Plan: Collect WQ measurements at ambient & compliance stations,

1245 Calibration Check - YSI 6920
pH 4 = 4.00
pH 7 = 6.99 @ 11.93°C
Cond (1409 µmho/cm) = 1.783 mS/cm
Turb 0 = 0.1 NTU
Turb 100 = 83.5 NTU

- mob to Slip 4
1308 - Collect WQ readings at compliance station
3.0' @ 17.5' (mudline 20.5')
1322 - Collect WQ readings at ambient station
3.0' @ 17.2' (mudline 20.2')
1448 Collect WQ readings at ~~ambient~~ compliance station
3.0' @ 18.8 (mudline 21.8)
1456 Collect WQ readings at ambient station
3.0' @ 20.4 (mudline 23.4')
Calibration Check pH 4 = 4.07 pH 7 = 7.07
cond = 1.747
Turb 0 = 0.3 Turb 100 = 81.7
1515 Done for day

9

11/1/11
1005 at Marina weather: calm, 55°F, clear
Crew: B Lawrence (Integral), S. Hinz (Gravity)
Plan: Collect WQ measurements at ambient & compliance stations, observe transloading operations
Calibration Check - YSI 6920
pH 4 = 4.02 Turb 0 = 0.1 NTU
pH 7 = 6.99 @ 11.67°C Turb 100 = 77.8 NTU
Cond (1409 µmho/cm) = 1.694 mS/cm
- to Slip 4
1128 Collect WQ readings at compliance station
3.0 @ 20.7' (mudline 23.7')
1129 Collect WQ readings at ambient station
3.0 @ 23.2' (mudline 26.2')
DO sensor malfunctioning on YSI - going to call FEI
1135 to LaFarge to observe Transloading
- clean operation, no overspill, all looks good
1233 Collect WQ readings at compliance station
3.0' @ 21.5' (mudline 24.5)
1237 Collect WQ readings at ambient station
3.0 @ 22.3' (mudline 25.3')
Calibration Check pH 4 = 4.10 pH 7 = 7.00
cond = 1.711
Turb 0 = 0.7 NTU Turb 100 = 78.9 NTU
Call FEI - Reset meter - DO appears to work fine
1345 Done for day

10

11/3/11

1202 at Marina weather 55°F, Calm, partly cloudy
Crew. B. Lawrence (Integral), S. Saugen (Gravity)
Plan: Collect Ambient & Compliance station WQ readings
1217 Calibration Check - YSI 6920
pH 4 = 4.04 Turb 0 = 0.4 NTU
pH 7 = 7.00 @ 19.1°C Turb 100 = 100.2 NTU
Conduct (1000 µS/cm) = 1,000 µS/cm
Re-Cal'd New Conductivity solution (expires 9/29/2012)
Cal check 1000 µS/cm = 1012 µS/cm
Re-Cal'd Turbidity (100) with new solution = 100.2 NTU
1255 — to Slip 4
1303 Collect WQ readings at compliance station
3.0' & 21.6' (mudline 24.6')
1305 Collect WQ readings at ambient station
3.0 & 25.2' (mudline 28.2')
1320 to LaFarge to observe Transloading ops.
1429 Collect WQ readings at compliance station
3.0 & 21.0 (mudline 24.0)
1441 Collect WQ readings at ambient station
3.0' & 22.6' (mudline 25.6')
Calibration Check
pH 4 = 3.99 Turb 0 = ~~1.0~~ 0.2 NTU
pH 7 = 6.99 @ 16.9°C Turb 100 = 100.2
Cond 1000 = 1092
1515 Done for the day

11

11/8/11

1345 at Marina weather 57°F, Calm, clear
Crew. B. Lawrence (Integral), S. Saugen (Gravity)
Plan. Collect Ambient & Compliance Station WQ readings
1359 Calibration Check - YSI 6920
pH 4 = 4.08 Turb 0 = 0.0 NTU
pH 7 = 7.05 @ 27.75°C Turb 100 = 100.2 NTU
Conduct (1000 µS/cm) = 998 µS/cm
to Slip 4
1446 Collect WQ readings at ambient station
3.0' & 22.5' (mudline 25.5')
1455 Collect WQ readings at compliance station
3.0 & 19.9' (mudline 22.9)
to LaFarge to observe transloading ops
- clean operation w/no overspill or slop
1601 Collect WQ readings at ambient station
3.0' & 22.2' (mudline 25.2')
1608 Collect WQ readings at compliance station
3.0' & 19.7' (mudline 22.7')
Call E. Pilcher - discuss schedule
Calibration Check
pH 4 = 4.12 Turb 0 = 0.2 NTU
pH 7 = 7.11 @ 16.5°C Turb 100 = 100.7 NTU
Cond (1000 µS/cm) = 912 µS/cm
1645 Done for the Day

12

11/10/11

1405 at Marina weather 60°F, Calm, clear
Crew: B Lawrence (Integral) S. Sawgen (Gravity)
Plan Collect Ambient + Compliance station WQ readings
1419 Calibration Check (New) YSI 6920
pH 4 = 4.05 Turb 0 = 0.0
pH 7 = 6.89 @ 33.3°C Turb 100 = 99.9
Conduct (1000 µs/cm) = 1,049
to Slip 4
1445 Collect WQ readings at Ambient station
3.0 & 21.9' (mudline 24.9)
1501 Collect WQ readings at Compliance station
3.0 & 18.6 (mudline 21.6')
- To Lafarge to observe transloading operation
— no transloading occurring
1546 ~~1555~~ Collect WQ readings at Ambient station
3.0 & 23.0 (mudline 26.0')
1555 Collect WQ readings at Compliance station
3.0 & 21.3' (mudline 24.3') - significant of debris floating into slip
Calibration Check
pH 4 = 4.03 Turb 0 = 0.1
pH 7 = 6.87 Turb 100 = 100.7
Cond (1000 µs/cm) = 1059 µs/cm
1620 Done for the day

13

11/14/11

0905 at Marina
weather 50°F, slight breeze, overcast
Crew: B Lawrence, J. Sexton Integral
M. Duffield - Gravity
Plan - collect sediment samples (post-excavation) from (1-10cm) at locations PE-1 through PE-14
0930 H&S meeting - by Bill Lawrence
discuss scope and hazards.
0955 To Slip - call Eric P. regarding access to sample locations
1012 at Slip, setup decon and sampling gear
1037 Collect SL4-1G-PE8
1057 Collect SL4-1G-PE10
1130 Collect SL4-1G-PE1
1209 Collect SL4-1G-PE3 4-part composite
1251 Collect SL4-1G-PE6 4-part composite
1319 Collect SL4-1G-PE12
1330 Collect SL4-1G-PE11
1339 Collect SL4-1G-PE14
1345 To dock to get powergrab sampler

11/14/11

1450 Power Grab is partially set up. to Slip 4 to complete setup
- position on PE-13, dry run on sampler battery cable is heating up
- calls to Gravity re: battery cable

1550 - decon sampler
attempt sample collection - sample consists of rocks (2-5") and some lumber photo 161

1610 2nd attempt - collect PE13

1640 - collect PE-9 added lab QA to this sample

1654 - collect PE-7
- collect PE-5 1st attempt - no recovery
2nd " - "

1725 - 3rd attempt - sample & replicate collected
- attempt PE-4
6 attempts, boulders encountered, tried repositioning each attempt

1840 - Call E. Pilcher - discuss status and equipment failure due to boulders.
- unable to sample PE4 or PE2, will continue on Wednesday AM
- To Dock

1915 - Done for the day

11/14/11

11/16/11

0900 At Marina weather 40°F, overcast, ~~H~~ rain
Crew. B Lawrence, J. Sexton - Integral
M. Duffield - Gravity
Plan: collect grabs at PE stations 2 & 4
- Mike prepping equipment
- Bill/Jane QC sample Jars & pack cooler

1030 Equipment ready - swith out power grab for VanVeen
- mob to Slip 4
- Complete COC & QC for 11/14/11 samples

1045 Deploy vanVeen at PE-4
1st attempt - log recovered - no sample
2nd " - vanVeen rolled - no sample

1122 collect sample

1145 Deploy vanVeen at PE-2
1st Attempt - no recovery
2nd - rolled - no sample

1211 collect sample PE-2
- decon & demob to dock

1350 - to lab w/ samples

1440 Done for the day

11/16/11

16

11/22/11

1200 at Marina weather 45°F, Slight breeze, light rain
Crew: B. Lawrence (Integral), S. Hinz (Gravity)
Plan: Collect WQ readings at ambient + compliance stations

1220 Calibration Check YSI 6920
pH 4 = 3.97 Turb 0 = 0.4 NTU
pH 7 = 6.85 @ 6.9°C Turb 100 = 96.8 NTU
Conduct (1000 µs/cm) = 1000

1320 to Slip 4

1330 Collect WQ readings at Compliance Station
3.0 @ 23.8' (mudline 26.8')

1338 Collect WQ readings at Ambient Station
3.0 @ 24.7' (mudline 27.7)

1458 Collect WQ readings at Compliance Station
3.0 @ 22.4 (mudline 25.4')

1505 Collect WQ readings at Ambient Station
3.0 @ 20.7' (mudline 23.7').

Calibration Check
pH 4 = 4.02 Turb 0 = 0.2 NTU
pH 7 = 6.97 @ 9.4°C Turb 100 = 94.8 NTU
Conduct (1000) = 1197
- clean sensor for Conduct → 1060 reading
Call E. Pilcher w/ status

1530 Done for the day

17

11/29/11

0800 at Marina weather 40°F Slight breeze, cloudy
Crew: B. Lawrence (Integral), M. Duffield (Gravity)
Plan: Collect WQ readings at ambient + compliance stations

0820 Calibration Check YSI 6920
pH 4 = 4.00 Turb 0 = 0.3
pH 7 = 6.87 @ 3.92 Turb 100 = 98.9
Conduct 1000 µs/cm = 920 re-cal 1001 µs/cm
- to Slip 4

0846 Collect WQ readings at Ambient Station
3.0 @ 25.0 (mudline @ 28')

0857 Collect WQ readings at Compliance Station
3.0 @ 23.4 (mudline @ 26.4')

1008 Collect WQ readings at Ambient Station
3.0 @ 24.5' (mudline @ 27.5')

1020 Collect WQ readings at Compliance Station
3.0 @ 22.6' (mudline @ 25.6')

Calibration Check
pH 4 = 4.02 Turb 0 = 0.0 NTU
pH 7 = 6.99 @ 5.64°C Turb 100 = 100.2 NTU
Cond = 1047 µs/cm
Call E. Pilcher w/ status

1050 Done for the day

18

12-1-11

0905 at Marina weather 38°F, Calm, fog
Crew: B Lawrence (Integral), S. Hinz (Gravity)
Plan: Collect WQ readings at ambient & compliance stations

0920 Calibration Check
pH 4 = 3.99 Turb 0 = 0.0
pH 7 = 6.86 @ 3.87°C Turb 100 = 98.3 NTU
Conduct (1000 µs/cm) = 1002

0955 to Slip 4

1004 Collect WQ readings at Compliance Station
3.0 & 23.0 (mudline at 26.0)

1012 Collect WQ readings at Ambient Station
3.0 & 23.5 (mudline at 26.5)
to Marina

1125 to Slip 4

1136 Collect WQ readings at Compliance Station
3.0 & 20.2 (mudline @ 23.2)

1143 Collect WQ readings at Ambient Station
3.0 & 22.7 (mudline @ 25.7)

1150 Calibration check
pH 4 = 4.06 Turb 0 = 0.1 NTU
pH 7 = 7.0 @ 5.64 Turb 100 = 99.6 NTU
Conductivity 1000 = 1026
Call E. Pilcher w/ data

1200 Done for the day

19

12-6-11

1249 at Marina, weather 40°F, calm, overcast
Crew: B Lawrence (Integral), S Hinz (Gravity)
Plan: Collect WQ readings at ambient & compliance stations

1305 Calibration Check 451 6920
pH 4 = 3.99 Turb 0 = 0.3 NTU
pH 7 = 6.83 @ 4.1°C Turb 100 = ~~98.8~~ 99.5
Cond 1000 = 1001 µS/cm
to Slip 4

1335 Collect WQ readings at Compliance Station
3.0 & 20.2 (mudline 23.7')

1339 Collect WQ readings at Ambient Station
3.0 & 22.3' (mudline 25.3')

1452 Collect WQ readings at compliance station
(3.0 & 19.3') mudline 22.3'

1456 Collect WQ readings at ambient station
3.0 & 21.3' (mudline 24.3')
Calibration Check
pH 4 = 4.08 Turb 0 = 0.1 NTU
pH 7 = 7.03 @ 5.4°C Turb 100 = 99.7 NTU
Cond 1000 = 1008
Call E. Pilcher w/ data

1520 Done for the day

20

12-8-11

1350 at Marina weather 40°F, overcast, slight breeze
Crew: B. Lawrence (Integral), S. Hinz (Gravity)
Plan: Collect WQ readings at ambient + compliance stations

1405 Calibration Check YSI 692D
pH 4 = ~~4.03~~ 4.01 Turb 0 = 0.0
pH 7 = 7.08 @ 4.85°C Turb 100 = 98.0
Cond 1000 = 999 µs/cm
to Slip 4 - barge entering Slip, wait until clear

1445 Collect WQ readings at Ambient Station
3.0 @ 21.4' (mudline 24.4')

1452 Collect WQ readings at Compliance Station
3.0 @ 21.1' (mudline 24.1')
to Marina to repair landing door winch

1554 to Slip
Collect WQ readings at
3.0 @
Collect WQ readings at
3.0 @
Calibration check
pH 4 = 4.09 Turb 0 = 0.1 NTU
pH 7 = 7.17 @ 7.15°C Turb 100 = 95.8 NTU
Cond 1000 = 971 µs/cm
Call E. Pilcher w/ data

1625 Done for the day

21

12-13-11

0819 at Marina weather 24°F, partly cloudy, calm
Crew: B. Lawrence (Integral), S. Hinz (Gravity)
Plan: Collect WQ readings at ambient + compliance stations

0838 Calibration Check YSI 6920
pH 4 = 4.00 Turb 0 = 0.1 NTU
pH 7 = 7.11 @ 3.9°C Turb 100 = 101.2 NTU
Cond 1000 = 1008 µs/cm
To Slip

0903 Collect WQ readings at Compliance Station
3.0 @ 22.1 (mudline 25.1')

0916 Collect WQ readings at Ambient Station
3.0 @ 22.7 (mudline 25.7')
to Marina, data QC, take lunch

1305 to Slip

1319 Collect WQ readings at Compliance Station
3.0 @ 18.5' (mudline 21.5')

1323 Collect WQ readings at Ambient Station
3.0 @ 18.9' (mudline 21.9')
Calibration Check
pH 4 = 4.16 Turb 0 = 0.2 NTU
pH 7 = 7.24 @ 9.5°C Turb 100 = 100.7 NTU
Cond 1000 = 982
Call E. Pilcher w/ data

12-15-11

0910 at Marina weather 38°F, Calm, Overcast
Crew: B. Lawrence (Integral), Steve Saugen (Gravity)
Plan: Collect WQ readings at ambient & compliance stations

0945 Calibration Check YSI 6920
pH 4 = 4.01 Turb 0 = 0.2
pH 7 = 7.12 @ 4.7°C Turb 100 = 99.4
$Cond_{1000}$ = 1004 µs/cm

to Slip 4

1012 Collect WQ readings at ambient station
3.0 & 23.0' (mudline @ 26.0')

1018 Collect WQ readings at compliance station
3.0 & 18.7' (mudline @ 21.7')

1035 Back at Marina – offsite

1400 at Marina

1441 Collect WQ readings at ambient station
3.0 & 17.3' (mudline 20.3)

1446 Collect WQ readings at compliance station
3.0 & 15.7' (mudline @ 18.7)

Calibration Check
pH 4 = 4.18 Turb 0 = 0.0
pH 7 = 7.21 @ 7.2°C Turb 100 = 98.7
$Cond_{1000}$ = 1071 µs/cm
Call Eric Pilcher w/ Data

1510 Done for the Day

12-19-11

1050 at Marina weather 39°F, Calm, Overcast
Crew: B Lawrence (Integral), S. Saugen (Gravity)
Plan: Collect WQ readings at ambient & compliance stations

1105 Calibration Check YSI 6920
pH 4 = 4.02 @ 5.6°C Turb 0 = 0.2 NTU
pH 7 = 7.03 Turb 100 = 97.5 NTU
$Cond_{1000}$ = 1004 µs/cm

to Slip 4

1123 Collect WQ readings at ambient station
3.0 & 22.5' (mudline 25.5)

1129 Collect WQ readings at compliance station
3.0 & 22.0' (mudline 25.0')

1249 Collect WQ readings at compliance station
3.0 & 21.1' (mudline 24.1')

1255 Collect WQ readings at ambient station
3.0 & 22.4' (mudline at 25.4)

Calibration Check
pH 4 = 4.17 Turb 0 = 0.1 NTU
pH_7 = 7.09 @ 9.2°C $Turb_{100}$ = 97.0 NTU
$Cond_{1000}$ = 1069 µs/cm
Leave message w/ E Pilcher w/ data

1330 done for the day

24

12-21-11

1220 at Marina weather 40°F, Slight breeze, Ptly Cloudy
Crew: B Lawrence (Integral), ~~Steve Saugen~~ Hinz (Gravity)
Plan: Collect WQ readings at ambient + compliance stations

1240 Calibration Check YSI 6920
pH4 = 4.05 @ 6.7°C Turb 0 = 0.0 NTU
pH7 = 7.04 $Turb_{100}$ = 95.5 NTU
$Cond_{1000}$ = 1002 µs/cm
to Slip 4

1256 Collect WQ readings at compliance station
3.0 @ 20.0 (mudline 23.0)

1259 Collect WQ readings at ambient station
3.0 @ 23.6' (mudline 23.6)
at Marina, lunch, back to Slip 4

1421 Collect WQ readings at compliance station
3.0 @ 21.5 (mudline 24.5)

1426 Collect WQ readings at ambient station
3.0 @ 22.5 (mudline 25.5)

Calibration Check
pH_4 = 4.18 $Turb_0$ = 0.3 NTU
pH_7 = 7.11 @ 17.25°C $Turb_{100}$ = 95.4 NTU
$Cond_{1000}$ = 1052 µs/cm

1448 Call Eric Pilcher w/ Data

1455 Done for the day

25

1-3-12

1100 at Marina weather 50°F, Slight Breeze, Overcast
Crew: B Lawrence (Integral), S. Saugen (Gravity)
Plan: Collect WQ readings at ambient + compliance stations

1110 Calibration Check YSI 6920
pH_4 = 4.01 @ 5.9°C Turb 0 = 0.0 NTU
pH_7 = 7.05 $Turb_{100}$ = 95.6 NTU
$Cond_{1000}$ = 1010
to Slip 4

1140 Collect WQ readings at ambient station
3.0 @ 23.4' (mudline @ 26.4')

1149 Collect WQ readings at compliance station
3.0 @ 21.9' (mudline @ 24.9')

1200 at Marina

1314 Collect WQ readings at ambient station
3.0 @ 22.9' (mudline 25.9')

1322 Collect WQ readings at compliance station
3.0 @ 19.3' (mudline 22.3')

Calibration Check
pH_4 = 4.21 $Turb_0$ = 0.0 NTU
pH_7 = 7.17 @ 11.0°C $Turb_{100}$ = 98.9 NTU
$Cond_{1000}$ = 1094

Call E.P. with data

1350 Done for the day

26

1-10-12

0725 at Marina weather 43°F, light rain
Crew: B. Lawrence (Integral). S. Hinz (Gravity)
Plan: Collect WQ readings at Ambient & Compliance Stations

0735 Calibration Check YSI 6920
pH_4 = 4.04 Turb 0 = 0.2 NTU
pH_7 = 7.04 @ 5.4°C $Turb_{100}$ = 99.8 NTU
$Cond_{1000}$ = 942 µs/cm

to Slip 4

0801 Collect WQ readings at Compliance station
3.0 & 19.1' (mudline 22.1')

0806 Collect WQ readings at Ambient station
3.0 & 22.6' (mudline 25.6')

at Marina, to office

1130 back at Marina
Collect WQ at Compliance station
3.0 & 19.5 (mudline at 20.5')
Collect WQ readings at Ambient station
3.0 & 19.2' (mudline 20.2')
Calibration Check
pH_4 = 4.25 @ 9.8°C Turb 0 = 0.8 NTU
pH_7 = 7.22 $Turb_{100}$ = 99.7 NTU
$Cond_{1000}$ = 978 µs/cm

1235 Call EP w/ results

1240 Done for the day

27

1-24-12

0915 at Marina weather 41°F, lt rain, calm
Crew B Lawrence (Integral), S. Hinz (Gravity)
Plan: Collect WQ readings at Ambient & Compliance Stations

0930 Calibration Check YSI 6920
pH_4 = 4.06 @ 4.0°C $Turb_{100}$ = 99.0 NTU
pH_7 = 7.06 $Turb_0$ = 0.6 NTU
$Cond_{1000}$ = 999 µS/cm

1009 to Slip 4

1016 Collect WQ readings at Compliance Station
3.0 & 17.9' (mudline 20.9')

1020 Collect WQ readings at Ambient Station
3.0 & 19.9' (mudline 22.9')

1032 High Turbidity & exceedance - discuss w/ E. Pilcher

1112 To Slip - pick up John Lally, re-collect WQ readings and WQ at outfalls

1130 Collect WQ readings at Compliance station
3.0 & 17.8' (mudline 20.8')

1134 Collect WQ readings at Ambient station
3.0 & 18.8' (mudline @ 21.8')

1149 Collect Turbidity reading at Boeing (S, 48") outfall
1152 " " I-5 (N, 48") outfall
1209 " " at Boeing (S, 48") outfall

~~to Marina = standby~~ BL

1/24/12 cont'd

~~1248 off Standby BL~~

1213 Collect WQ readings at Compliance station
3.0 @ 17.8' (mudline 20.8')

1218 Collect WQ readings at Ambient station
3.0 @ 18.9' (mudline 21.9')

- Drop off J. Kelly, copy field WQ Parameter sheets
- to Slip on Standby

Lunch

1248 off Standby - will plan on collecting additional WQ measurements tomorrow

Calibration Check

pH_4 = 4.26 @ 8.5°C $Turb_{100}$ = 96.6 NTU
pH_7 = 7.14 @ 8.4°C $Turb_0$ = 0.5 NTU
$cond_{1000}$ = 1093 µS/cm

Call Eric P. - will do WQ monitoring tomorrow and plan final sampling for Mon next week

1345 Done for the Day

1/25/12

0905 at Marina 41°F, Steady rain, breezy
Crew: B. Lawrence (Integral), S. Hinz (Gravity)
Plan: Collect WQ readings at Ambient & Compliance Stations

0942 Calibration Check KSI 6920
pH_4 = 4.12 @ 4.9°C $Turb_{100}$ = 95.5 NTU
pH_7 = 7.11 $Turb_0$ = 0.5 NTU
$Cond_{1000}$ = 998 µS/cm

to Slip 4

0957 Collect WQ readings at Compliance station
3.0 @ 20.0' (mudline 23.0')
Collect WQ readings at Ambient station

1003 3.0 @ 20.6' (mudline 23.6')

1003 at Marina - standby until PM WQ mon

1230 to Slip 4

1240 Collect WQ readings at Compliance station
3.0 @ 16.7 (mudline 19.7)

1247 Collect WQ readings at Ambient station
3.0 @ 17.8 (mudline 20.8)

Calibration Check
pH_4 = 4.05 $Turb_{100}$ 95.1
pH_7 = 7.16 $Turb_0$ = 0.4
$Cond_{1000}$ = 1078

Call & report data to E.P.

1325 Done for the Day

1-30-12

0805 at Marina weather mostly cloudy, 42°F
crew: B. Lawrence, S. FitzGerald Integral
S. Hinz Gravity
Plan: Collect Waterway Cap and Slope Cap samples
from 1-10 cm at 8 WC and 6 SC locations
0900 H&S meeting - led by Bill Lawrence
Discuss scope and hazards
0910 to Slip 4
setup at WC2 photo 296, 297
0940 1st Attempt - 15 cm washed gravel 1" plus
0945 2nd Attempt - 20 cm washed gravel 1/2" plus
photo 298 - sample has less than 3% 1/2" minus
3rd - poor recov
4th - grab partially closed - washed sample
0958 Collect sample SD0026 @ WC-2
setup at WC-1
1033 1st Attempt - partial closed - washed sample
2nd attempt - " "
3rd " - no recov
4th - partial, washed out
1042 5th - collect sample SD0025 @ WC-1
setup at WC-3
1125 1st Attempt - partial recov, washed sample
2nd " = " "
3rd = "

1137 4th Attempt - collect sample SD0027 @ WC-3
setup at WC-4
1215 1st Attempt - partial closure, washed sample
2nd " - " , "
3rd " - " , "
4th " - collect sample SD0028 @ WC-4
1255 to Marina for break before SC sampling
- discuss status w/ E. Pilcher
1340 to Slip, setup at WC-5
1402 1st attempt - partial recovery, washed sample
1404 2nd " - collect sample SD0029 @ WC-5
1409 & replicate SD0030
1456 collect SC-1 @ 4, 8, 12' SD0034 & replicate SD0035
1517 collect SC-2 @ 4, 8, 12' SD0036
1543 collect SC-3 @ 4, 8, 12' SD0037
1608 collect SC-4 @ 4, 8, 12 SD0038
1627 collect SC-5 @ 5, 9, 12 SD0039
1648 collect SC-6 @ 4, 8, 12 SD0040
to Marina
1713 collect Rinsate Blank RB0005
label & prep samples, COC,
Decon, demob gear

1815 Drop off samples at lab

2-1-12

0730 at Marina weather calm, lt rain 44°F
crew B. Lawrence, S. Fitzgerald - Integral
S. Hinz - Gravity
Plan: Collect remaining WC samples then
collect boundary area (BD) samples 1-8
0800 H&S meeting - led By Bill Lawrence
Discuss scope & hazards
0810 To Slip 4
Setup at WC-6
0840 1st Attempt - no recovery depth 4.2'
2nd " - partial closure, washed sample
3rd " - " , all gravel, "
4th " - all gravel, no sample photo 333
0846 - reposition approx 20' ~~north~~ west - same gravel
" addit 10' ~~North~~ west - " in 7.5' water
" " " - same gravel
- reposition to ~ 40' ~~North~~ South of WC-6 in 6.8' water
8th attempt - collect in bowl, no fines, no sample
will try at low tide
0920 - Setup at WC-7
0933 1st Attempt - no recovery, reposition
2nd " - armor rock photo 334
reposition ~ 80' NNE
0947 WC-7a 1st attempt - gravel, no fines 14.0'
0955 WC-7b " " - cap rock photo 335 16.6'

mudline

1000 WC-7c 1st Attempt - collect SD0032 15.7'
- setup at WC-8
1038 WC-8a - no recovery 11.7'
attempt 2 - washed gravel, no fines 14.5'
reposition to NNE
WC-8b - cap rock photo 339 10.7'
8c - gravel only, poor recovery 6.8'
1056 8d - gravel & cap rock, no fines 8.7
e - large armor rock, 11.0
f - " 15.8
g - no recovery 16.5
h - armor rock 12.7
1130 i - collect SD0033 11.6

WC-6a - no recov 14.2
b - washed gravel, no fines 12.7
1204 c - collect SD0031 16.5
1230 - ready to collect BD samples - General's barge
is in the way - will try to contact them.
- to Marina to collect DI blank & Rinsate blank
1240 Collect Rinsate blank sample RB0004
1250 Collect DI water blank WB0003
- talk w EPilcher RE: sampling progress,
barge in the way, etc
1325 - Deliver samples to lab

2-1-12 cont'd

		mudline depth
1450	- to Slip 4, setup at BD-5	
1508	- BD-5a - overpenetration in organic silt	16.2'
1510	- collect sample SD0045	15.5
1539	BD-6a - collect sample SD0046	15.0'
1606	BD-7a - collect sample SD0047	16.5'
1639	BD-8a - collect sample SD0048	15.0'
1655	to Marina	
1515	Done for the day	

2-1-12

2-2-12

0830 at Marina weather 40°F, calm, ptly sunny
crew: B. Lawrence, S. Wodzicki (Integral)
S. Hinz (Gravity)
Plan: Collect rest of Boundary Area samples (BD1-4)

		mudline Depth
0900	Safety Mtg. - Discuss scope & hazards	
0935	to Slip 4 setup at BD-1	
1017	BD-1a - collect sample SD0041	20.0
	BD-2a - 1st attempt - overpenetration	22.1
1048	- collect SD0042 + lab QA/QC vol	
1126	BD-3a - collect SD0043	20.1
	BD-4a - 1st attempt - no recovery	10.7
	2nd " - no recov	13.2
1158	BD-4b 3rd " - collect SD0044	14.4
	to marina	
	lunch	
	Process samples, demob gear off boat	
1300	load gear	
1440	to lab	

Done for the Day

2-14-12

0700 at office - load field gear, to lab

0800 at marina

weather 45°F, overcast, light breeze

Crew B. Lawrence, S. Wodzicki - Integral

S. Hinz - Gravity

Plan - collect grabs at BD locations 1-8

H&S meeting - led by BL. Discuss vessel & power grab safety

Download a copy sample matrix

- To Slip 4, setup at BD-3 — mudline

0951 Collect sample SD0049 and — 19.4'

0956 split sample SD0050 — "

setup at BD-6

1028 BD-6a - washed gravel

BD-6b - washed gravel

1035 6C ~~6C - collect SD0051~~ BL — 24.2

- overpenetrate - approx 10 cm — photo 374

sandy GRAVEL over silt - washed sample

~~BD-6d~~ perform full decon power-grab

BD-6d - washed gravel

1054 BD-6e - washed gravel — 22.2

6f - washed gravel

BD-6g collect SD0051 — 22.3

setup at BD-5

mudline

BD-5a washed gravel

BD-5b washed gravel

1149 BD-5c collect SD0052 — 20.3

plus ex vol for lab QA/QC

to Marina for bathroom break, warm up

1250 Setup at BD-7

1310 BD-7a collect SD0053 BL — 16.0

~~BD-7b~~ BL washed gravel BL ~~15.0~~ BL

Setup at BD-2

1335 BD-2a washed gravel

1345 BD-2b collect SD0054 — 15.0

setup @ BD-8

8a - washed gravel — 5.5

8b - washed gravel — 6.0

1434 8c - washed gravel — 6.6

d - "

e - "

1450 BD-8f - " — 8.5

1453 BD-8g - collect SD0055 — 7.5

setup @ BD-1

1518 BD-1a - washed gravel

~~1528~~ 1b washed gravel

1528 BD-1c - collect SD0056 — 11.2

setup at 4 — intertidal

4a - gravel — exposed at low Tide

BD-4b - washed gravel
BD-4c - ~~washed~~ gravel & sand on bank
1630 Collect sample SD00517 with
ss spoon bowl by hand at low Tide
Done sampling
1655 back at Marina
load samples & gear to car
1715 off site

2-14-12

ATTACHMENT B

WATER QUALITY MONITORING FORMS

Water Quality Parameters

Project : SLIP4 **Crew:** J. SUND, B. LAWRENCE

Sampling Station: Ambient **Date:** 10/4/11 **Time:** 1340 **Depth to Mudline (ft):** 24.6'

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	Northing	Easting	Comments/Observations
3.0'	13.4	7.08	7	8.24	13790	-443			Background measurement Wrong location

Sampling Station: ~~Compliance~~ Ambient JS 10/4/11 **Date:** 10/4/11 **Time:** 1349 **Depth to Mudline (ft):** 24.6'

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	Northing	Easting	Comments/Observations
21.5	11.97	5.91	11	20.98	33491	-454			Background measurement Wrong locatn

Sampling Station: ~~Compliance~~ Ambient JS 10/4/11 **Date:** 10/4/11 **Time:** 1210 **Depth to Mudline (ft):** 26.3'

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	N ~~Northing~~	W ~~Easting~~	Comments/Observations
3.0'	13.44	8.57	6	6.72	11898	-448	4732.068	12219.272	Background measurement "ambient 1" coord file name

Sampling Station: ~~Compliance~~ Ambient JS 10/4/11 **Date:** 10/4/11 **Time:** 1221 **Depth to Mudline (ft):** 26.3'

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	N ~~Northing~~	W ~~Easting~~	Comments/Observations
23.3'	11.95	6.47	8	21.01	33547	-459	4732.068	12219.272	Background measurement "ambient 1" coord file name

Sampling Station: Compliance **Date:** 10/4/11 **Time:** 1230 **Depth to Mudline (ft):** 25.2

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	Northing	Easting	Comments/Observations
3.0'	13.44	8.03	10	8.41	14525	-441			Background measurement "Compliance 1"

Sampling Station: Compliance **Date:** 10/4/11 **Time:** 1232 **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	Northing	Easting	Comments/Observations
22.2	11.96	6.09	13	20.95	33457	-461			Background measurement. "compliance 1"

Water Quality Parameters

Project : Slip 4 **Crew:** J. SUND, B LAWRENCE

Sampling Station: Ambient	Date: 10/4/11	Time: 1258	Depth to Mudline (ft): 26.8						
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	Northing	Easting	Comments/Observations
3.0'	13.51	8.23	7	6.89	12732	-454			Slack tide "ambient 2"
Sampling Station: Ambient	**Date:** 10/4/11	**Time:** 1259	**Depth to Mudline (ft):** ~~26.8~~ 26.7						
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	Northing	Easting	Comments/Observations
23.7	11.97	6.41	7	20.98	33489	-465			Slack tide "ambient 2"
Sampling Station: Compliance	**Date:** 10/4/11	**Time:** 1317	**Depth to Mudline (ft):** 24.5						
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	Northing	Easting	Comments/Observations
3.0'	13.48	8.08	11	8.57	12367	-457			Slack tide "compliance 2"
Sampling Station: Compliance	**Date:** 10/4/11	**Time:** 1318	**Depth to Mudline (ft):** 23.5						
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	Northing	Easting	Comments/Observations
20.5	11.96	6.51	9	20.94	33449	-468			Slack tide "compliance 2"
Sampling Station: Ambient-Ebb	**Date:** 10/4/11	**Time:** 1420	**Depth to Mudline (ft):** 25.5						
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	pH / Northing	Easting	Comments/Observations
3.0	13.64	7.55	7	11.92	20500	-462	6.73		Ebb tide "ambient 3"
Sampling Station: Ambient-Ebb	**Date:** 10/4/11	**Time:** 1422	**Depth to Mudline (ft):** 25.5						
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	pH / Northing	Easting	Comments/Observations
22.5	11.96	6.55	11	20.97	33491	-471	7.34		Ebb tide "ambient 3"

Water Quality Parameters

Project : Slip 4 **Crew:** J SUND, BLAWRENCE

Sampling Station: Compliance Ebb **Date:** 10/4/11 **Time:** 1441 **Depth to Mudline (ft):** 24.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH ~~ORP (mV)~~	Northing	W ~~Easting~~	Comments/Observations
3.0'	13.25	7.88	7	11.97	17454	7.07			Ebb tide "compliance 3" ORP -468

Sampling Station: Compliance-Ebb **Date:** 10/4/11 **Time:** 1442 **Depth to Mudline (ft):** 24.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH ~~ORP (mV)~~	Northing	W ~~Easting~~	Comments/Observations
21.6	12.01	6.72	7	20.97	33516	7.27			Ebb tide "compliance 3" ORP -474

Sampling Station: **Date:** **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** J. SUND (Integral), M. DUFFIELD (GRAVITY)

Sampling Station: Ambient **Date:** 10/5/11 **Time:** 1414 **Depth to Mudline (ft):** 25.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	pH	Northing	Easting	Comments/Observations
3.0	13.35	~~21.05~~ ~~220.8%~~ >5	1.7		15706	69.9	7.7			8.37 8.37 mg/L DO

Sampling Station: Ambient **Date:** 10/5/11 **Time:** 1416 **Depth to Mudline (ft):** 25.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	pH	Northing	Easting	Comments/Observations
22.8	12.11	~~20.11~~ ~~219.1%~~ >5	3.0		40550	66.3	7.7			6.71 6.71 mg/L DO

Sampling Station: Compliance **Date:** 10/5/11 **Time:** 1431 **Depth to Mudline (ft):** 21.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	pH	Northing	Easting	Comments/Observations
3.0	13.46	~~18.20~~ >5	2.0		14410	71.9	7.6			8.12 8.12 mg/L DO

Sampling Station: Compliance **Date:** 10/5/11 **Time:** 1433 **Depth to Mudline (ft):** 21.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	pH	Northing	Easting	Comments/Observations
18.5	12.14	~~15.25~~ >5	2.5		40394	69.7	7.5			7.11 7.11 mg/L DO

Sampling Station: Ambient **Date:** 10/5/11 **Time:** 1539 **Depth to Mudline (ft):** 25.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	pH	Northing	Easting	Comments/Observations
3.0	13.36	~~15.72~~ >5	1.4	8.95	14776	73.7	7.3			8.5 8.50 mg/L DO

Sampling Station: Ambient **Date:** 10/5/11 **Time:** 1542 **Depth to Mudline (ft):** 25.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	pH	Northing	Easting	Comments/Observations
22.6	12.12	~~12.77~~ >5	2.8	25.97	40668	67.8	7.5			6.7 6.7 mg/L DO

Water Quality Parameters

Project : Slip 4 **Crew:** J.SUND (Integral), M.DUFFIFED (gravity)

Sampling Station: Compliance **Date:** 10/5/11 **Time:** 1549 **Depth to Mudline (ft):** 22.9

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	pH	Northing	Easting	Comments/Observations
3.0'	13.48	~~14.87~~ 337	2.5	8.9	15323	72.7	7.33			8.41 8.41 ms/L DO

Sampling Station: Compliance **Date:** 10/5/11 **Time:** **Depth to Mudline (ft):** 22.9

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	pH	Northing	Easting	Comments/Observations
20	12.11	~~12.26~~ 332.50	3.1	26.03	40739	68	7.55			6.29 332.50 6.29 ms/L DO

Sampling Station: **Date:** **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	ORP (mV)	Northing	Easting	Comments/Observations

Water Quality Parameters

Project : SLIP 4 **Crew:** J. SUND (Integral), M. DUFFIELD (Gravity)

Sampling Station: Ambient **Date:** 10/6/11 **Time:** 1458 **Depth to Mudline (ft):** 26.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	13.29	11.09	2.1	8.02	14161	7.15			

Sampling Station: Ambient **Date:** 10/6/11 **Time:** 1452 **Depth to Mudline (ft):** 25.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.6	12.12	9.59	1.9	25.87	40496	7.51			

Sampling Station: Compliance **Date:** 10/6/11 **Time:** 1459 **Depth to Mudline (ft):** 24.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	13.37	11.18	2.7	8.59	14527	7.28			

Sampling Station: Compliance **Date:** 10/6/11 **Time:** 1501 **Depth to Mudline (ft):** 25.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.3	12.11	9.80	3.0	25.94	40612	7.61			

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

*water depths measured using Vexilar LPS-1 LCD Portable Sounder

Water Quality Parameters

Project : Slip 4 **Crew:** J.SUND (Integral), M.DUFFIELD (gravity)

Sampling Station: Ambient **Date:** 10/7/11 **Time:** 1134 **Depth to Mudline (ft):** 19.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	13.17	10.97	2.1	5.04	9033	7.20			

Sampling Station: Ambient **Date:** 10/7/11 **Time:** 1136 **Depth to Mudline (ft):** 19.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
16.0	12.16	9.11	~~3.0~~ 4.9 JS 10/7/11	25.49	39630	7.55			Collect water grab sample (1140)

Sampling Station: Compliance **Date:** 10/7/11 **Time:** 1157 **Depth to Mudline (ft):** 20.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	13.26	11.64	3.0	5.46	9638	7.51			

Sampling Station: Compliance **Date:** 10/7/11 **Time:** 1159 **Depth to Mudline (ft):** 20.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
17.7	12.15	9.33	7.5	26.08	40802	7.81			collect water grab sample (1205) + QA/QC. Collect field replicate (1210)

Sampling Station: Ambient **Date:** 10/7/11 **Time:** 1600 **Depth to Mudline (ft):** 25.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	13.15	13.50	2.4	9.13	15702	7.83			collect grab water sample (1605)

Sampling Station: Ambient **Date:** 10/7/11 **Time:** 1601 **Depth to Mudline (ft):** 25.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.5	12.12	11.90	2.5	26.28	41090	8.15			

Water Quality Parameters

Project : Slip 4 **Crew:** J. Sund (Integral), M. Duffield (Grantly)

Sampling Station: Compliance **Date:** 10/7/11 **Time :** 1540 **Depth to Mudline (ft):** 22.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	13.32	13.48	3.9	7.94	13695	7.84			collect grab sample (1544) JS 10/7/11

Sampling Station: Compliance **Date:** 10/7/11 **Time :** 1542 **Depth to Mudline (ft):** ~~21.8~~ 22.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
19.3	12.13	11.85	2.7	26.23	41029	8.14			

Sampling Station: Compliance **Date:** 10/7/11 **Time :** 1630 **Depth to Mudline (ft):** 21.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	13.15	10.35	3.6	12.06	20305	7.92			collect grab sample (1635)

Sampling Station: Compliance **Date:** 10/7/11 **Time :** 1632 **Depth to Mudline (ft):** 21.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
18.8	12.15	8.60	2.6	26.13	40887	8.15			

Sampling Station: Ambient **Date:** 10/7/11 **Time :** 1646 **Depth to Mudline (ft):** 24.9

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	13.17	10.45	2.6	13.07	21530	7.88			collect grab sample ( )

Sampling Station: Ambient **Date:** 10/7/11 **Time :** 1648 **Depth to Mudline (ft):** 24.9

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
21.9	12.17	9.01	1.9	26.26	41074	8.19			

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Water Quality Parameters

Project: SLIP 4 **Crew:** J. SUND (Integral), S. HINZ (Gravity)

Sampling Station: Compliance **Date:** 10/10/11 **Time:** 1432 **Depth to Mudline (ft):** 23.4

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	13.04	8.45	2.2	6.35	8627	6.51			

Sampling Station: Compliance **Date:** 10/10/11 **Time:** 1434 **Depth to Mudline (ft):** 23.4

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
20.4'	11.86	5.82	5.9	28.48	33107	6.79			

Sampling Station: Ambient **Date:** 10/10/11 **Time:** 1446 **Depth to Mudline (ft):** 23.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	13.06	8.35	2.2	7.25	9302	7.17			

Sampling Station: Ambient **Date:** 10/10/11 **Time:** 1448 **Depth to Mudline (ft):** 23.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
20.3'	11.87	5.85	5.2	28.54	33174	6.99			

Sampling Station: Compliance **Date:** 10/10/11 **Time:** 1641 **Depth to Mudline (ft):** 25.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	13.10	8.09	2.3	7.43	9932	7.21			

Sampling Station: Compliance **Date:** 10/10/11 **Time:** 1642 **Depth to Mudline (ft):** 25.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
23.8	11.84	5.84	4.5	28.6	33227	7.14			

Water Quality Parameters

Project : SUP 4 **Crew:** JSUND (Integral), S.HINZ (gravity)

Sampling Station: Ambient **Date:** 10/10/11 **Time:** 1650 **Depth to Mudline (ft):** 25.1

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	13.16	8.13	1.9	7.48	10171	7.31			

Sampling Station: Ambient **Date:** 10/10/11 **Time:** 1653 **Depth to Mudline (ft):** 25.1

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
23.1	11.84	5.96	4.0	28.66	33243	7.05			

Sampling Station: Compliance **Date:** 10/11/11 **Time:** 1030 **Depth to Mudline (ft):** 17.2

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.73	8.42	3.5	7.22	12.56 mS/cm 9645	6.56			

Sampling Station: Compliance **Date:** 10/11/11 **Time:** 1032 **Depth to Mudline (ft):** 17.2

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
14.2'	12.02	~~6.04~~ 5.66 JSH	4.3	26.68	31322	6.71			collect water grab SW0008

Sampling Station: Ambient **Date:** 10/11/11 **Time:** 1056 **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.75	8.43	3.4	7.32	9732	7.43			

Sampling Station: Ambient **Date:** 10/11/11 **Time:** 1058 **Depth to Mudline (ft):** 17.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
14.7	11.99	5.88	4.1	26.53	31170	7.37			collect water grab SW0009

Project : SLIP 4 EAA

Crew: J. SUND (integral), S. Hinz (gravity)

Sampling Station: Compliance Date: 10/11/11 Time: 1131 Depth to Mudline (ft): 18.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.87	8.38	3.3	7.41	9733	7.57			

Sampling Station: Compliance Date: 10/11/11 Time: 1133 Depth to Mudline (ft): 18.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
15.5'	12.01	5.68	6.4	26.76	31285	7.37			collect grab sample SW0010

Sampling Station: Ambient Date: 10/11/11 Time: 1148 Depth to Mudline (ft): 15.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.87	8.40	3.2	7.40	9934	7.64			

Sampling Station: Ambient Date: 10/11/11 Time: 1150 Depth to Mudline (ft): 15.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
~~3.0~~ 13.0' 10/11/11	12.11	6.08	5.5	24.66	29115	7.36			collect grab sample SW0011

Sampling Station: Date: Depth to Mudline (ft):

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: Date: Depth to Mudline (ft):

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Water Quality Parameters

Project : SLIP 4 EAA **Crew:** J-SUVD (Integral), S. Hinz (Gravity)

Sampling Station: Compliance **Date:** 10/12/11 **Time:** 1501 **Depth to Mudline (ft):** 22.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.93	8.78	4.1	6.87	8432	5.97			

Sampling Station: Compliance **Date:** 10/12/11 **Time:** 1503 **Depth to Mudline (ft):** 22.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
19.6	11.78	6.00	4.1	28.65	33285	6.27			

Sampling Station: Ambient **Date:** 10/12/11 **Time:** 1511 **Depth to Mudline (ft):** 20.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.95	8.41	3.9	8839	6.13	6.99			

Sampling Station: Ambient **Date:** 10/12/11 **Time:** 1514 **Depth to Mudline (ft):** 20.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
17.0	11.85	6.01	3.7	28.6	32186	6.91			

Sampling Station: Compliance **Date:** 10/12/11 **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'									

Sampling Station: Compliance **Date:** 10/12/11 **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Water Quality Parameters

Project : SLIP 4 EAA **Crew:** JSUND (intake), SHINZ (gravity)

Sampling Station: Compliance	Date: 10/13/11	Time: 1032						Depth to Mudline (ft): 20.0	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.43	8.76	2.8	5.18	6992	6.71			
Sampling Station: Compliance	**Date:** 10/13/11	**Time:** 1035						**Depth to Mudline (ft):** 20.0	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
17.0'	11.81	6.05	3.1	28.15	32723	657			grab sample
Sampling Station: Ambient	**Date:** 10/13/11	**Time:** 1100						**Depth to Mudline (ft):** 19.2	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.44	9.01	3.0	4.69	6391	7.45			
Sampling Station: Ambient	**Date:** 10/13/11	**Time:** 1103						**Depth to Mudline (ft):** 19.2	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
16.2'	11.83	6.14	2.4	27.96	32498	6.94			grab sample
Sampling Station: Compliance	**Date:** 10/13/11	**Time:** 1235						**Depth to Mudline (ft):** 19.6	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.59	8.61	3.0	4.51	6201	7.30			
Sampling Station: Compliance	**Date:** 10/13/11	**Time:** 1237						**Depth to Mudline (ft):** 19.6	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
16.6	11.88	6.08	3.1	27.05	31617	7.03			grab sample

Water Quality Parameters

Project : SLIP4 EAA **Crew:** JSUND(Integral), Shinz(Gravity)

Sampling Station: Ambient **Date:** 10/13/11 **Time:** 1253 **Depth to Mudline (ft):** 18.1

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.74	8.93	2.7	4.49	6184	7.41			

Sampling Station: Ambient **Date:** 10/13/11 **Time:** 1255 **Depth to Mudline (ft):** 18.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
15.0'	11.91	6.29	2.3	26.58	31081	7.01			grab sample

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral), S. Hinz (Gravity)

Sampling Station: Compliance **Date:** 10/14/11 **Time:** 1031 **Depth to Mudline (ft):** 20.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.05	8.85	2.4	5.10	6835	6.22			Active Dredging

Sampling Station: Compliance **Date:** 10/14/11 **Time:** 1033 **Depth to Mudline (ft):** 20.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
17.6'	11.75	6.18	3.0	28.43	32985	6.62			

Sampling Station: Ambient **Date:** 10/14/11 **Time:** 1045 **Depth to Mudline (ft):** 21.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.03	8.94	2.3	5.08	6814	7.18			

Sampling Station: Ambient **Date:** 10/14/11 **Time:** 1047 **Depth to Mudline (ft):** 21.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
18.5	11.75	6.20	2.4	28.53	33058	7.10			

Sampling Station: Compliance **Date:** 10/14/11 **Time:** 1311 **Depth to Mudline (ft):** 19.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.16	8.91	2.7	4.7	6496	7.47			

Sampling Station: Compliance **Date:** 10/14/11 **Time:** 1315 **Depth to Mudline (ft):** 19.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
16.7'	11.82	6.40	3.4	26.98	28944	7.30			

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral), S. Hinz (Gravity)

Sampling Station: Ambient **Date:** 10/14/11 **Time:** 1325 **Depth to Mudline (ft):** 18.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	12.16	8.98	2.4	4.48	6119	7.56			

Sampling Station: Ambient **Date:** 10/14/11 **Time:** 1328 **Depth to Mudline (ft):** 18.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
15.5	11.78	6.25	2.8	27.86	32403	7.34			

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral), S. Hinz (Gravity)

Sampling Station: Compliance **Date:** 10/17/11 **Time:** 1118 **Depth to Mudline (ft):** 23.4

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	11.08	8.72	2.5	6.76	8618	7.18			Actively dredging

Sampling Station: Compliance **Date:** 10/17/11 **Time:** 1122 **Depth to Mudline (ft):** 23.4

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
20.4	11.58	5.84	3.3	29.04	33468	7.14			

Sampling Station: Ambient **Date:** 10/17/11 **Time:** 1137 **Depth to Mudline (ft):** 19.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	11.15	8.35	3.5	7.96	9871	7.16			

Sampling Station: Ambient **Date:** 10/17/11 **Time:** 1140 **Depth to Mudline (ft):** 19.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
16.5	11.59	6.00	2.5	28.7	33137	7.23			

Sampling Station: Compliance **Date:** 10/17/11 **Time:** 1517 **Depth to Mudline (ft):** 20.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	11.46	9.18	1.9	4.91	6482	7.43			silt observed entering Slip 4 from Boeing outfall - no apparent affect at compliance

Sampling Station: Compliance **Date:** 10/17/11 **Time:** 1520 **Depth to Mudline (ft):** 20.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
17.6	11.61	6.35	2.6	28.35	32801	7.28			

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral), S. Hinz (Gravity)

Sampling Station: Ambient **Date:** 10/17/11 **Time:** 1530 **Depth to Mudline (ft):** 20.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	11.53	9.17	2.1	4.79	6679	7.45			

Sampling Station: Ambient **Date:** 10/17/11 **Time:** 1533 **Depth to Mudline (ft):** 20.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
17.3	11.6	6.20	2.1	28.48	32918	7.42			

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral) S. Hiraz (Gravity)

Sampling Station: Compliance **Date:** 10/19/11 **Time** 1147 **Depth to Mudline (ft):** 24.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	11.59	8.51	3.6	9.50	11991	6.90			

Sampling Station: Compliance **Date:** 10/19/11 **Time** 1149 **Depth to Mudline (ft):** 24.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
21.8	11.54	6.43	2.8	29.03	33417	7.1			

Sampling Station: Ambient **Date:** 10/19/11 **Time** 1158 **Depth to Mudline (ft):** 23.9

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	11.59	8.35	4.4	8.71	10968	7.18			

Sampling Station: Ambient **Date:** 10/19/11 **Time** 1201 **Depth to Mudline (ft):** 23.9

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
20.9	11.54	6.48	2.0	29.0	33415	7.18			

Sampling Station: Compliance **Date:** 10/19/11 **Time** 1312 **Depth to Mudline (ft):** 23.4

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	11.69	8.47	7.0	7.94	9764	7.39			

Sampling Station: Compliance **Date:** 10/19/11 **Time** 1315 **Depth to Mudline (ft):** 23.4

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
20.4	11.55	6.17	2.5	29.02	33419	7.40			

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral), S. Hinz (Gravity)

Sampling Station: Ambient **Date:** 10/19/11 Time 1324 **Depth to Mudline (ft):** 22.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	11.67	8.03	6.6	8.68	11249	7.18			

Sampling Station: Ambient **Date:** 10/19/11 Time 1327 **Depth to Mudline (ft):** 22.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
19.8	11.55	6.18	2.3	28.91	33319	7.48			

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral) S. Saugen (Gravity)

Sampling Station: Compliance **Date:** 10/21/11 **Time:** 1331 **Depth to Mudline (ft):** 25.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	11.74	8.07	2.7	10.79	13589	6.21			

Sampling Station: Compliance **Date:** 10/21/11 **Time:** 1334 **Depth to Mudline (ft):** 25.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.3	11.54	6.45	2.9	28.80	33213	6.79			

Sampling Station: Ambient **Date:** 10/21/11 **Time** ~~1334~~ 1343 **Depth to Mudline (ft):** 25.2

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	11.74	8.07	2.3	9.88	13675	7.12			

Sampling Station: Ambient **Date:** 10/21/11 **Time** ~~1343~~ 1345 **Depth to Mudline (ft):** 25.2

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.2	11.54	6.50	2.2	28.78	33186	7.23			

Sampling Station: Compliance **Date:** 10/21/11 **Time** ~~1345~~ 1505 **Depth to Mudline (ft):** 23.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3	11.70	7.69	3.0	14.95	19818	7.26			

Sampling Station: Compliance **Date:** 10/21/11 **Time** 1509 **Depth to Mudline (ft):** 23.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
20.6	11.54	6.44	1.6	28.69	33085	7.42			

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral) S. Sawyer (Gannity)

Sampling Station: Ambient **Date:** 10/21/11 Time 1519 **Depth to Mudline (ft):** 23.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	11.79	7.96	2.4	11.63	14434	7.43			

Sampling Station: Ambient **Date:** 10/21/11 Time 1521 **Depth to Mudline (ft):** 23.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
20.3	11.54	6.44	2.1	28.73	33134	7.44			

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B Lawrence (Integral), S. Hinz (Gravity)

Sampling Station: Compliance **Date:** 10/24/11 **Time** 1522 **Depth to Mudline (ft):** 25.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	12.33	7.80	6.8	10.99	13993	6.22			

Sampling Station: Compliance **Date:** 10/24/11 **Time** 1525 **Depth to Mudline (ft):** 25.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.7	11.59	6.44	2.9	29.01	33434	6.92			

Sampling Station: Ambient **Date:** 10/24/11 **Time** 1532 **Depth to Mudline (ft):** 24.4

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	12.35	8.05	4.0	8.57	11221	7.13			

Sampling Station: Ambient **Date:** 10/24/11 **Time** 1535 **Depth to Mudline (ft):** 24.4

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
21.4	11.6	6.50	1.8	29.12	33568	7.24			

Sampling Station: Compliance **Date:** 10/24/11 **Time** 1625 **Depth to Mudline (ft):** 24.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	12.57	8.3	3.7	7.66	10517	7.24			

Sampling Station: Compliance **Date:** 10/24/11 **Time** 1628 **Depth to Mudline (ft):** 24.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
21.6	11.60	6.48	2.1	28.93	33384	7.23			

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral), S. Hinz (Gravity)

Sampling Station: Ambient **Date:** 10/24/11 **Time** 1634 **Depth to Mudline (ft):** 22.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	12.44	8.31	3.4	7.78	10654	7.42			

Sampling Station: Ambient **Date:** 10/24/11 **Time** 1636 **Depth to Mudline (ft):** 22.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
19.5	11.61	6.54	1.6	28.89	33346	7.32			

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrene (Integral), S. Hinz (Gravity)

Sampling Station: Compliance	Date: 10/28/11	Time 1308					Depth to Mudline (ft): 20.5		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3	9.69	9.81	2.5	6.64	8231	7.00			
Sampling Station: Compliance	**Date:** 10/28/11	**Time** 1311					**Depth to Mudline (ft):** 20.5		
Sample Depth (ft)	**Temp (°C)**	**DO (mg/L)**	**Turbidity (NTU)**	**Salinity (ppt)**	**Conductivity (uS/cm)**	**pH**	**Northing**	**Easting**	**Comments/Observations**
17.5	11.21	6.72	2.1	27.48	31566	6.96			
Sampling Station: Ambient	**Date:** 10/28/11	**Time** 1322					**Depth to Mudline (ft):** 20.2		
Sample Depth (ft)	**Temp (°C)**	**DO (mg/L)**	**Turbidity (NTU)**	**Salinity (ppt)**	**Conductivity (uS/cm)**	**pH**	**Northing**	**Easting**	**Comments/Observations**
3.0	9.77	9.54	2.5	7.31	9091	7.38			
Sampling Station: Ambient	**Date:** 10/28/11	**Time** 1325					**Depth to Mudline (ft):** 20.2		
Sample Depth (ft)	**Temp (°C)**	**DO (mg/L)**	**Turbidity (NTU)**	**Salinity (ppt)**	**Conductivity (uS/cm)**	**pH**	**Northing**	**Easting**	**Comments/Observations**
17.2	11.21	6.61	2.1	27.47	31550	7.31			
Sampling Station: Compliance	**Date:** 10/28/11	**Time** 1448					**Depth to Mudline (ft):** 21.8		
Sample Depth (ft)	**Temp (°C)**	**DO (mg/L)**	**Turbidity (NTU)**	**Salinity (ppt)**	**Conductivity (uS/cm)**	**pH**	**Northing**	**Easting**	**Comments/Observations**
3.0	9.89	Probe Malfunction	3.4	8.97	10924	7.60			
Sampling Station: Compliance	**Date:** 10/28/11	**Time** 1451					**Depth to Mudline (ft):** 21.8		
Sample Depth (ft)	**Temp (°C)**	**DO (mg/L)**	**Turbidity (NTU)**	**Salinity (ppt)**	**Conductivity (uS/cm)**	**pH**	**Northing**	**Easting**	**Comments/Observations**
18.8	11.25	PM	7.1	28.37	32520	7.49			

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Interand), S. Hinz (Gravity)

Sampling Station: Ambient **Date:** 10/28/11 Time 1456 **Depth to Mudline (ft):** 23.4

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	9.90	9.82	2.3	8.62	10533	7.74			

Sampling Station: Ambient **Date:** 10/28/11 Time 1458 **Depth to Mudline (ft):** 23.4

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
20.4	11.27	—	5.3	28.57	32680	7.55			

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral), S. Hinz (Gravity)

Sampling Station: Compliance **Date:** 11/1/11 **Time** 1121 **Depth to Mudline (ft):** 23.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	9.43	—	2.8	6.77	7856	6.48			

Sampling Station: Compliance **Date:** 11/1/11 **Time** 1125 **Depth to Mudline (ft):** 23.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
20.7	11.2	—	1.9	29.08	33201	6.72			

Sampling Station: Ambient **Date:** 11/1/11 **Time** 1129 **Depth to Mudline (ft):** 26.2

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	9.61	—	2.5	8.11	9825	7.05			

Sampling Station: Ambient **Date:** 11/1/11 **Time** 1131 **Depth to Mudline (ft):** 26.2

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
23.2	11.19	—	1.5	29.07	33194	7.01			

Sampling Station: Compliance **Date:** 11/1/11 **Time** 1233 **Depth to Mudline (ft):** 24.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	9.27	9.88	2.1	3.91	5059	6.48			

Sampling Station: Compliance **Date:** 11/1/11 **Time** 1236 **Depth to Mudline (ft):** 24.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
21.5	11.19	6.50	1.7	28.95	33044	6.44			

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence, S. Hinz

Sampling Station: Ambient **Date:** 11/1/11 Time 1237 **Depth to Mudline (ft):** 25.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	9.38	9.71	2.4	4.89	6150	6.99			

Sampling Station: Ambient **Date:** 11/1/11 Time 1239 **Depth to Mudline (ft):** 25.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.3	11.20	—	1.9	29.02	33143	7.03			

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral), S. Sargen (Gravity)

Sampling Station: Compliance	Date: 11/3/11	Time 13:03						Depth to Mudline (ft): 24.6	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	8.41	9.77	~~8.2~~ BL 6.1	5.99	7043	6.63			Tug at mouth of slip churning water
Sampling Station: Compliance	**Date:** 11/3/11	**Time** 13:05						**Depth to Mudline (ft):** 24.6	
Sample Depth (ft)	**Temp (°C)**	**DO (mg/L)**	**Turbidity (NTU)**	**Salinity (ppt)**	**Conductivity (uS/cm)**	**pH**	**Northing**	**Easting**	**Comments/Observations**
21.6	11.12	6.47	1.4	39.80	43962	6.63			Tug at mouth of slip churning water
Sampling Station: Ambient	**Date:** 11/3/11	**Time** 1315						**Depth to Mudline (ft):** 28.2	
Sample Depth (ft)	**Temp (°C)**	**DO (mg/L)**	**Turbidity (NTU)**	**Salinity (ppt)**	**Conductivity (uS/cm)**	**pH**	**Northing**	**Easting**	**Comments/Observations**
3.0	8.34	10.48	1.6	3.27	4090	5.99			
Sampling Station: Ambient	**Date:** 11/3/11	**Time** 1318						**Depth to Mudline (ft):** 28.2	
Sample Depth (ft)	**Temp (°C)**	**DO (mg/L)**	**Turbidity (NTU)**	**Salinity (ppt)**	**Conductivity (uS/cm)**	**pH**	**Northing**	**Easting**	**Comments/Observations**
25.2	11.15	5.57	7.0	40.01	44153	6.41			
Sampling Station: Compliance	**Date:** 11/3/11	**Time** 1429						**Depth to Mudline (ft):** 24.0	
Sample Depth (ft)	**Temp (°C)**	**DO (mg/L)**	**Turbidity (NTU)**	**Salinity (ppt)**	**Conductivity (uS/cm)**	**pH**	**Northing**	**Easting**	**Comments/Observations**
3.0	8.49	10.07	5.0	4.96	6394	5.87			
Sampling Station: Compliance	**Date:** 11/3/11	**Time** 1432						**Depth to Mudline (ft):** 24.0	
Sample Depth (ft)	**Temp (°C)**	**DO (mg/L)**	**Turbidity (NTU)**	**Salinity (ppt)**	**Conductivity (uS/cm)**	**pH**	**Northing**	**Easting**	**Comments/Observations**
21.0	11.14	5.75	1.5	39.55	43671	6.11			

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence, S. Saugen

Sampling Station: Ambient **Date:** 11/3/11 Time 1441 **Depth to Mudline (ft):** 25.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	8.27	10.49	1.1	3.49	4367	7.05			

Sampling Station: Ambient **Date:** 11/3/11 Time 1444 **Depth to Mudline (ft):** 25.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.6	11.14	5.73	1.0	39.63	43807	6.87			

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral), S. Sawyer (Gravity)

Sampling Station: Compliance **Date:** 11/8/11 **Time** 1455 **Depth to Mudline (ft):** ~~25.5~~ 22.9

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	8.18	9.48	2.4	8.49	9972	7.31			

Sampling Station: Compliance **Date:** 11/8/11 **Time** 1457 **Depth to Mudline (ft):** 22.9

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
19.9	10.89	6.27	2.5	27.91	31778	7.22			

Sampling Station: Ambient **Date:** 11/8/11 **Time** 1446 **Depth to Mudline (ft):** 25.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	8.01	9.68	1.8	7.50	8676	6.71			

Sampling Station: Ambient **Date:** 11/8/11 **Time** 1448 **Depth to Mudline (ft):** 25.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.5	10.93	6.25	2.5	28.02	31902	7.03			

Sampling Station: Compliance **Date:** 11/8/11 **Time** 1608 **Depth to Mudline (ft):** 22.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	8.17	9.35	3.7	8.23	9646	7.48			

Sampling Station: Compliance **Date:** 11/8/11 **Time** 1611 **Depth to Mudline (ft):** 22.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
19.7	10.88	6.54	3.4	27.93	31799	7.37			

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence, S. Saugen

Sampling Station: Ambient **Date:** 11/8/11 **Time** 1601 **Depth to Mudline (ft):** 25.2

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	7.93	10.09	1.4 ~~26.49~~	5.54	6637	7.15			

Sampling Station: Ambient **Date:** 11/8/11 **Time** 1603 **Depth to Mudline (ft):** 25.2

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.2	10.91	6.35	1.7	28.03	31882	7.06			

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral), S. Saugen (Gravity)

Sampling Station: Ambient **Date:** 11/10/11 **Time** 1445 **Depth to Mudline (ft):** 24.9

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	9.15	9.46	2.7	6.20	7648	6.95			

Sampling Station: Ambient **Date:** 11/10/11 **Time** 1450 **Depth to Mudline (ft):** 24.9

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
21.9	11.15	7.42	1.5	27.86	31916	7.52			

Sampling Station: Compliance **Date:** 11/10/11 **Time** 1501 **Depth to Mudline (ft):** 21.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	9.01	9.22	2.9	7.27	8791	6.94			

Sampling Station: Compliance **Date:** 11/10/11 **Time** 1505 **Depth to Mudline (ft):** 21.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
18.6	11.13	6.50	1.3	27.51	31528	7.40			

Sampling Station: Ambient **Date:** 11/10/11 **Time** 1546 **Depth to Mudline (ft):** 26.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	8.99	9.41	1.1	6.57	7856	7.3			

Sampling Station: Ambient **Date:** 11/10/11 **Time** 1549 **Depth to Mudline (ft):** 26.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
23.0	11.17	6.34	1.5	28.16	32223	6.45			

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence, S. Sougen

Sampling Station: Compliance **Date:** 11/10/11 **Time** 1555 **Depth to Mudline (ft):** 24.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	9.2	8.9	7.6	8.99	10710	7.35			significant floating debris entering slip

Sampling Station: Compliance **Date:** 11/10/11 **Time** 1557 **Depth to Mudline (ft):** 24.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
21.3	11.15	6.25	1.2	28.12	32201	6.37			

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B Lawrence (Integral), S. Hinz (Gravity)

Sampling Station: Compliance	Date: 11/22/11	Time: 1330						Depth to Mudline (ft): 26.8	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.62	10.29	3.2	8.27	9258	7.13			
Sampling Station: Compliance	**Date:** 11/22/11	**Time:** 1333						**Depth to Mudline (ft):** 26.8	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
23.8	10.49	6.16	1.0	41.90	45287	7.5			
Sampling Station: Ambient	**Date:** 11/22/11	**Time:** 1338						**Depth to Mudline (ft):** 27.7	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.65	10.42	3.9	8.07	9103	7.43			
Sampling Station:	**Date:** 11/22/11	**Time:** 1340						**Depth to Mudline (ft):** 27.7	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
24.7	10.51	6.93	0.7	42.04	45440	7.54			
Sampling Station: Compliance	**Date:** 11/22/11	**Time:** 1458						**Depth to Mudline (ft):** 25.4	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.6	10.37	5.3	7.64	8696	7.40			
Sampling Station: Compliance	**Date:** 11/22/11	**Time:** 1501						**Depth to Mudline (ft):** 25.4	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.4	10.49	5.90	0.9	41.81	45155	7.57			

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence, S. Hinz

Sampling Station: Ambient **Date:** 11/22/11 Time 1505 **Depth to Mudline (ft):** 23.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.47	10.5	3.4	7.03	7933	7.52			

Sampling Station: Ambient **Date:** 11/22/11 Time 1507 **Depth to Mudline (ft):** 23.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
20.7	10.45	5.96	0.4	41.47	44805	7.55			

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral), M. Duffield (Cowity)

Sampling Station: Ambient **Date:** 11/29/11 **Time** 0846 **Depth to Mudline (ft):** 28.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.48	11.26	4.7	2.30	2809	6.37			

Sampling Station: Ambient **Date:** 11/29/11 **Time** 0849 **Depth to Mudline (ft):** 28.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
25.0	10.15	6.36	0.1	45.36	48172	7.47			

Sampling Station: Compliance **Date:** 11/29/11 0857 **Depth to Mudline (ft):** 26.4

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.52	11.22	4.7	2.26	2720	6.60			

Sampling Station: Compliance **Date:** 11/29/11 0900 **Depth to Mudline (ft):** 26.4

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
23.4	10.16	6.25	0.1	45.13	47965	7.49 ~~6.472~~			

Sampling Station: Ambient **Date:** 11/29/11 1008 **Depth to Mudline (ft):** 27.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.54	10.99	5.1	2.47	2997	7.21			

Sampling Station: Ambient **Date:** 11/29/11 1010 **Depth to Mudline (ft):** 27.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
24.5	10.15	6.34	0.2	45.08	47918	7.52			

Water Quality Parameters

Project : Slip 4 **Crew:** BL, MD

Sampling Station: Compliance **Date:** 11/29/11 1022 **Depth to Mudline (ft):** 25.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.53	11.12	5.5	2.30	2824	7.41			

Sampling Station: Compliance **Date:** 11/29/11 1024 **Depth to Mudline (ft):** 25.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.6	10.17	6.23	0.3	45.17	47967	7.58			

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral), S. Hinz (Gravity)

Sampling Station: Compliance	Date: 12-1-11	Time: 1004						Depth to Mudline (ft): 26.0	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.18	11.45	2.1	2.13	2463	7.05			
Sampling Station: Compliance	**Date:** 12-1-11	**Time:** 1008						**Depth to Mudline (ft):** 26.0	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
23.0	10.1	6.48	1.2	45.02	47761	7.51			
Sampling Station: Ambient	**Date:** 12-1-11	**Time:** 1012						**Depth to Mudline (ft):** 26.5	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
3.0	6.16	11.44	1.9	1.81	2277	7.49			
Sampling Station: Ambient	**Date:** 12-1-11	**Time:** 1014						**Depth to Mudline (ft):** 26.5	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
23.5	10.12	6.64	1.1	45.02	47786	7.54			
Sampling Station: Compliance	**Date:** 12-1-11	**Time:** 1136						**Depth to Mudline (ft):** 23.2	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
3.0	6.39	11.26	0.9	3.68	4362	7.10			
Sampling Station: Compliance	**Date:** 12-1-11	**Time:** 1139						**Depth to Mudline (ft):** 23.2	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
20.2	10.06	6.53	3.4	44.43	47194	7.5			

Water Quality Parameters

Project : Slip 4 **Crew:** BL, SH

Sampling Station: Ambient **Date:** 12-1-11 **Time:** 1143 **Depth to Mudline (ft):** 25.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.38	11.24	2.5	3.80	4502	7.38			

Sampling Station: Ambient **Date:** 12-1-11 **Time:** 1145 **Depth to Mudline (ft):** 25.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
22.7	10.10	6.57	2.0	44.82	47572	7.51			

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral), S. Hinz (Gravity)

Sampling Station: Compliance **Date:** 12/6/11 1333 **Depth to Mudline (ft):** 23.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	4.59	11.35	5.1	4.09	4571	7.13			significant amt. of floating debris on water surface

Sampling Station: Compliance **Date:** 12/6/11 1335 **Depth to Mudline (ft):** 23.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
20.7	9.87	6.21	0.9	44.86	47300	7.4			

Sampling Station: Ambient **Date:** 12/6/11 1339 **Depth to Mudline (ft):** 25.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
3.0	4.57	11.41	0.9	4.47	4984	7.44			

Sampling Station: Ambient **Date:** 12/6/11 1341 **Depth to Mudline (ft):** 25.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
22.3	9.88	6.30	0.6	44.87	47415	7.53			

Sampling Station: Compliance **Date:** 12/6/11 1452 **Depth to Mudline (ft):** 22.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
3.0	4.85	10.88	3.2	8.64	7004	7.22			

Sampling Station: Compliance **Date:** 12/6/11 1454 **Depth to Mudline (ft):** 22.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
19.3	9.89	6.34	1.1	44.82	47357	7.51			

Water Quality Parameters

Project : Slip 4 **Crew:** BL, SH

Sampling Station: Ambient **Date:** 12/6/11 1456 **Depth to Mudline (ft):** 24.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	4.85	11.11	2.6	6.65	6998	7.43			

Sampling Station: Ambient **Date:** 12/6/11 1458 **Depth to Mudline (ft):** 24.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
21.3	9.88	6.10	2.4	44.8	47404	7.52			

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** Bill Lawrence (Integral) S. Hinz (Gravity)

Sampling Station: Ambient **Date:** 12-8-11 1445 **Depth to Mudline (ft):** 24.4

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	5.38	10.87	1.2	11.25	7378	7.2			Sheen on water surface, leaf litter present water stirred up due to tug/barge

Sampling Station: Ambient **Date:** 12-8-11 1448 **Depth to Mudline (ft):** 24.4

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
21.4	9.58	6.91	2.6	38.82	41366	7.53			

Sampling Station: Compliance **Date:** 12-8-11 1452 **Depth to Mudline (ft):** 24.1

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
3.0	6.58	9.78	2.0	13.31	13771	7.37			Tugs stirring up water

Sampling Station: Compliance **Date:** 12-8-11 1454 **Depth to Mudline (ft):** 24.1

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
21.1	9.56	6.77	1.9	38.70	41287	7.52			

Sampling Station: Compliance **Date:** 12-8-11 1602 **Depth to Mudline (ft):** 22.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
3.0	5.93	10.42	1.6	10.84	11658	7.04			

Sampling Station: Compliance **Date:** 12-8-11 1604 **Depth to Mudline (ft):** 22.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
19.0	9.55	6.94	1.5	38.6	41105	7.45			

Water Quality Parameters

Project : Slip 4 **Crew:** BL, SH

Sampling Station: Ambient	Date: 12-8-11 1606							Depth to Mudline (ft): 22.8	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	5.67	10.57	1.4	9.01	9432	7.54			

Sampling Station: Ambient	Date: 12-8-11 1608							Depth to Mudline (ft): 22.8	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
19.8	9.54	7.07	2.3	38.45	40906	7.36			

Sampling Station:	Date:							Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:							Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:							Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:							Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral) S. Hinz (Gravity)

Sampling Station: Compliance **Date:** 12-13-11 **Time:** 0903 **Depth to Mudline (ft):** 25.1

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	5.88	9.71	1.7	16.72	17492	6.73			

Sampling Station: Compliance **Date:** 12-13-11 **Time:** 0905 **Depth to Mudline (ft):** 25.1

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
22.1	9.5	6.40	0.4	49.41	51182	7.46			

Sampling Station: Ambient **Date:** 12-13-11 **Time:** 0910 **Depth to Mudline (ft):** 25.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
3.0	5.85	9.49	0.7	16.3	16926	7.24			

Sampling Station: Ambient **Date:** 12-13-11 **Time:** 0912 **Depth to Mudline (ft):** 25.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
22.7	9.5	6.19	0.2	49.34	51054	7.58			

Sampling Station: Compliance **Date:** 12-13-11 **Time:** 1319 **Depth to Mudline (ft):** 21.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
3.0	5.45	10.21	1.3	11.27	12072	7.26			

Sampling Station: Compliance **Date:** 12-13-11 **Time:** 1321 **Depth to Mudline (ft):** 21.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
18.5	9.31	6.46	1.6	48.01	49489	7.45			

Water Quality Parameters

Project : Slip 4 **Crew:** BL, SH

Sampling Station: Ambient	Date: 12-13-11	Time: 1323					Depth to Mudline (ft): 21.9		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	5.46	10.21	1.7	11.36	12088	7.48			

Sampling Station: Ambient	Date: 12-13-11	Time: 1325					Depth to Mudline (ft): 21.9		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
18.9	9.26	6.44	1.2	47.8	49334	7.53			

Sampling Station:	Date:	Time:					Depth to Mudline (ft):		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:					Depth to Mudline (ft):		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:					Depth to Mudline (ft):		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:					Depth to Mudline (ft):		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B Lawrence (Integral), S. Saugen (Gravity)

Sampling Station: Ambient **Date:** 12-15-11 **Time:** 1012 **Depth to Mudline (ft):** 26.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.43	9.10	2.0	18.95	21945	6.77			

Sampling Station: Ambient **Date:** 12-15-11 **Time:** 1014 **Depth to Mudline (ft):** 26.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
23.0	9.38	6.67	1.1	45.4	47321	7.52			

Sampling Station: Compliance **Date:** 12-15-11 **Time:** 1018 **Depth to Mudline (ft):** 21.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	5.72	9.7	3.9	15.03	15844	7.45			

Sampling Station: Compliance **Date:** 12-15-11 **Time:** 1020 **Depth to Mudline (ft):** 21.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
18.7	9.38	6.41	1.3	45.37	47256	7.54			

Sampling Station: Ambient **Date:** 12-15-11 **Time:** 1441 **Depth to Mudline (ft):** 20.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	5.73	10.01	1.0	13.69	14440	7.51			

Sampling Station: Ambient **Date:** 12-15-11 **Time:** ~~10~~ 1443 **Depth to Mudline (ft):** 20.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
17.3	9.08	7.3	0.1	43.26	44999	7.56			

Water Quality Parameters

Project : Slip 4 **Crew:** BL, SS

Sampling Station: Compliance	Date: 12-15-11	Time: 1446						Depth to Mudline (ft): 18.7	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	5.75	9.96	1.7	13.73	14546	7.62			

Sampling Station: Compliance	Date: 12-15-11	Time: 1448						Depth to Mudline (ft): 18.7	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
15.7	8.97	7.24	2.3	42.37	44147	7.49			

Sampling Station:	Date:	Time:						Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:						Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:						Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:						Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** BL, SS

Sampling Station: Ambient	Date: 12-19-11	Time: 1255						Depth to Mudline (ft): 25.4	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.35	10.12	1.3	8.07	8431	7.44			

Sampling Station: Ambient	Date: 12-19-11	Time: 1257						Depth to Mudline (ft): 25.4	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.4	9.44	6.45	0.5	46.04	47943	7.42			

Sampling Station:	Date:	Time:						Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:						Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:						Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:						Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral), S. Sawyer (Gravity)

Sampling Station: Ambient **Date:** 12-19-11 **Time:** 1123 **Depth to Mudline (ft):** 25.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.10	10.46	3.3	8.04	8957	6.52			

Sampling Station: Ambient **Date:** 12-19-11 **Time:** 1125 **Depth to Mudline (ft):** 25.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.5	9.45	6.47	0.7	46.21	48151	7.46			

Sampling Station: Compliance **Date:** 12-19-11 **Time:** 1129 **Depth to Mudline (ft):** 25.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.17	9.93	1.6	8.5	9496	7.41			

Sampling Station: Compliance **Date:** 12-19-11 **Time:** 1131 **Depth to Mudline (ft):** 25.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.0	9.43	6.55	0.9	46.06	47974	7.5			

Sampling Station: Compliance **Date:** 12-19-11 **Time:** 1249 **Depth to Mudline (ft):** 24.1

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.37	9.72	2.2	9.29	10517	7.16			

Sampling Station: Compliance **Date:** 12-19-11 **Time:** 1251 **Depth to Mudline (ft):** 24.1

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
21.1	9.40	6.43	2.4	46.17	48019	7.5			

Water Quality Parameters

Project : Slip 4 **Crew:** BL, SHinz

Sampling Station: Compliance	Date: 12-21-11	Time: 1256						Depth to Mudline (ft): 23.0	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	7.13	9.37	2.1	16.37	17675	6.85			

Sampling Station: Compliance	Date: 12-21-11	Time: 1257						Depth to Mudline (ft): 23.0	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
20.0	9.42	6.68	0.3	43.76	45827	7.49			

Sampling Station: Ambient	Date: 12-21-11	Time: 1259						Depth to Mudline (ft): 26.6	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.90	9.41	1.2	12.78	14615	7.45			

Sampling Station: Ambient	Date: 12-21-11	Time: 1302						Depth to Mudline (ft): 26.6	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
23.6	9.41	6.46	0.7	43.83	45883	7.52			

Sampling Station: Compliance	Date: 12-21-11	Time: 1421						Depth to Mudline (ft): 24.5	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.89	9.62	1.7	12.86	14088	7.28			

Sampling Station: Compliance	Date: 12-21-11	Time: 1423						Depth to Mudline (ft): 24.5	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
21.5	9.42	7.06	3.0	43.92	45984	7.52			

Water Quality Parameters

Project : Slip 4 **Crew:** BL, SH

Sampling Station: Ambient	Date: 12-21-11	Time: 1426						Depth to Mudline (ft): 25.5	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.75	9.81	0.9	10.57	11716	7.48			

Sampling Station: Ambient	Date: 12-21-11	Time: 1427						Depth to Mudline (ft): 25.5	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.5	9.43	6.72	0.6	43.94	45993	7.55			

Sampling Station:	Date:	Time:						Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:						Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:						Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:						Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** Bill Lawrence (Integral), Steve Saugen (Gravity)

Sampling Station: Ambient	Date: 1-3-12	Time: 1140					Depth to Mudline (ft): 26.4		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	5.61	11.49	7.4	2.92	3383	7.03			Riverwater is off-color, more brownish than usual

Sampling Station: Ambient	Date: 1-3-12	Time: 1142					Depth to Mudline (ft): 26.4		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
23.4	9.10	6.51	2.0	47.04	48476	7.38			

Sampling Station: Compliance	Date: 1-3-12	Time: 1149					Depth to Mudline (ft): 24.9		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	5.60	11.37	7.4	3.08	3577	7.75			Riverwater is off-color, more brownish than usual

Sampling Station: Compliance	Date: 1-3-12	Time: 1151					Depth to Mudline (ft): 24.9		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
21.9	9.08	6.32	1.7	46.96	48368	7.49			

Sampling Station: Ambient	Date: 1-3-12	Time: 1314					Depth to Mudline (ft): 25.9		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	5.74	11.52	7.5	2.65	3130	7.15			

Sampling Station: Ambient	Date: 1-3-12	Time: 1316					Depth to Mudline (ft): 25.9		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.9	9.10	6.37	1.5	47.07	48489	7.49			

Water Quality Parameters

Project : Slip 4 **Crew:** BL, SS

Sampling Station: Compliance	Date: 1-3-12	Time: 1322						Depth to Mudline (ft): 22.3	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	5.74	11.43	9.2	2.87	3487	7.72			

Sampling Station: Compliance	Date: 1-3-12	Time: 1325						Depth to Mudline (ft): 22.3	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
19.3 ~~22.3~~	9.04	6.43	1.6 ~~2.5~~	46.87	48177	7.43			

Sampling Station:	Date:	Time:						Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:						Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:						Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:						Depth to Mudline (ft):	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** BL, SH

Sampling Station: Ambient	Date: 1/10/12	Time: 1203					Depth to Mudline (ft): 20.2		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.37	11.05	3.6	6.84	8651	7.35			

Sampling Station: Ambient	Date: 1/10/12	Time: 1205					Depth to Mudline (ft): 20.2		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
17.2	8.6	6.84	1.6	43.83	45090	7.56			

Sampling Station:	Date:	Time:					Depth to Mudline (ft):		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:					Depth to Mudline (ft):		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:					Depth to Mudline (ft):		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:					Depth to Mudline (ft):		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Integral), S. Hinz (Gravity)

Sampling Station: Compliance	Date: 1/10/12	Time: 0801					Depth to Mudline (ft): 22.1		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.19	11.04	3.6	4.37	4981	6.95			
Sampling Station: Compliance	**Date:** 1/10/12	**Time:** 0804					**Depth to Mudline (ft):** 22.1		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
19.1	8.78	6.71	1.1	45.94	47106	7.31			
Sampling Station: Ambient	**Date:** 1/10/12	**Time:** 0806					**Depth to Mudline (ft):** 25.6		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.08	11.05	2.7	3.72	4384	7.73			
Sampling Station: Ambient	**Date:** 1/10/12	**Time:** 0808					**Depth to Mudline (ft):** 25.6		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.6	8.79	6.75	0.7	46.03	47209	7.53			
Sampling Station: Compliance	**Date:** 1/10/12	**Time:** 1158					**Depth to Mudline (ft):** 20.5		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	6.28	10.84	8.3	5.13	5852	7.09			
Sampling Station: Compliance	**Date:** 1/10/12	**Time:** 1200					**Depth to Mudline (ft):** 20.5		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
17.5	8.57	6.95	2.7	41.05	41688	7.36			

Water Quality Parameters

Project : Slip 4 **Crew:** B Lawrence (Integral) S. Hinz (Gravity)

Sampling Station: Compliance	Date: 1/24/12	Time: 1016					Depth to Mudline (ft): 20.9		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	4.54	11.16	22.0	7.44	7972	6.67			

Sampling Station: Compliance	Date: 1/24	Time: 1018					Depth to Mudline (ft): 20.9		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
17.9	7.75	7.01	10.8	48.89	48328	7.41			

Sampling Station: Ambient	Date: 1/24	Time: 1020					Depth to Mudline (ft): 22.9		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	4.48	11.38	4.6	7.39	8134	7.66			

Sampling Station: Ambient	Date: 1/24	Time: 1022					Depth to Mudline (ft): 22.9		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
19.9	7.9	7.07	5.8	50.28	49858	7.56			

Sampling Station: Compliance	Date: 1/24	Time: 1130					Depth to Mudline (ft): 20.8		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	4.54	11.16	5.3	7.82	8407	7.28			

Sampling Station: Compliance	Date: 1/24	Time: 1132					Depth to Mudline (ft): 20.8		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
17.8 ~~5.0~~	7.68	7.09	19.5	47.9	47493	7.29			

Water Quality Parameters

Project : Slip 4 **Crew:** B.L., S.H, John Lally (Integral)

Sampling Station: Ambient **Date:** 1/24/1 **Time:** 1134 **Depth to Mudline (ft):** 21.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	4.74	10.85	7.0	10.30	10776	7.57			

Sampling Station: Ambient **Date:** 1/24 **Time:** 1136 **Depth to Mudline (ft):** ~~75~~ 21.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
18.8	7.77	7.06	3.6	48.82	48230	7.53			

Sampling Station: outfall S **Date:** 1/24 **Time:** 1149 **Depth to Mudline (ft):** ~1.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
1.0			20.4						No flow, backflow into outfall ~~Boeing~~ King Co. outfall BL

Sampling Station: outfall N **Date:** 1/24 **Time:** 1152 **Depth to Mudline (ft):** ~1.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
1.0			38.1						nearly neutral flow I-5 outfall

Sampling Station: King Co outfall **Date:** 1/24 **Time:** 1209 **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
0.5			15.7						low flow, looks clear sample at edge of mixing zone ~~Boeing~~ King Co outfall BL

Sampling Station: **Date:** **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
									BL

Water Quality Parameters

Project : Slip 4 **Crew:** BL, SH, JL

Sampling Station: Compliance	Date: 1/24	Time: 1213					Depth to Mudline (ft): 20.8		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	4.74	11.05	11.7	8.85	9403	7.12			

Sampling Station: Compliance	Date: 1/24	Time: 1215					Depth to Mudline (ft): 20.8		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
17.8	7.69	7.10	8.0	47.75	47610	7.4			

Sampling Station: Ambient	Date: 1/24	Time: 1218					Depth to Mudline (ft): 21.9		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	4.68	11.03	~~2.1~~ 4.6	8.85	9332	7.6			

Sampling Station: Ambient	Date: 1/24	Time: 1220					Depth to Mudline (ft): 21.9		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
18.9	7.72	7.02	3.2	48.36	48109	7.56			

Sampling Station:	Date:	Time:					Depth to Mudline (ft):		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station:	Date:	Time:					Depth to Mudline (ft):		
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Water Quality Parameters

Project : Slip 4 **Crew:** B. Lawrence (Intrigard), S. Hinz (Gravity)

Sampling Station: Compliance **Date:** 1/25/12 **Time:** 0957 **Depth to Mudline (ft):** 23.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	4.86	11.47	5.4	5.98	6533	6.19			

Sampling Station: Compliance **Date:** 1/25 **Time:** 0959 **Depth to Mudline (ft):** 23.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
20.0	7.95	7.03	5.1	51.09	50512	7.36			

Sampling Station: Ambient **Date:** 1/25 **Time:** 1003 **Depth to Mudline (ft):** 23.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	4.88	11.34	4.1	6.58	7391	7.41			

Sampling Station: Ambient **Date:** 1/25 **Time:** 1005 **Depth to Mudline (ft):** 23.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
20.6	8.01	7.08	5.0	51.43	51991	7.5			

Sampling Station: Compliance **Date:** 1/25 **Time:** 1240 **Depth to Mudline (ft):** 19.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	5.43	10.81	~~11.7~~ 9.2	10.10	10672	7.27			

Sampling Station: Compliance **Date:** 1/25 **Time:** 1242 **Depth to Mudline (ft):** 19.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
16.7	7.10	8.10	17.9	38.47	40627	7.45			

Water Quality Parameters

Project : Slip 4 **Crew:** BL, SH

Sampling Station: Ambient **Date:** 1/25/12 **Time:** 1247 **Depth to Mudline (ft):** 20.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	5.43	10.80	6.2	9.95	10692	7.59			

Sampling Station: Ambient **Date:** 1/25 **Time:** 1249 **Depth to Mudline (ft):** 20.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
17.8	7.45	7.31	10.4	43.95	44504	7.52			

Sampling Station: **Date:** **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

ATTACHMENT C

SURFACE WATER SAMPLE COLLECTION FORMS

Water Quality Parameters

Project : Slip 4 **Crew:** J.SUND (Integral), M.DUFFIELD (gravity)

Sampling Station: Ambient **Date:** 10/7/11 **Time:** 1134 **Depth to Mudline (ft):** 19.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	13.17	10.97	2.1	5.04	9033	7.20			

Sampling Station: Ambient **Date:** 10/7/11 **Time:** 1136 **Depth to Mudline (ft):** 19.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations
16.0	12.16	9.11	~~3.0~~ 4.9 JS 10/7/11	25.49	39630	7.55			Collect water grab sample (1140)

Sampling Station: Compliance **Date:** 10/7/11 **Time:** 1157 **Depth to Mudline (ft):** 20.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	13.26	11.64	3.0	5.46	9638	7.51			

Sampling Station: Compliance **Date:** 10/7/11 **Time:** 1159 **Depth to Mudline (ft):** 20.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
17.7	12.15	9.33	7.5	26.08	40802	7.81			collect water grab sample (1205) + QA/QC. Collect field replicate (1210)

Sampling Station: Ambient **Date:** 10/7/11 **Time:** 1600 **Depth to Mudline (ft):** 25.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	13.15	13.50	2.4	9.13	15702	7.83			collect grab water sample (1605)

Sampling Station: Ambient **Date:** 10/7/11 **Time:** 1601 **Depth to Mudline (ft):** 25.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
22.5	12.12	11.90	2.5	26.28	41090	8.15			

Water Quality Parameters

Project : Slip 4 **Crew:** J. Sund (Integral), M. Duffield (Grantly)

Sampling Station: Compliance **Date:** 10/7/11 **Time :** 1540 **Depth to Mudline (ft):** 22.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	13.32	13.48	3.9	7.94	13695	7.84			collect grab sample (1544) JS 10/7/11

Sampling Station: Compliance **Date:** 10/7/11 **Time :** 1542 **Depth to Mudline (ft):** ~~21.8~~ 22.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
19.3	12.13	11.85	2.7	26.23	41029	8.14			

Sampling Station: Compliance **Date:** 10/7/11 **Time :** 1630 **Depth to Mudline (ft):** 21.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0	13.15	10.35	3.6	12.06	20305	7.92			collect grab sample (1635)

Sampling Station: Compliance **Date:** 10/7/11 **Time :** 1632 **Depth to Mudline (ft):** 21.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
18.8	12.15	8.60	2.6	26.13	40887	8.15			

Sampling Station: Ambient **Date:** 10/7/11 **Time :** 1646 **Depth to Mudline (ft):** 24.9

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	13.17	10.45	2.6	13.07	21530	7.88			collect grab sample ( )

Sampling Station: Ambient **Date:** 10/7/11 **Time :** 1648 **Depth to Mudline (ft):** 24.9

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
21.9	12.17	9.01	1.9	26.26	41074	8.19			

John.elally@gmail.com

Water Quality Parameters

Project: SLIP 4 **Crew:** J. SUND (Integral), S. HINZ (Gravity)

Sampling Station: Compliance **Date:** 10/10/11 **Time:** 1432 **Depth to Mudline (ft):** 23.4

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	13.04	8.45	2.2	6.35	8627	6.51			

Sampling Station: Compliance **Date:** 10/10/11 **Time:** 1434 **Depth to Mudline (ft):** 23.4

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
20.4'	11.86	5.82	5.9	28.48	33107	6.79			

Sampling Station: Ambient **Date:** 10/10/11 **Time:** 1446 **Depth to Mudline (ft):** 23.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	13.06	8.35	2.2	7.25	9302	7.17			

Sampling Station: Ambient **Date:** 10/10/11 **Time:** 1448 **Depth to Mudline (ft):** 23.3

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
20.3'	11.87	5.85	5.2	28.54	33174	6.99			

Sampling Station: Compliance **Date:** 10/10/11 **Time:** 1641 **Depth to Mudline (ft):** 25.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	13.10	8.09	2.3	7.43	9932	7.21			

Sampling Station: Compliance **Date:** 10/10/11 **Time:** 1642 **Depth to Mudline (ft):** 25.8

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
23.8	11.84	5.84	4.5	28.6	33227	7.14			

Water Quality Parameters

Project : SUP 4 **Crew:** JSUND (Integral), S.HINZ (gravity)

Sampling Station: Ambient **Date:** 10/10/11 **Time:** 1650 **Depth to Mudline (ft):** 25.1

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	13.16	8.13	1.9	7.48	10171	7.31			

Sampling Station: Ambient **Date:** 10/10/11 **Time:** 1653 **Depth to Mudline (ft):** 25.1

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
23.1	11.84	5.96	4.0	28.66	33243	7.05			

Sampling Station: Compliance **Date:** 10/11/11 **Time:** 1030 **Depth to Mudline (ft):** 17.2

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.73	8.42	3.5	7.22	12.56 mS/cm 9645	6.56			

Sampling Station: Compliance **Date:** 10/11/11 **Time:** 1032 **Depth to Mudline (ft):** 17.2

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
14.2'	12.02	~~6.04~~ 5.66 JSH	4.3	26.68	31322	6.71			collect water grab SW0008

Sampling Station: Ambient **Date:** 10/11/11 **Time:** 1056 **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.75	8.43	3.4	7.32	9732	7.43			

Sampling Station: Ambient **Date:** 10/11/11 **Time:** 1058 **Depth to Mudline (ft):** 17.7

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
14.7	11.99	5.88	4.1	26.53	31170	7.37			collect water grab SW0009

Project : SLIP 4 EAA

Crew: J. SUND (integral), S. Hinz (gravity)

Sampling Station: Compliance Date: 10/11/11 Time: 1131 Depth to Mudline (ft): 18.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.87	8.38	3.3	7.41	9733	7.57			

Sampling Station: Compliance Date: 10/11/11 Time: 1133 Depth to Mudline (ft): 18.5

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
15.5'	12.01	5.68	6.4	26.76	31285	7.37			collect grab sample SW0010

Sampling Station: Ambient Date: 10/11/11 Time: 1148 Depth to Mudline (ft): 15.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.87	8.40	3.2	7.40	9934	7.64			

Sampling Station: Ambient Date: 10/11/11 Time: 1150 Depth to Mudline (ft): 15.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
~~3.0~~ 13.0' 10/11/11	12.11	6.08	5.5	24.66	29115	7.36			collect grab sample SW0011

Sampling Station: Date: Depth to Mudline (ft):

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: Date: Depth to Mudline (ft):

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Water Quality Parameters

Project : SLIP 4 EAA **Crew:** J-SUVD (Integral), S. Hinz (Gravity)

Sampling Station: Compliance **Date:** 10/12/11 **Time:** 1501 **Depth to Mudline (ft):** 22.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.93	8.78	4.1	6.87	8432	5.97			

Sampling Station: Compliance **Date:** 10/12/11 **Time:** 1503 **Depth to Mudline (ft):** 22.6

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
19.6	11.78	6.00	4.1	28.65	33285	6.27			

Sampling Station: Ambient **Date:** 10/12/11 **Time:** 1511 **Depth to Mudline (ft):** 20.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.95	8.41	3.9	8839	6.13	6.99			

Sampling Station: Ambient **Date:** 10/12/11 **Time:** 1514 **Depth to Mudline (ft):** 20.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
17.0	11.85	6.01	3.7	28.6	32186	6.91			

Sampling Station: Compliance **Date:** 10/12/11 **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'									

Sampling Station: Compliance **Date:** 10/12/11 **Time:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations

Water Quality Parameters

Project : SLIP 4 EAA **Crew:** JSUND (intake), SHINZ (gravity)

Sampling Station: Compliance	Date: 10/13/11	Time: 1032						Depth to Mudline (ft): 20.0	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.43	8.76	2.8	5.18	6992	6.71			
Sampling Station: Compliance	**Date:** 10/13/11	**Time:** 1035						**Depth to Mudline (ft):** 20.0	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
17.0'	11.81	6.05	3.1	28.15	32723	657			grab sample
Sampling Station: Ambient	**Date:** 10/13/11	**Time:** 1100						**Depth to Mudline (ft):** 19.2	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.44	9.01	3.0	4.69	6391	7.45			
Sampling Station: Ambient	**Date:** 10/13/11	**Time:** 1103						**Depth to Mudline (ft):** 19.2	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
16.2'	11.83	6.14	2.4	27.96	32498	6.94			grab sample
Sampling Station: Compliance	**Date:** 10/13/11	**Time:** 1235						**Depth to Mudline (ft):** 19.6	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.59	8.61	3.0	4.51	6201	7.30			
Sampling Station: Compliance	**Date:** 10/13/11	**Time:** 1237						**Depth to Mudline (ft):** 19.6	
Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
16.6	11.88	6.08	3.1	27.05	31617	7.03			grab sample

Water Quality Parameters

Project : SLIP4 EAA **Crew:** JSUND(Integral), Shinz(Gravity)

Sampling Station: Ambient **Date:** 10/13/11 **Time:** 1253 **Depth to Mudline (ft):** 18.1

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
3.0'	12.74	8.93	2.7	4.49	6184	7.41			

Sampling Station: Ambient **Date:** 10/13/11 **Time:** 1255 **Depth to Mudline (ft):** 18.0

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)	pH	Northing	Easting	Comments/Observations
15.0'	11.91	6.29	2.3	26.58	31081	7.01			grab sample

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

Sampling Station: **Date:** **Depth to Mudline (ft):**

Sample Depth (ft)	Temp (°C)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Conductivity (uS/cm)		Northing	Easting	Comments/Observations

ATTACHMENT D

SURFACE WATER LABORATORY REPORTS

Table of Contents: ARI Job TQ80

Client: Integral Consulting, Inc. Project: A0006-14L Slip 4

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Signature

October-17-2011
Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

October 17, 2011

Kimberly Magruder-Carlton
Integral Consulting
411 1st Avenue S, Suite 550
Seattle, WA 98104

RE: A0006 14L Slip 4
ARI Job No.: TQ80

Dear Kim;

Please find enclosed the original Chain-of-Custody (COC) record, sample receipt documentation, and the final data package for samples from the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Susan D. Dunnihoo
Director, Client Services
sue@arilabs.com
206-695-6207

Enclosures

cc: eFile TQ80

SD/co

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Documentation

ARI Job ID: TQ80

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: TQ8) ~~708~~	Turn-around Requested: RUSH – ~~48~~ 24 hr (based on work days)	Page: 1 of 1	
ARI Client Company: Integral Consulting	Phone: 10/7/11 BS 360-756-9296	Date: 10/7/11	Ice Present? Y
Client Contact: Kim Carlton		No. of Coolers: 2	Cooler Temps: 8.9, 4.8
Client Project Name: SLIP 4			
Client Project #: A0006-14L	Samplers: Jane Sund		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Tag #	Date	Time	Matrix	No Containers	PCB	TSS (EPA 160.2)							Notes/Comments
SW0001	1047-1049	10/7/11	1140	W	3	X	X							
SW0002	1050-1055	↓	1205	↓	6	X	X							
SW0003	1056-1058	↓	1210	↓	3	X	X							
RB0001	1059-1060	↓	1230	↓	2	X	X							
WB0001	1061-1062	↓	1240	↓	2	X	X							
SW0004	1063-1065	↓	1544	↓	3									HOLD
SW0005	1066-1068	↓	1605	↓	3									HOLD
SW0006	1069-1071	↓	1635	↓	3									HOLD
SW0007	1072-1073	↓	1650	↓	3									HOLD
							[signature]			10/7/11				

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
Please reference work order # A0006-14L-ARI-02	(Signature) [signature]	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Jane Sund	Printed Name: Jennifer Millsap	Printed Name	Printed Name
	Company: Integral	Company: ARI	Company:	Company
	Date & Time: 10/7/11 1740	Date & Time: 10/7/11 1740	Date & Time.	Date & Time

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

000003

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Integral Consulting
Project Name: Slip 4
COC No(s) _____ (NA)
Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
Assigned ARI Job No. TQ80
Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry): 8.9 4.8
If cooler temperature is out of compliance fill out form 00070F
Temp Gun ID#: 90941619

Cooler Accepted by: JM Date 10/7/11 ~~10/17/11~~ JM Time 1710

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES (NO)

What kind of packing material was used? Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	(NO)
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Was Sample Split by ARI: (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

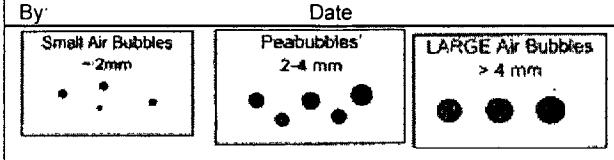
Samples Logged by: JM Date: 10/7/11 Time: 1754

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date



Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

TQ80

Cooler#: 1	Temperature(°C): 8.9	
Sample ID	**Bottle Count**	**Bottle Type**
RB0001	2	2-1L AG
WB0001		
SW0004		
SW0005		
SW0006		
SW0007	3	, 1-Lg OJ

Cooler#:	Temperature(°C):	
Sample ID	**Bottle Count**	**Bottle Type**

Cooler#:	Temperature(°C):	
Sample ID	**Bottle Count**	**Bottle Type**

Cooler#:	Temperature(°C):	
Sample ID	**Bottle Count**	**Bottle Type**

Completed by: JM Date: 10/7/11 Time: 1740

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: TQ80

Case Narrative

Client: Integral Consulting
Project: A0006 14L Slip 4
ARI Job No.: TQ80

Sample receipt

Ten water samples were received on October 7, 2011. The cooler temperatures were 4.8 and 8.9°C as measured by IR thermometer following ARI SOP. Select samples were archived upon receipt. Please see the enclosed Cooler Receipt Form for details of sample receipt.

Aroclor PCBs by EPA 8082

The samples and associated laboratory QC were extracted and analyzed within recommended holding times.

Initial and continuing calibrations met requirements. Internal standards were within limits.

The method blank was clean at the reporting limit. The LCS and LCS percent recoveries were within control limits.

The surrogate percent recoveries were within control limits.

The matrix spike and matrix spike duplicate percent recoveries were within advisory control limits.

Conventional Analyses (TSS)

The samples were prepared and analyzed within the required holding times.

The method blank was clean at the reporting limit. The LCS recovery was within control limits.

A separate sample volume was received for the replicate and was analyzed as a whole sample without compositing. The replicate RPD for TSS was outside the 20% control limit for sample **SW0002**. All other quality control parameters were met. No corrective action was taken.

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: TQ80
Client: Integral Consulting, Inc.
Project Event: A0006-14L
Project Name: Slip 4

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	SW0001	TQ80A	11-22996	Water	10/07/11 11:40	10/07/11 17:40
2.	SW0002	TQ80B	11-22997	Water	10/07/11 12:05	10/07/11 17:40
3.	SW0003	TQ80C	11-22998	Water	10/07/11 12:10	10/07/11 17:40
4.	RB0001	TQ80D	11-22999	Water	10/07/11 12:30	10/07/11 17:40
5.	WB0001	TQ80E	11-23000	Water	10/07/11 12:40	10/07/11 17:40
6.	SW0004	TQ80F	11-23001	Water	10/07/11 15:44	10/07/11 17:40
7.	SW0005	TQ80G	11-23002	Water	10/07/11 16:05	10/07/11 17:40
8.	SW0006	TQ80H	11-23003	Water	10/07/11 16:35	10/07/11 17:40
9.	SW0007	TQ80I	11-23004	Water	10/07/11 16:50	10/07/11 17:40

Printed 10/07/11

W

TQ80 00007A

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Data Reporting Qualifiers

Effective 2/14/2011

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**

Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

TQ80 : 00009

SURR SOLUTIONS

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1889-3	ABN	100/150	MEOH	03/01/12
B	1894-2	SIM PNA	15/75	ACETONE	09/22/12
C	NA	SIM ABN	25/37.5	MEOH	NA
D	1887-1	LOW PCB	0.2	ACETONE	12/16/11
E	1900-2	HERB	62.5	MEOH	10/06/12
F	1896-2	PCP	12.5	ACETONE	12/09/11
G	1863-2	d8-DIOXANE	100	MEOH	11/19/11
H	1847-2	OP-PEST	25	ACETONE	03/23/12
I	1896-3	LOW S. PNA	1.5	ACETONE	09/22/12
J	1787-2	TBT-PORE	0.125	MECL2	11/27/11
K	1795-2	MED PCB	20	ACETONE	12/16/11
L	1862-3	TBT	2.5	MECL2	11/27/11
M	1888-4	EPH	1500	MECL2	04/04/12
N	1876-3	PCB	2	ACETONE	12/16/11
O	1895-3	TPH	450	MECL2	02/04/12
P	1895-4	HCID	2250	MECL2	02/04/12
Q	NA	EDB	1	MEOH	NA
R	1886-3	RESIN ACID	250	ACETONE	02/19/12
S	1864-1	PBDE	.5	MEOH	05/21/12
T	1884-2	ALKYL PNA	10	MEOH	07/15/12
U	NA	CONGENER	2.5	ACETONE	NA
V	1791-4	LOW PCP	1.25	ACETONE	12/09/11

LCS SOLUTIONS

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1888-2	PCB 1660	20	ACETONE	08/30/12
2#	NA	BCOC PEST	10	ACETONE	NA
3	1885-1	PEST	01/02/10	ACETONE	12/15/11
4	1885-2	LOW PEST	.1/.2/1	ACETONE	12/15/11
5	1779-1	EPH	1500	MECL2	11/11/11
6	1791-5	PCP	12.5/125	ACETONE	12/10/11
7	1888-1	ABN	100	MEOH	08/30/12
8	1785-3	TBT	2.5	MECL2	11/27/11
9	1786-3	PORE TBT	.125/.25	MECL2	11/27/11
10					
11	1860-4	TPHD	15000	ACETONE	05/12/12
12					
13	1838-4	LOW PCB	2	ACETONE	01/31/12
14					
15	1814-2	SIM PNA	15/75	MEOH	01/04/12
16	1879-3	1,4-DIOXANE	100	MEOH	02/05/12
17	1869-4	1248 PCB	10	ACETONE	06/14/12
18	1814-3	LOW SIM PNA	1.5	ACETONE	01/04/12
19	1873-2	AK103	7500	ACETONE	01/02/12
20	1886-4	PNA	100	ACETONE	01/07/12
21	1874-3	SKY/BHT	100	MEOH	01/14/12
22	1864-3	HERB	02 to 2500	MEOH	12/03/11
23	1887-2	EXTRA PNA	15	ACETONE	08/25/12
24					
25#	NA	DIPHENYL	100	MEOH	NA
26	1869-1	OP-PEST	25	MEOH	10/01/11
27	NA	STEROLS	200	MEOH	NA
28#	1807-1	ADD. PEST	2	ACETONE	08/31/11
29#	NA	DECANES	100	MEOH	NA

LCS SOLUTIONS

30	NA	EDB/DBCP	0.2	MEOH	NA
31	1835-2	TERPINEOL	100	MEOH	09/02/11
32	1876-1	GUAIACOL	50-200	ACETONE	01/05/12
33	NA	RETENE	100	MEOH	NA
34	1867-3	CONGENERS	0.5	ACETONE	03/14/12
35	1875-3	ALKYL PNA A	10	MEOH	07/18/12
36	NA	ALKYL PNA B	10	MEOH	NA
37	1773-1	CAR/PERY	100	ACETONE	10/14/11
38	1872-2	ABN ACID	200-450	MEOH	12/29/11
39	1853-4	BENZIDINE	500	MEOH	04/30/12
40	1851-3	PBDE	0.5	MEOH	04/22/12
50	1900-1	FULL RESIN	250	ACETONE	08/12/12
51	1772-1	DDTS	0.01	ACETONE	04/24/11
52	NA	1232 PCB	20	ACETONE	NA
53	1852-2	DALAPON	50	MEOH	12/03/11
54	1753-1	T-CHLORDANE	10	ACETONE	07/21/11
55	1753-2	TOXAPHENE	50	ACETONE	07/21/11
56	1874-1	ABN BASE	50-200	MEOH	01/05/12
#=PROJECT SPECIFIC SOLUTION					
*=REVERIFIED SOLUTION					

TQ80:00012

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Quality Control Criteria for Analysis of Aqueous and Tissue Samples for Aroclors (Polychlorinated Biphenyls – PCB) EPA Method 8082B

ARI Analysis Code	Target RL	Extraction	LOQ[1]	Analyte	LOD[2]	Spike Recovery Control Limits[9]			RPD[4]
						LCS	MB/LCS Surrogate	Sample Surrogate	
Aqueous Samples (Separatory Funnel Extraction – EPA Method 3510C)									
PCBWSI 01-3018F	1 µg/L	500 to 5 mL	1 µg/L	Aroclor 1016	0.130	45 – 121	--	--	≤ 40
				Aroclor 1260	0.147	54 – 129	--	--	
				TCMX	--	--	40 – 118	38 – 118	
				DCBP	--	--	41 – 111	29 – 118	
PCBWS M 02-3021F	0.1 µg/L	500 to 1 mL	0.1µg/L	Aroclor 1016	0.0175	36 – **100**	--	--	≤ 40
				Aroclor 1260	0.0174	41 – 113	--	--	
				TCMX	--	--	29 – **100**	25 – **100**	
				DCBP	--	--	39 – 116	**10** – 128	
PCBWSL 03-3022F	0.01 µg/L	1 L to 0.5 mL[5]	0.01 µg/L	Aroclor 1016	0.00248	44 – 117	--	--	≤ 40
				Aroclor 1260	0.00276	46 – 131	--	--	
				TCMX	--	--	31 – **100**	21 – **100**	
				DCBP	--	--	32 – 108	19 – 111	
TCLP Extract (Separatory Funnel Extraction – EPA Method 3510C)									
PCBWST 04-3023F	10 µg/L	100 to 10 mL	10 µg/L	Aroclor 1016	0.132[8]	30 – 160	--	--	≤ 40
				Aroclor 1260	0.165[8]	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	
Tissue Samples (Tissuemizer/Blender Extraction – EPA Method 3550C – Modified)									
PCBUZI 10-3027F	20 µg/L	10 g to 2 mL	20 µg/kg Wet	Aroclor 1016	2.92[6]	30 – 160	--	--	≤ 40
				Aroclor 1260	3.91[6]	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	
PCBUZL 11-3030F	4 µg/L	25 g to 1 mL	4 µg/kg Wet	Aroclor 1016	2.37[7]	30 – 160	--	--	≤ 40
				Aroclor 1260	1.06[7]	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	

(1) Limit of Quantitation as defined in ARI SOP 1018S. The spike concentration used to determine the LOD.
(2) Limit of Detection as defined in ARI SOP 1018S
(3) Highlighted control limits (**bold font**) are adjusted from the calculated values to reflect that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(4) Acceptance criteria for the relative percent difference (RPD) between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then

$$RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$$

(5) Low level extraction solvent is Hexane instead of Methylene Chloride.
(6) LOD study SM10
(7) LOD Study QZ25
(8) Based on PCBWSI until sufficient TCLP data is collected to calculate an LOD.
(9) 30 – 160 are default limits used when there is insufficient data to calculate historic control limits

TQ80 : 00013

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Conventional Wet Chemistry Effective 5/1/09		
Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip		
	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 125	75 - 125
Chloride	75 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

TQ80 : 00014

PCB Analysis
Report and Summary QC Forms

ARI Job ID: TQ80

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: SW0001
SAMPLE

Lab Sample ID: TQ80A
LIMS ID: 11-22996
Matrix: Water
Data Release Authorized: VD
Reported: 10/11/11

QC Report No: TQ80-Integral Consulting, Inc.
Project: Slip 4
A0006-14L
Date Sampled: 10/07/11
Date Received: 10/07/11

Date Extracted: 10/09/11
Date Analyzed: 10/11/11 11:30
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	73.2%
Tetrachlorometaxylene	64.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: SW0002
SAMPLE

Lab Sample ID: TQ80B
LIMS ID: 11-22997
Matrix: Water
Data Release Authorized: VD
Reported: 10/11/11

QC Report No: TQ80-Integral Consulting, Inc.
Project: Slip 4
A0006-14L
Date Sampled: 10/07/11
Date Received: 10/07/11

Date Extracted: 10/09/11
Date Analyzed: 10/11/11 11:49
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	74.2%
Tetrachlorometaxylene	64.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: SW0003
SAMPLE

Lab Sample ID: TQ80C
LIMS ID: 11-22998
Matrix: Water
Data Release Authorized: VT
Reported: 10/11/11

QC Report No: TQ80-Integral Consulting, Inc.
Project: Slip 4
A0006-14L
Date Sampled: 10/07/11
Date Received: 10/07/11

Date Extracted: 10/09/11
Date Analyzed: 10/11/11 12:08
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	73.0%
Tetrachlorometaxylene	68.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: RB0001
SAMPLE

Lab Sample ID: TQ80D
LIMS ID: 11-22999
Matrix: Water
Data Release Authorized: VTB
Reported: 10/11/11

QC Report No: TQ80-Integral Consulting, Inc.
Project: Slip 4
A0006-14L
Date Sampled: 10/07/11
Date Received: 10/07/11

Date Extracted: 10/09/11
Date Analyzed: 10/11/11 12:27
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	76.5%
Tetrachlorometaxylene	62.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: WB0001
SAMPLE

Lab Sample ID: TQ80E
LIMS ID: 11-23000
Matrix: Water
Data Release Authorized: VD
Reported: 10/11/11

QC Report No: TQ80-Integral Consulting, Inc.
Project: Slip 4
A0006-14L
Date Sampled: 10/07/11
Date Received: 10/07/11

Date Extracted: 10/09/11
Date Analyzed: 10/11/11 12:46
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	80.8%
Tetrachlorometaxylene	55.2%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: TQ80-Integral Consulting, Inc.
Project: Slip 4
A0006-14L

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
SW0001	73.2%	19-111	64.0%	21-100	0
MB-100911	86.8%	32-108	62.2%	31-100	0
LCS-100911	76.8%	32-108	56.8%	31-100	0
LCSD-100911	73.0%	32-108	53.8%	31-100	0
SW0002	74.2%	19-111	64.2%	21-100	0
SW0002 MS	75.0%	19-111	64.0%	21-100	0
SW0002 MSD	71.8%	19-111	61.5%	21-100	0
SW0003	73.0%	19-111	68.0%	21-100	0
RB0001	76.5%	19-111	62.8%	21-100	0
WB0001	80.8%	19-111	55.2%	21-100	0

Prep Method: SW3510C
Log Number Range: 11-22996 to 11-23000

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: SW0002
MS/MSD

Lab Sample ID: TQ80B
LIMS ID: 11-22997
Matrix: Water
Data Release Authorized: TMW
Reported: 10/12/11

QC Report No: TQ80-Integral Consulting, Inc.
Project: Slip 4
A0006-14L
Date Sampled: 10/07/11
Date Received: 10/07/11

Date Extracted MS/MSD: 10/09/11

Date Analyzed MS: 10/11/11 14:01
MSD: 10/11/11 14:20
Instrument/Analyst MS: ECD5/JGR
MSD: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount MS: 1000 mL
MSD: 1000 mL
Final Extract Volume MS: 0.5 mL
MSD: 0.5 mL
Dilution Factor MS: 1.00
MSD: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Aroclor 1016	< 0.010	0.042	0.050	84.0%	0.041	0.050	82.0%	2.4%
Aroclor 1260	< 0.010	0.047	0.050	94.0%	0.047	0.050	94.0%	0.0%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: LCS-100911
LCS/LCSD

Lab Sample ID: LCS-100911
LIMS ID: 11-22997
Matrix: Water
Data Release Authorized:
Reported: 10/12/11

QC Report No: TQ80-Integral Consulting, Inc.
Project: Slip 4
A0006-14L
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 10/09/11

Date Analyzed LCS: 10/11/11 13:24
LCSD: 10/11/11 13:42
Instrument/Analyst LCS: ECD5/JGR
LCSD: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1000 mL
LCSD: 1000 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	0.040	0.050	80.0%	0.038	0.050	76.0%	5.1%
Aroclor 1260	0.046	0.050	92.0%	0.045	0.050	90.0%	2.2%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	76.8%	73.0%
Tetrachlorometaxylene	56.8%	53.8%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

TQ80MBW1

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL

ARI Job No.: TQ80

Project: SLIP 4

Lab Sample ID: TQ80MBW1

Lab File ID: 1010B091

Date Extracted: 10/09/11

Matrix: LIQUID

Date Analyzed: 10/11/11

Instrument ID: ECD5

Time Analyzed: 1305

GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	SW0001	TQ80A	10/11/11
02	SW0002	TQ80B	10/11/11
03	SW0003	TQ80C	10/11/11
04	RB0001	TQ80D	10/11/11
05	WB0001	TQ80E	10/11/11
06	TQ80LCSW1	TQ80LCSW1	10/11/11
07	TQ80LCSDW1	TQ80LCSDW1	10/11/11
08	SW0002 MS	TQ80BMS	10/11/11
09	SW0002 MSD	TQ80BMSD	10/11/11

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: MB-100911
METHOD BLANK

Lab Sample ID: MB-100911
LIMS ID: 11-22997
Matrix: Water
Data Release Authorized:
Reported: 10/17/11

QC Report No: TQ80-Integral Consulting, Inc.
Project: Slip 4
A0006-14L
Date Sampled: NA
Date Received: NA

Date Extracted: 10/09/11
Date Analyzed: 10/11/11 13:05
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	86.8%
Tetrachlorometaxylene	62.2%

FORM I

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL CONSULTING INC

ARI Job No.: TQ80

Project: A0006-14L

GC Column: ZB5

Instrument ID: ECD5

Calibration Date: 09/30/11

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 4.55- 4.75	1.5051	1.4384	1.4168	1.4054	1.2798	1.2123	1.3763	7.9
DCB 12.93-13.13	1.5881	1.4116	1.3347	1.2085	1.0785	1.0057	1.2712	17.1

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	6.18- 6.38	0.0471	0.0419	0.0386	0.0359	0.0310	0.0275	0.0370	19.4
2	6.58- 6.78	0.1570	0.1395	0.1282	0.1175	0.1002	0.0896	0.1220	16.8
3	6.73- 6.93	0.0614	0.0557	0.0522	0.0480	0.0413	0.0371	0.0493	14.7
4	6.84- 7.04	0.0468	0.0413	0.0383	0.0359	0.0309	0.0274	0.0368	19.1

AROCLOR AVERAGE %RSD = 17.5

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	10.39-10.59	0.0547	0.0489	0.0454	0.0415	0.0364	0.0327	0.0433	18.8
2	10.76-10.96	0.1405	0.1242	0.1146	0.1043	0.0915	0.0850	0.1100	18.9
3	11.16-11.36	0.0779	0.0707	0.0667	0.0611	0.0539	0.0490	0.0632	17.0
4	11.28-11.48	0.0329	0.0303	0.0285	0.0262	0.0234	0.0211	0.0271	16.2
5	11.35-11.55	0.0377	0.0351	0.0336	0.0312	0.0278	0.0253	0.0318	14.6

AROCLOR AVERAGE %RSD = 17.1

FORM VI PCB-1

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TQ80 Project: A0006-14L

GC Column: ZB35 Instrument ID: ECD5

Calibration Date: 09/30/11

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 4.56- 4.76	1.2336	1.2075	1.2362	1.2531	1.1824	1.1333	1.2077	3.6
DCB 13.32-13.52	1.2609	1.1951	1.1563	1.0942	1.0031	0.9531	1.1105	10.5

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	6.29- 6.49	0.0568	0.0529	0.0508	0.0475	0.0414	0.0366	0.0477	15.8
2	6.92- 7.12	0.1205	0.1145	0.1119	0.1082	0.0968	0.0878	0.1066	11.4
3	7.13- 7.33	0.0487	0.0395	0.0431	0.0430	0.0394	0.0318	0.0409	13.7
4	8.41- 8.61	0.0251	0.0240	0.0230	0.0225	0.0208	0.0199	0.0226	8.7

AROCLOR AVERAGE %RSD = 12.4

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	10.27-10.47	0.0898	0.0761	0.0751	0.0685	0.0623	0.0587	0.0717	15.6
2	11.09-11.29	0.1239	0.1172	0.1139	0.1115	0.1020	0.0976	0.1110	8.8
3	11.61-11.81	0.0426	0.0351	0.0336	0.0340	0.0299	0.0286	0.0340	14.5
4	12.41-12.61	0.0418	0.0346	0.0320	0.0305	0.0279	0.0266	0.0322	17.1

AROCLOR AVERAGE %RSD = 14.0

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TQ80 Project: A0006-14L

GC Column: ZB5 Instrument ID: ECD5

Calibration Date: 09/30/11

Aroclor-1221

Peak	RT	RT WIN	Cal Factor
1	5.020	4.92- 5.12	0.01346
2	5.199	5.10- 5.30	0.00951
3	5.303	5.20- 5.40	0.03216

Aroclor-1232

Peak	RT	RT WIN	Cal Factor
1	6.280	6.18- 6.38	0.01558
2	6.679	6.58- 6.78	0.05181
3	6.828	6.73- 6.93	0.02098
4	8.020	7.92- 8.12	0.02212

Aroclor-1242

Peak	RT	RT WIN	Cal Factor
1	6.280	6.18- 6.38	0.02850
2	6.680	6.58- 6.78	0.09363
3	6.828	6.73- 6.93	0.03796
4	8.020	7.92- 8.12	0.03763

Aroclor-1248

Peak	RT	RT WIN	Cal Factor
1	7.178	7.08- 7.28	0.04247
2	7.477	7.38- 7.58	0.04810
3	8.021	7.92- 8.12	0.06040
4	8.312	8.21- 8.41	0.06031

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TQ80 Project: A0006-14L

GC Column: ZB5 Instrument ID: ECD5

Calibration Date: 09/30/11

Aroclor-1254

Peak	RT	RT WIN	Cal Factor
1	8.393	8.29- 8.49	0.09679
2	8.765	8.67- 8.87	0.06661
3	8.900	8.80- 9.00	0.11970
4	9.251	9.15- 9.35	0.13646
5	9.612	9.51- 9.71	0.09008

Aroclor-1262

Peak	RT	RT WIN	Cal Factor
1	10.168	10.07-10.27	0.06439
2	10.485	10.39-10.59	0.05216
3	10.860	10.76-10.96	0.12653
4	11.377	11.28-11.48	0.05802
5	11.450	11.35-11.55	0.06118

Aroclor-1268

Peak	RT	RT WIN	Cal Factor
1	11.377	11.28-11.48	0.14042
2	11.449	11.35-11.55	0.13582
3	11.836	11.74-11.94	0.12082
4	12.627	12.53-12.73	0.35276

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TQ80 Project: A0006-14L

GC Column: ZB35 Instrument ID: ECD5

Calibration Date: 09/30/11

Aroclor-1221

Peak	RT	RT WIN	Cal Factor
1	5.342	5.24- 5.44	0.01372
2	5.588	5.49- 5.69	0.00787
3	5.701	5.60- 5.80	0.02569
4	5.769	5.67- 5.87	0.00429

Aroclor-1232

Peak	RT	RT WIN	Cal Factor
1	6.395	6.30- 6.50	0.02194
2	7.019	6.92- 7.12	0.04544
3	7.227	7.13- 7.33	0.01580
4	8.371	8.27- 8.47	0.01759

Aroclor-1242

Peak	RT	RT WIN	Cal Factor
1	6.392	6.29- 6.49	0.03732
2	7.018	6.92- 7.12	0.08407
3	7.226	7.13- 7.33	0.03312
4	8.370	8.27- 8.47	0.03002

Aroclor-1248

Peak	RT	RT WIN	Cal Factor
1	7.506	7.41- 7.61	0.03819
2	7.920	7.82- 8.02	0.04427
3	8.371	8.27- 8.47	0.04928
4	8.793	8.69- 8.89	0.05344

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TQ80 Project: A0006-14L

GC Column: ZB35 Instrument ID: ECD5

Calibration Date: 09/30/11

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	8.512	8.41- 8.61	0.04305
2	8.683	8.58- 8.78	0.05611
3	9.206	9.11- 9.31	0.04513
4	9.357	9.26- 9.46	0.09675
5	10.139	10.04-10.24	0.06002

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	10.468	10.37-10.57	0.07217
2	10.921	10.82-11.02	0.06890
3	11.192	11.09-11.29	0.13446
4	11.714	11.61-11.81	0.06389
5	12.513	12.41-12.61	0.05257

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	11.715	11.61-11.81	0.15777
2	11.781	11.68-11.88	0.13620
3	12.180	12.08-12.28	0.11563
4	13.001	12.90-13.10	0.34883

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TQ80 Project: A0006-14L

GC Column: ZB5 Intrument: ECD5

Init. Calib. Date: 09/30/11

Date Analyzed :10/11/11

Lab Standard ID: AR1660 Time Analyzed :0945

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	6.28	6.18	6.38	239.4	250.0	-4.2
Aroclor-1016-2	6.68	6.58	6.78	235.4	250.0	-5.8
Aroclor-1016-3	6.83	6.73	6.93	229.8	250.0	-8.1
Aroclor-1016-4	6.94	6.84	7.04	243.8	250.0	-2.5

AVERAGE %D = 5.2

Date Analyzed :10/11/11

Lab Standard ID: AR1660 Time Analyzed :0945

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	10.49	10.39	10.59	261.1	250.0	4.4
Aroclor-1260-2	10.86	10.76	10.96	264.8	250.0	5.9
Aroclor-1260-3	11.26	11.16	11.36	253.9	250.0	1.6
Aroclor-1260-4	11.38	11.28	11.48	238.3	250.0	-4.7
Aroclor-1260-5	11.45	11.35	11.55	241.1	250.0	-3.5

AVERAGE %D = 4.0

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TQ80 Project: A0006-14L

GC Column: ZB35 Intrument: ECD5

Init. Calib. Date: 09/30/11

Date Analyzed :10/11/11

Lab Standard ID: AR1660 Time Analyzed :0945

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	6.39	6.29	6.49	249.1	250.0	-0.4
Aroclor-1016-2	7.02	6.92	7.12	251.7	250.0	0.7
Aroclor-1016-3	7.23	7.13	7.33	224.0	250.0	-10.4
Aroclor-1016-4	8.51	8.41	8.61	233.0	250.0	-6.8

AVERAGE %D = 4.6

Date Analyzed :10/11/11

Lab Standard ID: AR1660 Time Analyzed :0945

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	10.37	10.27	10.47	248.5	250.0	-0.6
Aroclor-1260-2	11.19	11.09	11.29	287.6	250.0	15.0
Aroclor-1260-3	11.71	11.61	11.81	268.5	250.0	7.4
Aroclor-1260-4	12.51	12.41	12.61	246.9	250.0	-1.2

AVERAGE %D = 6.0

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL CONSULTING INC

ARI Job No.: TQ80

Project: A0006-14L

GC Column: ZB5

Intrument: ECD5

Init. Calib. Date: 09/30/11

Date Analyzed :10/11/11

Lab Standard ID: AR1242

Time Analyzed :1033

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	6.28	6.18	6.38	243.1	250.0	-2.8
Aroclor-1242-2	6.68	6.58	6.78	252.3	250.0	0.9
Aroclor-1242-3	6.83	6.73	6.93	243.9	250.0	-2.4
Aroclor-1242-4	8.02	7.92	8.12	228.5	250.0	-8.6

AVERAGE %D = 3.7

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL CONSULTING INC

ARI Job No.: TQ80

Project: A0006-14L

GC Column: ZB35

Intrument: ECD5

Init. Calib. Date: 09/30/11

Date Analyzed :10/11/11

Lab Standard ID: AR1242

Time Analyzed :1033

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	6.39	6.29	6.49	230.6	250.0	-7.8
Aroclor-1242-2	7.02	6.92	7.12	216.8	250.0	-13.3
Aroclor-1242-3	7.22	7.13	7.33	191.3	250.0	-23.5
Aroclor-1242-4	8.37	8.27	8.47	197.2	250.0	-21.1

AVERAGE %D = 16.4

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TQ80 Project: A0006-14L

GC Column: ZB5 Intrument: ECD5

Init. Calib. Date: 09/30/11

Date Analyzed :10/11/11

Lab Standard ID: AR1660 Time Analyzed :1439

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	6.28	6.18	6.38	239.6	250.0	-4.2
Aroclor-1016-2	6.68	6.58	6.78	235.2	250.0	-5.9
Aroclor-1016-3	6.83	6.73	6.93	231.1	250.0	-7.6
Aroclor-1016-4	6.94	6.84	7.04	245.5	250.0	-1.8

AVERAGE %D = 4.9

Date Analyzed :10/11/11

Lab Standard ID: AR1660 Time Analyzed :1439

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	10.48	10.39	10.59	263.5	250.0	5.4
Aroclor-1260-2	10.86	10.76	10.96	262.1	250.0	4.8
Aroclor-1260-3	11.26	11.16	11.36	260.5	250.0	4.2
Aroclor-1260-4	11.38	11.28	11.48	253.8	250.0	1.5
Aroclor-1260-5	11.45	11.35	11.55	260.8	250.0	4.3

AVERAGE %D = 4.0

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TQ80 Project: A0006-14L

GC Column: ZB35 Intrument: ECD5

Init. Calib. Date: 09/30/11

Date Analyzed :10/11/11

Lab Standard ID: AR1660 Time Analyzed :1439

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	6.39	6.29	6.49	247.1	250.0	-1.2
Aroclor-1016-2	7.02	6.92	7.12	253.2	250.0	1.3
Aroclor-1016-3	7.22	7.13	7.33	228.0	250.0	-8.8
Aroclor-1016-4	8.51	8.41	8.61	246.4	250.0	-1.4

AVERAGE %D = 3.2

Date Analyzed :10/11/11

Lab Standard ID: AR1660 Time Analyzed :1439

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	10.37	10.27	10.47	260.9	250.0	4.4
Aroclor-1260-2	11.19	11.09	11.29	272.8	250.0	9.1
Aroclor-1260-3	11.71	11.61	11.81	269.9	250.0	8.0
Aroclor-1260-4	12.51	12.41	12.61	235.3	250.0	-5.9

AVERAGE %D = 6.8

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: INTEGRAL CONSULTING INC

ARI Job No.: TQ80
Project: A0006-14L

GC Column: ZB5
Intrument: ECD5

Init. Calib. Date: 09/30/11

Date Analyzed :10/11/11

Lab Standard ID: AR1254
Time Analyzed :1458

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	8.39	8.29	8.49	241.0	250.0	-3.6
Aroclor-1254-2	8.77	8.67	8.87	237.3	250.0	-5.1
Aroclor-1254-3	8.90	8.80	9.00	243.4	250.0	-2.6
Aroclor-1254-4	9.25	9.15	9.35	230.2	250.0	-7.9
Aroclor-1254-5	9.61	9.51	9.71	242.9	250.0	-2.8

AVERAGE %D = 4.4

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL CONSULTING INC

ARI Job No.: TQ80

Project: A0006-14L

GC Column: ZB35

Intrument: ECD5

Init. Calib. Date: 09/30/11

Date Analyzed :10/11/11

Lab Standard ID: AR1254

Time Analyzed :1458

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	8.51	8.41	8.61	244.4	250.0	-2.2
Aroclor-1254-2	8.68	8.58	8.78	245.6	250.0	-1.8
Aroclor-1254-3	9.20	9.11	9.31	238.5	250.0	-4.6
Aroclor-1254-4	9.36	9.26	9.46	241.9	250.0	-3.2
Aroclor-1254-5	10.14	10.04	10.24	236.6	250.0	-5.4

AVERAGE %D = 3.4

FORM VII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TQ80 Project: A0006-14L

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD5

Init. Calib. Date: 09/30/11

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	IS1 AREA	RT	IS2 AREA	RT
ICAL MIDPT	119324916	2.436	247758184	13.395
UPPER LIMIT	238649832	2.536	495516368	13.495
LOWER LIMIT	59662458	2.336	123879092	13.295

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	09/30/11	1624	122304889	2.437	253776804	13.395
02		0.25 PPM AR1	09/30/11	1643	119324916	2.436	247758184	13.395
03		0.02 PPM AR1	09/30/11	1702	123307765	2.438	256486260	13.396
04		0.05 PPM AR1	09/30/11	1721	122563162	2.438	252437005	13.396
05		1 PPM AR1660	09/30/11	1740	117923883	2.438	251697732	13.396
06		0.1 PPM AR16	09/30/11	1759	128792057	2.437	261443126	13.396
07		0.5 PPM AR16	09/30/11	1818	121783479	2.439	254502664	13.396
08		AR1242	09/30/11	1837	122192308	2.436	255299258	13.395
09		AR1248	09/30/11	1856	123657838	2.437	258597123	13.396
10		AR1254	09/30/11	1915	125249878	2.437	261836582	13.395
11		AR2162	09/30/11	1934	123432717	2.437	258404617	13.396
12		AR3268	09/30/11	1952	122451147	2.438	256878806	13.397
13	ZZZZZ	ZZZZZ	09/30/11	2011	124509298	2.438	262602066	13.395
14	ZZZZZ	ZZZZZ	09/30/11	2030	126141261	2.439	262615256	13.396
15	ZZZZZ	ZZZZZ	09/30/11	2049	122973217	2.437	260908524	13.396
16	ZZZZZ	ZZZZZ	09/30/11	2108	123999069	2.438	262522642	13.396
17	ZZZZZ	ZZZZZ	09/30/11	2127	122906238	2.438	264368956	13.395
18	ZZZZZ	ZZZZZ	09/30/11	2146	124264777	2.437	264101558	13.396
19		AR1660	10/11/11	0945	127617310	2.437	182900716	13.395
20		AR1242	10/11/11	1033	133346021	2.435	188466446	13.394
21	SW0001	TQ80A	10/11/11	1130	124882932	2.435	192995981	13.394
22	SW0002	TQ80B	10/11/11	1149	123367377	2.435	195010836	13.394
23	SW0003	TQ80C	10/11/11	1208	123783446	2.436	201955893	13.394
24	RB0001	TQ80D	10/11/11	1227	125153841	2.436	204331986	13.395
25	WB0001	TQ80E	10/11/11	1246	123803967	2.436	206958146	13.394
26	TQ80MBW1	TQ80MBW1	10/11/11	1305	116643895	2.435	191375366	13.395
27	TQ80LCSW1	TQ80LCSW1	10/11/11	1324	130402200	2.435	217636423	13.395
28	TQ80LCSDW1	TQ80LCSDW1	10/11/11	1342	127832046	2.436	217577630	13.394
29	SW0002 MS	TQ80BMS	10/11/11	1401	126875210	2.434	219388297	13.394
30	SW0002 MSD	TQ80BMSD	10/11/11	1420	130025529	2.435	223436018	13.394
31		AR1660	10/11/11	1439	131875471	2.435	222893815	13.394
32		AR1254	10/11/11	1458	138514088	2.435	230705561	13.394

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM VIII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TQ80 Project: A0006-14L

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD5

Init. Calib. Date: 09/30/11

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	IS1 AREA	RT	IS2 AREA	RT
ICAL MIDPT	91266419	2.934	103671329	14.287
UPPER LIMIT	182532838	3.034	207342658	14.387
LOWER LIMIT	45633210	2.834	51835664	14.187

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	09/30/11	1624	93216414	2.934	106420039	14.287
02		0.25 PPM AR1	09/30/11	1643	91266419	2.934	103671329	14.287
03		0.02 PPM AR1	09/30/11	1702	93787793	2.935	106985869	14.286
04		0.05 PPM AR1	09/30/11	1721	92187630	2.936	105401967	14.287
05		1 PPM AR1660	09/30/11	1740	90316651	2.934	105007750	14.287
06		0.1 PPM AR16	09/30/11	1759	95621183	2.934	108809586	14.287
07		0.5 PPM AR16	09/30/11	1818	92352253	2.936	106232077	14.287
08		AR1242	09/30/11	1837	92665769	2.934	106924100	14.287
09		AR1248	09/30/11	1856	93803662	2.933	108452389	14.287
10		AR1254	09/30/11	1915	95179929	2.934	109986239	14.287
11		AR2162	09/30/11	1934	91663397	2.934	108620873	14.287
12		AR3268	09/30/11	1952	91890518	2.936	108076988	14.287
13	ZZZZZ	ZZZZZ	09/30/11	2011	94948276	2.935	110187949	14.286
14	ZZZZZ	ZZZZZ	09/30/11	2030	95698461	2.936	110364355	14.287
15	ZZZZZ	ZZZZZ	09/30/11	2049	93530870	2.935	109843824	14.287
16	ZZZZZ	ZZZZZ	09/30/11	2108	94010944	2.935	110223953	14.288
17	ZZZZZ	ZZZZZ	09/30/11	2127	92316058	2.935	111102769	14.287
18	ZZZZZ	ZZZZZ	09/30/11	2146	93278062	2.935	111348929	14.287
19		AR1660	10/11/11	0945	94006725	2.933	78988524	14.285
20		AR1242	10/11/11	1033	98328250	2.929	80756517	14.285
21	SW0001	TQ80A	10/11/11	1130	92924795	2.932	81857049	14.286
22	SW0002	TQ80B	10/11/11	1149	89910847	2.931	84778322	14.284
23	SW0003	TQ80C	10/11/11	1208	93411775	2.933	87272078	14.285
24	RB0001	TQ80D	10/11/11	1227	94049028	2.932	87303487	14.286
25	WB0001	TQ80E	10/11/11	1246	94599354	2.932	88096368	14.284
26	TQ80MBW1	TQ80MBW1	10/11/11	1305	87481518	2.932	81242974	14.283
27	TQ80LCSW1	TQ80LCSW1	10/11/11	1324	98028915	2.932	93717658	14.284
28	TQ80LCSDW1	TQ80LCSDW1	10/11/11	1342	97558367	2.932	94393346	14.284
29	SW0002 MS	TQ80BMS	10/11/11	1401	96853113	2.930	96966102	14.285
30	SW0002 MSD	TQ80BMSD	10/11/11	1420	97615883	2.931	98533022	14.285
31		AR1660	10/11/11	1439	99302162	2.932	98056195	14.284
32		AR1254	10/11/11	1458	104026318	2.931	103186661	14.285

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM VIII PCB

General Chemistry Analysis
Report and Summary QC Forms

ARI Job ID: TQ80

INORGANICS ANALYSIS DATA SHEET
Total Suspended Solids by Method EPA 160.2

ANALYTICAL RESOURCES INCORPORATED

Data Release Authorized:
Reported: 10/11/11
Date Received: 10/07/11
Page 1 of 1

QC Report No: TQ80-Integral Consulting, Inc.
Project: Slip 4
A0006-14L

Client/ ARI ID	Date Sampled	Matrix	Analysis Date & Batch	RL	Result
SW0001 TQ80A 11-22996	10/07/11	Water	10/10/11 13:45 101011#1	1.1	12.5
SW0002 TQ80B 11-22997	10/07/11	Water	10/10/11 13:45 101011#1	1.2	20.8
SW0003 TQ80C 11-22998	10/07/11	Water	10/10/11 13:45 101011#1	1.1	21.3

Reported in mg/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

REPLICATE RESULTS-CONVENTIONALS
TQ80-Integral Consulting, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 10/11/11

Project: Slip 4
Event: A0006-14L
Date Sampled: 10/07/11
Date Received: 10/07/11

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: TQ80B Client ID: SW0002					
Total Suspended Solids	10/10/11	mg/L	20.8	16.2	24.9%

LAB CONTROL RESULTS-CONVENTIONALS
TQ80-Integral Consulting, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 10/11/11

Project: Slip 4
Event: A0006-14L
Date Sampled: NA
Date Received: NA

Analyte	Date/Time	Units	LCS	Spike Added	Recovery
Total Suspended Solids	10/10/11 13:45	mg/L	48.9	50.0	97.8%

METHOD BLANK RESULTS-CONVENTIONALS
TQ80-Integral Consulting, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 10/11/11

Project: Slip 4
Event: A0006-14L
Date Sampled: NA
Date Received: NA

Analyte	Date/Time	Units	Blank
Total Suspended Solids	10/10/11 13:45	mg/L	< 1.0 U

PCB Raw Data
Extraction Bench Sheets and Notes

ARI Job ID: TQ80

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Benchsheet

PCB – Water
Separatory Funnel (3510C) (SOP # 3311S)

Preparation Test PCB Low Level # 3 (PCBWSL) Low Level (0.01ppb)

ARI Job No(s) TP95, TQ12, TQ84 Batch set up by: JH

Bottle #	ARI Sample I.D.	Verify Client ID	Volume Extracted	PH 5-9 Y/N	KD	Turbo Vap 1 2 3	(REQ) Acid Clean (1:1)	(REQ) Sulfur Clean 1 2 3 (1:1)	(REQ) Silica Gel Clean (1:1)	Turbo Vap 1 2 3	Final Effective Volume	Volume to Lab	Comments
	TP95 MBW	Date 10/09/11	1000mL				4mL	4mL	1mL		0.5mL	0.5mL	
	SBW		↓				↓	↓	↓		↓	↓	
	SBW Dup.		↓				↓	↓	↓		↓	↓	
	~~QLS~~		↓				↓	↓	↓		↓	↓	
13	TP95 A	checked	1000mL										
13	B												
2	TQ12 A												see Analyst Notes
3	TQ84 A												
3	B												
4	Bms												
5	Bmsd												
2	C												
2	D												
1	E												
Analyst/Date:	AR 10/09/11				RR 10/10/11	WW 10/12/11							

Standard	Standard ID	Volume	Expiration Date	Analyst	Witness
Surrogate	D3	100µL	12/16/11	AR	JH
Spike	13	25µL	1/31/12	AR	JH
~~QLS Spike~~	~~23~~	~~50µL~~			

Extraction Time: 12:45

SPECIAL INSTRUCTIONS: 1. Rinse all glassware with Low Level Hexane. 2. Verify pH.

3. Adjust pH (if necessary=Analyst Notes). 4. Add Surr/Spike. 5. Extract 3X with 60mL Low Level Hexane.

6. KD (NO Drying Column) at 100°. RINSE SNYDER COLUMNS WITH LOW LEVEL HEXANE 7. TurboVap.

8. Clean-ups=Transfer Rinse. 9. TurboVap. 10. Vial with Low Level Hexane.

A. Archive Y N

TQ12 & TQ84 only

TQ80 : 00050

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

ARI Job No.: TQ8φ

Client ID: Integral Consulting, Inc.

Parameter: PCB low level

Client Project: Slip 4

Note problems, concerns, corrective actions	Analyst/Date
Screens: Soil/Sediment/Solid/Other:	
☐ **No Anomalies (standard soil/sediment)**	
☐ **Wet sediment/sludge=**	
☐ **Standing Water Decanted=**	
☐ **Standing Water Homogenized (Shared samples)=**	
☐ **Clay (Difficult to homogenize/Mixed with Kitchen Aid)=**	
☐ **Rocks/Organics=**	
☐ **Oily, obvious fuel/sulfur odors=**	
☐ **Other (Details)=**	
Aqueous:	
☑ **No Anomalies**	BR 10/09/11
☐ **Turbid/Color=**	
☐ **Particulates=**	
☐ **Emulsions=**	
☐ **Other (Details)=**	
☐ **Other Notes/Comments=**	

PCB Raw Data
Initial Calibration

ARI Job ID: TQ80

Analytical Resources, Incorporated
Analytical Chemists and Consultants

GC Analyst Notes / Corrective Action Log

ARI Project ID: _____ Client ID: _____

ARI SOP: **408S**(PCB) **405S**(Herb) **407S**(TPH-D) **409S**(HCID) **412S**(PCP) **423S**(Pest) **427S**(Dir Inj) **428S**(EPH) **432S**(EDB) **Other**

Parameter(s): PCB's TCMX DCB

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: 09/30/11 Analysis Start: 09/30/11

Endrin/DDT Breakdown <15%? YES / NO / NA

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 / 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: _____ **Date:** 10/06/11

Reviewer: _____ **Date:** 10/6/11

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

Method File: /chem2/ecd5.i/20110930.B/PCB1.m
Batch File: /chem2/ecd5.i/20110930.B/ical-1.b
Inst ID: ecd5.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	0930B014	0930B015	0930B016	0930B017	0930B018	0930B019
INJ.DATE:	30-SEP-2011	30-SEP-2011	30-SEP-2011	30-SEP-2011	30-SEP-2011	30-SEP-2011
INJ.TIME:	16.43	17:02	17.21	17:40	17:59	18:18

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	2.436	2.438	2.438	2.438	2.437	2.439	2.439	2.339-2.539	2.438	0.001
$ 1 Tetrachloro-m-xylene	4.649	4.648	4.650	4.651	4.648	4.650	4.650	4.550-4.750	4.649	0.001
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	5.020	4.920-5.120	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	6.280	6.180-6.380	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	6.280	6.180-6.380	+++++	+++++
7 Aroclor-1016	6.279	6.280	6.280	6.281	6.280	6.280	6.280	6.180-6.380	6.280	0.000
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	7.177	7.077-7 277	+++++	+++++
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	8.394	8.294-8.494	+++++	+++++
9 Aroclor-1260	11.449	10.485	10.484	10.487	10.484	10.486	10.486	10.386-10.586	10.646	0.394
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	10.168	10.068-10.268	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	11.377	11.277-11.477	+++++	+++++
$ 13 Decachlorobiphenyl	13.032	13.031	13.031	13.034	13.032	13.033	13.033	12.933-13.133	13.032	0.001
* 12 IS-HBBP	13.395	13.396	13.396	13.396	13.396	13.396	13.396	13.296-13.496	13.396	0.000
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	8.361	8.311-8.411	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	8.910	8.860-8.960	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	9.414	9.364-9.464	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	8.792	8.692-8.892	+++++	+++++

Reviewer 1 _____ Date: 10/06/11
Reviewer 2 _____ Date: 10/6/11

T0930-00051

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

Method File: /chem2/ecd5.i/20110930.B/PCB1.m
Batch File: /chem2/ecd5.i/20110930.B/ical-1.b
Inst ID: ecd5.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.364	9.264-9.464	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	9.878	9.778-9.978	+++++	+++++

T080:00055

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

Method File: /chem2/ecd5.i/20110930.B/PCB2.m
Batch File: /chem2/ecd5.i/20110930.B/ical-2.b
Inst ID: ecd5.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	0930B014	0930B015	0930B016	0930B017	0930B018	0930B019
INJ.DATE·	30-SEP-2011	30-SEP-2011	30-SEP-2011	30-SEP-2011	30-SEP-2011	30-SEP-2011
INJ.TIME:	16:43	17:02	17:21	17:40	17:59	18:18

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 40 IS-BNB	2.934	2.935	2.936	2.934	2.934	2.936	2.935	2.835-3.035	2.935	0.001
$ 2 Tetrachloro-m-xylene	4.656	4.657	4.657	4.658	4.656	4.658	4.658	4.558-4.758	4.657	0.001
1 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	5.342	5.242-5.442	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	6.395	6.295-6.495	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	6.393	6.293-6.493	+++++	+++++
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	7.506	7.406-7.606	+++++	+++++
7 Aroclor-1016	6.393	6.393	6.393	6.394	6.393	6.393	6.393	6.293-6.493	6.393	0.000
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	8.511	8 411-8.611	+++++	+++++
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	10.468	10.368-10.568	+++++	+++++
9 Aroclor-1260	10.372	10.370	10.372	10.373	10.370	10.372	10.372	10.272-10.472	10.372	0.001
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	11.715	11.615-11.815	+++++	+++++
$ 13 Decachlorobiphenyl	13.415	13.416	13.415	13.417	13.416	13.416	13.417	13.317-13.517	13.416	0.001
* 12 IS-HBBP	14.287	14.286	14.287	14.287	14.287	14.287	14.287	14.188-14.387	14.287	0.000
41 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	8.774	8 724-8.824	+++++	+++++
42 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.458	9.408-9.508	+++++	+++++
44 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.159	9.059-9.259	+++++	+++++
45 4,4-DDD/2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	9.919	9 819-10.019	+++++	+++++

Reviewer 1 _____ Date: 10/06/11
Reviewer 2 _____ Date: 10/6/11

T0S0 : 00055

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

Method File: /chem2/ecd5.i/20110930.B/PCB2.m
Batch File: /chem2/ecd5.i/20110930.B/ical-2.b
Inst ID: ecd5.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
46 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.358	10.258-10.458	+++++	+++++

T080 : 000057

MANUAL INTEGRATION SUMMARY FOR DATABATCH - /chem2/ecd5.i/20110930.B/ical-2.b

ARI Job No.: IB Method: PCB2.m Instrument: ecd5.i Date: 30-SEP-2011

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1624	0930B013.d	IB		1	NO MANUAL INTEGRATION
1643	0930B014.d	0.25 PPM	AR1660	1	NO MANUAL INTEGRATION
1702	0930B015.d	0.02 PPM	AR1660	1	NO MANUAL INTEGRATION
1721	0930B016.d	0.05 PPM	AR1660	1	NO MANUAL INTEGRATION
1740	0930B017.d	1 PPM	AR1660	1	NO MANUAL INTEGRATION
1759	0930B018.d	0.1 PPM	AR1660	1	NO MANUAL INTEGRATION
1818	0930B019.d	0.5 PPM	AR1660	1	NO MANUAL INTEGRATION
1837	0930B020.d	AR1242		1	NO MANUAL INTEGRATION
1856	0930B021.d	AR1248		1	NO MANUAL INTEGRATION
1915	0930B022.d	AR1254		1	NO MANUAL INTEGRATION
1934	0930B023.d	AR2162		1	NO MANUAL INTEGRATION
1952	0930B024.d	AR3268		1	NO MANUAL INTEGRATION
2011	0930B025.d	AR1660	ICV	1	NO MANUAL INTEGRATION
2030	0930B026.d	AR1242	ICV	1	NO MANUAL INTEGRATION
2049	0930B027.d	AR1248	ICV	1	NO MANUAL INTEGRATION
2108	0930B028 d	AR1254	ICV	1	NO MANUAL INTEGRATION
2127	0930B029.d	AR2162	ICV	1	NO MANUAL INTEGRATION
2146	0930B030.d	AR3268	ICV	1	NO MANUAL INTEGRATION
1624	0930B013.d	IB		1	NO MANUAL INTEGRATION
1643	0930B014 d	0.25 PPM	AR1660	1	NO MANUAL INTEGRATION
1702	0930B015 d	0.02 PPM	AR1660	1	NO MANUAL INTEGRATION

T0800 : 0005

MANUAL INTEGRATION SUMMARY FOR DATABATCH - /chem2/ecd5.i/20110930.B/ical-2.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1721	0930B016.d	0.05 PPM	AR1660	1	NO MANUAL INTEGRATION
1740	0930B017.d	1 PPM	AR1660	1	NO MANUAL INTEGRATION
1759	0930B018.d	0.1 PPM	AR1660	1	NO MANUAL INTEGRATION
1818	0930B019.d	0.5 PPM	AR1660	1	NO MANUAL INTEGRATION
1837	0930B020.d		AR1242	1	NO MANUAL INTEGRATION
1856	0930B021.d		AR1248	1	NO MANUAL INTEGRATION
1915	0930B022.d		AR1254	1	NO MANUAL INTEGRATION
1934	0930B023.d		AR2162	1	NO MANUAL INTEGRATION
1952	0930B024.d		AR3268	1	NO MANUAL INTEGRATION
2011	0930B025.d		AR1660 ICV	1	NO MANUAL INTEGRATION
2030	0930B026.d		AR1242 ICV	1	NO MANUAL INTEGRATION
2049	0930B027.d		AR1248 ICV	1	NO MANUAL INTEGRATION
2108	0930B028.d		AR1254 ICV	1	NO MANUAL INTEGRATION
2127	0930B029.d		AR2162 ICV	1	NO MANUAL INTEGRATION
2146	0930B030.d		AR3268 ICV	1	NO MANUAL INTEGRATION

1080 - 00059

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-SEP-2011 16:43
End Cal Date : 30-SEP-2011 22:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd5.i/20110930.B/PCB2.m
Cal Date : 03-Oct-2011 14:24 jrains
Curve Type : Average

Calibration File Names:
Level 1: /chem2/ecd5.i/20110930.B/ical-2.b/0930B015.d
Level 2: /chem2/ecd5.i/20110930.B/ical-2.b/0930B016.d
Level 3: /chem2/ecd5.i/20110930.B/ical-2.b/0930B018.d
Level 4: /chem2/ecd5.i/20110930.B/ical-2.b/0930B014.d
Level 5: /chem2/ecd5.i/20110930.B/ical-2.b/0930B019.d
Level 6: /chem2/ecd5.i/20110930.B/ical-2.b/0930B017.d
Level 7: /chem2/ecd5.i/20110930.B/ical-2.b/0930B024.d
Level 8: /chem2/ecd5.i/20110930.B/ddt-2.b/0930B031.d

Compound	20 000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
1 Aroclor-1221(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01372	+++++					0.01372	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00787	+++++					0.00787	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02569	+++++					0 02569	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00429	+++++					0.00429	0.000
4 Aroclor-1232(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02194	+++++					0.02194	0 000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04544	+++++					0.04544	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-SEP-2011 16:43
End Cal Date : 30-SEP-2011 22:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd5.i/20110930.B/PCB2.m
Cal Date : 03-Oct-2011 14:24 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	___ RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01580	+++++					0.01580	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01759	+++++					0.01759	0.000
3 Aroclor-1242(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03732	+++++					0.03732	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.08407	+++++					0.08407	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03312	+++++					0.03312	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03002	+++++					0.03002	0.000
6 Aroclor-1248(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0 03819	+++++					0 03819	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04427	+++++					0.04427	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04928	+++++					0.04928	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-SEP-2011 16:43
End Cal Date : 30-SEP-2011 22:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd5.i/20110930.B/PCB2.m
Cal Date : 03-Oct-2011 14:24 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.05344	+++++					0.05344	0.000
7 Aroclor-1016(1)	0.05680	0.05292	0.05085	0 04748	0.04144	0 03657		
	+++++	+++++					0.04768	15.780
(2)	0.12045	0.11453	0.11187	0.10819	0.09678	0.08780		
	+++++	+++++					0.10660	11.372
(3)	0.04868	0.03945	0.04311	0.04297	0.03938	0.03185		
	+++++	+++++					0.04091	13.654
(4)	0.02514	0.02399	0.02300	0.02249	0.02084	0.01988		
	+++++	+++++					0.02256	8 658
8 Aroclor-1254(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0 04305	+++++					0.04305	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.05611	+++++					0.05611	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04513	+++++					0 04513	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.09675	+++++					0.09675	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-SEP-2011 16:43
End Cal Date : 30-SEP-2011 22:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd5.i/20110930.B/PCB2.m
Cal Date : 03-Oct-2011 14:24 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100 000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(5)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06002	+++++					0.06002	0.000
10 Aroclor-1262(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0 07217	+++++					0.07217	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06890	+++++					0 06890	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.13446	+++++					0.13446	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06389	+++++					0.06389	0.000
(5)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.05257	+++++					0.05257	0 000
9 Aroclor-1260(1)	0.08984	0.07610	0.07511	0 06845	0.06228	0 05872		
	+++++	+++++					0 07175	15.617
(2)	0.12389	0.11723	0.11393	0.11153	0.10196	0.09763		
	+++++	+++++					0.11103	8.772
(3)	0.04260	0.03515	0.03358	0.03395	0.02994	0.02856		
	+++++	+++++					0.03396	14.522

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-SEP-2011 16:43
End Cal Date : 30-SEP-2011 22:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd5.i/20110930.B/PCB2.m
Cal Date : 03-Oct-2011 14:24 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(4)	0.04183	0.03462	0.03202	0.03045	0.02789	0 02659		
	++++++	++++++					0.03223	17.093
11 Aroclor-1268(1)	++++++	++++++	++++++	++++++	++++++	++++++		
	0.15777	++++++					0 15777	0.000
(2)	++++++	++++++	++++++	++++++	++++++	++++++		
	0.13620	++++++					0.13620	0.000
(3)	++++++	++++++	++++++	++++++	++++++	++++++		
	0 11563	++++++					0.11563	0 000
(4)	++++++	++++++	++++++	++++++	++++++	++++++		
	0.34883	++++++					0.34883	0.000
41 2,4-DDE	++++++	++++++	++++++	++++++	++++++	++++++		
	++++++	754					754	0 000
42 2,4-DDD	++++++	++++++	++++++	++++++	++++++	++++++		
	++++++	689					689	0.000
44 4,4-DDE	++++++	++++++	++++++	++++++	++++++	++++++		
	++++++	1283					1283	0.000
45 4,4-DDD/2,4-DDT	++++++	++++++	++++++	++++++	++++++	++++++		
	++++++	940					940	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-SEP-2011 16:43
End Cal Date : 30-SEP-2011 22:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd5.i/20110930.B/PCB2.m
Cal Date : 03-Oct-2011 14:24 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	___ RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
46 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	1119					1119	0 000
$ 2 Tetrachloro-m-xylene	1.23358	1.20751	1.23621	1.25308	1.18243	1.13332		
	+++++	+++++					1.20769	3.650
$ 13 Decachlorobiphenyl	1.26092	1.19513	1.15630	1.09421	1.00314	0 95312		
	+++++	+++++					1.11047	10.536

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-SEP-2011 16:43
End Cal Date : 30-SEP-2011 22:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd5.i/20110930.B/PCB1.m
Cal Date : 01-Oct-2011 13:33 jrains
Curve Type : Average

Calibration File Names:
Level 1: /chem2/ecd5.i/20110930.B/ical-1.b/0930B015.d/0930B015.cdf
Level 2: /chem2/ecd5.i/20110930.B/ical-1.b/0930B016.d/0930B016.cdf
Level 3: /chem2/ecd5.i/20110930.B/ical-1.b/0930B018.d/0930B018.cdf
Level 4: /chem2/ecd5.i/20110930.B/ical-1.b/0930B014.d
Level 5: /chem2/ecd5.i/20110930.B/ical-1.b/0930B019.d/0930B019.cdf
Level 6: /chem2/ecd5.i/20110930.B/ical-1.b/0930B017.d/0930B017.cdf
Level 7: /chem2/ecd5.i/20110930.B/ical-1.b/0930B024.d/0930B024.cdf
Level 8: /chem2/ecd5.i/20110930.B/ddt-1.b/0930B031.d

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250 000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
2 Aroclor-1221(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01346	+++++					0.01346	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00951	+++++					0.00951	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03216	+++++					0.03216	0.000
3 Aroclor-1242(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02850	+++++					0.02850	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.09363	+++++					0.09363	0 000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03796	+++++					0.03796	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-SEP-2011 16:43
End Cal Date : 30-SEP-2011 22:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd5.i/20110930.B/PCB1.m
Cal Date : 01-Oct-2011 13:33 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250 000 Level 7	0.000e+00 Level 8						
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03763	+++++					0 03763	0.000
4 Aroclor-1232(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01558	+++++					0.01558	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.05181	+++++					0.05181	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02098	+++++					0 02098	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02212	+++++					0.02212	0.000
7 Aroclor-1016(1)	0.04715	0.04193	0.03865	0.03588	0.03096	0.02750		
	+++++	+++++					0.03701	19 406
(2)	0.15705	0.13949	0.12824	0.11747	0.10019	+++++		
	+++++	+++++					0.12849	16.779
(3)	0.06136	0.05569	0.05225	0 04803	0.04126	+++++		
	+++++	+++++					0 05172	14 730
(4)	0 04679	0.04128	0.03830	0.03594	0.03086	0 02744		
	+++++	+++++					0.03677	19 066

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-SEP-2011 16:43
End Cal Date : 30-SEP-2011 22:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd5.i/20110930.B/PCB1.m
Cal Date : 01-Oct-2011 13:33 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
6 Aroclor-1248(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04247	+++++					0.04247	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04810	+++++					0 04810	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06040	+++++					0 06040	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06031	+++++					0.06031	0.000
8 Aroclor-1254(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.09679	+++++					0.09679	0 000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06661	+++++					0.06661	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.11970	+++++					0.11970	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.13646	+++++					0.13646	0.000
(5)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.09008	+++++					0.09008	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-SEP-2011 16:43
End Cal Date : 30-SEP-2011 22:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd5.i/20110930.B/PCB1.m
Cal Date : 01-Oct-2011 13:33 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100 000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
9 Aroclor-1260(1)	0.05469	0.04887	0.04545	0.04149	0.03635	0.03270		
	++++++	++++++					0.04326	18.757
(2)	0.14054	0.12417	0.11459	0.10431	0.09146	0.08495		
	++++++	++++++					0.11000	18.885
(3)	0.07790	0.07072	0 06667	0.06107	0.05386	0.04903		
	++++++	++++++					0.06321	17 000
(4)	0.03289	0.03030	0 02848	0.02622	0.02336	0.02113		
	++++++	++++++					0.02706	16 196
(5)	0.03769	0.03513	0.03356	0.03121	0.02783	0.02532		
	++++++	++++++					0.03179	14.552
10 Aroclor-1262(1)	++++++	++++++	++++++	++++++	++++++	++++++		
	0.06439	++++++					0.06439	0 000
(2)	++++++	++++++	++++++	++++++	++++++	++++++		
	0.05216	++++++					0.05216	0 000
(3)	++++++	++++++	++++++	++++++	++++++	++++++		
	0.12653	++++++					0.12653	0 000
(4)	++++++	++++++	++++++	++++++	++++++	++++++		
	0.05802	++++++					0.05802	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-SEP-2011 16:43
End Cal Date : 30-SEP-2011 22:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd5.i/20110930.B/PCB1.m
Cal Date : 01-Oct-2011 13:33 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(5)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06118	+++++					0.06118	0.000
11 Aroclor-1268(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.14042	+++++					0.14042	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.13582	+++++					0.13582	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.12082	+++++					0.12082	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.35276	+++++					0.35276	0.000
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	925					925	0.000
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	860					860	0.000
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	1071					1071	0.000
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	1535					1535	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-SEP-2011 16:43
End Cal Date : 30-SEP-2011 22:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd5.i/20110930.B/PCB1.m
Cal Date : 01-Oct-2011 13:33 jrains
Curve Type : Average

Compound	20.000 Level 1	50 000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	1279					1279	0.000
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	1456					1456	0.000
$ 1 Tetrachloro-m-xylene	1.50511	1.43839	1.41677	1.40538	1.27982	1.21229		
	+++++	+++++					1.37629	7.902
$ 13 Decachlorobiphenyl	1.58806	1.41157	1.33469	1.20855	1.07854	1.00571		
	+++++	+++++					1.27119	17.079

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B013.d
Data file 2: 20110930.B/ical-2.b/0930B013.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: IB
Client ID:
Injection Date: 30-SEP-2011 16:24
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.650	0.000	91045892	4.657	-0.001	65062711	43.3	46.2	6.6	Tetrachloro-m-xylene
13.032	0.000	149744285	13.416	-0.001	58833898	37.1	39.8	7.0	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	108.2	115.6
Decachlorobiphenyl	92.8	99.6

JR 10/06/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	122304889	2.5
Hexabromobiphenyl	247758184	253776804	2.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	93216414	2.1
Hexabromobiphenyl	103671329	106420039	2.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.284	0.004	78568	1.4	1	6.379	-0.014	27483	0.5
Aroclor-1016	2	6.647	-0.033	41266	0.2	2	7.047	0.028	44486	0.4
Aroclor-1016	3	6.820	-0.007	56813	0.7	3	---			0.0
Aroclor-1016	4	6.939	0.001	120565	2.1	4	8.601	0.090	22062	0.8
Total Col1Ave (4 peaks):				1.1	Total Col2Ave (3 peaks):				0.6	RPD = 66*
Corrected Ave (3 peaks):				0.8	Corrected Ave: < 3 Peaks					
Aroclor-1221	1	4.926	-0.094	4061512	197.3	1	5.361	0.019	804207	50.3
Aroclor-1221	2	5.186	-0.013	1022928	70.4	2	5.547	-0.041	21166	2.3
Aroclor-1221	3	---			0.0	3	5.706	0.005	170437	5.7
Aroclor-1221	NS	---			----	4	---			0.0
Col1Ave: <3 Quant Peaks					Col2Ave: 19.4					
Aroclor-1232	1	6.284	0.003	78568	3.3	1	6.379	-0.016	27483	1.1
Aroclor-1232	2	6.647	-0.032	41266	0.5	2	7.047	0.028	44486	0.8
Aroclor-1232	3	6.820	-0.008	56813	1.8	3	---			0.0
Aroclor-1232	4	8.081	0.061	116826	3.5	4	8.348	-0.023	65790	3.2
Total Col1Ave (4 peaks):				2.3	Total Col2Ave (3 peaks):				1.7	RPD = 28
Corrected Ave (3 peaks):				1.9	Corrected Ave: < 3 Peaks					
Aroclor-1242	1	6.284	0.004	78568	1.8	1	6.379	-0.014	27483	0.6
Aroclor-1242	2	6.647	-0.033	41266	0.3	2	7.047	0.029	44486	0.5
Aroclor-1242	3	6.820	-0.007	56813	1.0	3	---			0.0
Aroclor-1242	4	8.081	0.062	116826	2.0	4	8.348	-0.022	65790	1.9
Total Col1Ave (4 peaks):				1.3	Total Col2Ave (3 peaks):				1.0	RPD = 25
Corrected Ave (3 peaks):				1.0	Corrected Ave: < 3 Peaks					
Aroclor-1248	1	7.180	0.003	26144	0.4	1	7.522	0.016	46809	1.1
Aroclor-1248	2	7.492	0.017	36388	0.5	2	7.940	0.020	178126	3.5
Aroclor-1248	3	8.081	0.061	116826	1.3	3	8.348	-0.022	65790	1.1
Aroclor-1248	4	8.292	-0.018	893894	9.7	4	8.741	-0.052	235992	3.8
Total Col1Ave (4 peaks):				3.0	Total Col2Ave (4 peaks):				2.4	RPD = 23
Corrected Ave (3 peaks):				0.7	Corrected Ave (3 peaks):				1.9	RPD = 89*
Aroclor-1254	1	8.483	0.089	190460	1.3	1	8.601	0.090	22062	0.4
Aroclor-1254	2	8.782	0.017	246607	2.4	2	8.741	0.058	235992	3.6
Aroclor-1254	3	8.907	0.005	157683	0.9	3	9.157	-0.049	140177	2.7
Aroclor-1254	4	9.236	-0.014	114213	0.5	4	9.352	-0.004	44472	0.4
Aroclor-1254	5	9.598	-0.015	80482	0.6	5	10.143	0.005	19828	0.3
Total Col1Ave (5 peaks):				1.1	Total Col2Ave (5 peaks):				1.5	RPD = 26
Corrected Ave (4 peaks):				0.8	Corrected Ave (4 peaks):				0.9	RPD = 14
Aroclor-1260	1	10.143	-0.343	628189	4.6	1	10.357	-0.015	230047	2.4
Aroclor-1260	2	10.466	-0.394	19623	0.1	2	11.244	0.053	11639	0.1
Aroclor-1260	3	10.898	-0.362	687590	3.4	3	11.666	-0.048	280639	6.2
Aroclor-1260	4	11.364	-0.013	39858	0.5	4	12.557	0.045	192735	4.5
Aroclor-1260	5	---			0.0	NS	---			----
Total Col1Ave (4 peaks):				2.1	Total Col2Ave (4 peaks):				3.3	RPD = 43*
Corrected Ave (3 peaks):				1.3	Corrected Ave (3 peaks):				2.3	RPD = 56*
Aroclor-1262	1	10.143	-0.025	628189	3.1	1	10.507	0.039	80280	0.8
Aroclor-1262	2	10.466	-0.019	19623	0.1	2	10.958	0.037	51136	0.6
Aroclor-1262	3	10.898	0.038	687590	1.7	3	11.244	0.052	11639	0.1
Aroclor-1262	4	11.364	-0.013	39858	0.2	4	11.666	-0.048	280639	3.3
Aroclor-1262	5	---			0.0	5	12.557	0.044	192735	2.8
Total Col1Ave (4 peaks):				1.3	Total Col2Ave (5 peaks):				1.5	RPD = 16
Corrected Ave (3 peaks):				0.7	Corrected Ave (4 peaks):				1.1	RPD = 43*
Aroclor-1268	1	11.364	-0.014	39858	0.1	1	11.666	-0.049	280639	1.3
Aroclor-1268	2	---			0.0	2	11.800	0.019	67942	0.4
Aroclor-1268	3	11.830	-0.007	76001	0.2	3	12.178	-0.002	11895	0.1

Aroclor-1268	4	12.612	-0.015	609447	0.5	4	12.993	-0.008	35861	0.1

Total Col1Ave (3 peaks): 0.3 Total Col2Ave (4 peaks): 0.5 RPD = 51*

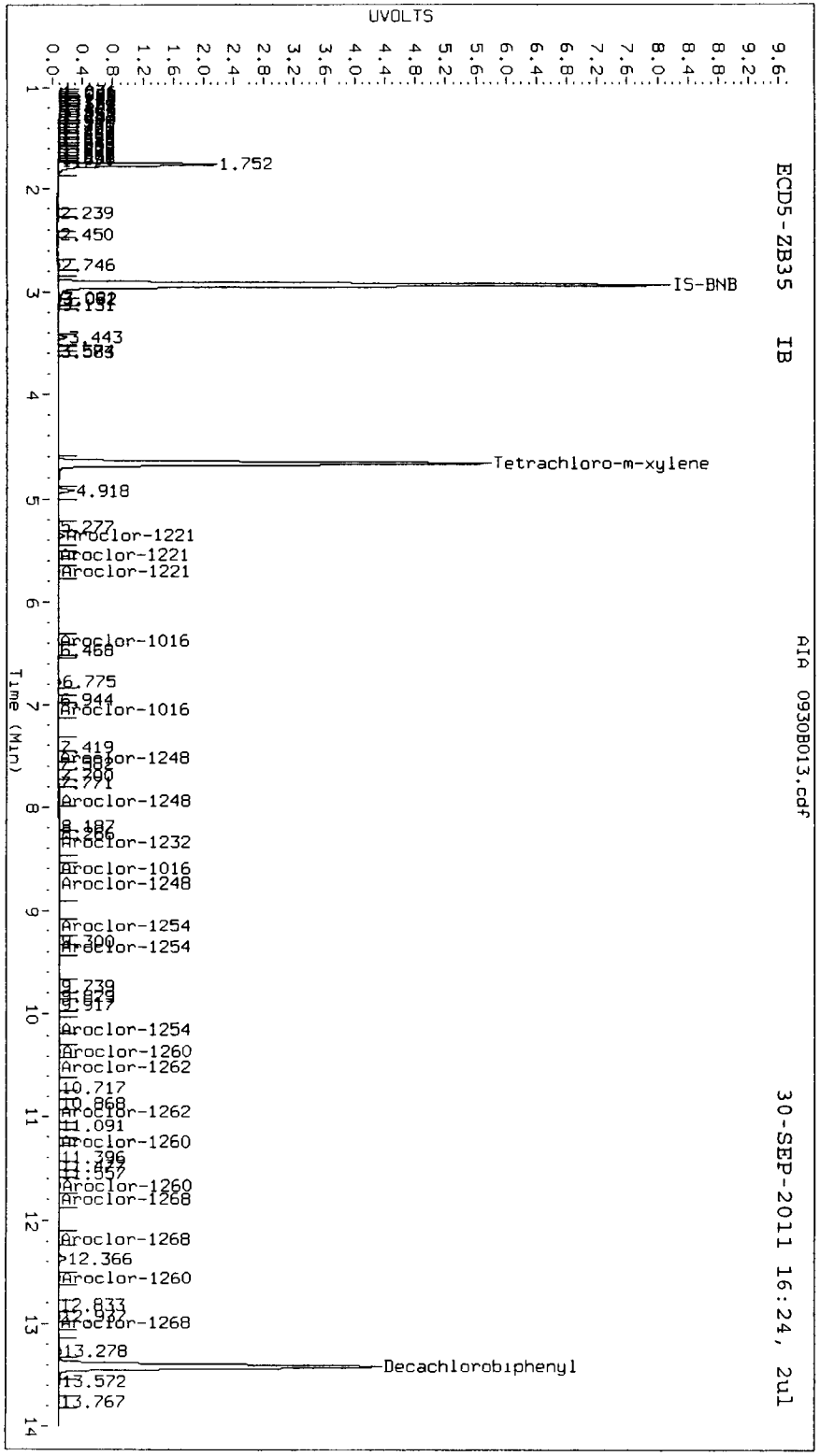
Corrected Ave: < 3 Peaks Corrected Ave (3 peaks): 0.2

Total PCB Area Col1 (4.750 - 12.933) = 19579458 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (4.758 - 13.317) = 7469533 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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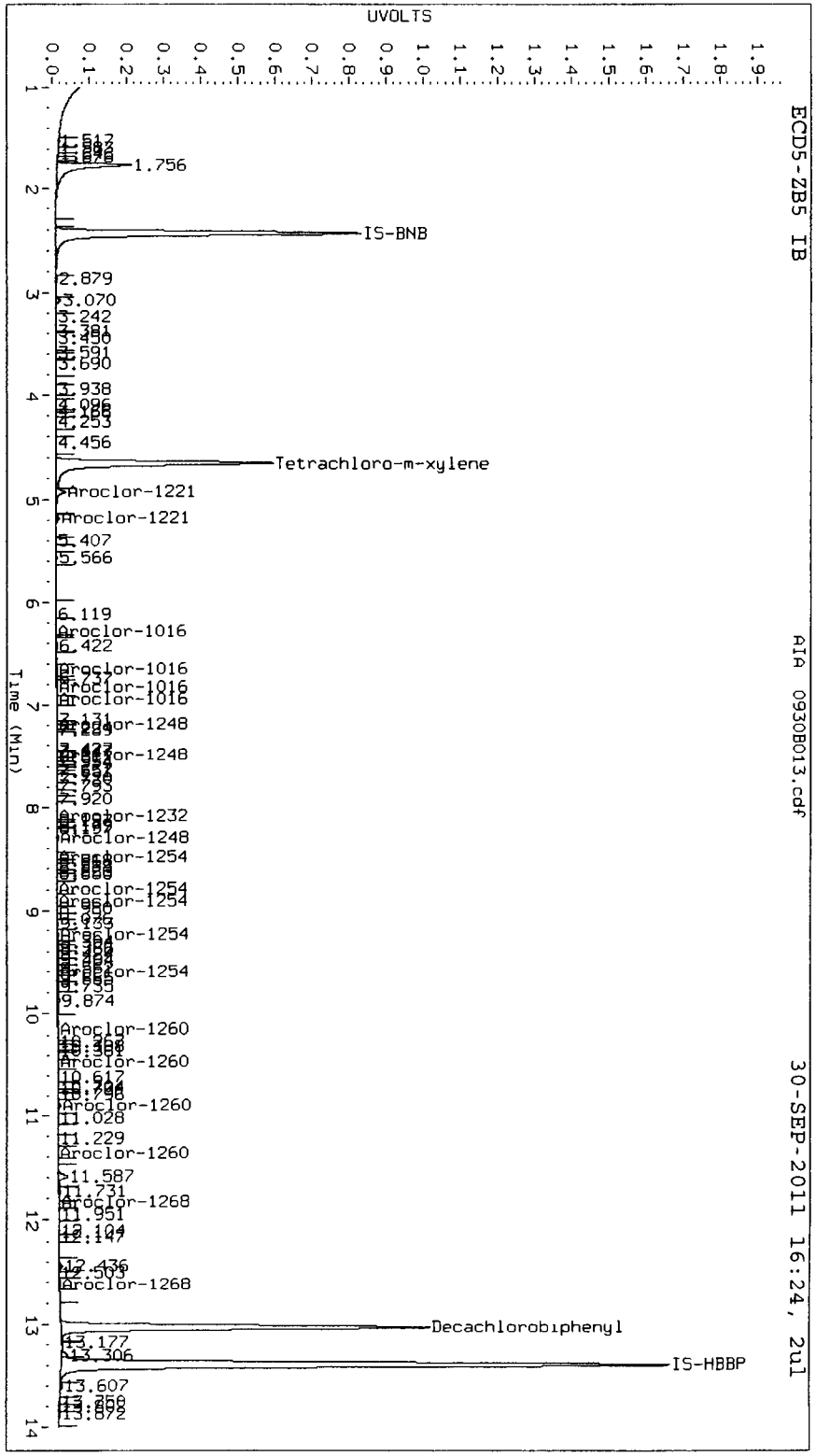
IS-BNB
Tetrachloro-m-xylene
Decachlorobiphenyl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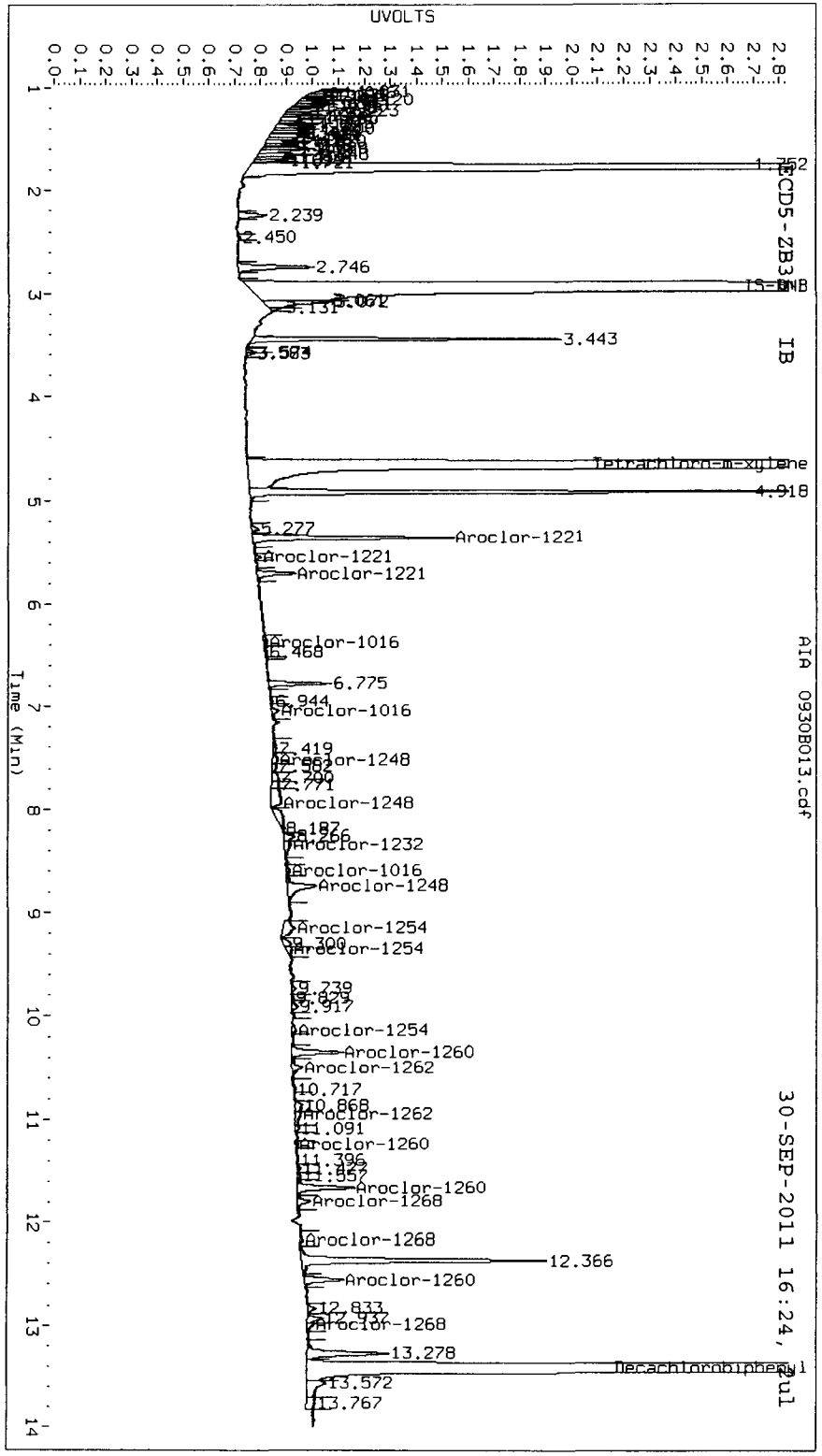
IS-HBBP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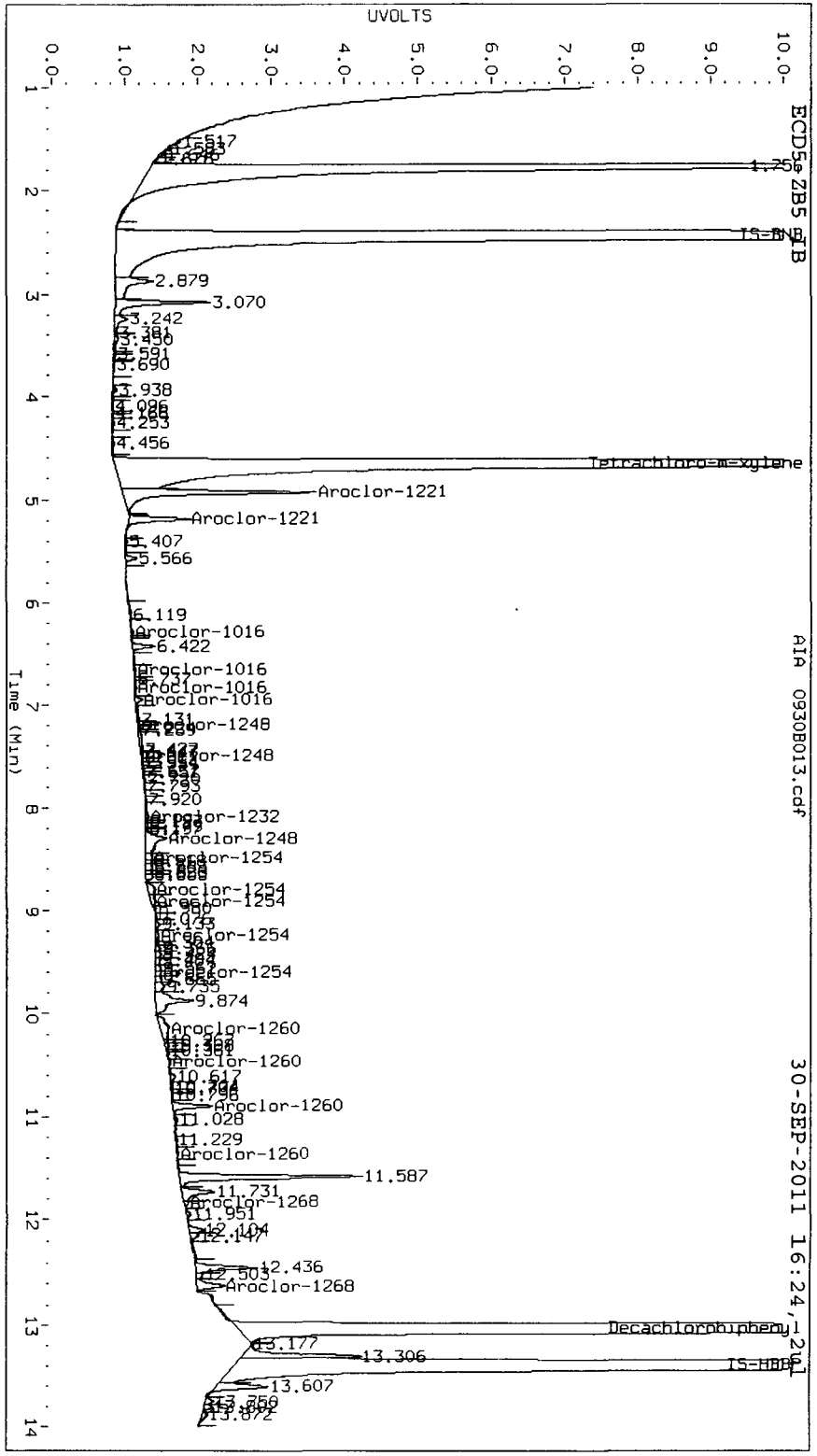
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Aroclor-1248
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Aroclor-1268
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Decachlorobiphenyl
13.177
13.306
IS-HBB
13.607
13.872

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B014.d
Data file 2: 20110930.B/ical-2.b/0930B014.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25 PPM AR1660
Client ID:
Injection Date: 30-SEP-2011 16:43
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.649	-0.001	41924066	4.656	-0.002	28591038	20.4	20.8	1.6	Tetrachloro-m-xylene
13.032	-0.001	74856750	13.415	-0.002	28359461	19.0	19.7	3.6	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

JK 10/06/11

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.1	51.9
Decachlorobiphenyl	47.5	49.3

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	119324916	0.0
Hexabromobiphenyl	247758184	247758184	0.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	91266419	0.0
Hexabromobiphenyl	103671329	103671329	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

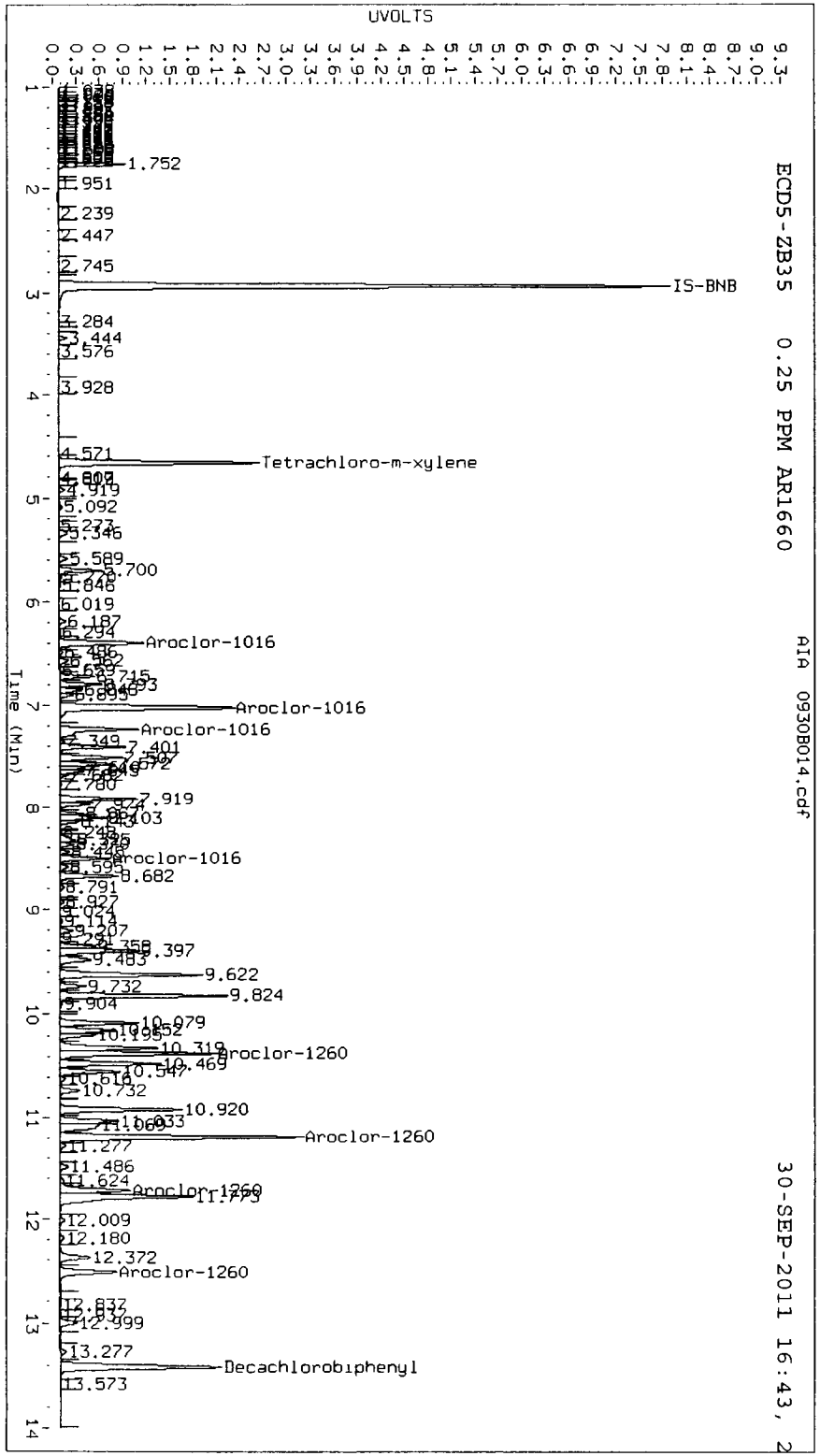
	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.279	-0.001	13378363	242.4	1	6.393	0.000	13543080	249.0
Aroclor-1016	2	6.679	-0.001	43802051	228.6	2	7.018	0.000	30857105	253.7
Aroclor-1016	3	6.827	-0.001	17909794	232.2	3	7.226	0.000	12254218	262.6
Aroclor-1016	4	6.937	-0.001	13401905	244.4	4	8.512	0.001	6414576	249.3
Total Col1Ave (4 peaks):				236.9		Total Col2Ave (4 peaks):			253.6	RPD = 7
Corrected Ave (3 peaks):				234.4		Corrected Ave (3 peaks):			250.7	RPD = 7
Aroclor-1260	1	10.485	-0.001	32124936	239.8	1	10.372	0.000	22176229	238.5
Aroclor-1260	2	10.860	-0.001	80763970	237.1	2	11.191	0.000	36131854	251.1
Aroclor-1260	3	11.260	0.000	47282184	241.5	3	11.714	0.000	11000161	249.9
Aroclor-1260	4	11.375	-0.002	20303888	242.3	4	12.511	-0.001	9865152	236.2
Aroclor-1260	5	11.449	-0.001	24164273	245.4	NS	---			----
Total Col1Ave (5 peaks):				241.2		Total Col2Ave (4 peaks):			243.9	RPD = 1
Corrected Ave (4 peaks):				240.2		Corrected Ave (3 peaks):			241.5	RPD = 1

Total PCB Area Col1 (4.750 - 12.933) = 908910428 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (4.758 - 13.317) = 452698545 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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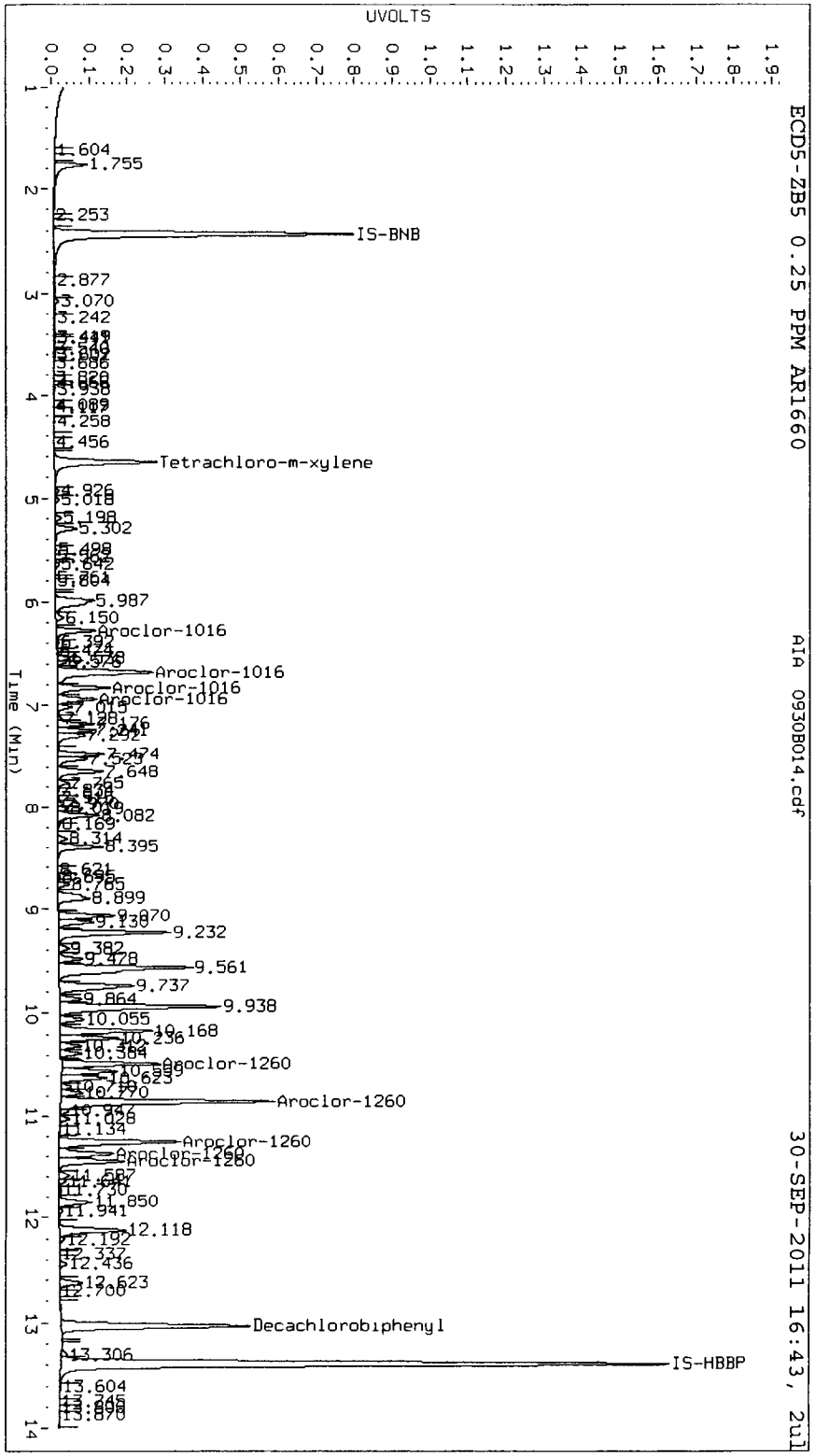
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl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Decachlorobiphenyl
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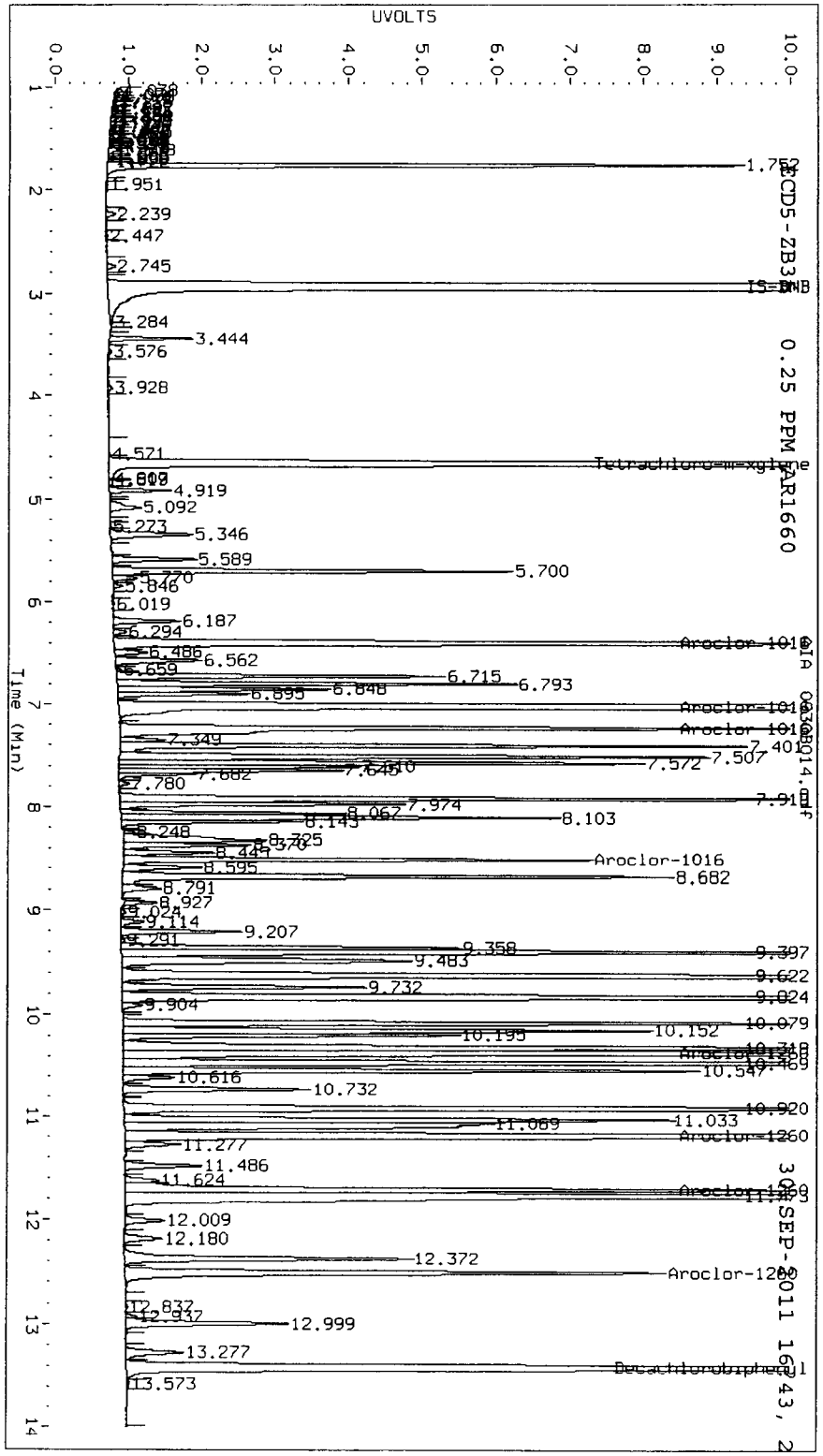
TQ80:00080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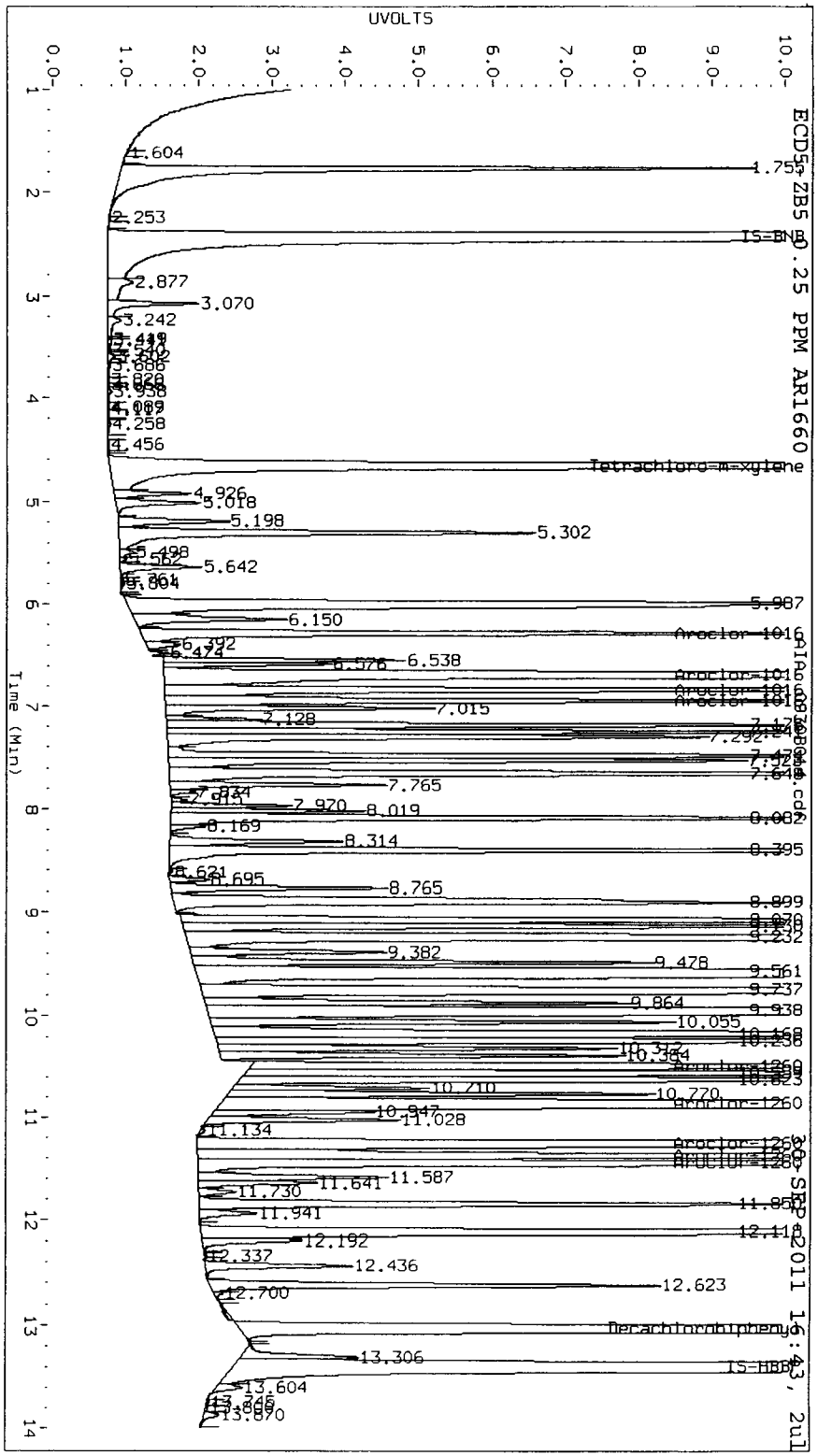
Time (Min)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Tetrachloro-m-xylene
Aroclor-1016
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Decachlorobiphenyl
IS-HBB
30-SEP-2011 16:43, 2ul
Time (Min)

TQ80:00081

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B015.d
Data file 2: 20110930.B/ical-2.b/0930B015.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: 0.02 PPM AR1660
Client ID:
Injection Date: 30-SEP-2011 17:02
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.648	-0.002	3711847	4.657	-0.001	2313900	1.7	1.6	6.8	Tetrachloro-m-xylene
13.031	-0.002	8146294	13.416	-0.001	2698013	2.0	1.8	9.5	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

10/06/11

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	4.4	4.1
Decachlorobiphenyl	5.0	4.5

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	123307765	3.3
Hexabromobiphenyl	247758184	256486260	3.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	93787793	2.8
Hexabromobiphenyl	103671329	106985869	3.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.280	0.000	1453374	25.5	1	6.393	-0.001	1331818	23.8
Aroclor-1016	2	6.679	-0.001	4841252	24.4	2	7.017	-0.001	2824291	22.6
Aroclor-1016	3	6.828	0.000	1891689	23.7	3	7.227	0.000	1141339	23.8
Aroclor-1016	4	6.938	0.000	1442477	25.5	4	8.512	0.001	589532	22.3

Total Col1Ave (4 peaks): 24.8 Total Col2Ave (4 peaks): 23.1 RPD = 7
Corrected Ave (3 peaks): 24.5 Corrected Ave (3 peaks): 22.9 RPD = 7

Aroclor-1260	1	10.485	-0.001	3506607	25.3	1	10.370	-0.002	2402927	25.0
Aroclor-1260	2	10.859	-0.002	9011639	25.6	2	11.190	-0.001	3313542	22.3
Aroclor-1260	3	11.259	0.000	4995109	24.6	3	11.714	0.000	1139465	25.1
Aroclor-1260	4	11.375	-0.002	2108765	24.3	4	12.512	0.000	1118867	26.0
Aroclor-1260	5	11.449	-0.001	2416815	23.7	NS	---			----

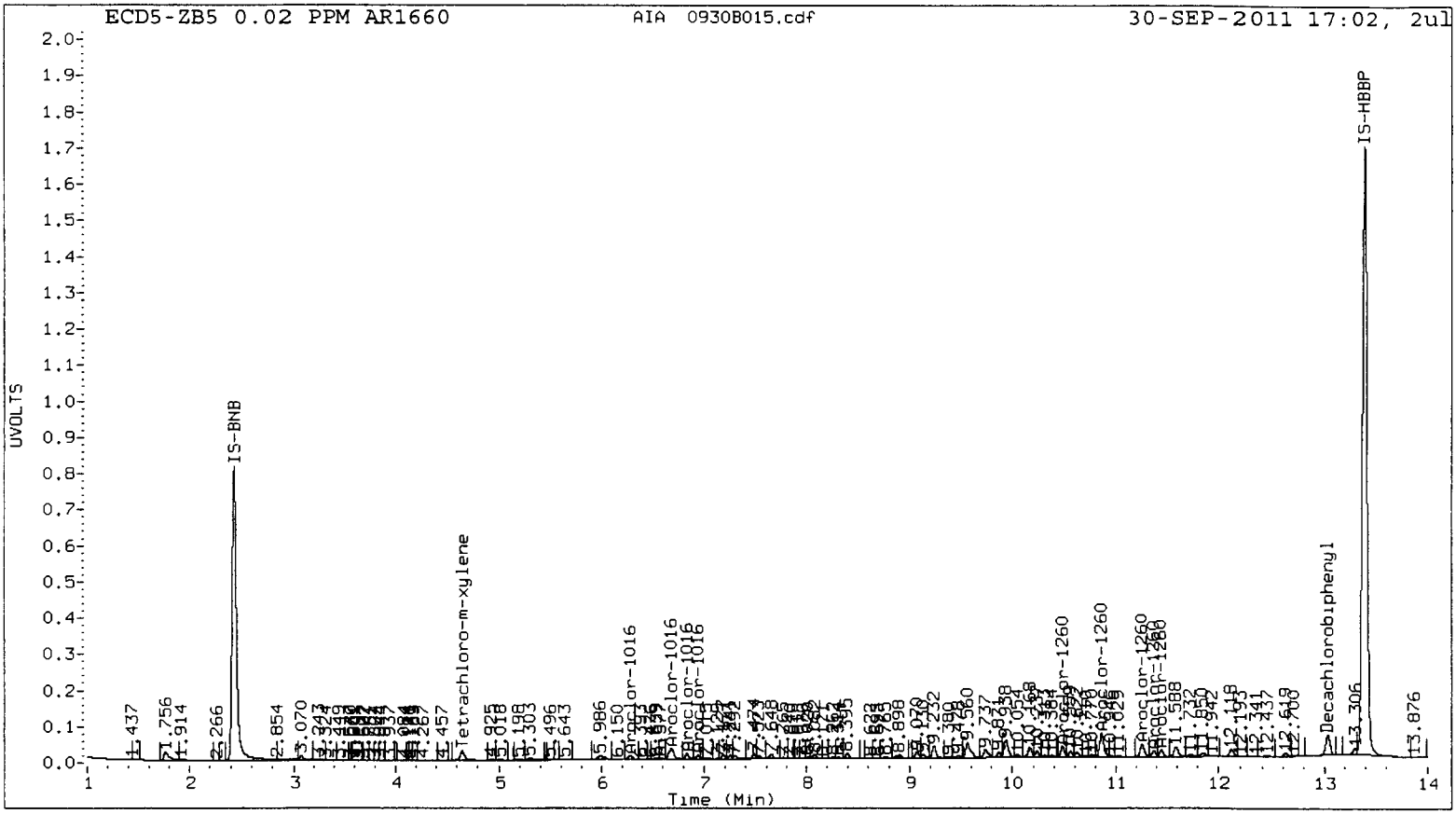
Total Col1Ave (5 peaks): 24.7 Total Col2Ave (4 peaks): 24.6 RPD = 0
Corrected Ave (4 peaks): 24.5 Corrected Ave (3 peaks): 24.1 RPD = 1

Total PCB Area Col1 (4.750 - 12.933) = 104193572 Col1 Total PCB = 0.1 ppm*

Total PCB Area Col2 (4.758 - 13.317) = 44584732 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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Tetrachloro-m-xylene
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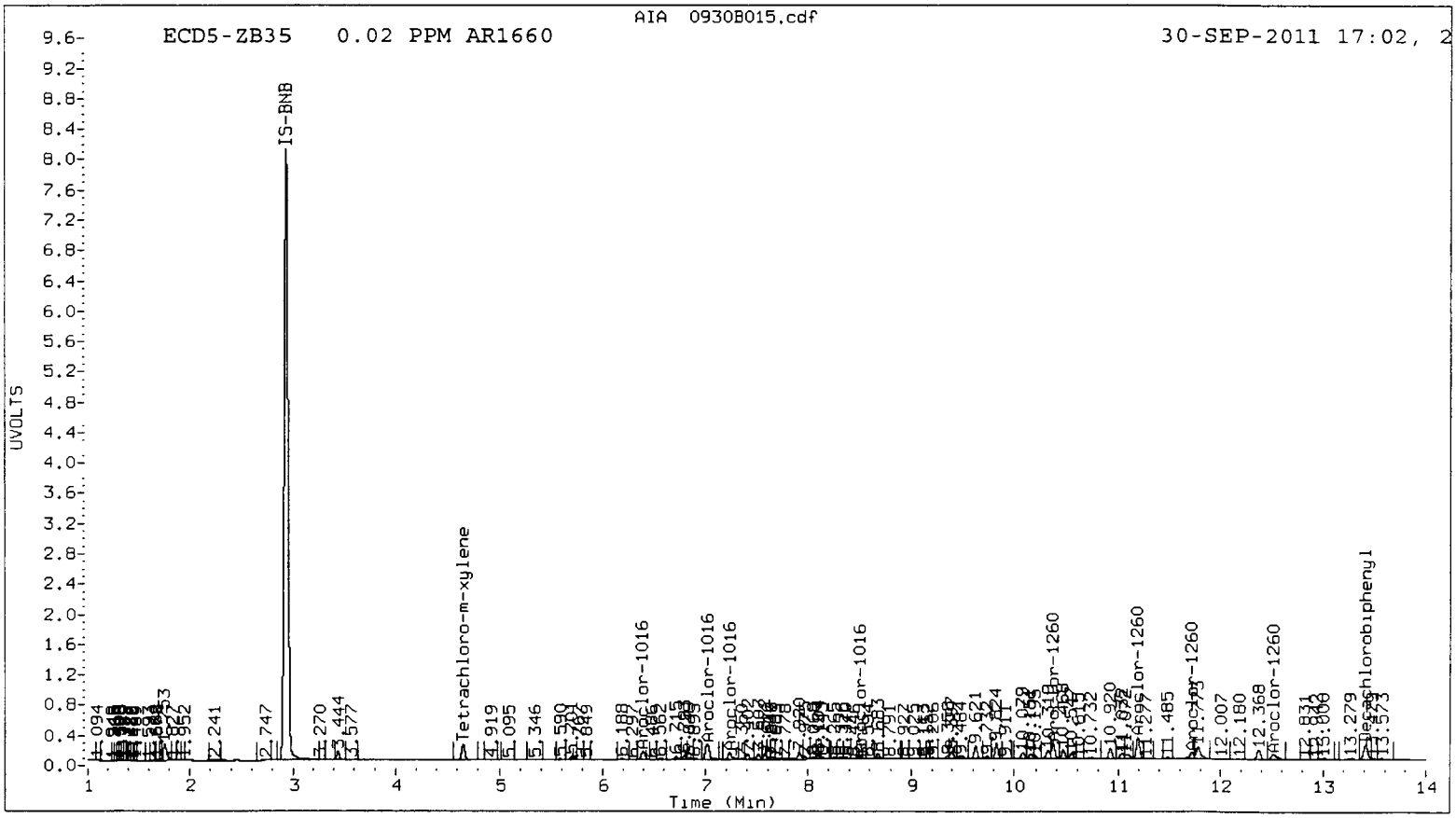
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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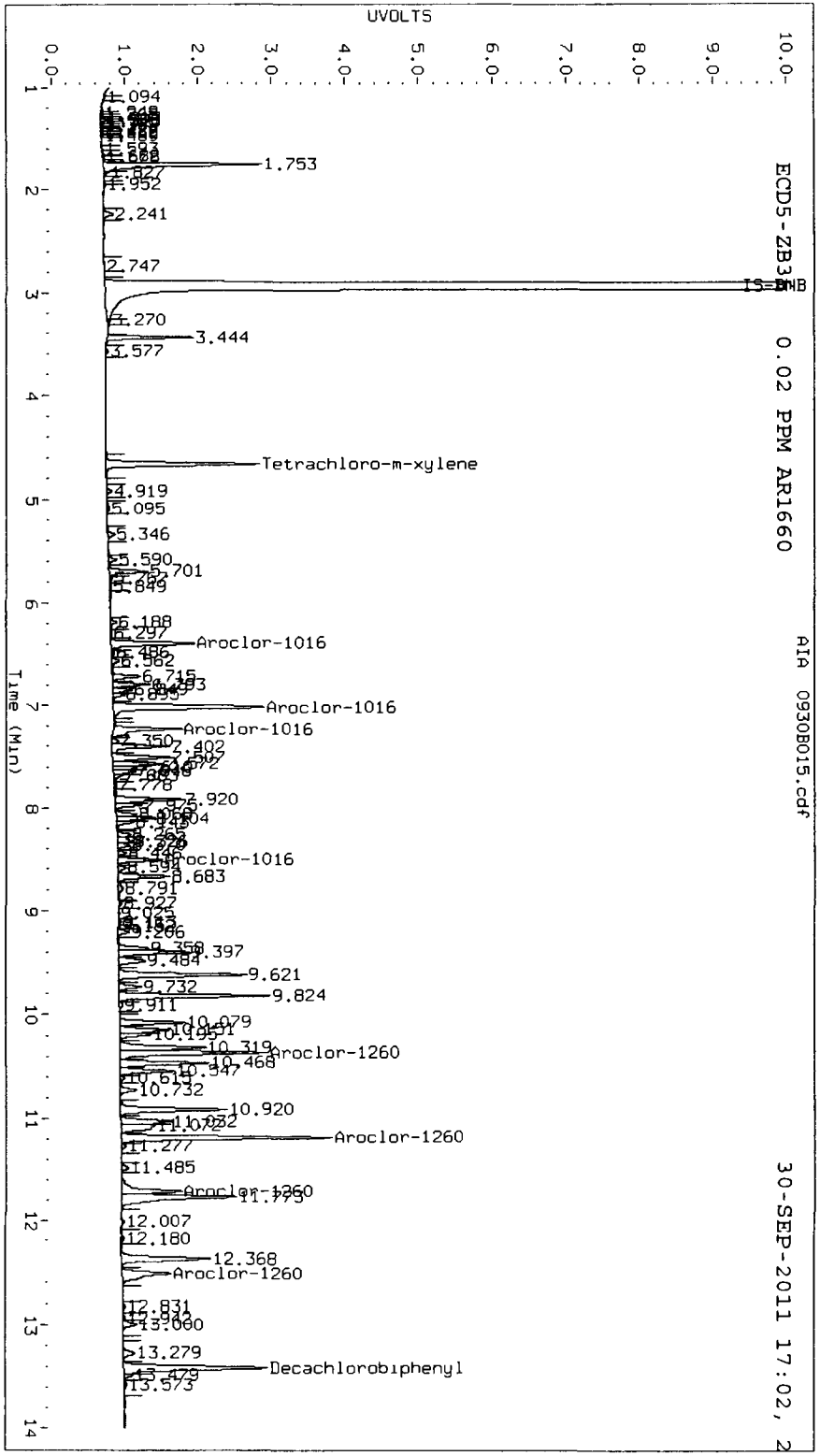
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl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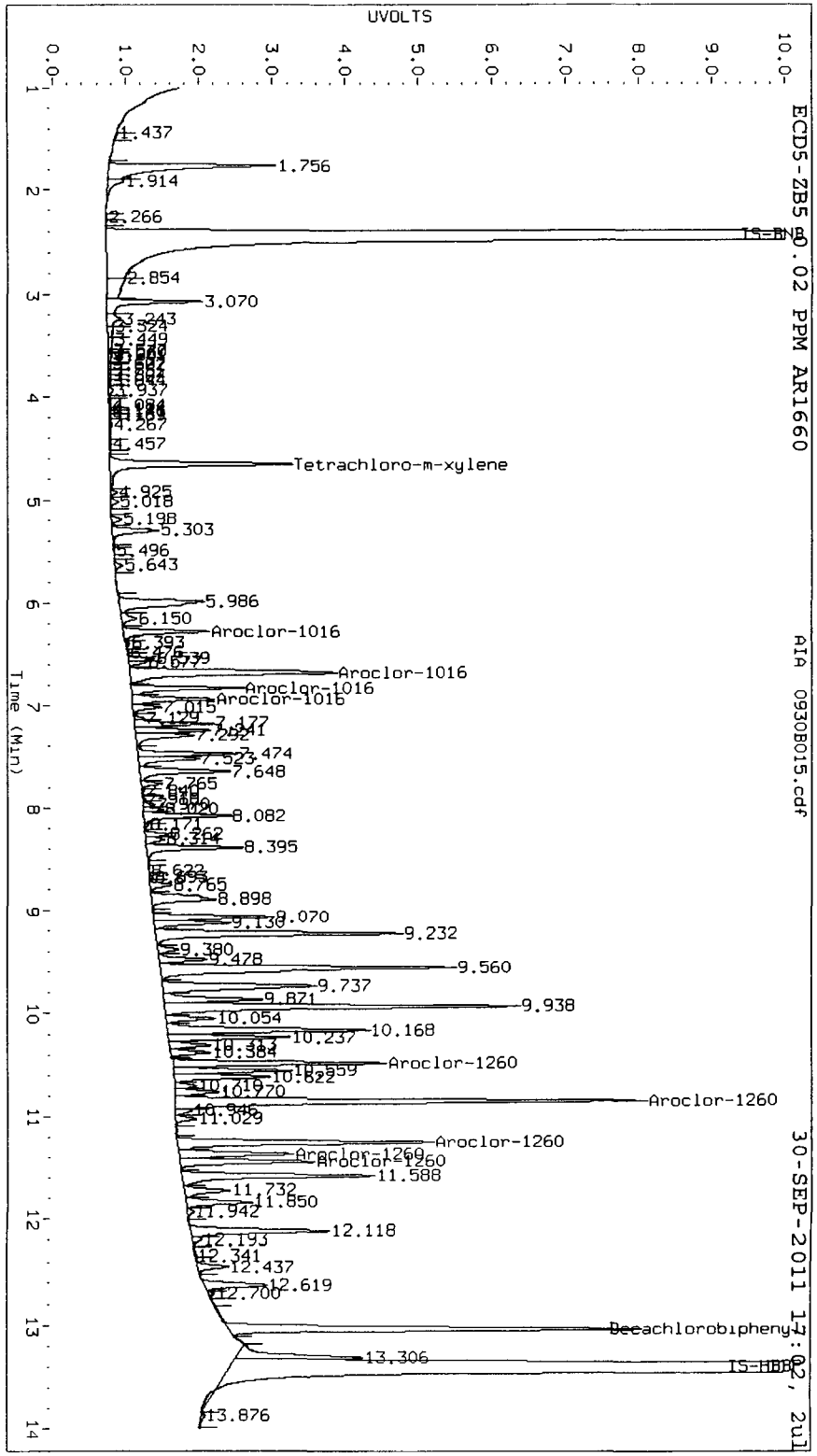
Aroclor-1260
Aroclor-1260
Aroclor-1260
Decachlorobiphenyl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AIA 0930B015.cdf
30-SEP-2011 17:02, 2ul
Time (Min)
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IS=BNB
3.070
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1260
Decachlorobiphenyl
IS=HBB

TQ80:00086

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B016.d
Data file 2: 20110930.B/ical-2.b/0930B016.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: 0.05 PPM AR1660
Client ID:
Injection Date: 30-SEP-2011 17:21
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.650	0.000	8814658	4.657	-0.001	5565861	4.2	4.0	4.4	Tetrachloro-m-xylene
13.031	-0.001	17816668	13.415	-0.001	6298468	4.4	4.3	3.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	10.5	10.0
Decachlorobiphenyl	11.1	10.8

JK 10/06/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	122563162	2.7
Hexabromobiphenyl	247758184	252437005	1.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	92187630	1.0
Hexabromobiphenyl	103671329	105401967	1.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

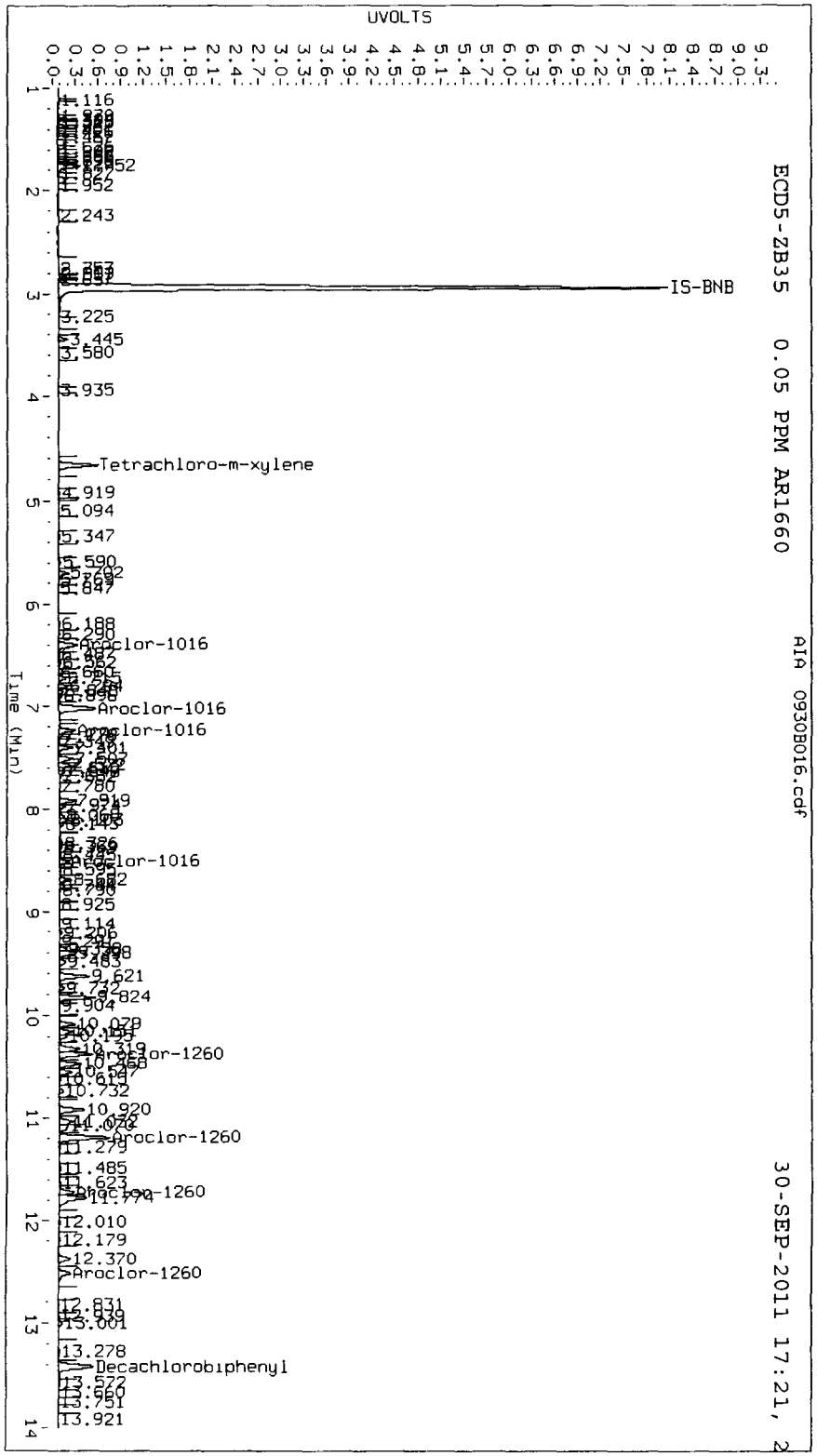
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	6.280	0.000	3211598	56.6	1	6.393	0.000	3048971	55.5
Aroclor-1016	2	6.679	-0.001	10685254	54.3	2	7.018	0.000	6599046	53.7
Aroclor-1016	3	6.828	0.001	4266274	53.8	3	7.226	0.000	2273119	48.2
Aroclor-1016	4	6.937	0.000	3162478	56.1	4	8.512	0.001	1381964	53.2
Total Col1Ave (4 peaks):				55.2		Total Col2Ave (4 peaks):			52.7	RPD = 5
Corrected Ave (3 peaks):				54.8		Corrected Ave (3 peaks):			51.7	RPD = 6
Aroclor-1260	1	10.484	-0.002	7710076	56.5	1	10.372	0.000	5013145	53.0
Aroclor-1260	2	10.859	-0.001	19590760	56.4	2	11.190	-0.001	7722391	52.8
Aroclor-1260	3	11.259	0.000	11157816	55.9	3	11.714	0.000	2315248	51.7
Aroclor-1260	4	11.375	-0.001	4780439	56.0	4	12.513	0.001	2280413	53.7
Aroclor-1260	5	11.450	-0.001	5543093	55.3	NS	---			----
Total Col1Ave (5 peaks):				56.0		Total Col2Ave (4 peaks):			52.8	RPD = 6
Corrected Ave (4 peaks):				55.9		Corrected Ave (3 peaks):			52.5	RPD = 6

Total PCB Area Col1 (4.750 - 12.933) = 221378662 Col1 Total PCB = 0.1 ppm*

Total PCB Area Col2 (4.758 - 13.317) = 98441821 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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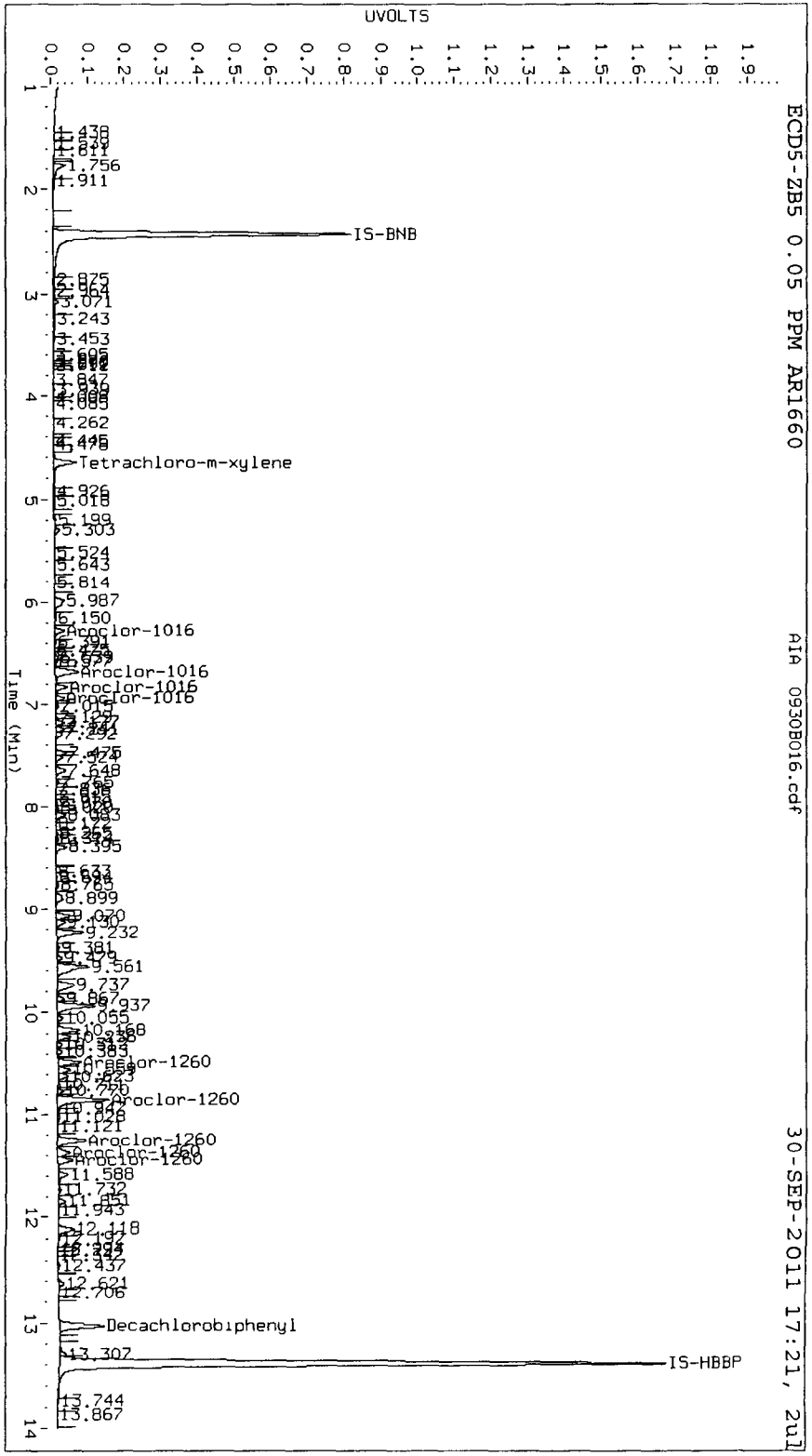
30-SEP-2011 17:21, 2
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1260
Aroclor-1260
Aroclor-1260
Decachlorobiphenyl
Time (Min)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AIA 0930B016.cdf
30-SEP-2011 17:21, 2u
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1260
Aroclor-1260
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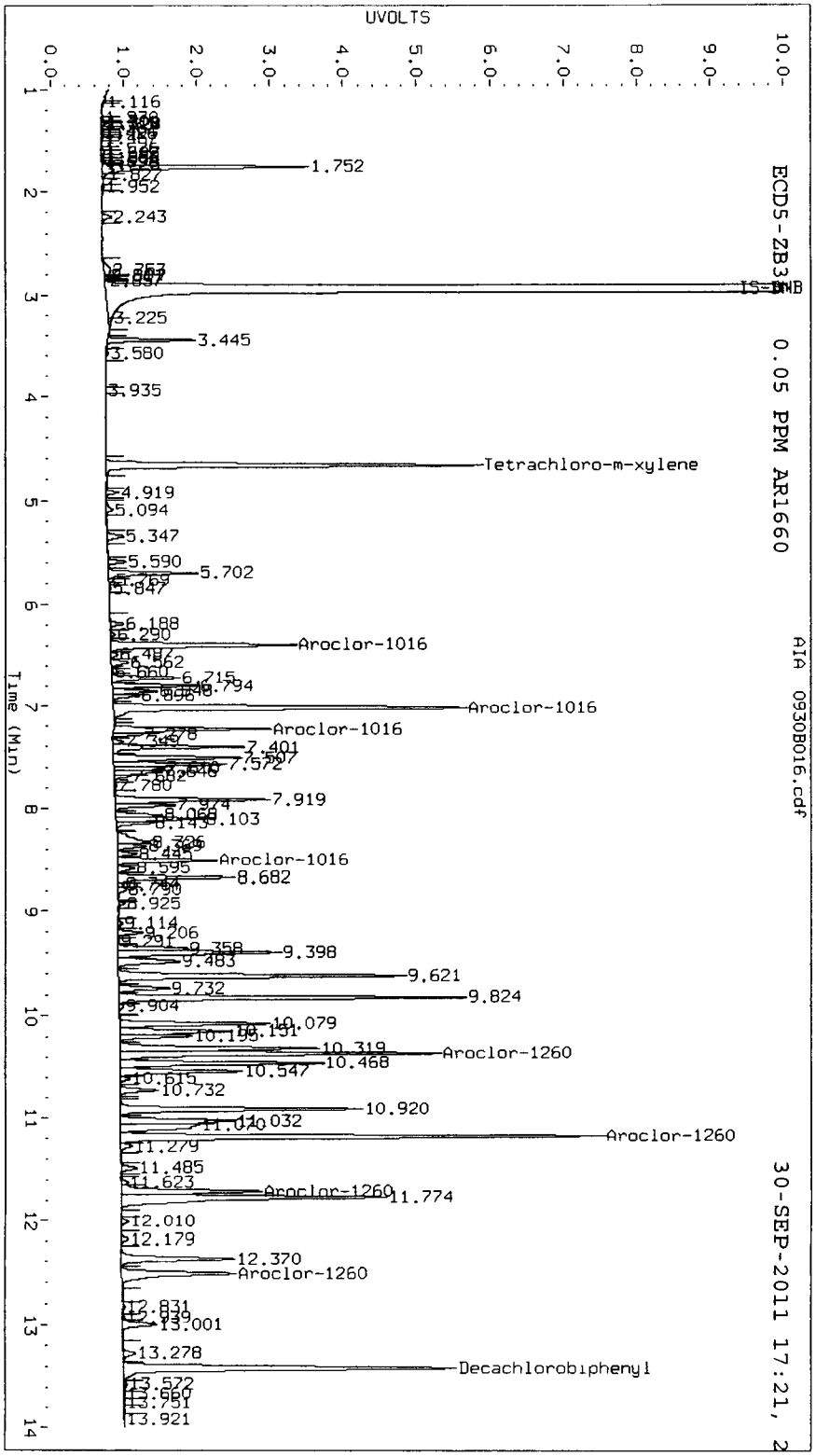
Decachlorobiphenyl
IS-HBBP
Time (Min)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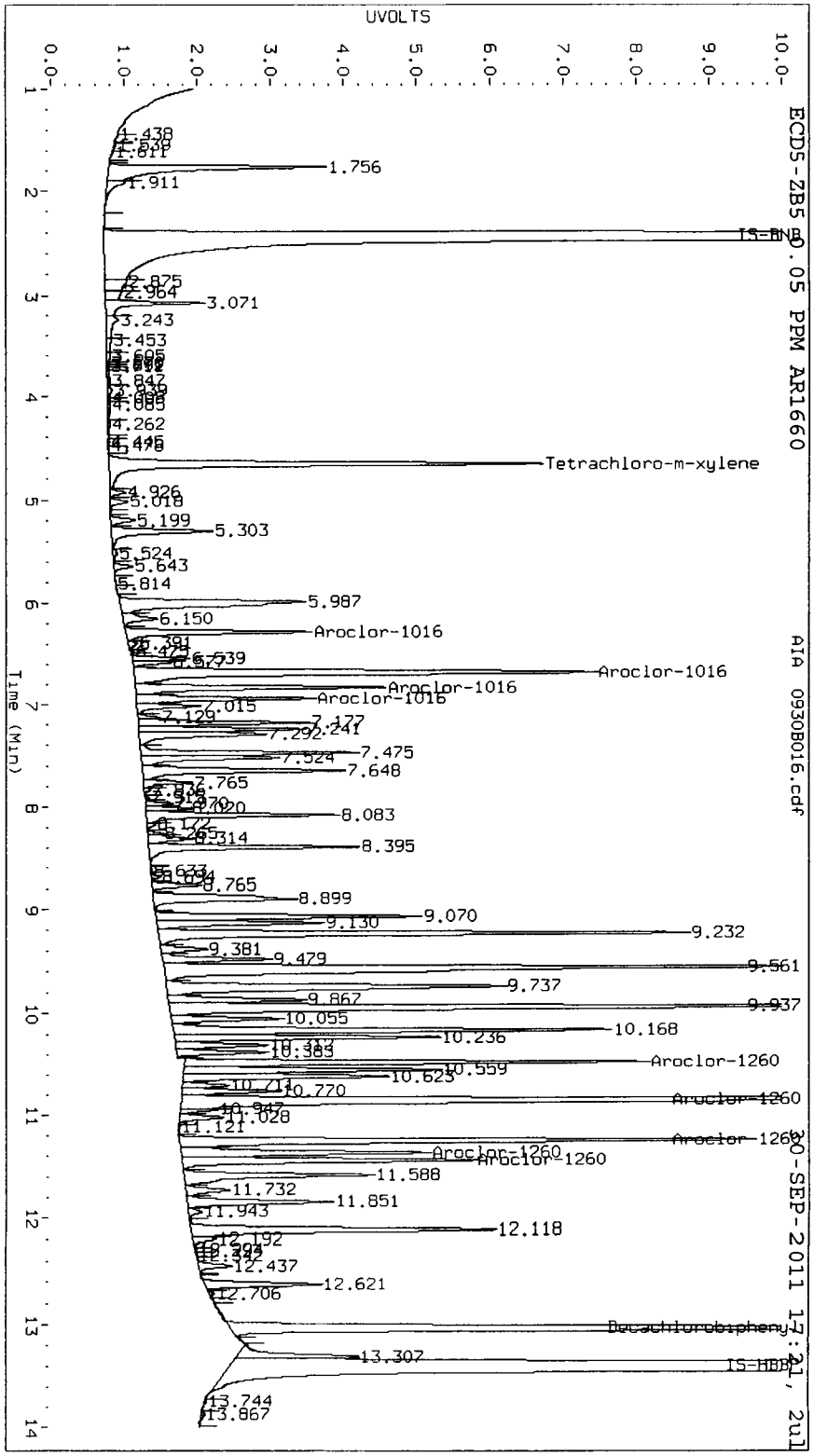
0.05 PPM AR1660
AIA 0930B016.cdf
30-SEP-2011 17:21, 2
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl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AIA 0930B016.cdf
30-SEP-2011 17:21, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B017.d
Data file 2: 20110930.B/ical-2.b/0930B017.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: 1 PPM AR1660
Client ID:
Injection Date: 30-SEP-2011 17:40
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.651	0.001	142957604	4.658	0.000	102357604	70.5	75.1	6.3	Tetrachloro-m-xylene
13.034	0.002	253135445	13.417	0.000	100085093	63.3	68.7	8.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	176.2	187.7
Decachlorobiphenyl	158.2	171.7

10/06/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	117923883	-1.2
Hexabromobiphenyl	247758184	251697732	1.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	90316651	-1.0
Hexabromobiphenyl	103671329	105007750	1.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

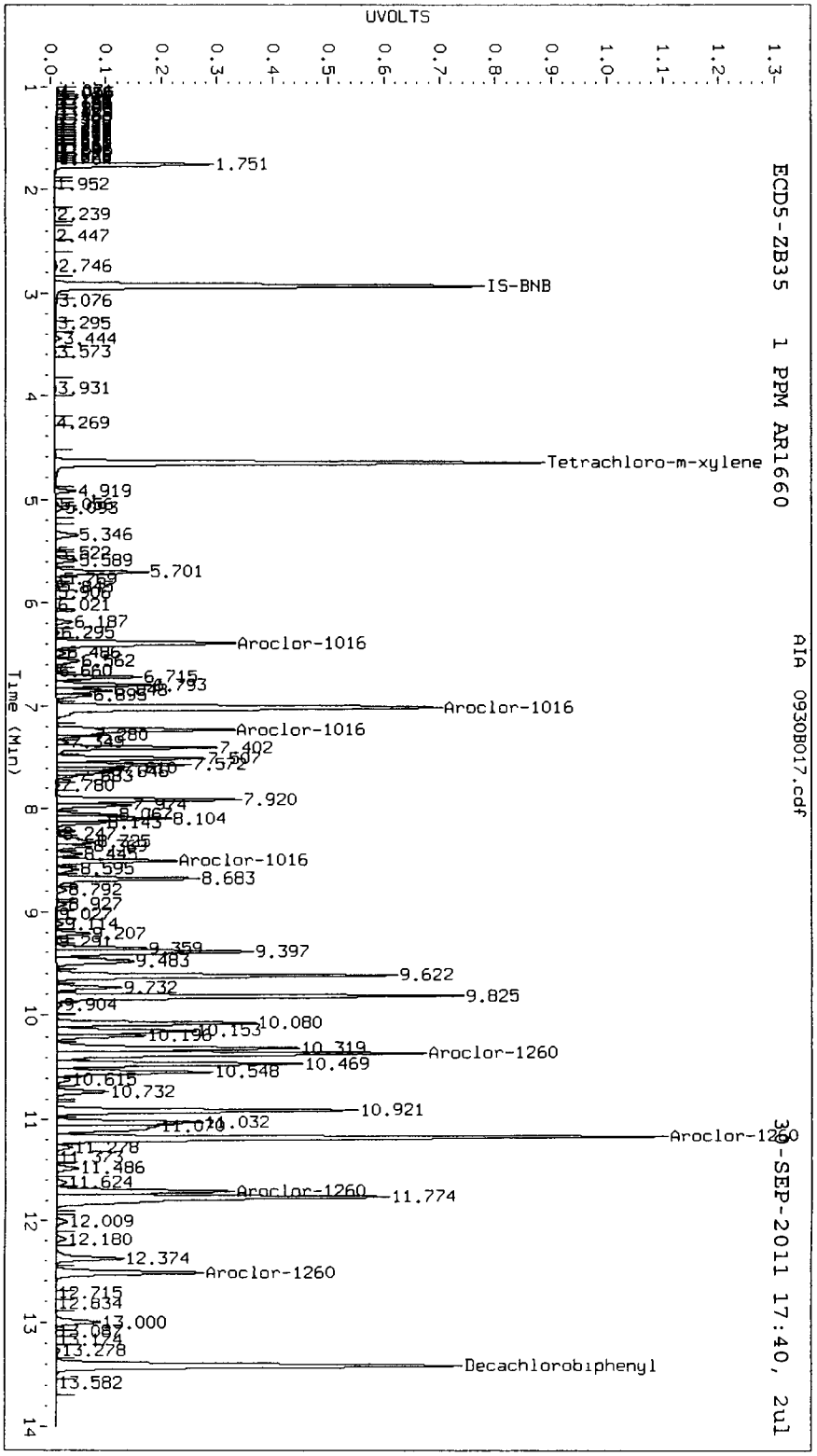
Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1016	1	6.281	0.001	40537721	743.1	1	6.394	0.001	41289219	767.1
Aroclor-1016	2	6.680	0.000	132031269	697.1	2	7.019	0.000	99126985	823.6
Aroclor-1016	3	6.827	0.000	54677264	717.2	3	7.226	0.000	35953587	778.5
Aroclor-1016	4	6.938	0.000	40454818	746.4	4	8.512	0.001	22440596	881.2
Total Col1Ave (4 peaks):				725.9		Total Col2Ave (4 peaks):			812.6	RPD = 11
Corrected Ave (3 peaks):				719.1		Corrected Ave (3 peaks):			789.8	RPD = 9
Aroclor-1260	1	10.487	0.001	102884090	755.9	1	10.373	0.001	77080986	818.5
Aroclor-1260	2	10.862	0.002	267286691	772.3	2	11.192	0.001	128143416	879.3
Aroclor-1260	3	11.261	0.001	154257242	775.7	3	11.714	0.001	37481793	840.8
Aroclor-1260	4	11.377	0.000	66478064	780.8	4	12.513	0.000	34901668	824.9
Aroclor-1260	5	11.451	0.001	79657494	796.4	NS	---			----
Total Col1Ave (5 peaks):				776.2		Total Col2Ave (4 peaks):			840.9	RPD = 8
Corrected Ave (4 peaks):				771.2		Corrected Ave (3 peaks):			828.1	RPD = 7

Total PCB Area Col1 (4.750 - 12.933) = 2884786994 Col1 Total PCB = 1.6 ppm*

Total PCB Area Col2 (4.758 - 13.317) = 1566365013 Col2 Total PCB = 1.7 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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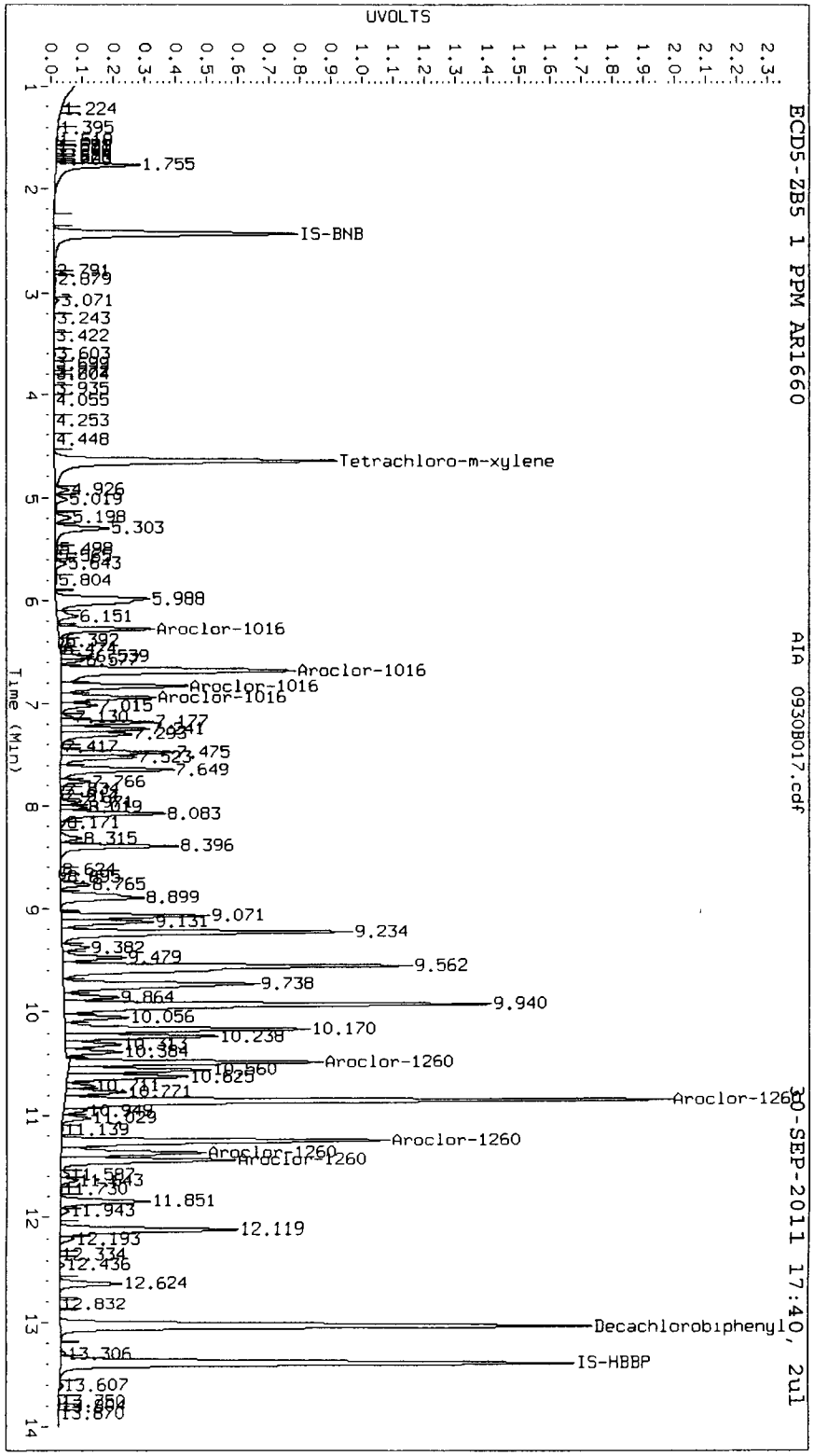
AIA 0930B017.cdf
30-SEP-2011 17:40, 2ul
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl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AIA 0930B017.cdf
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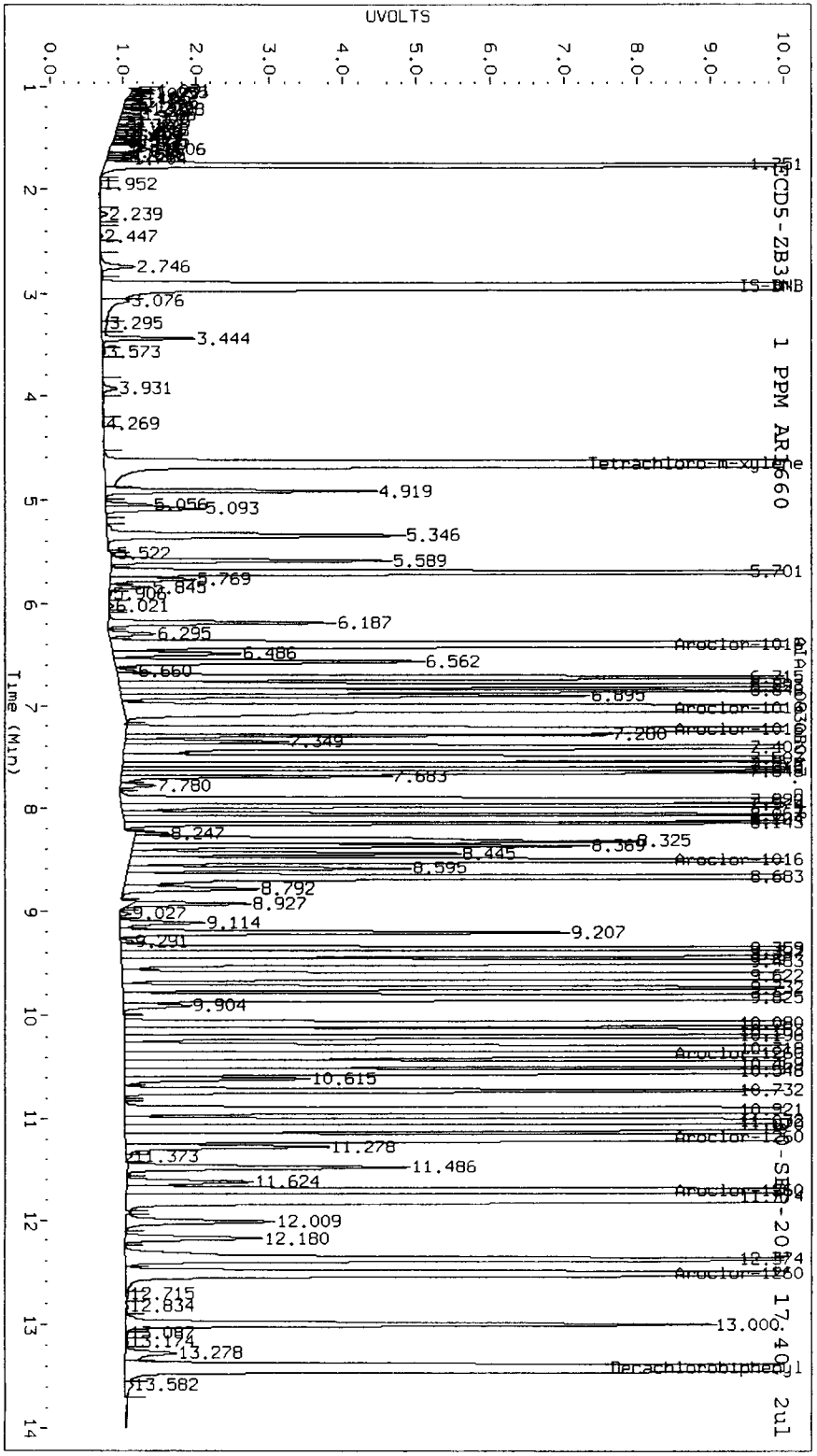
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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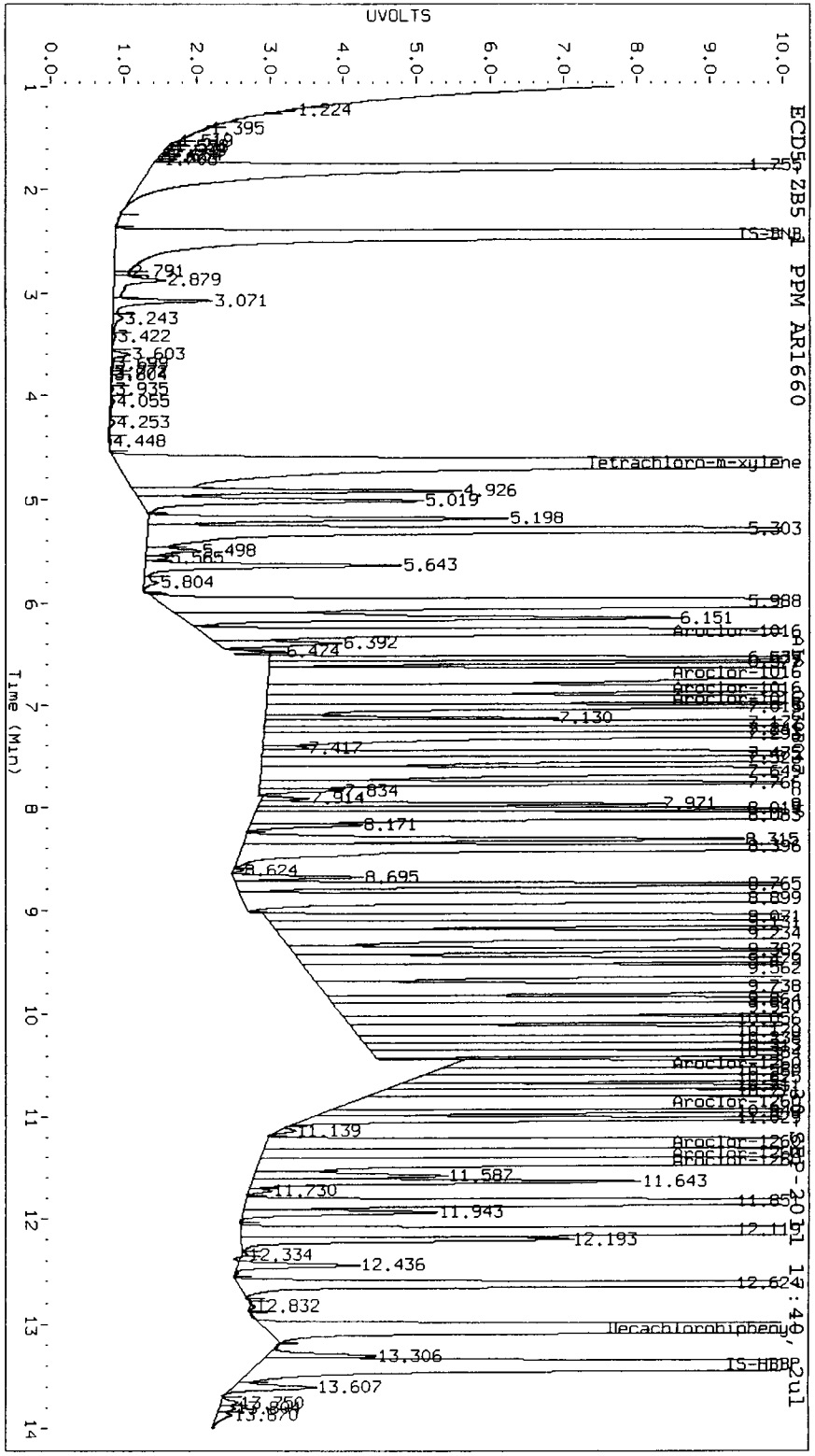
Time (Min)
ECD5-ZB3
1 PPM AR1660
Tetrachloro-m-xylene
Decachlorobiphenyl
2ul
17:40
Aroclor-1016
Aroclor-1260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Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
2ul
14:49
Aroclor-1016
Aroclor-1260

TQ80:00096

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B018.d
Data file 2: 20110930.B/ical-2.b/0930B018.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: 0.1 PPM AR1660
Client ID:
Injection Date: 30-SEP-2011 17:59
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.648	-0.002	18246903	4.656	-0.002	11820768	8.2	8.2	0.6	Tetrachloro-m-xylene
13.032	-0.001	34894646	13.416	-0.001	12581669	8.4	8.3	0.8	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	20.6	20.5
Decachlorobiphenyl	21.0	20.8

JK 10/06/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	128792057	7.9
Hexabromobiphenyl	247758184	261443126	5.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	95621183	4.8
Hexabromobiphenyl	103671329	108809586	5.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.280	0.000	6221769	104.4	1	6.393	-0.001	6077757	106.7
Aroclor-1016	2	6.679	-0.001	20644644	99.8	2	7.018	-0.001	13370894	104.9
Aroclor-1016	3	6.827	0.000	8411428	101.0	3	7.226	0.000	5152250	105.4
Aroclor-1016	4	6.937	-0.001	6165612	104.2	4	8.511	0.000	2749648	102.0
Total Col1Ave (4 peaks):				102.4		Total Col2Ave (4 peaks):			104.7	RPD = 2
Corrected Ave (3 peaks):				101.7		Corrected Ave (3 peaks):			104.1	RPD = 2
Aroclor-1260	1	10.484	-0.002	14853029	105.1	1	10.370	-0.002	10215370	104.7
Aroclor-1260	2	10.858	-0.002	37446830	104.2	2	11.191	0.000	15496170	102.6
Aroclor-1260	3	11.259	0.000	21787259	105.5	3	11.713	0.000	4567296	98.9
Aroclor-1260	4	11.375	-0.002	9307664	105.2	4	12.512	-0.001	4354578	99.3
Aroclor-1260	5	11.449	-0.001	10968554	105.6	NS	---			----
Total Col1Ave (5 peaks):				105.1		Total Col2Ave (4 peaks):			101.4	RPD = 4
Corrected Ave (4 peaks):				105.0		Corrected Ave (3 peaks):			100.3	RPD = 5

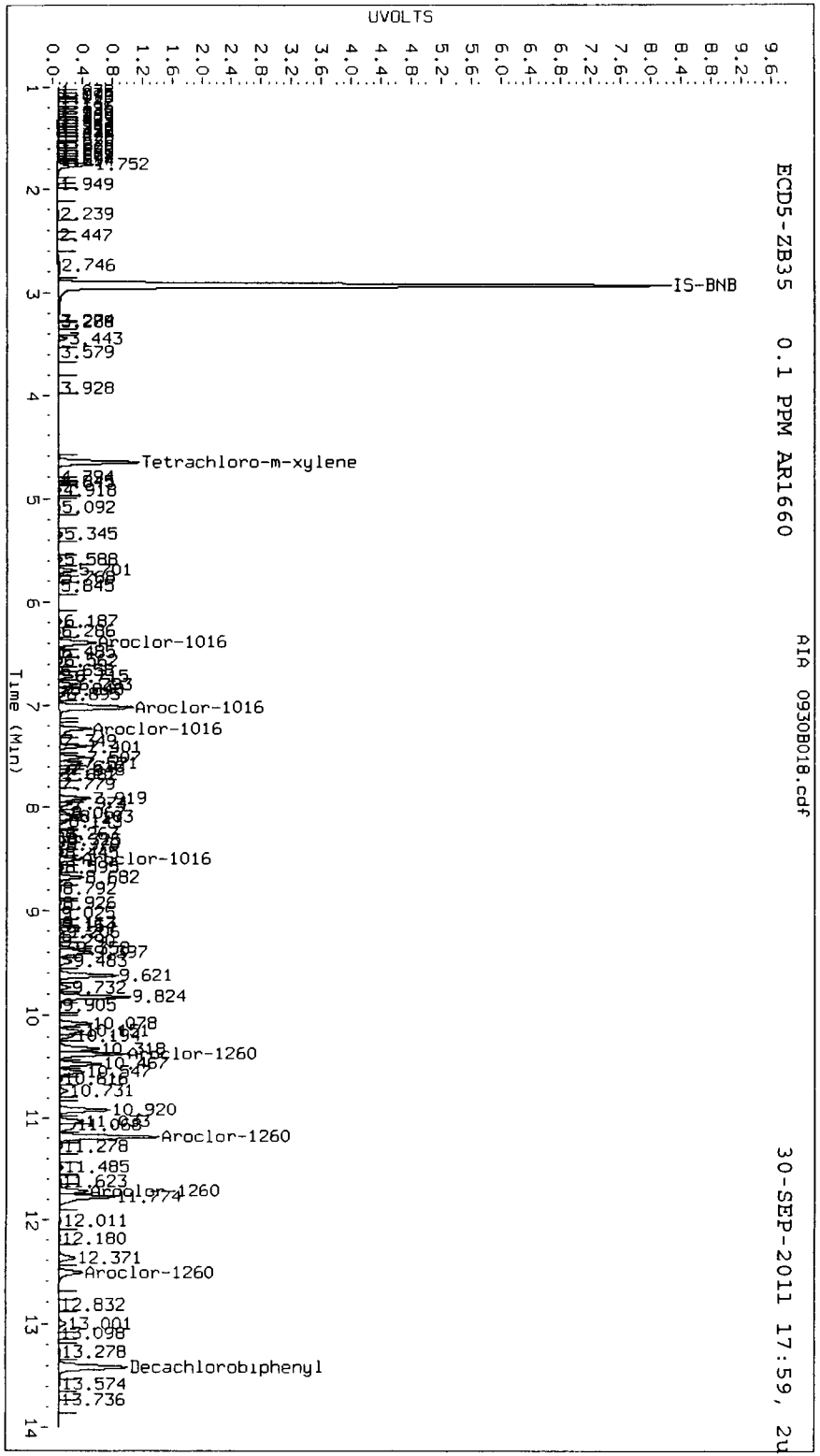
Total PCB Area Col1 (4.750 - 12.933) = 424554432 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (4.758 - 13.317) = 196345814 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

TQ80:00099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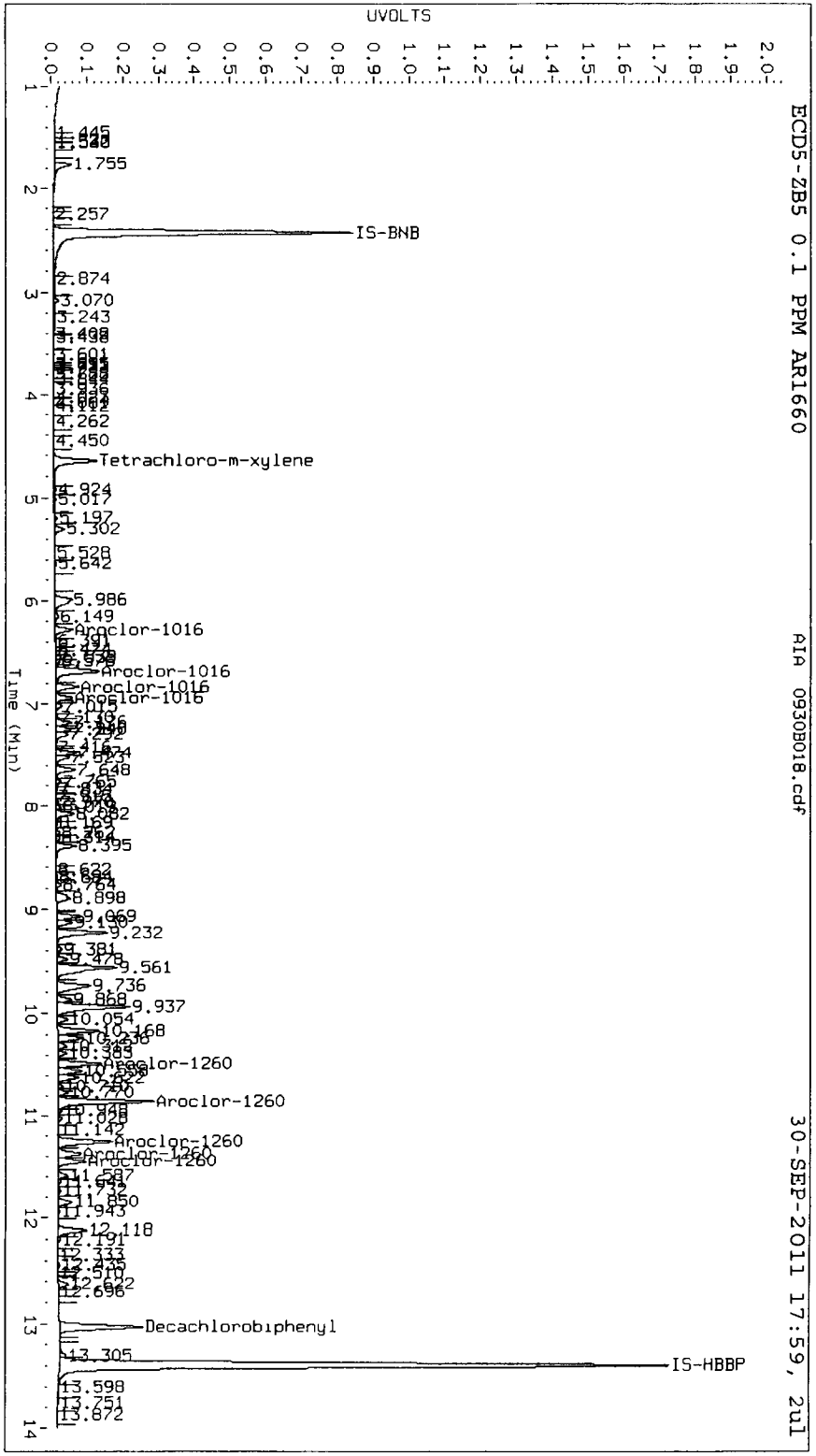
AIA 0930B018.cdf
30-SEP-2011 17:59, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl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AIA 0930B018.cdf
30-SEP-2011 17:59, 2ul
Time (Min)
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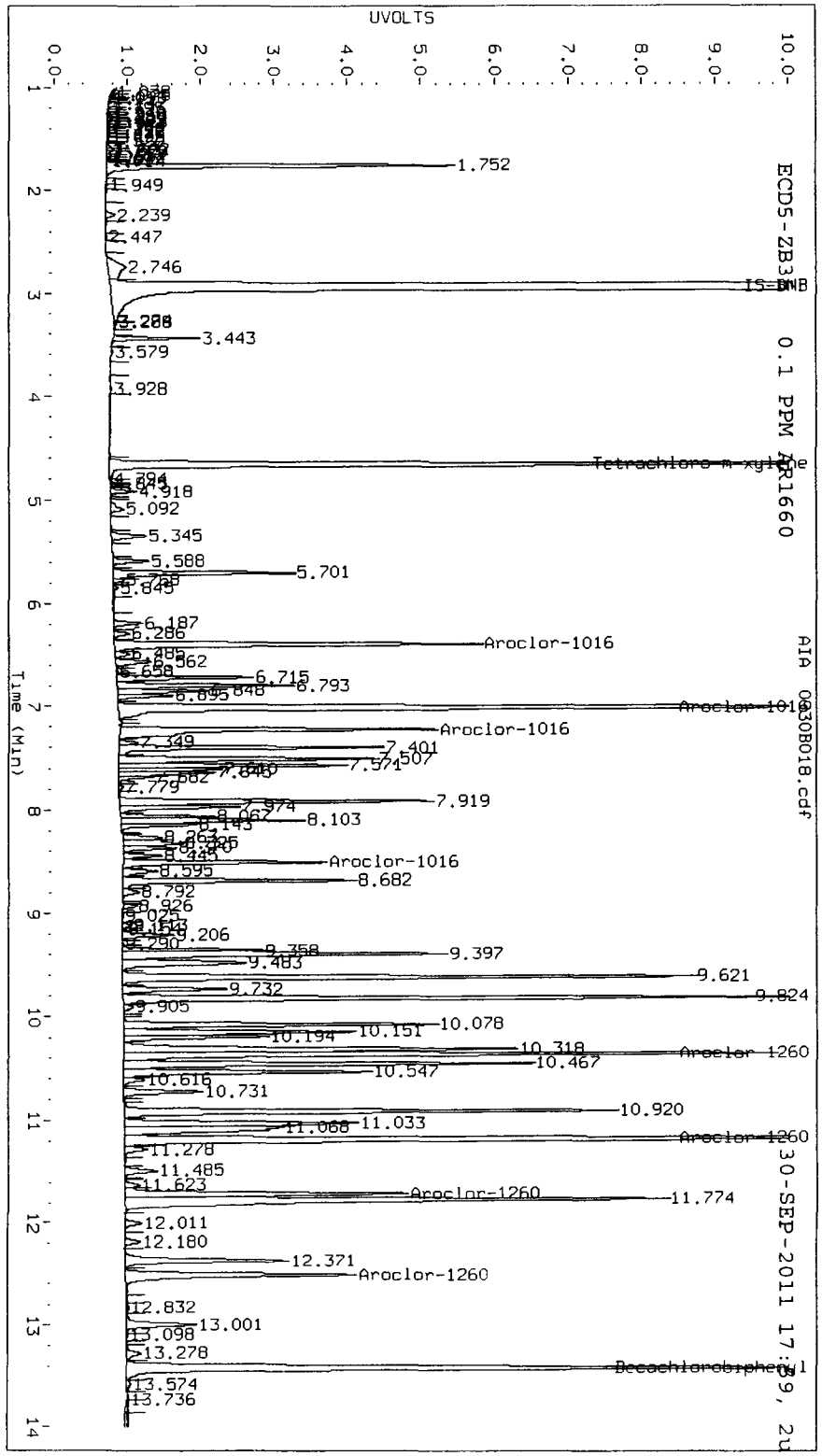
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP

TQ80:00100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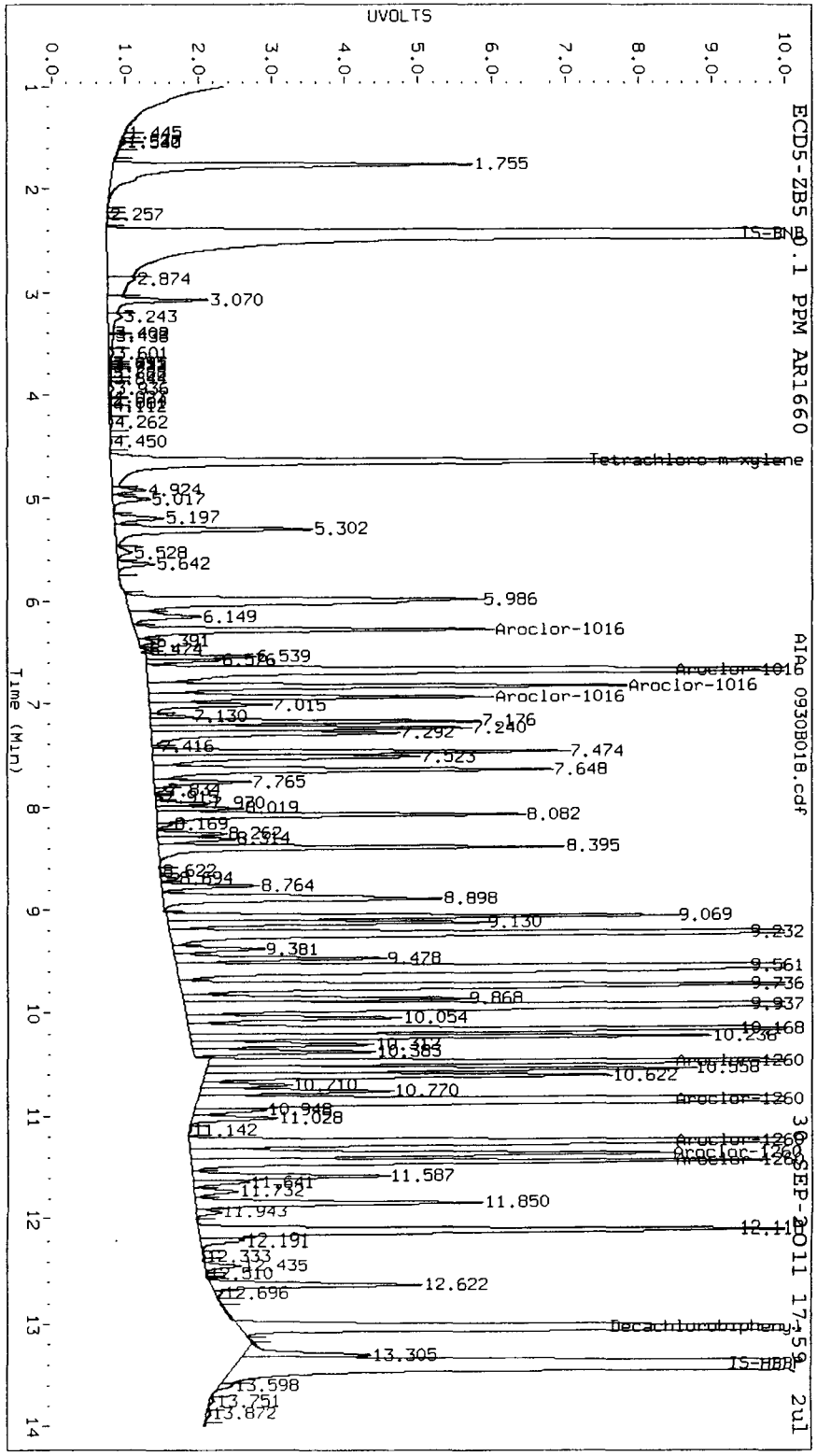
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl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0.1 PPM AR1660
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Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBB

TQ80:001101

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B019.d
Data file 2: 20110930.B/ical-2.b/0930B019.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: 0.5 PPM AR1660
Client ID:
Injection Date: 30-SEP-2011 18:18
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.650	0.000	77930559	4.658	0.000	54600100	37.2	39.2	5.2	Tetrachloro-m-xylene
13.033	0.000	137245405	13.416	-0.001	53282808	33.9	36.1	6.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	93.0	97.9
Decachlorobiphenyl	84.8	90.3

µ 10/26/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	121783479	2.1
Hexabromobiphenyl	247758184	254502664	2.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	92352253	1.2
Hexabromobiphenyl	103671329	106232077	2.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

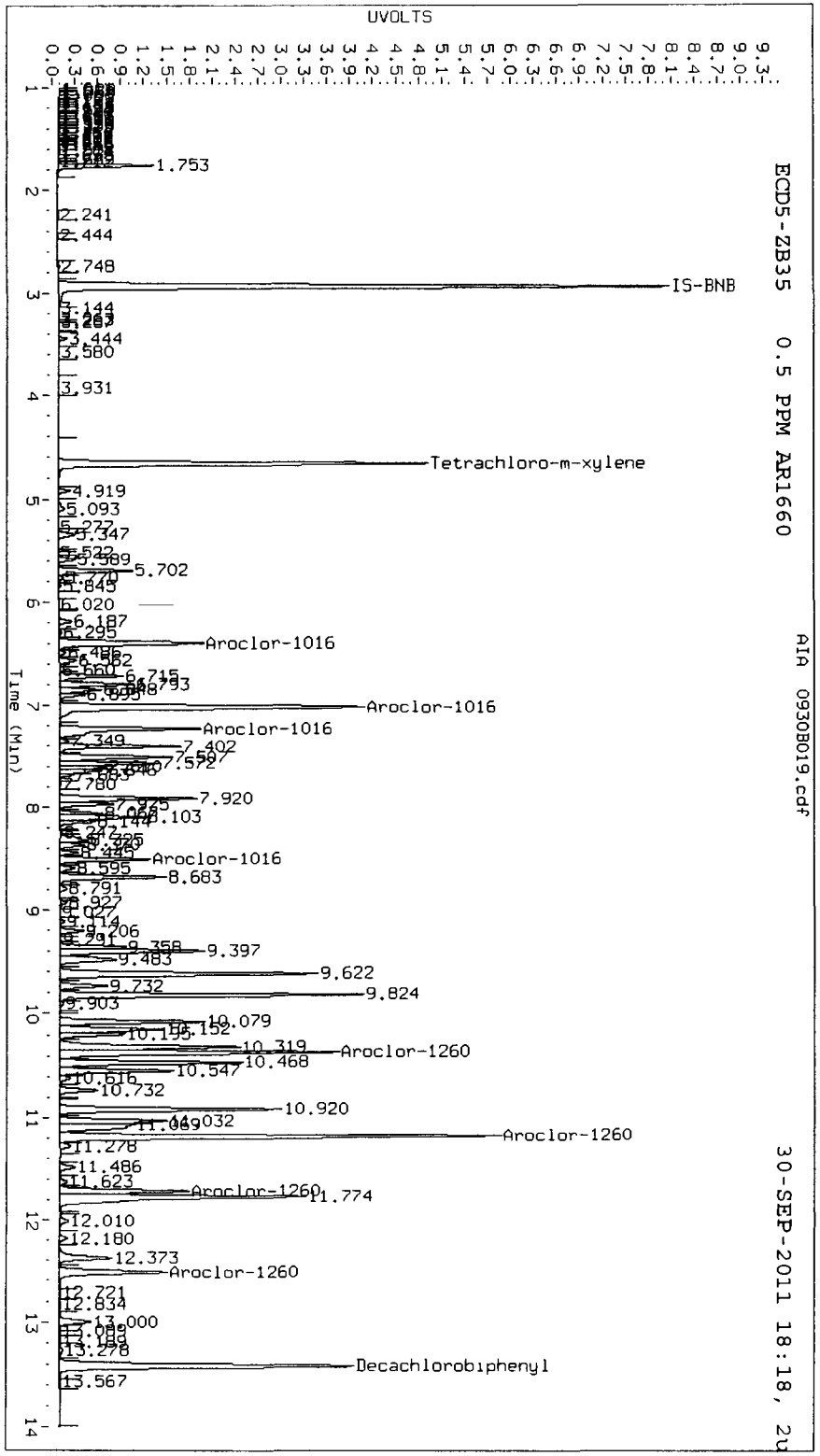
	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.280	0.000	23564593	418.3	1	6.393	0.000	23919060	434.6
Aroclor-1016	2	6.680	0.000	76256998	389.9	2	7.018	0.000	55860140	453.9
Aroclor-1016	3	6.827	0.000	31403841	398.9	3	7.226	0.000	22732637	481.4
Aroclor-1016	4	6.938	0.000	23489999	419.6	4	8.511	0.000	12027280	461.9
Total Col1Ave (4 peaks):				406.7		Total Col2Ave (4 peaks):			457.9	RPD = 12
Corrected Ave (3 peaks):				402.3		Corrected Ave (3 peaks):			450.1	RPD = 11
Aroclor-1260	1	10.486	0.000	57822076	420.2	1	10.372	0.000	41348356	434.0
Aroclor-1260	2	10.860	0.000	145480894	415.7	2	11.191	0.000	67697726	459.2
Aroclor-1260	3	11.260	0.000	85671658	426.1	3	11.713	0.000	19877866	440.8
Aroclor-1260	4	11.377	0.000	37151674	431.5	4	12.512	0.000	18516516	432.6
Aroclor-1260	5	11.450	0.000	44272790	437.7	NS	---			----
Total Col1Ave (5 peaks):				426.2		Total Col2Ave (4 peaks):			441.6	RPD = 4
Corrected Ave (4 peaks):				423.4		Corrected Ave (3 peaks):			435.8	RPD = 3

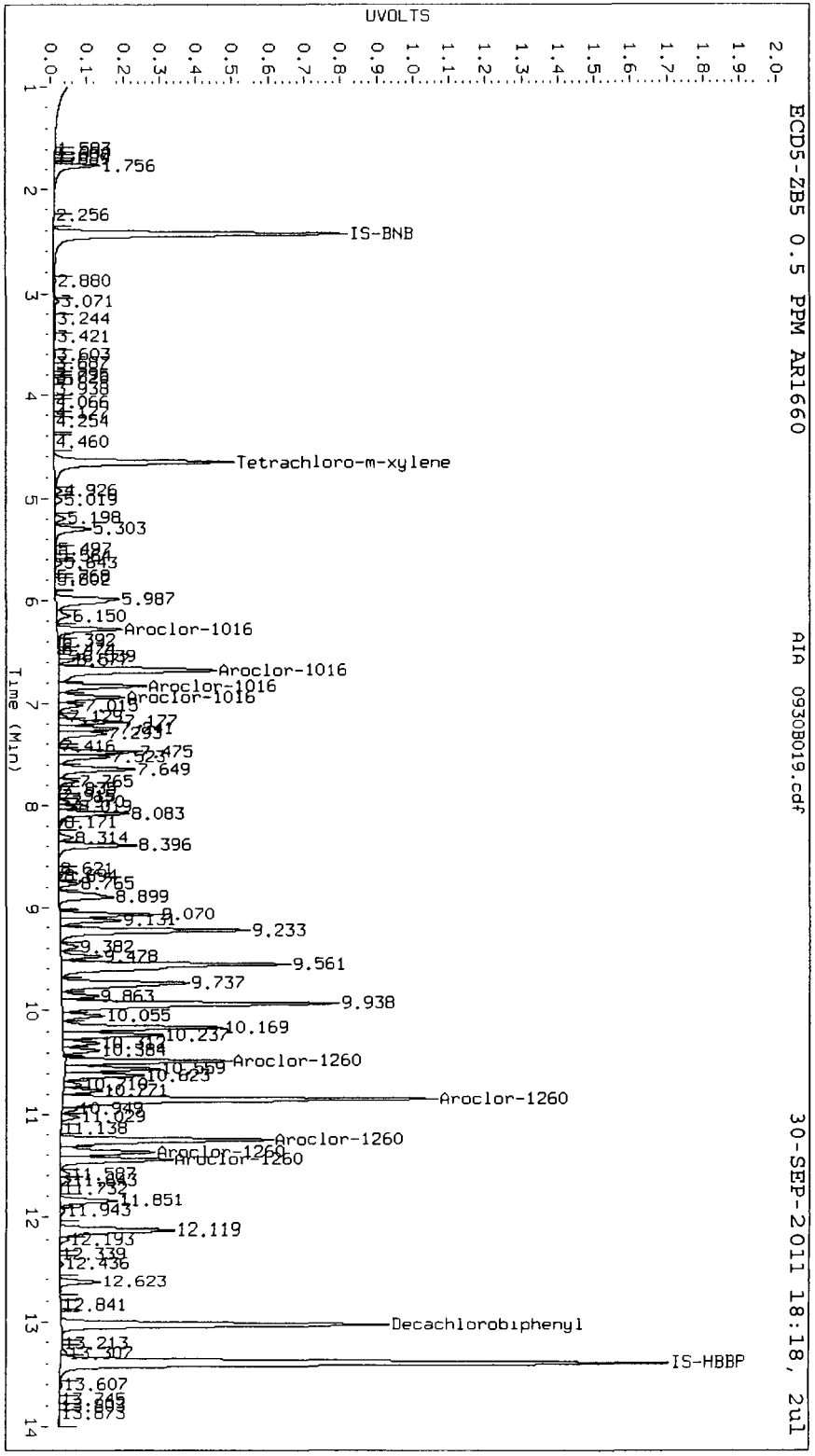
Total PCB Area Col1 (4.750 - 12.933) = 1624489512 Col1 Total PCB = 0.9 ppm*

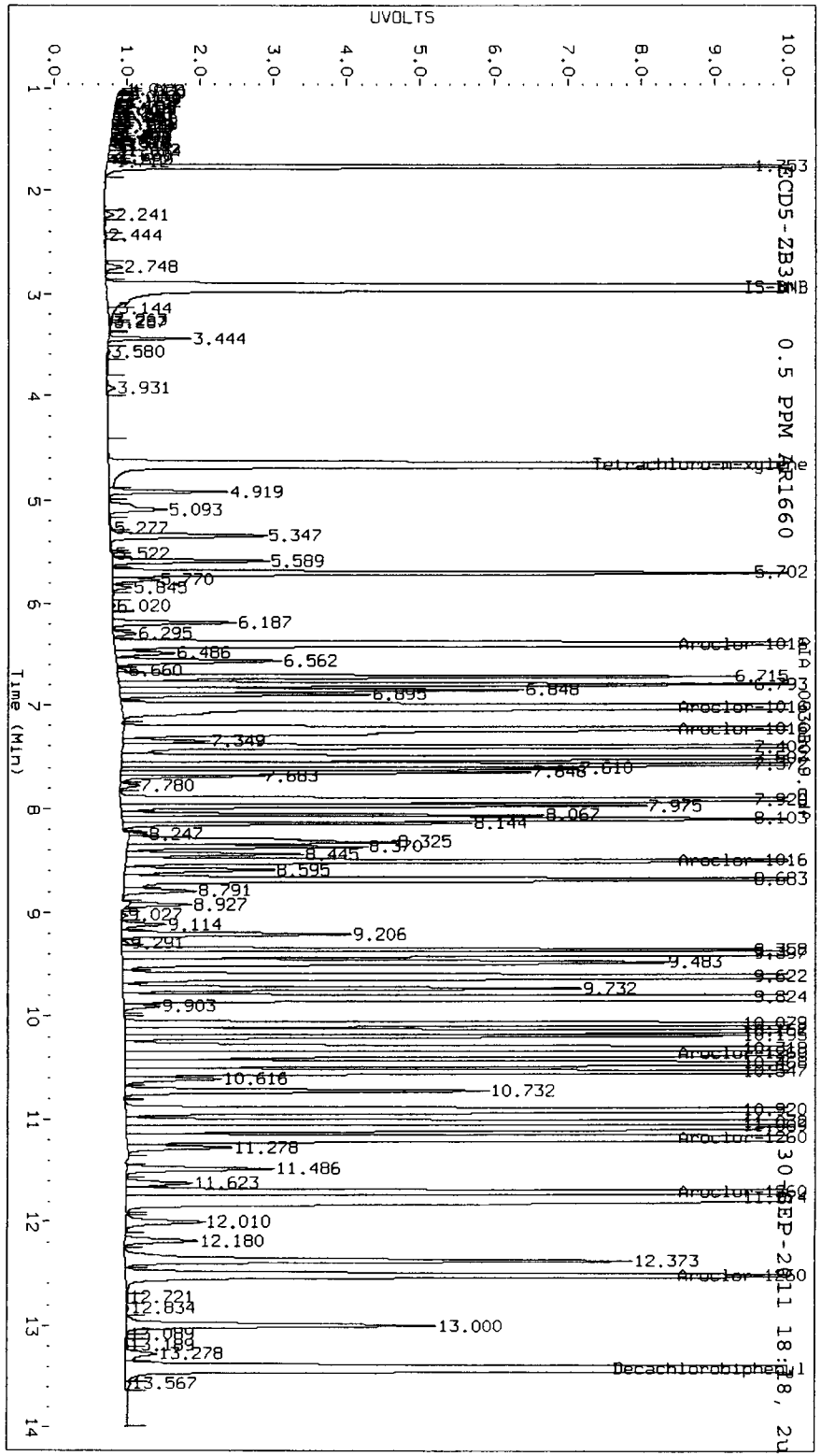
Total PCB Area Col2 (4.758 - 13.317) = 842270722 Col2 Total PCB = 0.9 ppm*

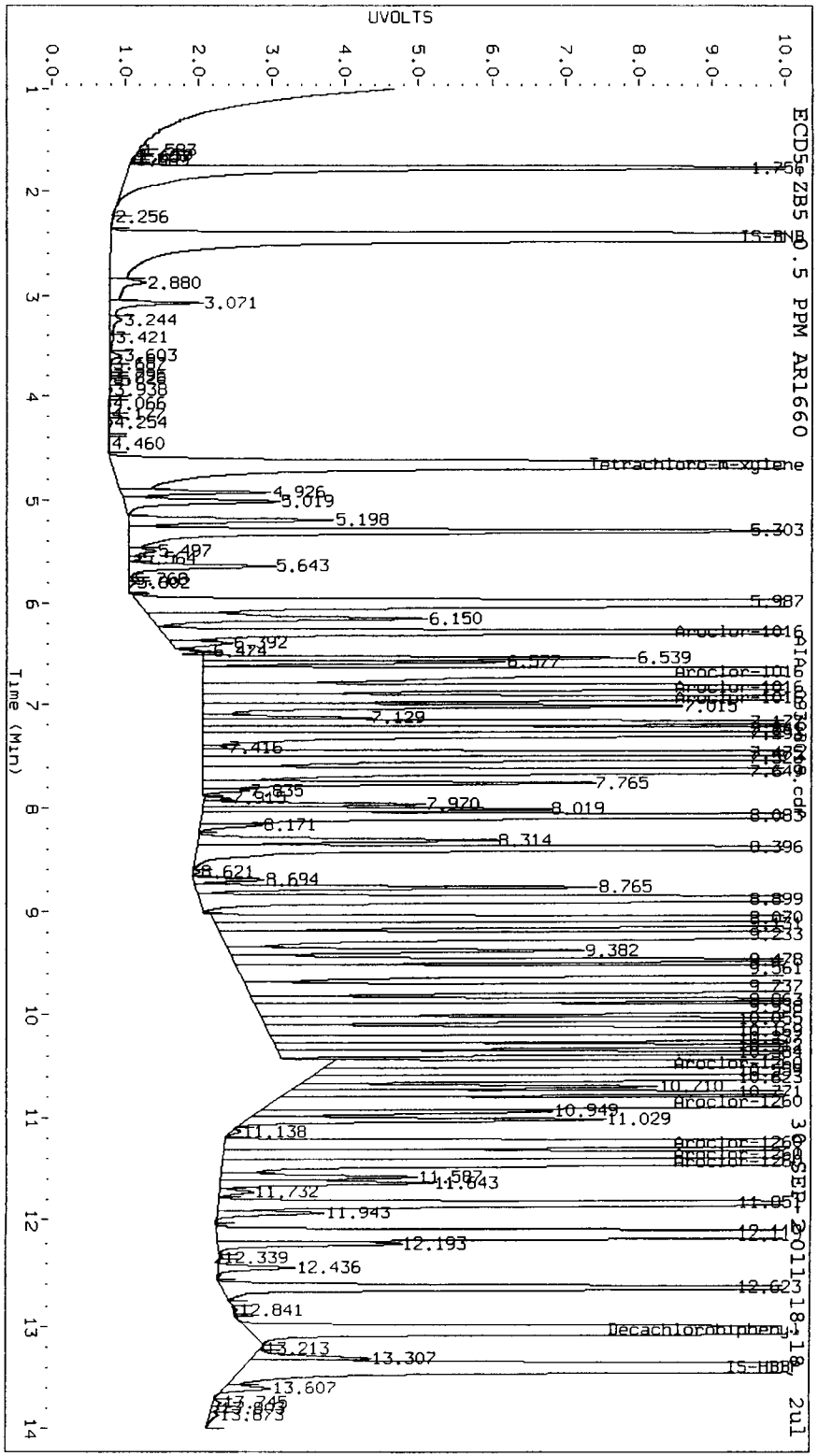
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.


UVOLTS
ECD5-ZB35 0.5 PPM AR1660
AIA 0930B019.cdf
30-SEP-2011 18:18, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl


UVOLTS
ECD5-ZB5 0.5 PPM AR1660
AIA 0930B019.cdf
30-SEP-2011 18:18, 2ul
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP


UVOLTS
Time (Min)
ECD5-ZB3
0.5 PPM AR1660
30-SEP-2011 18:18, 2ul
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl


UVOLTS
Time (Min)
ECD5e ZB5
0.5 PPM AR1660
30-SEP-2011 18:18, 2ul
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP

TQ80:00106

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B020.d
Data file 2: 20110930.B/ical-2.b/0930B020.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: AR1242
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242
Client ID:
Injection Date: 30-SEP-2011 18:37
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.649	-0.001	42266409	4.657	-0.001	28953484	20.1	20.7	2.9	Tetrachloro-m-xylene
13.032	-0.001	72399248	13.416	-0.001	27334415	17.8	18.4	3.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

10/06/11

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	50.3	51.7
Decachlorobiphenyl	44.6	46.0

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	122192308	2.4
Hexabromobiphenyl	247758184	255299258	3.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	92665769	1.5
Hexabromobiphenyl	103671329	106924100	3.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
	ZB5 Col					ZB35 Col				
Aroclor-1242	1	6.280	0.000	10883578	250.0	1	6.393	0.000	10806537	250.0
Aroclor-1242	2	6.680	0.000	35750934	250.0	2	7.018	0.000	24343646	250.0
Aroclor-1242	3	6.827	0.000	14494629	250.0	3	7.227	0.000	9590730	250.0
Aroclor-1242	4	8.019	0.000	14367478	250.0	4	8.370	0.000	8694403	250.0

Total Col1Ave (4 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0

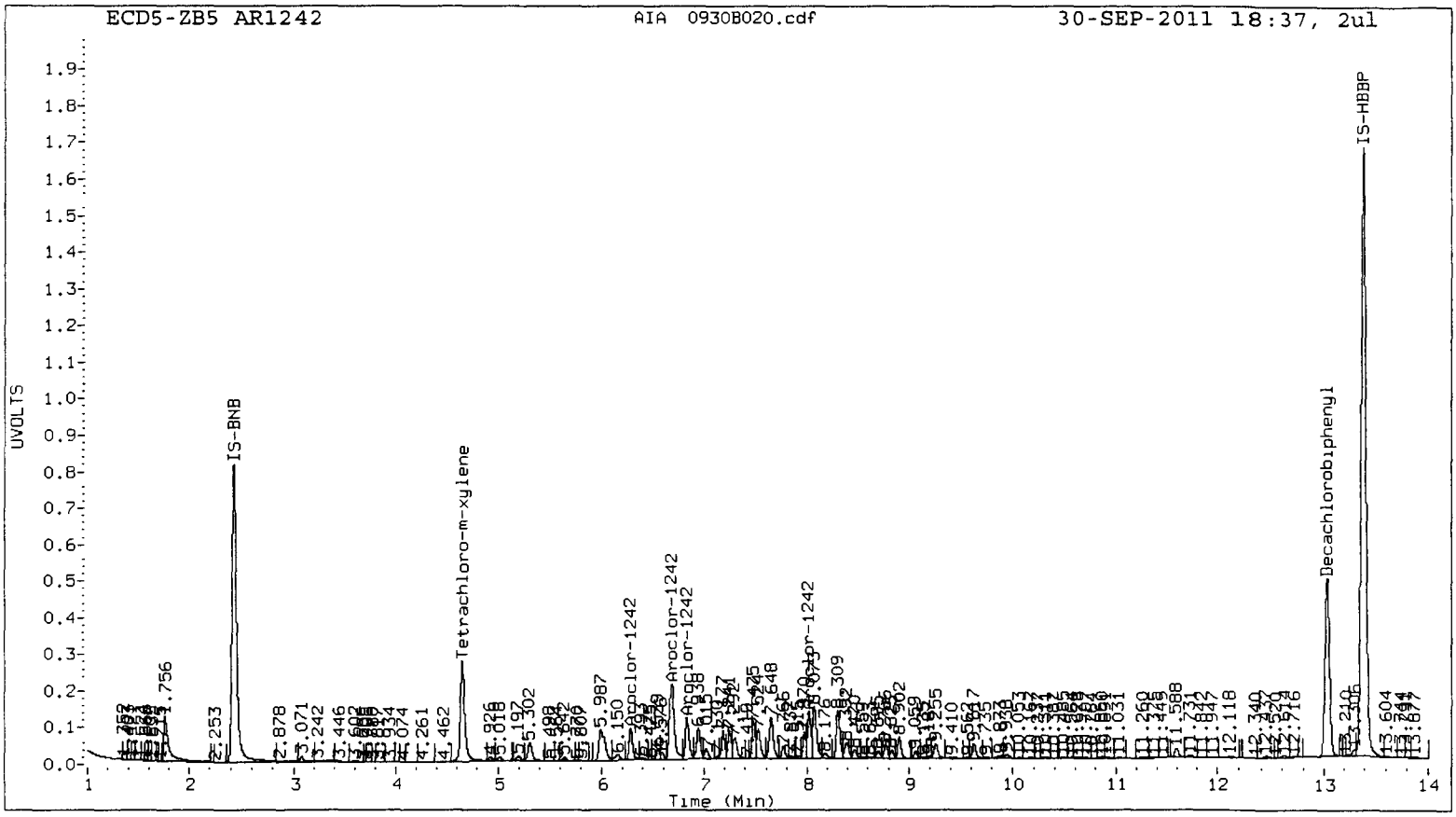
Corrected Ave (3 peaks): 250.0 Corrected Ave (3 peaks): 250.0 RPD = 0

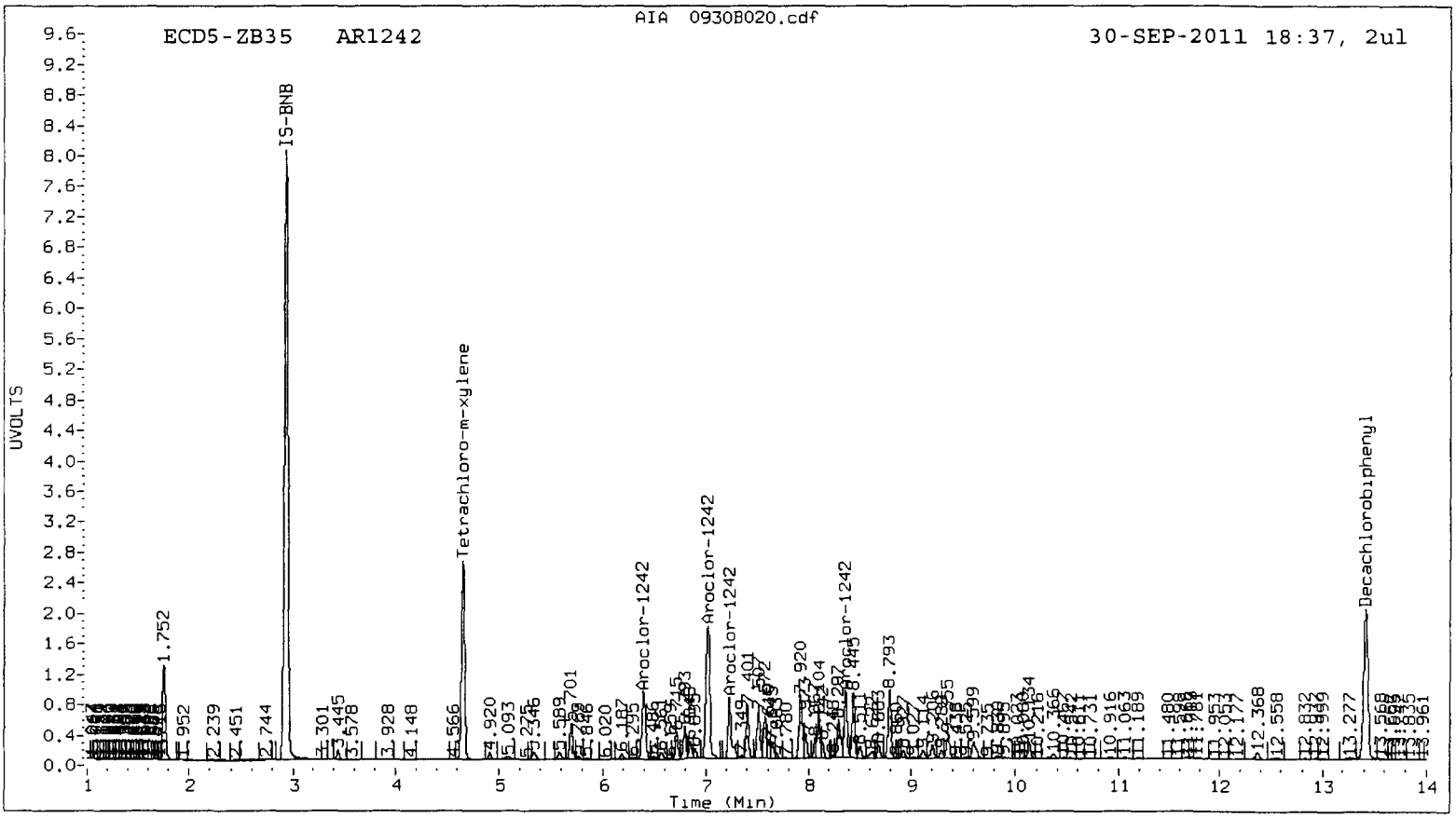
Total PCB Area Col1 (4.750 - 12.933) = 298270256 Col1 Total PCB = 0.2 ppm*

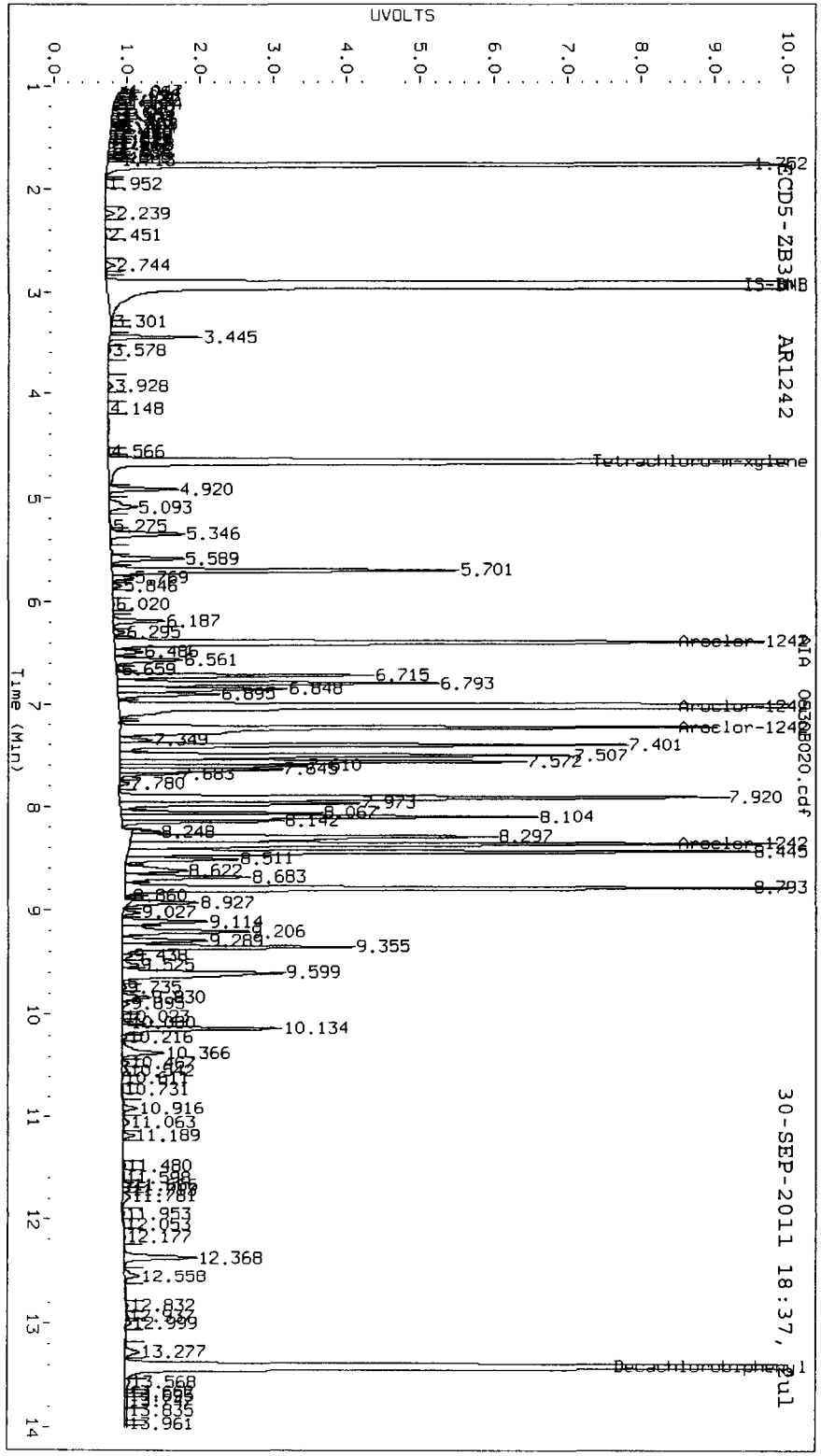
Total PCB Area Col2 (4.758 - 13.317) = 173660190 Col2 Total PCB = 0.2 ppm*

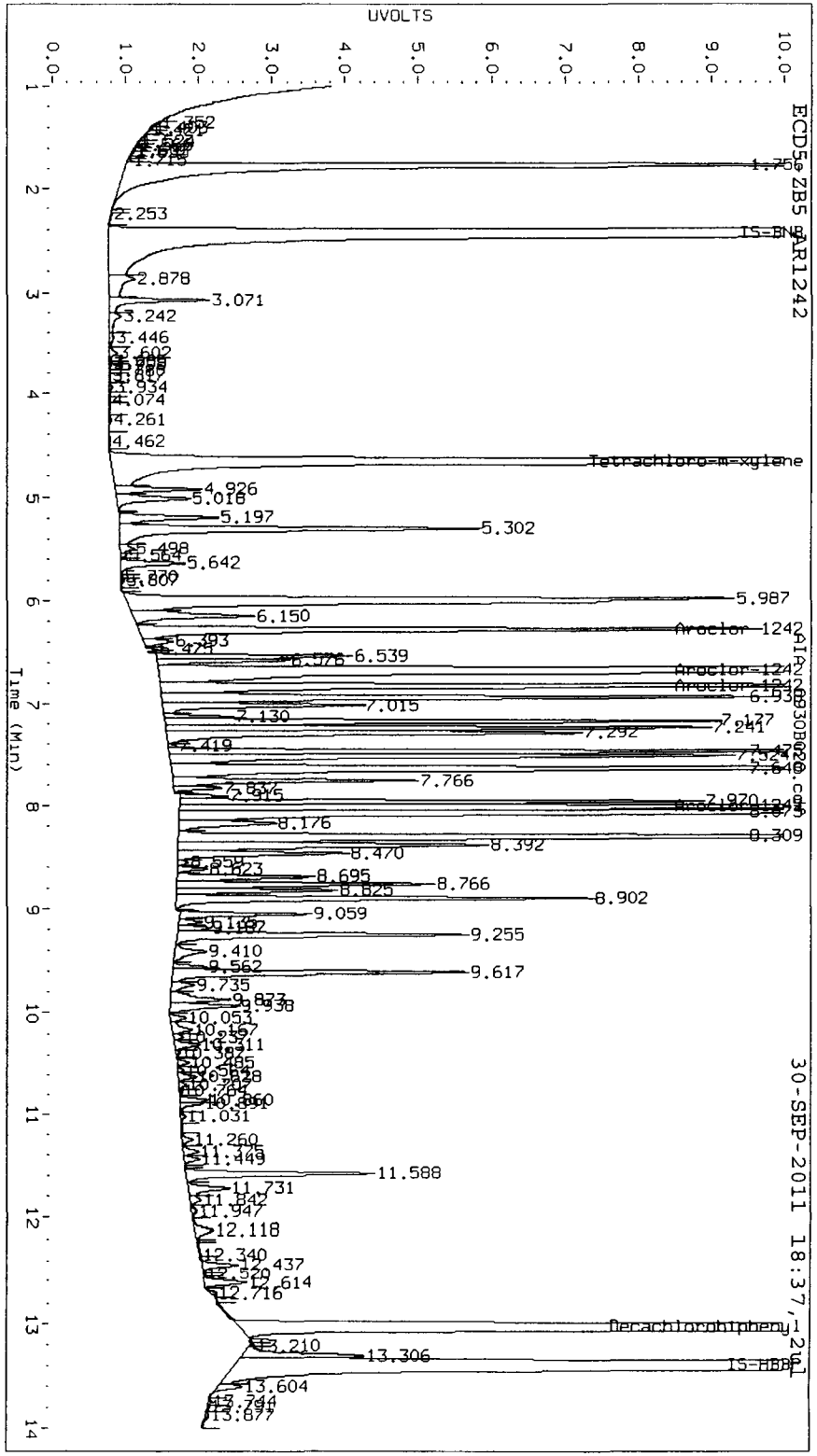
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.


ECD5-ZB5 AR1242
AIA 0930B020.cdf
30-SEP-2011 18:37, 2ul
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1242
Decachlorobiphenyl
IS-HBBP


ECD5-ZB35 AR1242
AIA 0930B020.cdf
30-SEP-2011 18:37, 2ul
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1242
Decachlorobiphenyl


UVOLTS
ECD5-ZB3
AR1242
AIA 0630B020.cdf
30-SEP-2011 18:37,
Tetrachloro-m-xylene
Aroclor-1242
Decachlorobiphenyl
Time (Min)


UVOLTS
ECD5-ZB5
AR1242
AIA 0630B020.cdf
30-SEP-2011 18:37,
Tetrachloro-m-xylene
Aroclor-1242
Decachlorobiphenyl
IS-HBBP
Time (Min)

TQ80:00110

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B021.d
Data file 2: 20110930.B/ical-2.b/0930B021.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: AR1248
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248
Client ID:
Injection Date: 30-SEP-2011 18:56
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.649	-0.001	43394679	4.656	-0.002	29835716	20.4	21.1	3.2	Tetrachloro-m-xylene
13.032	-0.001	74672500	13.415	-0.002	28204442	18.2	18.7	3.0	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

pr 10/06/11

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.0	52.7
Decachlorobiphenyl	45.4	46.8

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	123657838	3.6
Hexabromobiphenyl	247758184	258597123	4.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	93803662	2.8
Hexabromobiphenyl	103671329	108452389	4.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1248	1	7.177	0.000	16410673	250.0	1	7.506	0.000	11195763	250.0
Aroclor-1248	2	7.475	0.000	18587971	250.0	2	7.920	0.000	12978523	250.0
Aroclor-1248	3	8.020	0.000	23340871	250.0	3	8.370	0.000	14446698	250.0
Aroclor-1248	4	8.310	0.000	23306520	250.0	4	8.793	0.000	15664435	250.0

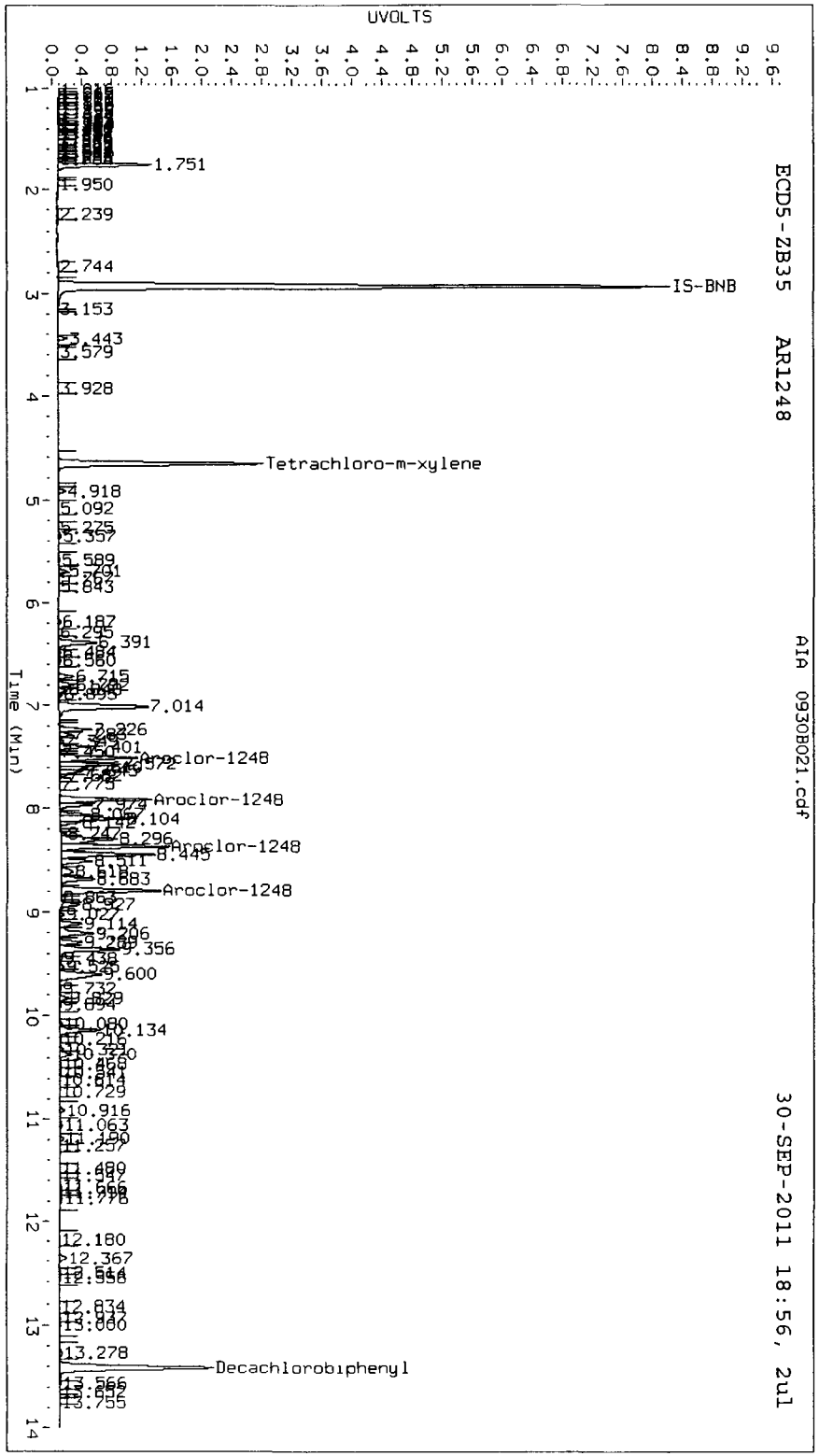
Total Col1Ave (4 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0

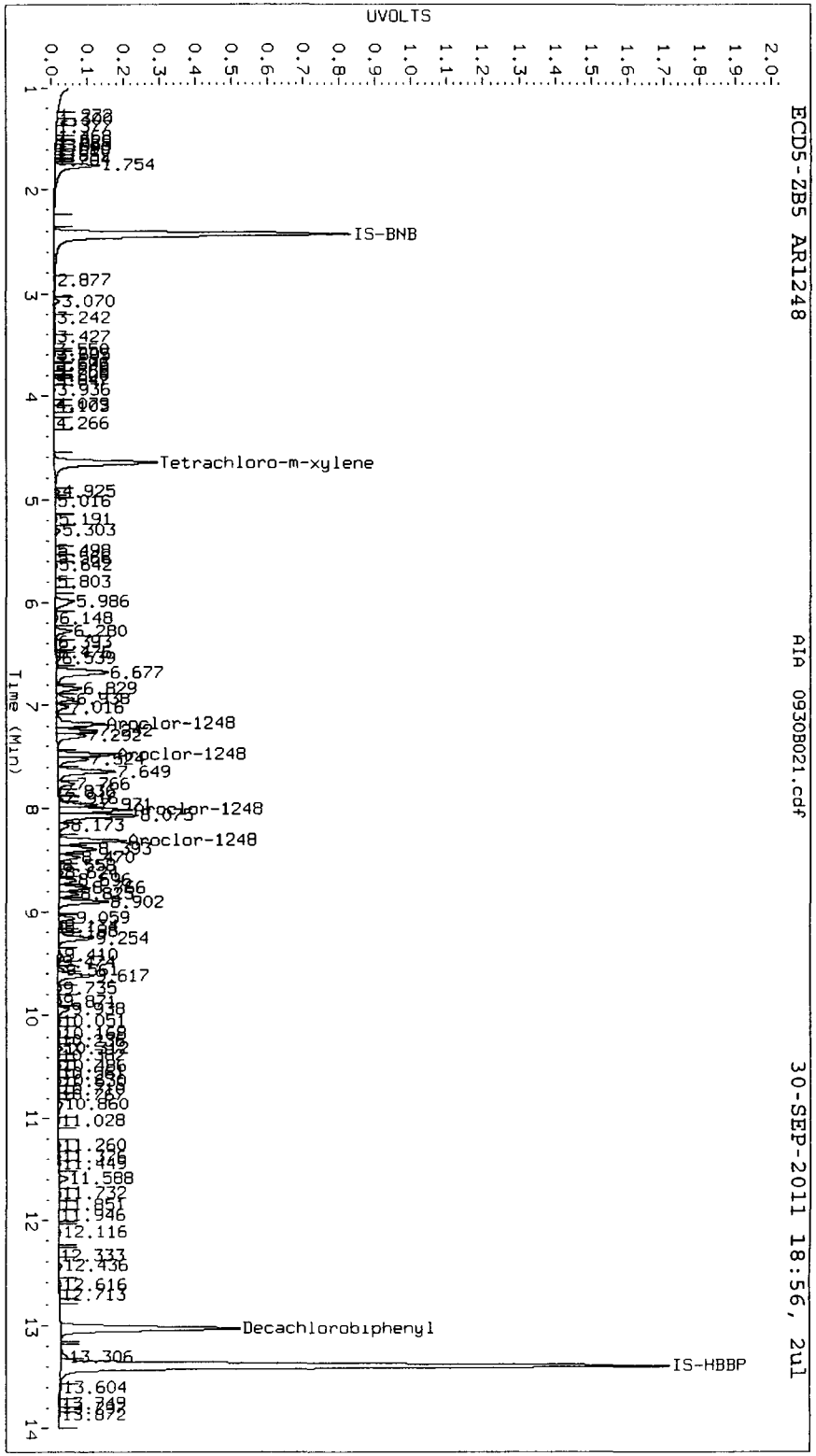
Corrected Ave (3 peaks): 250.0 Corrected Ave (3 peaks): 250.0 RPD = 0

Total PCB Area Col1 (4.750 - 12.933) = 389902822 Col1 Total PCB = 0.2 ppm*

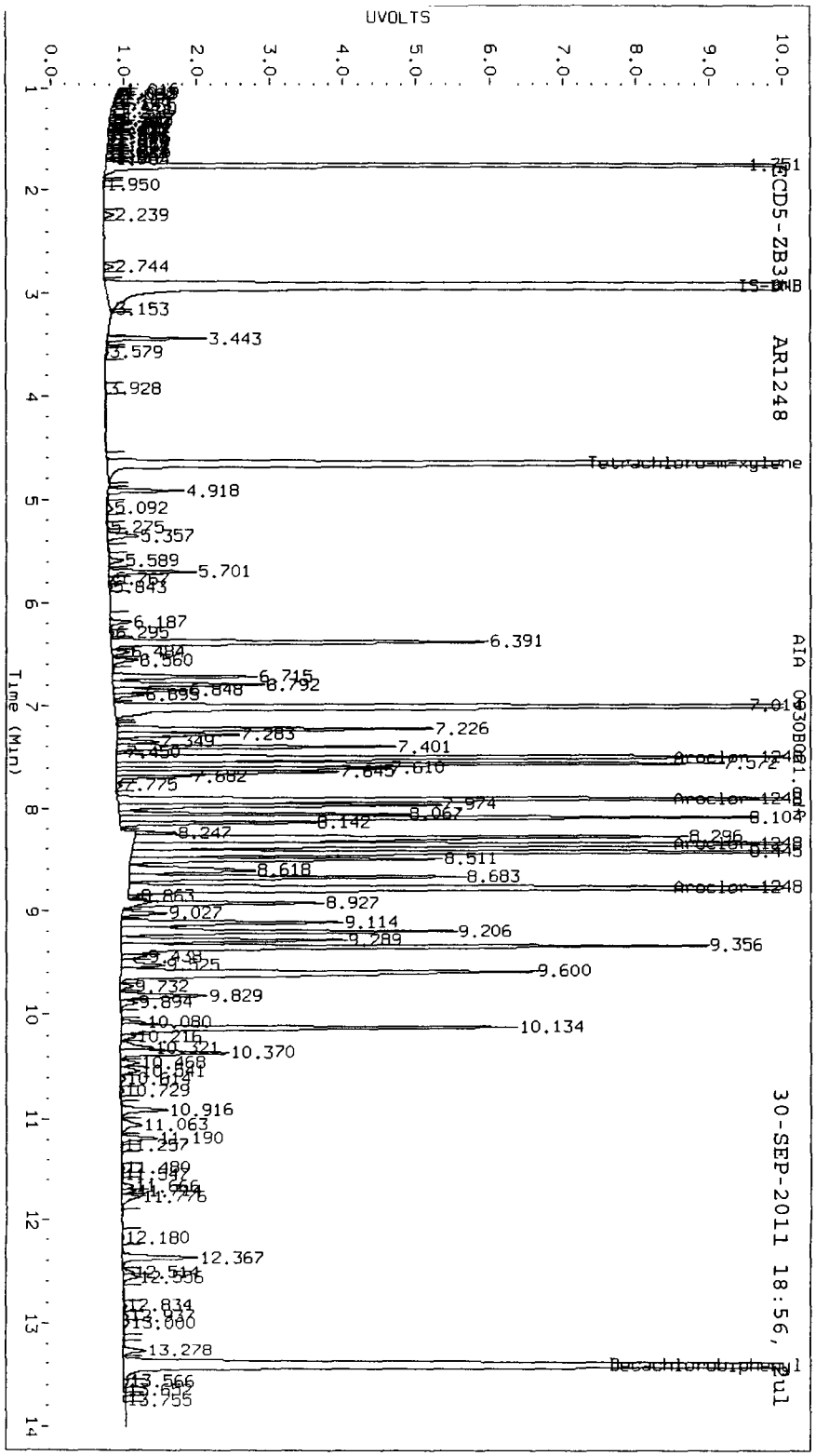
Total PCB Area Col2 (4.758 - 13.317) = 214258931 Col2 Total PCB = 0.2 ppm*

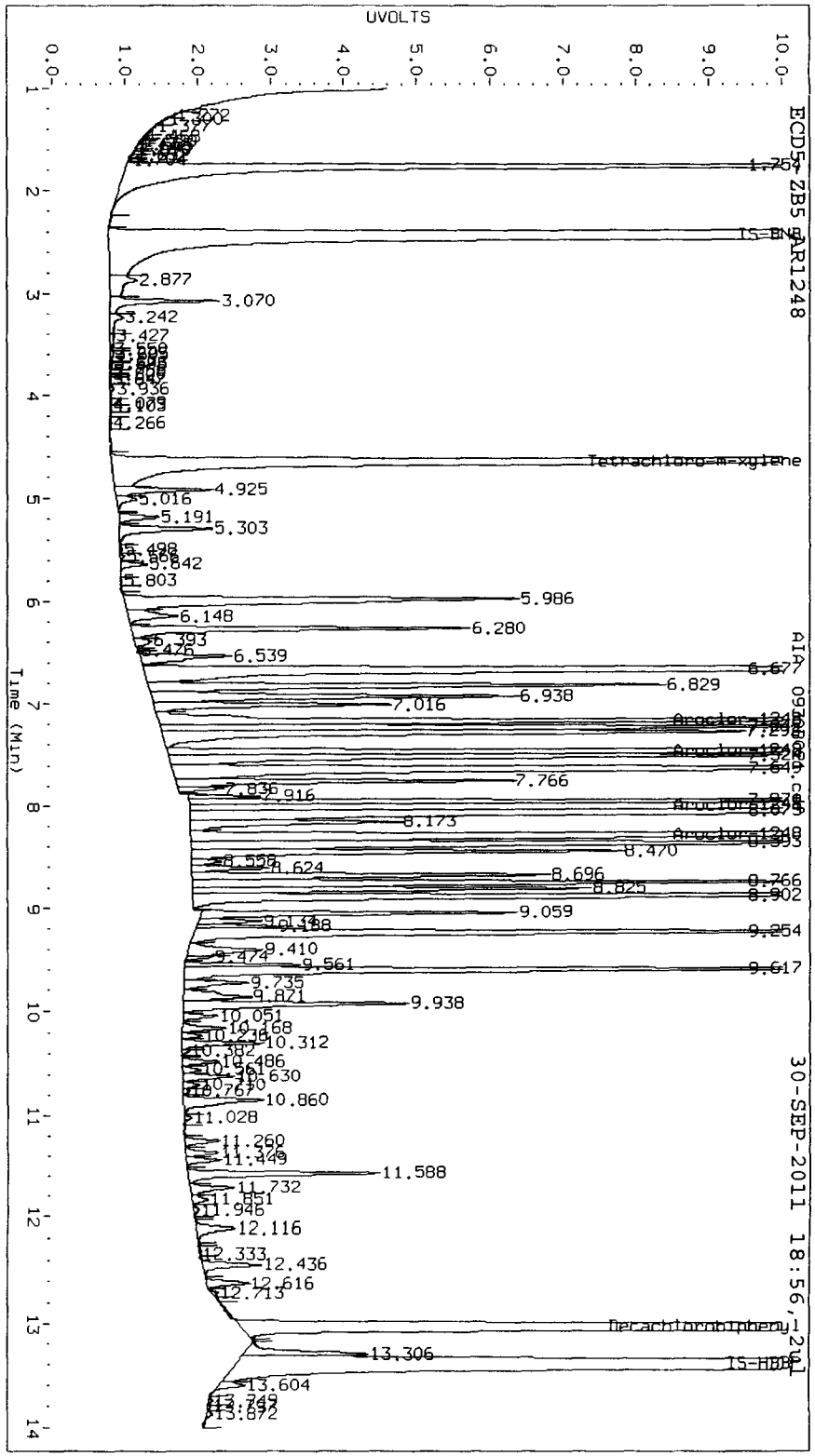
* Quantitated against AR1660 0.25ppm in Ical


UVOLTS
ECD5-ZB35 AR1248
AIA 0930B021.cdf
30-SEP-2011 18:56, 2ul
Time (Min)
1.751
IS-BNB
Tetrachloro-m-xylene
7.014
Aroclor-1248
Decachlorobiphenyl


UVOLTS
ECD5-ZB5 AR1248
AIA 0930B021.cdf
30-SEP-2011 18:56, 2ul
Time (Min)
1.754
IS-BNB
Tetrachloro-m-xylene
6.677
Aroclor-1248
Decachlorobiphenyl
IS-HBBP

TQ80:091113


UVOLTS
ECD5-ZB3
AR1248
AIA 0930BC01.cdf
30-SEP-2011 18:56,
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1248
Decachlorobiphenyl


UVOLTS
ECD5-ZB5
AR1248
AIA 0930BC01.cdf
30-SEP-2011 18:56,
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBB

TQ80:00114

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B022.d
Data file 2: 20110930.B/ical-2.b/0930B022.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: AR1254
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254
Client ID:
Injection Date: 30-SEP-2011 19:15
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.649	-0.001	42505489	4.656	-0.002	29432791	19.7	20.5	3.8	Tetrachloro-m-xylene
13.032	0.000	73669754	13.416	0.000	27944900	17.7	18.3	3.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

10/26/11

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	49.3	51.2
Decachlorobiphenyl	44.3	45.8

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	125249878	5.0
Hexabromobiphenyl	247758184	261836582	5.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	95179929	4.3
Hexabromobiphenyl	103671329	109986239	6.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1254	1	8.394	0.000	37885108	250.0	1	8.511	0.000	12805787	250.0
Aroclor-1254	2	8.765	0.000	26073020	250.0	2	8.683	0.000	16689992	250.0
Aroclor-1254	3	8.902	0.000	46850459	250.0	3	9.206	0.000	13423897	250.0
Aroclor-1254	4	9.250	0.000	53413170	250.0	4	9.357	0.000	28777866	250.0
Aroclor-1254	5	9.612	0.000	35257764	250.0	5	10.138	0.000	17851327	250.0

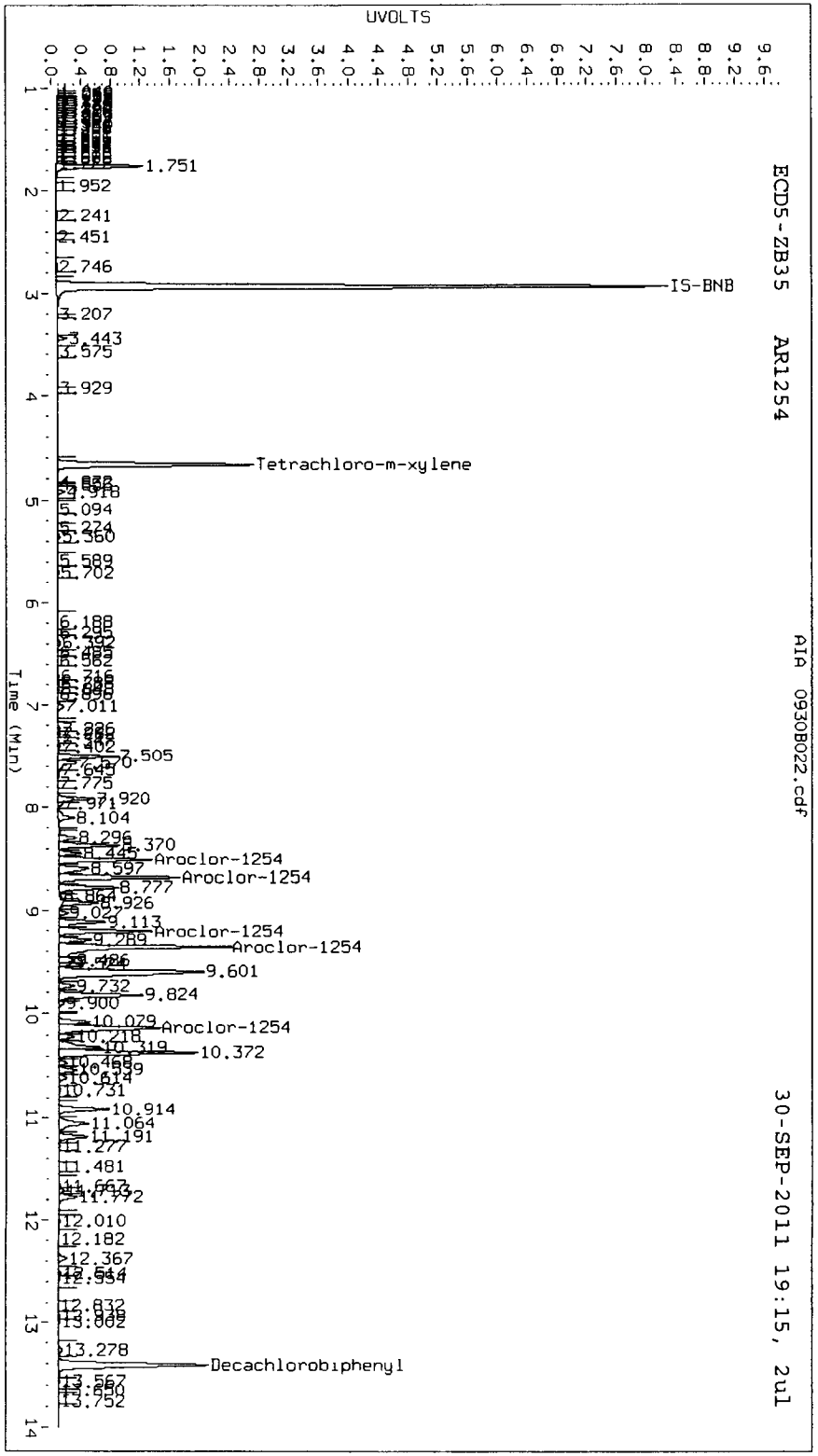
Total Col1Ave (5 peaks): 250.0 Total Col2Ave (5 peaks): 250.0 RPD = 0

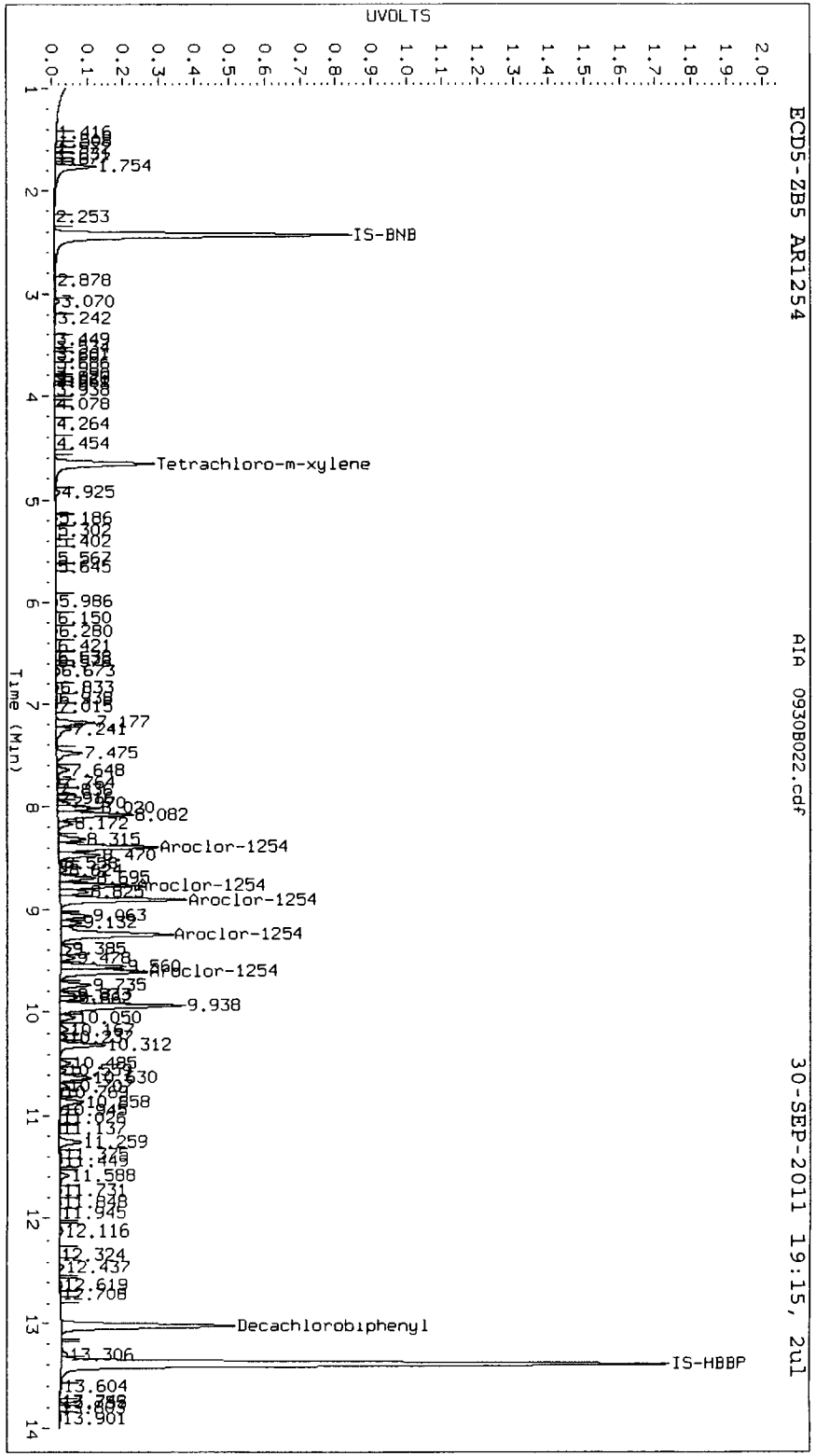
Corrected Ave (4 peaks): 250.0 Corrected Ave (4 peaks): 250.0 RPD = 0

Total PCB Area Col1 (4.750 - 12.933) = 545966871 Col1 Total PCB = 0.3 ppm*

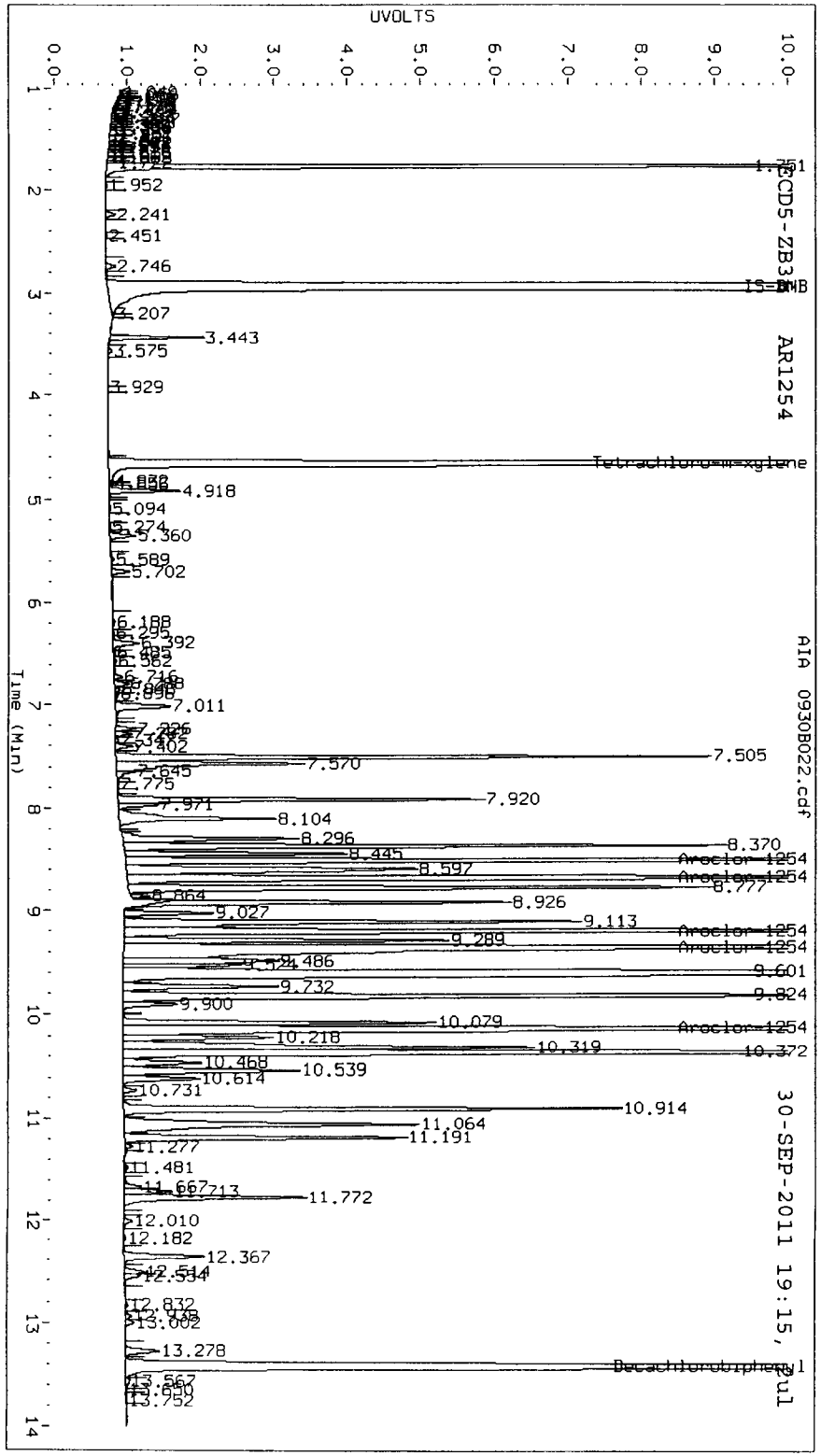
Total PCB Area Col2 (4.758 - 13.317) = 274965714 Col2 Total PCB = 0.3 ppm*

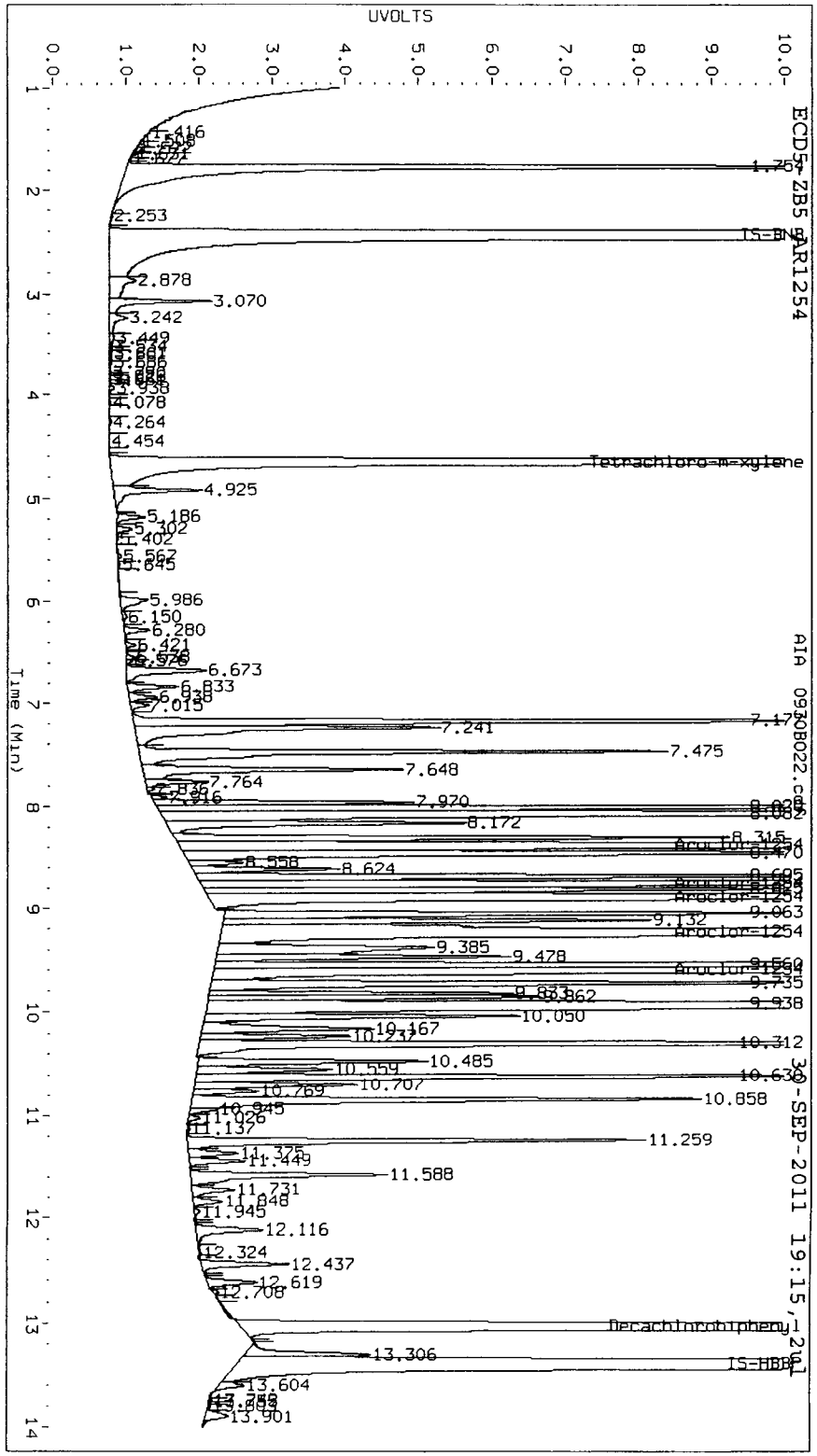
* Quantitated against AR1660 0.25ppm in Ical


UVOLTS
ECD5-ZB35 AR1254
AIA 0930B022.cdf
30-SEP-2011 19:15, 2ul
Time (Min)
1.751
IS-BNB
Tetrachloro-m-xylene
Aroclor-1254
Decachlorobiphenyl


UVOLTS
ECD5-ZB5 AR1254
AIA 0930B022.cdf
30-SEP-2011 19:15, 2ul
Time (Min)
1.754
IS-BNB
Tetrachloro-m-xylene
Aroclor-1254
Decachlorobiphenyl
IS-HBBP

TQ80:06117


UVOLTS
ECD5-ZB3
AR1254
AIA 0930B022.cdf
30-SEP-2011 19:15,
Tetrachloro-m-xylene
IS=BMB
Decachlorobiphenyl
Aroclor-1254
Time (Min)


UVOLTS
ECD5-ZB5
AR1254
AIA 0930B022.cdf
30-SEP-2011 19:15,
Tetrachloro-m-xylene
IS=BMB
Decachlorobiphenyl
IS=HBB
Time (Min)

TQ80:00118

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B023.d
Data file 2: 20110930.B/ical-2.b/0930B023.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: AR2162
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162
Client ID:
Injection Date: 30-SEP-2011 19:34
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.649	-0.001	42476111	4.656	-0.002	29274770	20.0	21.2	5.6	Tetrachloro-m-xylene
13.032	0.000	73277055	13.416	-0.001	27905654	17.8	18.5	3.6	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	50.0	52.9
Decachlorobiphenyl	44.6	46.3

10/26/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	123432717	3.4
Hexabromobiphenyl	247758184	258404617	4.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	91663397	0.4
Hexabromobiphenyl	103671329	108620873	4.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

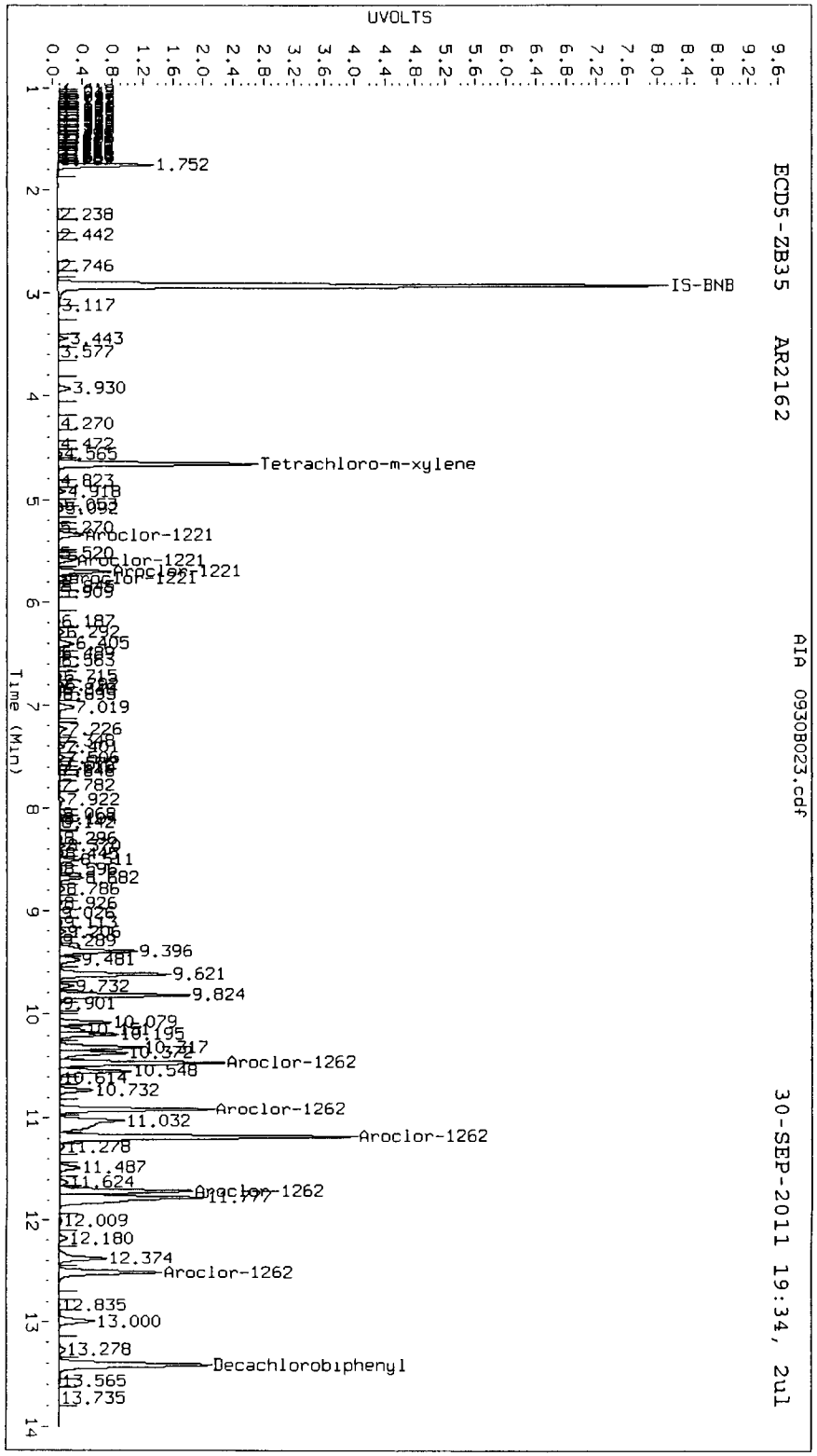
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1221	1	5.020	0.000	5193799	250.0	1	5.342	0.000	3931200	250.0
Aroclor-1221	2	5.199	0.000	3666970	250.0	2	5.588	0.000	2254313	250.0
Aroclor-1221	3	5.303	0.000	12404877	250.0	3	5.701	0.000	7358172	250.0
Aroclor-1221	NS	---			----	4	5.769	0.000	1229445	250.0
Total Col1Ave (3 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				250.0
Aroclor-1262	1	10.168	0.000	51997322	250.0	1	10.468	0.000	24498760	250.0
Aroclor-1262	2	10.485	0.000	42121788	250.0	2	10.921	0.000	23387534	250.0
Aroclor-1262	3	10.860	0.000	102176505	250.0	3	11.192	0.000	45639552	250.0
Aroclor-1262	4	11.377	0.000	46848469	250.0	4	11.714	0.000	21685178	250.0
Aroclor-1262	5	11.450	0.000	49406380	250.0	5	12.513	0.000	17844827	250.0
Total Col1Ave (5 peaks):					250.0	Total Col2Ave (5 peaks):				250.0 RPD = 0
Corrected Ave (4 peaks):					250.0	Corrected Ave (4 peaks):				250.0 RPD = 0

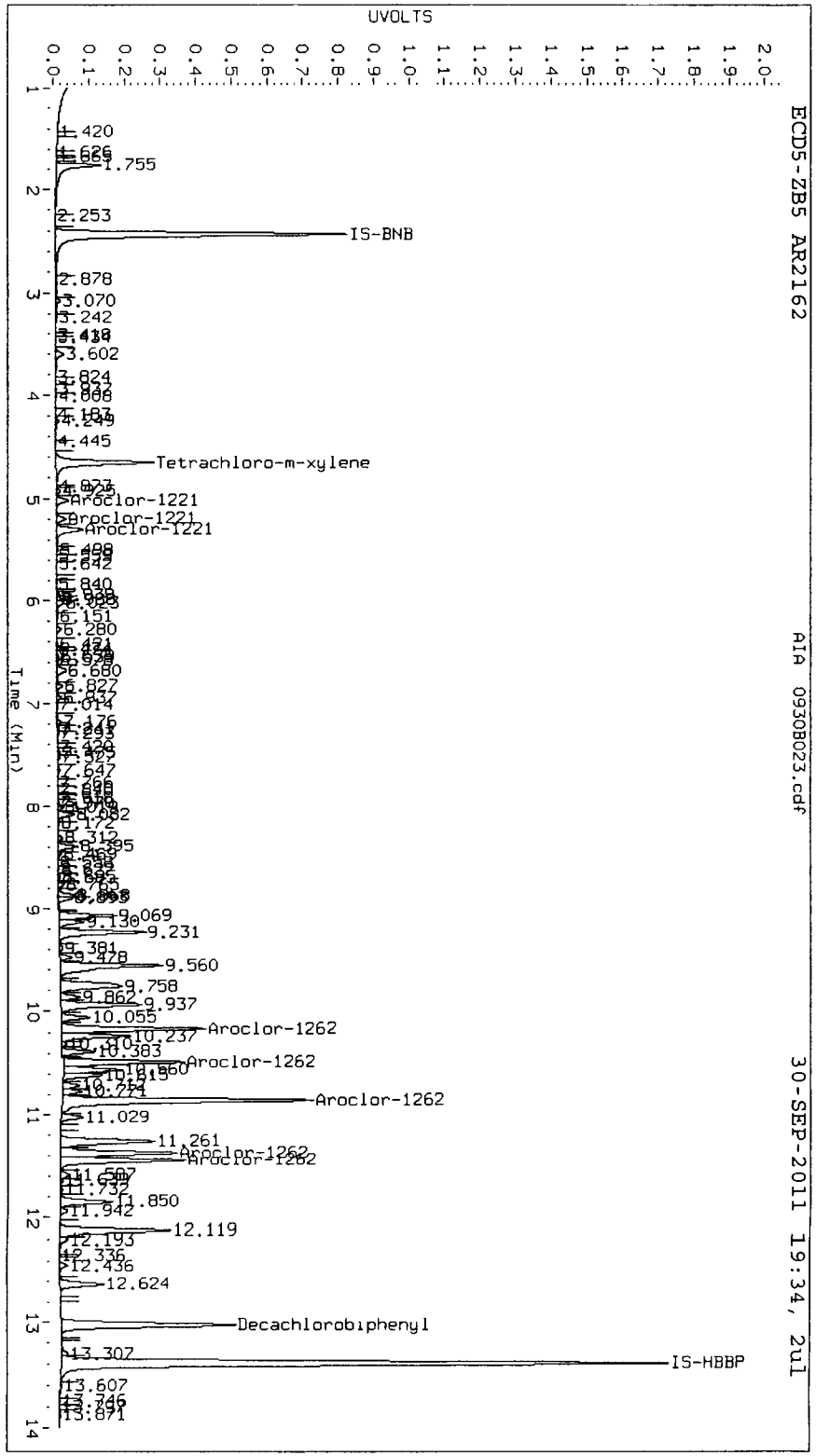
Total PCB Area Col1 (4.750 - 12.933) = 787510059 Col1 Total PCB = 0.4 ppm*

Total PCB Area Col2 (4.758 - 13.317) = 360144788 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.


UVOLTS
ECD5-ZB35 AR2162
AIA 0930B023.cdf
30-SEP-2011 19:34, 2ul
Time (Min)
1.752
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1262
Decachlorobiphenyl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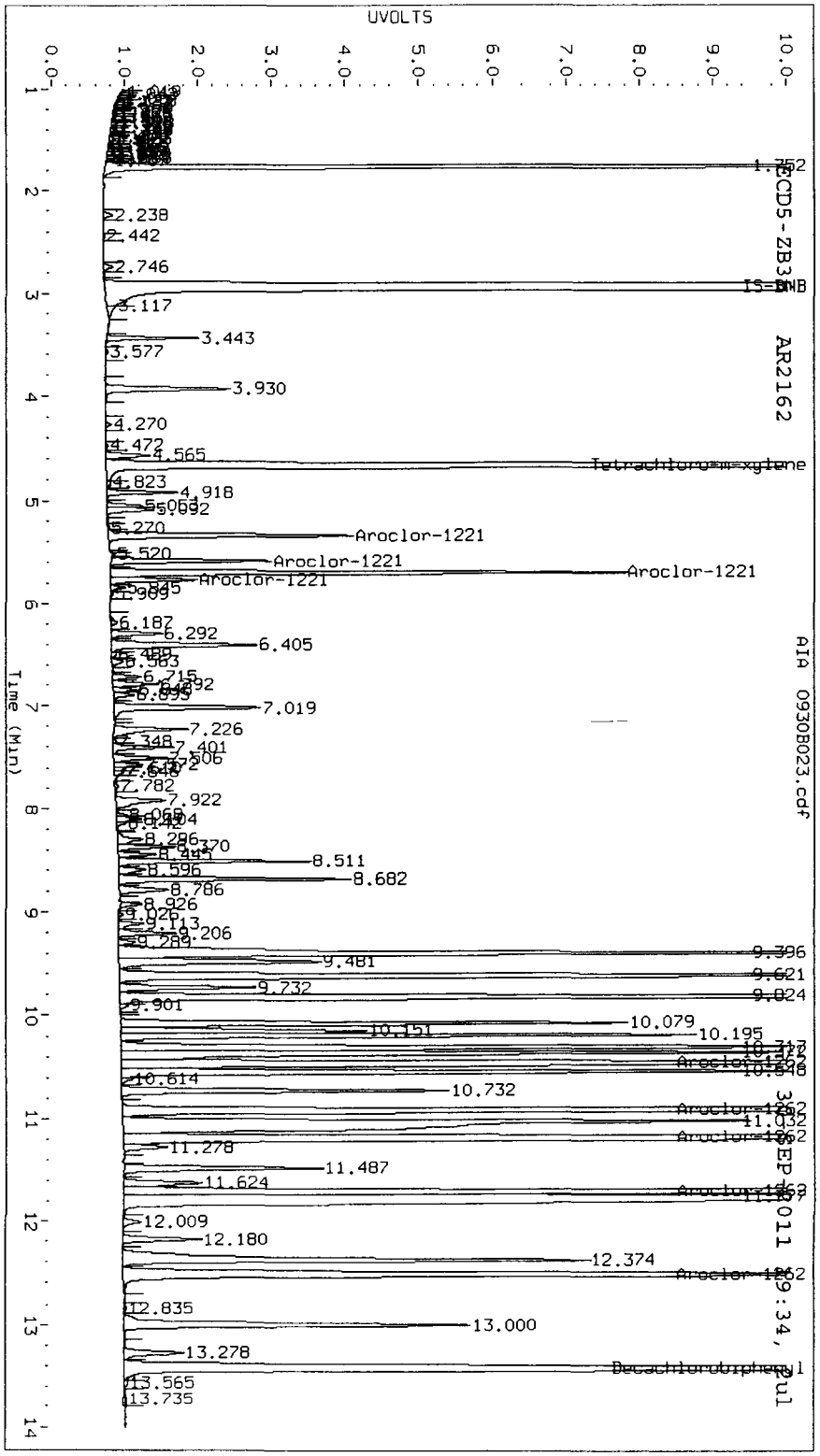
ECD5-ZB5 AR2162
AIA 0930B023.cdf
30-SEP-2011 19:34, 2ul
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1262
Decachlorobiphenyl
IS-HBBP

TQ89:001222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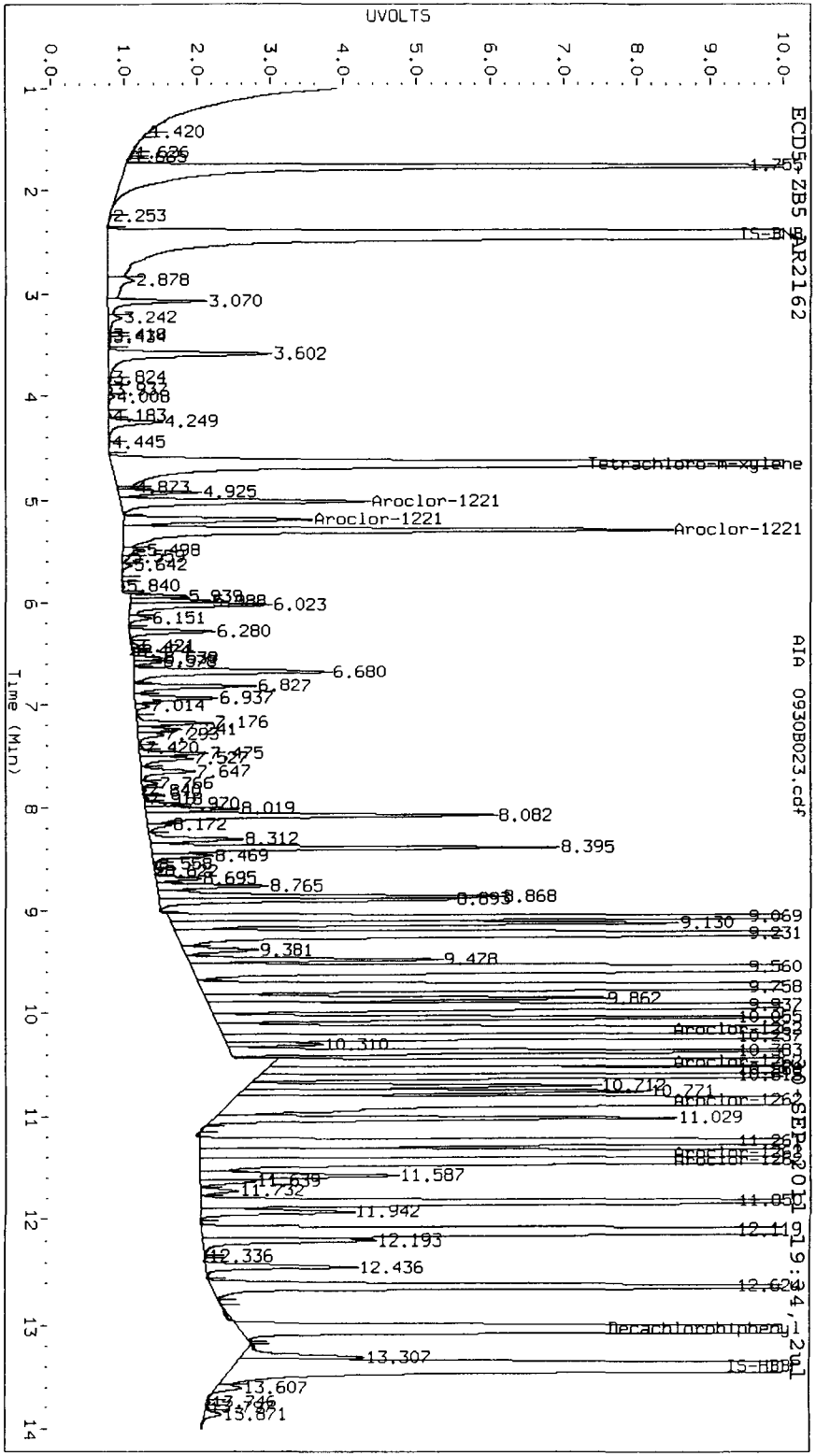
Time (Min)
ECD5-ZB3
AR2162
AIA 0930B023.cdf
SEP 2011 9:34, 2ul
IS-HNB
Tetrachloro-m-xylene
Aroclor-1221
Decachlorobiphenyl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Time (Min)
ECD5-ZB5
AR2162
AIA 0930B023.cdf
SEP 2011 9:34, 2ul
IS-HNB
Tetrachloro-m-xylene
Aroclor-1221
Decachlorobiphenyl

TQ80 00123

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B024.d
Data file 2: 20110930.B/ical-2.b/0930B024.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: AR3268
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268
Client ID:
Injection Date: 30-SEP-2011 19:52
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.650	0.000	40881525	4.658	0.000	28083650	19.4	20.2	4.2	Tetrachloro-m-xylene
13.033	0.000	125862265	13.417	0.000	49129598	30.8	32.7	6.0	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	48.5	50.6
Decachlorobiphenyl	77.1	81.9

µ 10/06/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	122451147	2.6
Hexabromobiphenyl	247758184	256878806	3.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	91890518	0.7
Hexabromobiphenyl	103671329	108076988	4.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

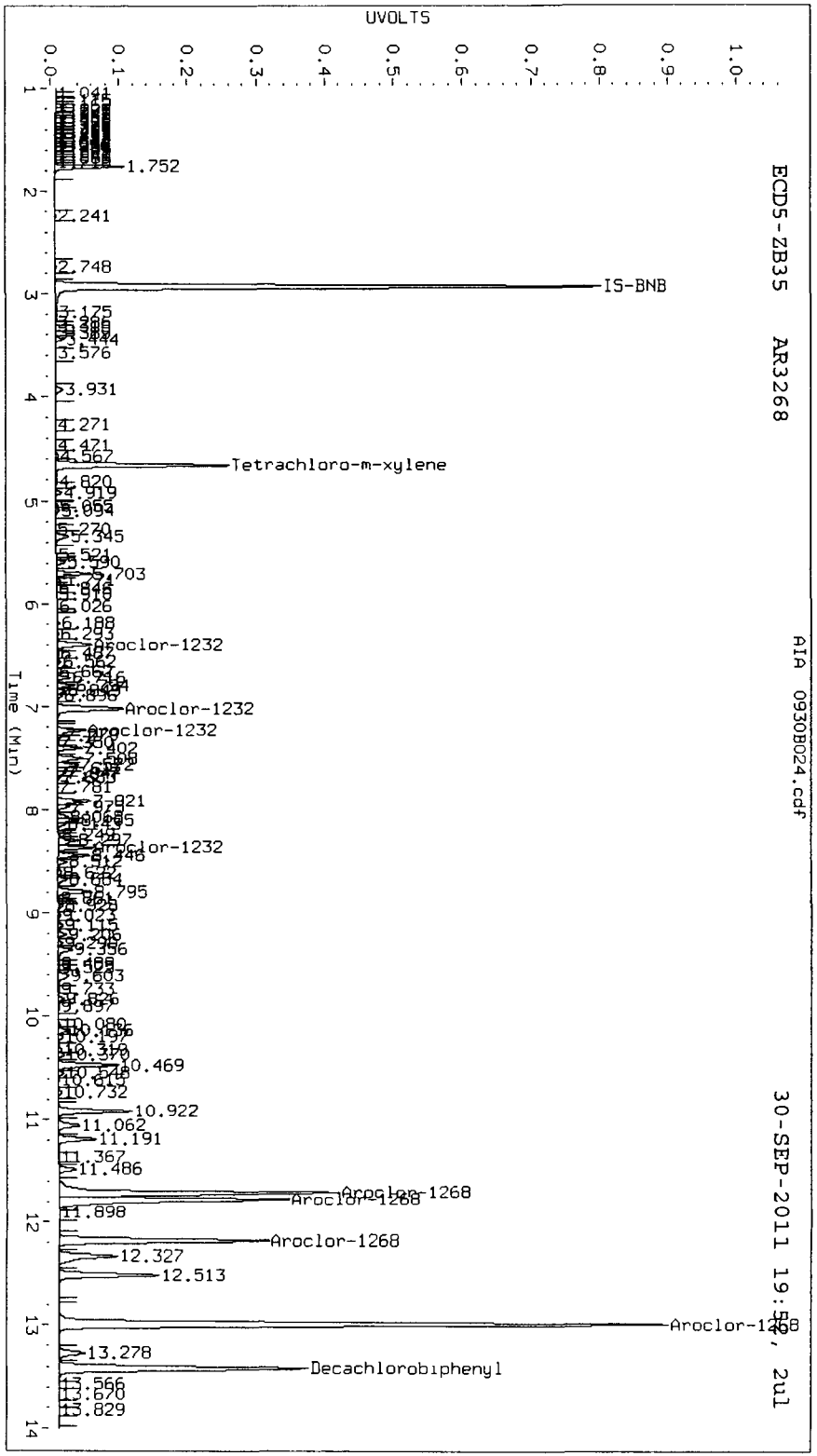
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1232	1	6.280	0.000	5962033	250.0	1	6.395	0.000	6301554	250.0
Aroclor-1232	2	6.679	0.000	19825769	250.0	2	7.019	0.000	13047836	250.0
Aroclor-1232	3	6.828	0.000	8029236	250.0	3	7.227	0.000	4537554	250.0
Aroclor-1232	4	8.020	0.000	8464060	250.0	4	8.371	0.000	5050199	250.0
Total Col1Ave (4 peaks):				250.0		Total Col2Ave (4 peaks):			250.0	RPD = 0
Corrected Ave (3 peaks):				250.0		Corrected Ave (3 peaks):			250.0	RPD = 0
Aroclor-1268	1	11.377	0.000	112720489	250.0	1	11.715	0.000	53285343	250.0
Aroclor-1268	2	11.449	0.000	109030071	250.0	2	11.781	0.000	45999682	250.0
Aroclor-1268	3	11.836	0.000	96991477	250.0	3	12.180	0.000	39053603	250.0
Aroclor-1268	4	12.627	0.000	283179934	250.0	4	13.001	0.000	117815355	250.0
Total Col1Ave (4 peaks):				250.0		Total Col2Ave (4 peaks):			250.0	RPD = 0
Corrected Ave (3 peaks):				250.0		Corrected Ave (3 peaks):			250.0	RPD = 0

Total PCB Area Col1 (4.750 - 12.933) = 984856474 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (4.758 - 13.317) = 436468913 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

TQ80:00126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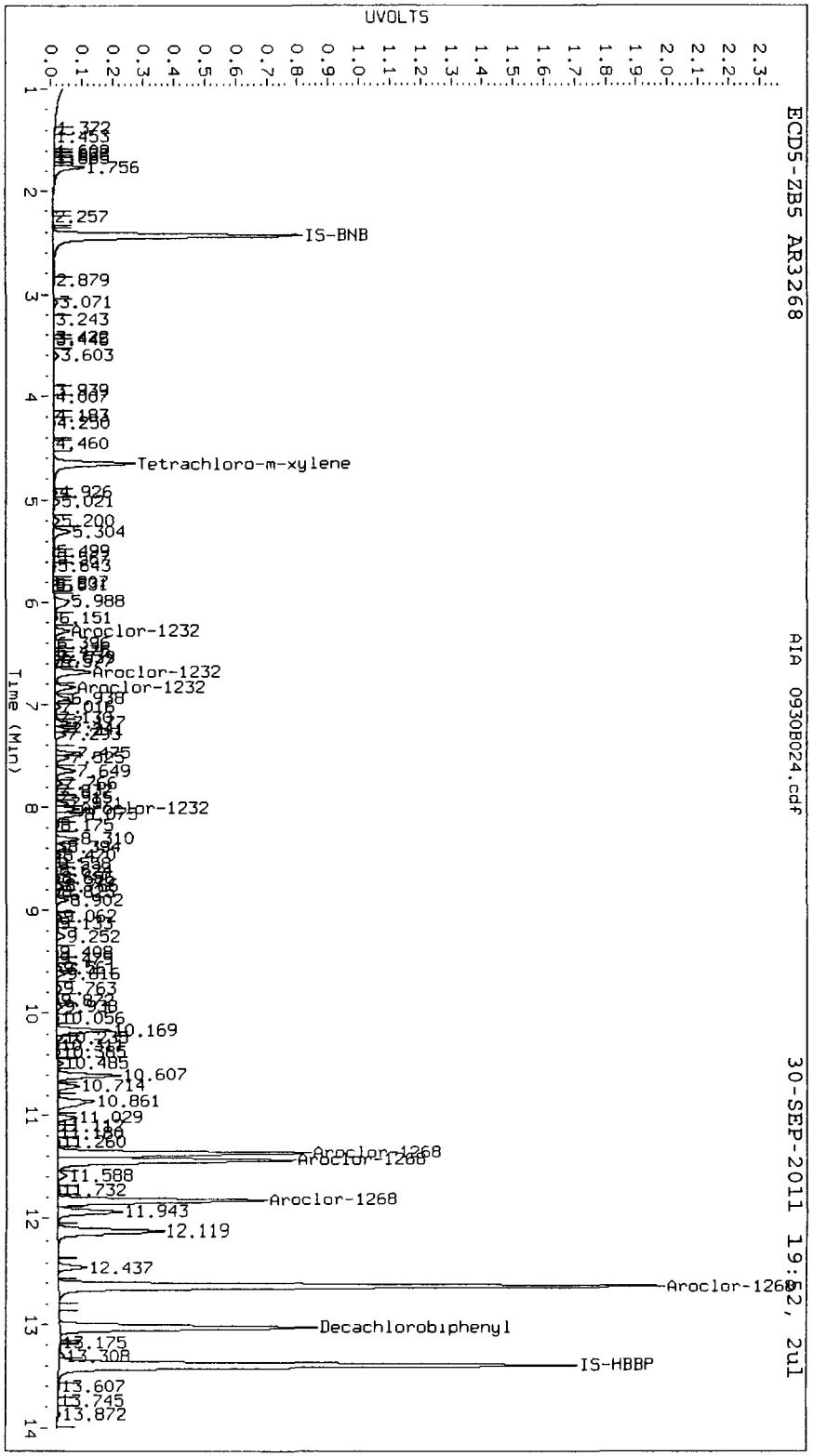
30-SEP-2011 19:56, 2ul
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1232
Aroclor-1268
Decachlorobiphenyl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AIA 0930B024.cdf
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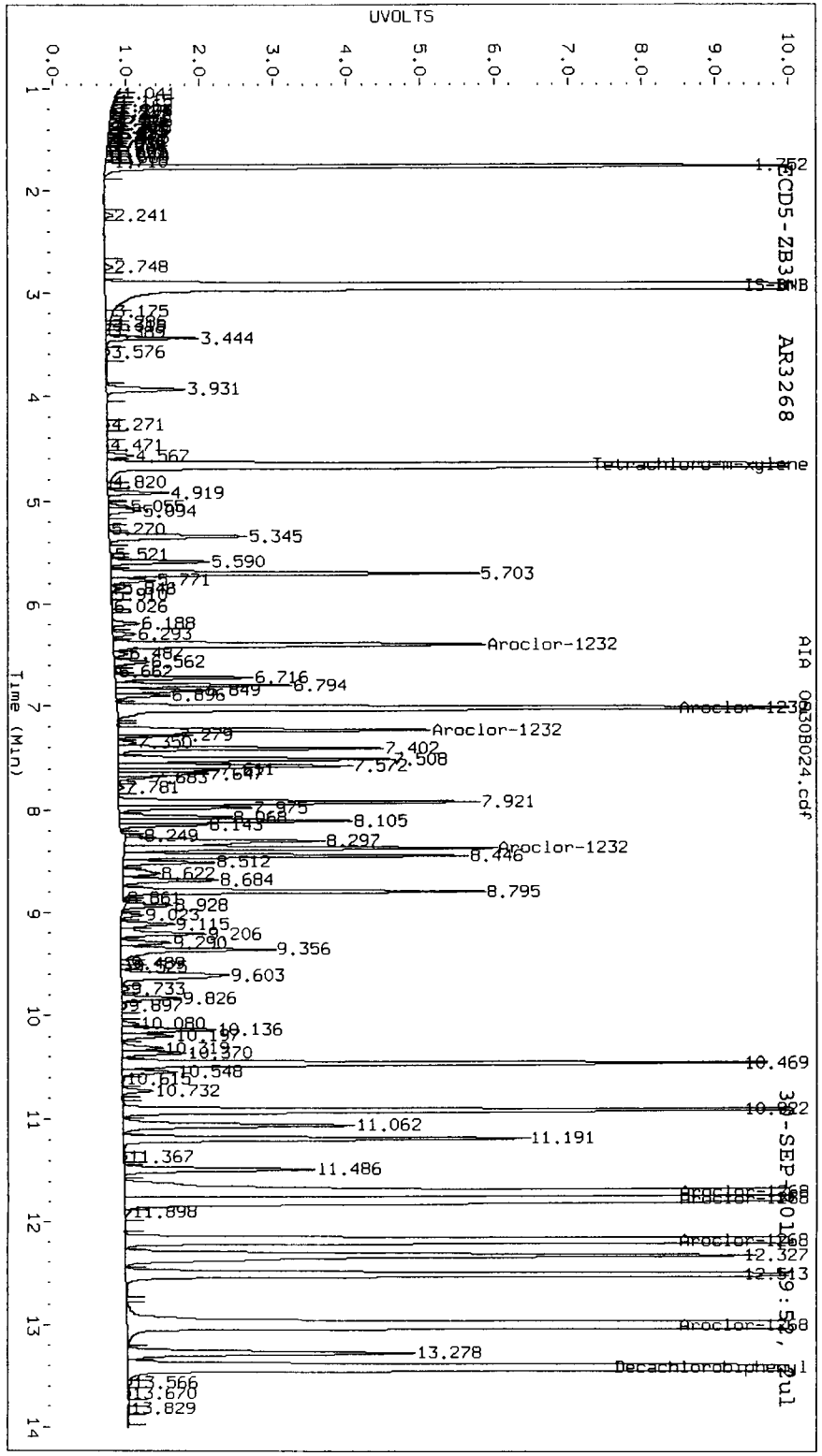
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1232
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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Time (Min)
ECD5-ZB3
AR3268
AIA 0930B024.cdf
30-SEP-2011 19:52,
Tetrachloro-m-xylene
Aroclor-1232
Decachlorobiphenyl
IS-HBB
1.752
2.241
2.748
3.444
3.576
3.931
4.919
5.345
5.590
5.703
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6.293
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6.794
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7.508
7.572
7.921
8.105
8.297
8.446
8.684
8.795
9.356
9.603
9.826
10.136
10.469
10.548
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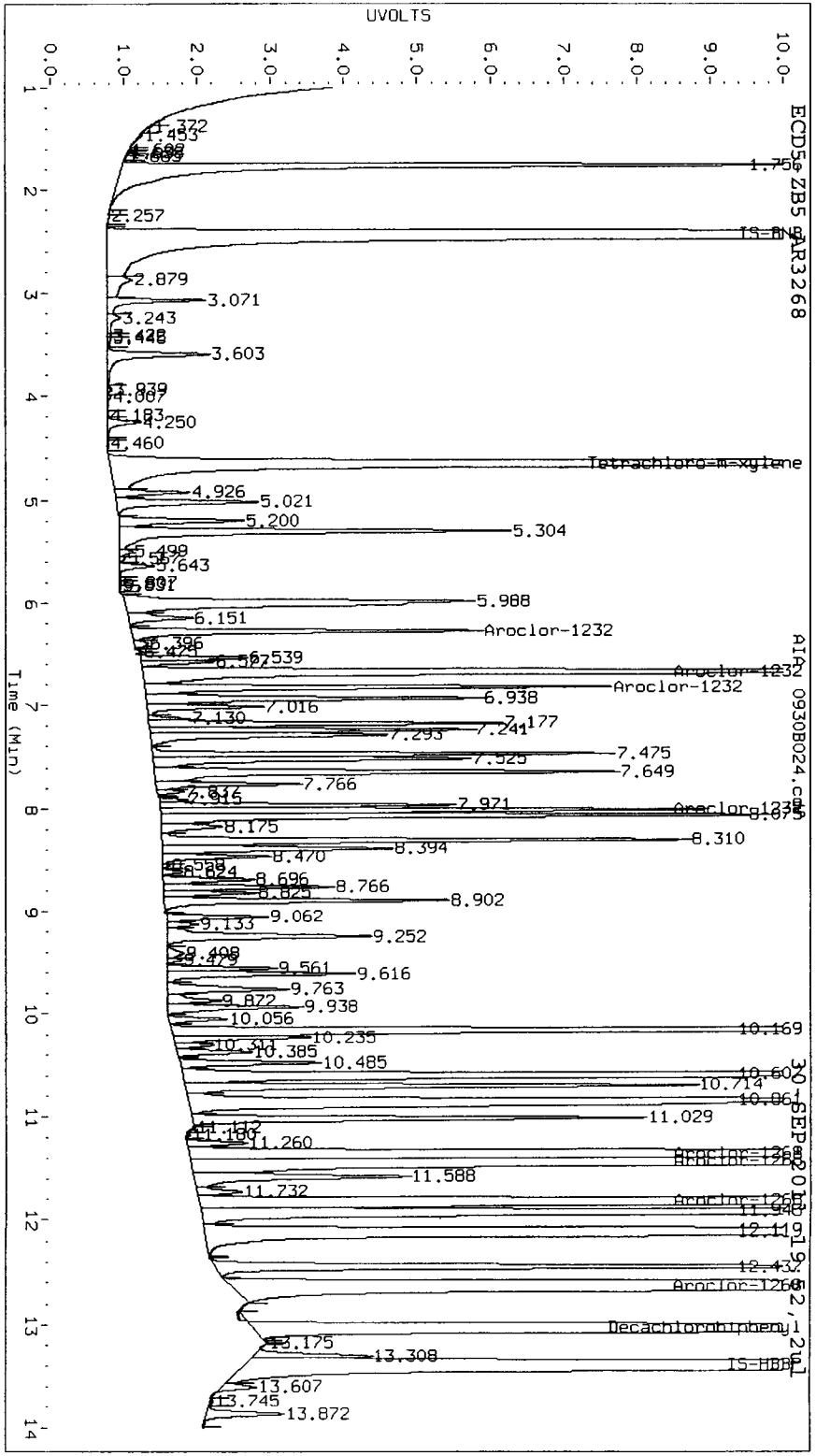
11.191
11.486
11.898
12.327
13.278
13.566
13.670
13.829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Time (Min)
ECD5-ZB5
AR3268
AIA 0930B024.cdf
30-SEP-2011 19:52,
Tetrachloro-m-xylene
Aroclor-1232
Decachlorobiphenyl
IS-HBB
1.756
2.257
2.879
3.071
3.243
3.603
4.250
4.926
5.021
5.200
5.304
5.643
5.988
6.151
6.938
7.016
7.130
7.177
7.241
7.293
7.475
7.525
7.649
7.766
7.971
8.175
8.310
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10.714
11.029
11.260
11.588
11.732
12.119
13.175
13.308
13.607
13.745
13.872

TQ89:00123

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B025.d
Data file 2: 20110930.B/ical-2.b/0930B025.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660 ICV
Client ID:
Injection Date: 30-SEP-2011 20:11
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.650	0.000	42270930	4.657	-0.001	29072279	19.7	20.3	2.7	Tetrachloro-m-xylene
13.032	-0.001	72813410	13.416	0.000	27430727	17.4	17.9	2.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	49.3	50.7
Decachlorobiphenyl	43.6	44.8

JL 10/06/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	124509298	4.3
Hexabromobiphenyl	247758184	262602066	6.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	94948276	4.0
Hexabromobiphenyl	103671329	110187949	6.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.280	0.000	13372702	232.2	1	6.394	0.000	13367309	236.2
Aroclor-1016	2	6.680	0.000	44230561	221.2	2	7.019	0.000	29963910	236.8
Aroclor-1016	3	6.828	0.001	17855529	221.8	3	7.227	0.001	11917838	245.5
Aroclor-1016	4	6.938	0.000	13477836	235.5	4	8.511	0.000	5310489	198.4
Total Col1Ave (4 peaks):				227.7		Total Col2Ave (4 peaks):			229.2	RPD = 1
Corrected Ave (3 peaks):				225.1		Corrected Ave (3 peaks):			223.8	RPD = 1
Aroclor-1221	1	5.019	-0.001	1997462	95.3	1	5.346	0.003	1549462	95.1
Aroclor-1221	2	5.199	0.000	2308780	156.0	2	5.589	0.001	1276224	136.6
Aroclor-1221	3	5.303	0.000	9693994	193.7	3	5.701	0.000	5993975	196.6
Aroclor-1221	NS	---			----	4	5.770	0.001	407005	79.9
Total Col1Ave (3 peaks):				148.3		Total Col2Ave (4 peaks):			127.1	RPD = 15
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			103.9	
Aroclor-1232	1	6.280	0.000	13372702	551.5	1	6.394	-0.002	13367309	513.2
Aroclor-1232	2	6.680	0.000	44230561	548.5	2	7.019	0.000	29963910	555.6
Aroclor-1232	3	6.828	0.000	17855529	546.8	3	7.227	0.000	11917838	635.5
Aroclor-1232	4	8.019	0.000	3290408	95.6	4	8.370	-0.001	1854131	88.8
Total Col1Ave (4 peaks):				435.6		Total Col2Ave (4 peaks):			448.3	RPD = 3
Corrected Ave (3 peaks):				397.0		Corrected Ave (3 peaks):			385.9	RPD = 3
Aroclor-1242	1	6.280	0.000	13372702	301.5	1	6.394	0.001	13367309	301.8
Aroclor-1242	2	6.680	0.000	44230561	303.5	2	7.019	0.000	29963910	300.3
Aroclor-1242	3	6.828	0.001	17855529	302.2	3	7.227	0.001	11917838	303.2
Aroclor-1242	4	8.019	0.000	3290408	56.2	4	8.370	0.000	1854131	52.0
Total Col1Ave (4 peaks):				240.9		Total Col2Ave (4 peaks):			239.3	RPD = 1
Corrected Ave (3 peaks):				220.0		Corrected Ave (3 peaks):			218.1	RPD = 1
Aroclor-1248	1	7.177	0.000	10881577	164.6	1	7.507	0.002	8540756	188.4
Aroclor-1248	2	7.475	0.000	14073987	188.0	2	7.920	0.000	10922406	207.9
Aroclor-1248	3	8.019	-0.001	3290408	35.0	3	8.370	0.000	1854131	31.7
Aroclor-1248	4	8.314	0.004	1945383	20.7	4	8.793	0.000	463073	7.3
Total Col1Ave (4 peaks):				102.1		Total Col2Ave (4 peaks):			108.8	RPD = 6
Corrected Ave (3 peaks):				73.5		Corrected Ave (3 peaks):			75.8	RPD = 3
Aroclor-1254	1	8.396	0.002	12123085	80.5	1	8.511	0.000	5310489	103.9
Aroclor-1254	2	8.764	-0.001	1959286	18.9	2	8.683	0.000	5837937	87.7
Aroclor-1254	3	8.897	-0.005	6730960	36.1	3	9.206	0.000	933510	17.4
Aroclor-1254	4	9.232	-0.019	38672527	182.1	4	9.397	0.040	15306647	133.3
Aroclor-1254	5	9.561	-0.052	58037762	414.0	5	10.152	0.013	6627063	93.0
Total Col1Ave (5 peaks):				146.3		Total Col2Ave (5 peaks):			87.1	RPD = 51*
Corrected Ave (4 peaks):				79.4		Corrected Ave (4 peaks):			75.5	RPD = 5
Aroclor-1260	1	10.169	-0.318	37899606	266.9	1	10.372	0.000	19452816	196.8
Aroclor-1260	2	10.485	-0.375	36534996	101.2	2	11.191	0.000	41256091	269.8
Aroclor-1260	3	10.859	-0.401	91799293	442.4	3	11.714	0.001	12741891	272.4
Aroclor-1260	4	11.376	-0.001	24261427	273.1	4	12.513	0.001	11354289	255.8
Aroclor-1260	5	11.450	0.000	29610392	283.7	NS	---			----
Total Col1Ave (5 peaks):				273.5		Total Col2Ave (4 peaks):			248.7	RPD = 9
Corrected Ave (4 peaks):				231.2		Corrected Ave (3 peaks):			240.8	RPD = 4
Aroclor-1262	1	10.169	0.000	37899606	179.3	1	10.468	0.000	16973873	170.7
Aroclor-1262	2	10.485	0.000	36534996	213.4	2	10.921	0.000	19537840	205.9
Aroclor-1262	3	10.859	-0.001	91799293	221.0	3	11.191	-0.001	41256091	222.8
Aroclor-1262	4	11.376	-0.001	24261427	127.4	4	11.714	0.000	12741891	144.8
Aroclor-1262	5	11.450	0.001	29610392	147.4	5	12.513	0.000	11354289	156.8
Total Col1Ave (5 peaks):				177.7		Total Col2Ave (5 peaks):			180.2	RPD = 1
Corrected Ave (4 peaks):				166.9		Corrected Ave (4 peaks):			169.6	RPD = 2
Aroclor-1268	1	11.376	-0.001	24261427	52.6	1	11.714	-0.001	12741891	58.6
Aroclor-1268	2	11.450	0.001	29610392	66.4	2	11.774	-0.007	27876712	148.6

Aroclor-1268 3	11.851	0.015	14276645	36.0	3	12.180	0.000	362371	2.3
Aroclor-1268 4	12.623	-0.004	7012323	6.1	4	13.000	-0.001	2274367	4.7

Total Col1Ave (4 peaks): 40.3 Total Col2Ave (4 peaks): 53.6 RPD = 28

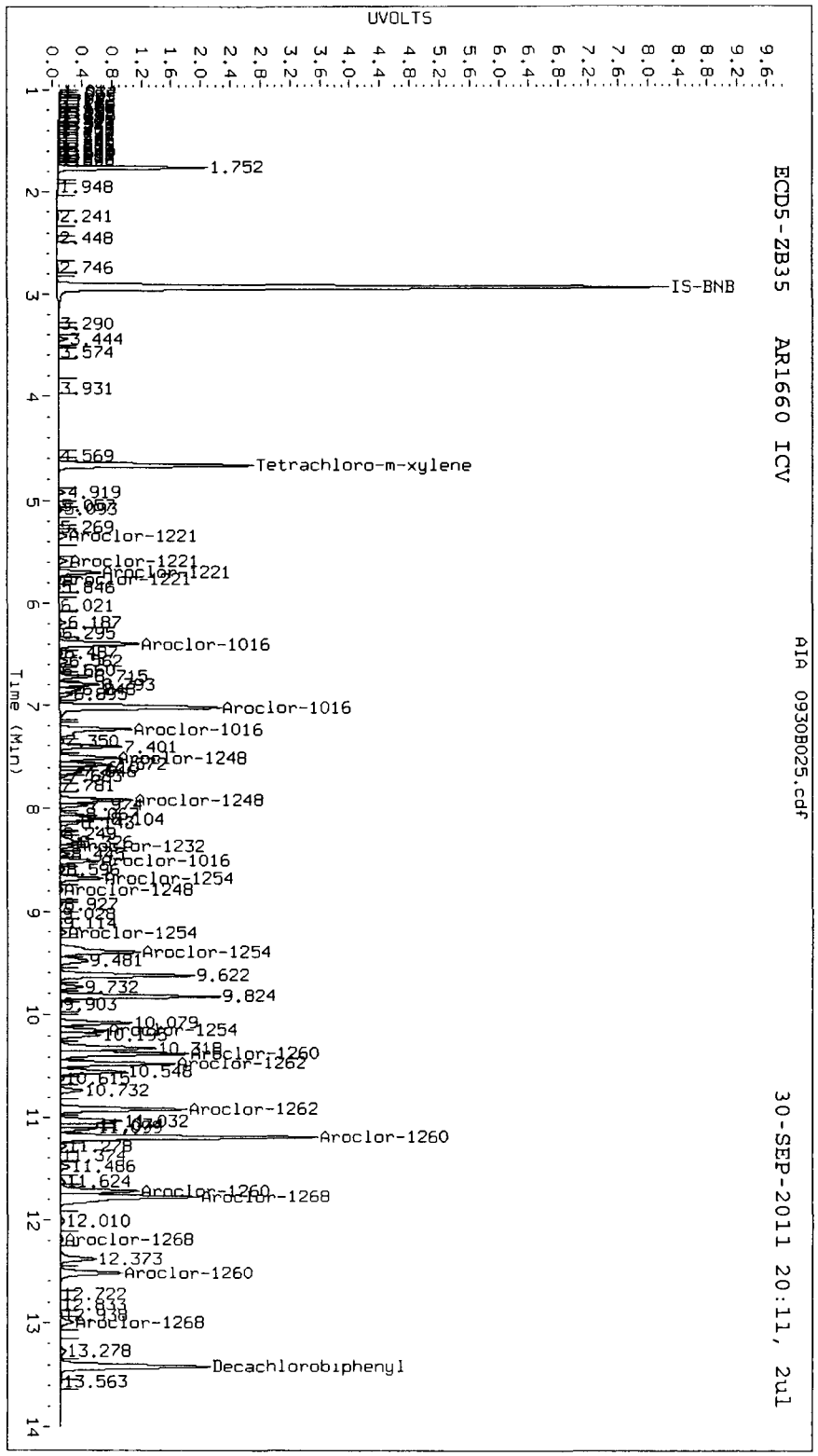
Corrected Ave (3 peaks): 31.6 Corrected Ave (3 peaks): 21.9 RPD = 36

Total PCB Area Col1 (4.750 - 12.933) = 938613605 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (4.758 - 13.317) = 461829359 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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AIA 0930B025.cdf
30-SEP-2011 20:11, 2ul
Time (Min)
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IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1232
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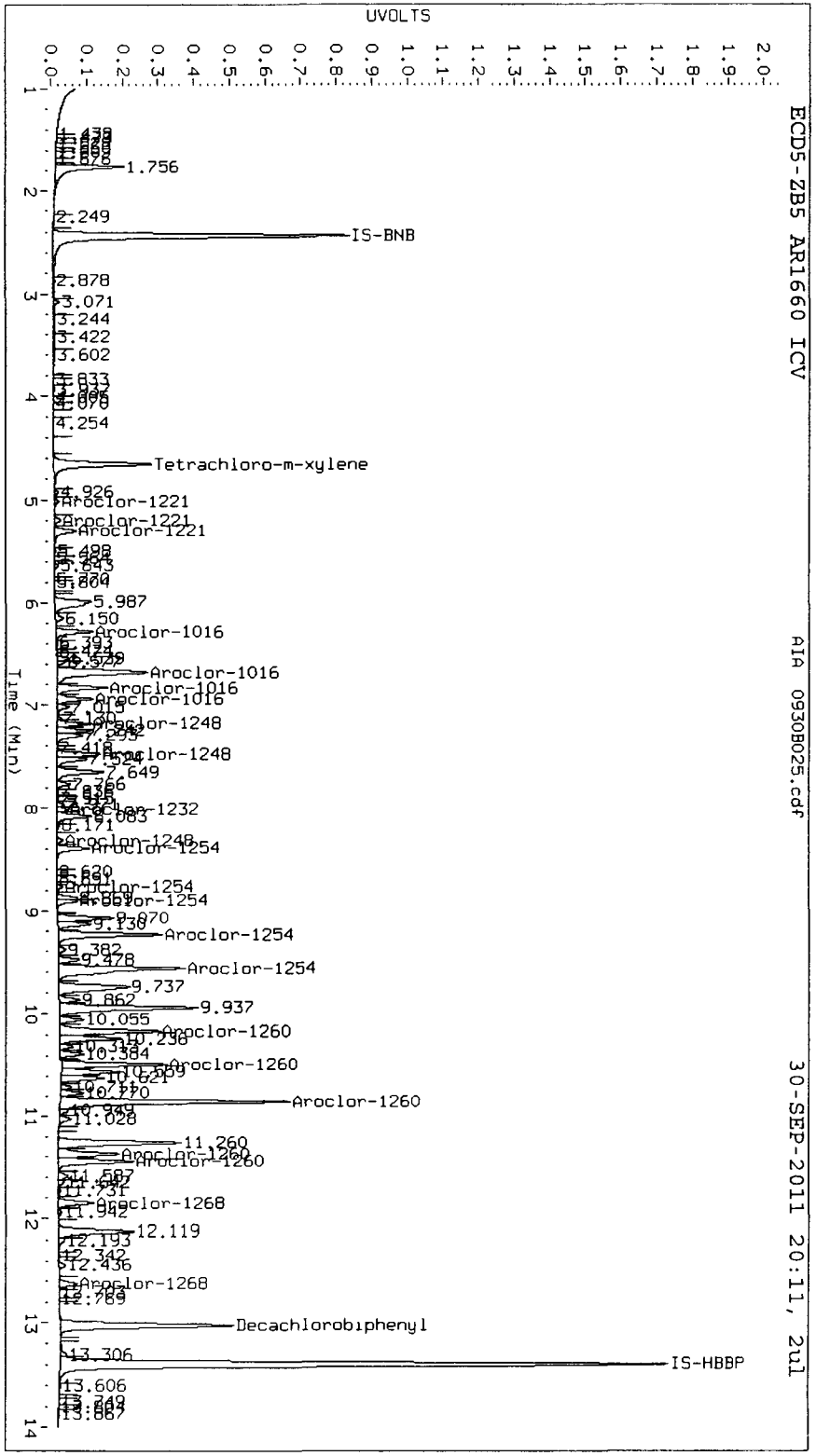
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl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Time (Min)
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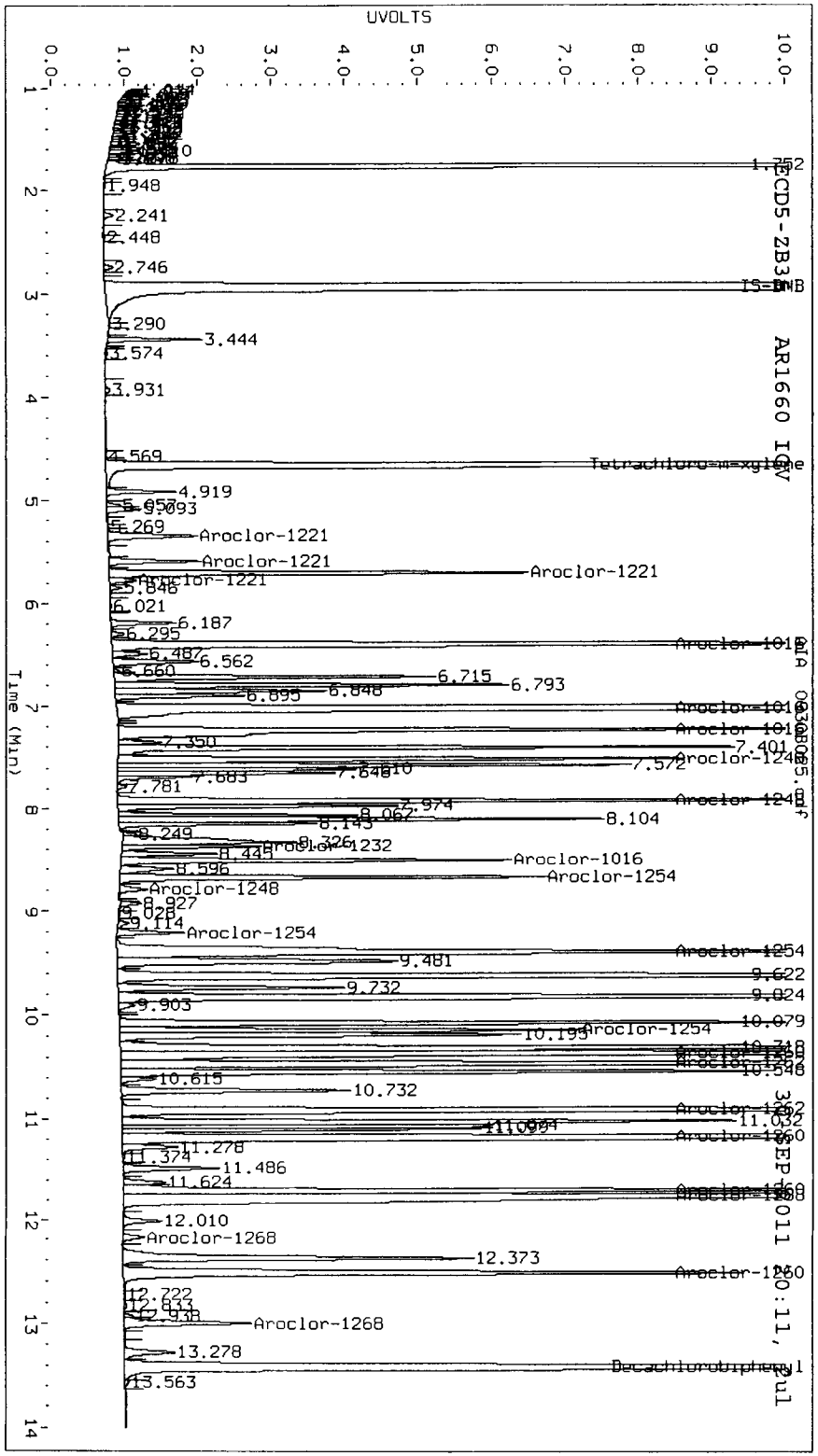
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TQ80:00132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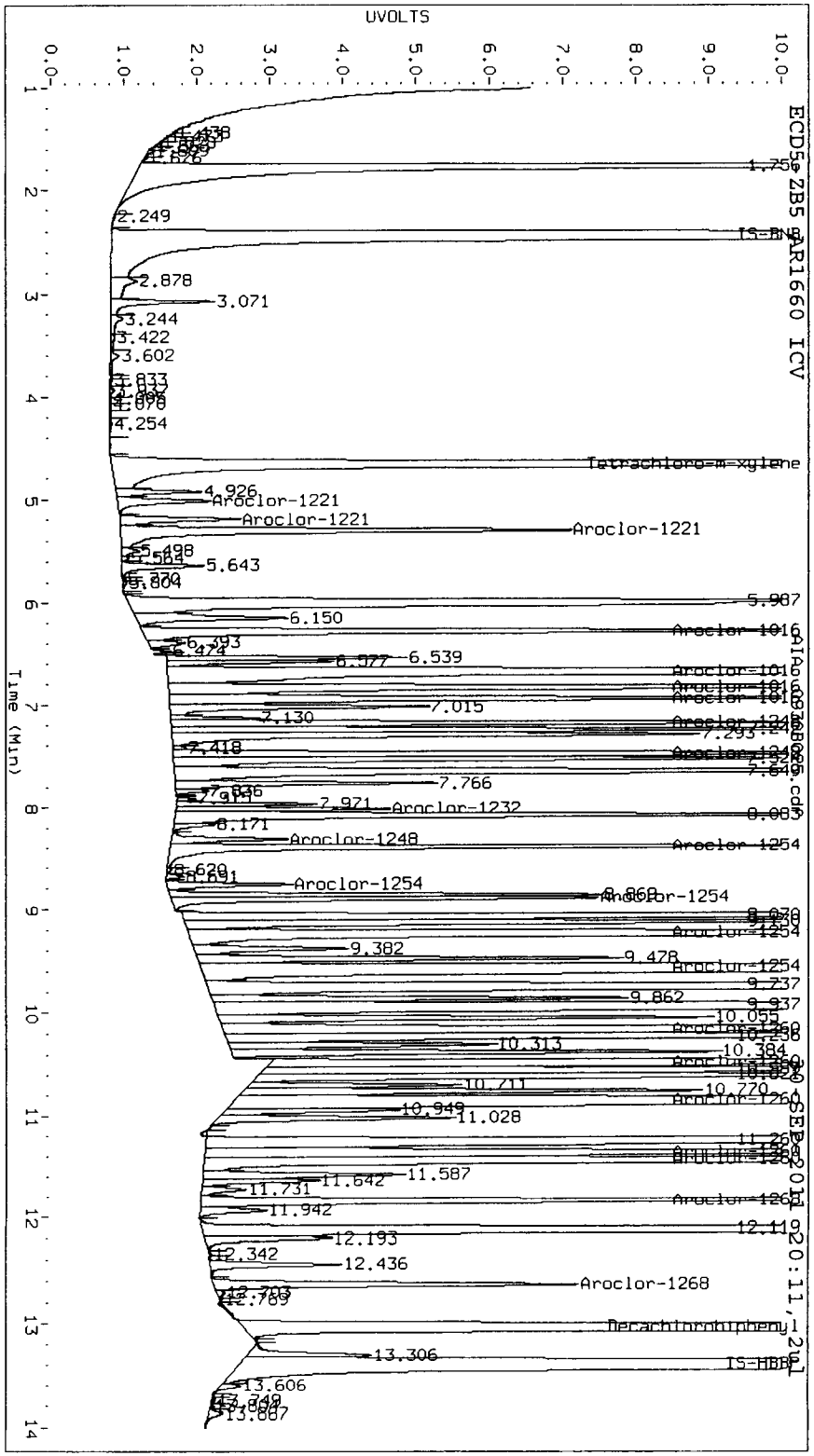
AR1660 ICV
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1268
Decachlorobiphenyl
IS-BNB
EPA 8082
20:11, 2ul


UVOLTS
Time (Min)
ECD5-ZB5
AR1660 ICV
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1268
Decachlorobiphenyl
IS-BNB
IS-HBB
EPA 8082
20:11, 2ul

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B026.d
Data file 2: 20110930.B/ical-2.b/0930B026.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242 ICV
Client ID:
Injection Date: 30-SEP-2011 20:30
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.650	0.000	44167792	4.658	0.000	30433121	20.4	21.1	3.4	Tetrachloro-m-xylene
13.033	0.000	75741016	13.417	0.001	28667317	18.2	18.7	3.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	50.9	52.7
Decachlorobiphenyl	45.4	46.8

JK 10/06/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	126141261	5.7
Hexabromobiphenyl	247758184	262615256	6.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	95698461	4.9
Hexabromobiphenyl	103671329	110364355	6.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1016	1	6.280	0.000	11053423	189.4	1	6.394	0.000	11019753	193.2
Aroclor-1016	2	6.680	0.000	36479217	180.1	2	7.019	0.000	24516788	192.3
Aroclor-1016	3	6.828	0.001	14739210	180.7	3	7.227	0.001	9731416	198.9
Aroclor-1016	4	6.938	0.001	11031244	190.3	4	8.512	0.001	2257930	83.7
Total Col1Ave (4 peaks):		185.1				Total Col2Ave (4 peaks):			167.0	RPD = 10
Corrected Ave (3 peaks):		183.4				Corrected Ave (3 peaks):			156.4	RPD = 16
Aroclor-1221	1	5.019	-0.001	1628632	76.7	1	5.348	0.006	1307468	79.6
Aroclor-1221	2	5.198	0.000	1958826	130.7	2	5.590	0.002	1021946	108.6
Aroclor-1221	3	5.304	0.000	7877178	155.3	3	5.702	0.001	4875019	158.6
Aroclor-1221	NS	---			----	4	5.770	0.001	308525	60.1
Total Col1Ave (3 peaks):		120.9				Total Col2Ave (4 peaks):			101.7	RPD = 17
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			82.8	
Aroclor-1232	1	6.280	0.000	11053423	449.9	1	6.394	-0.002	11019753	419.8
Aroclor-1232	2	6.680	0.000	36479217	446.5	2	7.019	0.000	24516788	451.1
Aroclor-1232	3	6.828	0.000	14739210	445.5	3	7.227	0.000	9731416	514.8
Aroclor-1232	4	8.020	0.000	14202881	407.2	4	8.371	0.000	8466534	402.4
Total Col1Ave (4 peaks):		437.3				Total Col2Ave (4 peaks):			447.0	RPD = 2
Corrected Ave (3 peaks):		433.1				Corrected Ave (3 peaks):			424.4	RPD = 2
Aroclor-1242	1	6.280	0.000	11053423	246.0	1	6.394	0.001	11019753	246.9
Aroclor-1242	2	6.680	0.000	36479217	247.1	2	7.019	0.000	24516788	243.8
Aroclor-1242	3	6.828	0.001	14739210	246.3	3	7.227	0.001	9731416	245.6
Aroclor-1242	4	8.020	0.001	14202881	239.4	4	8.371	0.001	8466534	235.7
Total Col1Ave (4 peaks):		244.7				Total Col2Ave (4 peaks):			243.0	RPD = 1
Corrected Ave (3 peaks):		243.9				Corrected Ave (3 peaks):			241.7	RPD = 1
Aroclor-1248	1	7.177	0.000	9424797	140.8	1	7.507	0.002	7295713	159.7
Aroclor-1248	2	7.475	0.000	11942213	157.5	2	7.921	0.001	9809208	185.2
Aroclor-1248	3	8.020	0.000	14202881	149.1	3	8.371	0.001	8466534	143.6
Aroclor-1248	4	8.310	0.000	15590872	163.9	4	8.794	0.001	9777082	152.9
Total Col1Ave (4 peaks):		152.8				Total Col2Ave (4 peaks):			160.4	RPD = 5
Corrected Ave (3 peaks):		149.1				Corrected Ave (3 peaks):			152.1	RPD = 2
Aroclor-1254	1	8.393	-0.001	8293714	54.3	1	8.512	0.001	2257930	43.8
Aroclor-1254	2	8.766	0.000	5625636	53.6	2	8.683	0.000	2632429	39.2
Aroclor-1254	3	8.901	-0.001	9300317	49.3	3	9.206	0.000	2678470	49.6
Aroclor-1254	4	9.253	0.002	8085597	37.6	4	9.356	-0.001	4761886	41.1
Aroclor-1254	5	9.616	0.004	6798648	47.9	5	10.134	-0.004	3055961	42.6
Total Col1Ave (5 peaks):		48.5				Total Col2Ave (5 peaks):			43.3	RPD = 11
Corrected Ave (4 peaks):		47.1				Corrected Ave (4 peaks):			41.7	RPD = 12
Aroclor-1260	1	10.162	-0.324	289016	2.0	1	10.371	-0.001	1758003	17.8
Aroclor-1260	2	10.485	-0.375	246069	0.7	2	11.191	0.000	288321	1.9
Aroclor-1260	3	10.896	-0.363	1595949	7.7	3	11.666	-0.047	452971	9.7
Aroclor-1260	4	11.375	-0.002	102054	1.1	4	12.558	0.046	296753	6.7
Aroclor-1260	5	11.449	-0.001	97092	0.9	NS	---			----
Total Col1Ave (5 peaks):		2.5				Total Col2Ave (4 peaks):			9.0	RPD = 113*
Corrected Ave (4 peaks):		1.2				Corrected Ave (3 peaks):			6.1	RPD = 134*
Aroclor-1262	1	10.162	-0.006	289016	1.4	1	10.466	-0.002	92105	0.9
Aroclor-1262	2	10.485	0.000	246069	1.4	2	10.915	-0.006	668830	7.0
Aroclor-1262	3	10.896	0.037	1595949	3.8	3	11.191	-0.001	288321	1.6
Aroclor-1262	4	11.375	-0.002	102054	0.5	4	11.666	-0.048	452971	5.1
Aroclor-1262	5	11.449	-0.001	97092	0.5	5	12.558	0.046	296753	4.1
Total Col1Ave (5 peaks):		1.5				Total Col2Ave (5 peaks):			3.7	RPD = 84*
Corrected Ave (4 peaks):		1.0				Corrected Ave (4 peaks):			2.9	RPD = 102*
Aroclor-1268	1	11.375	-0.002	102054	0.2	1	11.666	-0.049	452971	2.1
Aroclor-1268	2	11.449	0.000	97092	0.2	2	11.773	-0.008	242846	1.3

Aroclor-1268	3	11.841	0.005	186640	0.5	3	12.181	0.001	22522	0.1
Aroclor-1268	4	12.613	-0.014	721498	0.6	4	12.999	-0.003	48739	0.1

Total Col1Ave (4 peaks): 0.4 Total Col2Ave (4 peaks): 0.9 RPD = 81*

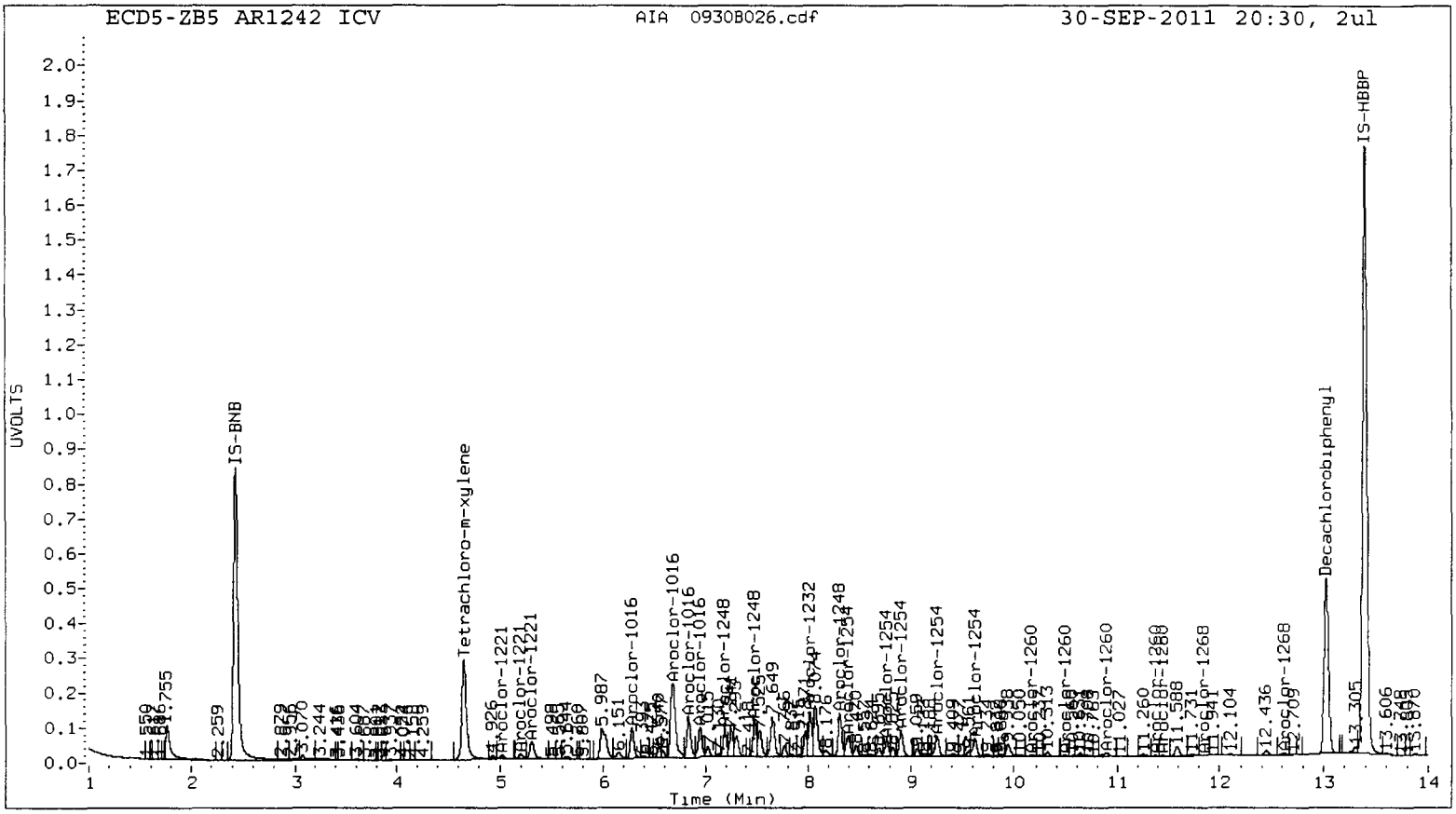
Corrected Ave (3 peaks): 0.3 Corrected Ave (3 peaks): 0.5 RPD = 51*

Total PCB Area Col1 (4.750 - 12.933) = 324446292 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (4.758 - 13.317) = 185439555 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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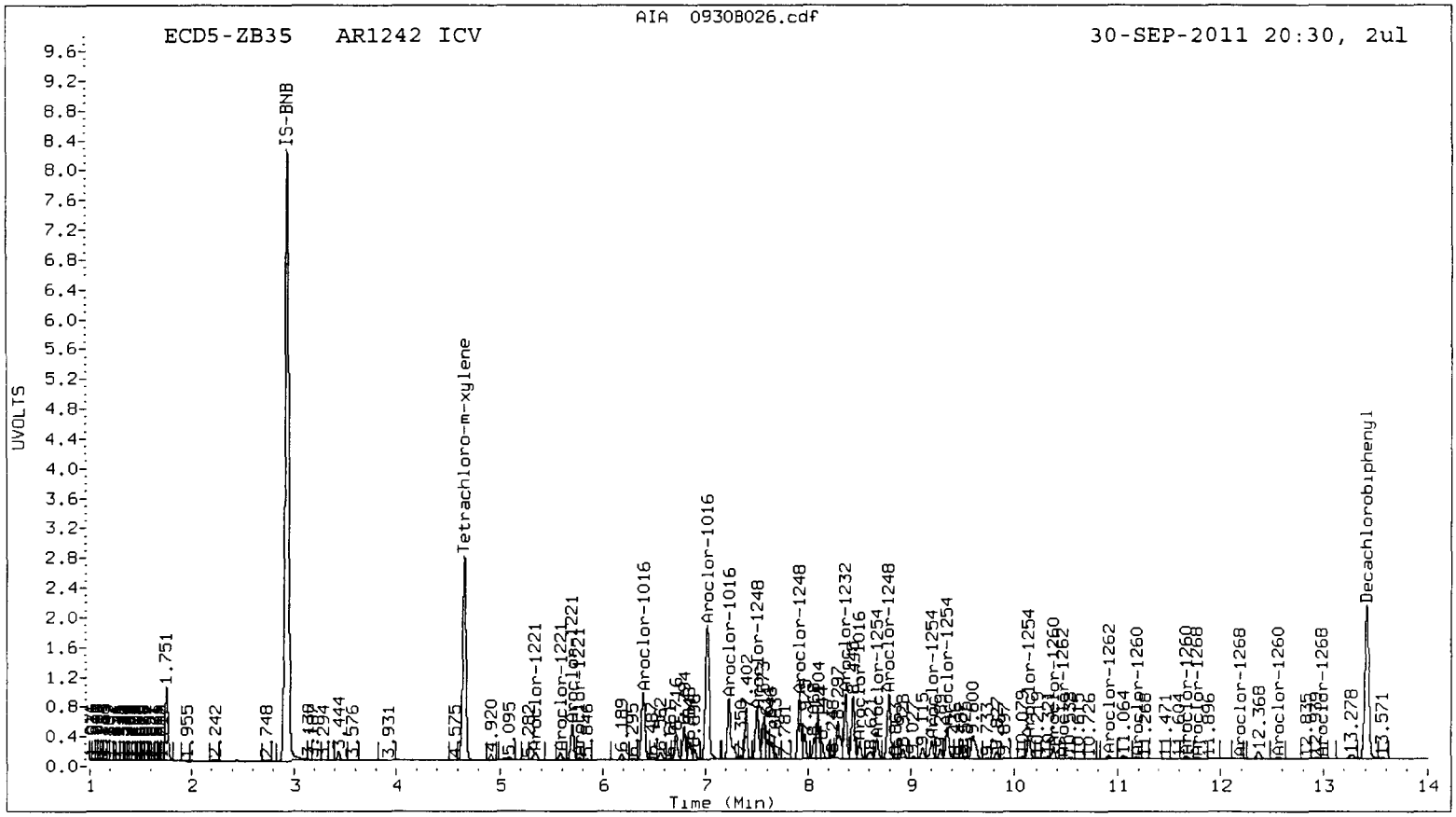
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP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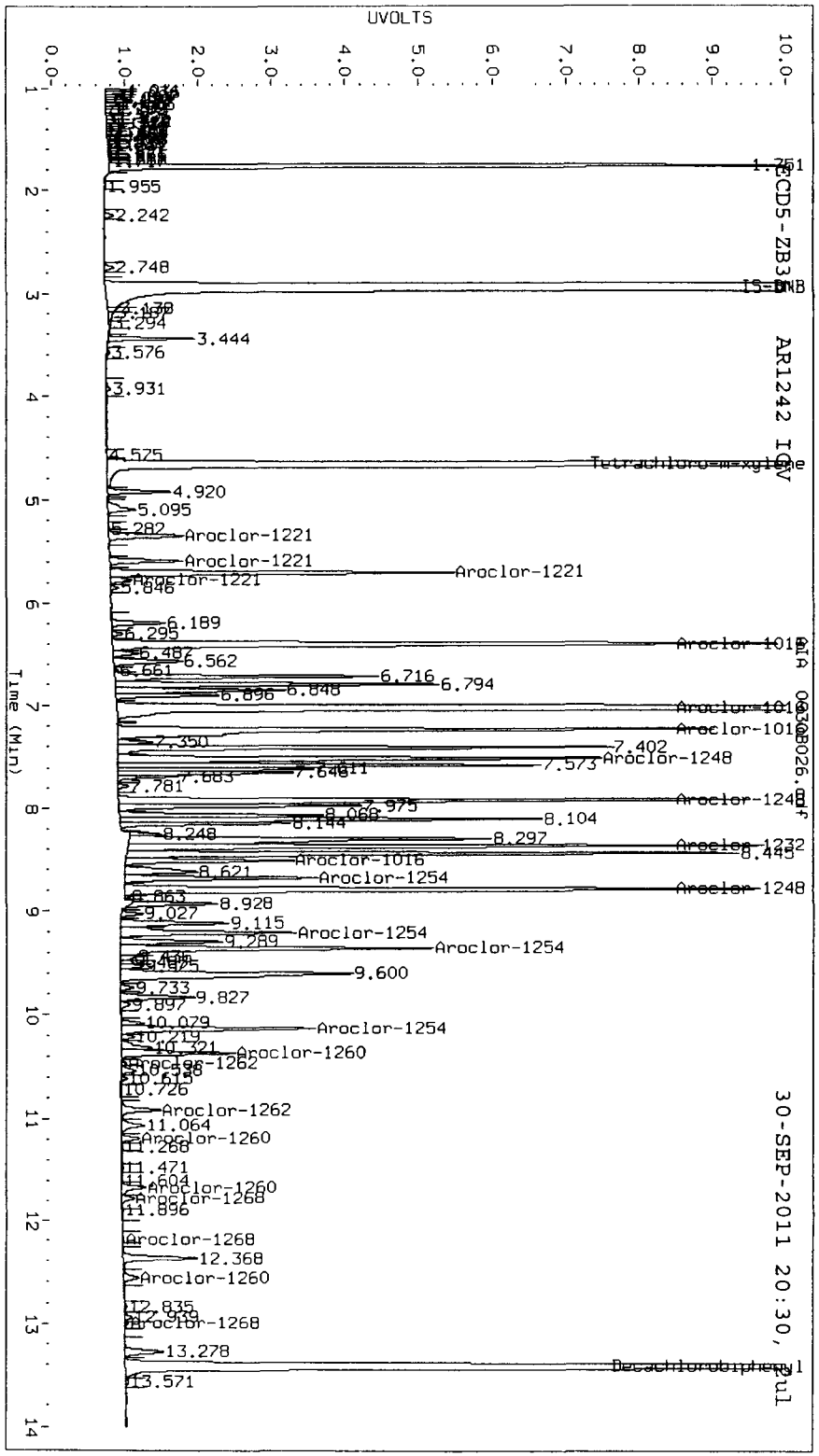
Tetrachloro-m-xylene
Decachlorobiphenyl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Tetrachloro-m-xylene
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5.095
Aroclor-1221
Aroclor-1221
Aroclor-1221
Aroclor-1221
6.189
6.295
Aroclor-1016
6.562
6.716
6.794
6.896
6.848
Aroclor-1016
Aroclor-1016
7.350
7.402
Aroclor-1248
7.573
7.781
Aroclor-1248
8.104
8.248
8.297
Aroclor-1232
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Aroclor-1254
Aroclor-1248
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9.115
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9.289
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9.600
9.733
9.827
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Aroclor-1262
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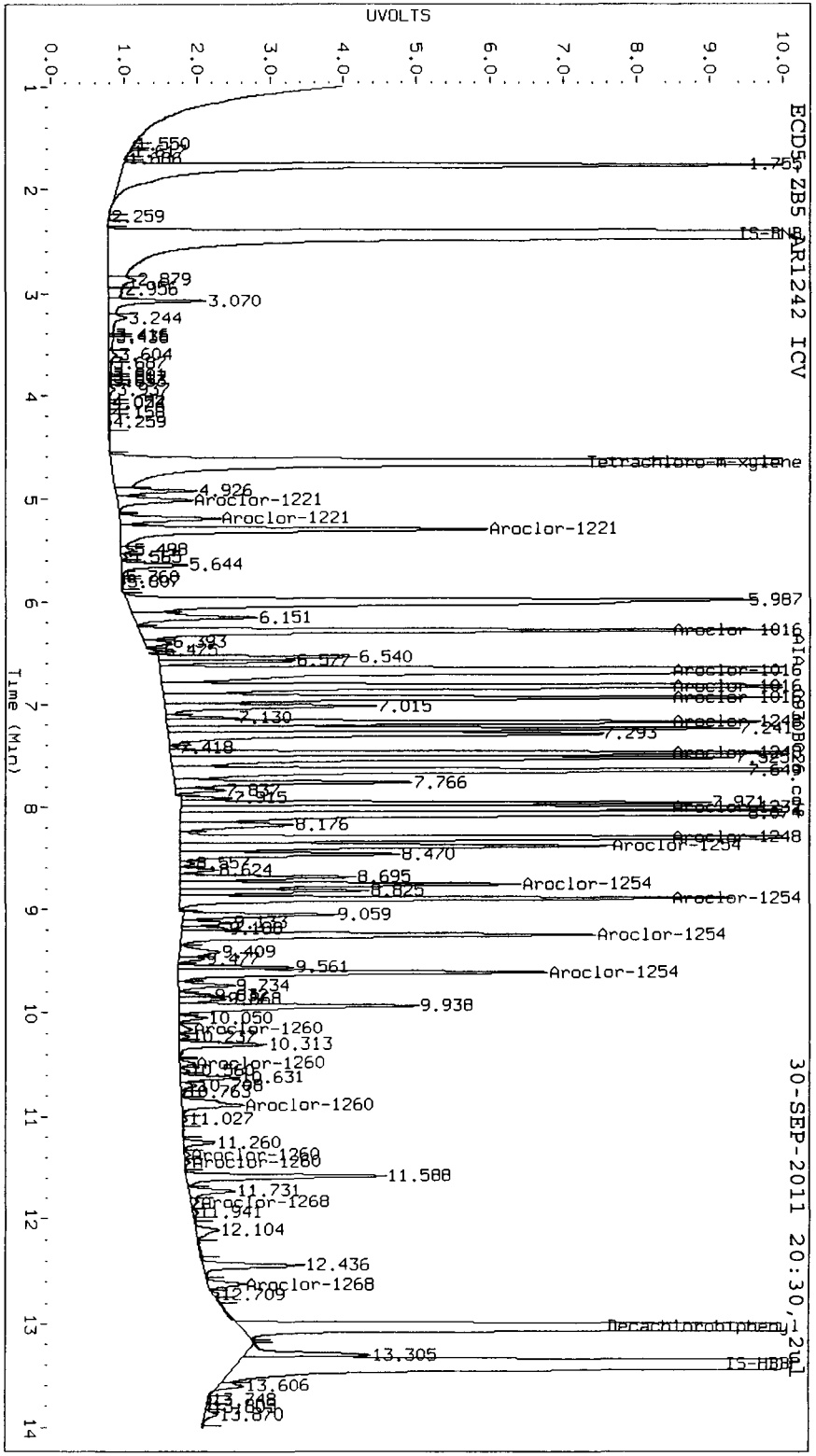
Decachlorobiphenyl
13.571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Aroclor-1221
Aroclor-1221
5.644
5.987
6.151
Aroclor-1016
6.540
Aroclor-1016
7.015
7.130
7.293
7.766
8.176
Aroclor-1248
8.470
Aroclor-1254
8.695
Aroclor-1254
Aroclor-1254
9.059
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9.561
Aroclor-1254
9.938
10.050
Aroclor-1260
10.313
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10.631
Aroclor-1260
11.027
11.260
Aroclor-1260
11.588
11.731
Aroclor-1268
12.104
12.436
Aroclor-1268
12.709
Decachlorobiphenyl
13.305
IS-HBB
13.606
13.870

T080.001138

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B027.d
Data file 2: 20110930.B/ical-2.b/0930B027.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248 ICV
Client ID:
Injection Date: 30-SEP-2011 20:49
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.649	-0.001	41493689	4.657	0.000	28595143	19.6	20.3	3.2	Tetrachloro-m-xylene
13.032	-0.001	71969214	13.417	0.000	27326636	17.4	17.9	3.2	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	49.0	50.6
Decachlorobiphenyl	43.4	44.8

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	122973217	3.1
Hexabromobiphenyl	247758184	260908524	5.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	93530870	2.5
Hexabromobiphenyl	103671329	109843824	6.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1016	1	6.280	0.000	5087586	89.4	1	6.391	-0.002	5285384	94.8
Aroclor-1016	2	6.676	-0.004	23836611	120.7	2	7.015	-0.004	15653150	125.6
Aroclor-1016	3	6.830	0.002	8402934	105.7	3	7.226	0.000	3671451	76.8
Aroclor-1016	4	6.937	-0.001	6349566	112.3	4	8.512	0.001	4413950	167.4
Total Col1Ave (4 peaks):				107.0		Total Col2Ave (4 peaks):			116.1	RPD = 8
Corrected Ave (3 peaks):				102.5		Corrected Ave (3 peaks):			99.1	RPD = 3
Aroclor-1221	1	5.013	-0.007	259974	12.6	1	5.361	0.019	408476	25.5
Aroclor-1221	2	5.188	-0.011	533150	36.5	2	5.589	0.001	96790	10.5
Aroclor-1221	3	5.303	-0.001	888814	18.0	3	5.703	0.002	626719	20.9
Aroclor-1221	NS	---			----	4	5.768	-0.002	27032	5.4
Total Col1Ave (3 peaks):				22.3		Total Col2Ave (4 peaks):			15.6	RPD = 36
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			12.3	
Aroclor-1232	1	6.280	-0.001	5087586	212.4	1	6.391	-0.004	5285384	206.0
Aroclor-1232	2	6.676	-0.003	23836611	299.3	2	7.015	-0.004	15653150	294.7
Aroclor-1232	3	6.830	0.002	8402934	260.5	3	7.226	-0.001	3671451	198.7
Aroclor-1232	4	8.019	0.000	23993220	705.7	4	8.371	0.000	15200040	739.3
Total Col1Ave (4 peaks):				369.5		Total Col2Ave (4 peaks):			359.7	RPD = 3
Corrected Ave (3 peaks):				257.4		Corrected Ave (3 peaks):			233.1	RPD = 10
Aroclor-1242	1	6.280	0.000	5087586	116.1	1	6.391	-0.002	5285384	121.1
Aroclor-1242	2	6.676	-0.003	23836611	165.6	2	7.015	-0.003	15653150	159.3
Aroclor-1242	3	6.830	0.002	8402934	144.0	3	7.226	0.000	3671451	94.8
Aroclor-1242	4	8.019	0.000	23993220	414.8	4	8.371	0.001	15200040	433.0
Total Col1Ave (4 peaks):				210.2		Total Col2Ave (4 peaks):			202.1	RPD = 4
Corrected Ave (3 peaks):				141.9		Corrected Ave (3 peaks):			125.1	RPD = 13
Aroclor-1248	1	7.177	-0.001	16708814	256.0	1	7.507	0.001	11586166	259.5
Aroclor-1248	2	7.475	0.000	18951695	256.3	2	7.920	0.000	13260735	256.2
Aroclor-1248	3	8.019	-0.001	23993220	258.4	3	8.371	0.001	15200040	263.8
Aroclor-1248	4	8.309	-0.001	24192877	261.0	4	8.793	0.000	16659656	266.7
Total Col1Ave (4 peaks):				257.9		Total Col2Ave (4 peaks):			261.5	RPD = 1
Corrected Ave (3 peaks):				256.9		Corrected Ave (3 peaks):			259.8	RPD = 1
Aroclor-1254	1	8.392	-0.002	15614470	104.9	1	8.512	0.001	4413950	87.7
Aroclor-1254	2	8.765	0.000	11085351	108.3	2	8.683	0.000	4927247	75.1
Aroclor-1254	3	8.901	-0.001	17582425	95.6	3	9.206	0.000	5491753	104.1
Aroclor-1254	4	9.254	0.003	13972921	66.6	4	9.356	0.000	9149339	80.9
Aroclor-1254	5	9.617	0.005	13976360	100.9	5	10.134	-0.004	6518093	92.9
Total Col1Ave (5 peaks):				95.3		Total Col2Ave (5 peaks):			88.1	RPD = 8
Corrected Ave (4 peaks):				92.0		Corrected Ave (4 peaks):			84.1	RPD = 9
Aroclor-1260	1	10.165	-0.321	343892	2.4	1	10.371	-0.001	1640270	16.6
Aroclor-1260	2	10.485	-0.375	284871	0.8	2	11.191	0.000	336328	2.2
Aroclor-1260	3	10.859	-0.400	1129923	5.5	3	11.713	-0.001	88591	1.9
Aroclor-1260	4	11.376	-0.001	211268	2.4	4	12.557	0.045	337796	7.6
Aroclor-1260	5	11.449	-0.002	213217	2.1	NS	---			----
Total Col1Ave (5 peaks):				2.6		Total Col2Ave (4 peaks):			7.1	RPD = 92*
Corrected Ave (4 peaks):				1.9		Corrected Ave (3 peaks):			3.9	RPD = 68*
Aroclor-1262	1	10.165	-0.003	343892	1.6	1	10.466	-0.002	138206	1.4
Aroclor-1262	2	10.485	0.000	284871	1.7	2	10.916	-0.005	666689	7.0
Aroclor-1262	3	10.859	0.000	1129923	2.7	3	11.191	-0.001	336328	1.8
Aroclor-1262	4	11.376	-0.001	211268	1.1	4	11.713	-0.001	88591	1.0
Aroclor-1262	5	11.449	-0.001	213217	1.1	5	12.557	0.044	337796	4.7
Total Col1Ave (5 peaks):				1.6		Total Col2Ave (5 peaks):			3.2	RPD = 64*
Corrected Ave (4 peaks):				1.4		Corrected Ave (4 peaks):			2.2	RPD = 47*
Aroclor-1268	1	11.376	-0.002	211268	0.5	1	11.713	-0.002	88591	0.4
Aroclor-1268	2	11.449	-0.001	213217	0.5	2	11.774	-0.007	255022	1.4

Aroclor-1268	3	11.841	0.005	205017	0.5	3	12.186	0.006	16609	0.1
Aroclor-1268	4	12.613	-0.015	591846	0.5	4	13.003	0.002	68042	0.1

Total Col1Ave (4 peaks): 0.5 Total Col2Ave (4 peaks): 0.5 RPD = 2

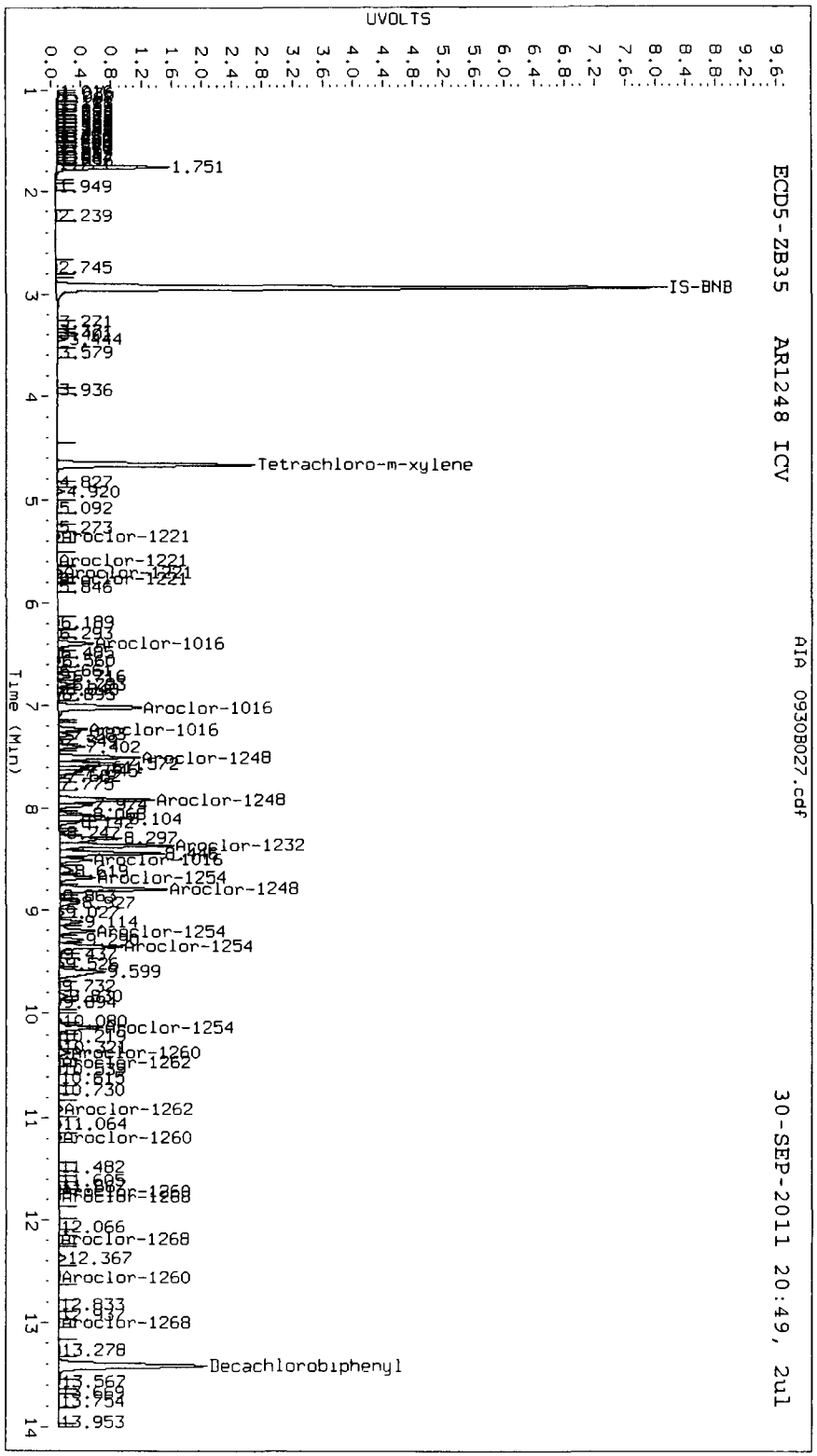
Corrected Ave (3 peaks): 0.5 Corrected Ave (3 peaks): 0.2 RPD = 76*

Total PCB Area Col1 (4.750 - 12.933) = 387737487 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (4.758 - 13.317) = 216673515 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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Aroclor-1016
Aroclor-1248
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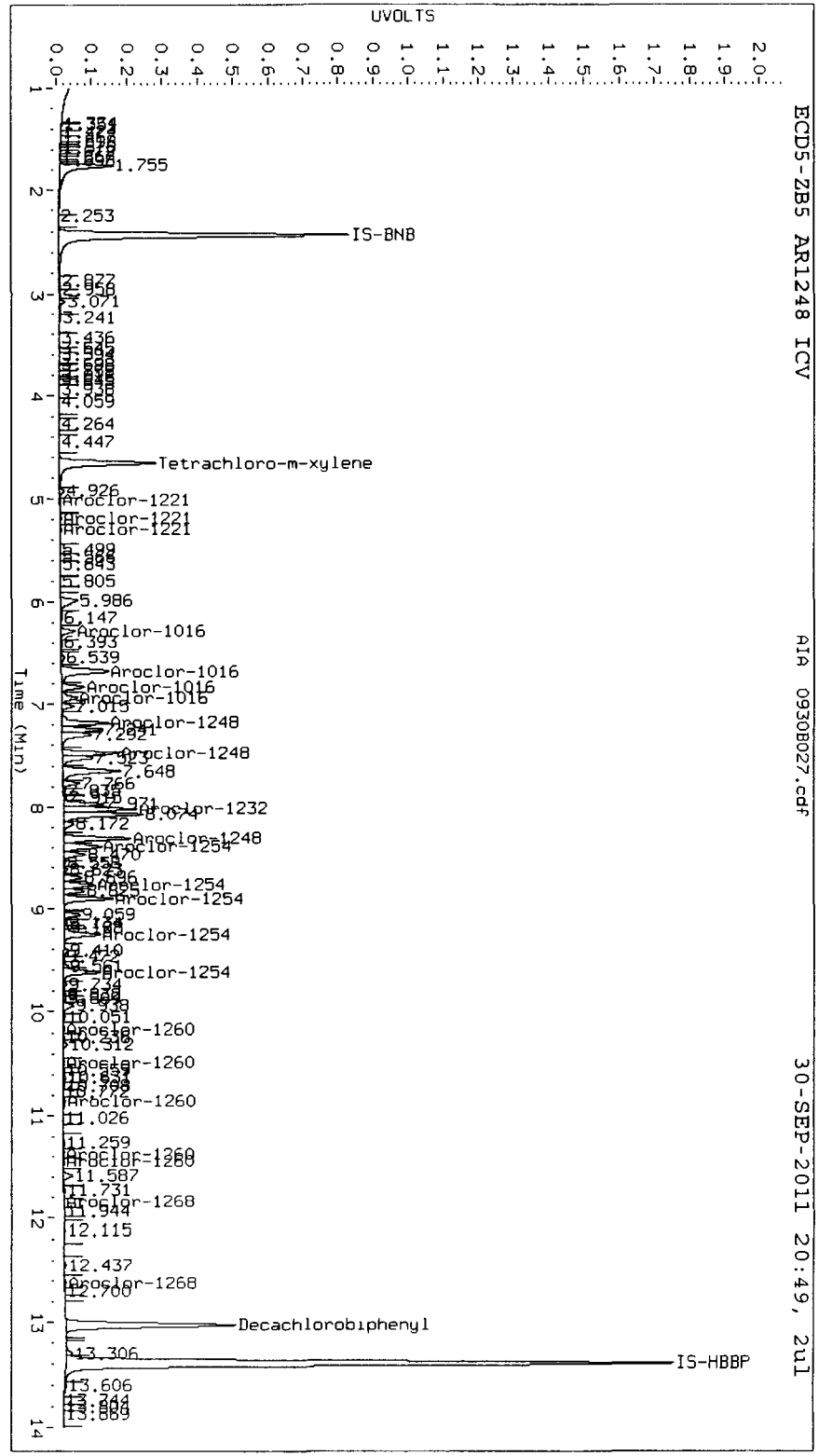
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl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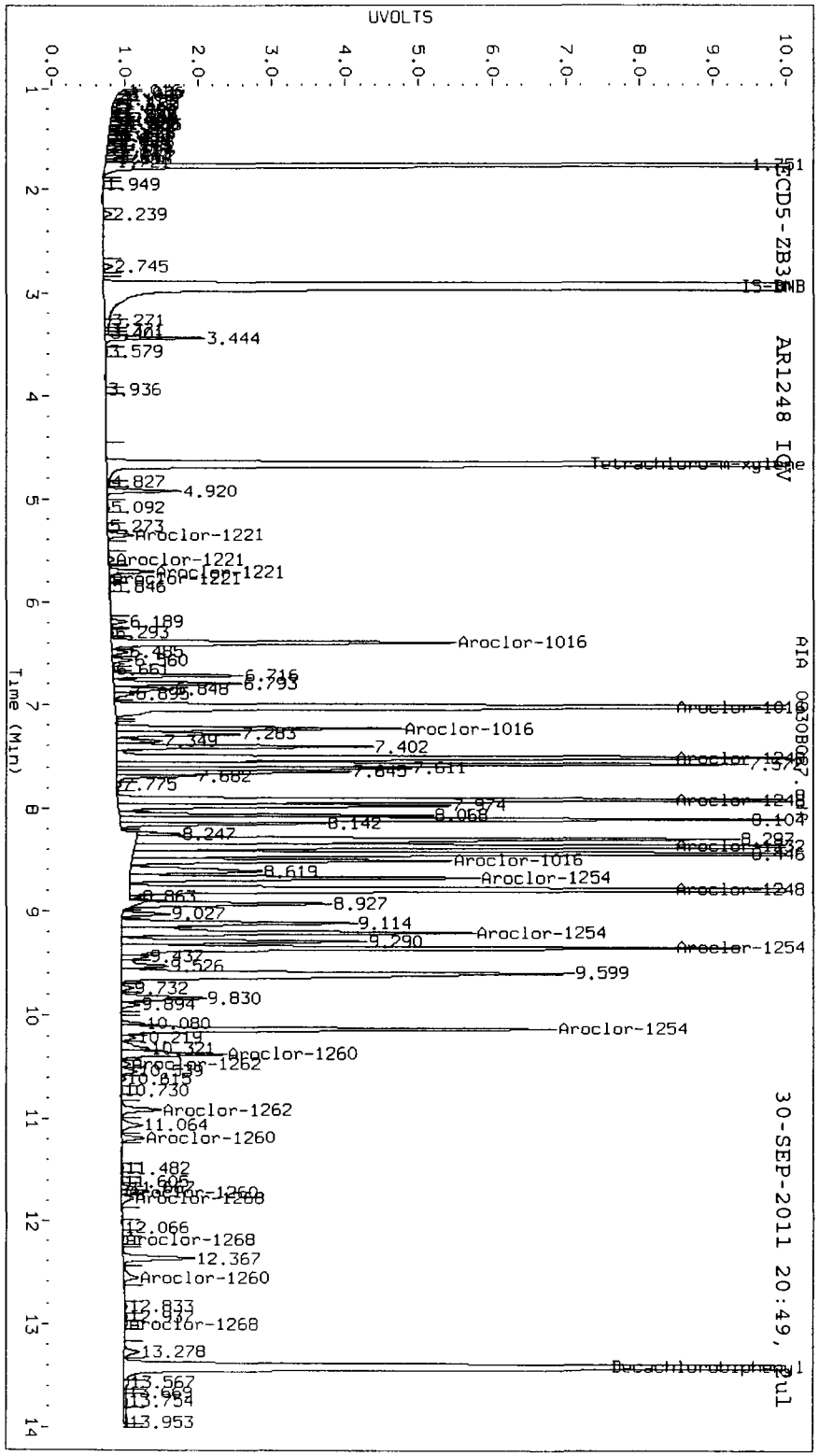
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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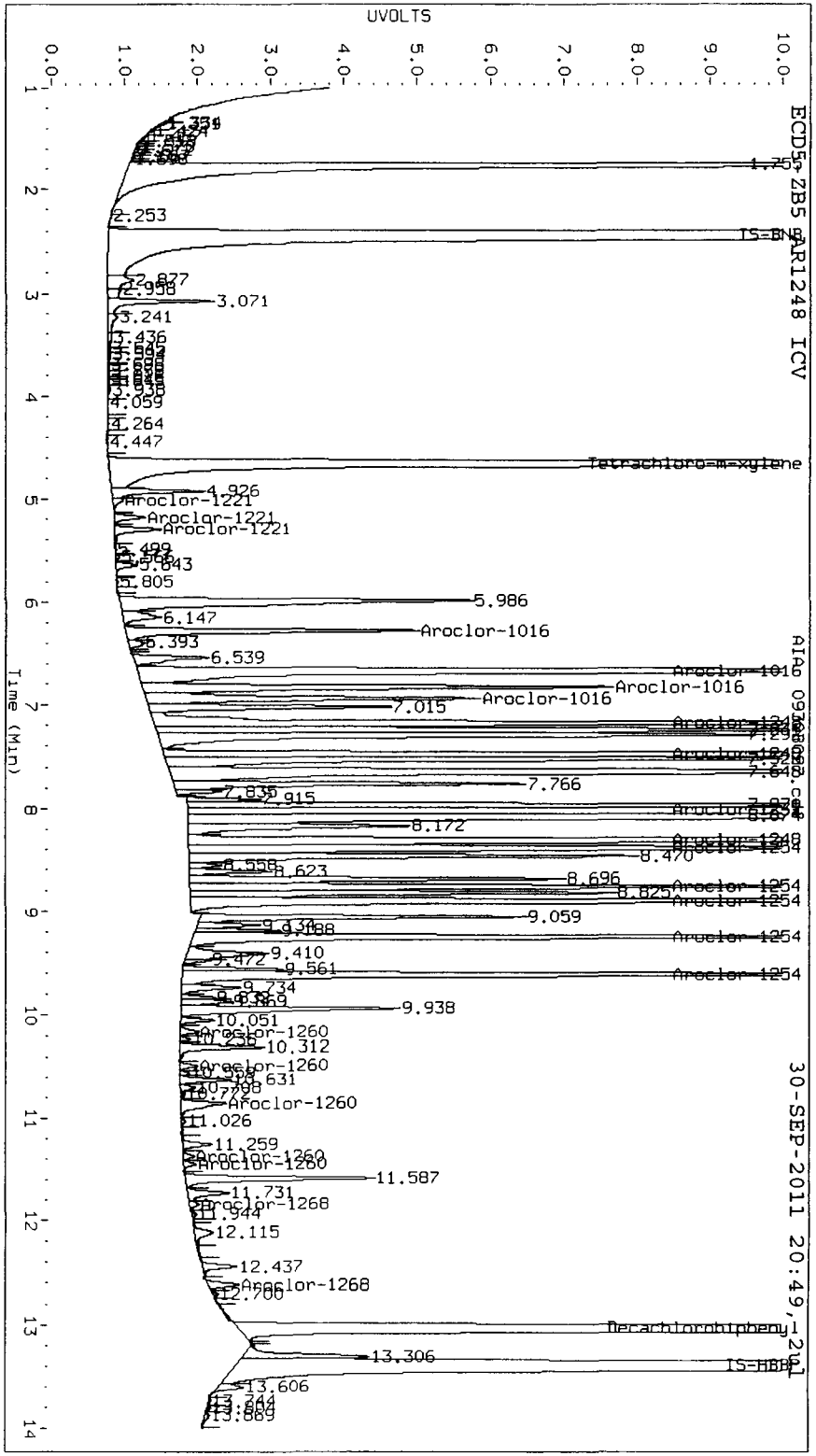
Decachlorobiphenyl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Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1254
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS=HBB

TQ80:00143

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B028.d
Data file 2: 20110930.B/ical-2.b/0930B028.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254 ICV
Client ID:
Injection Date: 30-SEP-2011 21:08
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.650	0.000	44125442	4.658	0.000	30555310	20.7	21.5	4.0	Tetrachloro-m-xylene
13.032	-0.001	76829483	13.417	0.000	29062640	18.4	19.0	3.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

gr 10/06/11

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.7	53.8
Decachlorobiphenyl	46.0	47.5

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	123999069	3.9
Hexabromobiphenyl	247758184	262522642	6.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	94010944	3.0
Hexabromobiphenyl	103671329	110223953	6.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.280	0.000	237311	4.1	1	6.393	-0.001	216772	3.9
Aroclor-1016	2	6.670	-0.010	1291139	6.5	2	7.010	-0.009	623454	5.0
Aroclor-1016	3	6.833	0.006	691225	8.6	3	7.226	0.000	142757	3.0
Aroclor-1016	4	6.936	-0.002	392583	6.9	4	8.511	0.000	13194877	497.8
Total Col1Ave (4 peaks):					6.5	Total Col2Ave (4 peaks):			127.4	RPD = 180*
Corrected Ave (3 peaks):					5.8	Corrected Ave (3 peaks):			3.9	RPD = 39
Aroclor-1221	1	4.926	-0.094	2070705	99.2	1	5.361	0.019	380283	23.6
Aroclor-1221	2	5.186	-0.012	471962	32.0	2	5.594	0.006	11381	1.2
Aroclor-1221	3	5.303	-0.001	92877	1.9	3	5.704	0.003	135208	4.5
Aroclor-1221	NS	---			----	4	---			0.0
Total Col1Ave (3 peaks):					44.4	Total Col2Ave (3 peaks):			9.8	RPD = 128*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	6.280	-0.001	237311	9.8	1	6.393	-0.003	216772	8.4
Aroclor-1232	2	6.670	-0.010	1291139	16.1	2	7.010	-0.009	623454	11.7
Aroclor-1232	3	6.833	0.005	691225	21.3	3	7.226	-0.001	142757	7.7
Aroclor-1232	4	8.019	0.000	12638743	368.6	4	8.370	0.000	7455211	360.7
Total Col1Ave (4 peaks):					104.0	Total Col2Ave (4 peaks):			97.1	RPD = 7
Corrected Ave (3 peaks):					15.7	Corrected Ave (3 peaks):			9.3	RPD = 52*
Aroclor-1242	1	6.280	0.000	237311	5.4	1	6.393	0.000	216772	4.9
Aroclor-1242	2	6.670	-0.010	1291139	8.9	2	7.010	-0.008	623454	6.3
Aroclor-1242	3	6.833	0.006	691225	11.7	3	7.226	0.000	142757	3.7
Aroclor-1242	4	8.019	0.000	12638743	216.7	4	8.370	0.000	7455211	211.3
Total Col1Ave (4 peaks):					60.7	Total Col2Ave (4 peaks):			56.6	RPD = 7
Corrected Ave (3 peaks):					8.7	Corrected Ave (3 peaks):			5.0	RPD = 54*
Aroclor-1248	1	7.176	-0.001	12703583	193.0	1	7.505	-0.001	7675676	171.0
Aroclor-1248	2	7.474	-0.001	9435477	126.6	2	7.920	0.000	4540106	87.3
Aroclor-1248	3	8.019	0.000	12638743	135.0	3	8.370	0.000	7455211	128.7
Aroclor-1248	4	8.315	0.004	8952179	95.8	4	8.777	-0.016	8701603	138.6
Total Col1Ave (4 peaks):					137.6	Total Col2Ave (4 peaks):			131.4	RPD = 5
Corrected Ave (3 peaks):					119.1	Corrected Ave (3 peaks):			118.2	RPD = 1
Aroclor-1254	1	8.394	0.000	38937940	259.5	1	8.511	0.000	13194877	260.8
Aroclor-1254	2	8.765	-0.001	26974851	261.3	2	8.683	-0.001	17251378	261.6
Aroclor-1254	3	8.901	-0.001	47948538	258.4	3	9.206	0.000	13910716	262.3
Aroclor-1254	4	9.251	0.000	51967052	245.7	4	9.357	0.000	29279294	257.5
Aroclor-1254	5	9.612	0.000	38740657	256.0	5	10.139	0.001	18186656	257.9
Total Col1Ave (5 peaks):					256.2	Total Col2Ave (5 peaks):			260.0	RPD = 1
Corrected Ave (4 peaks):					254.9	Corrected Ave (4 peaks):			259.5	RPD = 2
Aroclor-1260	1	10.166	-0.320	3064596	21.6	1	10.372	0.000	21680748	219.3
Aroclor-1260	2	10.486	-0.374	3592117	10.0	2	11.191	0.000	4263658	27.9
Aroclor-1260	3	10.858	-0.401	8972019	43.3	3	11.714	0.000	583044	12.5
Aroclor-1260	4	11.376	-0.001	390230	4.4	4	12.515	0.003	140653	3.2
Aroclor-1260	5	11.449	-0.001	434401	4.2	NS	---			----
Total Col1Ave (5 peaks):					16.7	Total Col2Ave (4 peaks):			65.7	RPD = 119*
Corrected Ave (4 peaks):					10.0	Corrected Ave (3 peaks):			14.5	RPD = 36
Aroclor-1262	1	10.166	-0.002	3064596	14.5	1	10.468	-0.001	1068468	10.7
Aroclor-1262	2	10.486	0.001	3592117	21.0	2	10.915	-0.006	7882462	83.0
Aroclor-1262	3	10.858	-0.001	8972019	21.6	3	11.191	-0.001	4263658	23.0
Aroclor-1262	4	11.376	-0.001	390230	2.0	4	11.714	0.000	583044	6.6
Aroclor-1262	5	11.449	-0.001	434401	2.2	5	12.515	0.002	140653	1.9
Total Col1Ave (5 peaks):					12.3	Total Col2Ave (5 peaks):			25.1	RPD = 69*
Corrected Ave (4 peaks):					9.9	Corrected Ave (4 peaks):			10.6	RPD = 6
Aroclor-1268	1	11.376	-0.002	390230	0.8	1	11.714	-0.001	583044	2.7
Aroclor-1268	2	11.449	0.000	434401	1.0	2	11.771	-0.010	2942400	15.7

Aroclor-1268	3	11.847	0.011	353665	0.9	3	12.184	0.004	16463	0.1
Aroclor-1268	4	12.612	-0.015	632488	0.5	4	13.001	0.000	56319	0.1

Total Col1Ave (4 peaks): 0.8 Total Col2Ave (4 peaks): 4.6 RPD = 140*

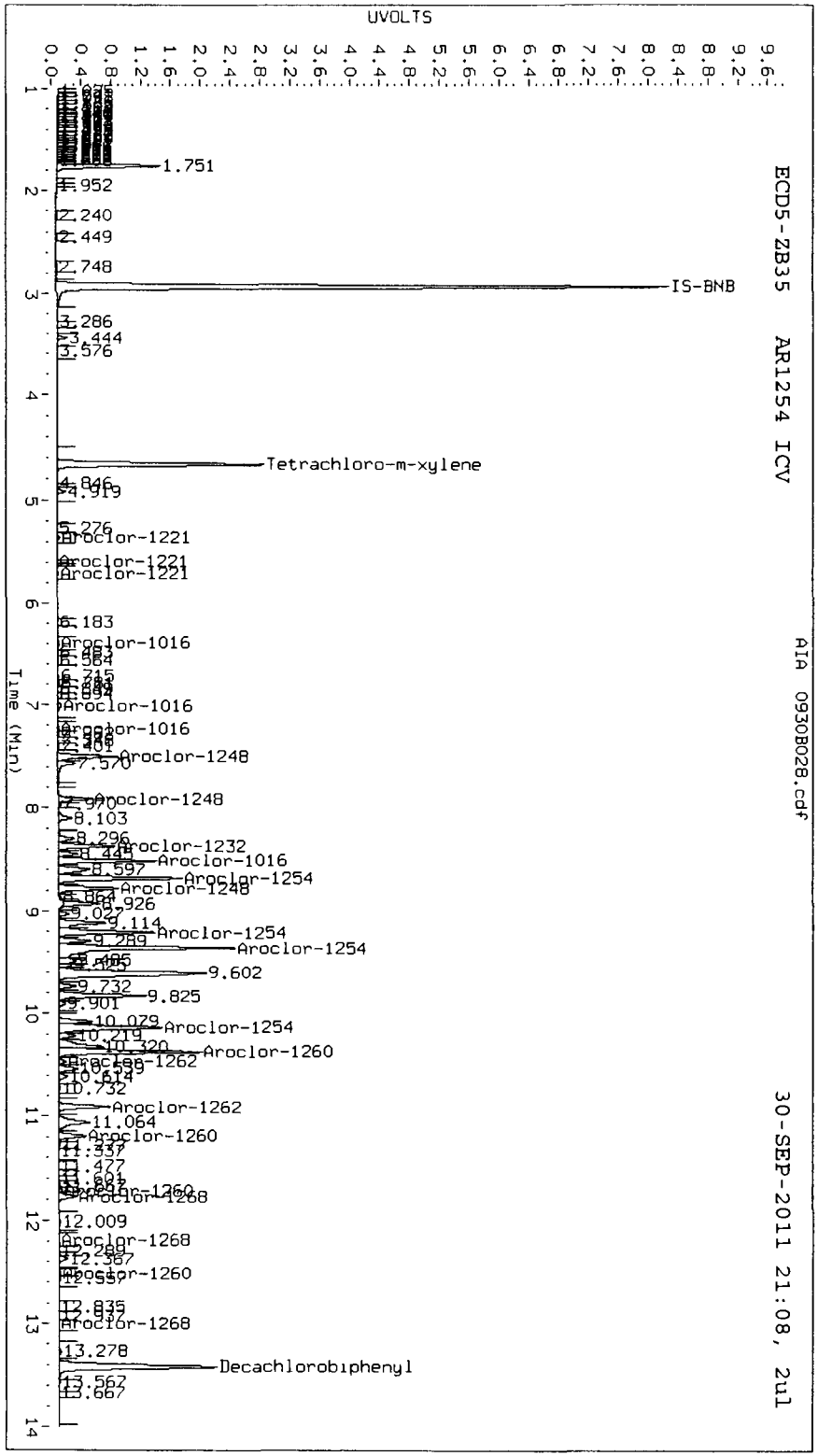
Corrected Ave (3 peaks): 0.8 Corrected Ave (3 peaks): 1.0 RPD = 24

Total PCB Area Col1 (4.750 - 12.933) = 547102801 Col1 Total PCB = 0.3 ppm*

Total PCB Area Col2 (4.758 - 13.317) = 275757321 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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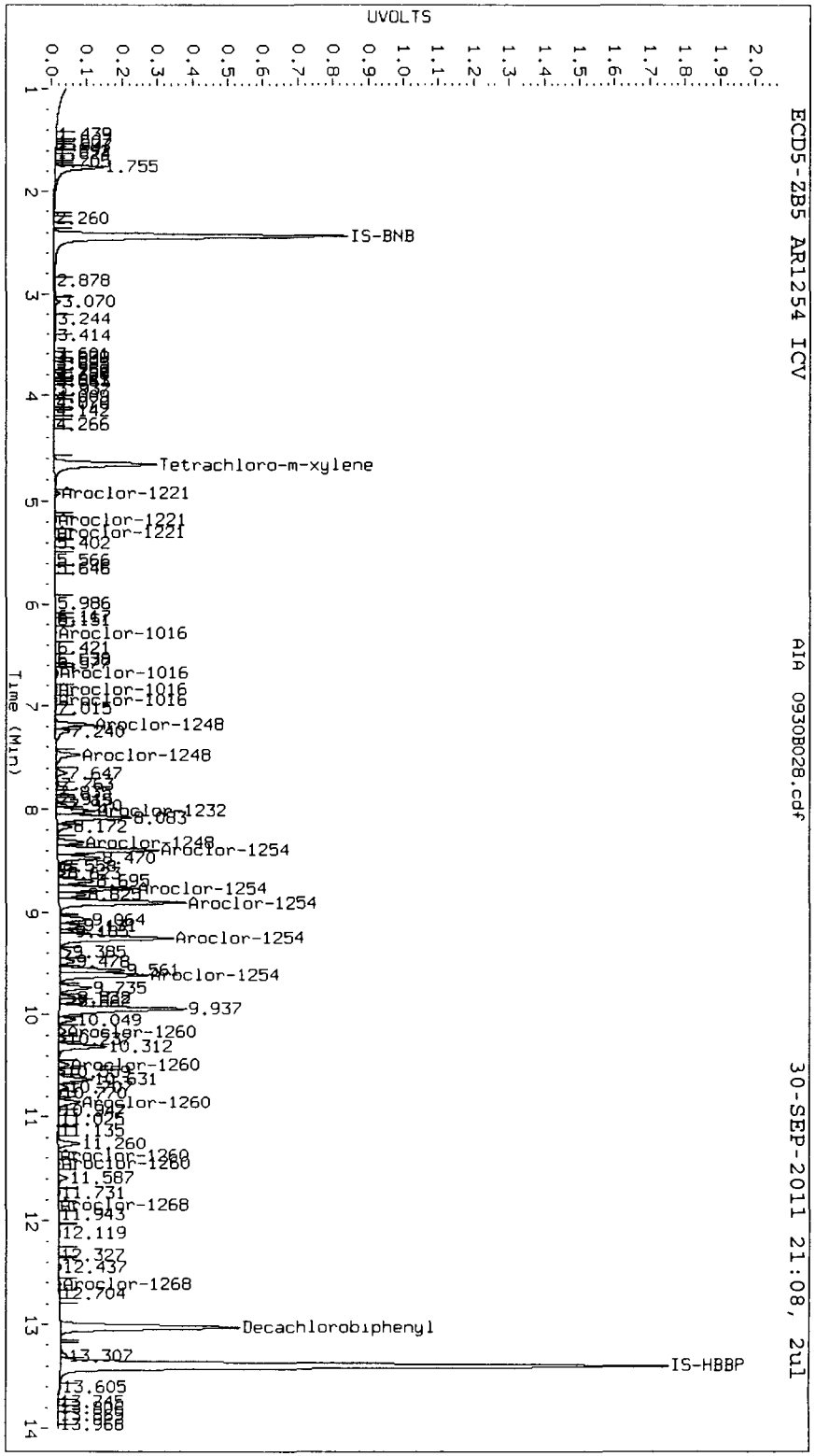
30-SEP-2011 21:08, 2ul
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Decachlorobiphenyl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Time (Min)
IS-BNB
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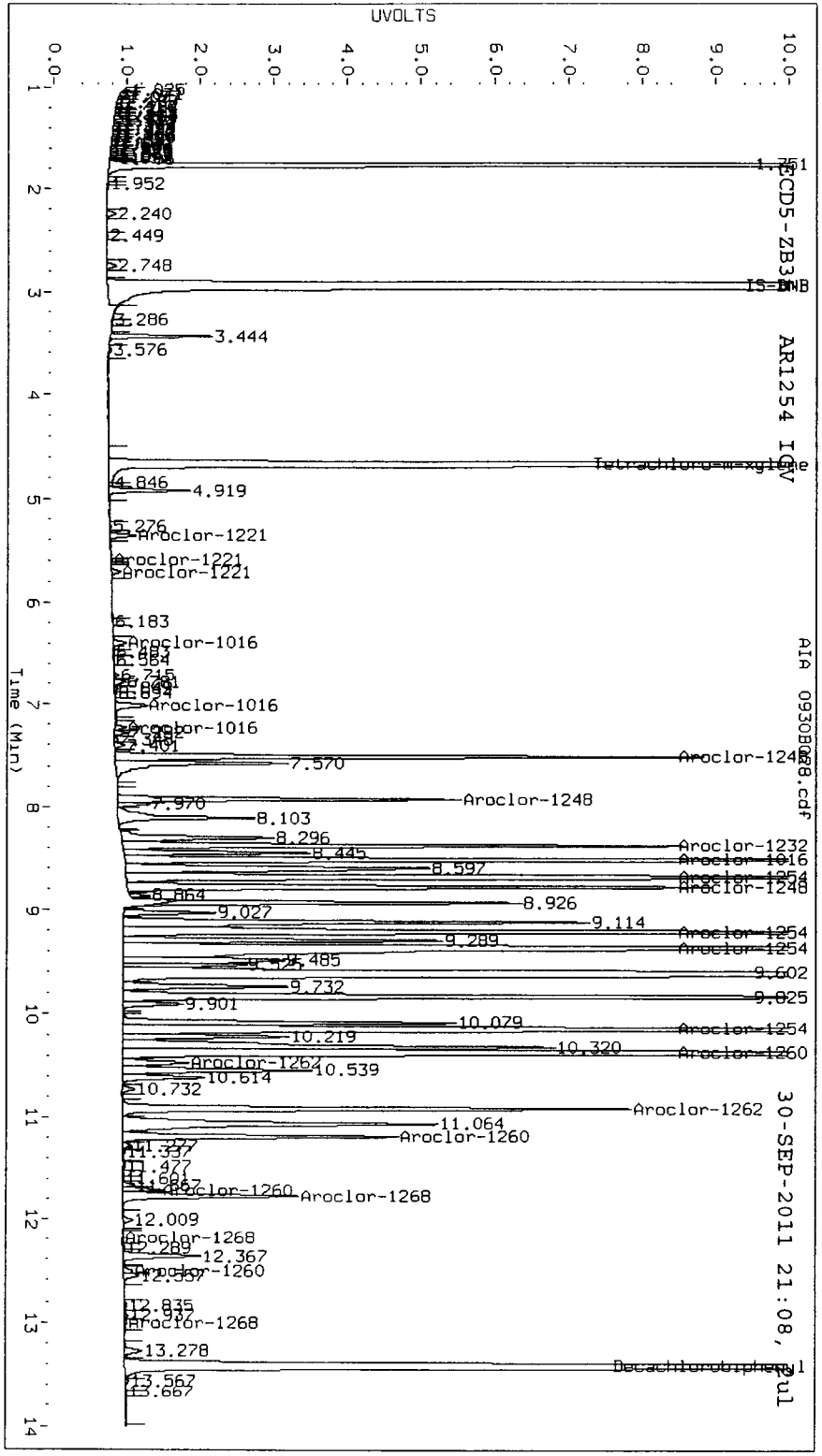
Decachlorobiphenyl
IS-HBBP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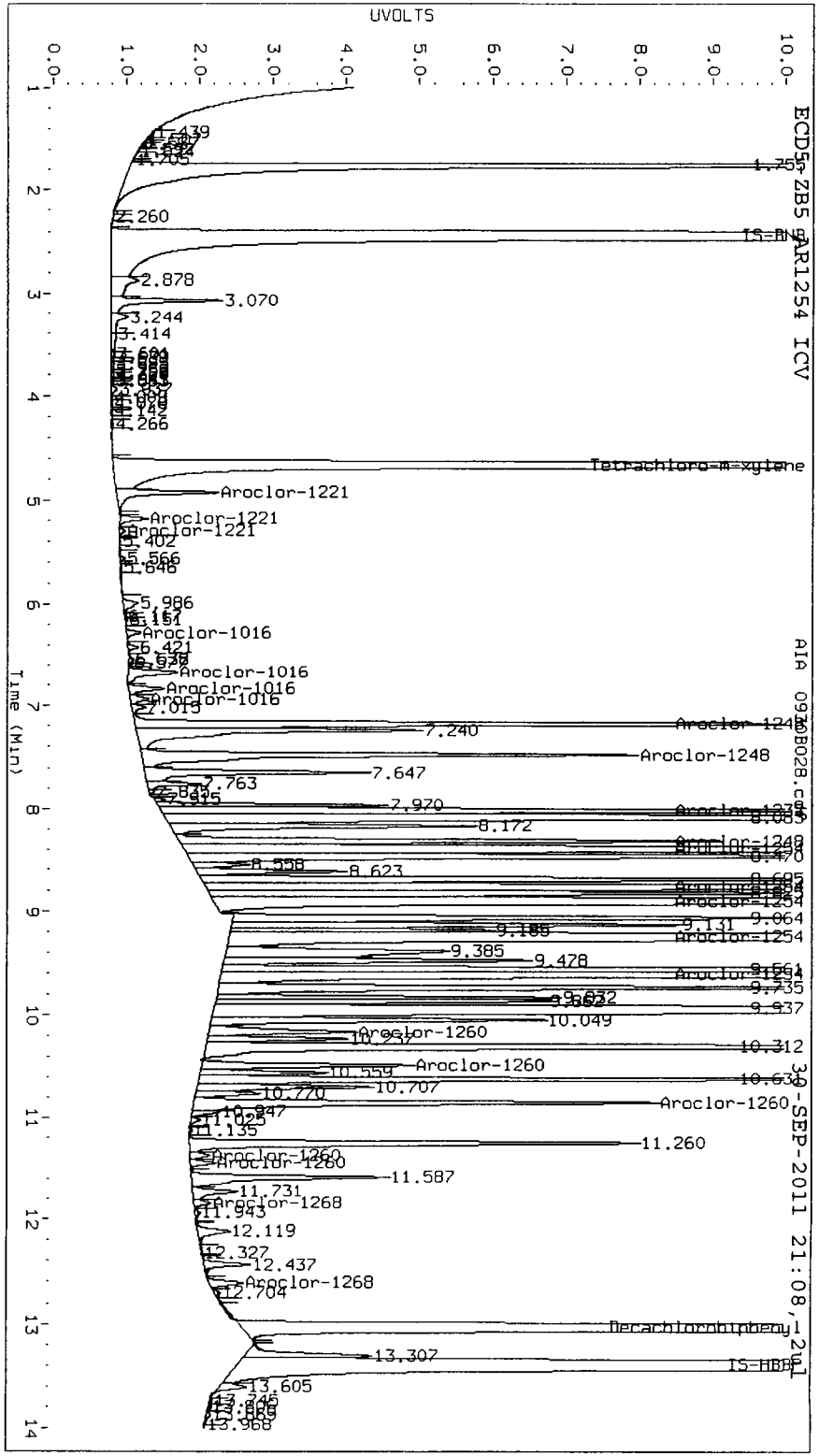
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl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Time (Min)
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Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBB

TQ88:09148

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B029.d
Data file 2: 20110930.B/ical-2.b/0930B029.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162 ICV
Client ID:
Injection Date: 30-SEP-2011 21:27
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.650	0.000	42912651	4.657	-0.001	29370949	20.3	21.1	3.8	Tetrachloro-m-xylene
13.031	-0.001	74782431	13.417	0.000	28221063	17.8	18.3	2.8	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

10/06/11

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	50.7	52.7
Decachlorobiphenyl	44.5	45.7

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	122906238	3.0
Hexabromobiphenyl	247758184	264368956	6.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	92316058	1.2
Hexabromobiphenyl	103671329	111102769	7.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.280	0.000	1261813	22.2	1	6.406	0.013	2385067	43.4
Aroclor-1016	2	6.680	0.000	3842317	19.5	2	7.019	0.000	2267258	18.4
Aroclor-1016	3	6.827	0.000	1687471	21.2	3	7.227	0.001	1019769	21.6
Aroclor-1016	4	6.938	0.001	1213082	21.5	4	8.511	0.000	2464454	94.7
Total Col1Ave (4 peaks):					21.1	Total Col2Ave (4 peaks):				44.5 RPD = 71*
Corrected Ave (3 peaks):					20.7	Corrected Ave (3 peaks):				27.8 RPD = 29
Aroclor-1221	1	5.021	0.001	5511187	266.4	1	5.342	0.000	4097795	258.8
Aroclor-1221	2	5.200	0.001	3879159	265.6	2	5.589	0.001	2334735	257.1
Aroclor-1221	3	5.304	0.001	13321305	269.6	3	5.701	0.000	7648485	258.0
Aroclor-1221	NS	---			----	4	5.770	0.001	1294608	261.4
Total Col1Ave (3 peaks):					267.2	Total Col2Ave (4 peaks):				258.8 RPD = 3
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				258.0
Aroclor-1232	1	6.280	0.000	1261813	52.7	1	6.406	0.011	2385067	94.2
Aroclor-1232	2	6.680	0.001	3842317	48.3	2	7.019	0.000	2267258	43.2
Aroclor-1232	3	6.827	-0.001	1687471	52.3	3	7.227	0.000	1019769	55.9
Aroclor-1232	4	8.019	0.000	986227	29.0	4	8.370	0.000	543503	26.8
Total Col1Ave (4 peaks):					45.6	Total Col2Ave (4 peaks):				55.0 RPD = 19
Corrected Ave (3 peaks):					43.2	Corrected Ave (3 peaks):				42.0 RPD = 3
Aroclor-1242	1	6.280	0.000	1261813	28.8	1	6.406	0.013	2385067	55.4
Aroclor-1242	2	6.680	0.000	3842317	26.7	2	7.019	0.001	2267258	23.4
Aroclor-1242	3	6.827	0.000	1687471	28.9	3	7.227	0.001	1019769	26.7
Aroclor-1242	4	8.019	0.000	986227	17.1	4	8.370	0.000	543503	15.7
Total Col1Ave (4 peaks):					25.4	Total Col2Ave (4 peaks):				30.3 RPD = 18
Corrected Ave (3 peaks):					24.2	Corrected Ave (3 peaks):				21.9 RPD = 10
Aroclor-1248	1	7.177	0.000	974937	14.9	1	7.506	0.000	611653	13.9
Aroclor-1248	2	7.474	-0.001	813579	11.0	2	7.922	0.002	852029	16.7
Aroclor-1248	3	8.019	-0.001	986227	10.6	3	8.370	0.000	543503	9.6
Aroclor-1248	4	8.313	0.002	1293304	14.0	4	8.788	-0.005	600565	9.7
Total Col1Ave (4 peaks):					12.6	Total Col2Ave (4 peaks):				12.5 RPD = 1
Corrected Ave (3 peaks):					11.9	Corrected Ave (3 peaks):				11.1 RPD = 7
Aroclor-1254	1	8.395	0.001	6437739	43.3	1	8.511	0.000	2464454	49.6
Aroclor-1254	2	8.765	-0.001	1293704	12.6	2	8.682	-0.001	2919509	45.1
Aroclor-1254	3	8.867	-0.035	8998325	48.9	3	9.206	0.000	579987	11.1
Aroclor-1254	4	9.232	-0.019	31807462	151.7	4	9.396	0.039	13225493	118.5
Aroclor-1254	5	9.560	-0.052	42206202	305.0	5	10.152	0.014	3266920	47.2
Total Col1Ave (5 peaks):					112.3	Total Col2Ave (5 peaks):				54.3 RPD = 70*
Corrected Ave (4 peaks):					64.1	Corrected Ave (4 peaks):				38.3 RPD = 51*
Aroclor-1260	1	10.168	-0.318	52376087	366.4	1	10.372	0.000	9985379	100.2
Aroclor-1260	2	10.485	-0.375	44369836	122.1	2	11.191	0.000	44856553	290.9
Aroclor-1260	3	10.859	-0.400	99892486	478.2	3	11.714	0.001	22388161	474.7
Aroclor-1260	4	11.376	-0.001	49795442	556.8	4	12.513	0.001	18217908	407.0
Aroclor-1260	5	11.450	-0.001	51623321	491.4	NS	---			----
Total Col1Ave (5 peaks):					403.0	Total Col2Ave (4 peaks):				318.2 RPD = 24
Corrected Ave (4 peaks):					364.5	Corrected Ave (3 peaks):				266.0 RPD = 31
Aroclor-1262	1	10.168	0.000	52376087	246.1	1	10.468	0.000	24528116	244.7
Aroclor-1262	2	10.485	0.000	44369836	257.4	2	10.921	0.000	24511509	256.2
Aroclor-1262	3	10.859	-0.001	99892486	238.9	3	11.191	-0.001	44856553	240.2
Aroclor-1262	4	11.376	-0.001	49795442	259.7	4	11.714	0.000	22388161	252.3
Aroclor-1262	5	11.450	0.000	51623321	255.3	5	12.513	0.000	18217908	249.5
Total Col1Ave (5 peaks):					251.5	Total Col2Ave (5 peaks):				248.6 RPD = 1
Corrected Ave (4 peaks):					249.4	Corrected Ave (4 peaks):				246.7 RPD = 1
Aroclor-1268	1	11.376	-0.001	49795442	107.3	1	11.714	-0.001	22388161	102.2
Aroclor-1268	2	11.450	0.000	51623321	115.0	2	11.777	-0.005	32291557	170.7

Aroclor-1268	3	11.850	0.014	22833854	57.2	3	12.179	-0.001	1470476	9.2
Aroclor-1268	4	12.624	-0.003	19691663	16.9	4	13.001	0.000	6708235	13.8

Total Col1Ave (4 peaks): 74.1 Total Col2Ave (4 peaks): 74.0 RPD = 0

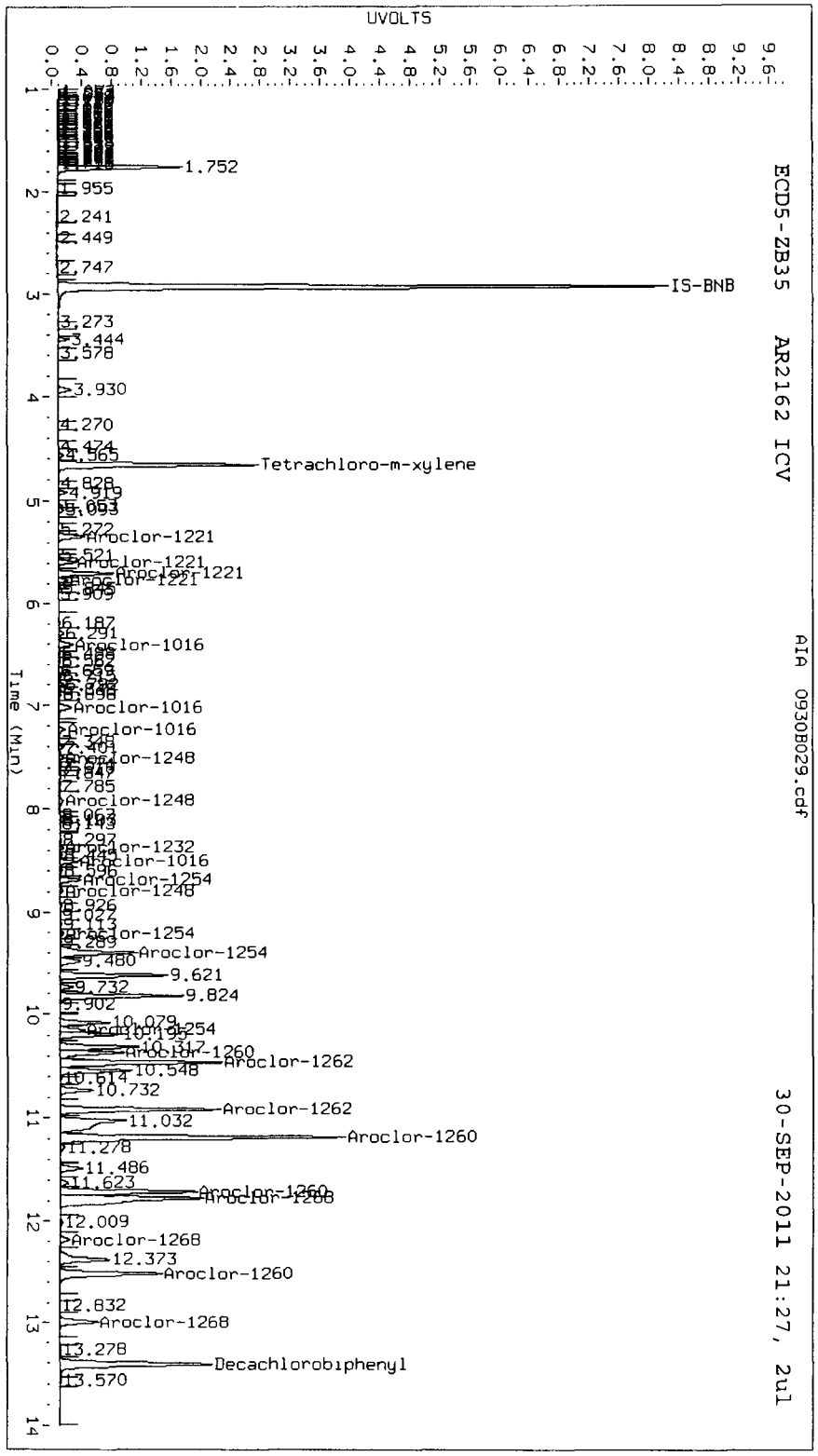
Corrected Ave (3 peaks): 60.5 Corrected Ave (3 peaks): 41.7 RPD = 37

Total PCB Area Col1 (4.750 - 12.933) = 792010074 Col1 Total PCB = 0.4 ppm*

Total PCB Area Col2 (4.758 - 13.317) = 358599304 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
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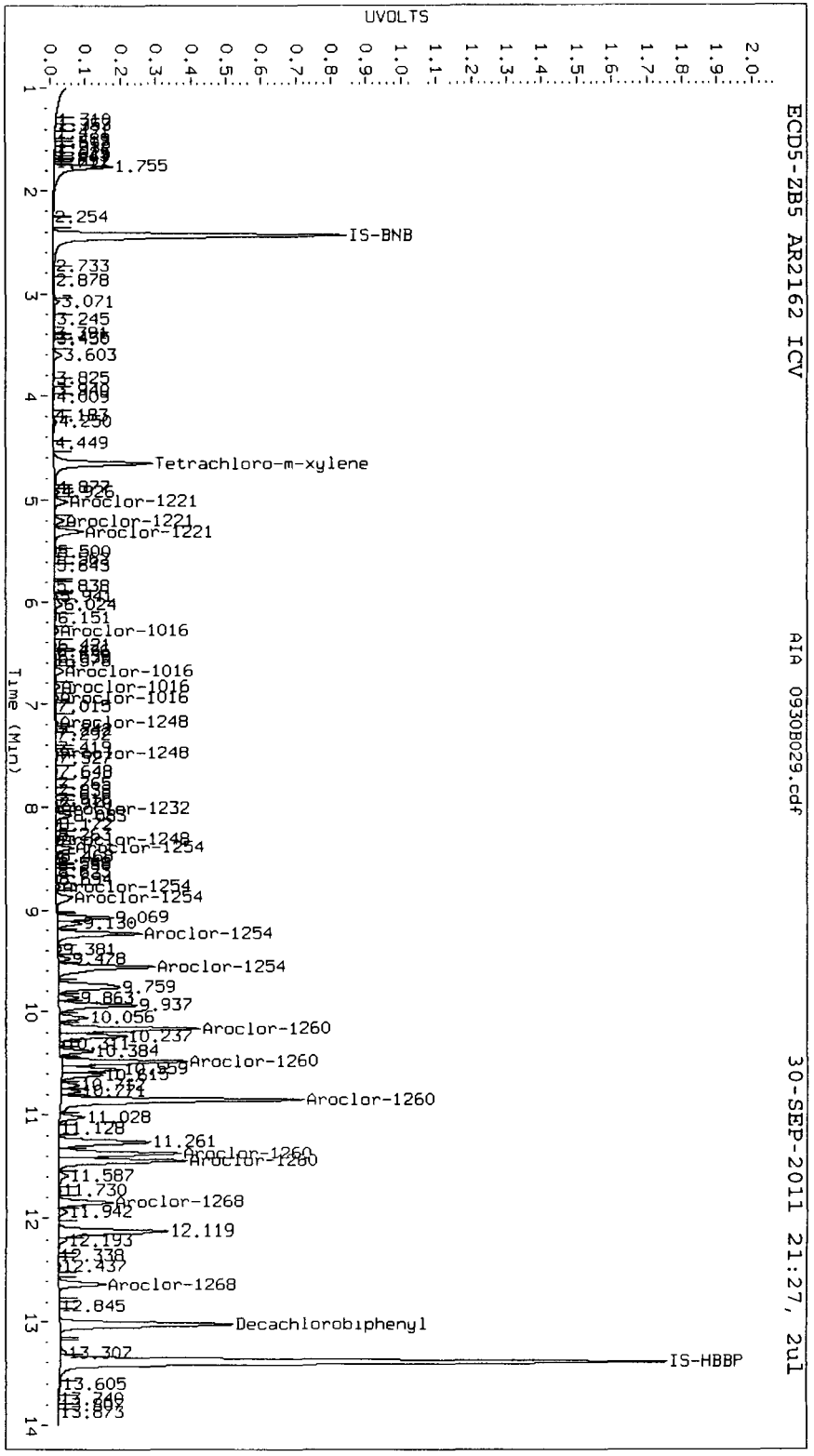
Aroclor-1254
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl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Aroclor-1016
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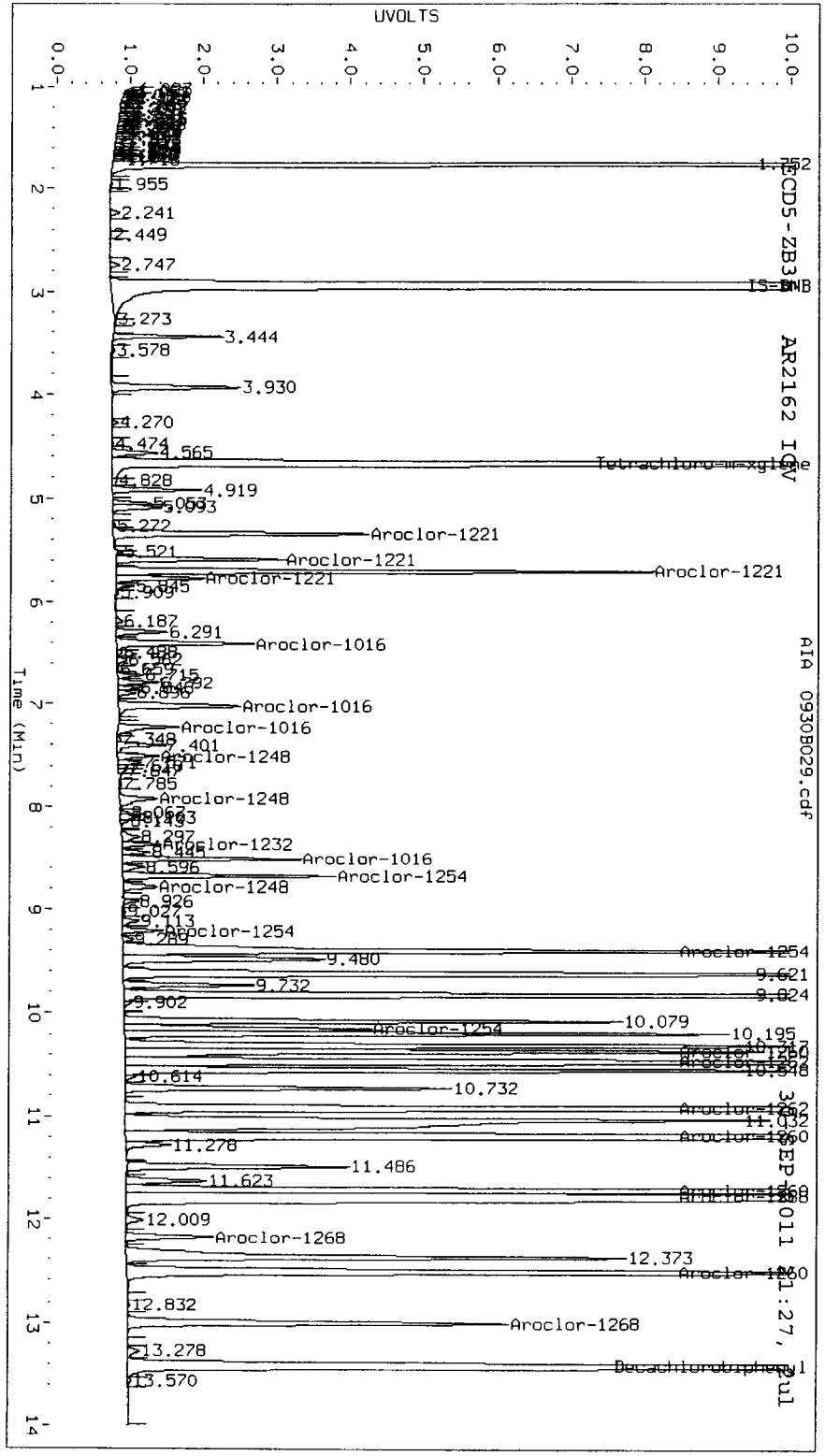
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TQ80 : 001152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AR2162 ICV
AIA 0930B029.cdf
EP 2011:27, 2ul
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IS=BNB
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Tetrachloro-m-xylene
4.919
Aroclor-1221
Aroclor-1221
Aroclor-1221
Aroclor-1016
Aroclor-1016
Aroclor-1248
Aroclor-1248
Aroclor-1232
Aroclor-1016
Aroclor-1254
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Aroclor-1254
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10.195
10.614
10.732
11.278
11.486
11.623
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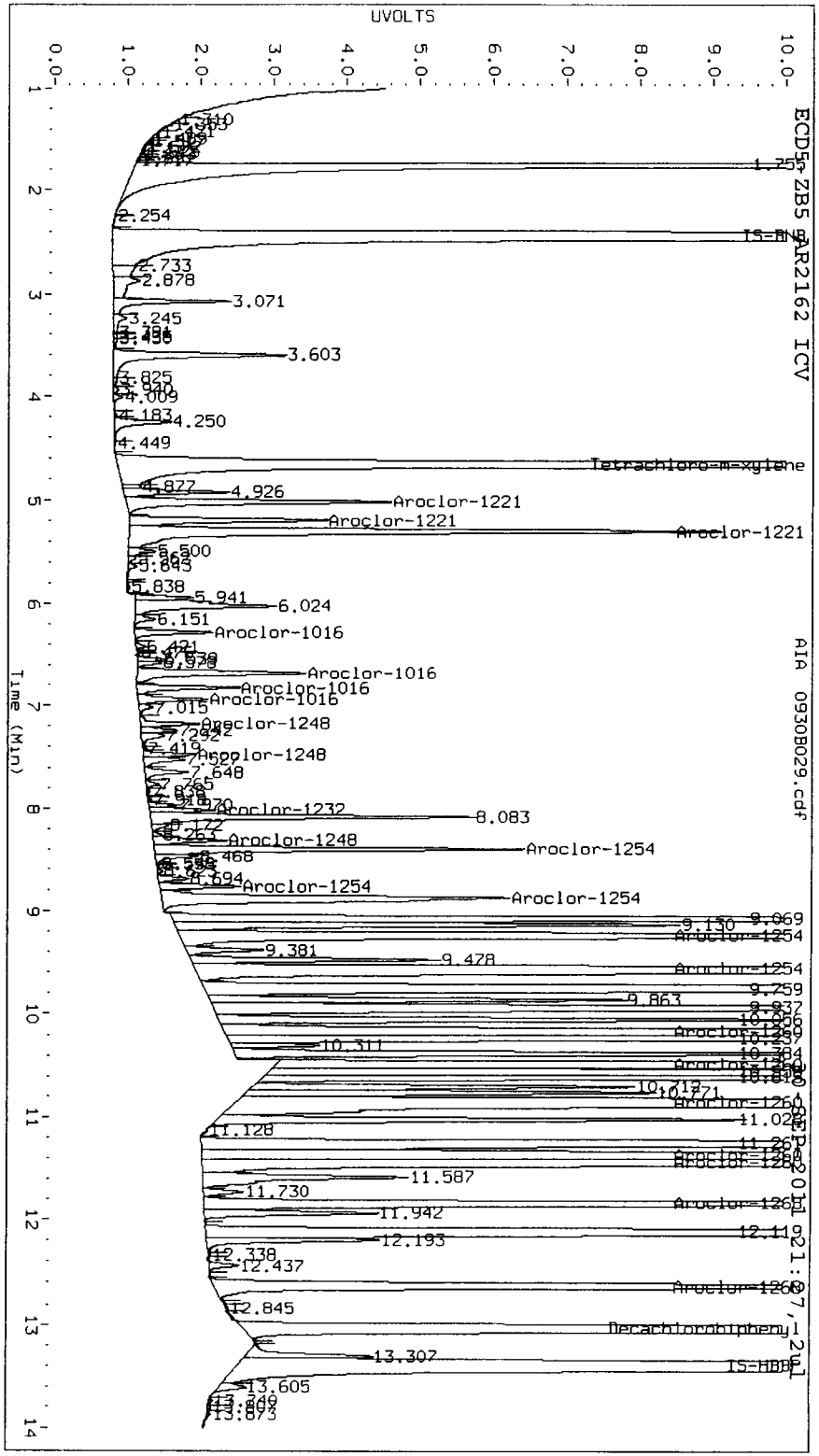
Aroclor-1268
12.373
12.832
Aroclor-1268
13.278
Decachlorobiphenyl
13.570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AR2162 ICV
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EP 2011:27, 2ul
Time (Min)
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2.878
3.071
3.245
3.603
4.250
4.449
Tetrachloro-m-xylene
4.926
Aroclor-1221
Aroclor-1221
Aroclor-1221
5.941
6.024
6.151
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1248
Aroclor-1248
Aroclor-1232
8.083
Aroclor-1248
Aroclor-1254
Aroclor-1254
Aroclor-1254
9.069
9.130
Aroclor-1254
9.381
9.478
Aroclor-1254
9.259
9.863
10.311
10.384
10.712
11.028
11.128
11.587
11.730
11.942
12.193
12.119
12.338
12.437
12.845
Decachlorobiphenyl
13.307
IS=HBBB
13.605
13.873

TQ80:001153

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/ical-1.b/0930B030.d
Data file 2: 20110930.B/ical-2.b/0930B030.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268 ICV
Client ID:
Injection Date: 30-SEP-2011 21:46
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.649	-0.001	42842748	4.656	-0.001	29352001	20.0	20.8	3.9	Tetrachloro-m-xylene
13.032	-0.001	117482978	13.416	-0.001	45778611	28.0	29.6	5.6	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

pa 10/06/11

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	50.1	52.1
Decachlorobiphenyl	70.0	74.0

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	124264777	4.1
Hexabromobiphenyl	247758184	264101558	6.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	93278062	2.2
Hexabromobiphenyl	103671329	111348929	7.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.279	-0.001	6596514	114.7	1	6.394	0.001	6943127	124.9
Aroclor-1016	2	6.679	-0.002	21983836	110.2	2	7.017	-0.001	14161116	113.9
Aroclor-1016	3	6.827	-0.001	8797852	109.5	3	7.226	0.000	5515594	115.6
Aroclor-1016	4	6.937	-0.001	6677978	116.9	4	8.511	0.000	798920	30.4
Total Col1Ave (4 peaks):				112.8		Total Col2Ave (4 peaks):			96.2	RPD = 16
Corrected Ave (3 peaks):				111.5		Corrected Ave (3 peaks):			86.6	RPD = 25
Aroclor-1221	1	5.019	-0.001	3434456	164.2	1	5.343	0.001	2574474	160.9
Aroclor-1221	2	5.198	-0.001	2764946	187.2	2	5.589	0.001	1583052	172.5
Aroclor-1221	3	5.303	-0.001	10447877	209.1	3	5.701	0.000	6232832	208.1
Aroclor-1221	NS	---			----	4	5.769	0.000	726499	145.2
Total Col1Ave (3 peaks):				186.9		Total Col2Ave (4 peaks):			171.7	RPD = 8
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			159.5	
Aroclor-1232	1	6.279	-0.001	6596514	272.6	1	6.394	-0.001	6943127	271.4
Aroclor-1232	2	6.679	-0.001	21983836	273.2	2	7.017	-0.001	14161116	267.3
Aroclor-1232	3	6.827	-0.001	8797852	269.9	3	7.226	-0.001	5515594	299.4
Aroclor-1232	4	8.018	-0.001	7724554	224.8	4	8.370	-0.001	4447950	216.9
Total Col1Ave (4 peaks):				260.1		Total Col2Ave (4 peaks):			263.7	RPD = 1
Corrected Ave (3 peaks):				255.8		Corrected Ave (3 peaks):			251.9	RPD = 2
Aroclor-1242	1	6.279	-0.001	6596514	149.0	1	6.394	0.001	6943127	159.6
Aroclor-1242	2	6.679	-0.001	21983836	151.2	2	7.017	-0.001	14161116	144.5
Aroclor-1242	3	6.827	-0.001	8797852	149.2	3	7.226	0.000	5515594	142.8
Aroclor-1242	4	8.018	-0.001	7724554	132.2	4	8.370	0.000	4447950	127.1
Total Col1Ave (4 peaks):				145.4		Total Col2Ave (4 peaks):			143.5	RPD = 1
Corrected Ave (3 peaks):				143.5		Corrected Ave (3 peaks):			138.1	RPD = 4
Aroclor-1248	1	7.176	-0.001	4899506	74.3	1	7.506	0.000	3601660	80.9
Aroclor-1248	2	7.474	-0.001	6633182	88.8	2	7.920	0.000	5337620	103.4
Aroclor-1248	3	8.018	-0.001	7724554	82.3	3	8.370	0.000	4447950	77.4
Aroclor-1248	4	8.309	-0.002	8680305	92.7	4	8.793	0.001	5004606	80.3
Total Col1Ave (4 peaks):				84.5		Total Col2Ave (4 peaks):			85.5	RPD = 1
Corrected Ave (3 peaks):				81.8		Corrected Ave (3 peaks):			79.5	RPD = 3
Aroclor-1254	1	8.391	-0.003	3238717	21.5	1	8.511	-0.001	798920	15.9
Aroclor-1254	2	8.764	-0.001	1947746	18.8	2	8.683	-0.001	892504	13.6
Aroclor-1254	3	8.900	-0.001	3432706	18.5	3	9.206	0.000	907700	17.2
Aroclor-1254	4	9.250	-0.001	3055249	14.4	4	9.355	-0.002	1940793	17.2
Aroclor-1254	5	9.615	0.003	2202537	15.7	5	10.135	-0.003	914241	13.1
Total Col1Ave (5 peaks):				17.8		Total Col2Ave (5 peaks):			15.4	RPD = 14
Corrected Ave (4 peaks):				16.9		Corrected Ave (4 peaks):			15.0	RPD = 12
Aroclor-1260	1	10.168	-0.318	29720931	208.1	1	10.368	-0.004	671121	6.7
Aroclor-1260	2	10.485	-0.375	3170294	8.7	2	11.190	-0.001	8690821	56.2
Aroclor-1260	3	10.858	-0.402	22108790	106.0	3	11.714	0.001	52924137	1119.6
Aroclor-1260	4	11.377	0.000	119686315	1339.6	4	12.512	0.000	20240064	451.2
Aroclor-1260	5	11.449	-0.002	125766803	1198.3	NS	---			----
Total Col1Ave (5 peaks):				572.2		Total Col2Ave (4 peaks):			408.4	RPD = 33
Corrected Ave (4 peaks):				380.3		Corrected Ave (3 peaks):			171.4	RPD = 76*
Aroclor-1262	1	10.168	0.000	29720931	139.8	1	10.469	0.000	13029777	129.7
Aroclor-1262	2	10.485	0.000	3170294	18.4	2	10.922	0.001	14592198	152.2
Aroclor-1262	3	10.858	-0.002	22108790	52.9	3	11.190	-0.002	8690821	46.4
Aroclor-1262	4	11.377	0.000	119686315	624.9	4	11.714	0.000	52924137	595.2
Aroclor-1262	5	11.449	-0.001	125766803	622.7	5	12.512	-0.001	20240064	276.6
Total Col1Ave (5 peaks):				291.7		Total Col2Ave (5 peaks):			240.0	RPD = 19
Corrected Ave (4 peaks):				208.5		Corrected Ave (4 peaks):			151.2	RPD = 32
Aroclor-1268	1	11.377	-0.001	119686315	258.2	1	11.714	-0.001	52924137	241.0
Aroclor-1268	2	11.449	-0.001	125766803	280.5	2	11.781	0.000	53929616	284.5

Aroclor-1268	3	11.835	-0.001	93548113	234.5	3	12.180	0.000	37266605	231.6
Aroclor-1268	4	12.627	-0.001	256825004	220.5	4	13.001	0.000	106622686	219.6

Total Col1Ave (4 peaks): 248.4 Total Col2Ave (4 peaks): 244.2 RPD = 2

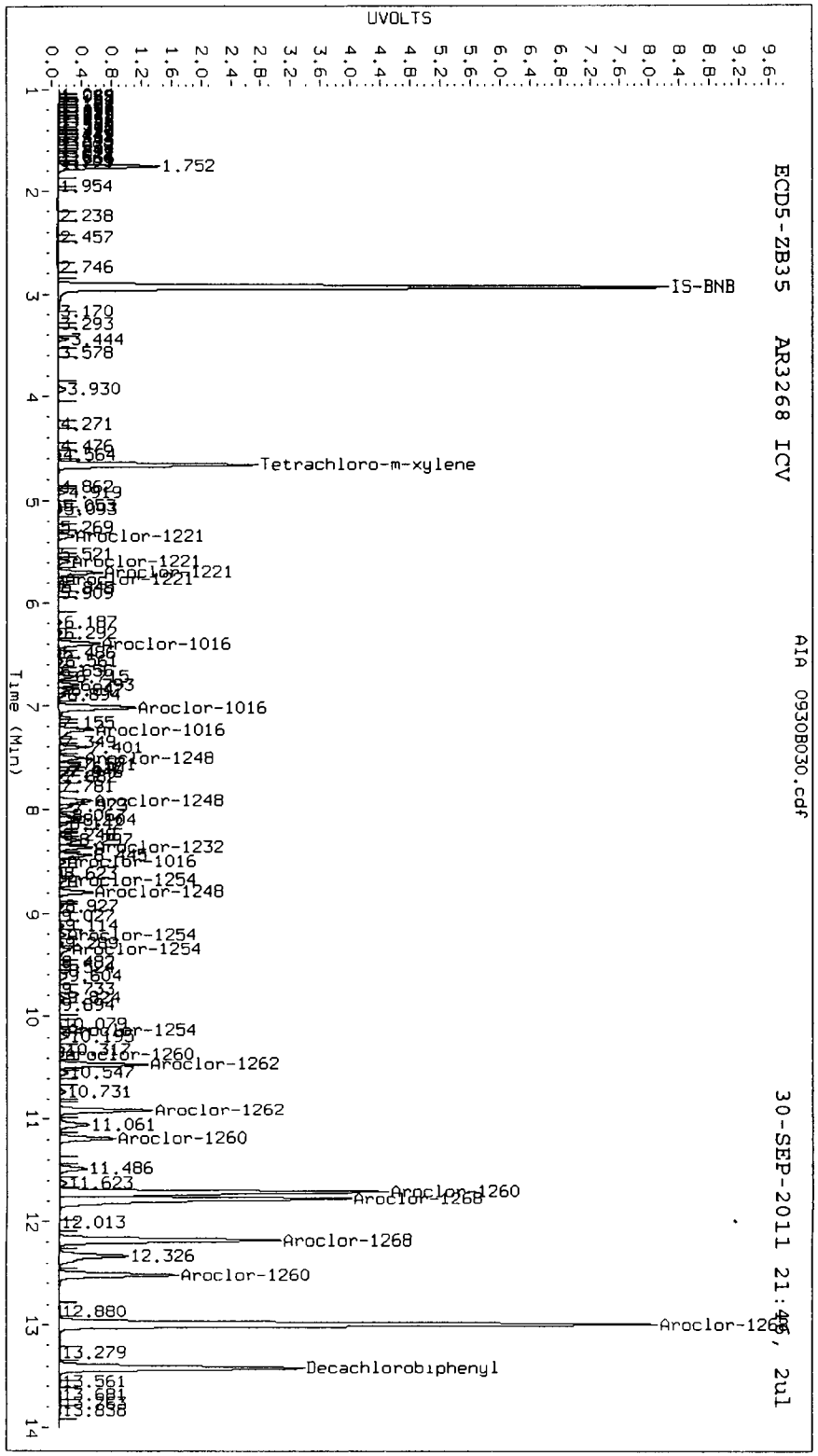
Corrected Ave (3 peaks): 237.8 Corrected Ave (3 peaks): 230.7 RPD = 3

Total PCB Area Col1 (4.750 - 12.933) = 984531512 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (4.758 - 13.317) = 437918569 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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30-SEP-2011 21:46, 2ul
Time (Min)
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Tetrachloro-m-xylene
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Aroclor-1016
Aroclor-1248
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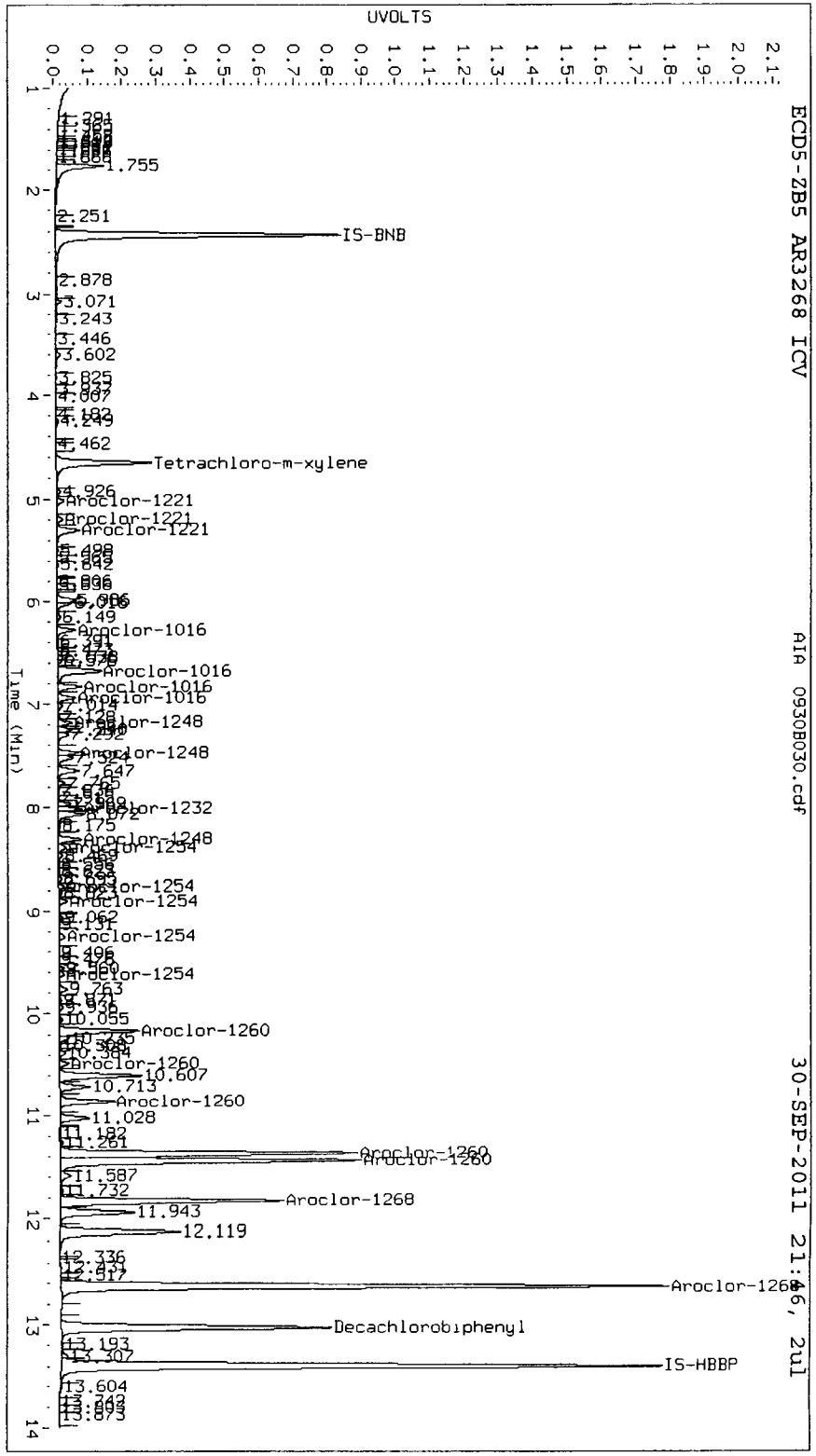
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl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Aroclor-1221
Aroclor-1016
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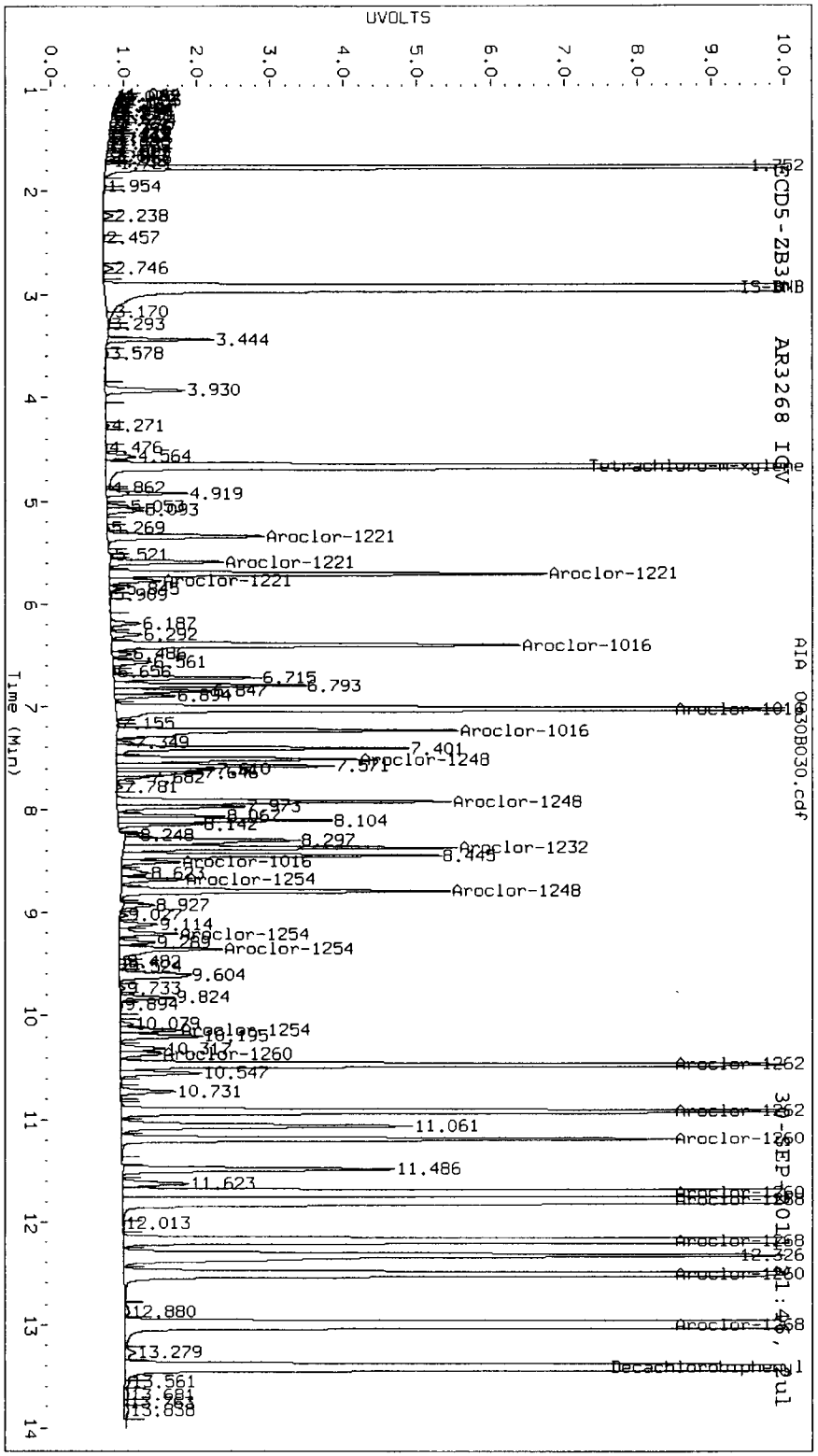
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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ECD5-ZB3
AR3268 ICV
AIA 0930B030.cdf
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Tetrachloro-m-xylene
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Aroclor-1016
Aroclor-1248
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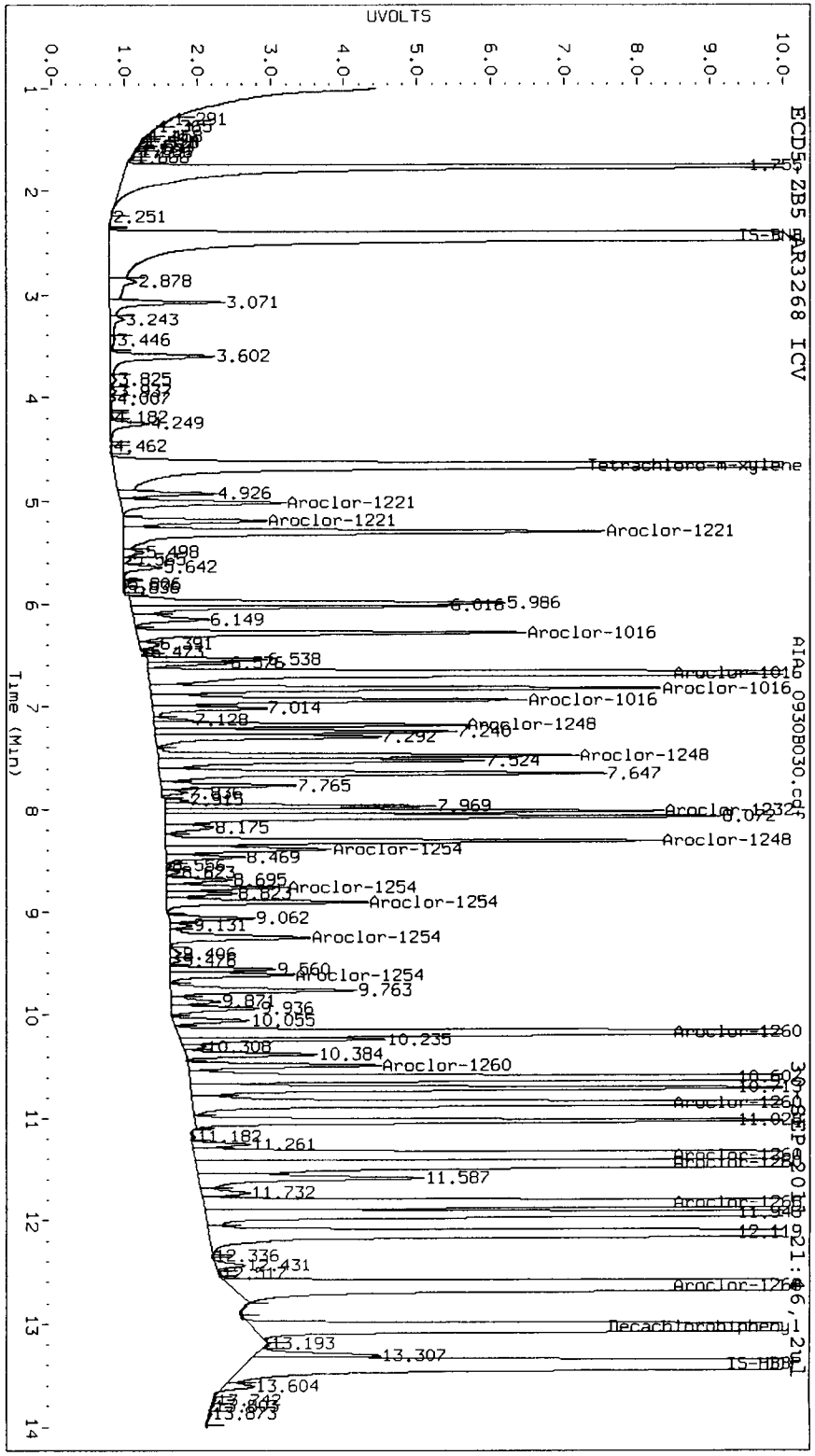
Aroclor-1260
Decachlorobiphenyl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ECD5-ZB5
AR3268 ICV
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Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1260
Decachlorobiphenyl
IS-HBB

TQ88:00158

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: 20110930.B/ddt-1.b/0930B031.d ARI ID: 0.1 PPM DDTS

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
8.361	0.000	145042098	8.774	0.000	90198030	0.100	0.100	0.0	2,4-DDE
8.910	0.000	134770711	9.458	0.000	82381619	0.100	0.100	0.0	2,4-DDD
9.414	0.000	167841354	9.919	0.000	224919410	0.100	0.200#	66.7*	2,4-DDT
8.792	0.000	240659024	9.159	0.000	153479158	0.100	0.100	0.0	4,4-DDE
9.364	0.000	200414609	9.919	0.000	224919410	0.100	0.200#	66.7*	4,4-DDD
9.878	0.000	228238040	10.358	0.000	133790653	0.100	0.100	0.0	4,4-DDT

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

7E

8082 DDT BREAKDOWN VERIFICATION SUMMARY

Lab ID: DDT BD

Analysis Date: 30-SEP-2011 22:24 Init. Calib. Date: 30-SEP-2011

GC Column: ZB5 ID: 0.53(mm)

COMPOUND	RT	AREA
4,4-DDE	8.791	1780045
4,4-DDD	9.371	9745998
4,4-DDT	9.879	246378070

Col 1: 4,4-DDT Percent Breakdown = 4.5 %

GC Column: ZB35 ID: 0.53(mm)

COMPOUND	RT	AREA
4,4-DDE	9.160	588576
4,4-DDD/2,4-DDT	9.927	4272238
4,4-DDT	10.360	140373286

Col 2: 4,4-DDT Percent Breakdown = 3.3 %

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

PCB Raw Data
Run Logs, Continuing Calibrations, and Raw Data

ARI Job ID: TQ80

Analytical Resources, Incorporated
Analytical Chemists and Consultants

GC Analyst Notes / Corrective Action Log

ARI Project ID: TQ80 Client ID: Slip 4

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): PCB's TCMX DCB

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: 09/30/11 Analysis Start: 10/11/11

Endrin/DDT Breakdown <15%? YES / NO / NA

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 / 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: [signature] **Date:** 10/12/11

Reviewer: [signature] **Date:** 10/12/11

Analytical Resources Inc.: Organics Instrument Log

ECD5 Serial No.: US00034118

Date: 10/10/11 Analysis: PCB's Analyst: [illegible]

Column 1 Serial No.: 175640 Column Type: ZB5

Column 2 Serial No.: 167446 Column Type: ZB5

GC Method: PCB2 ICal Date: 09/30/11

IS	Ical/Ccal	ICV
1878-3	1868-4	1803-1,2,3
	1851-1,2,3	1804-1,2,3
	1802-1,2,3	

Document All Maintenance Tasks In StarLIMS

	Inject Date/Time	Filename	DF	LabID		Inject Date/Time	Filename	DF	LabID
1	10-OCT-2011 08:26	1010B001.d	1	RINSE	51	11-OCT-2011 00:17	1010B051.d	1	TQ48H
2	10-OCT-2011 08:45	1010B002.d	1	IB	52	11-OCT-2011 00:36	1010B052.d	1	TQ48I
3	10-OCT-2011 09:04	1010B003.d	1	0.1 PPM DDTS	53	11-OCT-2011 00:55	1010B053.d	1	TQ48J
4	10-OCT-2011 09:23	1010B004.d	1	DDT BD	54	11-OCT-2011 01:14	1010B054.d	1	TQ48K
5	10-OCT-2011 09:42	1010B005.d	1	AR1660	55	11-OCT-2011 01:33	1010B055.d	1	AR1660
6	10-OCT-2011 10:01	1010B006.d	1	AR1242	56	11-OCT-2011 01:52	1010B056.d	1	AR1242
7	10-OCT-2011 10:19	1010B007.d	1	TQ17MBS1	57	11-OCT-2011 02:11	1010B057.d	1	TQ49MBS1
8	10-OCT-2011 10:44	1010B008.d	1	TQ22N	58	11-OCT-2011 02:30	1010B058.d	1	TQ49LCSS1
9	10-OCT-2011 11:02	1010B009.d	1	TQ22O	59	11-OCT-2011 02:49	1010B059.d	1	TQ49LCSDS1
10	10-OCT-2011 11:21	1010B010.d	1	TQ22P	60	11-OCT-2011 03:08	1010B060.d	10	TQ49B
11	10-OCT-2011 11:40	1010B011.d	1	TQ22Q	61	11-OCT-2011 03:27	1010B061.d	5	TQ49C
12	10-OCT-2011 11:59	1010B012.d	1	TQ22R	62	11-OCT-2011 03:45	1010B062.d	5	TQ49D
13	10-OCT-2011 12:18	1010B013.d	1	TQ22S	63	11-OCT-2011 04:04	1010B063.d	5	TQ49E
14	10-OCT-2011 12:37	1010B014.d	1	AR1660	64	11-OCT-2011 04:23	1010B064.d	1	TQ49F
15	10-OCT-2011 12:56	1010B015.d	1	AR1254	65	11-OCT-2011 04:42	1010B065.d	10	TQ49G
16	10-OCT-2011 13:15	1010B016.d	1	TQ17LCSS1	66	11-OCT-2011 05:01	1010B066.d	5	TQ49H
17	10-OCT-2011 13:34	1010B017.d	1	TQ17LCSDS1	67	11-OCT-2011 05:20	1010B067.d	1	AR1660
18	10-OCT-2011 13:53	1010B018.d	5	TQ17A	68	11-OCT-2011 05:39	1010B068.d	1	AR1248
19	10-OCT-2011 14:12	1010B019.d	5	TQ17B	69	11-OCT-2011 05:58	1010B069.d	5	TQ49I
20	10-OCT-2011 14:31	1010B020.d	5	TQ17C	70	11-OCT-2011 06:17	1010B070.d	5	TQ49J
21	10-OCT-2011 14:49	1010B021.d	5	TQ17D	71	11-OCT-2011 06:36	1010B071.d	5	TQ49JMS
22	10-OCT-2011 15:08	1010B022.d	5	TQ17E	72	11-OCT-2011 06:55	1010B072.d	5	TQ49JMSD
23	10-OCT-2011 15:27	1010B023.d	1	AR1660	73	11-OCT-2011 07:14	1010B073.d	1	TQ41MBS1
24	10-OCT-2011 15:46	1010B024.d	1	AR1248	74	11-OCT-2011 07:33	1010B074.d	1	TQ41LCSS1
25	10-OCT-2011 16:05	1010B025.d	1	AR1660	75	11-OCT-2011 07:51	1010B075.d	1	TQ41LCSDS1
26	10-OCT-2011 16:24	1010B026.d	1	AR1248	76	11-OCT-2011 08:10	1010B076.d	5	TQ41A
27	10-OCT-2011 16:43	1010B027.d	1	TQ48MBW1	77	11-OCT-2011 08:29	1010B077.d	5	TQ41B
28	10-OCT-2011 17:02	1010B028.d	1	TQ48LCSW1	78	11-OCT-2011 08:48	1010B078.d	100	TQ49B
29	10-OCT-2011 17:21	1010B029.d	1	TQ48LCSDW1	79	11-OCT-2011 09:07	1010B079.d	50	TQ49C
30	10-OCT-2011 17:40	1010B030.d	1	TQ48L	80	11-OCT-2011 09:26	1010B080.d	50	TQ49G
31	10-OCT-2011 17:59	1010B031.d	1	TQ50O	81	11-OCT-2011 09:45	1010B081.d	1	AR1660
32	10-OCT-2011 18:18	1010B032.d	1	TQ58O	82	11-OCT-2011 10:33	1010B083.d	1	AR1242
33	10-OCT-2011 18:37	1010B033.d	1	TQ56O	83	11-OCT-2011 10:52	1010B084.d	1	TQ48A
34	10-OCT-2011 18:56	1010B034.d	1	TQ68O	84	11-OCT-2011 11:11	1010B085.d	1	TQ48C
35	10-OCT-2011 19:15	1010B035.d	1	AR1660	85	11-OCT-2011 11:30	1010B086.d	1	TQ80A
36	10-OCT-2011 19:34	1010B036.d	1	AR1242	86	11-OCT-2011 11:49	1010B087.d	1	TQ80B
37	10-OCT-2011 19:53	1010B037.d	1	TQ48MBS1	87	11-OCT-2011 12:08	1010B088.d	1	TQ80C
38	10-OCT-2011 20:12	1010B038.d	1	TQ48LCSS1	88	11-OCT-2011 12:27	1010B089.d	1	TQ80D
39	10-OCT-2011 20:31	1010B039.d	1	TQ48LCSDS1	89	11-OCT-2011 12:46	1010B090.d	1	TQ80E
40	10-OCT-2011 20:50	1010B040.d	5	TQ48A	90	11-OCT-2011 13:05	1010B091.d	1	TQ80MBW1
41	10-OCT-2011 21:08	1010B041.d	5	TQ48B	91	11-OCT-2011 13:24	1010B092.d	1	TQ80LCSW1
42	10-OCT-2011 21:27	1010B042.d	5	TQ48C	92	11-OCT-2011 13:42	1010B093.d	1	TQ80LCSDW1
43	10-OCT-2011 21:46	1010B043.d	5	TQ48CMS	93	11-OCT-2011 14:01	1010B094.d	1	TQ80BMS
44	10-OCT-2011 22:05	1010B044.d	5	TQ48CMSD	94	11-OCT-2011 14:20	1010B095.d	1	TQ80BMSD
45	10-OCT-2011 22:24	1010B045.d	1	TQ48D	95	11-OCT-2011 14:39	1010B096.d	1	AR1660
46	10-OCT-2011 22:43	1010B046.d	1	TQ48E	96	11-OCT-2011 14:58	1010B097.d	1	AR1254
47	10-OCT-2011 23:02	1010B047.d	1	AR1660	97	11-OCT-2011 15:17	1010B098.d	1	TQ47E
48	10-OCT-2011 23:21	1010B048.d	1	AR1254	98	11-OCT-2011 15:36	1010B099.d	1	TQ47M
49	10-OCT-2011 23:40	1010B049.d	1	TQ48F	99	11-OCT-2011 15:55	1010B100.d	1	TQ47N
50	10-OCT-2011 23:58	1010B050.d	1	TQ48G	100	11-OCT-2011 16:14	1010B101.d	1	TQ47S

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 PCBs by SW8082

Data file 1: 20110930.B/1010-1.b/1010B081.d
Data file 2: 20110930.B/1010-2.b/1010B081.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660
Client ID:
Injection Date: 11-OCT-2011 09:45
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.649	0.000	44287561	4.656	0.003	29345607	20.2	20.7	2.5	Tetrachloro-m-xylene
13.032	0.000	53075967	13.414	0.000	20711208	18.3	18.9	3.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	50.4	51.7
Decachlorobiphenyl	45.7	47.2

K 10/12/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	127617310	6.9
Hexabromobiphenyl	247758184	182900716	-26.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	94006725	3.0
Hexabromobiphenyl	103671329	78988524	-23.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

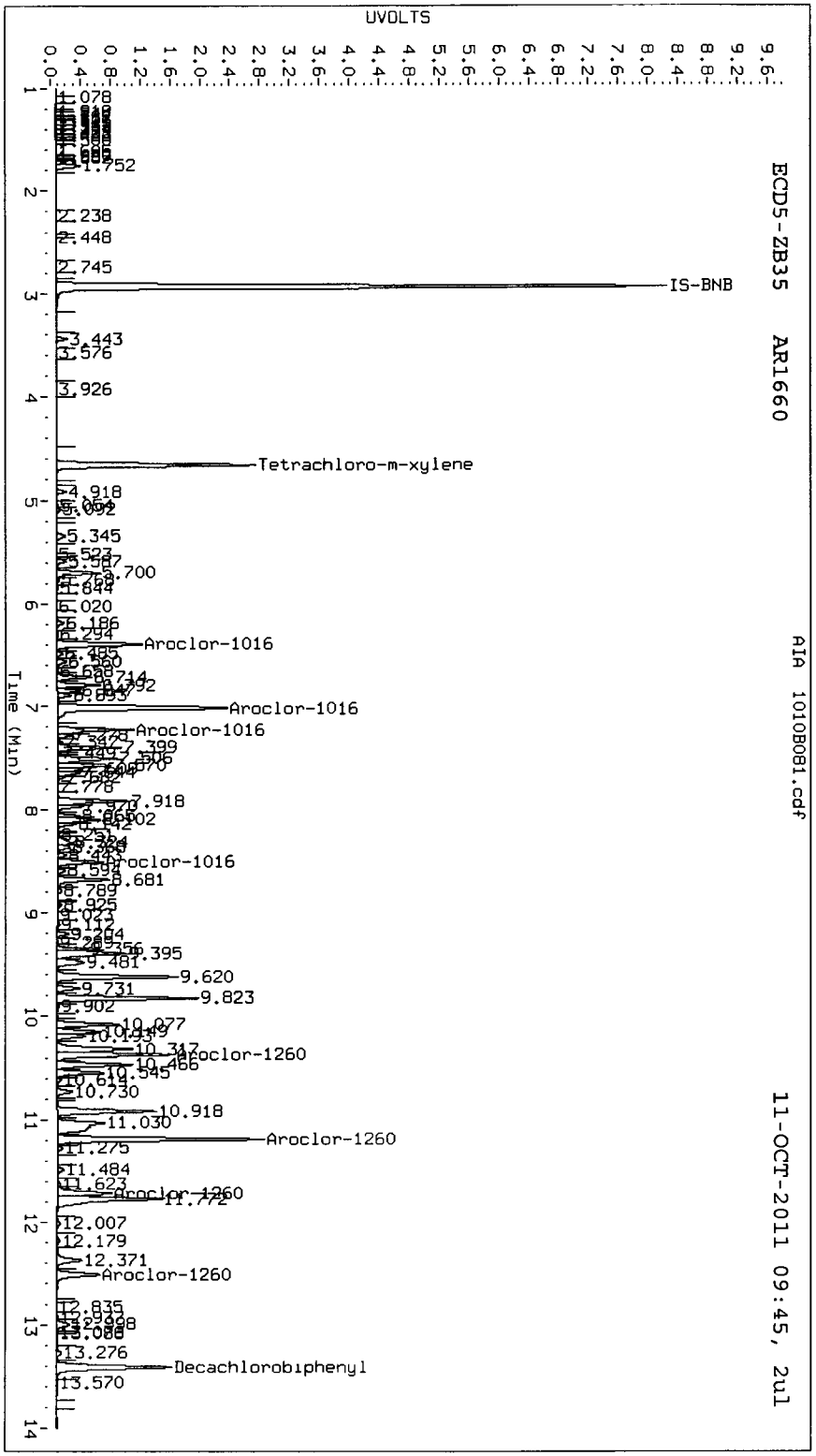
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	6.280	0.000	14136416	239.4	1	6.392	0.000	13956220	249.1
Aroclor-1016	2	6.680	0.000	48241260	235.4	2	7.016	0.000	31532601	251.7
Aroclor-1016	3	6.827	0.000	18962971	229.8	3	7.225	0.000	10767132	224.0
Aroclor-1016	4	6.937	0.000	14298224	243.8	4	8.510	0.000	6176237	233.0
Total Col1Ave (4 peaks):				237.1		Total Col2Ave (4 peaks):			239.5	RPD = 1
Corrected Ave (3 peaks):				234.9		Corrected Ave (3 peaks):			235.4	RPD = 0
Aroclor-1260	1	10.485	0.000	25818428	261.1	1	10.370	0.000	17603449	248.5
Aroclor-1260	2	10.859	0.000	66590045	264.8	2	11.189	0.000	31531285	287.6
Aroclor-1260	3	11.259	0.000	36688990	253.9	3	11.712	0.000	9004882	268.5
Aroclor-1260	4	11.376	0.000	14745725	238.3	4	12.511	0.000	7857944	246.9
Aroclor-1260	5	11.450	0.000	17527493	241.1	NS	---			----
Total Col1Ave (5 peaks):				251.8		Total Col2Ave (4 peaks):			262.9	RPD = 4
Corrected Ave (4 peaks):				248.6		Corrected Ave (3 peaks):			254.6	RPD = 2

Total PCB Area Col1 (4.749 - 12.932) = 807792622 Col1 Total PCB = 0.4 ppm*

Total PCB Area Col2 (4.752 - 13.314) = 407948720 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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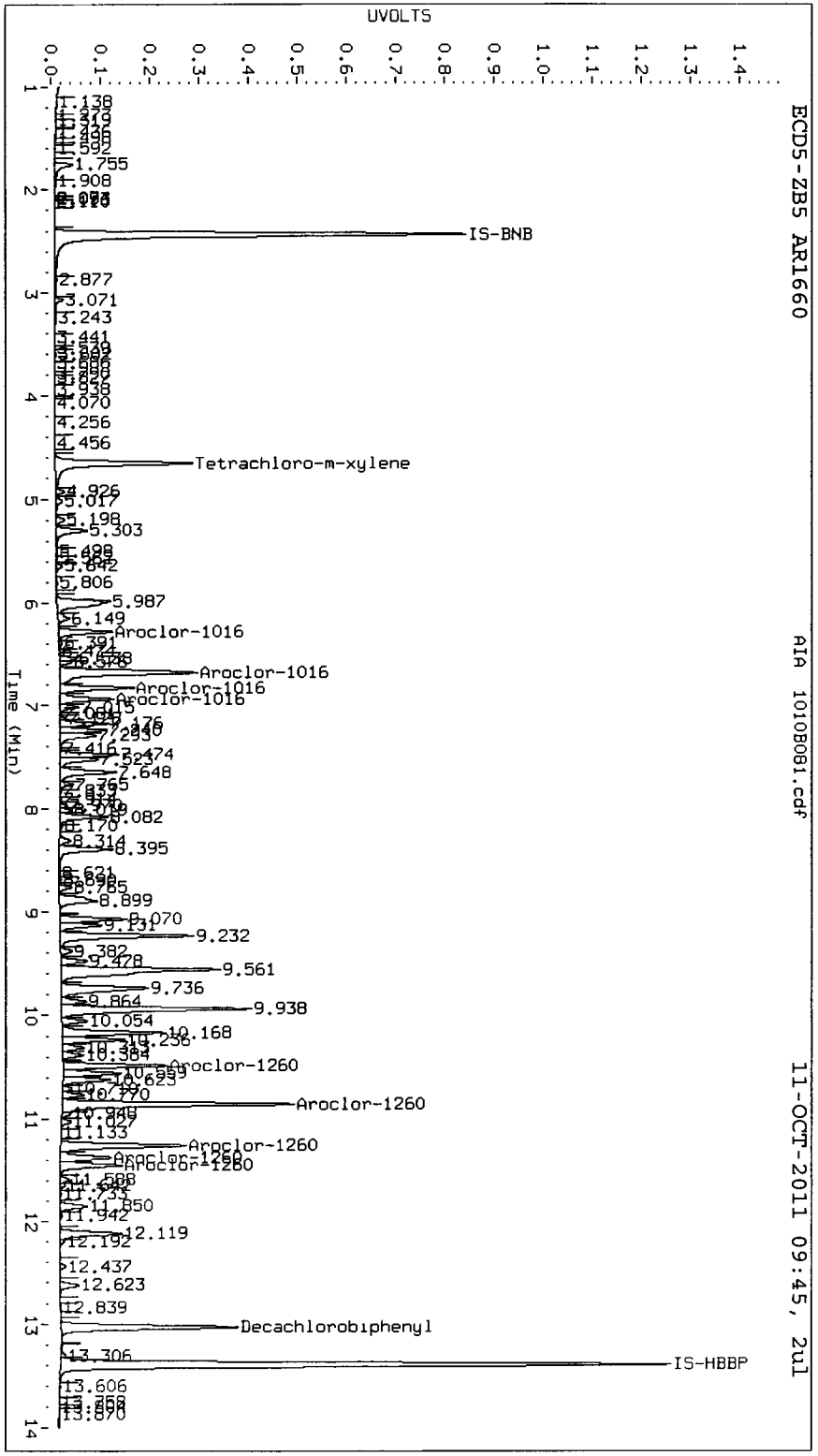
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl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Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/1010-1.b/1010B083.d
Data file 2: 20110930.B/1010-2.b/1010B083.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: AR1242
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242
Client ID:
Injection Date: 11-OCT-2011 10:33
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.648	0.000	43984898	4.652	0.000	29120400	19.2	19.6	2.3	Tetrachloro-m-xylene
13.031	0.000	52974716	13.414	0.000	20496774	17.7	18.3	3.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	47.9	49.0
Decachlorobiphenyl	44.2	45.7

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	133346021	11.8
Hexabromobiphenyl	247758184	188466446	-23.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	98328250	7.7
Hexabromobiphenyl	103671329	80756517	-22.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1242	1	6.280	0.000	11548428	243.1	1	6.390	0.000	10575443	230.6
Aroclor-1242	2	6.679	0.000	39365526	252.3	2	7.015	0.000	22403044	216.8
Aroclor-1242	3	6.827	0.000	15430885	243.9	3	7.224	0.000	7788311	191.3
Aroclor-1242	4	8.020	0.000	14329349	228.5	4	8.368	0.000	7277389	197.2

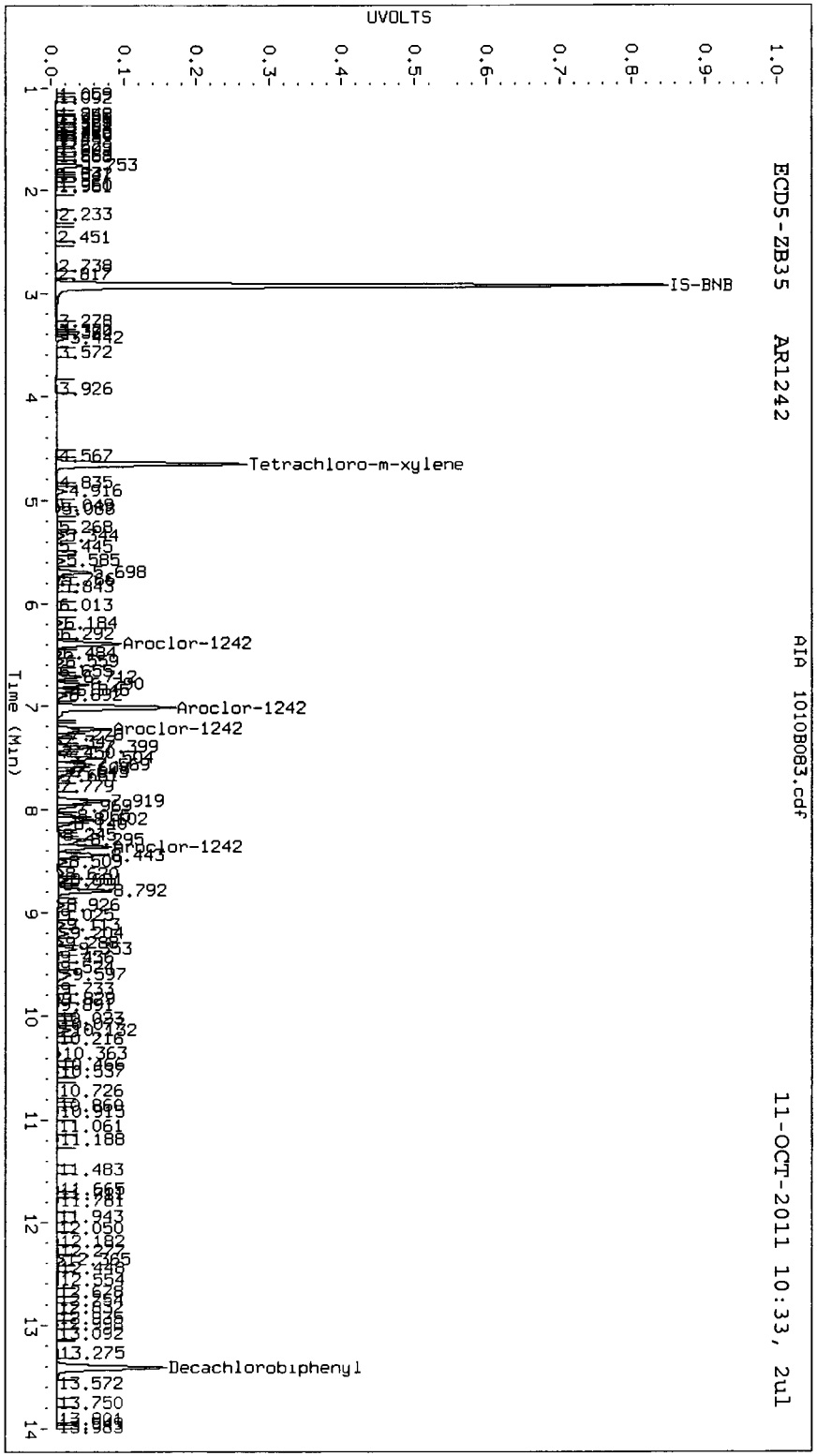
Total Col1Ave (4 peaks): 241.9 Total Col2Ave (4 peaks): 209.0 RPD = 15

Corrected Ave (3 peaks): 238.5 Corrected Ave (3 peaks): 201.8 RPD = 17

Total PCB Area Col1 (4.748 - 12.931) = 304862292 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (4.752 - 13.314) = 157995464 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical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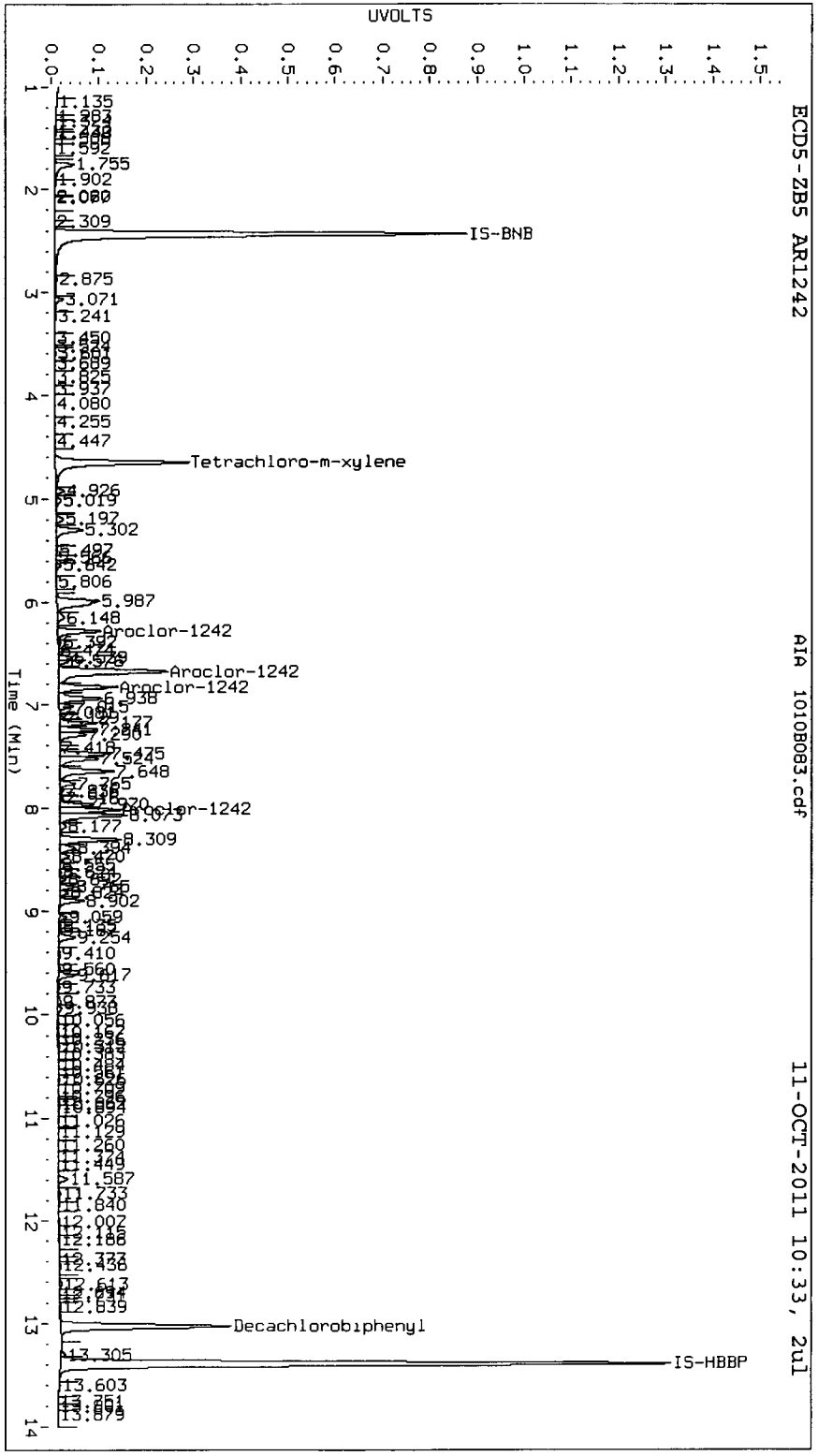
IS-BNB
Tetrachloro-m-xylene
Aroclor-1242
Decachlorobiphenyl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Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1242
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/1010-1.b/1010B086.d
Data file 2: 20110930.B/1010-2.b/1010B086.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: TQ80A
Client ID:
Injection Date: 11-OCT-2011 11:30
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.648	0.000	54267589	4.655	0.003	35936811	25.3	25.6	1.4	Tetrachloro-m-xylene
13.030	-0.001	85119992	13.415	0.001	33239041	27.8	29.3	5.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	63.1	64.0
Decachlorobiphenyl	69.4	73.1

10/11/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	124882932	4.7
Hexabromobiphenyl	247758184	192995981	-22.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	92924795	1.8
Hexabromobiphenyl	103671329	81857049	-21.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.278	-0.001	208747	3.6	1	6.392	0.000	98900	1.8
Aroclor-1016	2	6.677	-0.003	203669	1.0	2	7.031	0.015	195338	1.6
Aroclor-1016	3	6.833	0.006	182022	2.3	3	7.224	-0.001	22729	0.5
Aroclor-1016	4	6.934	-0.003	424520	7.4	4	8.510	0.000	201742	7.7
Total Col1Ave (4 peaks):				3.6	Total Col2Ave (4 peaks):				2.9	RPD = 21
Corrected Ave (3 peaks):				2.3	Corrected Ave (3 peaks):				1.3	RPD = 57*
Aroclor-1221	1	4.926	-0.094	3274460	155.8	1	5.360	0.017	484440	30.4
Aroclor-1221	2	5.185	-0.013	645138	43.5	2	5.611	0.023	297819	32.6
Aroclor-1221	3	5.314	0.010	193408	3.9	3	5.712	0.011	218753	7.3
Aroclor-1221	NS	---			----	4	---			0.0
Total Col1Ave (3 peaks):				67.7	Total Col2Ave (3 peaks):				23.4	RPD = 97*
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks					
Aroclor-1232	1	6.278	-0.002	208747	8.6	1	6.392	-0.003	98900	3.9
Aroclor-1232	2	6.677	-0.002	203669	2.5	2	7.031	0.013	195338	3.7
Aroclor-1232	3	6.833	0.005	182022	5.6	3	7.224	-0.003	22729	1.2
Aroclor-1232	4	8.016	-0.003	88296	2.6	4	8.369	-0.002	78464	3.8
Total Col1Ave (4 peaks):				4.8	Total Col2Ave (4 peaks):				3.2	RPD = 41*
Corrected Ave (3 peaks):				3.5	Corrected Ave (3 peaks):				2.9	RPD = 19
Aroclor-1242	1	6.278	-0.001	208747	4.7	1	6.392	0.002	98900	2.3
Aroclor-1242	2	6.677	-0.002	203669	1.4	2	7.031	0.016	195338	2.0
Aroclor-1242	3	6.833	0.006	182022	3.1	3	7.224	0.000	22729	0.6
Aroclor-1242	4	8.016	-0.003	88296	1.5	4	8.369	0.000	78464	2.2
Total Col1Ave (4 peaks):				2.7	Total Col2Ave (4 peaks):				1.8	RPD = 40
Corrected Ave (3 peaks):				2.0	Corrected Ave (3 peaks):				1.6	RPD = 21
Aroclor-1248	1	7.172	-0.006	1545584	23.3	1	7.504	-0.001	222069	5.0
Aroclor-1248	2	7.475	-0.001	647835	8.6	2	7.920	0.001	506094	9.8
Aroclor-1248	3	8.016	-0.004	88296	0.9	3	8.369	0.000	78464	1.4
Aroclor-1248	4	8.289	-0.021	654814	7.0	4	8.776	-0.016	177523	2.9
Total Col1Ave (4 peaks):				10.0	Total Col2Ave (4 peaks):				4.8	RPD = 70*
Corrected Ave (3 peaks):				5.5	Corrected Ave (3 peaks):				3.1	RPD = 57*
Aroclor-1254	1	8.392	-0.002	610551	4.0	1	8.510	0.000	201742	4.0
Aroclor-1254	2	8.771	0.006	343171	3.3	2	8.681	0.000	199379	3.1
Aroclor-1254	3	8.901	0.000	821405	4.4	3	9.233	0.029	16119513	307.5
Aroclor-1254	4	9.242	-0.008	1142933	5.4	4	9.355	0.000	318468	2.8
Aroclor-1254	5	9.607	-0.005	726617	5.2	5	10.140	0.003	252541	3.6
Total Col1Ave (5 peaks):				4.5	Total Col2Ave (5 peaks):				64.2	RPD = 174*
Corrected Ave (4 peaks):				4.2	Corrected Ave (4 peaks):				3.4	RPD = 22
Aroclor-1260	1	10.483	-0.002	142794	1.4	1	10.369	-0.002	287652	3.9
Aroclor-1260	2	10.895	0.036	1570384	5.9	2	11.188	-0.001	156285	1.4
Aroclor-1260	3	11.258	-0.001	243380	1.6	3	11.664	-0.048	575665	16.6
Aroclor-1260	4	11.376	-0.001	188088	2.9	4	12.556	0.045	396485	12.0
Aroclor-1260	5	11.449	-0.001	176287	2.3	NS	---			----
Total Col1Ave (5 peaks):				2.8	Total Col2Ave (4 peaks):				8.5	RPD = 100*
Corrected Ave (4 peaks):				2.0	Corrected Ave (3 peaks):				5.8	RPD = 96*
Aroclor-1262	1	10.166	-0.002	645650	4.2	1	10.468	0.000	121407	1.6
Aroclor-1262	2	10.483	-0.002	142794	1.1	2	10.915	-0.006	158978	2.3
Aroclor-1262	3	10.895	0.036	1570384	5.1	3	11.188	-0.004	156285	1.1
Aroclor-1262	4	11.376	-0.001	188088	1.3	4	11.664	-0.050	575665	8.8
Aroclor-1262	5	11.449	-0.001	176287	1.2	5	12.556	0.043	396485	7.4
Total Col1Ave (5 peaks):				2.6	Total Col2Ave (5 peaks):				4.2	RPD = 48*
Corrected Ave (4 peaks):				2.0	Corrected Ave (4 peaks):				3.1	RPD = 45*
Aroclor-1268	1	11.376	-0.002	188088	0.6	1	11.664	-0.051	575665	3.6
Aroclor-1268	2	11.449	0.000	176287	0.5	2	11.771	-0.010	138963	1.0

oclor-1268	3	11.830	-0.006	323037	1.1	3	12.170	-0.010	108009	0.9
Aroclor-1268	4	12.618	-0.010	428146	0.5	4	12.993	-0.008	14587	0.0

Total Col1Ave (4 peaks): 0.7 Total Col2Ave (4 peaks): 1.4 RPD = 68*

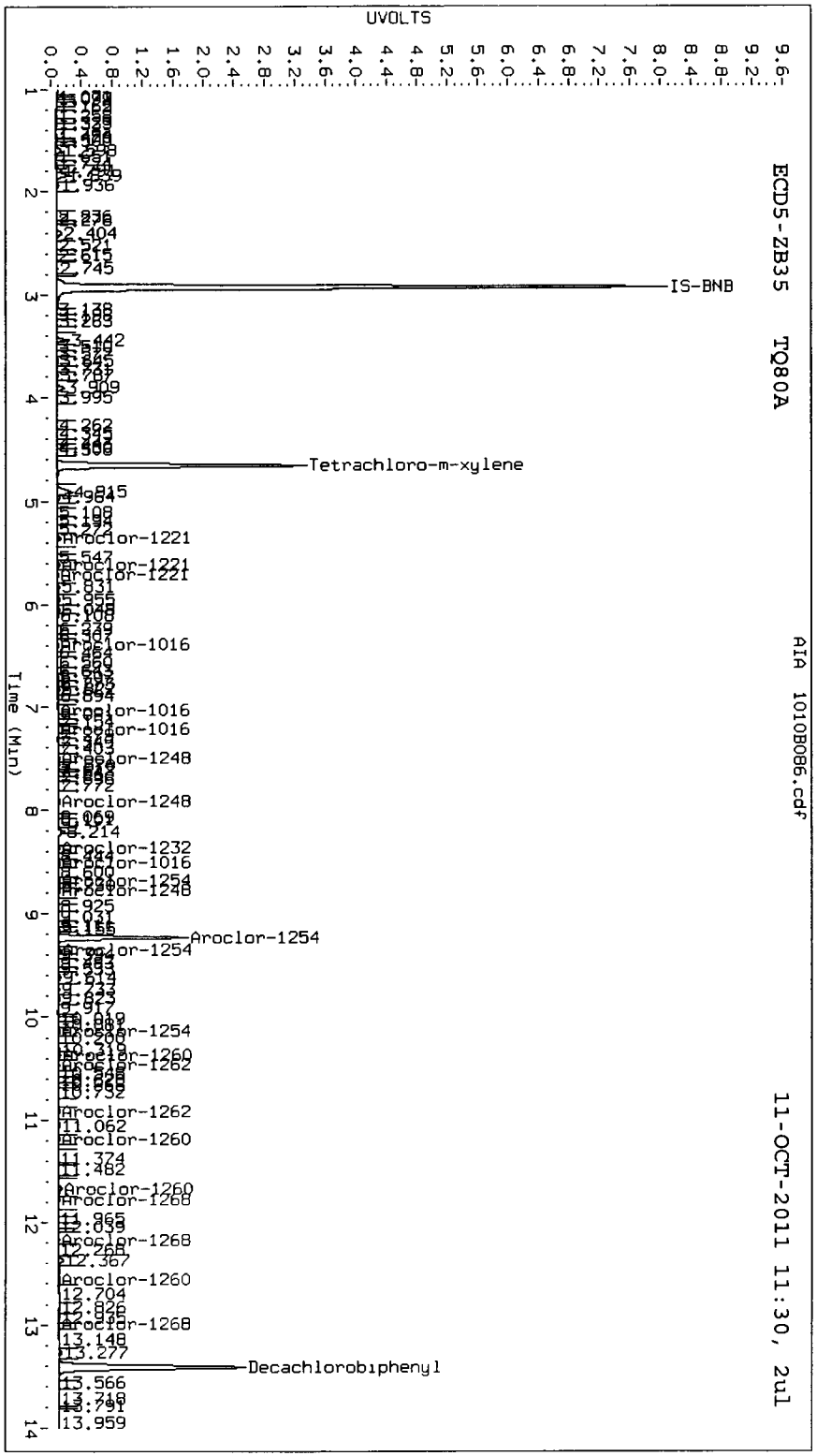
Corrected Ave (3 peaks): 0.5 Corrected Ave (3 peaks): 0.7 RPD = 20

Total PCB Area Col1 (4.748 - 12.931) = 52713179 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (4.752 - 13.314) = 32277009 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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Time (Min)
IS-BNB
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Aroclor-1221
Aroclor-1016
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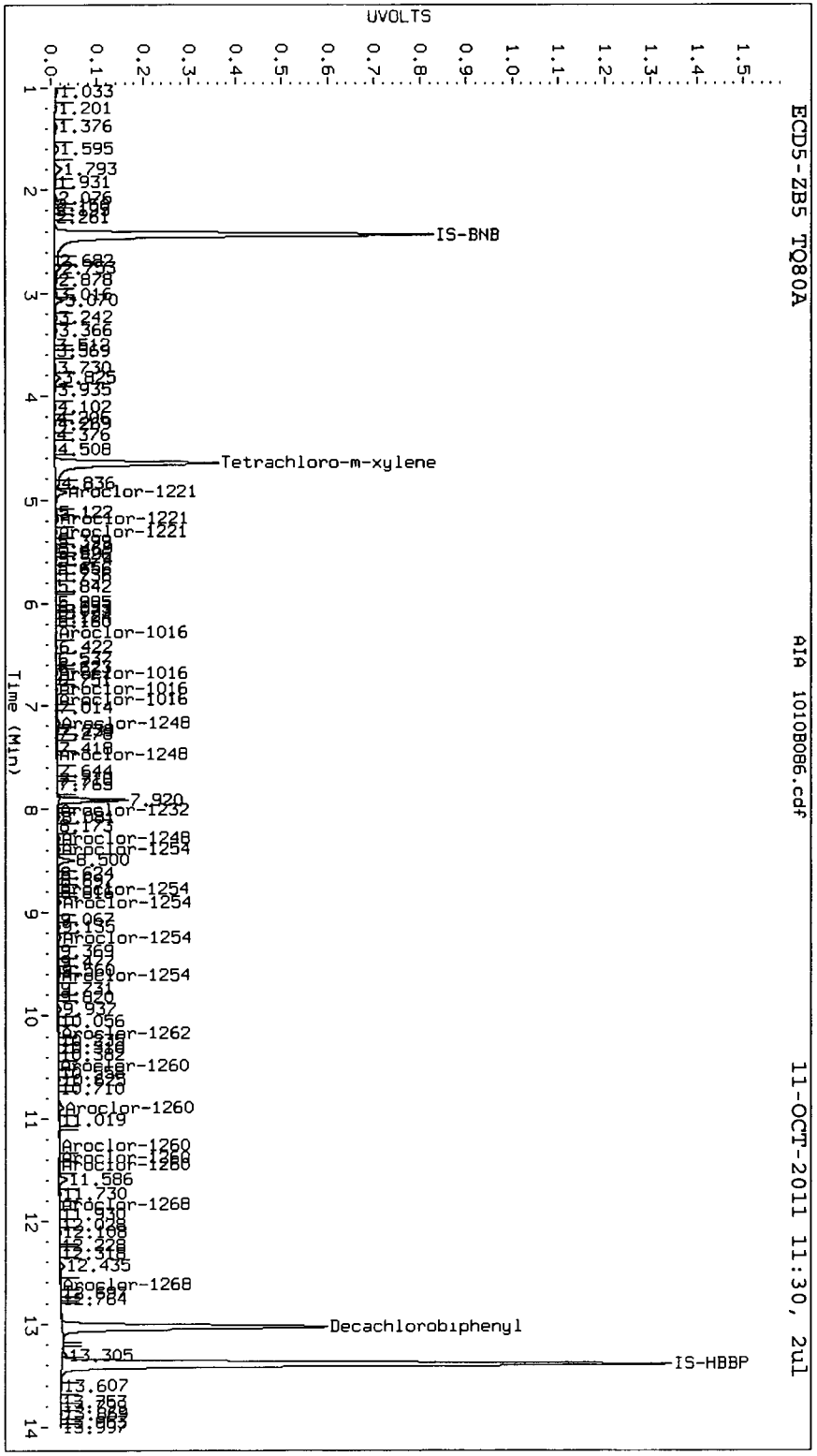
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl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IS-HBBP

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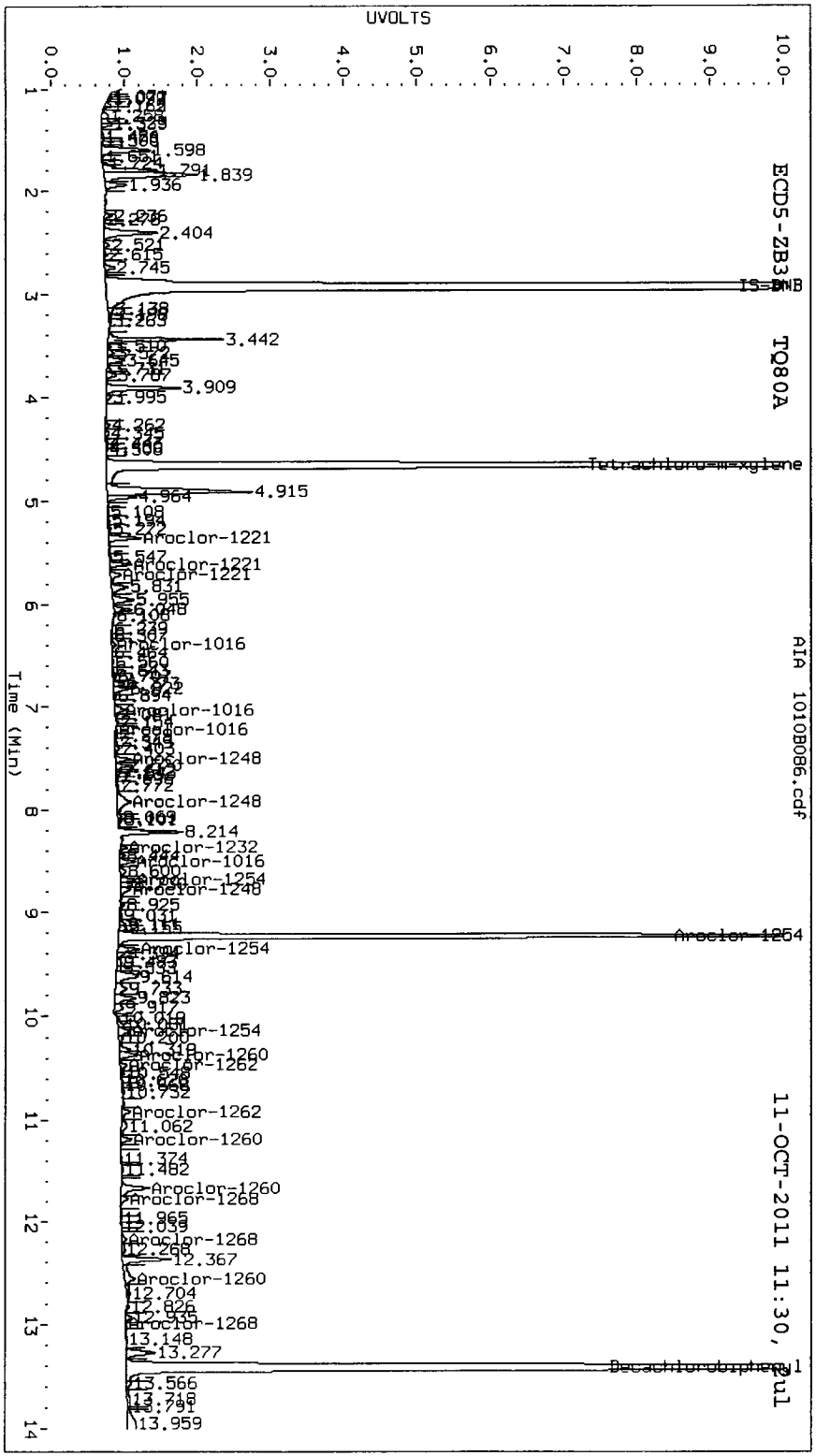
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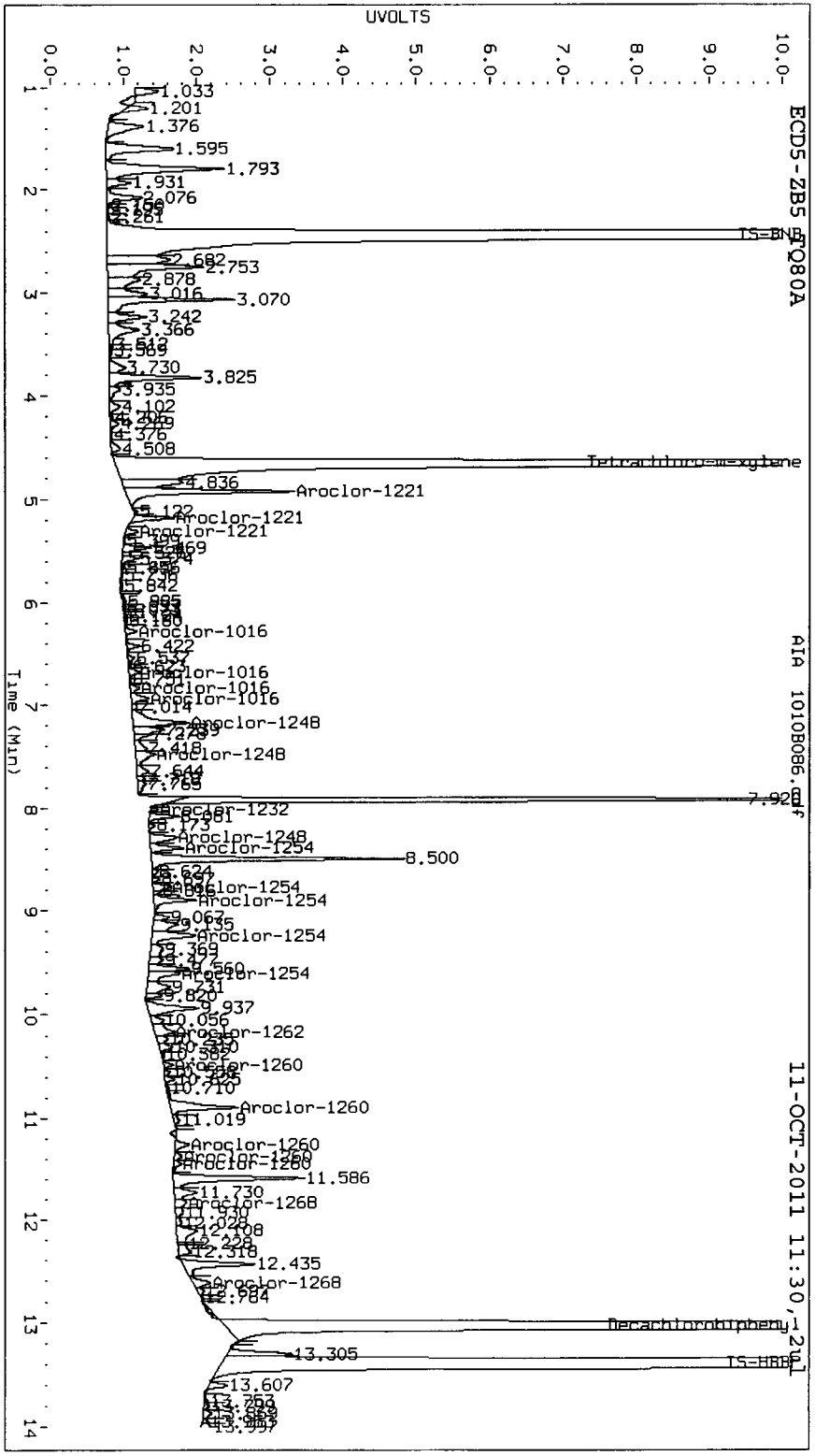
Time (Min)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Aroclor-1268
Time (Min)

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/1010-1.b/1010B087.d
Data file 2: 20110930.B/1010-2.b/1010B087.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: TQ80B
Client ID:
Injection Date: 11-OCT-2011 11:49
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.648	0.000	51416335	4.654	0.002	34938933	24.2	25.7	6.1	Tetrachloro-m-xylene
13.032	0.001	87513800	13.414	0.000	34979832	28.2	29.7	5.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	60.6	64.4
Decachlorobiphenyl	70.6	74.3

10/11/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	123367377	3.4
Hexabromobiphenyl	247758184	195010836	-21.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	89910847	-1.5
Hexabromobiphenyl	103671329	84778322	-18.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1016	1	6.276	-0.004	320243	5.6	1	6.388	-0.004	226848	4.2
Aroclor-1016	2	6.674	-0.005	313477	1.6	2	7.023	0.006	281412	2.3
Aroclor-1016	3	6.838	0.011	248483	3.1	3	7.225	0.000	33042	0.7
Aroclor-1016	4	6.935	-0.002	419591	7.4	4	8.509	-0.001	373840	14.7
Total Col1Ave (4 peaks):					4.4	Total Col2Ave (4 peaks):				5.5 RPD = 22
Corrected Ave (3 peaks):					3.4	Corrected Ave (3 peaks):				2.4 RPD = 34
Aroclor-1221	1	4.925	-0.094	3219966	155.1	1	5.358	0.016	464519	30.1
Aroclor-1221	2	5.187	-0.012	730308	49.8	2	5.610	0.022	89322	10.1
Aroclor-1221	3	5.314	0.011	221613	4.5	3	5.711	0.010	250233	8.7
Aroclor-1221	NS	---			----	4	---			0.0
Total Col1Ave (3 peaks):					69.8	Total Col2Ave (3 peaks):				16.3 RPD = 124*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	6.276	-0.005	320243	13.3	1	6.388	-0.007	226848	9.2
Aroclor-1232	2	6.674	-0.005	313477	3.9	2	7.023	0.004	281412	5.5
Aroclor-1232	3	6.838	0.010	248483	7.7	3	7.225	-0.002	33042	1.9
Aroclor-1232	4	8.011	-0.008	114008	3.3	4	8.369	-0.001	142265	7.2
Total Col1Ave (4 peaks):					7.1	Total Col2Ave (4 peaks):				5.9 RPD = 17
Corrected Ave (3 peaks):					5.0	Corrected Ave (3 peaks):				4.9 RPD = 3
Aroclor-1242	1	6.276	-0.004	320243	7.3	1	6.388	-0.002	226848	5.4
Aroclor-1242	2	6.674	-0.004	313477	2.2	2	7.023	0.007	281412	3.0
Aroclor-1242	3	6.838	0.010	248483	4.2	3	7.225	0.001	33042	0.9
Aroclor-1242	4	8.011	-0.008	114008	2.0	4	8.369	0.001	142265	4.2
Total Col1Ave (4 peaks):					3.9	Total Col2Ave (4 peaks):				3.4 RPD = 15
Corrected Ave (3 peaks):					2.8	Corrected Ave (3 peaks):				2.7 RPD = 4
Aroclor-1248	1	7.174	-0.004	1700408	26.0	1	7.504	-0.001	414891	9.7
Aroclor-1248	2	7.499	0.023	1375990	18.6	2	7.919	0.000	454895	9.1
Aroclor-1248	3	8.011	-0.008	114008	1.2	3	8.369	0.000	142265	2.6
Aroclor-1248	4	8.303	-0.006	785102	8.4	4	8.776	-0.016	324749	5.4
Total Col1Ave (4 peaks):					13.5	Total Col2Ave (4 peaks):				6.7 RPD = 68*
Corrected Ave (3 peaks):					9.4	Corrected Ave (3 peaks):				5.7 RPD = 49*
Aroclor-1254	1	8.383	-0.011	523457	3.5	1	8.509	-0.001	373840	7.7
Aroclor-1254	2	8.776	0.011	718593	7.0	2	8.681	0.001	249134	4.0
Aroclor-1254	3	8.900	-0.001	1217927	6.6	3	9.232	0.028	29916924	589.8
Aroclor-1254	4	9.240	-0.010	1466771	7.0	4	9.354	0.000	589480	5.4
Aroclor-1254	5	9.607	-0.006	935945	6.7	5	10.142	0.006	285781	4.2
Total Col1Ave (5 peaks):					6.2	Total Col2Ave (5 peaks):				122.2 RPD = 181*
Corrected Ave (4 peaks):					6.0	Corrected Ave (4 peaks):				5.3 RPD = 11
Aroclor-1260	1	10.486	0.000	584841	5.5	1	10.369	-0.001	415113	5.5
Aroclor-1260	2	10.896	0.036	4038542	15.1	2	11.188	-0.001	281144	2.4
Aroclor-1260	3	11.259	0.000	290435	1.9	3	11.663	-0.048	1725428	47.9
Aroclor-1260	4	11.374	-0.002	238648	3.6	4	12.552	0.042	367006	10.7
Aroclor-1260	5	11.447	-0.003	290485	3.7	NS	---			----
Total Col1Ave (5 peaks):					6.0	Total Col2Ave (4 peaks):				16.6 RPD = 94*
Corrected Ave (4 peaks):					3.7	Corrected Ave (3 peaks):				6.2 RPD = 50*
Aroclor-1262	1	10.167	-0.001	613148	3.9	1	10.466	-0.002	176406	2.3
Aroclor-1262	2	10.486	0.000	584841	4.6	2	10.916	-0.005	238095	3.3
Aroclor-1262	3	10.896	0.036	4038542	13.1	3	11.188	-0.004	281144	2.0
Aroclor-1262	4	11.374	-0.003	238648	1.7	4	11.663	-0.051	1725428	25.5
Aroclor-1262	5	11.447	-0.003	290485	1.9	5	12.552	0.040	367006	6.6
Total Col1Ave (5 peaks):					5.0	Total Col2Ave (5 peaks):				7.9 RPD = 44*
Corrected Ave (4 peaks):					3.0	Corrected Ave (4 peaks):				3.5 RPD = 15
Aroclor-1268	1	11.374	-0.003	238648	0.7	1	11.663	-0.052	1725428	10.3
Aroclor-1268	2	11.447	-0.003	290485	0.9	2	11.772	-0.010	444855	3.1

Aroclor-1268	3	11.830	-0.006	443427	1.5	3	12.165	-0.015	143473	1.2
Aroclor-1268	4	12.611	-0.016	756235	0.9	4	12.935	-0.066	441267	1.2

Total Col1Ave (4 peaks): 1.0 Total Col2Ave (4 peaks): 3.9 RPD = 120*

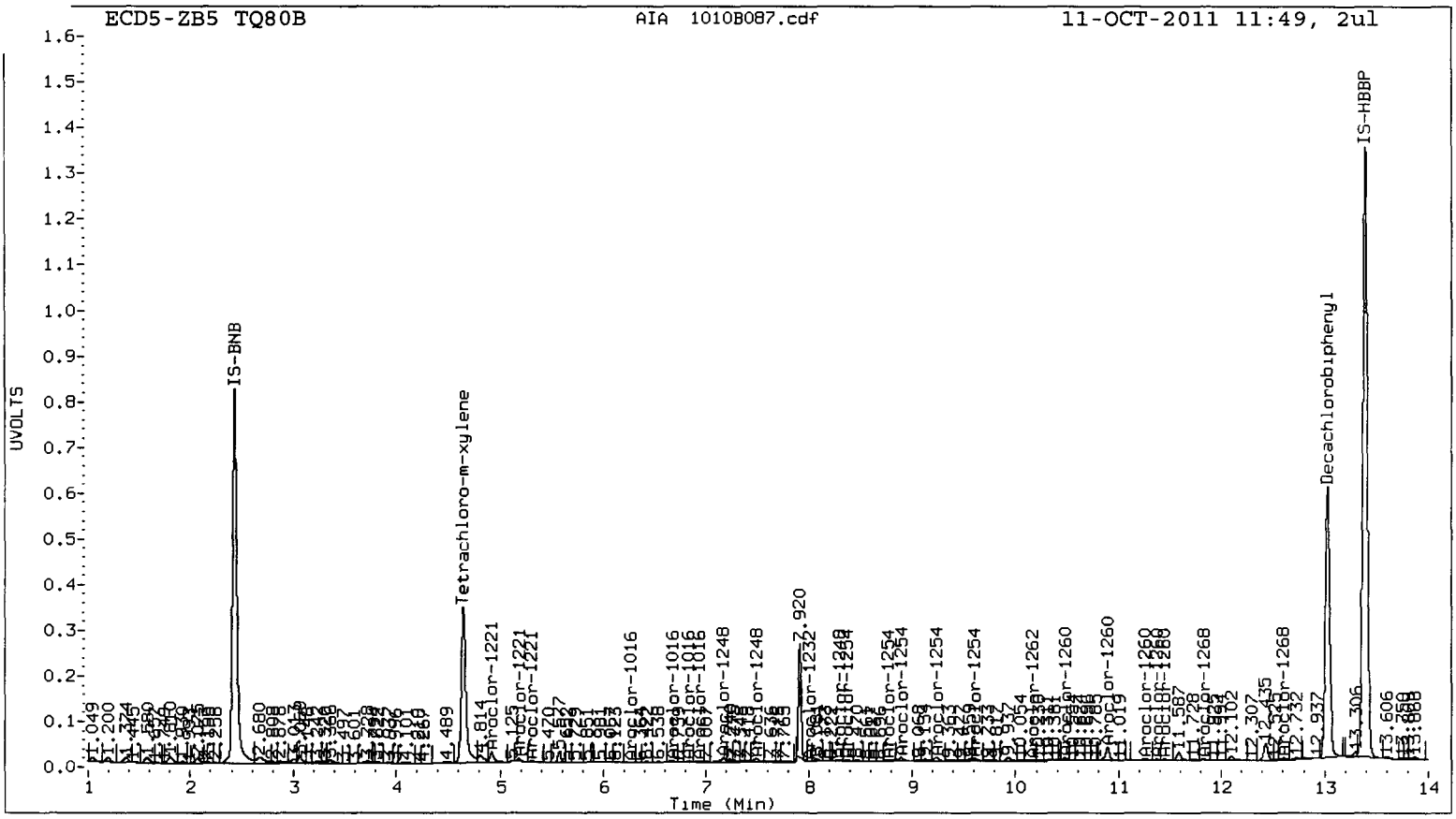
Corrected Ave (3 peaks): 0.8 Corrected Ave (3 peaks): 1.8 RPD = 76*

Total PCB Area Col1 (4.748 - 12.931) = 77269535 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (4.752 - 13.314) = 59616410 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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Tetrachloro-m-xylene
Decachlorobiphenyl
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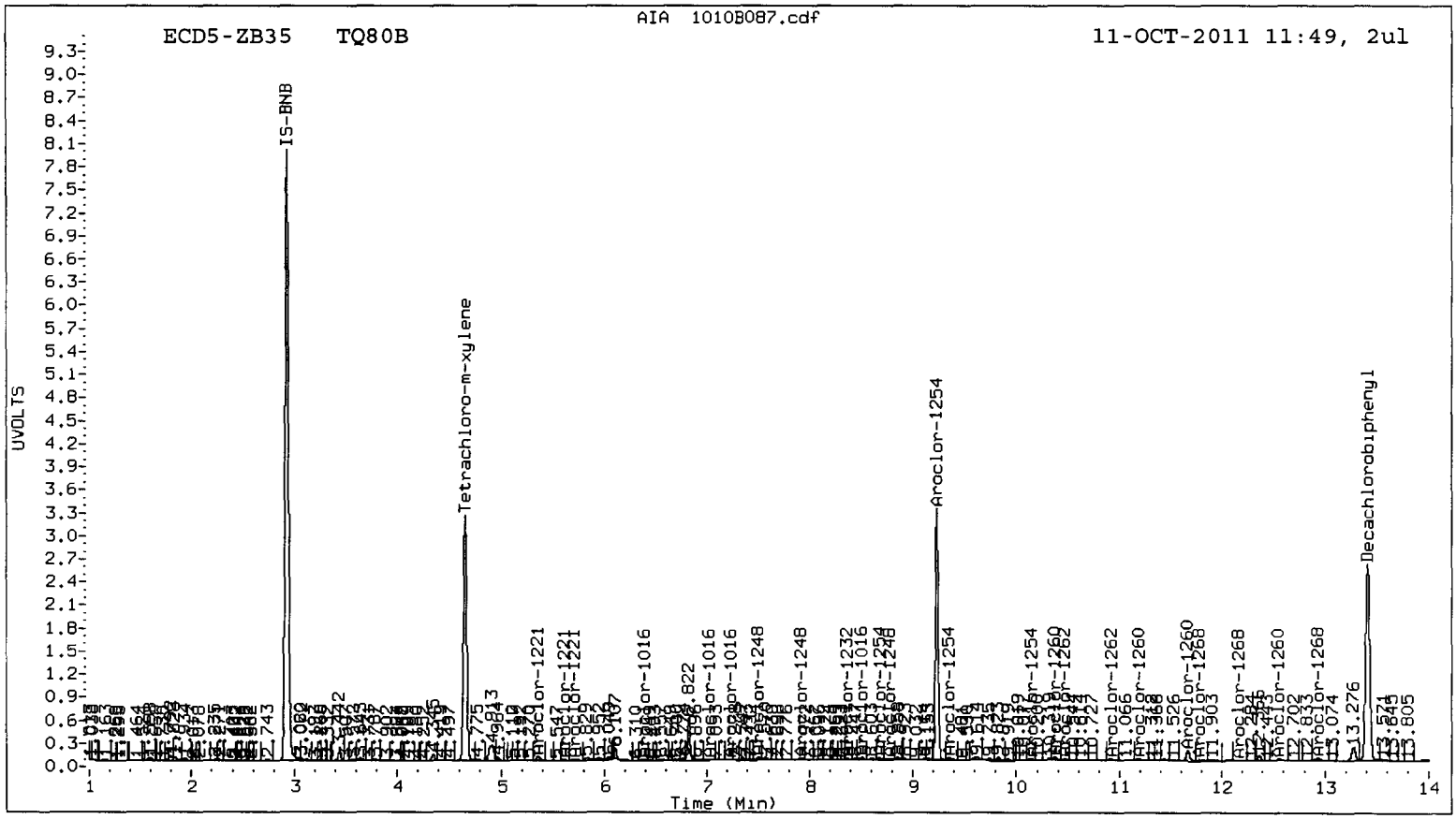
Time (Min)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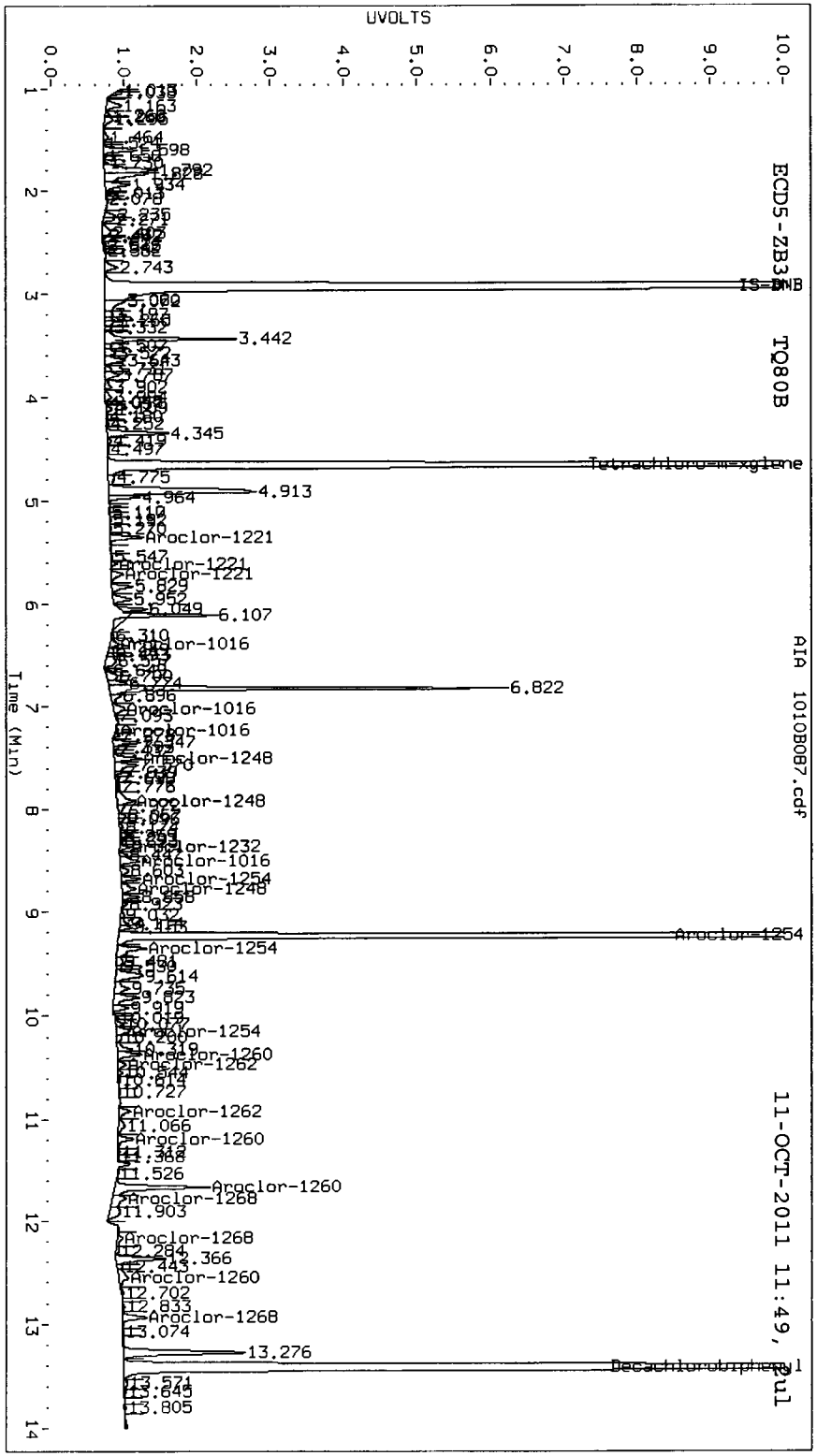
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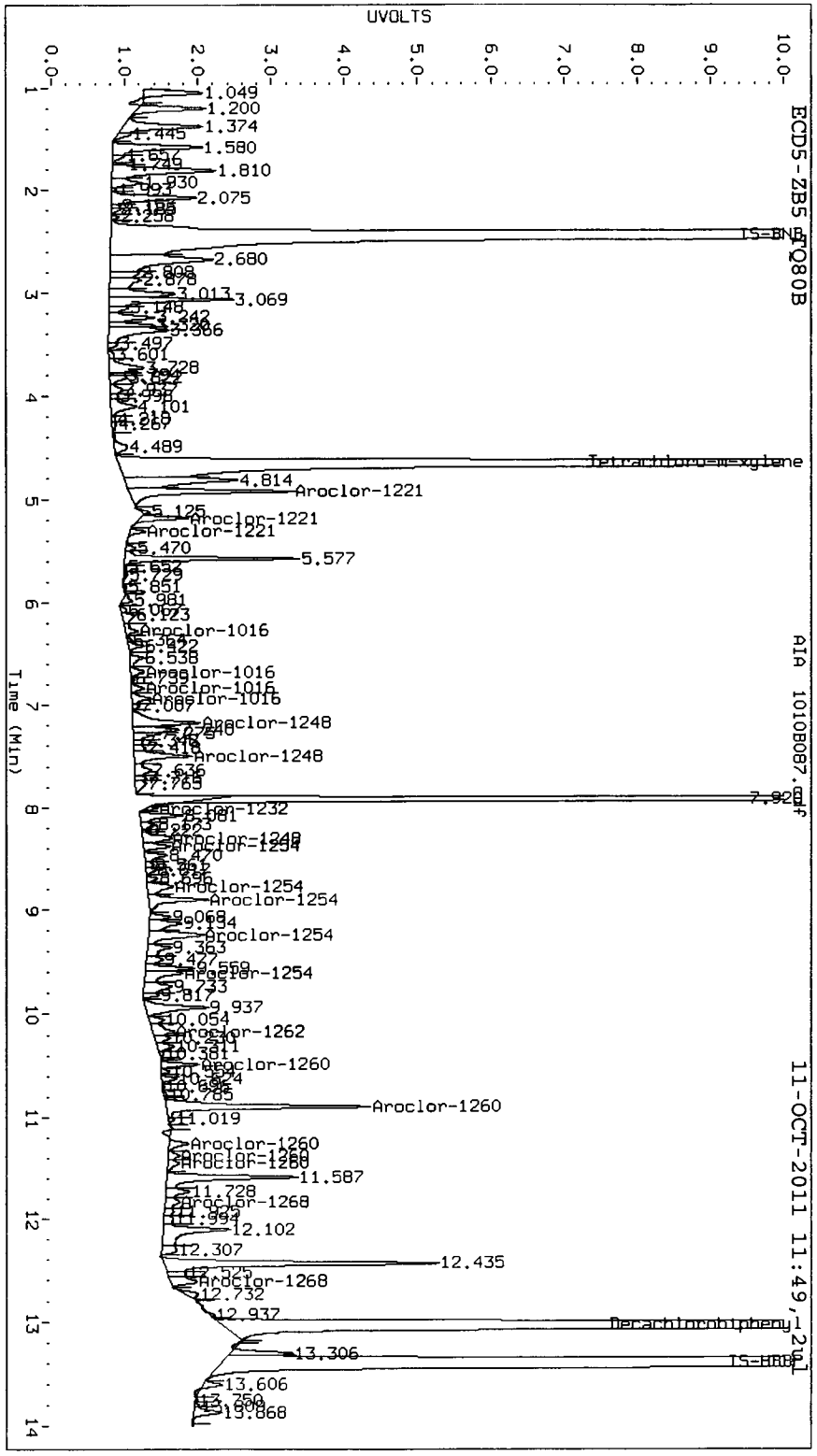
Time (Min)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Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS=HMB
Time (Min)

TQ80:00189

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/1010-1.b/1010B088.d
Data file 2: 20110930.B/1010-2.b/1010B088.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: TQ80C
Client ID:
Injection Date: 11-OCT-2011 12:08
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.648	0.000	55955537	4.655	0.002	38316724	26.3	27.2	3.4	Tetrachloro-m-xylene
13.033	0.002	89952707	13.415	0.001	35428251	28.0	29.2	4.2	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	65.7	67.9
Decachlorobiphenyl	70.1	73.1

10/4/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	123783446	3.7
Hexabromobiphenyl	247758184	201955893	-18.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	93411775	2.4
Hexabromobiphenyl	103671329	87272078	-15.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.278	-0.001	231841	4.0	1	6.390	-0.002	145633	2.6
Aroclor-1016	2	6.676	-0.004	298615	1.5	2	7.032	0.015	250009	2.0
Aroclor-1016	3	6.836	0.009	252292	3.2	3	7.281	0.056	61865	1.3
Aroclor-1016	4	6.934	-0.003	475687	8.4	4	8.509	-0.001	399006	15.1
Total Col1Ave (4 peaks):					4.3	Total Col2Ave (4 peaks):				5.3 RPD = 21
Corrected Ave (3 peaks):					2.9	Corrected Ave (3 peaks):				2.0 RPD = 38
Aroclor-1221	1	4.925	-0.095	3379085	162.2	1	5.359	0.017	503095	31.4
Aroclor-1221	2	5.184	-0.014	660383	44.9	2	5.611	0.023	1399287	152.3
Aroclor-1221	3	5.313	0.010	160648	3.2	3	5.713	0.012	258566	8.6
Aroclor-1221	NS	---			----	4	5.771	0.002	56091	11.2
Total Col1Ave (3 peaks):					70.1	Total Col2Ave (4 peaks):				50.9 RPD = 32
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				17.1
Aroclor-1232	1	6.278	-0.002	231841	9.6	1	6.390	-0.006	145633	5.7
Aroclor-1232	2	6.676	-0.004	298615	3.7	2	7.032	0.013	250009	4.7
Aroclor-1232	3	6.836	0.008	252292	7.8	3	7.281	0.054	61865	3.4
Aroclor-1232	4	8.015	-0.004	123328	3.6	4	8.369	-0.002	161010	7.8
Total Col1Ave (4 peaks):					6.2	Total Col2Ave (4 peaks):				5.4 RPD = 14
Corrected Ave (3 peaks):					5.0	Corrected Ave (3 peaks):				4.6 RPD = 9
Aroclor-1242	1	6.278	-0.002	231841	5.3	1	6.390	0.000	145633	3.3
Aroclor-1242	2	6.676	-0.003	298615	2.1	2	7.032	0.016	250009	2.5
Aroclor-1242	3	6.836	0.008	252292	4.3	3	7.281	0.058	61865	1.6
Aroclor-1242	4	8.015	-0.004	123328	2.1	4	8.369	0.001	161010	4.6
Total Col1Ave (4 peaks):					3.4	Total Col2Ave (4 peaks):				3.0 RPD = 13
Corrected Ave (3 peaks):					2.8	Corrected Ave (3 peaks):				2.5 RPD = 12
Aroclor-1248	1	7.174	-0.004	1917388	29.2	1	7.503	-0.002	436253	9.8
Aroclor-1248	2	7.475	-0.001	778135	10.5	2	7.919	0.000	661782	12.8
Aroclor-1248	3	8.015	-0.005	123328	1.3	3	8.369	0.000	161010	2.8
Aroclor-1248	4	8.307	-0.003	773515	8.3	4	8.776	-0.016	267839	4.3
Total Col1Ave (4 peaks):					12.3	Total Col2Ave (4 peaks):				7.4 RPD = 50*
Corrected Ave (3 peaks):					6.7	Corrected Ave (3 peaks):				5.6 RPD = 17
Aroclor-1254	1	8.391	-0.003	1185600	7.9	1	8.509	-0.001	399006	7.9
Aroclor-1254	2	8.769	0.004	880175	8.5	2	8.682	0.001	364924	5.6
Aroclor-1254	3	8.900	-0.001	1656179	8.9	3	9.232	0.028	8334668	158.2
Aroclor-1254	4	9.242	-0.008	2111247	10.0	4	9.354	0.000	1108974	9.8
Aroclor-1254	5	9.607	-0.006	1858200	13.3	5	10.142	0.006	456101	6.5
Total Col1Ave (5 peaks):					9.7	Total Col2Ave (5 peaks):				37.6 RPD = 118*
Corrected Ave (4 peaks):					8.8	Corrected Ave (4 peaks):				7.5 RPD = 17
Aroclor-1260	1	10.485	0.000	306102	2.8	1	10.370	-0.001	532816	6.8
Aroclor-1260	2	10.895	0.036	2605057	9.4	2	11.188	-0.001	328433	2.7
Aroclor-1260	3	11.258	-0.001	439267	2.8	3	11.664	-0.048	880616	23.8
Aroclor-1260	4	11.372	-0.004	544734	8.0	4	12.514	0.003	440686	12.5
Aroclor-1260	5	11.448	-0.001	805117	10.0	NS	---			----
Total Col1Ave (5 peaks):					6.6	Total Col2Ave (4 peaks):				11.5 RPD = 54*
Corrected Ave (4 peaks):					5.7	Corrected Ave (3 peaks):				7.4 RPD = 25
Aroclor-1262	1	10.168	-0.001	1285262	7.9	1	10.467	-0.002	204324	2.6
Aroclor-1262	2	10.485	0.000	306102	2.3	2	10.915	-0.006	315152	4.2
Aroclor-1262	3	10.895	0.036	2605057	8.2	3	11.188	-0.004	328433	2.2
Aroclor-1262	4	11.372	-0.005	544734	3.7	4	11.664	-0.050	880616	12.6
Aroclor-1262	5	11.448	-0.001	805117	5.2	5	12.514	0.001	440686	7.7
Total Col1Ave (5 peaks):					5.5	Total Col2Ave (5 peaks):				5.9 RPD = 7
Corrected Ave (4 peaks):					4.8	Corrected Ave (4 peaks):				4.2 RPD = 14
Aroclor-1268	1	11.372	-0.005	544734	1.5	1	11.664	-0.051	880616	5.1
Aroclor-1268	2	11.448	-0.001	805117	2.3	2	11.775	-0.007	262597	1.8

Aroclor-1268	3	11.839	0.003	1214864	4.0	3	12.166	-0.014	430575	3.4
Aroclor-1268	4	12.620	-0.007	1314363	1.5	4	12.996	-0.005	41569	0.1

Total Col1Ave (4 peaks): 2.3 Total Col2Ave (4 peaks): 2.6 RPD = 11

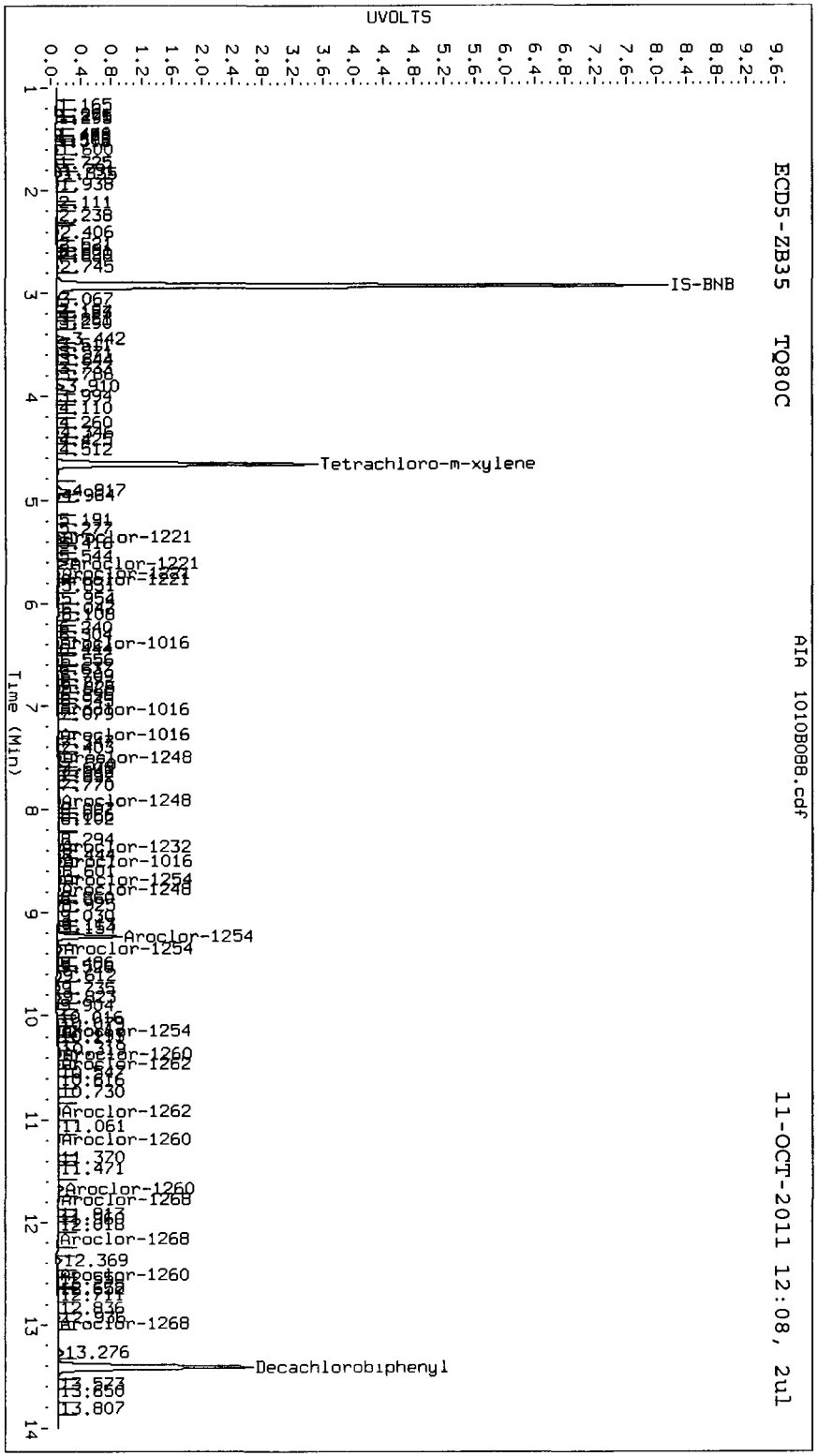
Corrected Ave (3 peaks): 1.8 Corrected Ave (3 peaks): 1.8 RPD = 1

Total PCB Area Col1 (4.748 - 12.931) = 72690062 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (4.752 - 13.314) = 34417377 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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Aroclor-1016
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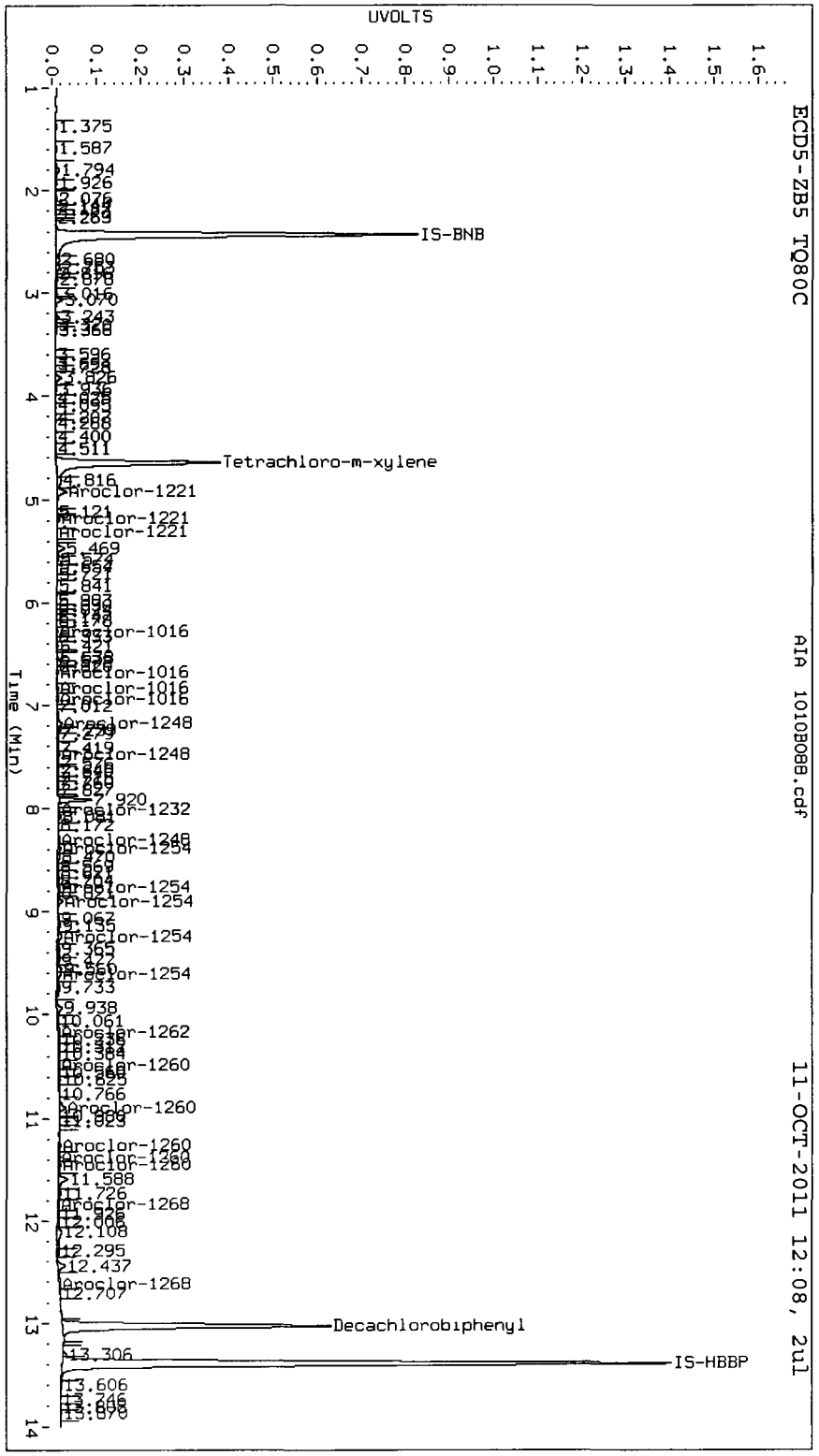
Aroclor-1268
Decachlorobiphenyl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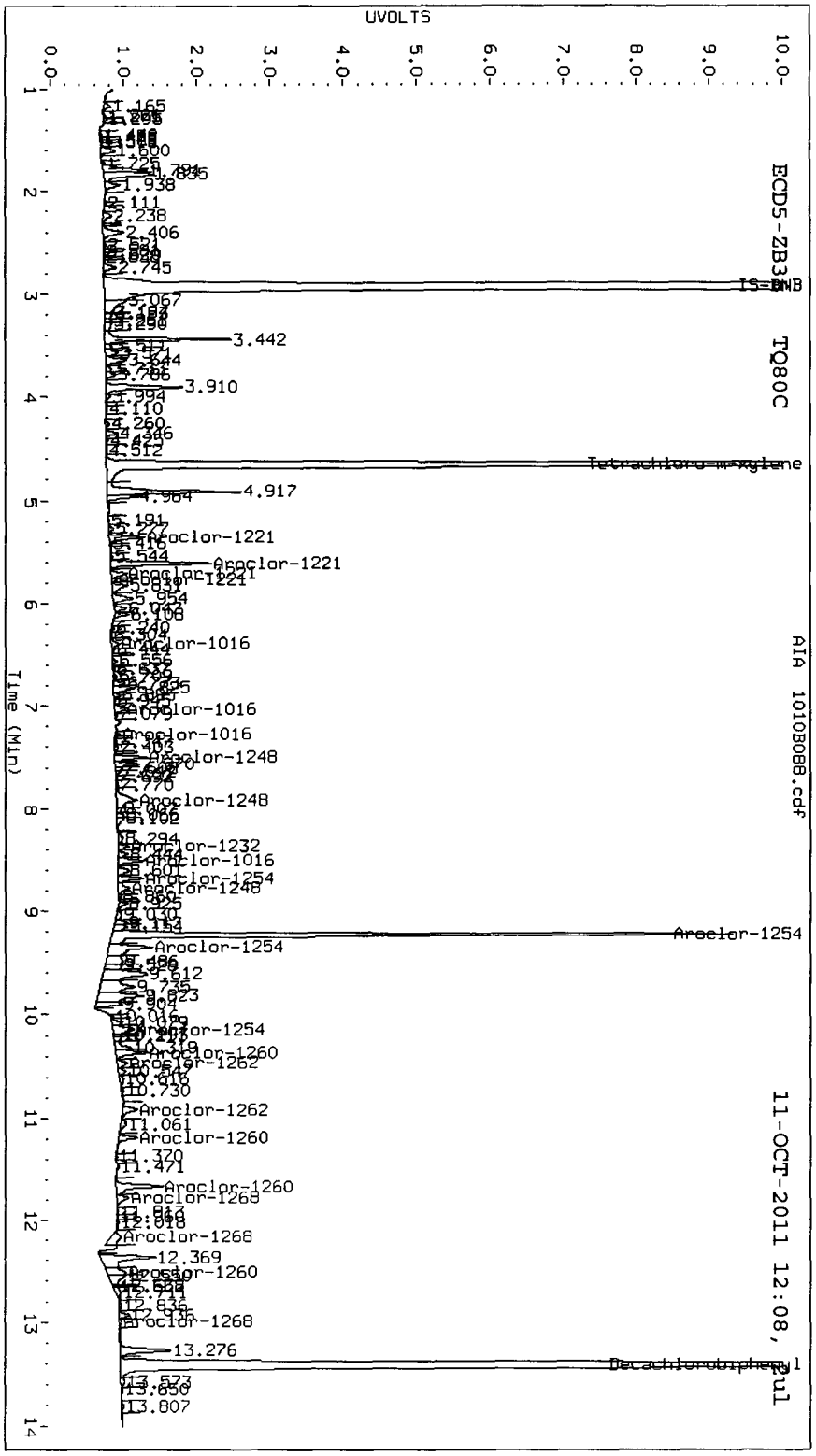
IS-HBBP

TQ80 : 00181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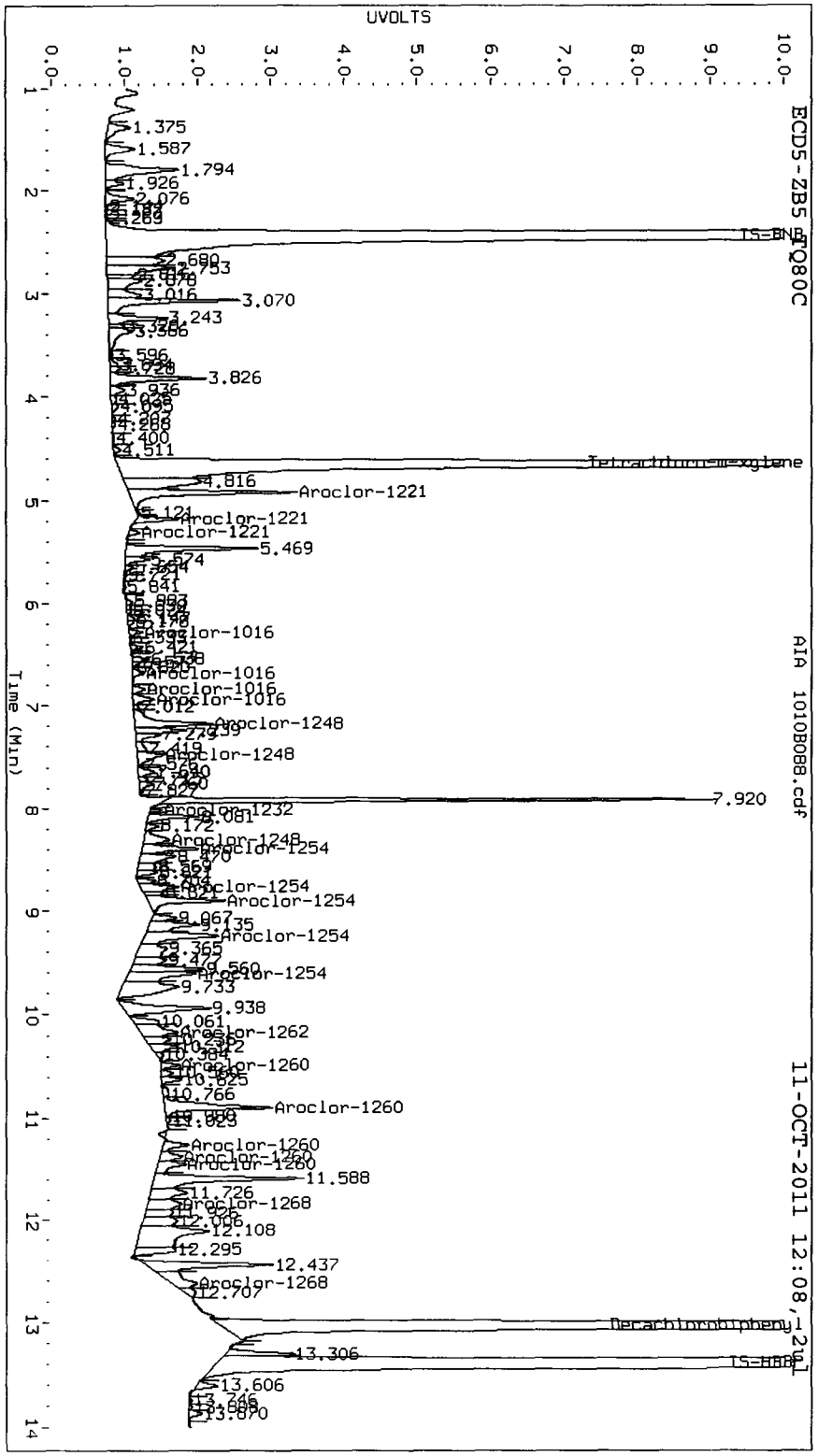
Time (Min)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Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBB
Time (Min)

TQ80:00185

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/1010-1.b/1010B089.d
Data file 2: 20110930.B/1010-2.b/1010B089.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: TQ80D
Client ID:
Injection Date: 11-OCT-2011 12:27
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.648	0.000	53233027	4.655	0.003	35593580	24.7	25.1	1.4	Tetrachloro-m-xylene
13.032	0.001	91985940	13.414	0.000	37141746	28.3	30.6	7.9	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	61.8	62.7
Decachlorobiphenyl	70.8	76.6

10/11/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	125153841	4.9
Hexabromobiphenyl	247758184	204331986	-17.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	94049028	3.0
Hexabromobiphenyl	103671329	87303487	-15.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.279	0.000	225122	3.9	1	6.431	0.039	148714	2.7
Aroclor-1016	2	6.680	0.000	52194	0.3	2	7.039	0.022	168767	1.3
Aroclor-1016	3	6.831	0.004	81310	1.0	3	7.156	-0.069	10877	0.2
Aroclor-1016	4	6.935	-0.002	377795	6.6	4	8.508	-0.001	62291	2.3
Total Col1Ave (4 peaks):				2.9	Total Col2Ave (4 peaks):				1.6	RPD = 56*
Corrected Ave (3 peaks):				1.7	Corrected Ave (3 peaks):				1.3	RPD = 27
Aroclor-1221	1	4.925	-0.095	3081812	146.3	1	5.359	0.017	484017	30.0
Aroclor-1221	2	5.184	-0.015	311329	20.9	2	5.611	0.023	1619503	175.0
Aroclor-1221	3	5.398	0.095	13044	0.3	3	5.711	0.010	168230	5.6
Aroclor-1221	NS	---			----	4	5.771	0.001	76599	15.2
Total Col1Ave (3 peaks):				55.8	Total Col2Ave (4 peaks):				56.4	RPD = 1
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				16.9	
Aroclor-1232	1	6.279	-0.001	225122	9.2	1	6.431	0.035	148714	5.8
Aroclor-1232	2	6.680	0.000	52194	0.6	2	7.039	0.020	168767	3.2
Aroclor-1232	3	6.831	0.003	81310	2.5	3	7.156	-0.071	10877	0.6
Aroclor-1232	4	8.013	-0.007	27199	0.8	4	8.370	0.000	50521	2.4
Total Col1Ave (4 peaks):				3.3	Total Col2Ave (4 peaks):				3.0	RPD = 9
Corrected Ave (3 peaks):				1.3	Corrected Ave (3 peaks):				2.1	RPD = 45*
Aroclor-1242	1	6.279	0.000	225122	5.0	1	6.431	0.041	148714	3.4
Aroclor-1242	2	6.680	0.001	52194	0.4	2	7.039	0.023	168767	1.7
Aroclor-1242	3	6.831	0.003	81310	1.4	3	7.156	-0.068	10877	0.3
Aroclor-1242	4	8.013	-0.007	27199	0.5	4	8.370	0.002	50521	1.4
Total Col1Ave (4 peaks):				1.8	Total Col2Ave (4 peaks):				1.7	RPD = 6
Corrected Ave (3 peaks):				0.7	Corrected Ave (3 peaks):				1.1	RPD = 44*
Aroclor-1248	1	7.167	-0.011	1084986	16.3	1	7.507	0.002	48093	1.1
Aroclor-1248	2	7.498	0.022	252375	3.4	2	7.924	0.005	213130	4.1
Aroclor-1248	3	8.013	-0.007	27199	0.3	3	8.370	0.001	50521	0.9
Aroclor-1248	4	8.284	-0.026	653715	6.9	4	8.775	-0.017	76349	1.2
Total Col1Ave (4 peaks):				6.7	Total Col2Ave (4 peaks):				1.8	RPD = 115*
Corrected Ave (3 peaks):				3.5	Corrected Ave (3 peaks):				1.1	RPD = 108*
Aroclor-1254	1	8.389	-0.005	214040	1.4	1	8.508	-0.002	62291	1.2
Aroclor-1254	2	8.777	0.012	190820	1.8	2	8.681	0.000	68573	1.0
Aroclor-1254	3	8.903	0.002	373486	2.0	3	9.233	0.029	6450255	121.6
Aroclor-1254	4	9.247	-0.003	810516	3.8	4	9.355	0.000	283835	2.5
Aroclor-1254	5	9.610	-0.002	720880	5.1	5	10.137	0.001	135759	1.9
Total Col1Ave (5 peaks):				2.8	Total Col2Ave (5 peaks):				25.7	RPD = 160*
Corrected Ave (4 peaks):				2.3	Corrected Ave (4 peaks):				1.7	RPD = 30
Aroclor-1260	1	10.492	0.007	94468	0.9	1	10.370	0.000	128229	1.6
Aroclor-1260	2	10.897	0.037	1642448	5.8	2	11.182	-0.007	63464	0.5
Aroclor-1260	3	11.261	0.001	63661	0.4	3	11.663	-0.049	652855	17.6
Aroclor-1260	4	11.357	-0.019	151641	2.2	4	12.554	0.043	284123	8.1
Aroclor-1260	5	11.449	-0.001	142678	1.8	NS	---			----
Total Col1Ave (5 peaks):				2.2	Total Col2Ave (4 peaks):				7.0	RPD = 104*
Corrected Ave (4 peaks):				1.3	Corrected Ave (3 peaks):				3.4	RPD = 90*
Aroclor-1262	1	10.167	-0.001	1055349	6.4	1	10.466	-0.003	44328	0.6
Aroclor-1262	2	10.492	0.007	94468	0.7	2	10.915	-0.006	129903	1.7
Aroclor-1262	3	10.897	0.037	1642448	5.1	3	11.182	-0.010	63464	0.4
Aroclor-1262	4	11.357	-0.020	151641	1.0	4	11.663	-0.051	652855	9.4
Aroclor-1262	5	11.449	-0.001	142678	0.9	5	12.554	0.041	284123	5.0
Total Col1Ave (5 peaks):				2.8	Total Col2Ave (5 peaks):				3.4	RPD = 19
Corrected Ave (4 peaks):				1.9	Corrected Ave (4 peaks):				1.9	RPD = 1
Aroclor-1268	1	11.357	-0.020	151641	0.4	1	11.663	-0.052	652855	3.8
Aroclor-1268	2	11.449	0.000	142678	0.4	2	11.773	-0.008	90978	0.6

Aroclor-1268	3	11.825	-0.011	371457	1.2	3	12.165	-0.014	172967	1.4
Aroclor-1268	4	12.616	-0.011	469665	0.5	4	12.991	-0.010	12043	0.0

Total Col1Ave (4 peaks): 0.6 Total Col2Ave (4 peaks): 1.5 RPD = 78*

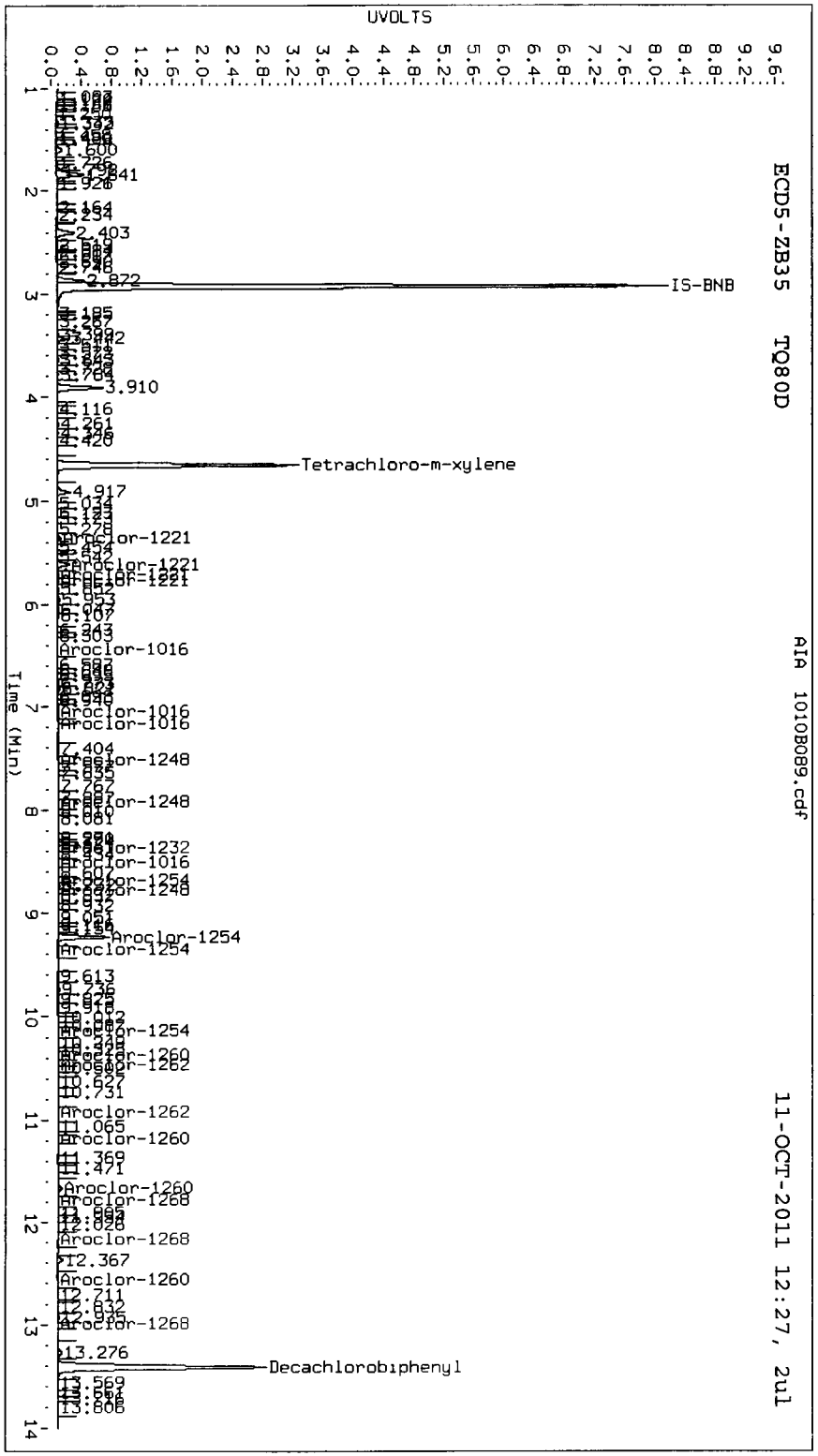
Corrected Ave (3 peaks): 0.5 Corrected Ave (3 peaks): 0.7 RPD = 39

Total PCB Area Col1 (4.748 - 12.931) = 42051395 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (4.752 - 13.314) = 20447324 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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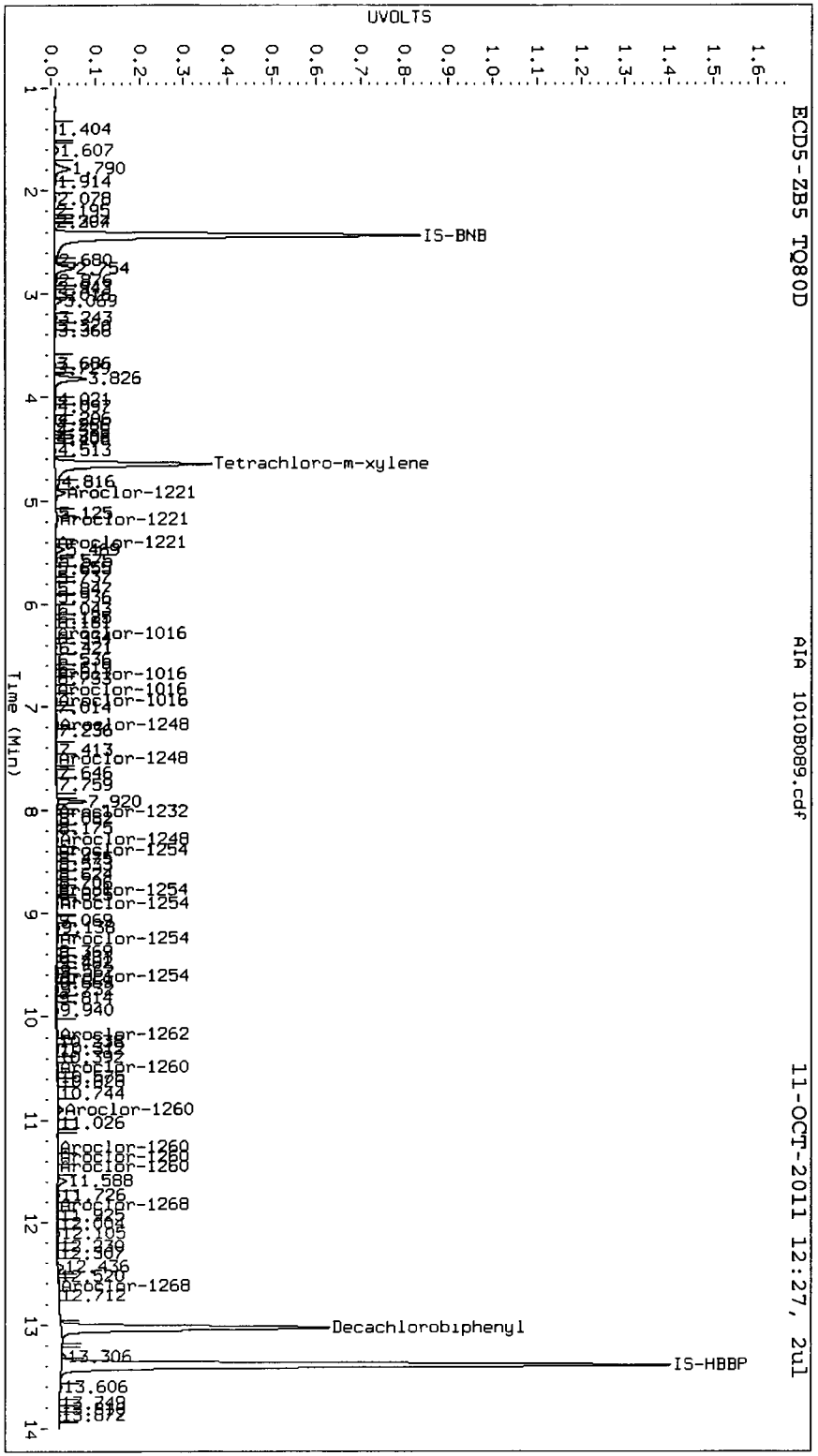
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl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Aroclor-1232
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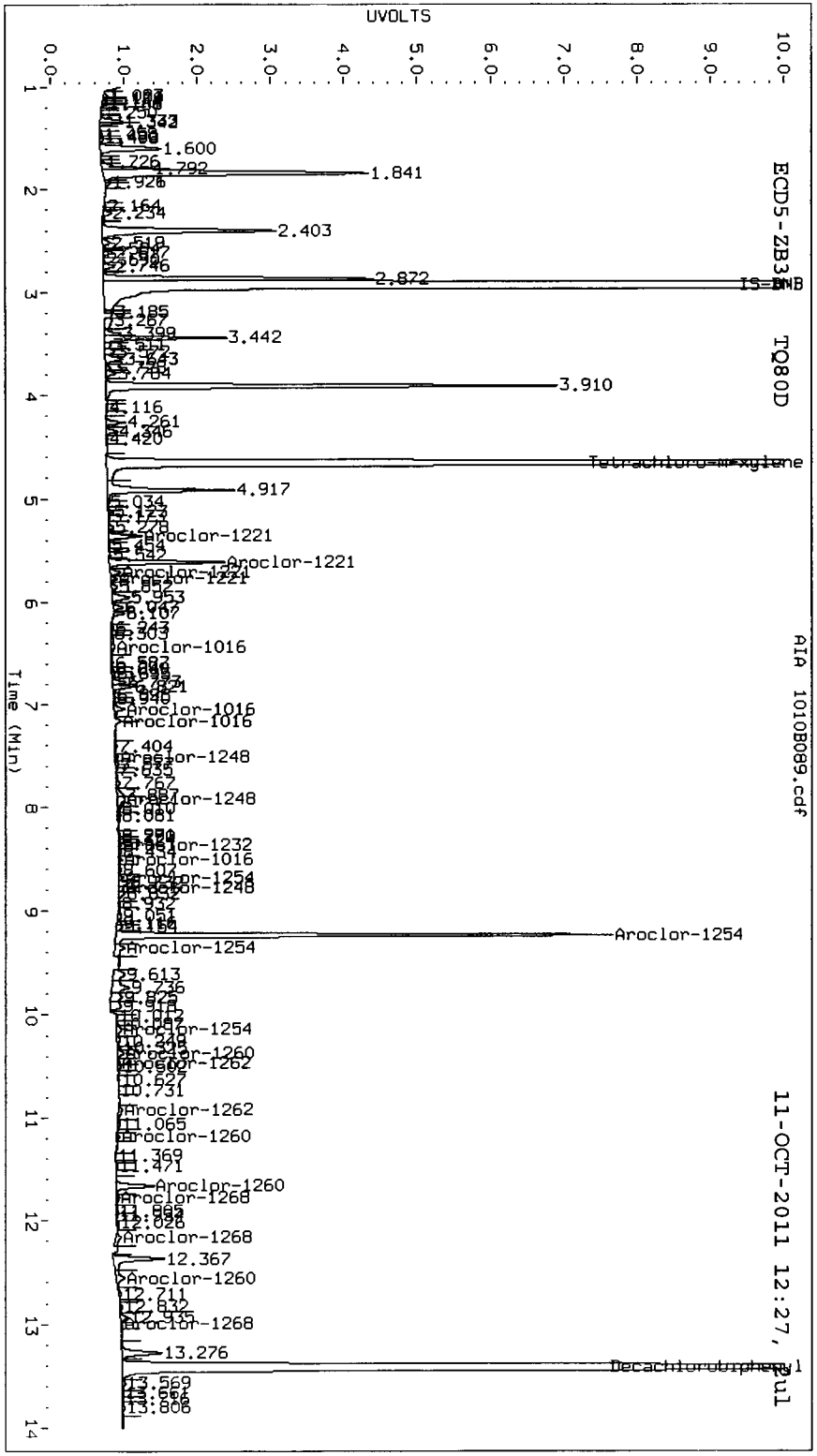
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TQ80 : 001189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Tetrachloro-m-xylene
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Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1232
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Aroclor-1260
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Aroclor-1268
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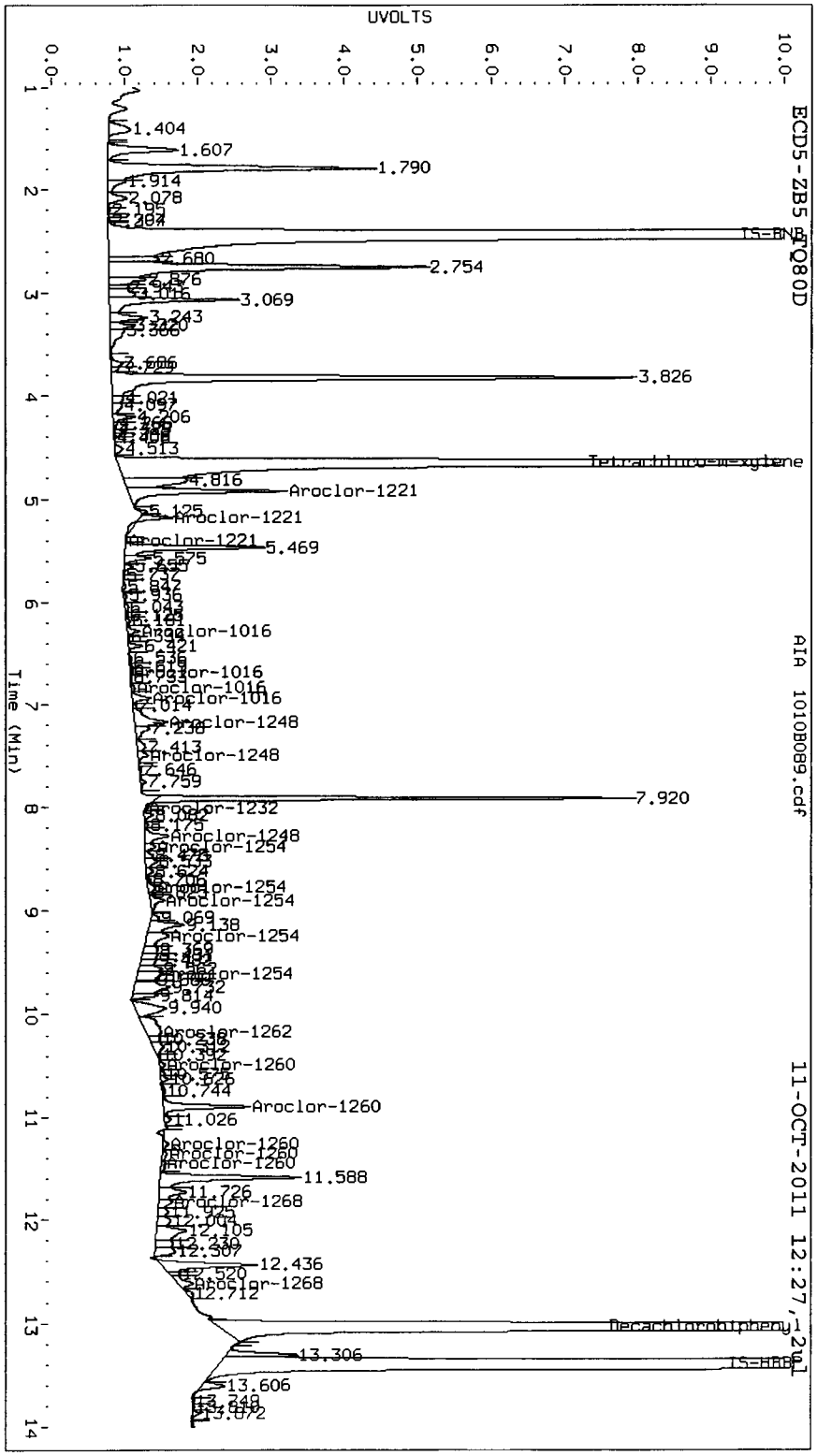
13.276
Decachlorobiphenyl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3.826
Tetrachloro-m-xylene
4.816
Aroclor-1221
5.469
Aroclor-1016
Aroclor-1248
7.920
Aroclor-1232
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268
11.588
12.436
Decachlorobiphenyl
13.306
13.606

TQ80 : 001198

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/1010-1.b/1010B090.d
Data file 2: 20110930.B/1010-2.b/1010B090.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: TQ80E
Client ID:
Injection Date: 11-OCT-2011 12:46
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.648	0.000	47001350	4.655	0.002	30974174	22.1	21.7	1.7	Tetrachloro-m-xylene
13.031	0.000	95043313	13.414	0.000	39472795	28.9	32.3	11.0	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	55.2	54.2
Decachlorobiphenyl	72.3	80.7

JR 10/11/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	123803967	3.8
Hexabromobiphenyl	247758184	206958146	-16.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	94599354	3.7
Hexabromobiphenyl	103671329	88096368	-15.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.279	0.000	293337	5.1	1	6.390	-0.002	78574	1.4
Aroclor-1016	2	6.676	-0.003	101553	0.5	2	7.038	0.022	210909	1.7
Aroclor-1016	3	6.838	0.011	110589	1.4	3	---			0.0
Aroclor-1016	4	6.934	-0.003	490907	8.6	4	8.509	0.000	116516	4.4
Total Col1Ave (4 peaks):				3.9		Total Col2Ave (3 peaks):			2.5	RPD = 45*
Corrected Ave (3 peaks):				2.3		Corrected Ave: < 3 Peaks				
Aroclor-1221	1	4.925	-0.094	2795306	134.1	1	5.359	0.016	424780	26.2
Aroclor-1221	2	5.182	-0.016	274952	18.7	2	5.611	0.023	1034714	111.2
Aroclor-1221	3	5.291	-0.012	15377	0.3	3	5.713	0.012	187828	6.2
Aroclor-1221	NS	---			----	4	5.769	0.000	57896	11.4
Total Col1Ave (3 peaks):				51.0		Total Col2Ave (4 peaks):			38.7	RPD = 27
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			14.6	
Aroclor-1232	1	6.279	-0.001	293337	12.2	1	6.390	-0.005	78574	3.0
Aroclor-1232	2	6.676	-0.003	101553	1.3	2	7.038	0.019	210909	3.9
Aroclor-1232	3	6.838	0.010	110589	3.4	3	---			0.0
Aroclor-1232	4	8.016	-0.004	54523	1.6	4	8.369	-0.002	78425	3.8
Total Col1Ave (4 peaks):				4.6		Total Col2Ave (3 peaks):			3.6	RPD = 25
Corrected Ave (3 peaks):				2.1		Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.279	0.000	293337	6.7	1	6.390	0.000	78574	1.8
Aroclor-1242	2	6.676	-0.002	101553	0.7	2	7.038	0.022	210909	2.1
Aroclor-1242	3	6.838	0.010	110589	1.9	3	---			0.0
Aroclor-1242	4	8.016	-0.003	54523	0.9	4	8.369	0.000	78425	2.2
Total Col1Ave (4 peaks):				2.5		Total Col2Ave (3 peaks):			2.0	RPD = 22
Corrected Ave (3 peaks):				1.2		Corrected Ave: < 3 Peaks				
Aroclor-1248	1	7.168	-0.010	1770725	26.9	1	7.505	0.000	105763	2.3
Aroclor-1248	2	7.488	0.013	445117	6.0	2	7.923	0.004	776673	14.8
Aroclor-1248	3	8.016	-0.004	54523	0.6	3	8.369	-0.001	78425	1.3
Aroclor-1248	4	8.304	-0.006	282732	3.0	4	8.777	-0.015	194313	3.1
Total Col1Ave (4 peaks):				9.1		Total Col2Ave (4 peaks):			5.4	RPD = 51*
Corrected Ave (3 peaks):				3.2		Corrected Ave (3 peaks):			2.3	RPD = 35
Aroclor-1254	1	8.389	-0.005	367168	2.5	1	8.509	-0.001	116516	2.3
Aroclor-1254	2	8.769	0.004	259171	2.5	2	8.682	0.001	143149	2.2
Aroclor-1254	3	8.901	0.000	665776	3.6	3	9.232	0.028	5638608	105.7
Aroclor-1254	4	9.245	-0.005	1013431	4.8	4	9.354	-0.001	420887	3.7
Aroclor-1254	5	9.610	-0.003	798247	5.7	5	10.137	0.001	219532	3.1
Total Col1Ave (5 peaks):				3.8		Total Col2Ave (5 peaks):			23.4	RPD = 144*
Corrected Ave (4 peaks):				3.3		Corrected Ave (4 peaks):			2.8	RPD = 17
Aroclor-1260	1	10.491	0.005	105822	0.9	1	10.368	-0.002	212240	2.7
Aroclor-1260	2	10.896	0.037	1735875	6.1	2	11.185	-0.004	65119	0.5
Aroclor-1260	3	11.260	0.001	92743	0.6	3	11.664	-0.047	622373	16.6
Aroclor-1260	4	11.361	-0.016	117896	1.7	4	12.555	0.045	237752	6.7
Aroclor-1260	5	11.451	0.001	82446	1.0	NS	---			----
Total Col1Ave (5 peaks):				2.1		Total Col2Ave (4 peaks):			6.6	RPD = 105*
Corrected Ave (4 peaks):				1.0		Corrected Ave (3 peaks):			3.3	RPD = 104*
Aroclor-1262	1	10.163	-0.005	991961	6.0	1	10.501	0.032	135456	1.7
Aroclor-1262	2	10.491	0.005	105822	0.8	2	10.915	-0.006	110723	1.5
Aroclor-1262	3	10.896	0.037	1735875	5.3	3	11.185	-0.007	65119	0.4
Aroclor-1262	4	11.361	-0.016	117896	0.8	4	11.664	-0.050	622373	8.8
Aroclor-1262	5	11.451	0.001	82446	0.5	5	12.555	0.043	237752	4.1
Total Col1Ave (5 peaks):				2.7		Total Col2Ave (5 peaks):			3.3	RPD = 21
Corrected Ave (4 peaks):				1.8		Corrected Ave (4 peaks):			1.9	RPD = 4
Aroclor-1268	1	11.361	-0.017	117896	0.3	1	11.664	-0.051	622373	3.6
Aroclor-1268	2	11.451	0.001	82446	0.2	2	11.772	-0.009	61320	0.4

Aroclor-1268	3	11.830	-0.006	321295	1.0	3	12.168	-0.012	151651	1.2
Aroclor-1268	4	12.615	-0.012	531508	0.6	4	12.989	-0.012	41861	0.1

Total Col1Ave (4 peaks): 0.5 Total Col2Ave (4 peaks): 1.3 RPD = 84*

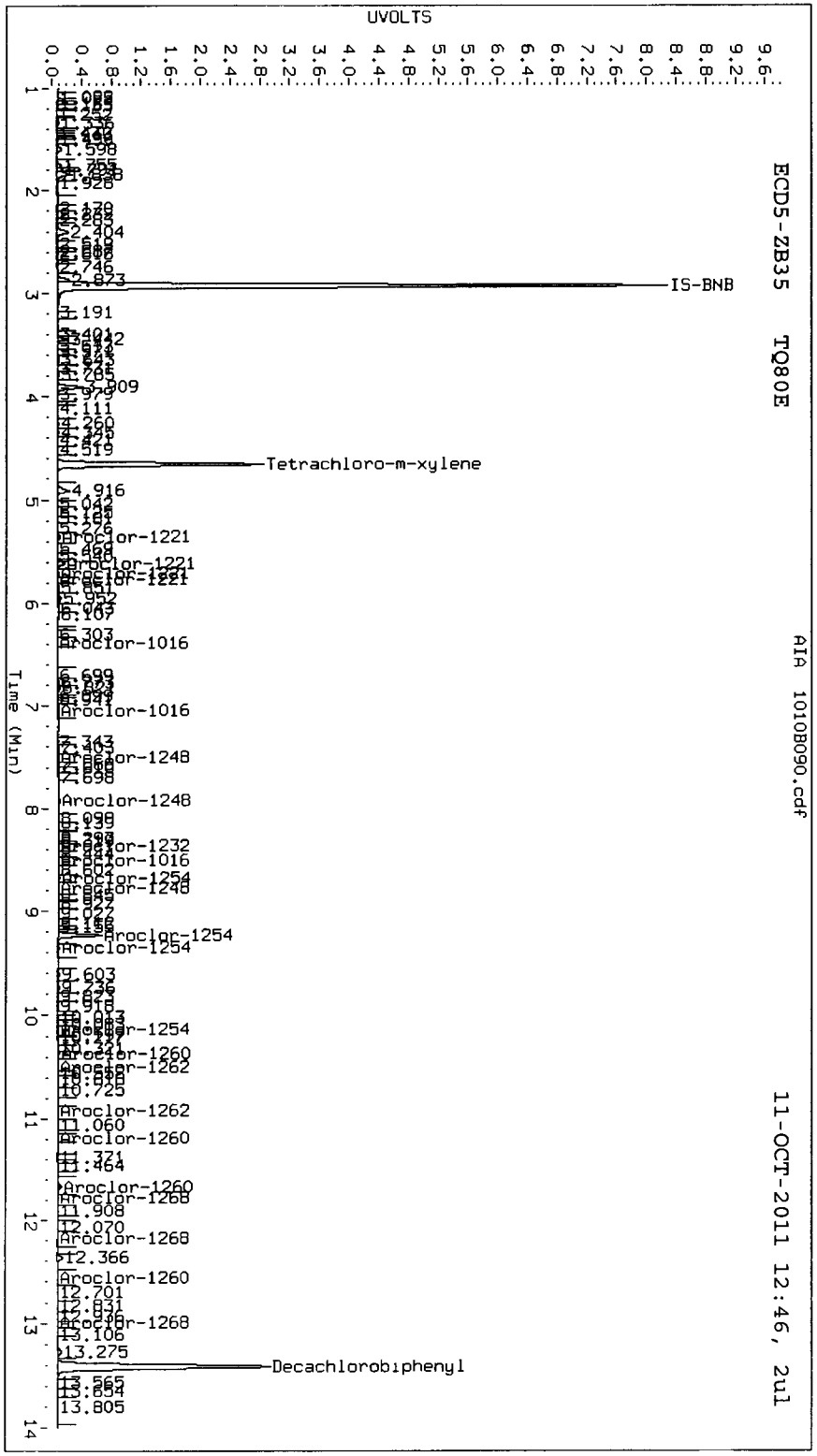
Corrected Ave (3 peaks): 0.4 Corrected Ave (3 peaks): 0.6 RPD = 40

Total PCB Area Col1 (4.748 - 12.931) = 42150607 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (4.752 - 13.314) = 20638970 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
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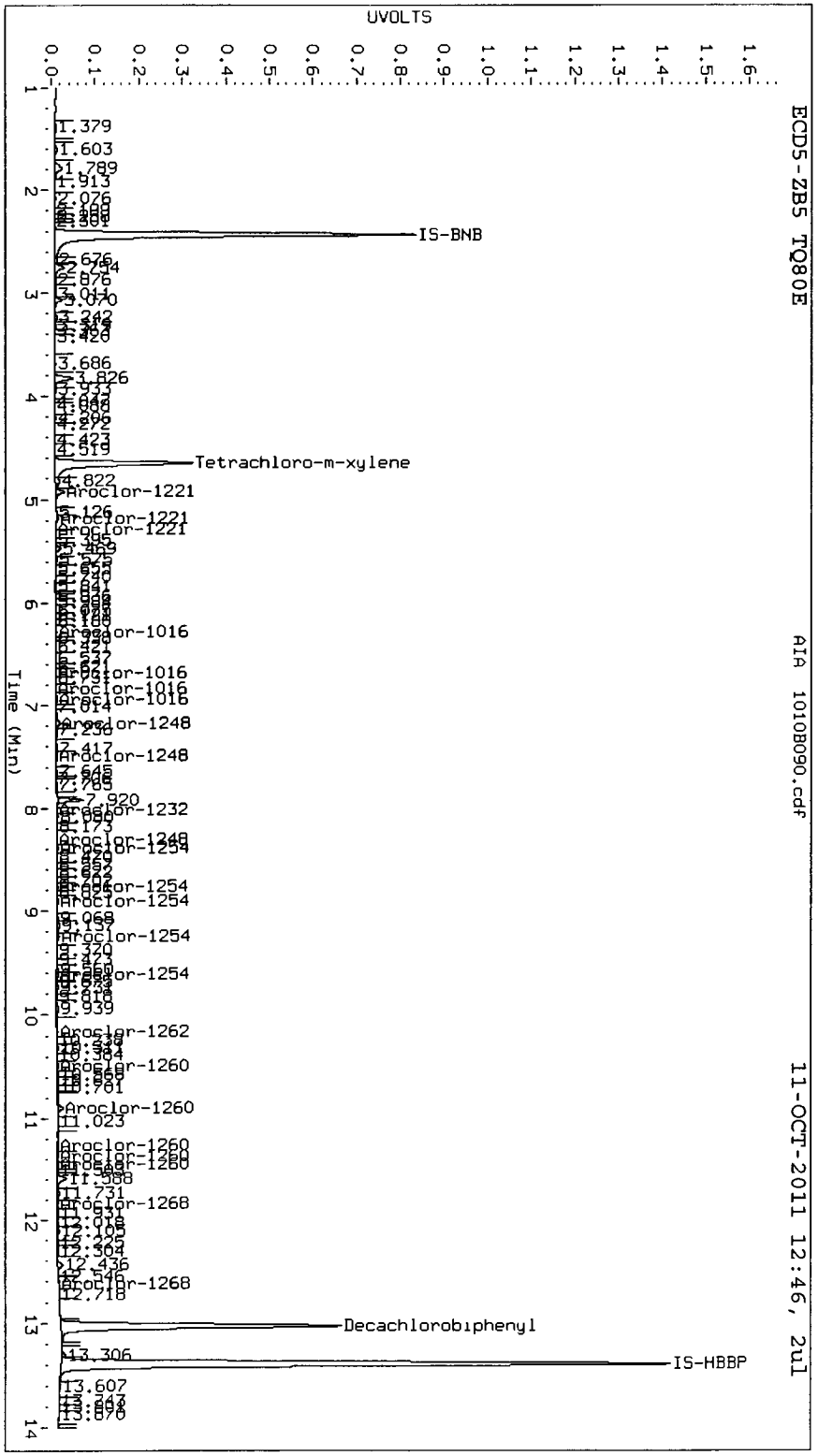
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl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Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
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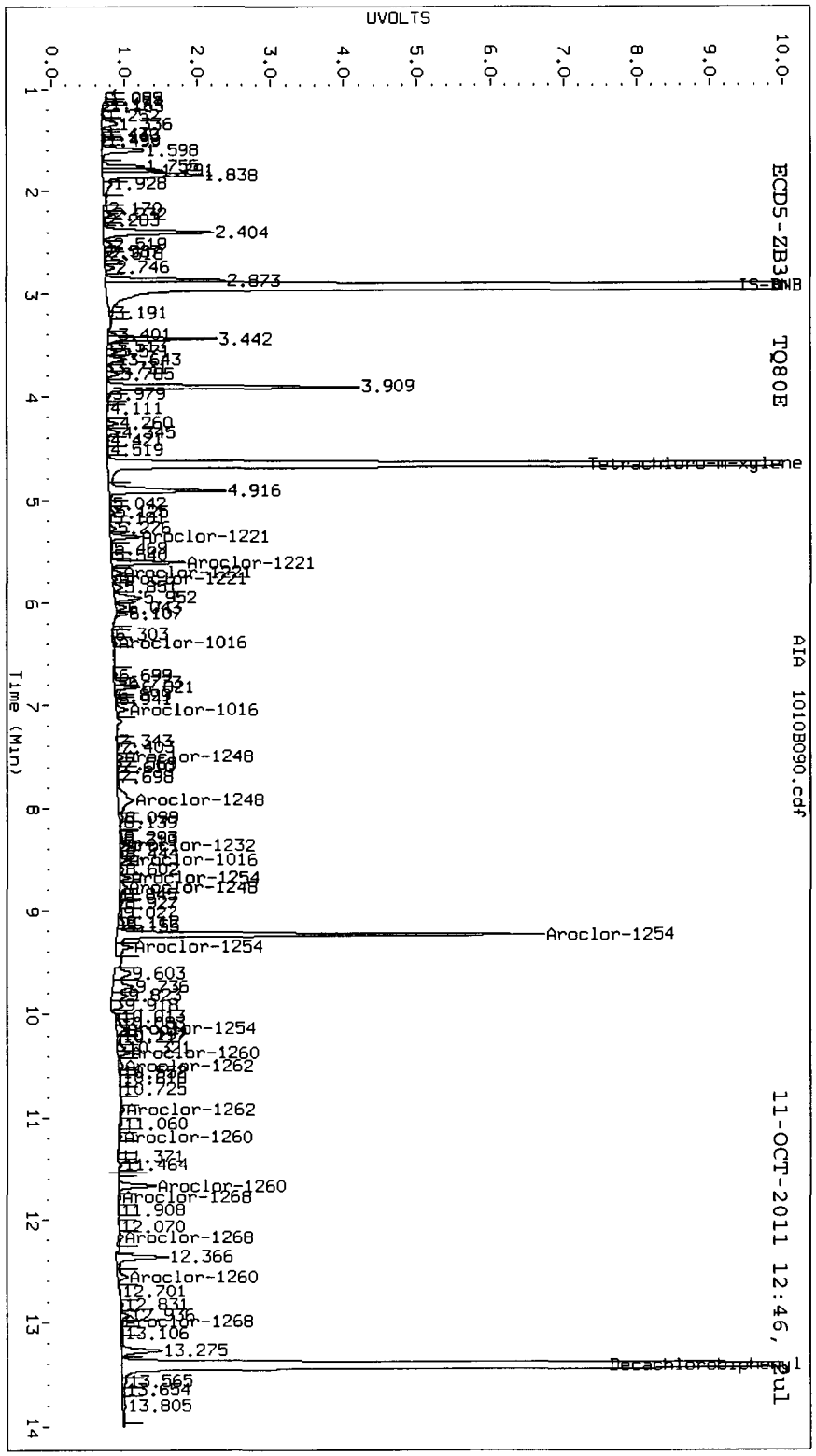
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TQ80:00191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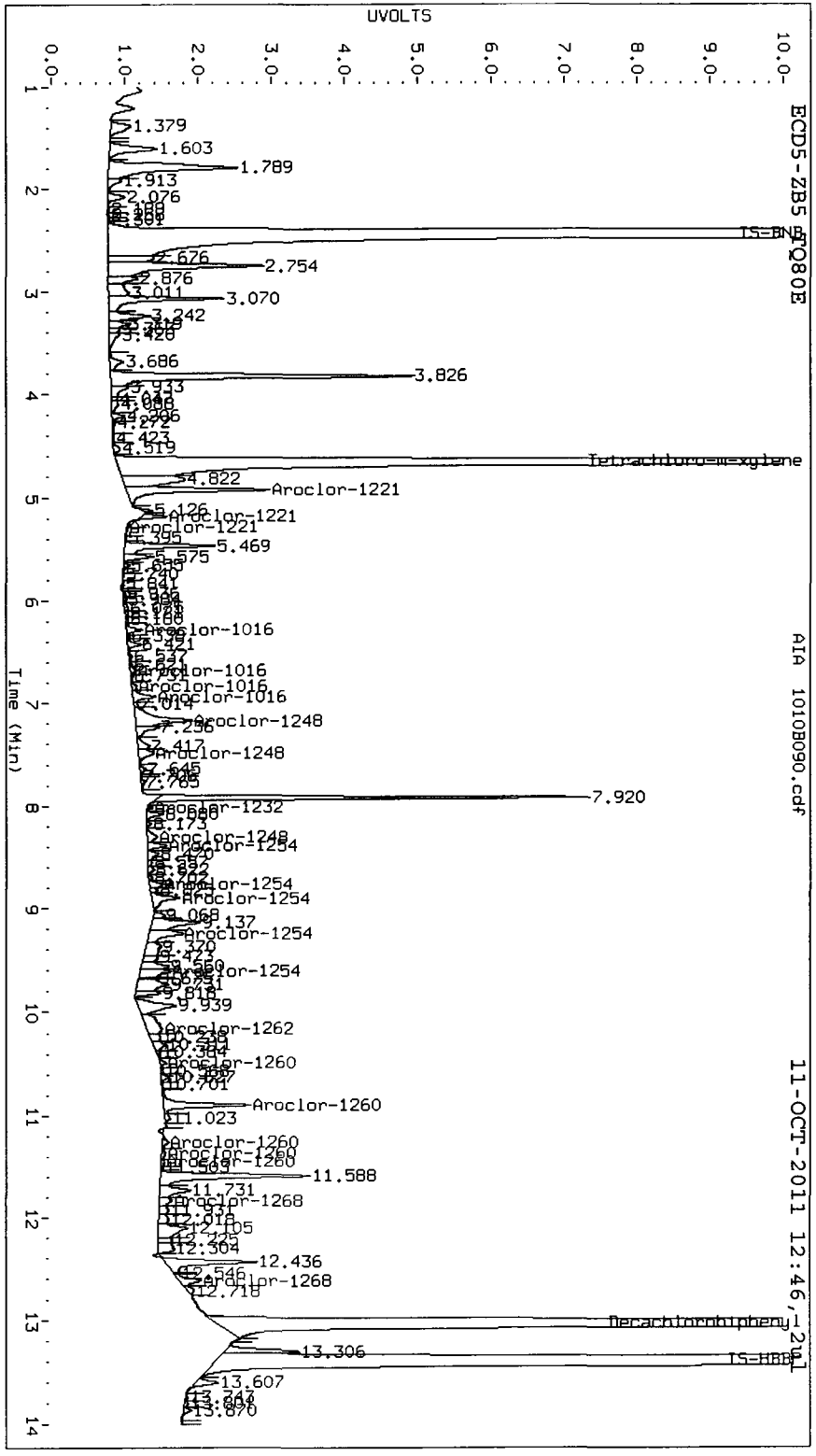
IS=BNB
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268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ECD5-ZB5
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Time (Min)
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Tetrachloro-m-xylene
Decachlorobiphenyl
IS=HBB
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268

TQ80:001195

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/1010-1.b/1010B091.d
Data file 2: 20110930.B/1010-2.b/1010B091.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: TQ80MBW1
Client ID:
Injection Date: 11-OCT-2011 13:05
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.648	0.000	48741301	4.655	0.000	32935299	24.3	24.9	2.6	Tetrachloro-m-xylene
13.031	-0.002	95435714	13.415	-0.001	39137515	31.4	34.7	10.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	60.7	62.3
Decachlorobiphenyl	78.5	86.8

JT 10/12/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	116643895	-2.2
Hexabromobiphenyl	247758184	191375366	-22.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	87481518	-4.1
Hexabromobiphenyl	103671329	81242974	-21.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.279	-0.001	144177	2.7	1	6.396	0.003	36129	0.7
Aroclor-1016	2	6.677	-0.003	63637	0.3	2	7.038	0.020	107067	0.9
Aroclor-1016	3	6.841	0.012	82401	1.1	3	---			0.0
Aroclor-1016	4	6.931	-0.007	490890	9.2	4	8.509	-0.003	47595	1.9
Total Col1Ave (4 peaks):				3.3		Total Col2Ave (3 peaks):			1.2	RPD = 95*
Corrected Ave (3 peaks):				1.4		Corrected Ave: < 3 Peaks				
Aroclor-1221	1	4.926	-0.094	2885728	147.0	1	5.359	0.016	447600	29.8
Aroclor-1221	2	5.184	-0.015	349733	25.2	2	5.611	0.023	346224	40.2
Aroclor-1221	3	5.401	0.098	14636	0.3	3	5.711	0.010	122127	4.3
Aroclor-1221	NS	---			----	4	5.753	-0.016	53268	11.3
Total Col1Ave (3 peaks):				57.5		Total Col2Ave (4 peaks):			21.4	RPD = 91*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			15.2	
Aroclor-1232	1	6.279	-0.001	144177	6.3	1	6.396	0.001	36129	1.5
Aroclor-1232	2	6.677	-0.002	63637	0.8	2	7.038	0.019	107067	2.2
Aroclor-1232	3	6.841	0.013	82401	2.7	3	---			0.0
Aroclor-1232	4	8.015	-0.005	23427	0.7	4	8.368	-0.002	54194	2.8
Total Col1Ave (4 peaks):				2.7		Total Col2Ave (3 peaks):			2.2	RPD = 20
Corrected Ave (3 peaks):				1.4		Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.279	-0.001	144177	3.5	1	6.396	0.004	36129	0.9
Aroclor-1242	2	6.677	-0.003	63637	0.5	2	7.038	0.019	107067	1.2
Aroclor-1242	3	6.841	0.013	82401	1.5	3	---			0.0
Aroclor-1242	4	8.015	-0.006	23427	0.4	4	8.368	-0.002	54194	1.7
Total Col1Ave (4 peaks):				1.5		Total Col2Ave (3 peaks):			1.2	RPD = 17
Corrected Ave (3 peaks):				0.8		Corrected Ave: < 3 Peaks				
Aroclor-1248	1	7.167	-0.011	1992020	32.2	1	7.503	-0.003	73145	1.8
Aroclor-1248	2	7.490	0.014	225277	3.2	2	7.930	0.010	395517	8.2
Aroclor-1248	3	8.015	-0.007	23427	0.3	3	8.368	-0.003	54194	1.0
Aroclor-1248	4	8.287	-0.024	614958	7.0	4	8.733	-0.060	301591	5.2
Total Col1Ave (4 peaks):				10.7		Total Col2Ave (4 peaks):			4.0	RPD = 90*
Corrected Ave (3 peaks):				3.5		Corrected Ave (3 peaks):			2.6	RPD = 28
Aroclor-1254	1	8.391	-0.002	219536	1.6	1	8.509	-0.003	47595	1.0
Aroclor-1254	2	8.768	0.003	104304	1.1	2	8.681	-0.002	68789	1.1
Aroclor-1254	3	8.901	0.001	380070	2.2	3	9.232	0.026	21091742	427.4
Aroclor-1254	4	9.244	-0.007	847564	4.3	4	9.355	-0.002	263047	2.5
Aroclor-1254	5	9.610	-0.002	696451	5.3	5	10.137	-0.002	118647	1.8
Total Col1Ave (5 peaks):				2.9		Total Col2Ave (5 peaks):			86.8	RPD = 187*
Corrected Ave (4 peaks):				2.3		Corrected Ave (4 peaks):			1.6	RPD = 34
Aroclor-1260	1	10.489	0.003	175730	1.7	1	10.368	-0.004	116121	1.6
Aroclor-1260	2	10.896	0.036	812791	3.1	2	11.189	-0.002	43716	0.4
Aroclor-1260	3	11.259	-0.001	119815	0.8	3	11.664	-0.050	294495	8.5
Aroclor-1260	4	11.356	-0.021	119224	1.8	4	12.554	0.041	172613	5.3
Aroclor-1260	5	11.444	-0.007	49322	0.6	NS	---			----
Total Col1Ave (5 peaks):				1.6		Total Col2Ave (4 peaks):			3.9	RPD = 84*
Corrected Ave (4 peaks):				1.2		Corrected Ave (3 peaks):			2.4	RPD = 64*
Aroclor-1262	1	10.165	-0.003	239058	1.6	1	10.505	0.037	93276	1.3
Aroclor-1262	2	10.489	0.004	175730	1.4	2	10.913	-0.008	82156	1.2
Aroclor-1262	3	10.896	0.036	812791	2.7	3	11.189	-0.003	43716	0.3
Aroclor-1262	4	11.356	-0.021	119224	0.9	4	11.664	-0.050	294495	4.5
Aroclor-1262	5	11.444	-0.006	49322	0.3	5	12.554	0.041	172613	3.2
Total Col1Ave (5 peaks):				1.4		Total Col2Ave (5 peaks):			2.1	RPD = 43*
Corrected Ave (4 peaks):				1.0		Corrected Ave (4 peaks):			1.5	RPD = 36
Aroclor-1268	1	11.356	-0.022	119224	0.4	1	11.664	-0.051	294495	1.8
Aroclor-1268	2	11.444	-0.005	49322	0.2	2	11.777	-0.004	44913	0.3

Aroclor-1268	3	11.832	-0.004	618988	2.1	3	12.165	-0.015	124331	1.1
Aroclor-1268	4	12.613	-0.014	460942	0.5	4	12.938	-0.063	69149	0.2

Total Col1Ave (4 peaks): 0.8 Total Col2Ave (4 peaks): 0.9 RPD = 7

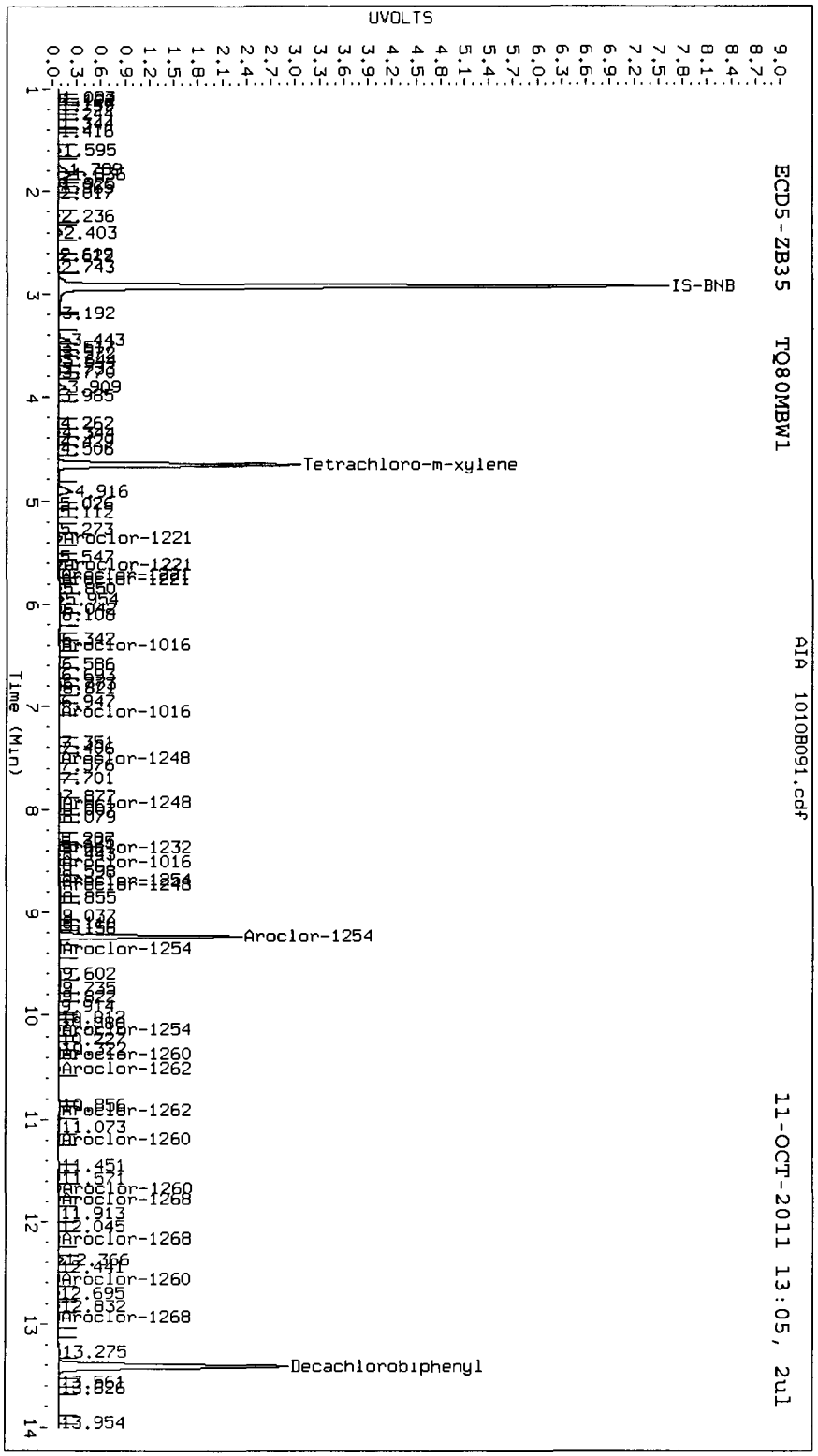
Corrected Ave (3 peaks): 0.4 Corrected Ave (3 peaks): 0.5 RPD = 40

Total PCB Area Col1 (4.748 - 12.933) = 49749064 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (4.755 - 13.316) = 32932743 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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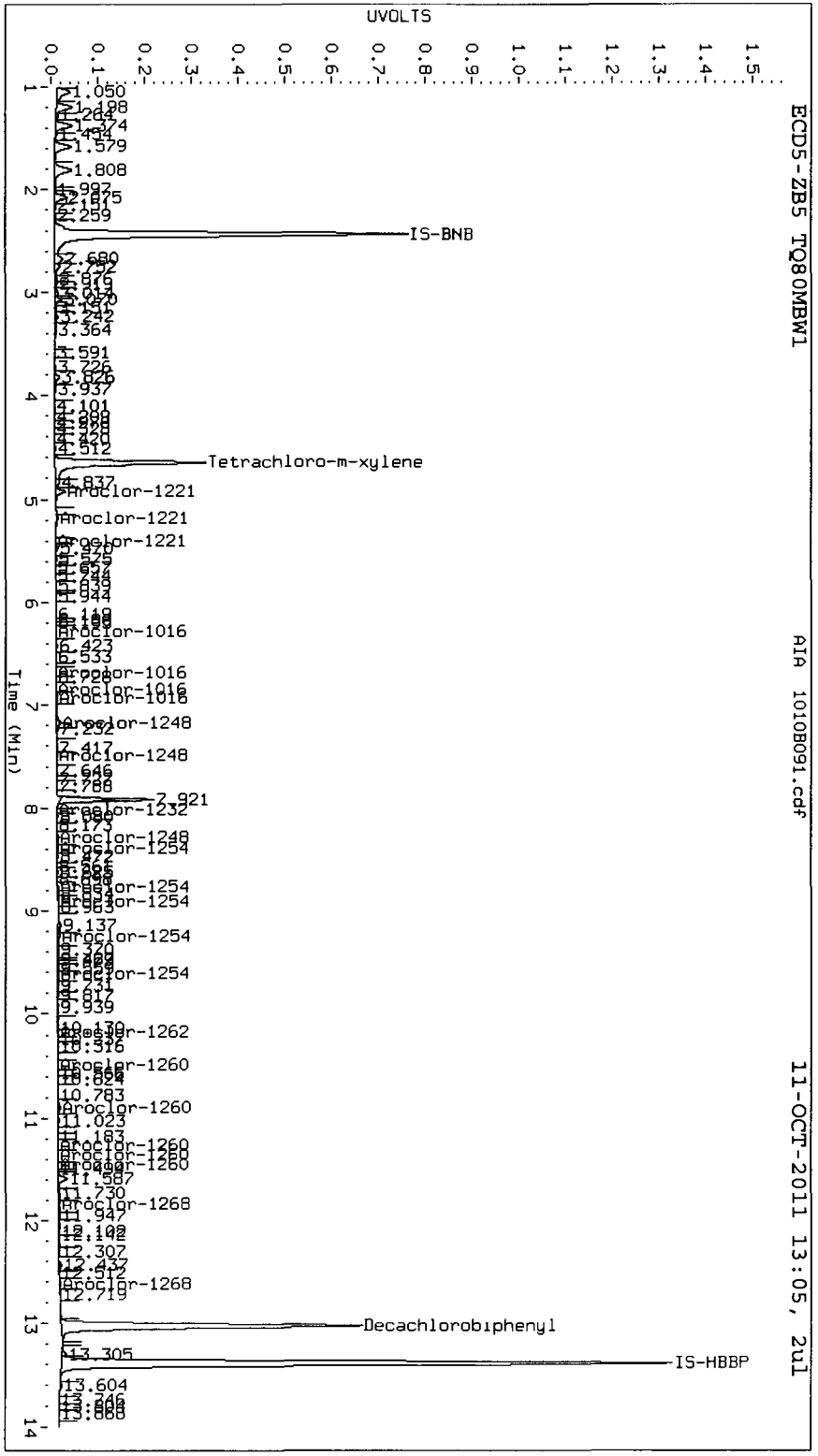
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl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Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1232
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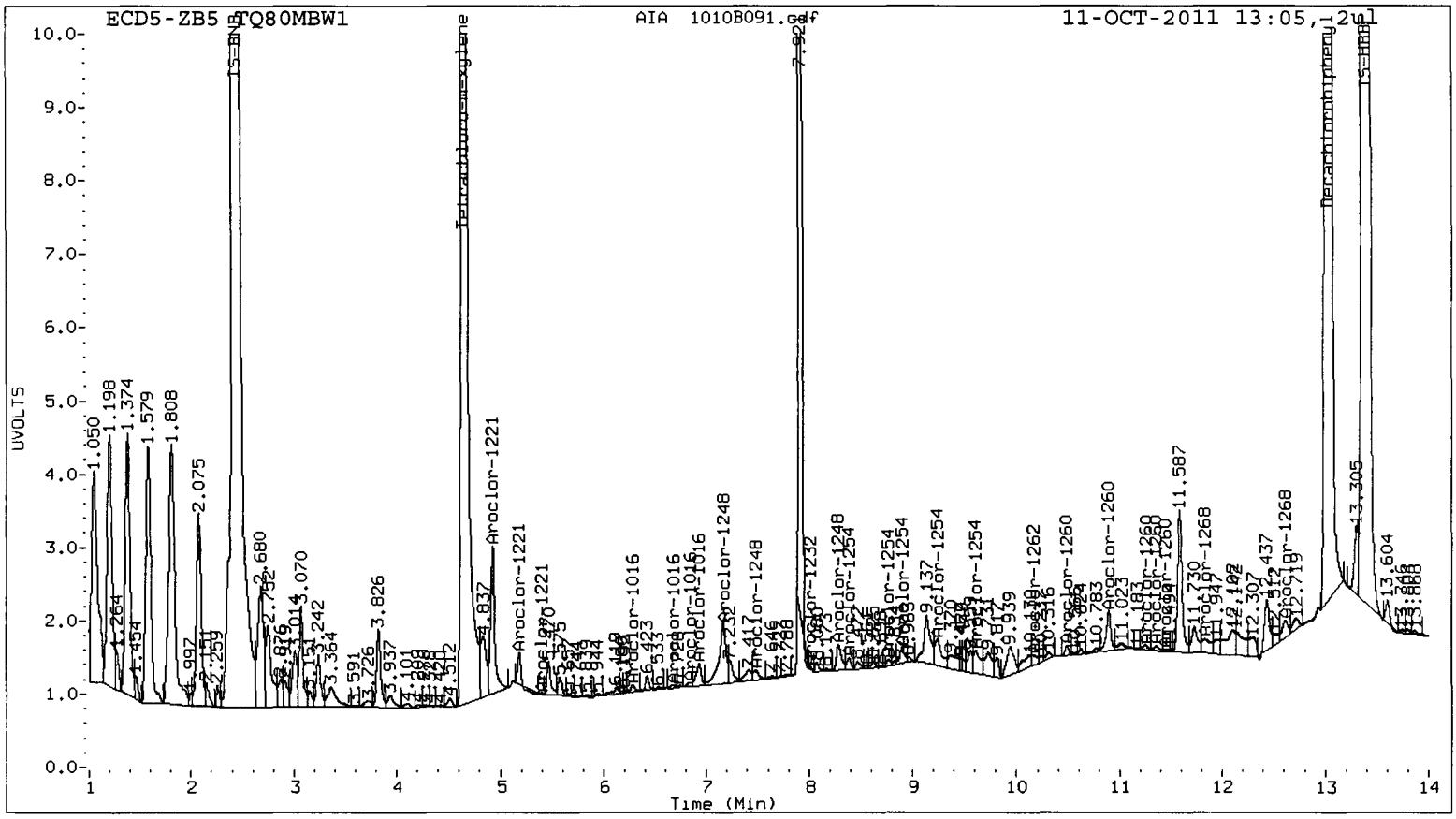
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TQ80:00199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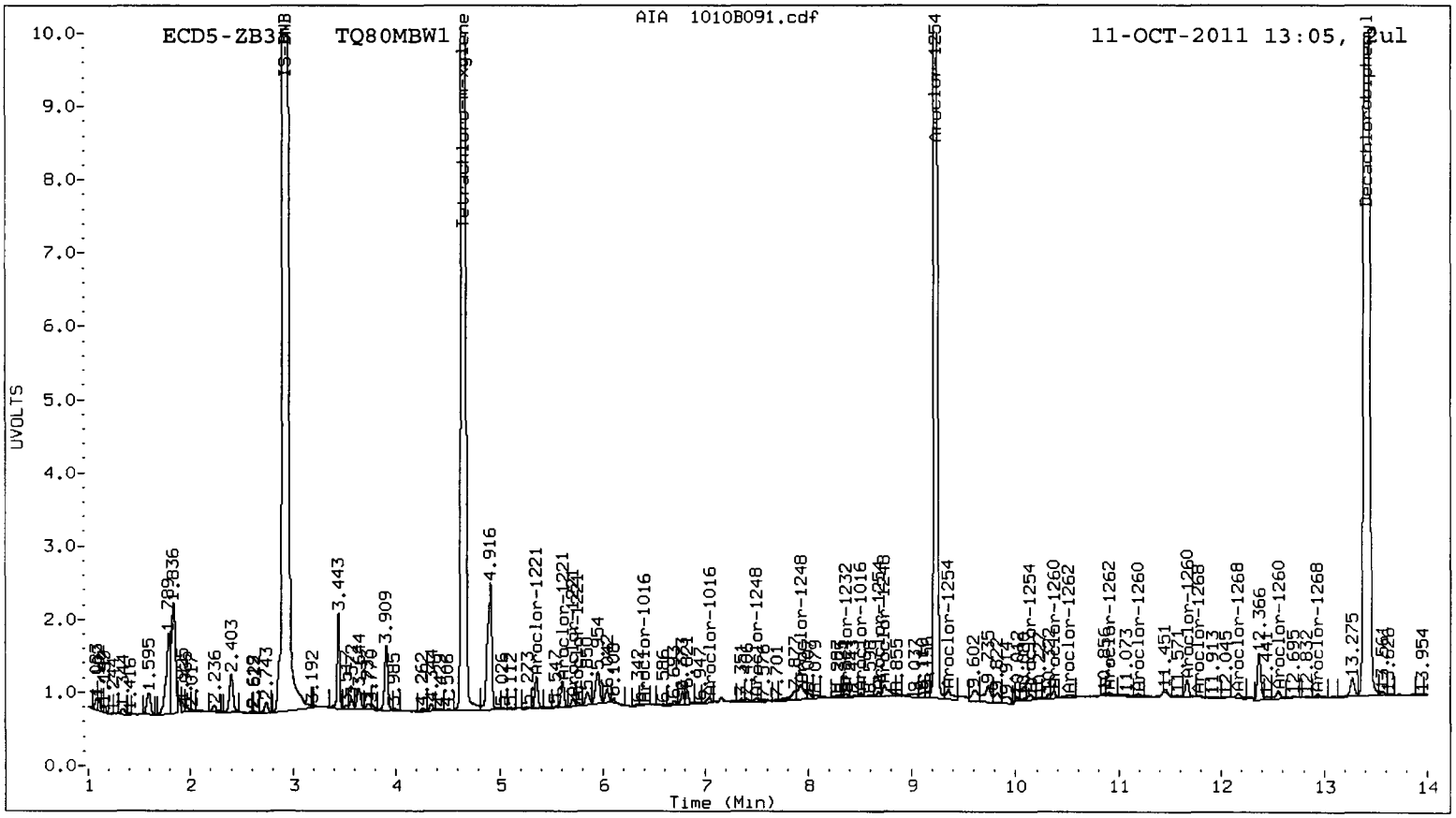
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor-1221
Aroclor-1248
Aroclor-1254
Aroclor-1260
Aroclor-1268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Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor-1254

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/1010-1.b/1010B092.d
Data file 2: 20110930.B/1010-2.b/1010B092.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: TQ80LCSW1
Client ID:
Injection Date: 11-OCT-2011 13:24
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.647	-0.001	49587112	4.655	-0.001	33578120	22.1	22.7	2.6	Tetrachloro-m-xylene
13.032	-0.001	97722099	13.413	-0.003	39962453	28.3	30.7	8.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	55.3	56.7
Decachlorobiphenyl	70.6	76.8

JL 10/12/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	130402200	9.3
Hexabromobiphenyl	247758184	217636423	-12.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	98028915	7.4
Hexabromobiphenyl	103671329	93717658	-9.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.278	-0.002	4621371	76.6	1	6.390	-0.003	4506643	77.1
Aroclor-1016	2	6.677	-0.003	16168279	77.2	2	7.016	-0.002	10249101	78.5
Aroclor-1016	3	6.826	-0.003	6547067	77.7	3	7.224	-0.002	3388715	67.6
Aroclor-1016	4	6.935	-0.003	5105766	85.2	4	8.509	-0.003	2318966	83.9
Total Col1Ave (4 peaks):				79.2		Total Col2Ave (4 peaks):			76.8	RPD = 3
Corrected Ave (3 peaks):				77.2		Corrected Ave (3 peaks):			74.4	RPD = 4
Aroclor-1221	1	5.014	-0.005	593837	27.1	1	5.353	0.010	759656	45.2
Aroclor-1221	2	5.189	-0.009	949310	61.3	2	5.609	0.021	1734873	179.9
Aroclor-1221	3	5.301	-0.003	2606625	49.7	3	5.699	-0.002	1910874	60.7
Aroclor-1221	NS	---			----	4	5.768	-0.001	173775	33.0
Total Col1Ave (3 peaks):				46.0		Total Col2Ave (4 peaks):			79.7	RPD = 54*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			46.3	
Aroclor-1232	1	6.278	-0.003	4621371	182.0	1	6.390	-0.005	4506643	167.6
Aroclor-1232	2	6.677	-0.002	16168279	191.4	2	7.016	-0.003	10249101	184.1
Aroclor-1232	3	6.826	-0.002	6547067	191.4	3	7.224	-0.003	3388715	175.0
Aroclor-1232	4	8.018	-0.002	549953	15.3	4	8.368	-0.002	624086	29.0
Total Col1Ave (4 peaks):				145.0		Total Col2Ave (4 peaks):			138.9	RPD = 4
Corrected Ave (3 peaks):				129.5		Corrected Ave (3 peaks):			123.9	RPD = 4
Aroclor-1242	1	6.278	-0.002	4621371	99.5	1	6.390	-0.002	4506643	98.6
Aroclor-1242	2	6.677	-0.003	16168279	105.9	2	7.016	-0.003	10249101	99.5
Aroclor-1242	3	6.826	-0.002	6547067	105.8	3	7.224	-0.002	3388715	83.5
Aroclor-1242	4	8.018	-0.003	549953	9.0	4	8.368	-0.002	624086	17.0
Total Col1Ave (4 peaks):				80.0		Total Col2Ave (4 peaks):			74.6	RPD = 7
Corrected Ave (3 peaks):				71.4		Corrected Ave (3 peaks):			66.3	RPD = 7
Aroclor-1248	1	7.175	-0.004	6015907	86.9	1	7.504	-0.002	2877068	61.5
Aroclor-1248	2	7.473	-0.003	5055026	64.5	2	7.917	-0.003	3899512	71.9
Aroclor-1248	3	8.018	-0.003	549953	5.6	3	8.368	-0.003	624086	10.3
Aroclor-1248	4	8.313	0.002	1264537	12.9	4	8.790	-0.003	368810	5.6
Total Col1Ave (4 peaks):				42.5		Total Col2Ave (4 peaks):			37.3	RPD = 13
Corrected Ave (3 peaks):				27.6		Corrected Ave (3 peaks):			25.8	RPD = 7
Aroclor-1254	1	8.394	0.001	5594909	35.5	1	8.509	-0.003	2318966	44.0
Aroclor-1254	2	8.764	-0.001	1263794	11.6	2	8.680	-0.002	2787160	40.5
Aroclor-1254	3	8.898	-0.002	6141558	31.5	3	9.232	0.026	17010492	307.6
Aroclor-1254	4	9.232	-0.019	16042210	72.1	4	9.356	-0.001	1476844	12.5
Aroclor-1254	5	9.560	-0.053	23037661	156.9	5	10.149	0.010	2805572	38.1
Total Col1Ave (5 peaks):				61.5		Total Col2Ave (5 peaks):			88.5	RPD = 36
Corrected Ave (4 peaks):				37.7		Corrected Ave (4 peaks):			33.8	RPD = 11
Aroclor-1260	1	10.485	-0.002	11077775	94.1	1	10.370	-0.002	7700877	91.6
Aroclor-1260	2	10.858	-0.001	29136956	97.4	2	11.190	-0.001	12582932	96.7
Aroclor-1260	3	11.259	-0.002	15692457	91.3	3	11.712	-0.002	3871182	97.3
Aroclor-1260	4	11.376	-0.001	6468405	87.9	4	12.511	-0.002	3213435	85.1
Aroclor-1260	5	11.449	-0.002	7688480	88.9	NS	---			----
Total Col1Ave (5 peaks):				91.9		Total Col2Ave (4 peaks):			92.7	RPD = 1
Corrected Ave (4 peaks):				90.5		Corrected Ave (3 peaks):			91.2	RPD = 1
Aroclor-1262	1	10.167	-0.001	11345352	64.8	1	10.466	-0.002	5017843	59.3
Aroclor-1262	2	10.485	-0.001	11077775	78.1	2	10.918	-0.003	6219591	77.1
Aroclor-1262	3	10.858	-0.001	29136956	84.6	3	11.190	-0.002	12582932	79.9
Aroclor-1262	4	11.376	-0.001	6468405	41.0	4	11.712	-0.002	3871182	51.7
Aroclor-1262	5	11.449	-0.001	7688480	46.2	5	12.511	-0.002	3213435	52.2
Total Col1Ave (5 peaks):				62.9		Total Col2Ave (5 peaks):			64.0	RPD = 2
Corrected Ave (4 peaks):				57.5		Corrected Ave (4 peaks):			60.1	RPD = 4
Aroclor-1268	1	11.376	-0.002	6468405	16.9	1	11.712	-0.003	3871182	20.9
Aroclor-1268	2	11.449	-0.001	7688480	20.8	2	11.772	-0.010	8330067	52.2

Aroclor-1268	3	11.849	0.013	4357852	13.3	3	12.177	-0.003	294504	2.2
Aroclor-1268	4	12.624	-0.003	3143031	3.3	4	12.998	-0.003	846602	2.1

Total Col1Ave (4 peaks): 13.6 Total Col2Ave (4 peaks): 19.4 RPD = 35

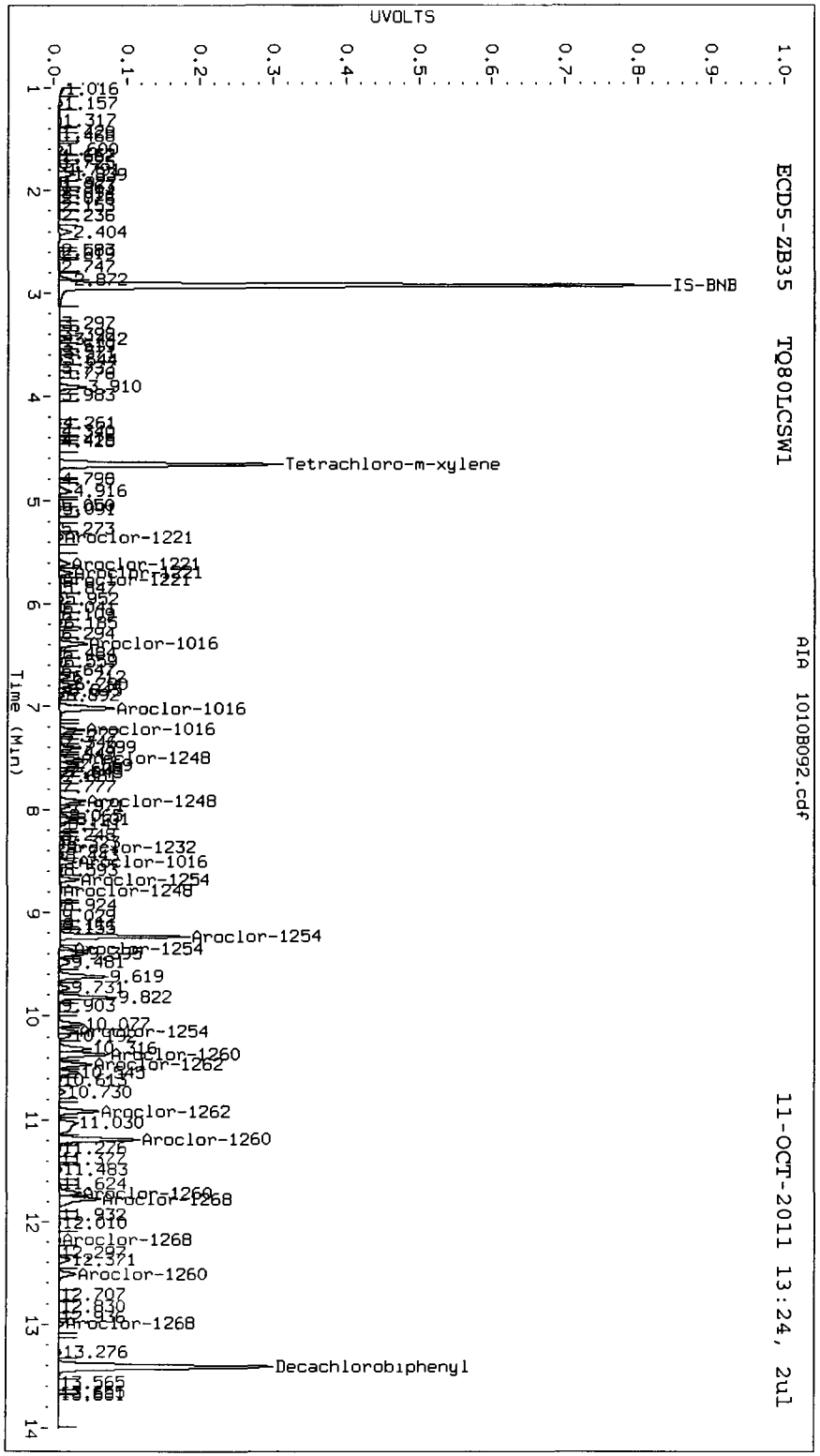
Corrected Ave (3 peaks): 11.2 Corrected Ave (3 peaks): 8.4 RPD = 28

Total PCB Area Col1 (4.748 - 12.933) = 351198928 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (4.755 - 13.316) = 179579590 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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IS-BNB
Tetrachloro-m-xylene
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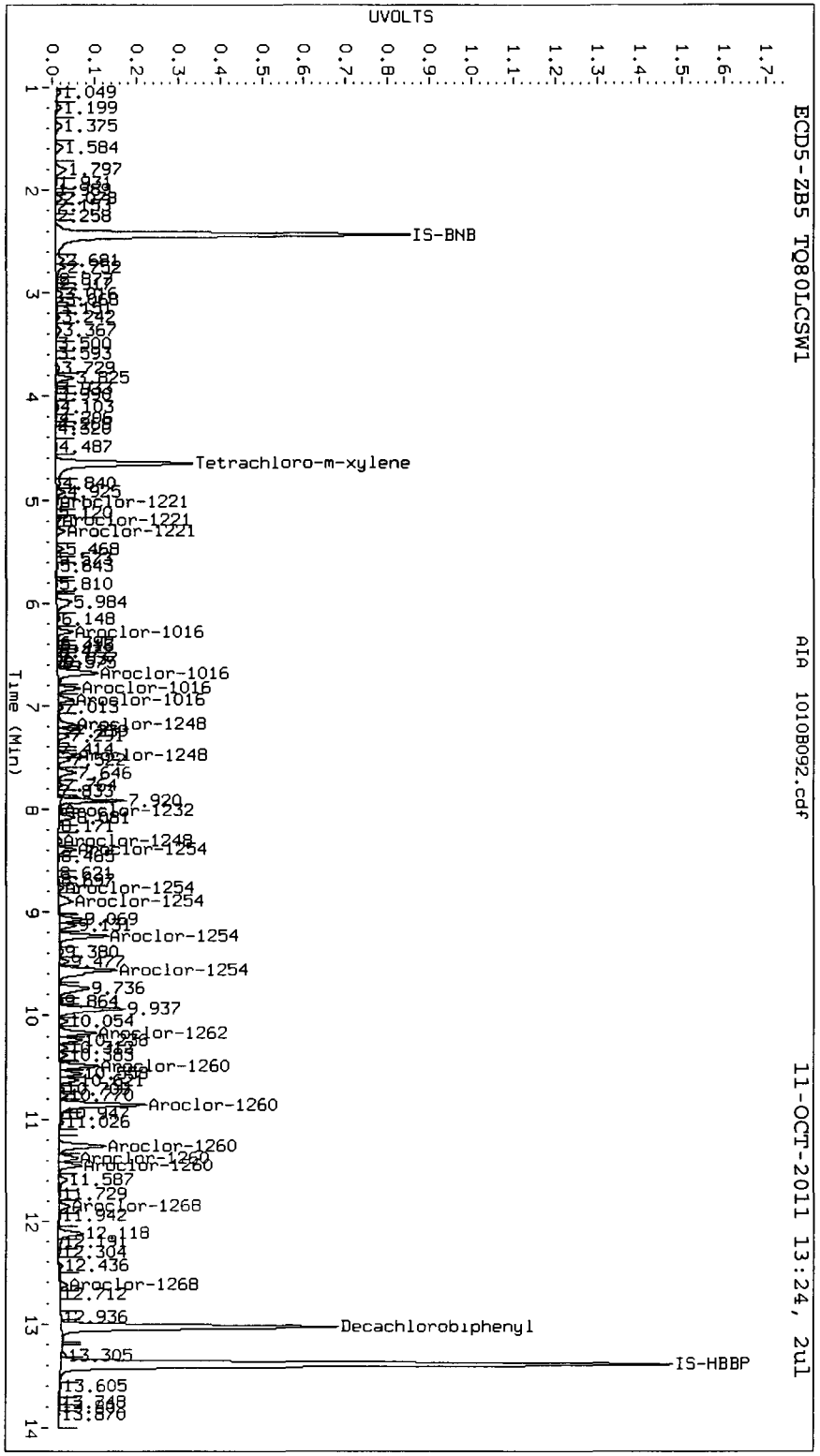
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl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Time (Min)
IS-BNB
Tetrachloro-m-xylene
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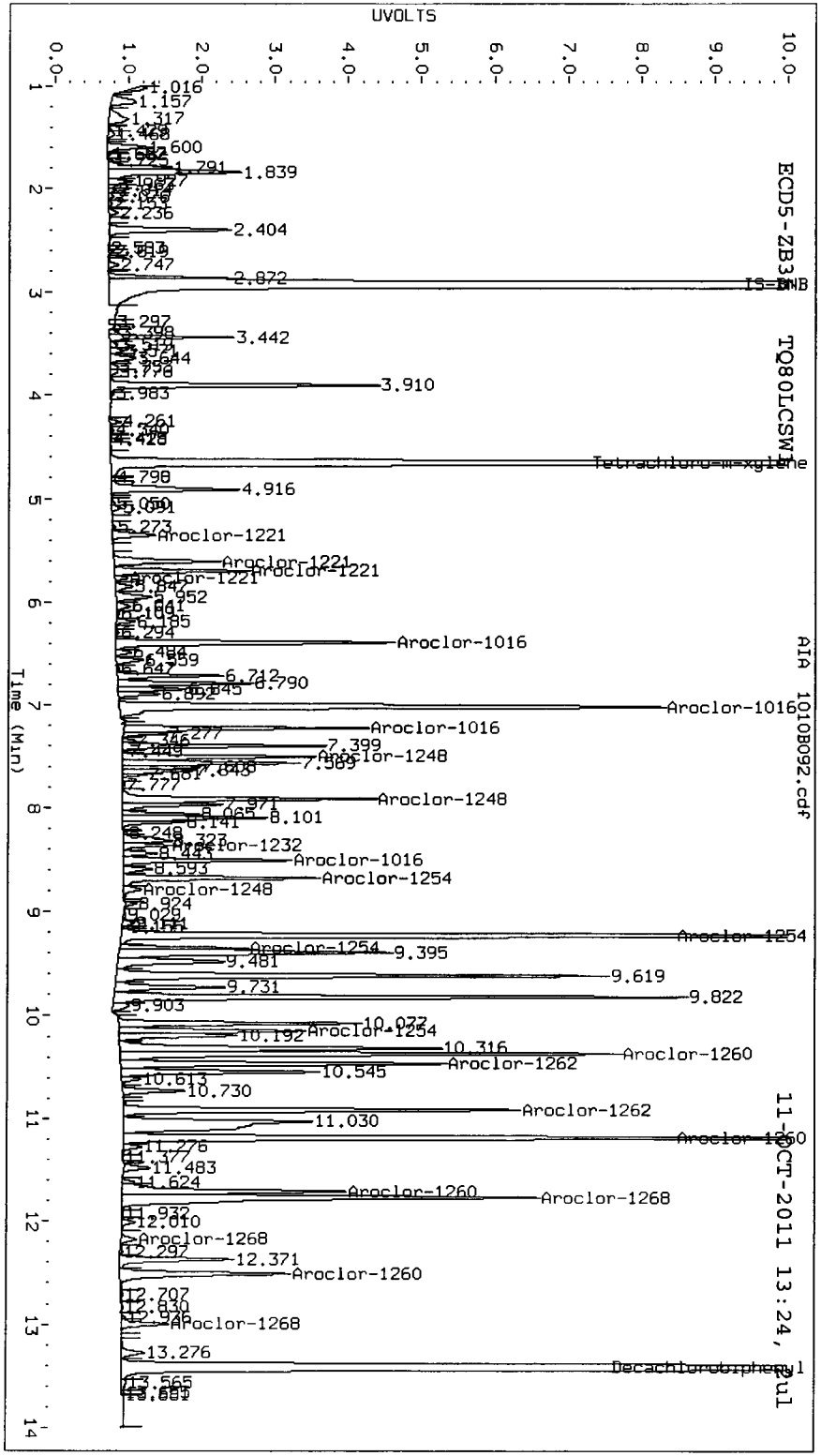
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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Time (Min)
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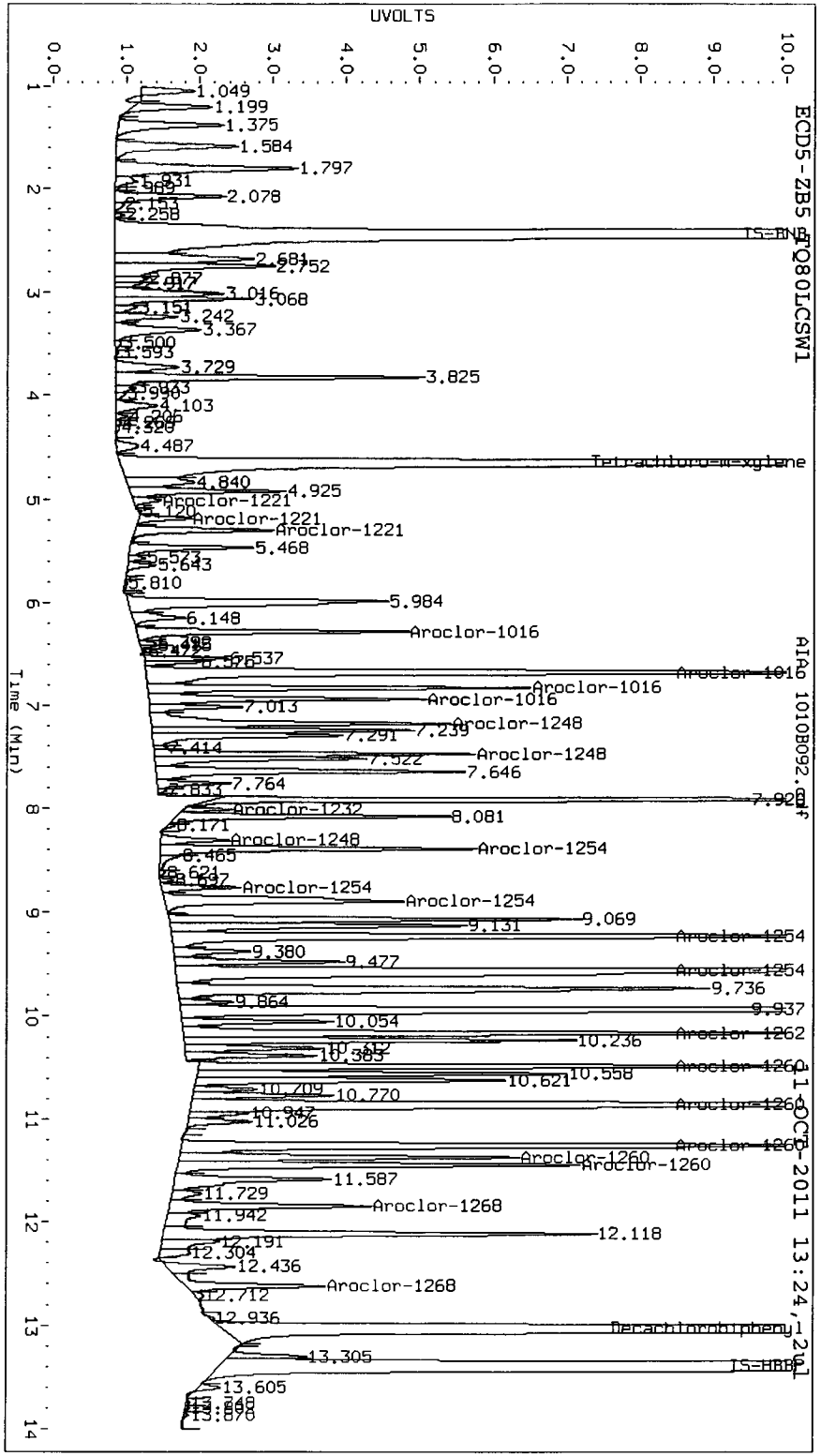
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
2ul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Time (Min)
IS=BNB
Tetrachloro-m-xylene
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Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS=HBB
2ul

TQ80:00295

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/1010-1.b/1010B093.d
Data file 2: 20110930.B/1010-2.b/1010B093.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: TQ80LCSDW1
Client ID:
Injection Date: 11-OCT-2011 13:42
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.648	0.001	46768575	4.655	0.000	31651638	21.3	21.5	1.1	Tetrachloro-m-xylene
13.032	-0.001	95515561	13.415	-0.001	38311101	27.6	29.2	5.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	53.2	53.7
Decachlorobiphenyl	69.1	73.1

10/12/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	127832046	7.1
Hexabromobiphenyl	247758184	217577630	-12.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	97558367	6.9
Hexabromobiphenyl	103671329	94393346	-8.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	6.279	-0.001	4402284	74.4	1	6.393	0.000	4259149	73.3
Aroclor-1016	2	6.679	-0.001	15392636	75.0	2	7.017	-0.001	9785880	75.3
Aroclor-1016	3	6.827	-0.002	6246811	75.6	3	7.225	-0.001	3250557	65.2
Aroclor-1016	4	6.937	-0.001	4760555	81.0	4	8.510	-0.001	2242323	81.5
Total Col1Ave (4 peaks):				76.5		Total Col2Ave (4 peaks):			73.8	RPD = 4
Corrected Ave (3 peaks):				75.0		Corrected Ave (3 peaks):			71.2	RPD = 5
Aroclor-1221	1	5.016	-0.004	574214	26.7	1	5.354	0.012	721079	43.1
Aroclor-1221	2	5.191	-0.008	919296	60.5	2	5.610	0.022	1079934	112.5
Aroclor-1221	3	5.302	-0.001	2487501	48.4	3	5.700	-0.001	1809620	57.8
Aroclor-1221	NS	---			----	4	5.768	-0.001	136559	26.1
Total Col1Ave (3 peaks):				45.2		Total Col2Ave (4 peaks):			59.9	RPD = 28
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			42.3	
Aroclor-1232	1	6.279	-0.001	4402284	176.8	1	6.393	-0.003	4259149	159.2
Aroclor-1232	2	6.679	-0.001	15392636	185.9	2	7.017	-0.002	9785880	176.6
Aroclor-1232	3	6.827	-0.001	6246811	186.3	3	7.225	-0.002	3250557	168.7
Aroclor-1232	4	8.018	-0.002	757469	21.4	4	8.369	-0.002	599721	28.0
Total Col1Ave (4 peaks):				142.6		Total Col2Ave (4 peaks):			133.1	RPD = 7
Corrected Ave (3 peaks):				128.1		Corrected Ave (3 peaks):			118.6	RPD = 8
Aroclor-1242	1	6.279	-0.001	4402284	96.7	1	6.393	0.001	4259149	93.6
Aroclor-1242	2	6.679	-0.001	15392636	102.9	2	7.017	-0.001	9785880	95.5
Aroclor-1242	3	6.827	-0.002	6246811	103.0	3	7.225	-0.001	3250557	80.5
Aroclor-1242	4	8.018	-0.002	757469	12.6	4	8.369	-0.002	599721	16.4
Total Col1Ave (4 peaks):				78.8		Total Col2Ave (4 peaks):			71.5	RPD = 10
Corrected Ave (3 peaks):				70.7		Corrected Ave (3 peaks):			63.5	RPD = 11
Aroclor-1248	1	7.176	-0.002	5181502	76.4	1	7.506	0.000	2779877	59.7
Aroclor-1248	2	7.474	-0.002	4878401	63.5	2	7.918	-0.002	3693588	68.4
Aroclor-1248	3	8.018	-0.003	757469	7.8	3	8.369	-0.002	599721	10.0
Aroclor-1248	4	8.314	0.002	1213152	12.6	4	8.786	-0.007	288988	4.4
Total Col1Ave (4 peaks):				40.1		Total Col2Ave (4 peaks):			35.6	RPD = 12
Corrected Ave (3 peaks):				28.0		Corrected Ave (3 peaks):			24.7	RPD = 12
Aroclor-1254	1	8.395	0.002	6613525	42.8	1	8.510	-0.001	2242323	42.7
Aroclor-1254	2	8.765	0.000	1484568	13.9	2	8.681	-0.001	2694511	39.4
Aroclor-1254	3	8.898	-0.002	6134998	32.1	3	9.232	0.026	6340667	115.2
Aroclor-1254	4	9.231	-0.019	15926532	73.0	4	9.357	0.000	1583315	13.4
Aroclor-1254	5	9.560	-0.052	23625120	164.1	5	10.150	0.011	2740213	37.4
Total Col1Ave (5 peaks):				65.2		Total Col2Ave (5 peaks):			49.6	RPD = 27
Corrected Ave (4 peaks):				40.5		Corrected Ave (4 peaks):			33.2	RPD = 20
Aroclor-1260	1	10.486	-0.001	10595154	90.1	1	10.371	-0.001	7434169	87.8
Aroclor-1260	2	10.859	-0.001	27274722	91.2	2	11.189	-0.001	11859175	90.5
Aroclor-1260	3	11.259	-0.001	15113310	87.9	3	11.712	-0.002	3473112	86.7
Aroclor-1260	4	11.375	-0.001	6301388	85.6	4	12.511	-0.002	3639614	95.7
Aroclor-1260	5	11.449	-0.002	7641559	88.4	NS	---			----
Total Col1Ave (5 peaks):				88.6		Total Col2Ave (4 peaks):			90.2	RPD = 2
Corrected Ave (4 peaks):				88.0		Corrected Ave (3 peaks):			88.3	RPD = 0
Aroclor-1262	1	10.168	0.000	11191136	63.9	1	10.467	-0.002	4847982	56.9
Aroclor-1262	2	10.486	0.000	10595154	74.7	2	10.919	-0.002	5941230	73.1
Aroclor-1262	3	10.859	-0.001	27274722	79.3	3	11.189	-0.003	11859175	74.8
Aroclor-1262	4	11.375	-0.001	6301388	39.9	4	11.712	-0.002	3473112	46.1
Aroclor-1262	5	11.449	-0.001	7641559	45.9	5	12.511	-0.002	3639614	58.7
Total Col1Ave (5 peaks):				60.7		Total Col2Ave (5 peaks):			61.9	RPD = 2
Corrected Ave (4 peaks):				56.1		Corrected Ave (4 peaks):			58.7	RPD = 4
Aroclor-1268	1	11.375	-0.002	6301388	16.5	1	11.712	-0.003	3473112	18.7
Aroclor-1268	2	11.449	0.000	7641559	20.7	2	11.772	-0.009	7873958	49.0

Aroclor-1268	3	11.850	0.014	4705649	14.3	3	12.176	-0.004	603477	4.4
Aroclor-1268	4	12.622	-0.005	3540913	3.7	4	12.998	-0.003	765773	1.9

Total Col1Ave (4 peaks): 13.8 Total Col2Ave (4 peaks): 18.5 RPD = 29

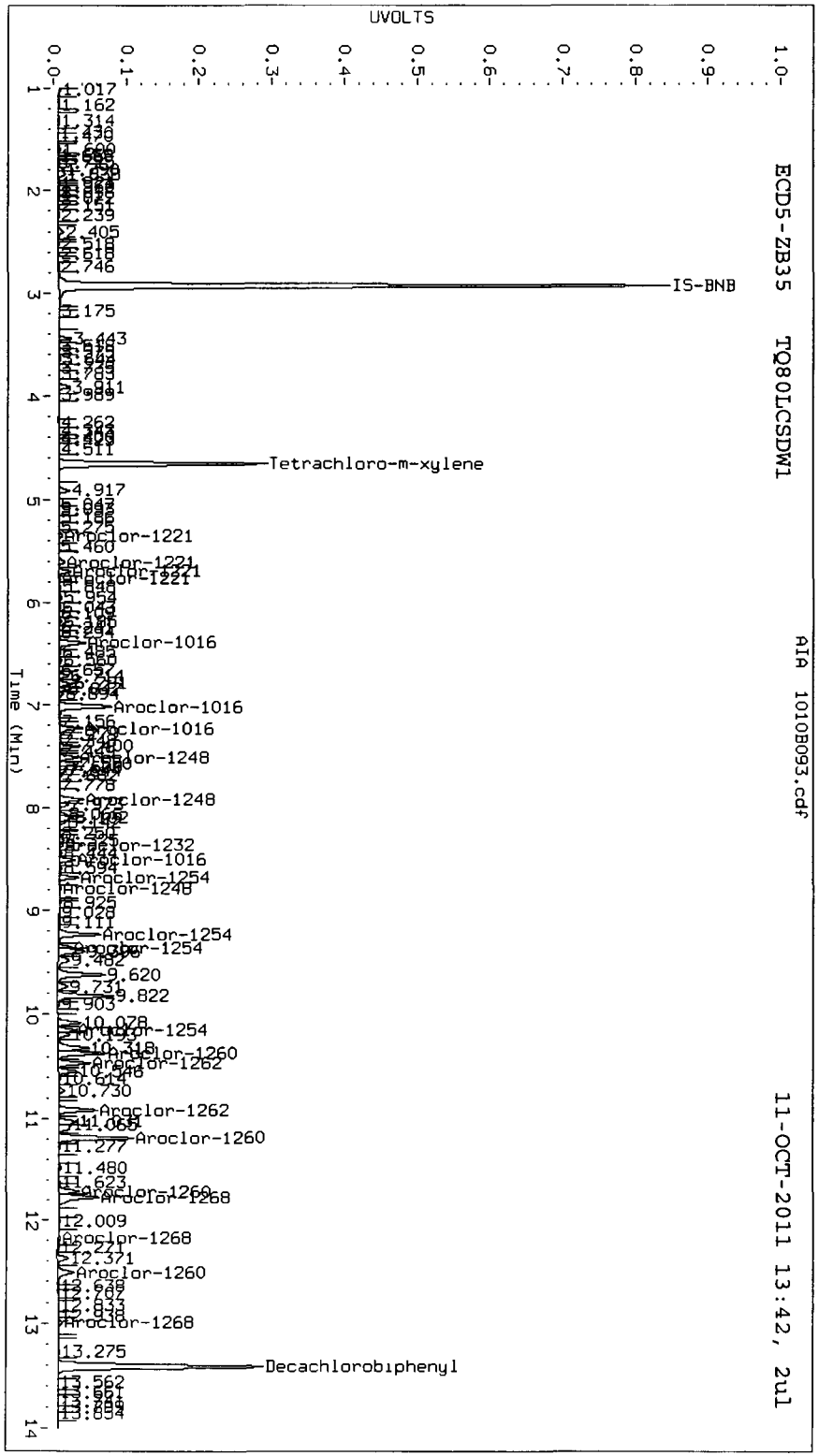
Corrected Ave (3 peaks): 11.5 Corrected Ave (3 peaks): 8.3 RPD = 32

Total PCB Area Col1 (4.748 - 12.933) = 337678135 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (4.755 - 13.316) = 164200985 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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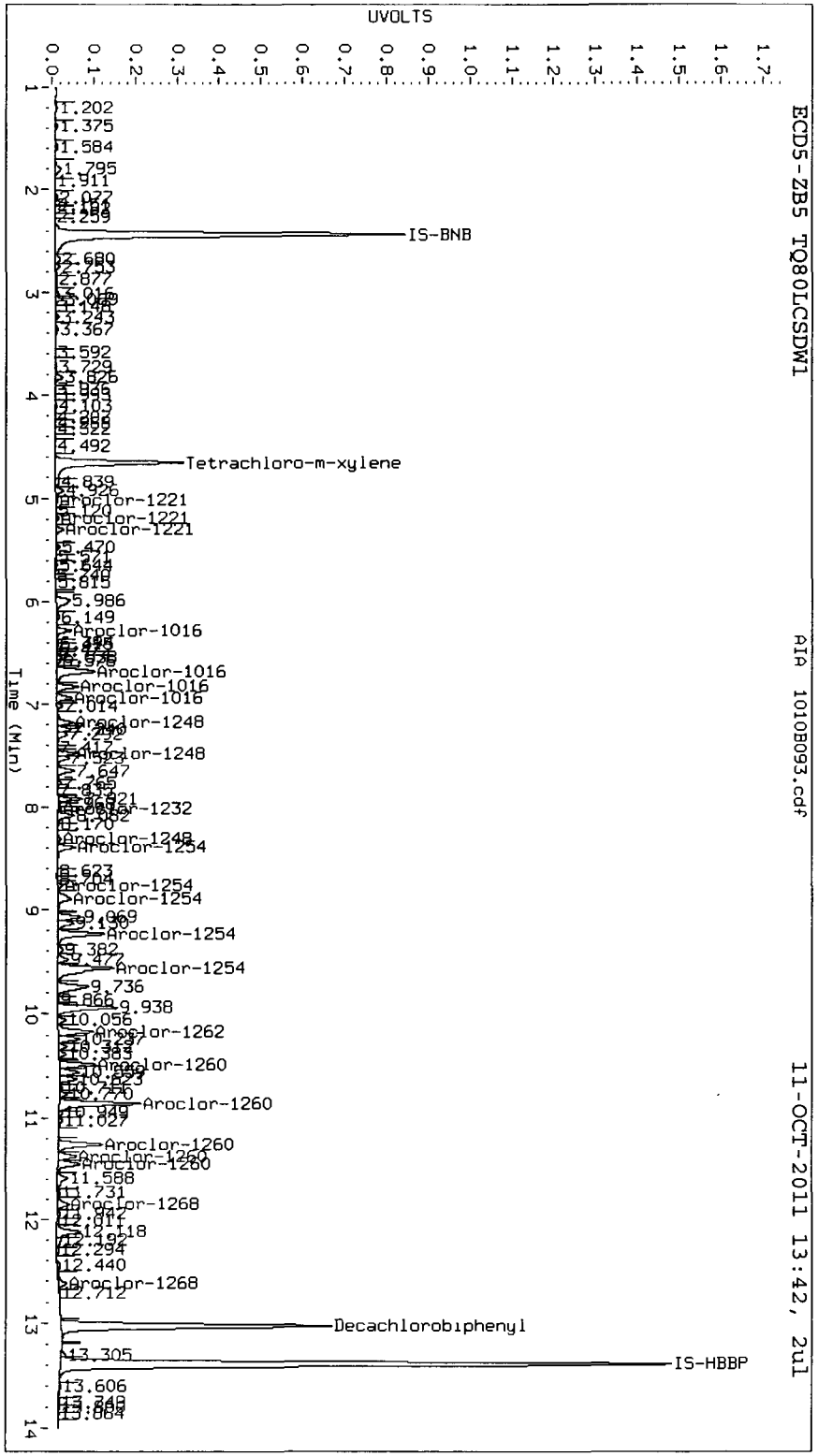
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Decachlorobiphenyl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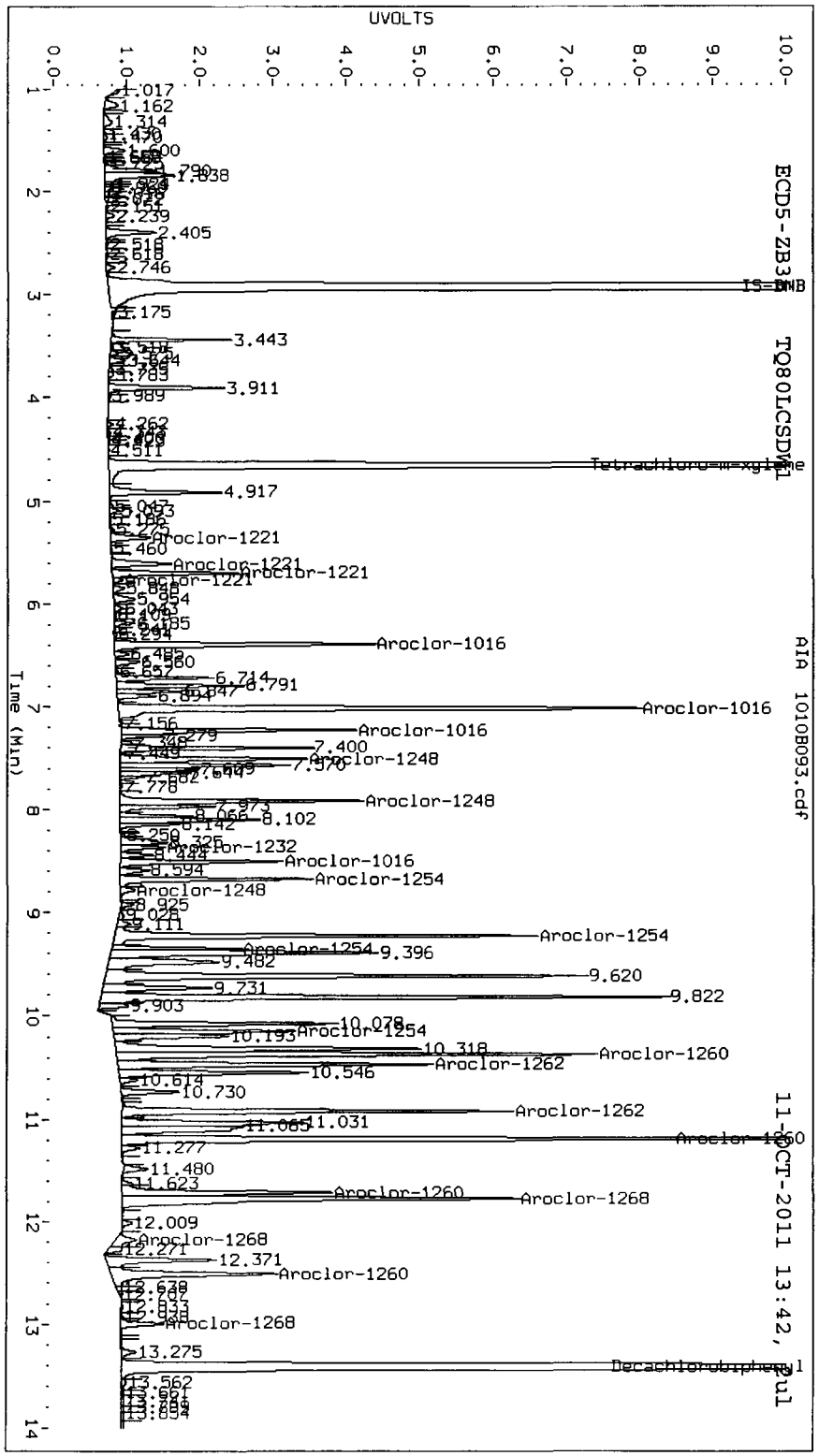
IS-BNB
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP

TQ80:00209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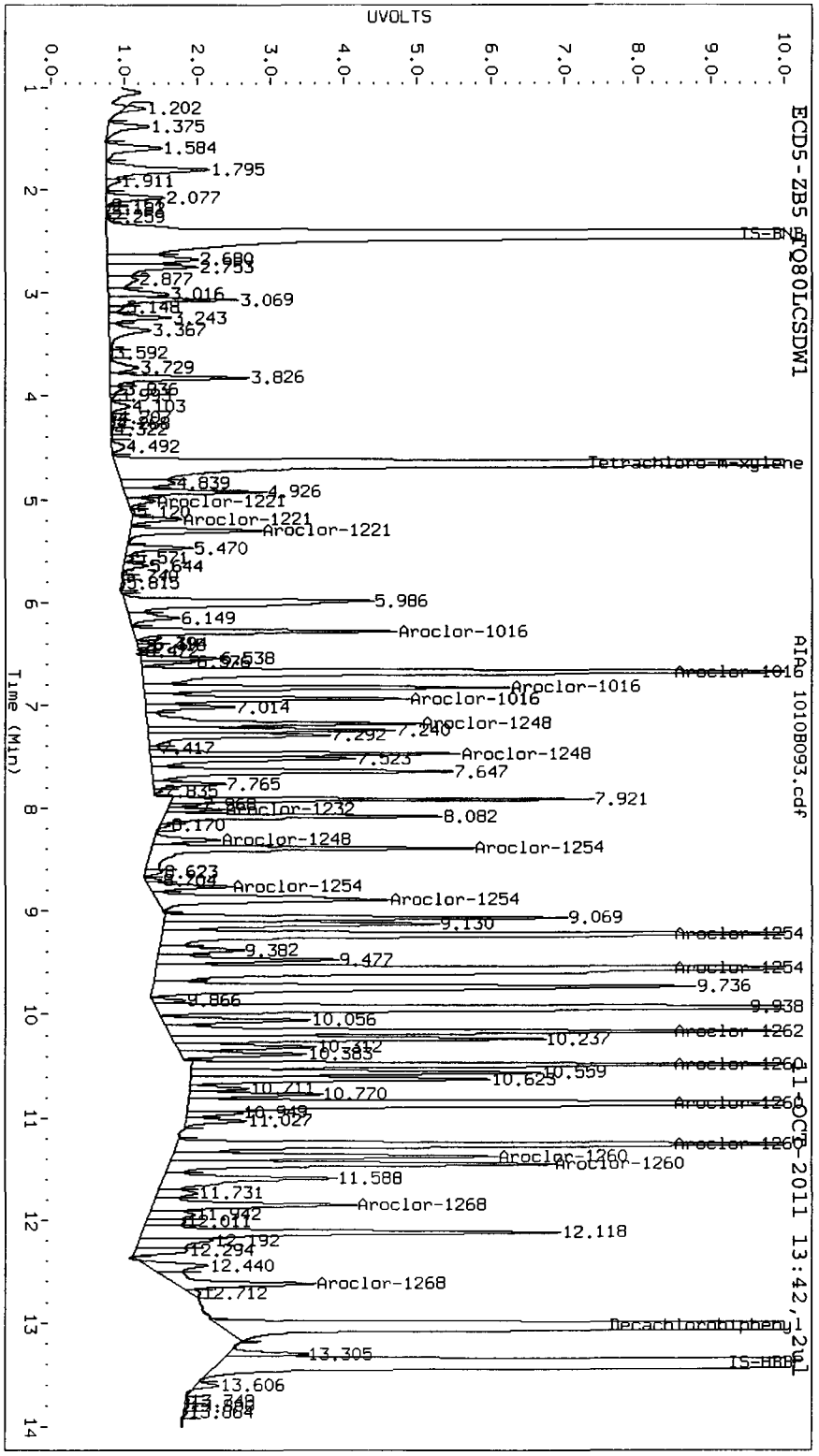
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl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Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS=HBB

TQ80:00215

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/1010-1.b/1010B094.d
Data file 2: 20110930.B/1010-2.b/1010B094.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: TQ80BMS
Client ID:
Injection Date: 11-OCT-2011 14:01
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.647	-0.001	54579242	4.654	-0.001	37395421	25.0	25.6	2.3	Tetrachloro-m-xylene
13.033	-0.001	99763361	13.413	-0.003	40432274	28.6	30.0	4.8	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	62.5	63.9
Decachlorobiphenyl	71.5	75.1

10/12/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	126875210	6.3
Hexabromobiphenyl	247758184	219388297	-11.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	96853113	6.1
Hexabromobiphenyl	103671329	96966102	-6.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.278	-0.002	4640641	79.1	1	6.391	-0.002	4725423	81.9
Aroclor-1016	2	6.678	-0.002	16664896	81.8	2	7.016	-0.002	10762447	83.4
Aroclor-1016	3	6.826	-0.002	6759113	82.4	3	7.224	-0.002	3553994	71.8
Aroclor-1016	4	6.936	-0.002	5048232	86.6	4	8.509	-0.002	2610180	95.6
Total Col1Ave (4 peaks):					82.5	Total Col2Ave (4 peaks):				83.2 RPD = 1
Corrected Ave (3 peaks):					81.1	Corrected Ave (3 peaks):				79.0 RPD = 3
Aroclor-1221	1	5.015	-0.005	640560	30.0	1	5.352	0.010	796960	48.0
Aroclor-1221	2	5.190	-0.009	1196323	79.3	2	5.607	0.019	928597	97.5
Aroclor-1221	3	5.301	-0.002	2920640	57.3	3	5.698	-0.003	1985701	63.9
Aroclor-1221	NS	---			----	4	5.767	-0.002	117856	22.7
Total Col1Ave (3 peaks):					55.5	Total Col2Ave (4 peaks):				58.0 RPD = 4
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				44.8
Aroclor-1232	1	6.278	-0.003	4640641	187.8	1	6.391	-0.005	4725423	177.9
Aroclor-1232	2	6.678	-0.001	16664896	202.8	2	7.016	-0.003	10762447	195.6
Aroclor-1232	3	6.826	-0.002	6759113	203.1	3	7.224	-0.003	3553994	185.8
Aroclor-1232	4	8.015	-0.004	518403	14.8	4	8.368	-0.002	692502	32.5
Total Col1Ave (4 peaks):					152.1	Total Col2Ave (4 peaks):				148.0 RPD = 3
Corrected Ave (3 peaks):					135.1	Corrected Ave (3 peaks):				132.1 RPD = 2
Aroclor-1242	1	6.278	-0.002	4640641	102.7	1	6.391	-0.001	4725423	104.6
Aroclor-1242	2	6.678	-0.002	16664896	112.2	2	7.016	-0.003	10762447	105.7
Aroclor-1242	3	6.826	-0.002	6759113	112.3	3	7.224	-0.002	3553994	88.6
Aroclor-1242	4	8.015	-0.005	518403	8.7	4	8.368	-0.002	692502	19.1
Total Col1Ave (4 peaks):					84.0	Total Col2Ave (4 peaks):				79.5 RPD = 5
Corrected Ave (3 peaks):					74.5	Corrected Ave (3 peaks):				70.8 RPD = 5
Aroclor-1248	1	7.175	-0.003	5743048	85.3	1	7.504	-0.002	3254117	70.4
Aroclor-1248	2	7.474	-0.003	5775896	75.7	2	7.918	-0.003	4039123	75.4
Aroclor-1248	3	8.015	-0.006	518403	5.4	3	8.368	-0.003	692502	11.6
Aroclor-1248	4	8.313	0.002	1340822	14.0	4	8.785	-0.008	464084	7.2
Total Col1Ave (4 peaks):					45.1	Total Col2Ave (4 peaks):				41.1 RPD = 9
Corrected Ave (3 peaks):					31.7	Corrected Ave (3 peaks):				29.7 RPD = 6
Aroclor-1254	1	8.393	0.000	5272763	34.3	1	8.509	-0.002	2610180	50.1
Aroclor-1254	2	8.765	0.000	1532434	14.5	2	8.681	-0.002	2871178	42.3
Aroclor-1254	3	8.899	-0.002	6836876	36.0	3	9.233	0.027	21137958	386.9
Aroclor-1254	4	9.232	-0.019	16654982	77.0	4	9.356	-0.001	1837085	15.7
Aroclor-1254	5	9.560	-0.052	24280986	170.0	5	10.149	0.011	3009572	41.4
Total Col1Ave (5 peaks):					66.4	Total Col2Ave (5 peaks):				107.3 RPD = 47*
Corrected Ave (4 peaks):					40.5	Corrected Ave (4 peaks):				37.4 RPD = 8
Aroclor-1260	1	10.484	-0.002	11379966	95.9	1	10.371	-0.001	8137953	93.6
Aroclor-1260	2	10.858	-0.001	31936778	105.9	2	11.189	-0.002	12670574	94.2
Aroclor-1260	3	11.259	-0.002	16138884	93.1	3	11.711	-0.003	3725526	90.5
Aroclor-1260	4	11.375	-0.001	6656013	89.7	4	12.510	-0.003	3519172	90.1
Aroclor-1260	5	11.449	-0.002	7839776	89.9	NS	---			----
Total Col1Ave (5 peaks):					94.9	Total Col2Ave (4 peaks):				92.1 RPD = 3
Corrected Ave (4 peaks):					92.2	Corrected Ave (3 peaks):				91.4 RPD = 1
Aroclor-1262	1	10.168	-0.001	11800550	66.8	1	10.466	-0.002	5275380	60.3
Aroclor-1262	2	10.484	-0.001	11379966	79.6	2	10.919	-0.002	6245395	74.8
Aroclor-1262	3	10.858	-0.001	31936778	92.0	3	11.189	-0.003	12670574	77.7
Aroclor-1262	4	11.375	-0.001	6656013	41.8	4	11.711	-0.003	3725526	48.1
Aroclor-1262	5	11.449	-0.001	7839776	46.7	5	12.510	-0.002	3519172	55.2
Total Col1Ave (5 peaks):					65.4	Total Col2Ave (5 peaks):				63.2 RPD = 3
Corrected Ave (4 peaks):					58.7	Corrected Ave (4 peaks):				59.6 RPD = 1
Aroclor-1268	1	11.375	-0.002	6656013	17.3	1	11.711	-0.004	3725526	19.5
Aroclor-1268	2	11.449	-0.001	7839776	21.0	2	11.771	-0.010	8722248	52.8

Aroclor-1268	3	11.849	0.013	3538452	10.7	3	12.175	-0.004	281427	2.0
Aroclor-1268	4	12.622	-0.005	2965552	3.1	4	12.998	-0.004	944395	2.2

Total Col1Ave (4 peaks): 13.0 Total Col2Ave (4 peaks): 19.1 RPD = 38

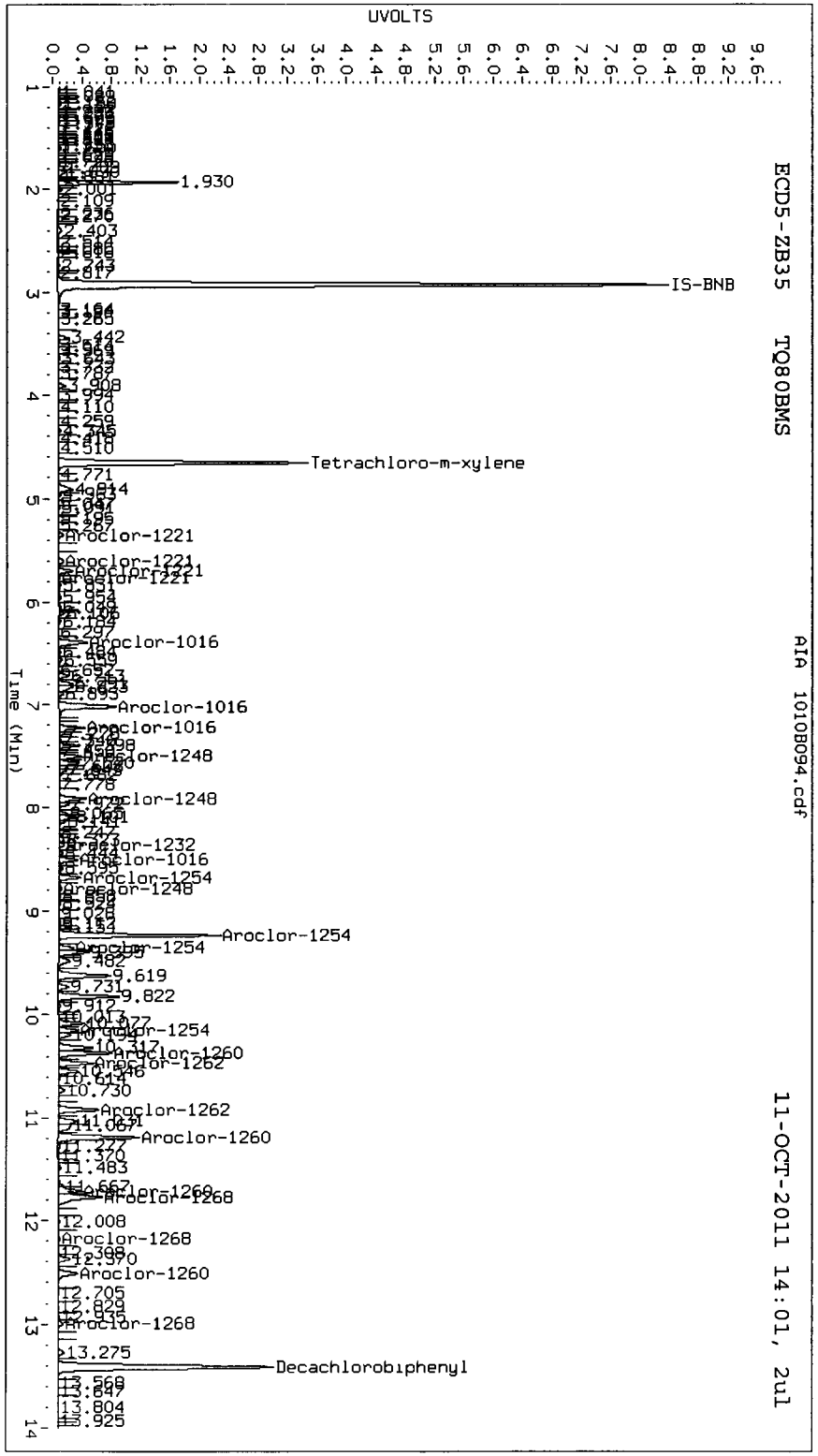
Corrected Ave (3 peaks): 10.3 Corrected Ave (3 peaks): 7.9 RPD = 27

Total PCB Area Col1 (4.748 - 12.933) = 365570506 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (4.755 - 13.316) = 195233382 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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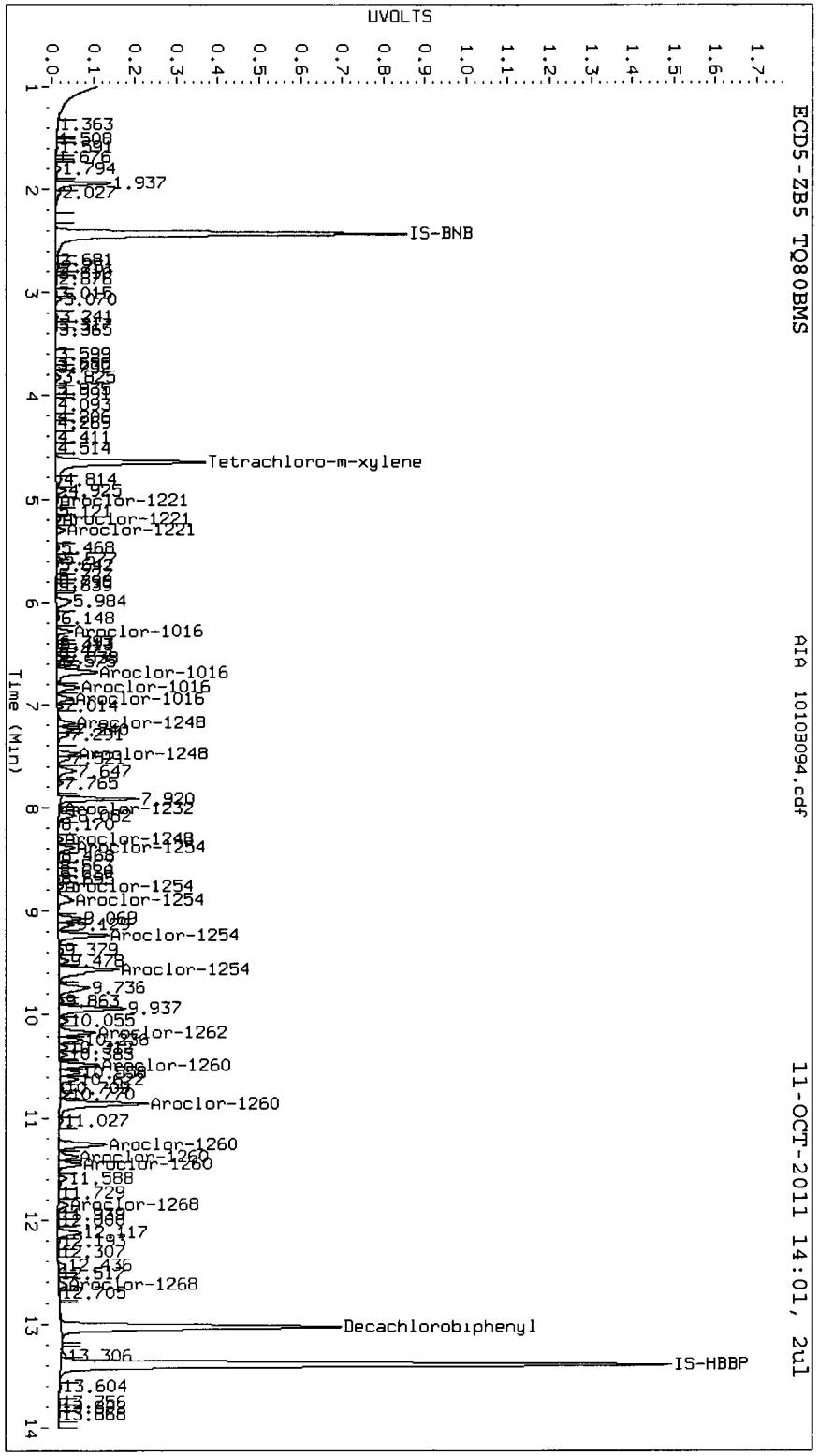
AIA 1010B094.cdf
11-OCT-2011 14:01, 2ul
Time (Min)
1.930
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl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Time (Min)
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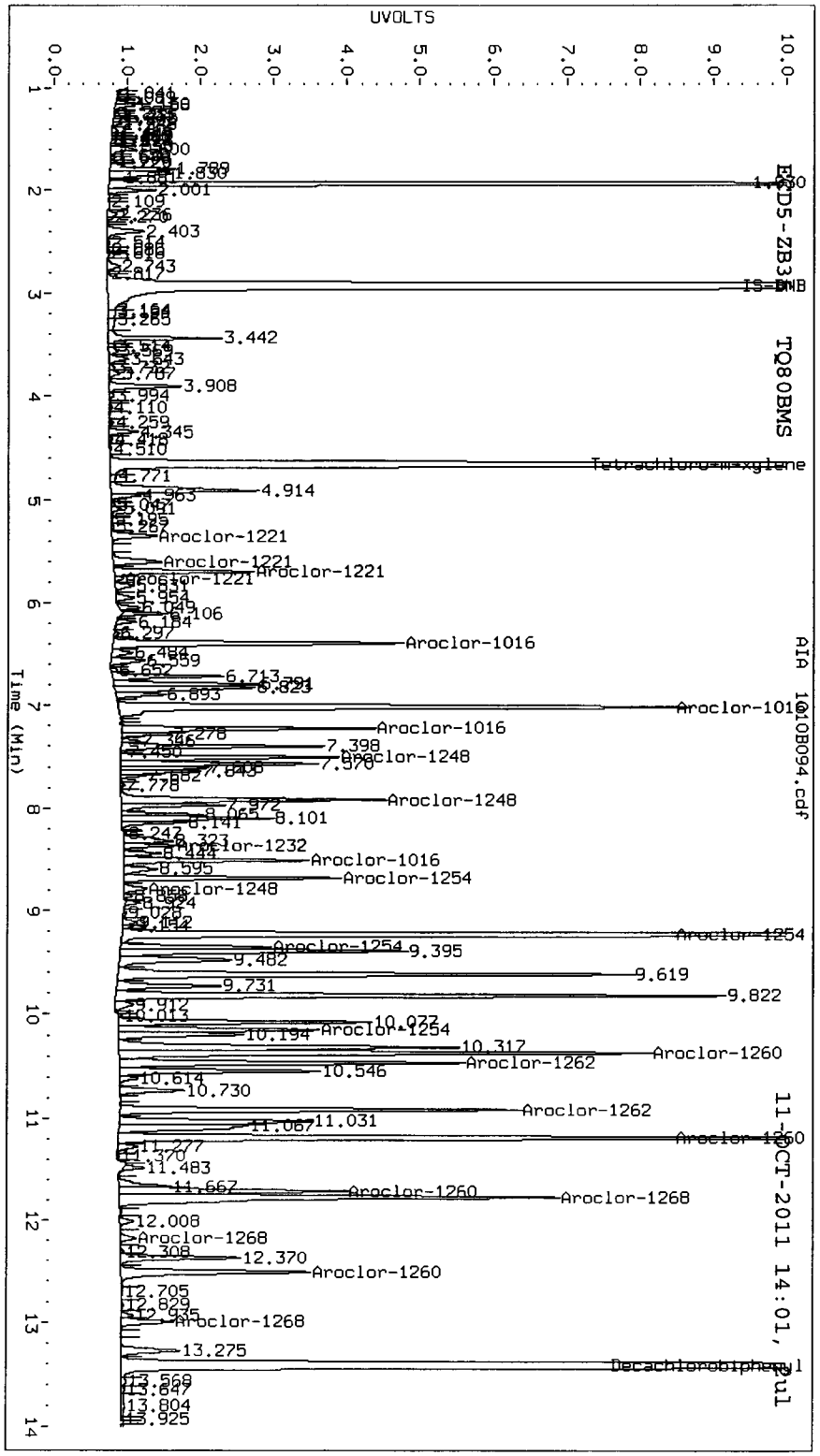
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TQ80 : 002111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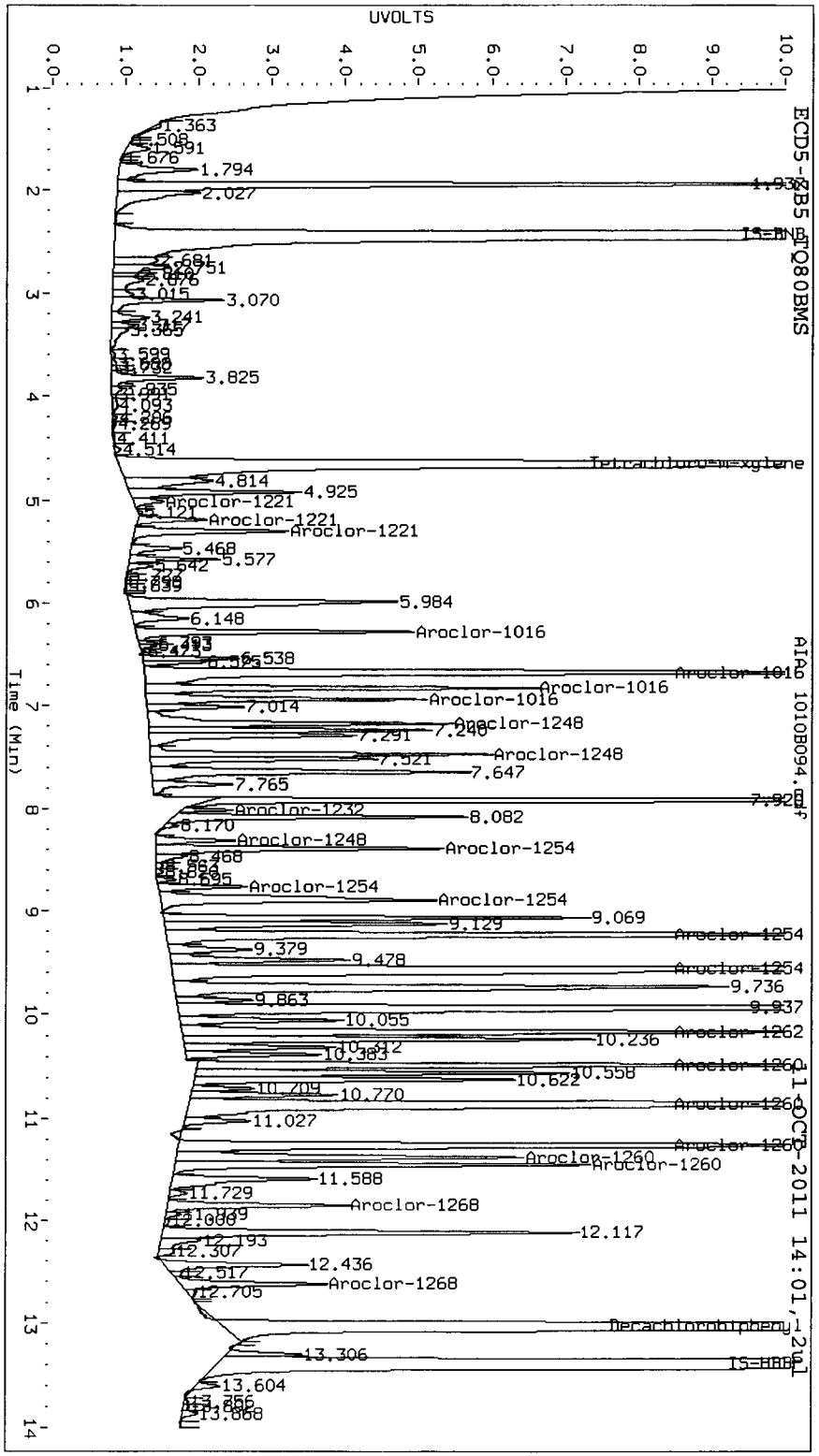
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1262
Aroclor-1260
Aroclor-1268
Time (Min)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IS-HBB
Decachlorobiphenyl
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1262
Aroclor-1260
Aroclor-1268
Time (Min)

TQ80:00215

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/1010-1.b/1010B095.d
Data file 2: 20110930.B/1010-2.b/1010B095.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: TQ80BMSD
Client ID:
Injection Date: 11-OCT-2011 14:20
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.647	0.000	52852723	4.653	-0.002	36266818	23.6	24.6	4.1	Tetrachloro-m-xylene
13.031	-0.002	98761638	13.415	-0.001	39211833	27.8	28.7	3.0	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

10/12/11

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	59.1	61.5
Decachlorobiphenyl	69.5	71.7

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	130025529	9.0
Hexabromobiphenyl	247758184	223436018	-9.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	97615883	7.0
Hexabromobiphenyl	103671329	98533022	-5.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.279	-0.002	4708529	78.3	1	6.391	-0.002	4687092	80.6
Aroclor-1016	2	6.678	-0.002	16360374	78.3	2	7.016	-0.002	10571721	81.3
Aroclor-1016	3	6.826	-0.002	6664532	79.3	3	7.224	-0.002	3477468	69.7
Aroclor-1016	4	6.936	-0.002	4995804	83.6	4	8.509	-0.003	2572314	93.5
Total Col1Ave (4 peaks):					79.9	Total Col2Ave (4 peaks):				81.2 RPD = 2
Corrected Ave (3 peaks):					78.6	Corrected Ave (3 peaks):				77.2 RPD = 2
Aroclor-1221	1	5.015	-0.005	633933	29.0	1	5.353	0.011	750607	44.8
Aroclor-1221	2	5.190	-0.009	1035223	67.0	2	5.610	0.022	3534714	368.1
Aroclor-1221	3	5.302	-0.002	2792527	53.4	3	5.699	-0.002	1967698	62.8
Aroclor-1221	NS	---			----	4	5.769	0.000	216634	41.4
Total Col1Ave (3 peaks):					49.8	Total Col2Ave (4 peaks):				129.3 RPD = 89*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				49.7
Aroclor-1232	1	6.279	-0.002	4708529	185.9	1	6.391	-0.005	4687092	175.0
Aroclor-1232	2	6.678	-0.002	16360374	194.3	2	7.016	-0.003	10571721	190.7
Aroclor-1232	3	6.826	-0.002	6664532	195.4	3	7.224	-0.003	3477468	180.4
Aroclor-1232	4	8.017	-0.003	544158	15.1	4	8.368	-0.002	687360	32.0
Total Col1Ave (4 peaks):					147.7	Total Col2Ave (4 peaks):				144.5 RPD = 2
Corrected Ave (3 peaks):					131.8	Corrected Ave (3 peaks):				129.1 RPD = 2
Aroclor-1242	1	6.279	-0.002	4708529	101.6	1	6.391	-0.001	4687092	102.9
Aroclor-1242	2	6.678	-0.002	16360374	107.5	2	7.016	-0.003	10571721	103.1
Aroclor-1242	3	6.826	-0.002	6664532	108.0	3	7.224	-0.002	3477468	86.0
Aroclor-1242	4	8.017	-0.004	544158	8.9	4	8.368	-0.002	687360	18.8
Total Col1Ave (4 peaks):					81.5	Total Col2Ave (4 peaks):				77.7 RPD = 5
Corrected Ave (3 peaks):					72.7	Corrected Ave (3 peaks):				69.2 RPD = 5
Aroclor-1248	1	7.176	-0.003	5495588	79.6	1	7.505	-0.001	3189822	68.4
Aroclor-1248	2	7.474	-0.003	5313465	68.0	2	7.917	-0.003	4063590	75.2
Aroclor-1248	3	8.017	-0.004	544158	5.5	3	8.368	-0.003	687360	11.4
Aroclor-1248	4	8.313	0.001	1417174	14.5	4	8.786	-0.008	518500	8.0
Total Col1Ave (4 peaks):					41.9	Total Col2Ave (4 peaks):				40.8 RPD = 3
Corrected Ave (3 peaks):					29.3	Corrected Ave (3 peaks):				29.3 RPD = 0
Aroclor-1254	1	8.393	0.000	5573746	35.4	1	8.509	-0.003	2572314	49.0
Aroclor-1254	2	8.765	0.000	1537210	14.2	2	8.681	-0.002	2884687	42.1
Aroclor-1254	3	8.898	-0.003	6780906	34.9	3	9.232	0.025	13331966	242.1
Aroclor-1254	4	9.232	-0.018	16621784	74.9	4	9.356	-0.001	1770538	15.0
Aroclor-1254	5	9.560	-0.052	24261649	165.7	5	10.150	0.011	2991891	40.9
Total Col1Ave (5 peaks):					65.0	Total Col2Ave (5 peaks):				77.8 RPD = 18
Corrected Ave (4 peaks):					39.9	Corrected Ave (4 peaks):				36.7 RPD = 8
Aroclor-1260	1	10.484	-0.002	11423548	94.6	1	10.370	-0.002	8001764	90.5
Aroclor-1260	2	10.858	-0.002	30394165	98.9	2	11.189	-0.002	12496962	91.4
Aroclor-1260	3	11.258	-0.002	16334525	92.5	3	11.712	-0.002	4325890	103.4
Aroclor-1260	4	11.375	-0.002	6797295	89.9	4	12.511	-0.002	3631920	91.5
Aroclor-1260	5	11.449	-0.002	8101593	91.2	NS	---			----
Total Col1Ave (5 peaks):					93.4	Total Col2Ave (4 peaks):				94.2 RPD = 1
Corrected Ave (4 peaks):					92.1	Corrected Ave (3 peaks):				91.1 RPD = 1
Aroclor-1262	1	10.168	-0.001	11876193	66.0	1	10.466	-0.002	5203634	58.5
Aroclor-1262	2	10.484	-0.001	11423548	78.4	2	10.918	-0.003	6184195	72.9
Aroclor-1262	3	10.858	-0.002	30394165	86.0	3	11.189	-0.003	12496962	75.5
Aroclor-1262	4	11.375	-0.002	6797295	41.9	4	11.712	-0.002	4325890	55.0
Aroclor-1262	5	11.449	-0.001	8101593	47.4	5	12.511	-0.002	3631920	56.1
Total Col1Ave (5 peaks):					64.0	Total Col2Ave (5 peaks):				63.6 RPD = 1
Corrected Ave (4 peaks):					58.5	Corrected Ave (4 peaks):				60.6 RPD = 4
Aroclor-1268	1	11.375	-0.002	6797295	17.3	1	11.712	-0.003	4325890	22.3
Aroclor-1268	2	11.449	-0.001	8101593	21.4	2	11.772	-0.009	8649949	51.6

Aroclor-1268	3	11.849	0.013	3986274	11.8	3	12.175	-0.004	360250	2.5
Aroclor-1268	4	12.623	-0.004	3387118	3.4	4	12.998	-0.003	943143	2.2

Total Col1Ave (4 peaks): 13.5 Total Col2Ave (4 peaks): 19.6 RPD = 37

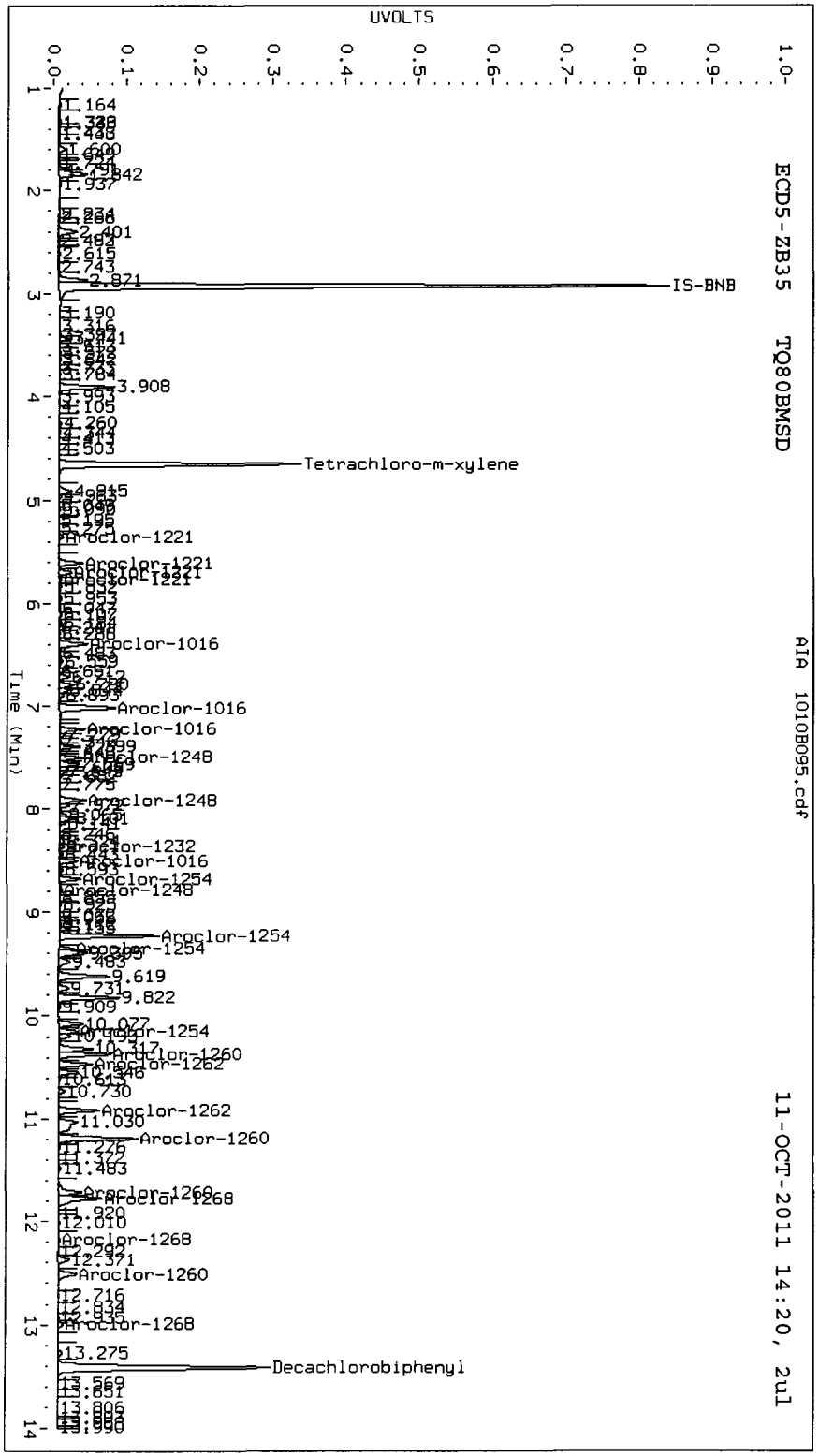
Corrected Ave (3 peaks): 10.9 Corrected Ave (3 peaks): 9.0 RPD = 19

Total PCB Area Col1 (4.748 - 12.933) = 364435319 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (4.755 - 13.316) = 186638017 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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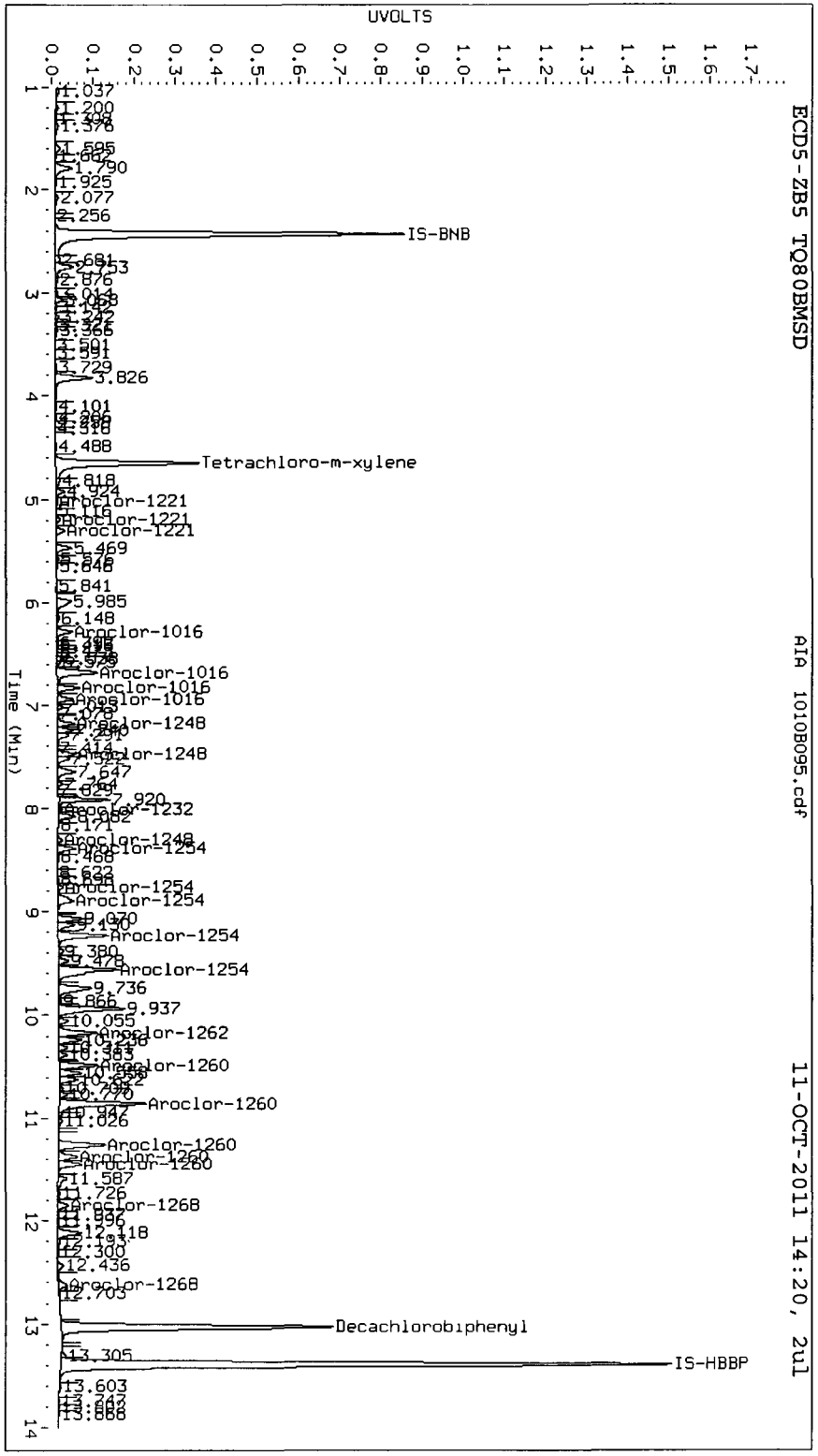
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl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Time (Min)
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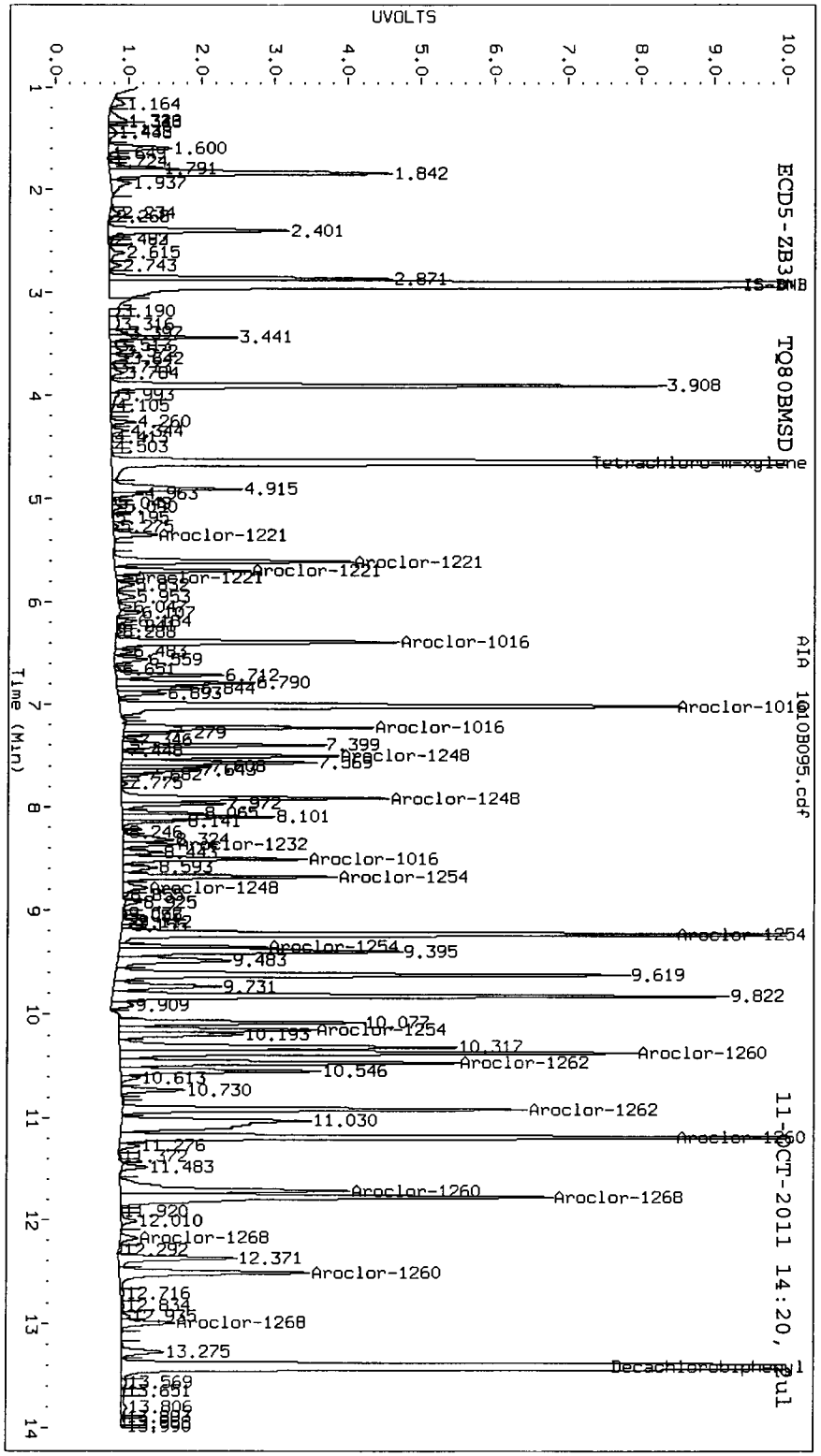
Decachlorobiphenyl
IS-HBBP

TQ80:00219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Decachlorobiphenyl
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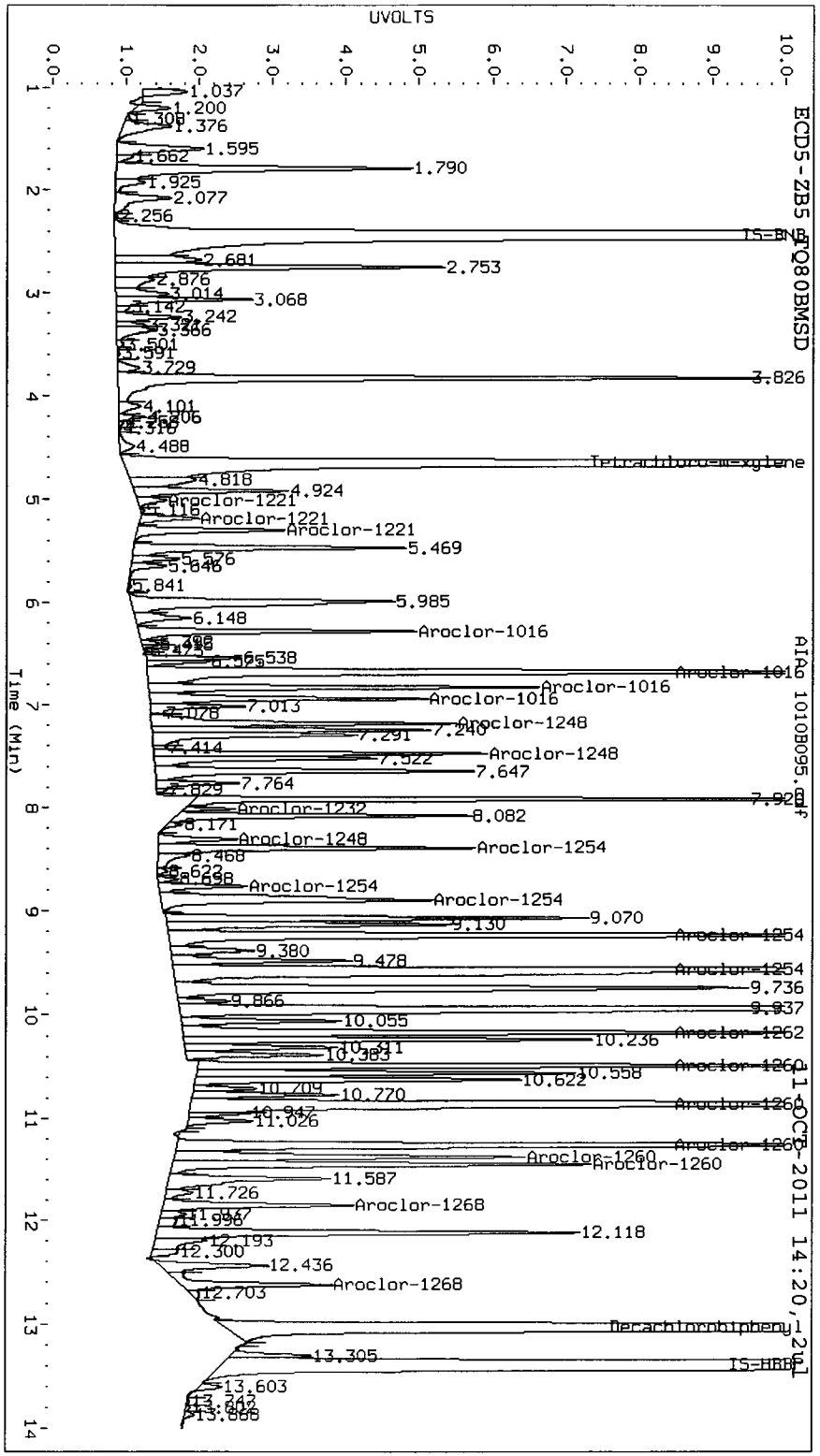
Aroclor-1262
Aroclor-1260
Aroclor-1268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Aroclor-1232
Aroclor-1254
Aroclor-1262
Aroclor-1260
Aroclor-1268

TQ89:00220

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/1010-1.b/1010B096.d
Data file 2: 20110930.B/1010-2.b/1010B096.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660
Client ID:
Injection Date: 11-OCT-2011 14:39
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.647	0.000	45542218	4.654	-0.001	31074903	20.1	20.7	3.2	Tetrachloro-m-xylene
13.032	0.000	68081128	13.414	0.001	26112978	19.2	19.2	0.2	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	50.2	51.8
Decachlorobiphenyl	48.1	48.0

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	131875471	10.5
Hexabromobiphenyl	247758184	222893815	-10.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	99302162	8.8
Hexabromobiphenyl	103671329	98056195	-5.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

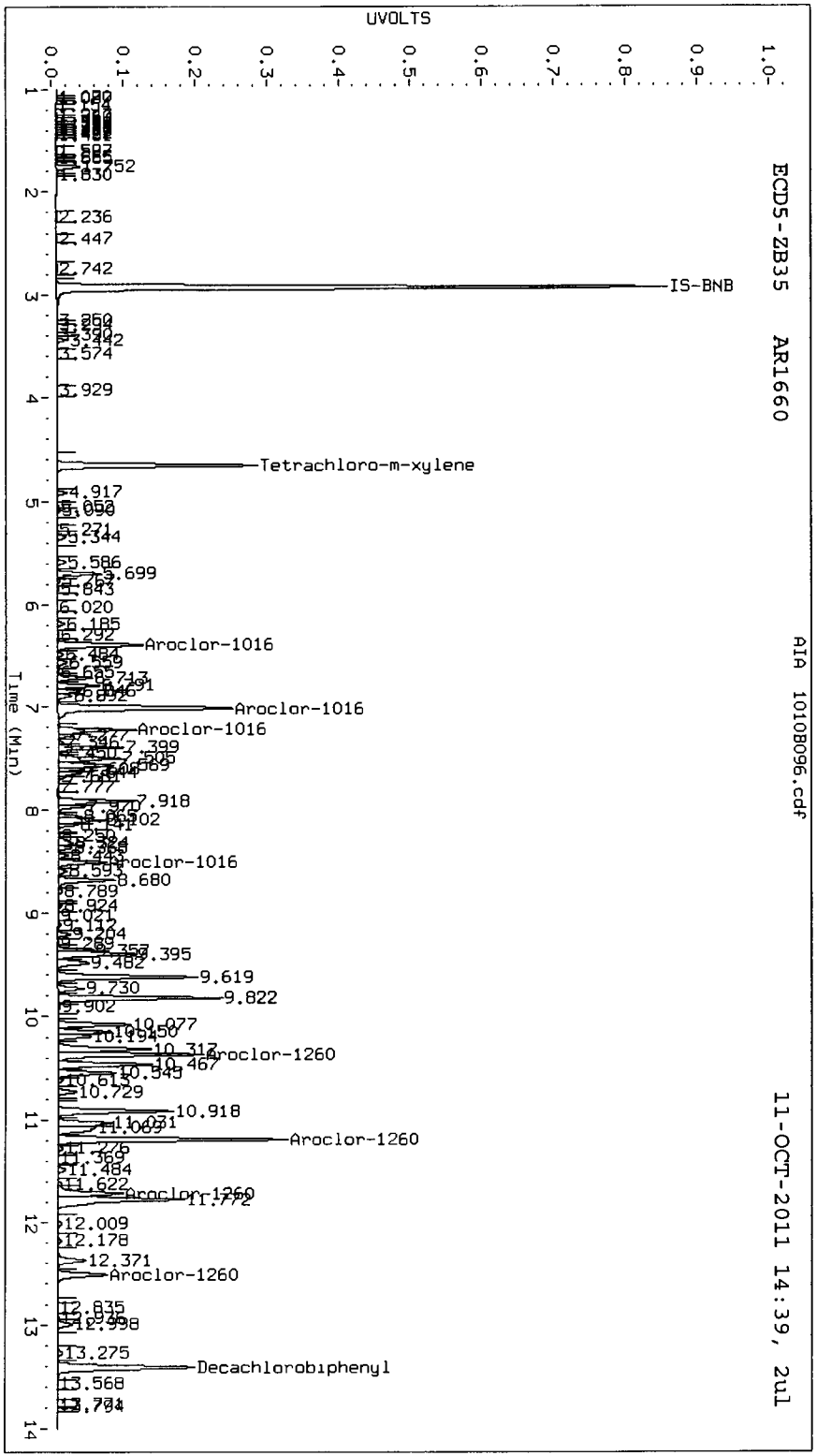
Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.279	0.000	14616697	239.6	1	6.391	0.000	14620828	247.1
Aroclor-1016	2	6.678	0.000	49824433	235.2	2	7.015	0.000	33510684	253.2
Aroclor-1016	3	6.826	0.000	19700225	231.1	3	7.224	0.000	11577796	228.0
Aroclor-1016	4	6.936	0.000	14880849	245.5	4	8.509	0.000	6897882	246.4
Total Col1Ave (4 peaks):				237.9		Total Col2Ave (4 peaks):			243.7	RPD = 2
Corrected Ave (3 peaks):				235.3		Corrected Ave (3 peaks):			240.5	RPD = 2
Aroclor-1260	1	10.485	0.000	31761946	263.5	1	10.370	0.000	22946506	260.9
Aroclor-1260	2	10.859	0.000	80342537	262.1	2	11.189	0.000	37125592	272.8
Aroclor-1260	3	11.260	0.000	45869521	260.5	3	11.712	0.000	11237129	269.9
Aroclor-1260	4	11.376	0.000	19137734	253.8	4	12.512	0.000	9295791	235.3
Aroclor-1260	5	11.450	0.000	23096529	260.8	NS	---			----
Total Col1Ave (5 peaks):				260.1		Total Col2Ave (4 peaks):			259.7	RPD = 0
Corrected Ave (4 peaks):				259.3		Corrected Ave (3 peaks):			255.4	RPD = 2

Total PCB Area Col1 (4.747 - 12.932) = 945806691 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (4.754 - 13.314) = 475924986 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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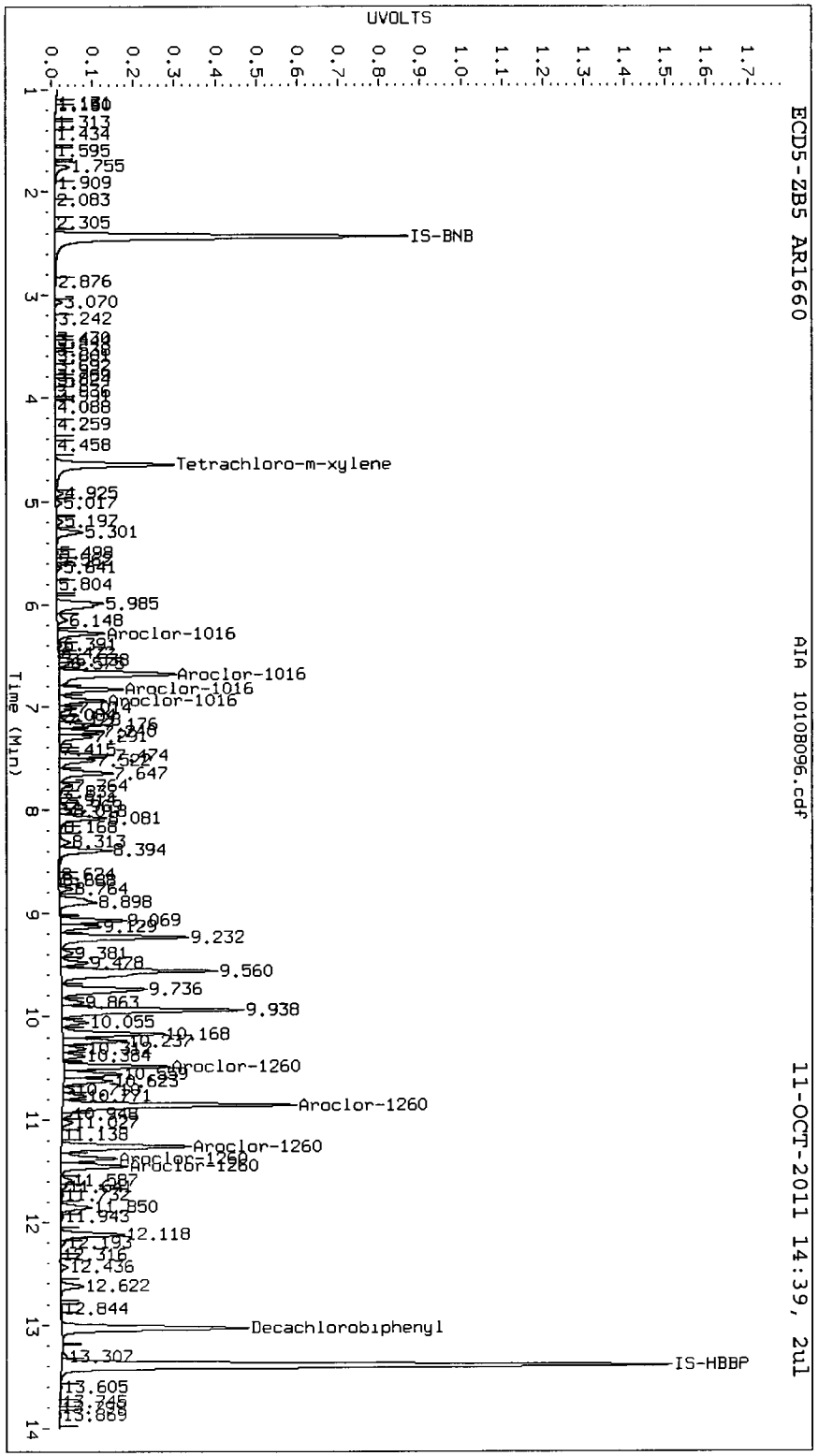
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl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UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
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Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column PCBs by SW8082

Data file 1: 20110930.B/1010-1.b/1010B097.d
Data file 2: 20110930.B/1010-2.b/1010B097.d
Method: /chem2/ecd5.i/20110930.B/PCB1.m
Compound Sublist: AR1254
Instrument, Inj. Vol.: ecd5.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254
Client ID:
Injection Date: 11-OCT-2011 14:58
Ical Date: 30-SEP-2011
Matrix: SOIL
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.647	0.000	46239207	4.654	0.000	31882757	19.4	20.3	4.5	Tetrachloro-m-xylene
13.031	0.000	67358661	13.414	0.000	25685983	18.4	17.9	2.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	48.5	50.8
Decachlorobiphenyl	45.9	44.8

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	119324916	138514088	16.1
Hexabromobiphenyl	247758184	230705561	-6.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	91266419	104026318	14.0
Hexabromobiphenyl	103671329	103186661	-0.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 30-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

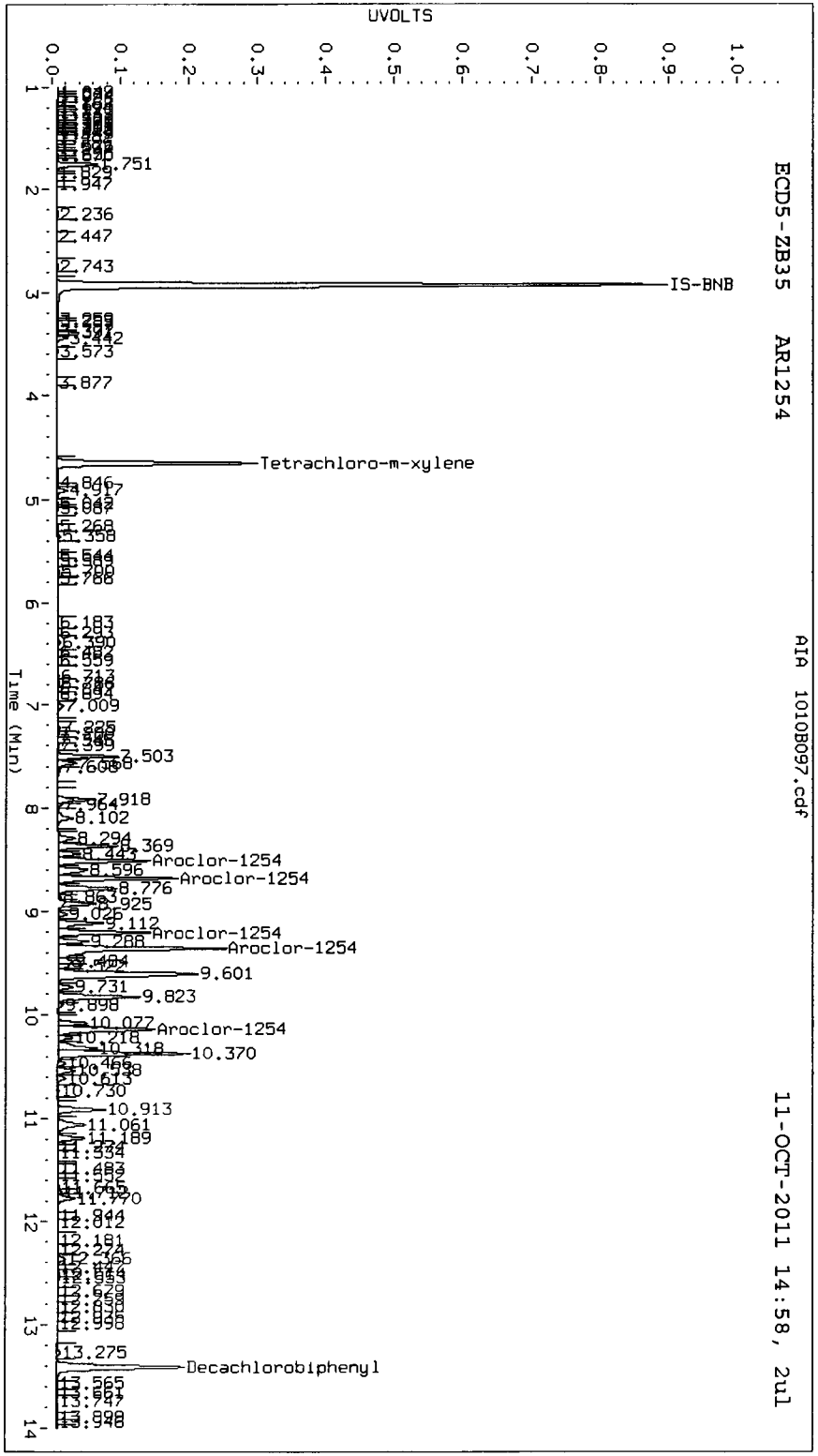
Aroclor	Peak#	RT	ZB5 Col Shift	Area	Amount	Peak#	RT	ZB35 Col Shift	Area	Amount
Aroclor-1254	1	8.393	0.000	40385514	241.0	1	8.510	0.000	13683370	244.4
Aroclor-1254	2	8.765	0.000	27365216	237.3	2	8.681	0.000	17920290	245.6
Aroclor-1254	3	8.900	0.000	50439135	243.4	3	9.204	0.000	13999134	238.5
Aroclor-1254	4	9.251	0.000	54385191	230.2	4	9.355	0.000	30433275	241.9
Aroclor-1254	5	9.612	0.000	37881626	242.9	5	10.137	0.000	18461313	236.6

Total Col1Ave (5 peaks): 238.9 Total Col2Ave (5 peaks): 241.4 RPD = 1
Corrected Ave (4 peaks): 237.8 Corrected Ave (4 peaks): 240.4 RPD = 1

Total PCB Area Col1 (4.747 - 12.931) = 573002840 Col1 Total PCB = 0.3 ppm*

Total PCB Area Col2 (4.754 - 13.314) = 290229403 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical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AIA 1010B097.cdf
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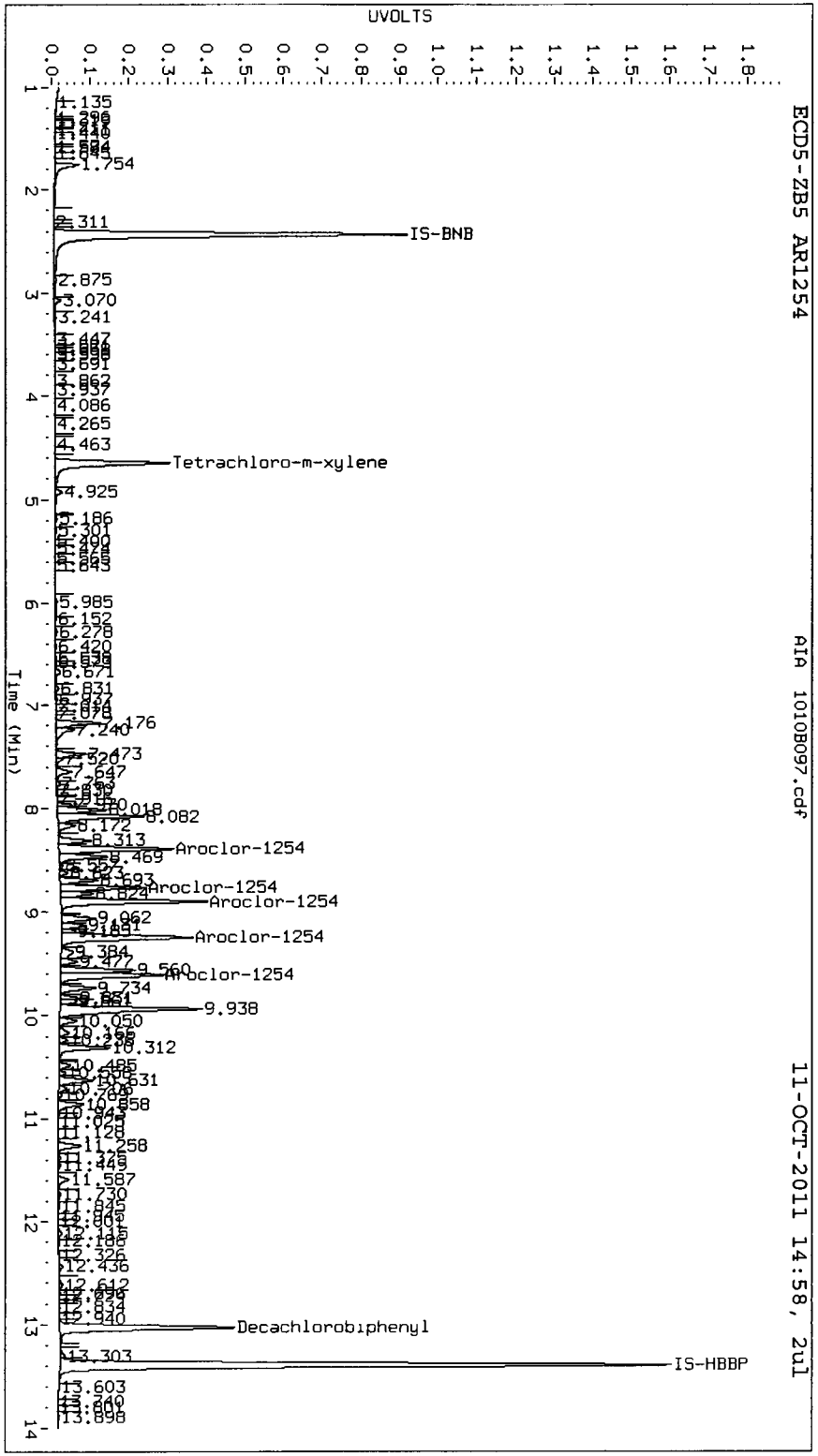
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1254
Decachlorobiphenyl


ECD5-ZB5 AR1254
AIA 1010B097.cdf
11-OCT-2011 14:58, 2ul
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1254
Decachlorobiphenyl
IS-HBBP

General Chemistry Raw Data
Analyst Notes and Raw Data

ARI Job ID: TQ80

10-10-11

TOTAL SUSPENDED SOLIDS / VOLATILE SUSPENDED SOLIDS (TSS / TVSS)

Methods : SM 2540 D-97, 2540 E-97

DATE: 10/10/2011

ANALYST: CDE 13:45

Instrumentation ***Drying Ovens:*** 12 ***Analytical Balance:*** 1123230597

Muffle Furnace: NA

make no entries to shaded cells
they are calculated !!

TSS (mg/l) calculated as:
Final dry wt (mg) = (minimum Dry Wt - Tare Wt)*1000
TSS = [(Final Dry Wt)/ ml Sample] * 1000
if dy wt < 1mg, TSS = <1mg / mL sample * 1000
with "<" flag

Loss on ignition (LOI) = TVSS (mg/L) calculated as:
LOI (mg) = Dry wt(mg) -((min ash wt - tare wt) * 1000)
TVSS (mg/L) = LOI / mL sample * 1000
if LOI <1mg, TVSS = <1mg / mL sample * 1000
with "<" flag

LCS source: *Cellulose, MP Biomedicals Lot# 6399J* 0.05 grams to 1000 mL = **50** ***mg/L TSS***

SAMPLE ID	DISH #	filtered (mL)	TARE WT (grams)	DRY WT 104C (grams) 1	2	3	4	DryWT (mg)	TSS (mg/L)	ASH WT 550C (grams) 1	2	3	4	LOI (mg)	TVSS (mg/l)
Cal Weight ID			CV-02	CV-02	CV-02	CV-02	CV-02			CV-02	CV-02	CV-02	CV-02		
Date & Time				10/10/11 15:08	10/10/11 16:30										
Cal Wt (g)	10.0000			10.0000	10.0000										
record weights to 4 places				*Cal OK!*	*Cal OK!*										
BLANK		1000	0.1203	0.1202	0.1203	STOP		-0.1	**< 1**						
LCS # 583-5		1000	0.1204	0.1693	0.1693	STOP		48.9	**48.9**	97.8%	% Recovery				
TQ80 A1		890	0.1182	0.1293	0.1293	STOP		11.1	**12.5**						
TQ80 B1		860	0.1166	0.1346	0.1345	STOP		17.9	**20.8**						
TQ80 B2 dup		870	0.1211	0.1352	0.1352	STOP		14.1	**16.2**						
								RPD =	*24.9%*					*RPD =*	*NA*
TQ80 C1		935	0.1189	0.1389	0.1388	STOP		19.9	**21.3**						

TQ80 : 00229

Analytical Resources, Incorporated
Analytical Chemists and Consultants

TOTAL SUSPENDED (TSS) / TOTAL VOLATILE SUSPENDED SOLID(TVSS) BENCHSHEET

Analyst:	CDK	Date/Time:	10-10-11 13:45	Oven #:	12	Muffle Furnance:	N/A	Balance:	1123230597

Dry at 104 °C (12-24 hrs) then combust at 550 °C for 30 min. Record Weights to 4 places

TSS (mg/L) calculated as:
Final Dry Weight (mg) = (Min Dry Weight – Tare Weight) * 1000
TSS = (Final Dry Weight) / (mL Sample) * 1000
If dry wt < 1 mg / mL sample * 1000 use "<" flag

Loss on Ignition (LOI) = TVSS (mg / L) is calculated as:
LOI (mg / L) = Dry Weight (mg) – [(Minimum Ash Weight – Tare Weight) * 1000]
TVSS (mg / L) = LOI / mL sample * 1,000
If LOI < 1 mg, TVSS = < 1 mg / mL sample * 1000 use "<" flag

LCS (Cellulose from MP Biochemicals) Lott #	6399J	0.0500 Gram to 1000 mL = **50 mg / L TSS**									
Cal Weight ID	CV-02	CV-02	CV-02	CV-02	CV-02			CV-02	CV-02		
Date & Time:			10-10-11 15:08	10-10-11 16:30							
Cal Weight (10.0000g):			10.0000 gm	10.0000 gm							

Sample ID	Dish #	Filtered mL	Tare	Dry Weight 104°C (grams) 1	Dry Weight 104°C (grams) 2	Dry Weight 104°C (grams) 3	Dry Wt mg	TSS	Ash Weight 550°C 1	Ash Weight 550°C 2	LOI - mg	TVSS mg/L
BLANK	84415	1000	0.1203	0.1202	0.1203							
LCS# 583-5	16	↓	0.1204	0.1693	0.1693							
TQ80 A'	17	890	0.1182	0.1293	0.1293							
B'	18	860	0.1166	0.1346	0.1345							
B2 dup	19	870	0.1211	0.1352	0.1352							
C'	20	935	0.1189	0.1389	0.1388							

10-10-11 CDK

TQ80 00230

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Corrective Actions
Inorganic Analyses

Criteria Flagged:		ARI Job No.:	TQ80
Unacceptable Blank:	☐	Date of Event:	10-10-11
Unacceptable Duplicate:	☒	Client ID:	Int. Cons. Inc.
Unacceptable Spike:	☐	Method/Element:	TSS
Unacceptable Reference:	☐	Prep Code:	

Details of Problem/Recommended Corrective Action:
Sample has high RPD of ≈25%.

Samples Affected: TQ81 B

Corrective Action Taken: duplicate was supplied by client and used @ whole volume.
Data entered as-is.

Analyst Initials: CDL **Supervisor:** W

Date: 10-10-11 **Date:** 10-10-11

5049F

Revision 007
6/11/10

TQ80 : 00231

Table of Contents: ARI Job TR07

Client: Integral Consulting, Inc.

Project: A000614L Slip 4 EAA

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Signature

October-17-2011
Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

October 17, 2011

Kimberly Magruder-Carlton
Integral Consulting
411 1st Avenue S, Suite 550
Seattle, WA 98104

RE: A0006 14L Slip 4
ARI Job No.: TR07

Dear Kim;

Please find enclosed the original Chain-of-Custody (COC) record, sample receipt documentation, and the final data package for samples from the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Susan D. Dunnihoo
Director, Client Services
sue@arilabs.com
206-695-6207

Enclosures

cc: eFile TR07

SD/co

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Documentation

ARI Job ID: TR07

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: TR07	Turn-around Requested: RUSH 24 hr
ARI Client Company: Integral	Phone: 360.756.9296
Client Contact: Kim Carlton	
Client Project Name: SUP 4 EAA	
Client Project #: A0006 14L	Samplers: J. SUND

Page: 1	of 1
Date: 10/11/11	Ice Present? Y
No. of Coolers: 1	Cooler Temps: 5.5

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Tag #s	Date	Time	Matrix	No. Containers	PCB	TSS (EPA 160.2)							Notes/Comments
SW0008	1075-1077	10/11/11	1040	W	3									HOLD
SW0009	1078-1080	↓	1100	↓	↓									HOLD
SW0010	1081-1083	↓	1135	↓	↓	X	X							
SW0011	1084-1086	↓	1155	↓	↓	X	X							

Comments/Special Instructions
Please reference work order #
A0006-14L-ARI-02

Relinquished by:	Received by:	Relinquished by:	Received by:
(Signature)	(Signature)	(Signature)	(Signature)
Printed Name: Jane Sund	Printed Name: Jennifer Millsap	Printed Name:	Printed Name:
Company: Integral	Company: ARI	Company:	Company:
Date & Time: 10/11/11 1325	Date & Time: 10/11/11 1325	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
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Cooler Receipt Form

ARI Client: Integral

Project Name: Slip 4 EAA

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Assigned ARI Job No: TR07

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)..... 5.5 ___ ___ ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 90877952

Cooler Accepted by: JM Date: 10/11/11 Time: 1325

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used? ... (Bubble Wrap) (Wet Ice) Gel Packs Baggies Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		YES	(NO)
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	(NO)
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)	_____	

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

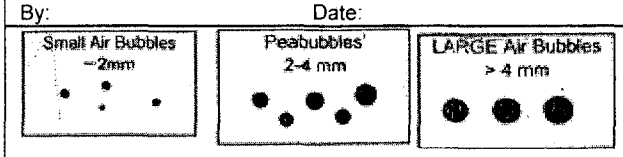
Samples Logged by: JM Date: 10/11/11 Time: 1337

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm"	
Peabubbles → "pb"	
Large → "lg"	
Headspace → "hs"	

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: TR07

ANALYTICAL
RESOURCES
INCORPORATED

Case Narrative

Client: Integral Consulting
Project: A0006 14L Slip 4
ARI Job No.: TR07

Sample receipt

Four water samples were received on October 11, 2011. The cooler temperature was 5.5°C as measured by IR thermometer following ARI SOP. Select samples were archived upon receipt. Please see the enclosed Cooler Receipt Form for details of sample receipt.

Aroclor PCBs by EPA 8082

The samples were extracted and analyzed within recommended holding times.

Initial and continuing calibrations met requirements. Internal standards were within limits.

The method blank was clean at the reporting limit. The LCS and LCS percent recoveries were within control limits.

The surrogate percent recoveries were within control limits.

Conventional Analyses (TSS)

The samples were prepared and analyzed within the required holding times.

The method blank was clean at the reporting limit. The LCS recovery was within control limits.

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: TR07
Client: Integral Consulting, Inc.
Project Event: A000614L
Project Name: Slip 4 EAA

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	SW0010	TR07A	11-23128	Water	10/11/11 11:35	10/11/11 13:25
2.	SW0011	TR07B	11-23129	Water	10/11/11 11:55	10/11/11 13:25
3.	SW0008	TR07C	11-23130	Water	10/11/11 10:40	10/11/11 13:25
4.	SW0009	TR07D	11-23131	Water	10/11/11 11:55	10/11/11 13:25

Printed 10/11/11

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Data Reporting Qualifiers

Effective 2/14/2011

Inorganic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Duplicate RPD is not within established control limits

B — Reported value is less than the CRDL but ≥ the Reporting Limit

N — Matrix Spike recovery not within established control limits

NA — Not Applicable, analyte not spiked

H — The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L — Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Flagged value is not within established control limits

B — Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J — Estimated concentration when the value is less than ARI's established reporting limits

D — The spiked compound was not detected due to sample extract dilution

E — Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q — Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

TR07 : 00008

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**

Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

SURR SOLUTIONS

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1889-3	ABN	100/150	MEOH	03/01/12
B	1894-2	SIM PNA	15/75	ACETONE	09/22/12
C	NA	SIM ABN	25/37.5	MEOH	NA
D	1887-1	LOW PCB	0.2	ACETONE	12/16/11
E	1900-2	HERB	62.5	MEOH	10/06/12
F	1896-2	PCP	12.5	ACETONE	12/09/11
G	1863-2	d8-DIOXANE	100	MEOH	11/19/11
H	1847-2	OP-PEST	25	ACETONE	03/23/12
I	1896-3	LOW S. PNA	1.5	ACETONE	09/22/12
J	1787-2	TBT-PORE	0.125	MECL2	11/27/11
K	1795-2	MED PCB	20	ACETONE	12/16/11
L	1862-3	TBT	2.5	MECL2	11/27/11
M	1888-4	EPH	1500	MECL2	04/04/12
N	1876-3	PCB	2	ACETONE	12/16/11
O	1895-3	TPH	450	MECL2	02/04/12
P	1895-4	HCID	2250	MECL2	02/04/12
Q	NA	EDB	1	MEOH	NA
R	1886-3	RESIN ACID	250	ACETONE	02/19/12
S	1864-1	PBDE	.5	MEOH	05/21/12
T	1884-2	ALKYL PNA	10	MEOH	07/15/12
U	NA	CONGENER	2.5	ACETONE	NA
V	1791-4	LOW PCP	1.25	ACETONE	12/09/11

LCS SOLUTIONS

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1888-2	PCB 1660	20	ACETONE	08/30/12
2#	NA	BCOC PEST	10	ACETONE	NA
3	1885-1	PEST	01/02/10	ACETONE	12/15/11
4	1885-2	LOW PEST	.1/.2/1	ACETONE	12/15/11
5	1779-1	EPH	1500	MECL2	11/11/11
6	1791-5	PCP	12.5/125	ACETONE	12/10/11
7	1888-1	ABN	100	MEOH	08/30/12
8	1785-3	TBT	2.5	MECL2	11/27/11
9	1786-3	PORE TBT	.125/.25	MECL2	11/27/11
10					
11	1860-4	TPHD	15000	ACETONE	05/12/12
12					
13	1838-4	LOW PCB	2	ACETONE	01/31/12
14					
15	1814-2	SIM PNA	15/75	MEOH	01/04/12
16	1879-3	1,4-DIOXANE	100	MEOH	02/05/12
17	1869-4	1248 PCB	10	ACETONE	06/14/12
18	1814-3	LOW SIM PNA	1.5	ACETONE	01/04/12
19	1873-2	AK103	7500	ACETONE	01/02/12
20	1886-4	PNA	100	ACETONE	01/07/12
21	1874-3	SKY/BHT	100	MEOH	01/14/12
22	1864-3	HERB	02 to 2500	MEOH	12/03/11
23	1887-2	EXTRA PNA	15	ACETONE	08/25/12
24					
25#	NA	DIPHENYL	100	MEOH	NA
26	1869-1	OP-PEST	25	MEOH	10/01/11
27	NA	STEROLS	200	MEOH	NA
28#	1807-1	ADD. PEST	2	ACETONE	08/31/11
29#	NA	DECANES	100	MEOH	NA

LCS SOLUTIONS

30	NA	EDB/DBCP	0.2	MEOH	NA
31	1835-2	TERPINEOL	100	MEOH	09/02/11
32	1876-1	GUAIACOL	50-200	ACETONE	01/05/12
33	NA	RETENE	100	MEOH	NA
34	1867-3	CONGENERS	0.5	ACETONE	03/14/12
35	1875-3	ALKYL PNA A	10	MEOH	07/18/12
36	NA	ALKYL PNA B	10	MEOH	NA
37	1773-1	CAR/PERY	100	ACETONE	10/14/11
38	1872-2	ABN ACID	200-450	MEOH	12/29/11
39	1853-4	BENZIDINE	500	MEOH	04/30/12
40	1851-3	PBDE	0.5	MEOH	04/22/12
50	1900-1	FULL RESIN	250	ACETONE	08/12/12
51	1772-1	DDTS	0.01	ACETONE	04/24/11
52	NA	1232 PCB	20	ACETONE	NA
53	1852-2	DALAPON	50	MEOH	12/03/11
54	1753-1	T-CHLORDANE	10	ACETONE	07/21/11
55	1753-2	TOXAPHENE	50	ACETONE	07/21/11
56	1874-1	ABN BASE	50-200	MEOH	01/05/12
#=PROJECT SPECIFIC SOLUTION					
*=REVERIFIED SOLUTION					

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Quality Control Criteria for Analysis of Aqueous and Tissue Samples for Aroclors (Polychlorinated Biphenyls – PCB) EPA Method 8082B

ARI Analysis Code	Target RL	Extraction	LOQ[1]	Analyte	LOD[2]	Spike Recovery Control Limits[9]			RPD[4]
						LCS	MB/LCS Surrogate	Sample Surrogate	
Aqueous Samples (Separatory Funnel Extraction – EPA Method 3510C)									
PCBWSI 01-3018F	1 µg/L	500 to 5 mL	1 µg/L	Aroclor 1016	0.130	45 – 121	--	--	≤ 40
				Aroclor 1260	0.147	54 – 129	--	--	
				TCMX	--	--	40 – 118	38 – 118	
				DCBP	--	--	41 – 111	29 – 118	
PCBWS M 02-3021F	0.1 µg/L	500 to 1 mL	0.1µg/L	Aroclor 1016	0.0175	36 – **100**	--	--	≤ 40
				Aroclor 1260	0.0174	41 – 113	--	--	
				TCMX	--	--	29 – **100**	25 – **100**	
				DCBP	--	--	39 – 116	**10** – 128	
PCBWSL 03-3022F	0.01 µg/L	1 L to 0.5 mL[5]	0.01 µg/L	Aroclor 1016	0.00248	44 – 117	--	--	≤ 40
				Aroclor 1260	0.00276	46 – 131	--	--	
				TCMX	--	--	31 – **100**	21 – **100**	
				DCBP	--	--	32 – 108	19 – 111	
TCLP Extract (Separatory Funnel Extraction – EPA Method 3510C)									
PCBWST 04-3023F	10 µg/L	100 to 10 mL	10 µg/L	Aroclor 1016	0.132[8]	30 – 160	--	--	≤ 40
				Aroclor 1260	0.165[8]	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	
Tissue Samples (Tissuemizer/Blender Extraction – EPA Method 3550C – Modified)									
PCBUZI 10-3027F	20 µg/L	10 g to 2 mL	20 µg/kg Wet	Aroclor 1016	2.92[6]	30 – 160	--	--	≤ 40
				Aroclor 1260	3.91[6]	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	
PCBUZL 11-3030F	4 µg/L	25 g to 1 mL	4 µg/kg Wet	Aroclor 1016	2.37[7]	30 – 160	--	--	≤ 40
				Aroclor 1260	1.06[7]	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	

(1) Limit of Quantitation as defined in ARI SOP 1018S. The spike concentration used to determine the LOD.
(2) Limit of Detection as defined in ARI SOP 1018S
(3) Highlighted control limits (**bold font**) are adjusted from the calculated values to reflect that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(4) Acceptance criteria for the relative percent difference (RPD) between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then $RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$

(5) Low level extraction solvent is Hexane instead of Methylene Chloride.
(6) LOD study SM10
(7) LOD Study QZ25
(8) Based on PCBWSI until sufficient TCLP data is collected to calculate an LOD.
(9) 30 – 160 are default limits used when there is insufficient data to calculate historic control limits

TR07 : 00014

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MDL/RL Summary for Conventional Analyses

MDL's and reporting limits are updated periodically. Assure you are using ARI's current detection limits by downloading the files at the time of use: http://www.arilabs.com/portal/downloads/ARI-MDLs.zip

					RL (ppm unless noted)	
Analyte	**ARI SOP**	**MDL Date**	**Spike Level (ppm)**	**MDL (ppm)**	**Water**	**Soil [4]**
Acidity	603S			NA	1.0	NA
Alkalinity	604S	12/29/08	10	0.37	1.0	NA
Ammonia (Auto. Phenate)	615S	1/2/09	0.01	0.0072	0.01	0.1
Ammonia (ISE)	616S	1/8/09	0.5	0.122	0.1	5.0
BOD	605S			NA	2.0	NA
Cation Exchange Capacity	607S			NA	NA	1 meq/100g
Chloride	612S	12/29/08	0.50	0.10	1.0	10.0
Chlorophyll a	608S			NA	1.0	NA
Chromium, Hexavalent	614S	1/9/09	0.050	0.003	0.01	0.1
COD	609S	1/8/09	25	7.3	5.0	NA
Coliform (total, fecal)	628S			NA	1 CFU/100 mL	NA
Color	610S			NA	5 Pt-Co Units	NA
Conductivity - Orion Meter	611S	1/9/09	3 µS	0.28 µS	1.0 µS	1.0 µS
Cyanide	601S	4/1/08	0.02	0.001	0.005	0.25
Cyanide WAD	601S	1/9/09	0.005	0.001	0.005	0.25
Dissolved Oxygen	632S			NA	0.1	NA
Fluoride (ISE)	623S	1/9/09	0.5	0.20	0.1	1.0
Hardness	626S			NA	0.33 [1]	NA
Iron (II), Ferrous	600S	1/9/09	0.050	0.003	0.04	NA
Nitrate	617S			NA	0.01	0.1
Nitrite	617S	12/31/08	0.015	0.003	0.01	0.1
Nitrate+Nitrite	617S	12/31/08	0.015	0.005	0.01	0.1
HEM Method 1664	648S	10/5/09	12.1	2.14	5.0	500 [2]
SGT-HEM Method 1664	648S	10/5/09	4.0	1.88	5.0	500 [2]
pH	618S			NA	0.01 Units	0.05 Units
Phenols	633S	12/30/08	0.06	0.035	0.04	0.4
Phosphorous (Total)	631S	1/6/09	0.05	0.004	0.008	0.4
Phosphorous (Ortho)	631S	1/23/09	0.01	0.001	0.004	0.04

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MDL/RL Summary for Conventional Analyses

MDL's and reporting limits are updated periodically. Assure you are using ARI's current detection limits by downloading the files at the time of use: http://www.arilabs.com/portal/downloads/ARI-MDLs.zip

					RL (ppm unless noted)	
Analyte	**ARI SOP**	**MDL Date**	**Spike Level (ppm)**	**MDL (ppm)**	**Water**	**Soil (4)**
Salinity	635S			NA	0.1 (g/Kg)	NA
Sulfide - Method 376.2	640S	4/12/07	0.15	0.026	0.05	1.0
Sulfide (Acid Volatile)	640S	1/29/07	0.014	0.045	0.135	1.0
Sulfide (PSEP)	640S	1/29/09	0.25	0.348	0.45	1.0
Sulfide (EPA Method 9030)	640S	1/6/09	0.5	0.10	0.30	1.0
Sulfate	637S	12/29/08	3.0	0.13	2.0	20.0
Sulfite	641S	4/3/08	5.0	1.4	2.0 (5)	NA
TIC – Inorganic Carbon		1/11/08	5.0	0.434	1.5	NA
TKN (EPA Method 351.4 – ISE)	642S	1/6/09	0.6	0.54	0.3	0.3
TKN (EPA Method 351.2 – FIA)	654S				0.3	0.3
TOC - Aqueous	602S	1/9/09	1.00	0.15	1.5	NA
TOC – Solid(3)	602S	1/8/09	0.005%	0.0029%	NA	0.02%
Total Solids	639S			NA	5.0	0.01%
Total Suspended Solids	639S			NA	1.0	NA
Total Dissolved Solids	639S			NA	5.0	NA
Total Volatile Solids	639S			NA	5.0	0.01%
Total Settleable Solids	639S			NA	0.1	NA
Turbidity	643S			NA	0.05 NTU	NA

Method Detection Limit (MDL) studies are performed in accordance with 40 CFR Part 136, Appendix B.
Reporting Limit (RL) is defined as the lowest value at which qualitative detection of a given analyte is reported.
The RL is based on the MDL, method efficiency, and analyte response.

(1) Calculated using Ca and Mg RL from ICP analyses of water.
(2) HEM Reporting Limit based on a 10 g sample size
(3) TOC MDL study performed using muffled (500℃ fo r 1 hr) Ottawa sand.
(4) RL assumes 100% solids
(5) An RL for sulfite is calculated for each analytical batch using blank data and is typically between 1 and 2 ppm.

PCB Analysis
Report and Summary QC Forms

ARI Job ID: TR07

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: SW0010
SAMPLE

Lab Sample ID: TR07A
LIMS ID: 11-23128
Matrix: Water
Data Release Authorized:
Reported: 10/12/11

QC Report No: TR07-Integral Consulting, Inc.
Project: Slip 4 EAA
A000614L
Date Sampled: 10/11/11
Date Received: 10/11/11

Date Extracted: 10/11/11
Date Analyzed: 10/12/11 14:05
Instrument/Analyst: ECD7/VTS
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	72.0%
Tetrachlorometaxylene	61.5%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: SW0011
SAMPLE

Lab Sample ID: TR07B
LIMS ID: 11-23129
Matrix: Water
Data Release Authorized:
Reported: 10/12/11

QC Report No: TR07-Integral Consulting, Inc.
Project: Slip 4 EAA
A000614L
Date Sampled: 10/11/11
Date Received: 10/11/11

Date Extracted: 10/11/11
Date Analyzed: 10/12/11 14:28
Instrument/Analyst: ECD7/VTS
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	65.0%
Tetrachlorometaxylene	55.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: TR07-Integral Consulting, Inc.
Project: Slip 4 EAA
A000614L

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-101111	54.2%	32-108	41.0%	31-100	0
LCS-101111	53.8%	32-108	44.5%	31-100	0
LCSD-101111	52.0%	32-108	47.5%	31-100	0
SW0010	72.0%	19-111	61.5%	21-100	0
SW0011	65.0%	19-111	55.8%	21-100	0

Prep Method: SW3510C
Log Number Range: 11-23128 to 11-23129

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: LCS-101111
LCS/LCSD

Lab Sample ID: LCS-101111
LIMS ID: 11-23128
Matrix: Water
Data Release Authorized:
Reported: 10/12/11

QC Report No: TR07-Integral Consulting, Inc.
Project: Slip 4 EAA
A000614L
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 10/11/11

Date Analyzed LCS: 10/12/11 13:19
LCSD: 10/12/11 13:42
Instrument/Analyst LCS: ECD7/VTS
LCSD: ECD7/VTS
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1000 mL
LCSD: 1000 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	0.029	0.050	58.0%	0.034	0.050	68.0%	15.9%
Aroclor 1260	0.029	0.050	58.0%	0.029	0.050	58.0%	0.0%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	53.8%	52.0%
Tetrachlorometaxylene	44.5%	47.5%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

FORM III

PCB METHOD BLANK SUMMARY

BLANK NO.

TR07MBW1

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL

ARI Job No.: TR07

Project: SLIP 4 EAA

Lab Sample ID: TR07MBW1

Lab File ID: 1010A131

Date Extracted: 10/11/11

Matrix: LIQUID

Date Analyzed: 10/12/11

Instrument ID: ECD7

Time Analyzed: 1256

GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	TR07LCSW1	TR07LCSW1	10/12/11
02	TR07LCSDW1	TR07LCSDW1	10/12/11
03	SW0010	TR07A	10/12/11
04	SW0011	TR07B	10/12/11

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: MB-101111
METHOD BLANK

Lab Sample ID: MB-101111
LIMS ID: 11-23128
Matrix: Water
Data Release Authorized:
Reported: 10/12/11

QC Report No: TR07-Integral Consulting, Inc.
Project: Slip 4 EAA
A000614L
Date Sampled: NA
Date Received: NA

Date Extracted: 10/11/11
Date Analyzed: 10/12/11 12:56
Instrument/Analyst: ECD7/VTS
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	54.2%
Tetrachlorometaxylene	41.0%

FORM I

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL CONSULTING INC

ARI Job No.: TR07

Project: SLIP 4 EAA

GC Column: ZB5

Instrument ID: ECD7

Calibration Date: 09/22/11

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 6.20- 6.40	0.9291	0.9471	1.0142	1.0592	1.0632	1.0735	1.0144	6.2
DCB 14.78-14.98	0.9392	1.0612	1.1209	1.1161	1.1156	1.1210	1.0790	6.7

Aroclor-1016 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 8.21- 8.41	0.0261	0.0251	0.0256	0.0249	0.0241	0.0238	0.0249	3.5
2 8.69- 8.89	0.0881	0.0866	0.0889	0.0870	0.0840	0.0820	0.0861	3.0
3 8.87- 9.07	0.0357	0.0347	0.0349	0.0337	0.0321	0.0314	0.0338	5.1
4 9.00- 9.20	0.0270	0.0249	0.0242	0.0232	0.0223	0.0220	0.0239	7.8

AROCLOR AVERAGE %RSD = 4.8

Aroclor-1260 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 11.75-11.95	0.0830	0.0805	0.0821	0.0812	0.0788	0.0774	0.0805	2.6
2 12.36-12.56	0.0532	0.0537	0.0536	0.0525	0.0518	0.0502	0.0525	2.6
3 12.67-12.87	0.0522	0.0518	0.0534	0.0528	0.0523	0.0516	0.0523	1.3
4 13.41-13.61	0.0646	0.0640	0.0669	0.0662	0.0665	0.0660	0.0657	1.7
5 13.51-13.71	0.0249	0.0254	0.0265	0.0258	0.0257	0.0253	0.0256	2.1

AROCLOR AVERAGE %RSD = 2.1

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL CONSULTING INC

ARI Job No.: TR07

Project: SLIP 4 EAA

GC Column: ZB35

Instrument ID: ECD7

Calibration Date: 09/22/11

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 6.33- 6.53	1.0815	1.0384	1.0697	1.0701	1.0606	1.0579	1.0631	1.4
DCB 15.12-15.32	1.1505	1.0661	1.0631	1.0023	0.9879	0.9900	1.0433	6.1

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.47- 8.67	0.0499	0.0465	0.0451	0.0410	0.0384	0.0364	0.0429	12.1
2	9.20- 9.40	0.1038	0.0937	0.0921	0.0864	0.0824	0.0794	0.0896	9.9
3	9.62- 9.82	0.0265	0.0241	0.0239	0.0220	0.0210	0.0202	0.0230	10.2
4	9.73- 9.93	0.0316	0.0288	0.0280	0.0250	0.0236	0.0223	0.0265	13.1

AROCLOR AVERAGE %RSD = 11.3

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	13.20-13.40	0.0771	0.0696	0.0673	0.0609	0.0587	0.0563	0.0650	12.0
2	13.44-13.64	0.1459	0.1333	0.1320	0.1222	0.1206	0.1183	0.1287	8.1
3	13.93-14.13	0.0982	0.0888	0.0869	0.0789	0.0773	0.0749	0.0842	10.5
4	14.49-14.69	0.0335	0.0310	0.0306	0.0288	0.0274	0.0259	0.0295	9.3

AROCLOR AVERAGE %RSD = 10.0

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TR07 Project: SLIP 4 EAA

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 09/22/11

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	6.747	6.65- 6.85	0.01045
2	6.958	6.86- 7.06	0.00788
3	7.081	6.98- 7.18	0.02589

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	8.305	8.21- 8.41	0.00991
2	8.792	8.69- 8.89	0.03394
3	8.965	8.87- 9.07	0.01338
4	10.280	10.18-10.38	0.01190

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.308	8.21- 8.41	0.01949
2	8.796	8.70- 8.90	0.06750
3	8.969	8.87- 9.07	0.02619
4	10.587	10.49-10.69	0.02398

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.366	9.27- 9.47	0.02684
2	9.698	9.60- 9.80	0.03264
3	10.281	10.18-10.38	0.03891
4	10.587	10.49-10.69	0.03631

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL CONSULTING INC

ARI Job No.: TR07

Project: SLIP 4 EAA

GC Column: ZB5

Instrument ID: ECD7

Calibration Date: 09/22/11

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.348	10.25-10.45	0.04293
2	10.670	10.57-10.77	0.05925
3	11.055	10.95-11.15	0.03705
4	11.193	11.09-11.29	0.07151
5	11.911	11.81-12.01	0.04756

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.458	12.36-12.56	0.09107
2	12.774	12.67-12.87	0.07353
3	13.136	13.04-13.24	0.17284
4	13.607	13.51-13.71	0.06887
5	13.671	13.57-13.77	0.06987

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.607	13.51-13.71	0.18390
2	13.669	13.57-13.77	0.16825
3	13.992	13.89-14.09	0.14090
4	14.593	14.49-14.69	0.41953

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TR07 Project: SLIP 4 EAA

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 09/22/11

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	7.259	7.16- 7.36	0.01241
2	7.562	7.46- 7.66	0.00763
3	7.700	7.60- 7.80	0.02336
4	7.787	7.69- 7.89	0.00380

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	8.569	8.47- 8.67	0.01866
2	9.298	9.20- 9.40	0.03569
3	9.726	9.63- 9.83	0.00952
4	11.192	11.09-11.29	0.01583

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.568	8.47- 8.67	0.03240
2	9.297	9.20- 9.40	0.06783
3	9.725	9.63- 9.83	0.01784
4	11.189	11.09-11.29	0.02840

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.833	9.73- 9.93	0.03189
2	10.279	10.18-10.38	0.03516
3	10.828	10.73-10.93	0.03517
4	11.189	11.09-11.29	0.04518

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TR07 Project: SLIP 4 EAA

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 09/22/11

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.896	10.80-11.00	0.03471
2	11.066	10.97-11.17	0.04482
3	11.604	11.50-11.70	0.03531
4	11.756	11.66-11.86	0.07564
5	12.540	12.44-12.64	0.04571

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.860	12.76-12.96	0.08276
2	13.303	13.20-13.40	0.08178
3	13.540	13.44-13.64	0.15964
4	13.983	13.88-14.08	0.06989
5	14.035	13.93-14.13	0.10430

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.984	13.88-14.08	0.16123
2	14.038	13.94-14.14	0.15160
3	14.351	14.25-14.45	0.12125
4	14.939	14.84-15.04	0.36590

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL CONSULTING INC

ARI Job No.: TR07

Project: SLIP 4 EAA

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 09/22/11

Date Analyzed :10/12/11

Lab Standard ID: AR1248

Time Analyzed :1211

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.37	9.27	9.47	248.4	250.0	-0.6
Aroclor-1248-2	9.70	9.60	9.80	246.7	250.0	-1.3
Aroclor-1248-3	10.28	10.18	10.38	247.3	250.0	-1.1
Aroclor-1248-4	10.59	10.49	10.69	249.3	250.0	-0.3

AVERAGE %D = 0.8

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL CONSULTING INC

ARI Job No.: TR07

Project: SLIP 4 EAA

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 09/22/11

Date Analyzed :10/12/11

Lab Standard ID: AR1248

Time Analyzed :1211

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.83	9.73	9.93	242.9	250.0	-2.8
Aroclor-1248-2	10.28	10.18	10.38	237.2	250.0	-5.1
Aroclor-1248-3	10.83	10.73	10.93	237.8	250.0	-4.9
Aroclor-1248-4	11.19	11.09	11.29	241.3	250.0	-3.5

AVERAGE %D = 4.1

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: INTEGRAL CONSULTING INC

ARI Job No.: TR07
Project: SLIP 4 EAA

GC Column: ZB5
Intrument: ECD7

Init. Calib. Date: 09/22/11

Date Analyzed :10/12/11

Lab Standard ID: AR1660
Time Analyzed :1234

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.31	8.21	8.41	260.5	250.0	4.2
Aroclor-1016-2	8.79	8.69	8.89	259.7	250.0	3.9
Aroclor-1016-3	8.97	8.87	9.07	256.2	250.0	2.5
Aroclor-1016-4	9.10	9.00	9.20	250.5	250.0	0.2

AVERAGE %D = 2.7

Date Analyzed :10/12/11

Lab Standard ID: AR1660
Time Analyzed :1234

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.85	11.75	11.95	276.7	250.0	10.7
Aroclor-1260-2	12.46	12.36	12.56	278.2	250.0	11.3
Aroclor-1260-3	12.77	12.67	12.87	282.4	250.0	13.0
Aroclor-1260-4	13.51	13.41	13.61	286.8	250.0	14.7
Aroclor-1260-5	13.61	13.51	13.71	285.4	250.0	14.2

AVERAGE %D = 12.8

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TR07 Project: SLIP 4 EAA

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 09/22/11

Date Analyzed :10/12/11

Lab Standard ID: AR1660 Time Analyzed :1234

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.57	8.47	8.67	250.6	250.0	0.2
Aroclor-1016-2	9.30	9.20	9.40	250.6	250.0	0.2
Aroclor-1016-3	9.73	9.62	9.82	251.8	250.0	0.7
Aroclor-1016-4	9.83	9.73	9.93	246.7	250.0	-1.3

AVERAGE %D = 0.6

Date Analyzed :10/12/11

Lab Standard ID: AR1660 Time Analyzed :1234

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	13.30	13.20	13.40	262.7	250.0	5.1
Aroclor-1260-2	13.54	13.44	13.64	263.9	250.0	5.6
Aroclor-1260-3	14.03	13.93	14.13	271.4	250.0	8.6
Aroclor-1260-4	14.59	14.49	14.69	279.2	250.0	11.7

AVERAGE %D = 7.7

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL CONSULTING INC

ARI Job No.: TR07

Project: SLIP 4 EAA

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 09/22/11

Date Analyzed :10/12/11

Lab Standard ID: AR1254

Time Analyzed :1451

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.35	10.25	10.45	256.0	250.0	2.4
Aroclor-1254-2	10.67	10.57	10.77	255.6	250.0	2.2
Aroclor-1254-3	11.05	10.95	11.15	256.9	250.0	2.7
Aroclor-1254-4	11.19	11.09	11.29	256.6	250.0	2.6
Aroclor-1254-5	11.91	11.81	12.01	256.8	250.0	2.7

AVERAGE %D = 2.5

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL CONSULTING INC

ARI Job No.: TR07

Project: SLIP 4 EAA

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 09/22/11

Date Analyzed :10/12/11

Lab Standard ID: AR1254

Time Analyzed :1451

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.90	10.80	11.00	249.6	250.0	-0.1
Aroclor-1254-2	11.07	10.97	11.17	248.7	250.0	-0.5
Aroclor-1254-3	11.60	11.50	11.70	248.9	250.0	-0.4
Aroclor-1254-4	11.76	11.66	11.86	249.1	250.0	-0.3
Aroclor-1254-5	12.54	12.44	12.64	249.2	250.0	-0.3

AVERAGE %D = 0.3

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: INTEGRAL CONSULTING INC

ARI Job No.: TR07
Project: SLIP 4 EAA

GC Column: ZB5
Intrument: ECD7

Init. Calib. Date: 09/22/11

Date Analyzed :10/12/11

Lab Standard ID: AR1660
Time Analyzed :1514

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.31	8.21	8.41	256.1	250.0	2.4
Aroclor-1016-2	8.79	8.69	8.89	255.0	250.0	2.0
Aroclor-1016-3	8.97	8.87	9.07	251.8	250.0	0.7
Aroclor-1016-4	9.10	9.00	9.20	246.0	250.0	-1.6

AVERAGE %D = 1.7

Date Analyzed :10/12/11

Lab Standard ID: AR1660
Time Analyzed :1514

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.85	11.75	11.95	255.7	250.0	2.3
Aroclor-1260-2	12.46	12.36	12.56	258.0	250.0	3.2
Aroclor-1260-3	12.77	12.67	12.87	263.1	250.0	5.2
Aroclor-1260-4	13.51	13.41	13.61	271.6	250.0	8.6
Aroclor-1260-5	13.61	13.51	13.71	271.7	250.0	8.7

AVERAGE %D = 5.6

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: INTEGRAL CONSULTING INC

ARI Job No.: TR07
Project: SLIP 4 EAA

GC Column: ZB35
Intrument: ECD7

Init. Calib. Date: 09/22/11

Date Analyzed :10/12/11

Lab Standard ID: AR1660
Time Analyzed :1514

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.57	8.47	8.67	251.3	250.0	0.5
Aroclor-1016-2	9.30	9.20	9.40	250.0	250.0	-0.0
Aroclor-1016-3	9.72	9.62	9.82	251.2	250.0	0.5
Aroclor-1016-4	9.83	9.73	9.93	247.0	250.0	-1.2

AVERAGE %D = 0.6

Date Analyzed :10/12/11

Lab Standard ID: AR1660
Time Analyzed :1514

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	13.30	13.20	13.40	248.8	250.0	-0.5
Aroclor-1260-2	13.54	13.44	13.64	251.4	250.0	0.6
Aroclor-1260-3	14.03	13.93	14.13	261.2	250.0	4.5
Aroclor-1260-4	14.59	14.49	14.69	274.9	250.0	9.9

AVERAGE %D = 3.9

FORM VII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TR07 Project: SLIP 4 EAA

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 09/22/11

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	IS1 AREA	RT	IS2 AREA	RT
ICAL MIDPT	5056450	3.314	4060201	15.139
UPPER LIMIT	10112900	3.414	8120402	15.239
LOWER LIMIT	2528225	3.214	2030100	15.039

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	09/22/11	1546	5180147	3.311	4174393	15.139
02		0.25 PPM AR1	09/22/11	1609	5056450	3.314	4060201	15.139
03		0.02 PPM AR1	09/22/11	1632	5210231	3.313	4151038	15.140
04		0.05 PPM AR1	09/22/11	1655	5248267	3.311	4179904	15.140
05		1 PPM AR1660	09/22/11	1718	5090348	3.312	4128583	15.139
06		0.1 PPM AR16	09/22/11	1740	5290354	3.312	4278566	15.139
07		0.5 PPM AR16	09/22/11	1803	5232204	3.312	4222160	15.139
08		AR1242	09/22/11	1826	5272812	3.312	4271852	15.140
09		AR1248	09/22/11	1849	5196006	3.313	4268552	15.139
10		AR1254	09/22/11	1912	5247082	3.311	4311500	15.139
11		AR2162	09/22/11	1935	5203932	3.314	4298335	15.139
12		AR3268	09/22/11	1958	5189564	3.312	4306083	15.139
13	ZZZZZ	ZZZZZ	09/22/11	2021	5320462	3.312	4465934	15.139
14	ZZZZZ	ZZZZZ	09/22/11	2044	5224651	3.311	4325340	15.139
15	ZZZZZ	ZZZZZ	09/22/11	2106	5245643	3.311	4342720	15.139
16	ZZZZZ	ZZZZZ	09/22/11	2129	5282355	3.311	4422768	15.139
17	ZZZZZ	ZZZZZ	09/22/11	2152	5287808	3.311	4496425	15.139
18	ZZZZZ	ZZZZZ	09/22/11	2215	5234814	3.313	4410670	15.139
19		AR1248	10/12/11	1211	5317561	3.318	3900982	15.139
20		AR1660	10/12/11	1234	4561942	3.319	3401641	15.139
21	TR07MBW1	TR07MBW1	10/12/11	1256	7523591	3.317	6561909	15.139
22	TR07LCSW1	TR07LCSW1	10/12/11	1319	6815185	3.316	6445760	15.139
23	TR07LCSDW1	TR07LCSDW1	10/12/11	1342	6800085	3.315	7024978	15.139
24	SW0010	TR07A	10/12/11	1405	5361275	3.314	5027599	15.139
25	SW0011	TR07B	10/12/11	1428	6170348	3.315	6140746	15.139
26		AR1254	10/12/11	1451	5668313	3.317	4600592	15.140
27		AR1660	10/12/11	1514	4599163	3.316	3711435	15.139

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM VIII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING INC

ARI Job No.: TR07 Project: SLIP 4 EAA

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 09/22/11

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	IS1 AREA	RT	IS2 AREA	RT
ICAL MIDPT	7809454	4.177	5725568	15.808
UPPER LIMIT	15618908	4.277	11451136	15.908
LOWER LIMIT	3904727	4.077	2862784	15.708

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	09/22/11	1546	7964318	4.175	5907034	15.808
02		0.25 PPM AR1	09/22/11	1609	7809454	4.177	5725568	15.808
03		0.02 PPM AR1	09/22/11	1632	8017473	4.176	5870121	15.809
04		0.05 PPM AR1	09/22/11	1655	8084445	4.174	5920027	15.809
05		1 PPM AR1660	09/22/11	1718	7766048	4.175	5821657	15.809
06		0.1 PPM AR16	09/22/11	1740	8159946	4.175	6031834	15.809
07		0.5 PPM AR16	09/22/11	1803	7989514	4.175	5928067	15.808
08		AR1242	09/22/11	1826	8109687	4.175	5984583	15.809
09		AR1248	09/22/11	1849	7992397	4.175	5991342	15.808
10		AR1254	09/22/11	1912	8088675	4.174	6030479	15.808
11		AR2162	09/22/11	1935	7907003	4.177	6052713	15.808
12		AR3268	09/22/11	1958	8027898	4.175	6050077	15.808
13	ZZZZZ	ZZZZZ	09/22/11	2021	8271463	4.175	6256883	15.808
14	ZZZZZ	ZZZZZ	09/22/11	2044	8102476	4.175	6096962	15.808
15	ZZZZZ	ZZZZZ	09/22/11	2106	8085103	4.174	6150436	15.809
16	ZZZZZ	ZZZZZ	09/22/11	2129	8192674	4.175	6240807	15.808
17	ZZZZZ	ZZZZZ	09/22/11	2152	8146644	4.175	6294647	15.807
18	ZZZZZ	ZZZZZ	09/22/11	2215	8073184	4.175	6216232	15.808
19		AR1248	10/12/11	1211	8540105	4.176	5658843	15.805
20		AR1660	10/12/11	1234	7284637	4.176	4980037	15.805
21	TR07MBW1	TR07MBW1	10/12/11	1256	11973572	4.175	9256836	15.806
22	TR07LCSW1	TR07LCSW1	10/12/11	1319	10694642	4.174	9076120	15.806
23	TR07LCSDW1	TR07LCSDW1	10/12/11	1342	10729683	4.174	9809213	15.805
24	SW0010	TR07A	10/12/11	1405	8697707	4.173	7095602	15.806
25	SW0011	TR07B	10/12/11	1428	9447073	4.175	8561136	15.805
26		AR1254	10/12/11	1451	9077543	4.174	6618616	15.806
27		AR1660	10/12/11	1514	7302598	4.174	5400229	15.806

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM VIII PCB

General Chemistry Analysis
Report and Summary QC Forms

ARI Job ID: TR07

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
Total Suspended Solids by Method EPA 160.2

Data Release Authorized:
Reported: 10/13/11
Date Received: 10/11/11

QC Report No: TR07-Integral Consulting, Inc.
Project: Slip 4 EAA
A000614L

Client/ ARI ID	Date Sampled	Matrix	Analysis Date & Batch	RL	Result
SW0010 TR07A 11-23128	10/11/11	Water	10/12/11 12:16 101211#1	1.1	11.1
SW0011 TR07B 11-23129	10/11/11	Water	10/12/11 12:16 101211#1	1.1	10.7

Reported in mg/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

LAB CONTROL RESULTS-CONVENTIONALS
TR07-Integral Consulting, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 10/13/11

Project: Slip 4 EAA
Event: A000614L
Date Sampled: NA
Date Received: NA

Analyte	Date/Time	Units	LCS	Spike Added	Recovery
Total Suspended Solids	10/12/11 12:16	mg/L	48.5	50.0	97.0%

METHOD BLANK RESULTS-CONVENTIONALS
TR07-Integral Consulting, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 10/13/11

Project: Slip 4 EAA
Event: A000614L
Date Sampled: NA
Date Received: NA

Analyte	Date/Time	Units	Blank
Total Suspended Solids	10/12/11 12:16	mg/L	< 1.0 U

PCB Raw Data
Extraction Bench Sheets and Notes

ARI Job ID: TR07

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Benchsheet

PCB – Water
Separatory Funnel (3510C) (SOP # 3311S)

Preparation Test PCB Low Level # 3 (PCBWSL) Low Level (0.01ppb)

ARI Job No(s) TR07 Batch set up by: JH

Bottle #	ARI Sample I.D.	Verify Client ID	Volume Extracted	PH 5-9 Y/N	KD	Turbo Vap 1 2 3	(REQ) Acid Clean (1:1)	(REQ) Sulfur Clean 1 2 3 (1:1)	(REQ) Silica Gel Clean (1:1)	Turbo Vap 1 2 3	Final Effective Volume	Volume to Lab	Comments
	TR07 MBW	Date M	1000mL				4mL	4mL	1mL		0.5mL	0.5mL	
	SBW	10/4/11	↓				↓	↓	↓		↓	↓	
	SBW Dup.	↓	↓				↓	↓	↓		↓	↓	
	~~QLS~~		↓				↓	↓	↓		↓	↓	
2	TR07 A	Checked											
↓	↓ B	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	

23128

Analyst/Date: WC/NR 10/4/11 SP/KL 10/11/11 CJZ 10/12/11

Standard	Standard ID	Volume	Expiration Date	Analyst	Witness
Surrogate	D3	100µL	12/16/11	M	AC
Spike	13	25µL	1/31/12	M	AC
~~QLS Spike~~	~~23~~	~~50µL~~			

Extraction Time: 15:10

SPECIAL INSTRUCTIONS: 1. Rinse all glassware with Low Level Hexane. 2. Verify pH.

3. Adjust pH (if necessary=Analyst Notes). 4. Add Surr/Spike. 5. Extract 3X with 60mL Low Level Hexane.

6. KD (NO Drying Column) at 100°. RINSE SNYDER COLUMNS WITH LOW LEVEL HEXANE 7. TurboVap.

8. Clean-ups=Transfer Rinse. 9. TurboVap. 10. Vial with Low Level Hexane.

A. Archive Y/ N

PCB Raw Data
Initial Calibration

ARI Job ID: TR07

Analytical Resources, Incorporated
Analytical Chemists and Consultants

GC Analyst Notes / Corrective Action Log

ARI Project ID: _____ Client ID: _____

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): PCBs TCMX DCB

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: 09/22/11 Analysis Start: 09/22/11

Endrin/DDT Breakdown <15%? YES / NO / NA

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 / 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: _____ **Date:** 09/23/11

Reviewer: _____ **Date:** 9/23/11

Form 4060F Version 007 TR07 : 00049 6/18/10

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

Method File: /chem2/ecd7.i/20110922.B/PCB1.m
Batch File: /chem2/ecd7.i/20110922.B/ical-1.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	0922A005	0922A006	0922A007	0922A008	0922A009	0922A010
INJ.DATE:	22-SEP-2011	22-SEP-2011	22-SEP-2011	22-SEP-2011	22-SEP-2011	22-SEP-2011
INJ.TIME:	16:09	16:32	16:55	17:18	17:40	18:03

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	3.314	3.313	3.311	3.312	3.312	3.312	3.312	3.212-3.412	3.312	0.001
$ 1 Tetrachloro-m-xylene	6.293	6.293	6.292	6.293	6.293	6.293	6.292	6.192-6.392	6.293	0.000
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	6.747	6.647-6.847	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	8.305	8.205-8.405	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	8.305	8.205-8.405	+++++	+++++
7 Aroclor-1016	8.306	8.306	8.305	8.305	8.306	8.306	8.306	8.206-8.406	8.306	0.000
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	9.364	9.264-9.464	+++++	+++++
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	10.346	10.246-10.446	+++++	+++++
9 Aroclor-1260	11.853	11.853	11.853	11.852	11.853	11.853	11.853	11.753-11.953	11.853	0.000
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	12.458	12.358-12.558	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	13.607	13.507-13.707	+++++	+++++
$ 13 Decachlorobiphenyl	14.885	14.885	14.884	14.884	14.885	14.885	14.884	14.784-14.984	14.885	0.000
* 12 IS-HBBP	15.139	15.140	15.140	15.139	15.139	15.139	15.140	15.040-15.240	15.139	0.000
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	10.633	10.583-10.683	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	11.198	11.148-11.248	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	11.709	11.659-11.759	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	11.072	10.972-11.172	+++++	+++++

Reviewer 1 _____ Date: 09/23/11
Reviewer 2 _____ Date: 9/23/11

000050

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

Method File: /chem2/ecd7.i/20110922.B/PCB1.m
Batch File: /chem2/ecd7.i/20110922.B/ical-1.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	11.653	11.553-11.753	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	12.168	12.068-12.268	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

TR07 : 00051

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

Method File: /chem2/ecd7.i/20110922.B/PCB2.m
Batch File: /chem2/ecd7.i/20110922.B/ical-2.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	0922A005	0922A006	0922A007	0922A008	0922A009	0922A010
INJ.DATE:	22-SEP-2011	22-SEP-2011	22-SEP-2011	22-SEP-2011	22-SEP-2011	22-SEP-2011
INJ.TIME:	16:09	16:32	16:55	17:18	17:40	18:03

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 40 IS-BNB	4.177	4.176	4.174	4.175	4.175	4.175	4.175	4.075-4.275	4.175	0.001
$ 2 Tetrachloro-m-xylene	6.432	6.432	6.430	6.432	6.430	6.431	6.431	6.331-6.531	6.431	0.001
1 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	7.259	7.159-7.359	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	8.569	8.469-8.669	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	8.568	8.468-8.668	+++++	+++++
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	9.833	9.733-9.933	+++++	+++++
7 Aroclor-1016	8.569	8.569	8.569	8.569	8.568	8.569	8.569	8.469-8.669	8.569	0.001
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	10.897	10.797-10.997	+++++	+++++
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	12.860	12.760-12.960	+++++	+++++
9 Aroclor-1260	13.304	13.305	13.304	13.304	13.304	13.304	13.304	13.204-13.404	13.304	0.000
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	13.984	13.884-14.084	+++++	+++++
$ 13 Decachlorobiphenyl	15.225	15.225	15.225	15.225	15.225	15.225	15.225	15.125-15.325	15.225	0.000
* 12 IS-HBBP	15.808	15.809	15.809	15.809	15.809	15.808	15.808	15.708-15.908	15.809	0.000
41 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	11.162	11.112-11.212	+++++	+++++
42 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	11.853	11.803-11.903	+++++	+++++
44 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	11.546	11.446-11.646	+++++	+++++
45 4,4-DDD/2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	12.306	12.206-12.406	+++++	+++++

Reviewer 1 _____ Date: 09/23/11
Reviewer 2 _____ Date: 9/23/11

IB7 00052

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

Method File: /chem2/ecd7.i/20110922.B/PCB2.m
Batch File: /chem2/ecd7.i/20110922.B/ical-2.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
46 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	12.748	12.648-12.848	+++++	+++++
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.703	1.603-1.803	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	7.117	7.017-7.217	+++++	+++++

TR07 : 00053

MANUAL INTEGRATION SUMMARY FOR DATABATCH - /chem2/ecd7.i/20110922.B/ical-2.b

ARI Job No.: IB Method: PCB2.m Instrument: ecd7.i Date: 22-SEP-2011

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1546	0922A004.d	IB		1	NO MANUAL INTEGRATION
1609	0922A005.d	0.25 PPM	AR1660	1	NO MANUAL INTEGRATION
1632	0922A006.d	0.02 PPM	AR1660	1	NO MANUAL INTEGRATION
1655	0922A007.d	0.05 PPM	AR1660	1	NO MANUAL INTEGRATION
1718	0922A008.d	1 PPM	AR1660	1	NO MANUAL INTEGRATION
1740	0922A009.d	0.1 PPM	AR1660	1	NO MANUAL INTEGRATION
1803	0922A010.d	0.5 PPM	AR1660	1	NO MANUAL INTEGRATION
1826	0922A011.d	AR1242		1	NO MANUAL INTEGRATION
1849	0922A012.d	AR1248		1	NO MANUAL INTEGRATION
1912	0922A013.d	AR1254		1	NO MANUAL INTEGRATION
1935	0922A014.d	AR2162		1	NO MANUAL INTEGRATION
1958	0922A015.d	AR3268		1	NO MANUAL INTEGRATION
2021	0922A016.d	AR1660	ICV	1	NO MANUAL INTEGRATION
2044	0922A017.d	AR1242	ICV	1	NO MANUAL INTEGRATION
2106	0922A018.d	AR1248	ICV	1	NO MANUAL INTEGRATION
2129	0922A019.d	AR1254	ICV	1	NO MANUAL INTEGRATION
2152	0922A020.d	AR2162	ICV	1	NO MANUAL INTEGRATION
2215	0922A021.d	AR3268	ICV	1	NO MANUAL INTEGRATION
1546	0922A004.d	IB		1	NO MANUAL INTEGRATION
1609	0922A005.d	0.25 PPM	AR1660	1	NO MANUAL INTEGRATION
1632	0922A006.d	0.02 PPM	AR1660	1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - /chem2/ecd7.i/20110922.B/ical-2.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1655	0922A007.d	0.05 PPM AR1660		1	NO MANUAL INTEGRATION
1718	0922A008.d	1 PPM AR1660		1	NO MANUAL INTEGRATION
1740	0922A009.d	0.1 PPM AR1660		1	NO MANUAL INTEGRATION
1803	0922A010.d	0.5 PPM AR1660		1	NO MANUAL INTEGRATION
1826	0922A011.d	AR1242		1	NO MANUAL INTEGRATION
1849	0922A012.d	AR1248		1	NO MANUAL INTEGRATION
1912	0922A013.d	AR1254		1	NO MANUAL INTEGRATION
1935	0922A014.d	AR2162		1	NO MANUAL INTEGRATION
1958	0922A015.d	AR3268		1	NO MANUAL INTEGRATION
2021	0922A016.d	AR1660 ICV		1	NO MANUAL INTEGRATION
2044	0922A017.d	AR1242 ICV		1	NO MANUAL INTEGRATION
2106	0922A018.d	AR1248 ICV		1	NO MANUAL INTEGRATION
2129	0922A019.d	AR1254 ICV		1	NO MANUAL INTEGRATION
2152	0922A020.d	AR2162 ICV		1	NO MANUAL INTEGRATION
2215	0922A021.d	AR3268 ICV		1	NO MANUAL INTEGRATION

TR97.00055

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB2.m
Cal Date : 23-Sep-2011 12:25 jrains
Curve Type : Average

Calibration File Names:
Level 1: /chem2/ecd7.i/20110922.B/ical-2.b/0922A006.d
Level 2: /chem2/ecd7.i/20110922.B/ical-2.b/0922A007.d
Level 3: /chem2/ecd7.i/20110922.B/ical-2.b/0922A009.d
Level 4: /chem2/ecd7.i/20110922.B/ical-2.b/0922A005.d
Level 5: /chem2/ecd7.i/20110922.B/ical-2.b/0922A010.d
Level 6: /chem2/ecd7.i/20110922.B/ical-2.b/0922A008.d
Level 7: /chem2/ecd7.i/20110922.B/ical-2.b/0922A015.d
Level 8: /chem2/ecd7.i/20110922.B/ddts-2.b/0922A022.d

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
1 Aroclor-1221(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01241	+++++					0.01241	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00763	+++++					0.00763	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02336	+++++					0.02336	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00380	+++++					0.00380	0.000
4 Aroclor-1232(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01866	+++++					0.01866	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03569	+++++					0.03569	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB2.m
Cal Date : 23-Sep-2011 12:25 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00952	+++++					0.00952	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01583	+++++					0.01583	0.000
3 Aroclor-1242(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03240	+++++					0.03240	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06783	+++++					0.06783	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01784	+++++					0.01784	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02840	+++++					0.02840	0.000
6 Aroclor-1248(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03189	+++++					0.03189	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03516	+++++					0.03516	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03517	+++++					0.03517	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB2.m
Cal Date : 23-Sep-2011 12:25 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04518	+++++					0.04518	0.000
7 Aroclor-1016(1)	0.04992	0.04654	0.04510	0.04096	0.03843	0.03639		
	+++++	+++++					0.04289	12.050
(2)	0.10381	0.09371	0.09212	0.08638	0.08238	0.07943		
	+++++	+++++					0.08964	9.868
(3)	0.02654	0.02410	0.02388	0.02197	0.02104	0.02017		
	+++++	+++++					0.02295	10.216
(4)	0.03155	0.02875	0.02799	0.02504	0.02357	0.02235		
	+++++	+++++					0.02654	13.131
8 Aroclor-1254(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03471	+++++					0.03471	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04482	+++++					0.04482	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03531	+++++					0.03531	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.07564	+++++					0.07564	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB2.m
Cal Date : 23-Sep-2011 12:25 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(5)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04571	+++++					0.04571	0.000
10 Aroclor-1262(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.08276	+++++					0.08276	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.08178	+++++					0.08178	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.15964	+++++					0.15964	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06989	+++++					0.06989	0.000
(5)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.10430	+++++					0.10430	0.000
9 Aroclor-1260(1)	0.07709	0.06959	0.06735	0.06087	0.05865	0.05630		
	+++++	+++++					0.06498	12.032
(2)	0.14590	0.13328	0.13205	0.12217	0.12063	0.11830		
	+++++	+++++					0.12872	8.104
(3)	0.09823	0.08883	0.08686	0.07889	0.07726	0.07490		
	+++++	+++++					0.08416	10.469

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB2.m
Cal Date : 23-Sep-2011 12:25 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(4)	0.03353	0.03102	0.03058	0.02876	0.02738	0.02590		
	++++++	++++++					0.02953	9.298
11 Aroclor-1268(1)	++++++	++++++	++++++	++++++	++++++	++++++		
	0.16123	++++++					0.16123	0.000
(2)	++++++	++++++	++++++	++++++	++++++	++++++		
	0.15160	++++++					0.15160	0.000
(3)	++++++	++++++	++++++	++++++	++++++	++++++		
	0.12125	++++++					0.12125	0.000
(4)	++++++	++++++	++++++	++++++	++++++	++++++		
	0.36590	++++++					0.36590	0.000
41 2,4-DDE	++++++	++++++	++++++	++++++	++++++	++++++		
	++++++	666					666	0.000
42 2,4-DDD	++++++	++++++	++++++	++++++	++++++	++++++		
	++++++	574					574	0.000
44 4,4-DDE	++++++	++++++	++++++	++++++	++++++	++++++		
	++++++	1073					1073	0.000
45 4,4-DDD/2,4-DDT	++++++	++++++	++++++	++++++	++++++	++++++		
	++++++	805					805	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB2.m
Cal Date : 23-Sep-2011 12:25 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
46 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	936					936	0.000
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
$ 2 Tetrachloro-m-xylene	1.08154	1.03845	1.06974	1.07010	1.06059	1.05793		
	+++++	+++++					1.06306	1.379
$ 13 Decachlorobiphenyl	1.15053	1.06609	1.06307	1.00227	0.98791	0.98996		
	+++++	+++++					1.04331	6.063

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB1.m
Cal Date : 23-Sep-2011 12:29 jrains
Curve Type : Average

Calibration File Names:
Level 1: /chem2/ecd7.i/20110922.B/ical-1.b/0922A006.d
Level 2: /chem2/ecd7.i/20110922.B/ical-1.b/0922A007.d
Level 3: /chem2/ecd7.i/20110922.B/ical-1.b/0922A009.d
Level 4: /chem2/ecd7.i/20110922.B/ical-1.b/0922A005.d
Level 5: /chem2/ecd7.i/20110922.B/ical-1.b/0922A010.d
Level 6: /chem2/ecd7.i/20110922.B/ical-1.b/0922A008.d
Level 7: /chem2/ecd7.i/20110922.B/ical-1.b/0922A015.d
Level 8: /chem2/ecd7.i/20110922.B/ddts-1.b/0922A022.d

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
2 Aroclor-1221(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01045	+++++					0.01045	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00788	+++++					0.00788	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02589	+++++					0.02589	0.000
3 Aroclor-1242(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01949	+++++					0.01949	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06750	+++++					0.06750	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02619	+++++					0.02619	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB1.m
Cal Date : 23-Sep-2011 12:29 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02398	+++++					0.02398	0.000
4 Aroclor-1232(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00991	+++++					0.00991	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03394	+++++					0.03394	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01338	+++++					0.01338	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01190	+++++					0.01190	0.000
7 Aroclor-1016(1)	0.02607	0.02506	0.02558	0.02492	0.02409	0.02377		
	+++++	+++++					0.02491	3.483
(2)	0.08814	0.08660	0.08891	0.08700	0.08395	0.08201		
	+++++	+++++					0.08610	3.049
(3)	0.03573	0.03472	0.03490	0.03368	0.03212	0.03135		
	+++++	+++++					0.03375	5.065
(4)	0.02702	0.02487	0.02417	0.02322	0.02227	0.02203		
	+++++	+++++					0.02393	7.791

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB1.m
Cal Date : 23-Sep-2011 12:29 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
6 Aroclor-1248(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02684	+++++					0.02684	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03264	+++++					0.03264	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03891	+++++					0.03891	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03631	+++++					0.03631	0.000
8 Aroclor-1254(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04293	+++++					0.04293	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.05925	+++++					0.05925	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03705	+++++					0.03705	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.07151	+++++					0.07151	0.000
(5)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04756	+++++					0.04756	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB1.m
Cal Date : 23-Sep-2011 12:29 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
9 Aroclor-1260(1)	0.08304	0.08051	0.08209	0.08123	0.07879	0.07745		
	+++++	+++++					0.08052	2.590
(2)	0.05322	0.05368	0.05365	0.05250	0.05176	0.05018		
	+++++	+++++					0.05250	2.580
(3)	0.05220	0.05179	0.05341	0.05279	0.05233	0.05156		
	+++++	+++++					0.05235	1.287
(4)	0.06456	0.06404	0.06686	0.06621	0.06650	0.06600		
	+++++	+++++					0.06569	1.721
(5)	0.02487	0.02544	0.02647	0.02583	0.02568	0.02530		
	+++++	+++++					0.02560	2.117
10 Aroclor-1262(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.09107	+++++					0.09107	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.07353	+++++					0.07353	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.17284	+++++					0.17284	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06887	+++++					0.06887	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB1.m
Cal Date : 23-Sep-2011 12:29 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(5)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06987	+++++					0.06987	0.000
11 Aroclor-1268(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.18390	+++++					0.18390	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.16825	+++++					0.16825	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.14090	+++++					0.14090	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.41953	+++++					0.41953	0.000
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	714					714	0.000
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	624					624	0.000
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	826					826	0.000
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	1177					1177	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB1.m
Cal Date : 23-Sep-2011 12:29 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	948					948	0.000
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	1039					1039	0.000
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
$ 1 Tetrachloro-m-xylene	0.92910	0.94715	1.01417	1.05917	1.06316	1.07354		
	+++++	+++++					1.01438	6.184
$ 13 Decachlorobiphenyl	0.93925	1.06120	1.12093	1.11610	1.11556	1.12105		
	+++++	+++++					1.07901	6.694

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A004.d
Data file 2: 20110922.B/ical-2.b/0922A004.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: IB
Client ID:
Injection Date: 22-SEP-2011 15:46
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.001	3201984	6.431	0.001	4986764	48.7	47.1	3.4	Tetrachloro-m-xyle
14.884	0.000	2534821	15.225	0.000	3185326	45.0	41.3	8.5	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	121.9	117.8
Decachlorobiphenyl	112.6	103.4

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5180147	2.4
Hexabromobiphenyl	4060201	4174393	2.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7964318	2.0
Hexabromobiphenyl	5725568	5907034	3.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

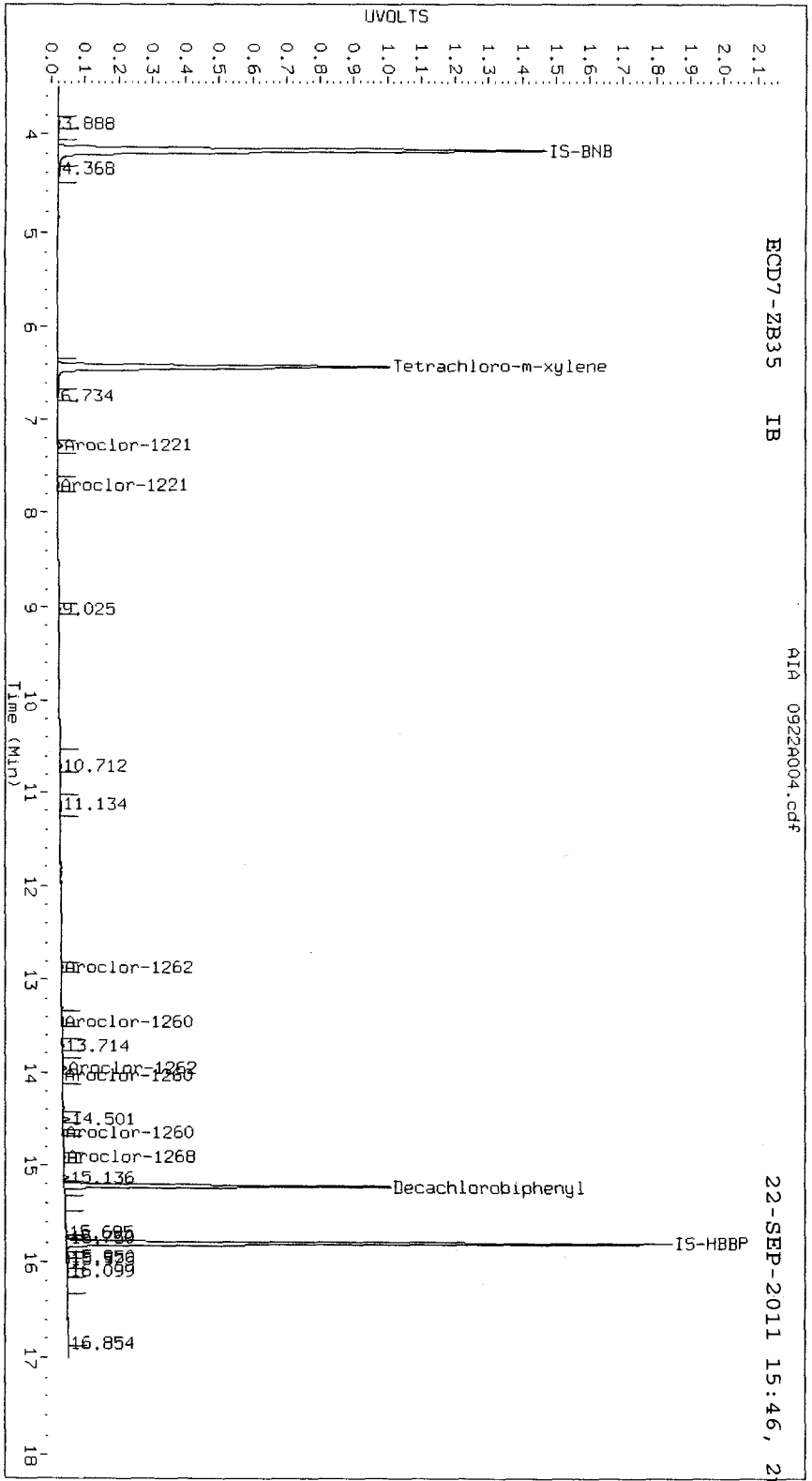
Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	7.278	0.019	59276	48.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	7.706	0.006	11573	5.0
Aroclor-1221	NS	---			----	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	---			0.0	3	---			0.0
Aroclor-1254	4	---			0.0	4	---			0.0
Aroclor-1254	5	---			0.0	5	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	---			0.0	1	---			0.0
Aroclor-1260	2	---			0.0	2	13.452	-0.089	11965	1.3
Aroclor-1260	3	---			0.0	3	14.034	-0.001	10472	1.7
Aroclor-1260	4	---			0.0	4	14.643	0.054	13207	6.1
Aroclor-1260	5	---			0.0	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: 3.0				
Aroclor-1262	1	---			0.0	1	12.868	0.008	15222	2.5
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	13.452	-0.087	11965	1.0
Aroclor-1262	4	---			0.0	4	13.955	-0.028	57201	11.1
Aroclor-1262	5	---			0.0	5	14.034	-0.001	10472	1.4
	Col1Ave: <3 Quant Peaks					Col2Ave: 4.0				
Aroclor-1268	1	---			0.0	1	13.955	-0.028	57201	4.8
Aroclor-1268	2	---			0.0	2	14.034	-0.005	10472	0.9
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	14.908	-0.031	11700	0.4
	Col1Ave: <3 Quant Peaks					Col2Ave: 2.1				

Total PCB Area Col1 (6.392 - 14.784) = 153129 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 393373 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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UVOLTS
Time (Min)
4.888
IS-BNB
4.368
Tetrachloro-m-xylene
6.734
Aroclor-1221
Aroclor-1221
9.025
10.712
11.134
Aroclor-1262
Aroclor-1260
13.714
Aroclor-1262
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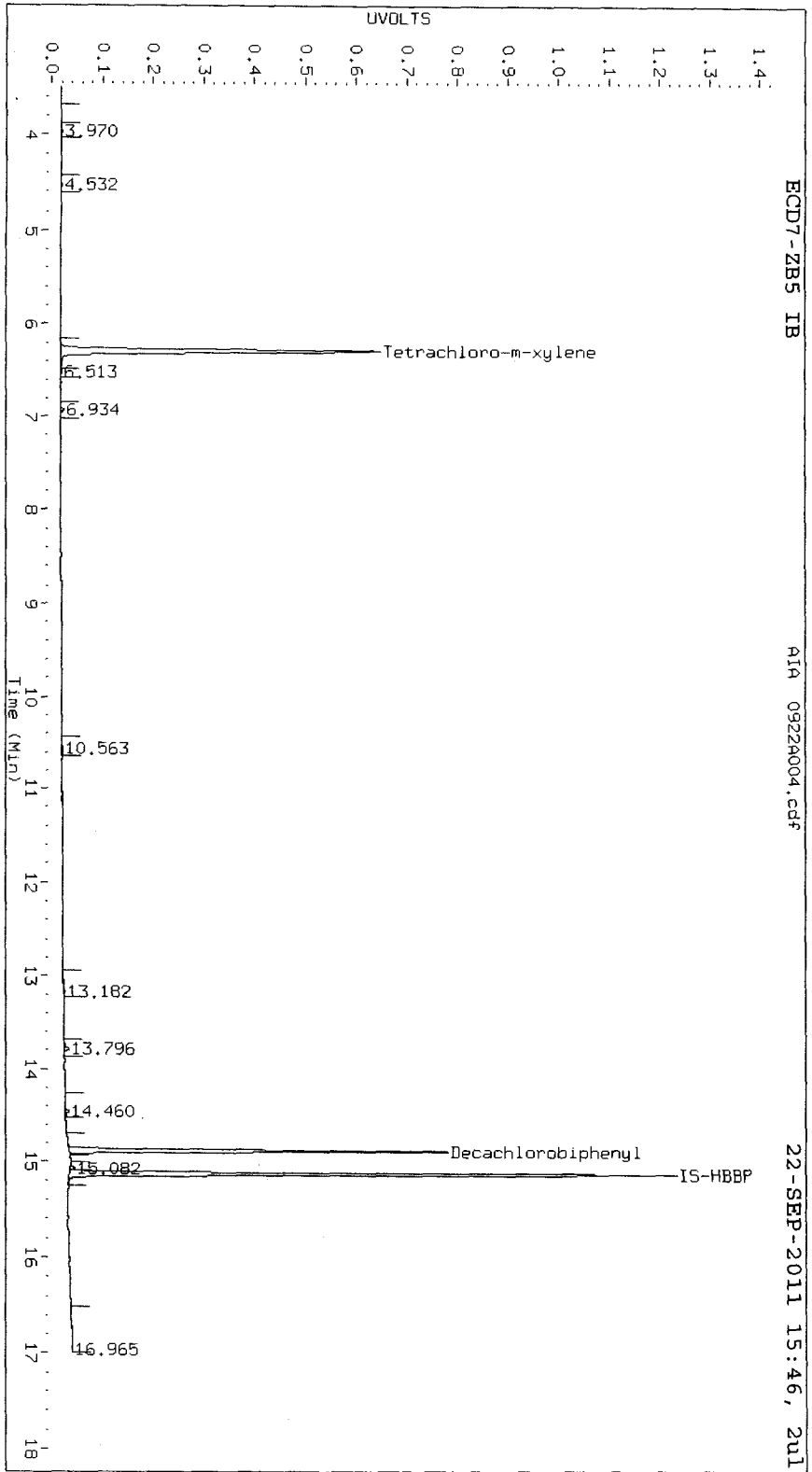
Aroclor-1268
15.136
Decachlorobiphenyl
IS-HBBP
16.854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Time (Min)
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4.532
Tetrachloro-m-xylene
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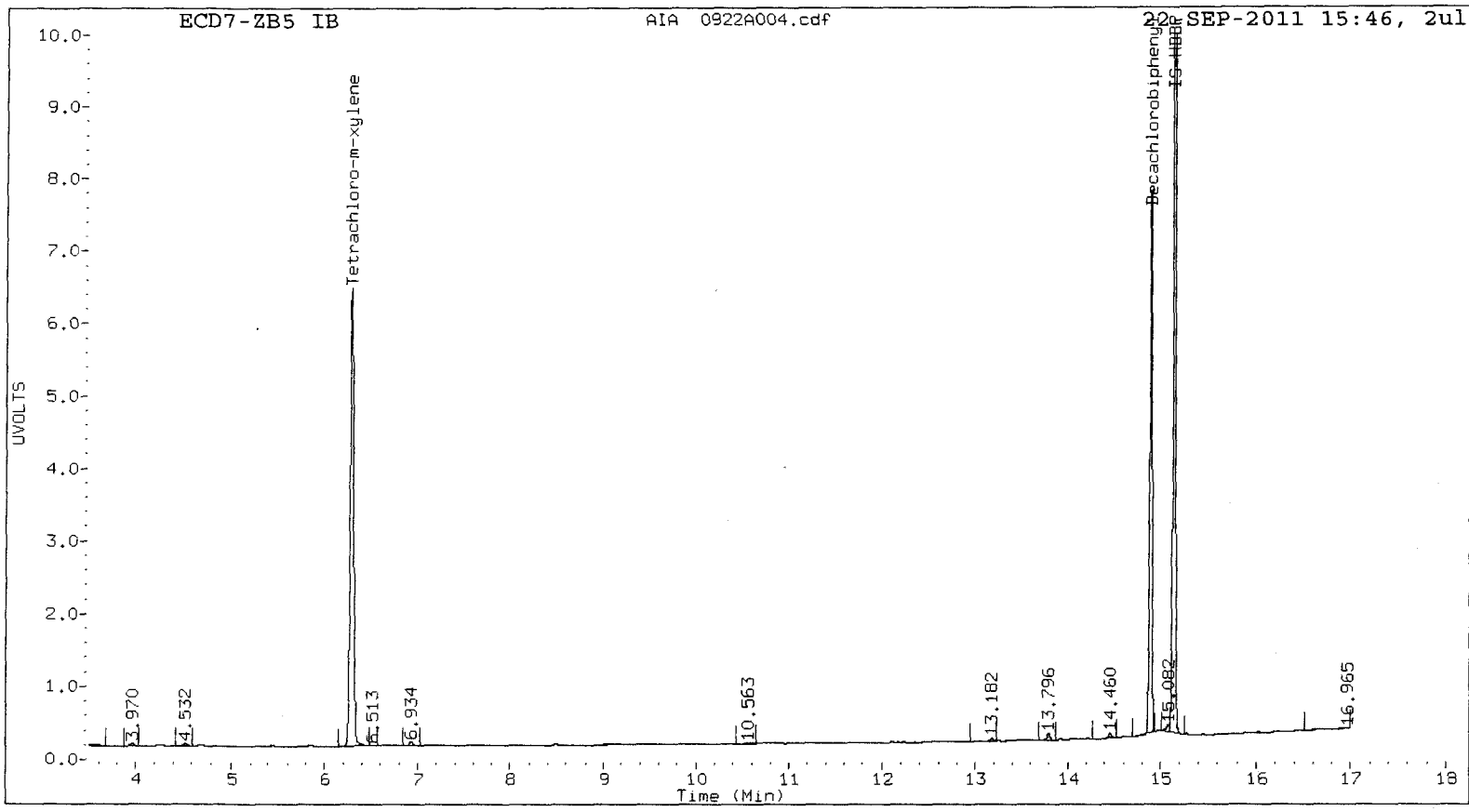
6.934
10.563
13.182
13.796
14.460
Decachlorobiphenyl
15.082
IS-HBBP
16.965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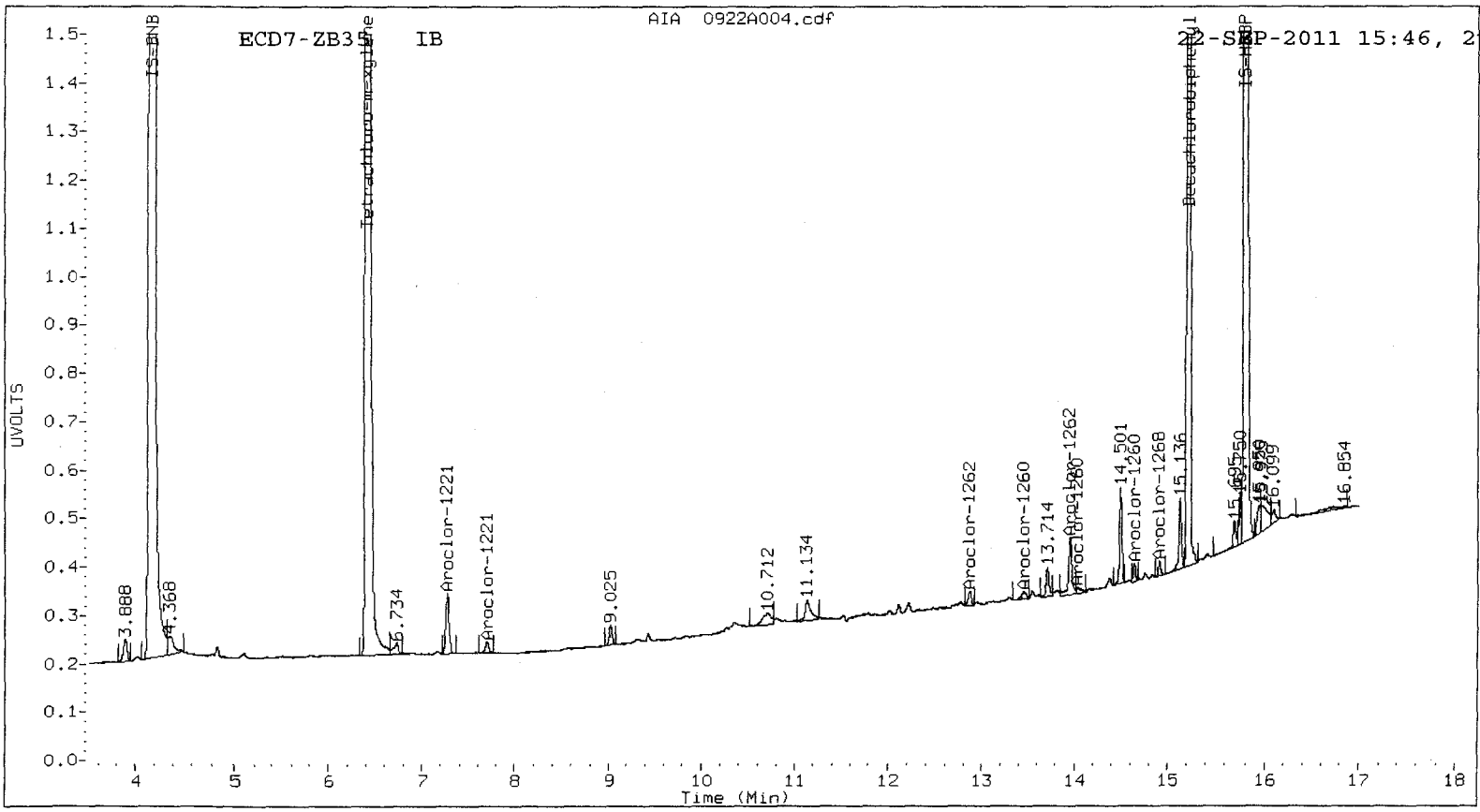
AIA 0922A004.cdf
22-SEP-2011 15:46, 2ul
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
3.970
4.532
6.513
6.934
10.563
13.182
13.796
14.460
15.082
16.965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UVOLTS
Time (Min)
IS-DNB
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
3.888
4.368
6.734
Aroclor-1221
Aroclor-1221
9.025
10.712
11.134
Aroclor-1262
Aroclor-1260
13.714
Aroclor-1262
Aroclor-1260
14.501
Aroclor-1260
Aroclor-1268
15.136
16.854

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A005.d
Data file 2: 20110922.B/ical-2.b/0922A005.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25 PPM AR1660
Client ID:
Injection Date: 22-SEP-2011 16:09
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.293	0.002	1338914	6.432	0.001	2089232	20.9	20.1	3.7	Tetrachloro-m-xyle
14.885	0.001	1132900	15.225	0.000	1434645	20.7	19.2	7.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

09/23/11

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	52.2	50.3
Decachlorobiphenyl	51.7	48.0

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5056450	0.0
Hexabromobiphenyl	4060201	4060201	0.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7809454	0.0
Hexabromobiphenyl	5725568	5725568	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

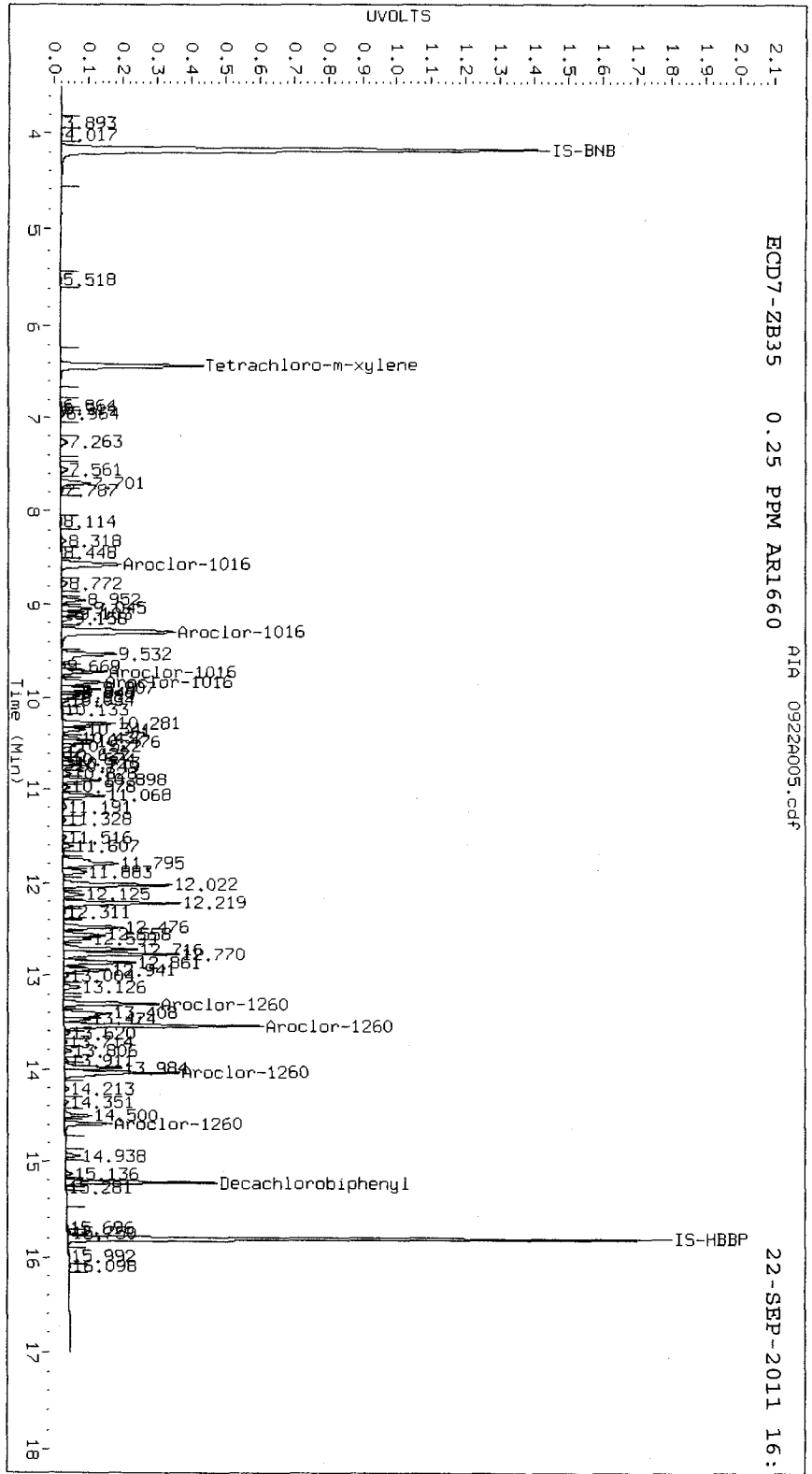
	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.306	0.000	393738	250.0	1	8.569	0.000	999550	238.7
Aroclor-1016	2	8.792	0.001	1374747	252.6	2	9.299	0.001	2108072	240.9
Aroclor-1016	3	8.966	0.000	532168	249.5	3	9.726	0.001	536200	239.3
Aroclor-1016	4	9.094	0.000	366835	242.5	4	9.834	0.000	611164	235.9
Total Col1Ave (4 peaks):				248.7		Total Col2Ave (4 peaks):			238.7	RPD = 4
Corrected Ave (3 peaks):				247.3		Corrected Ave (3 peaks):			238.0	RPD = 4
Aroclor-1260	1	11.853	0.000	1030711	252.2	1	13.304	0.000	1089166	234.2
Aroclor-1260	2	12.458	0.000	666186	250.0	2	13.541	0.000	2185860	237.3
Aroclor-1260	3	12.774	0.000	669784	252.1	3	14.034	-0.001	1411474	234.3
Aroclor-1260	4	13.507	-0.001	840021	251.9	4	14.589	0.000	514499	243.4
Aroclor-1260	5	13.607	0.000	327736	252.3	NS	---			----
Total Col1Ave (5 peaks):				251.7		Total Col2Ave (4 peaks):			237.3	RPD = 6
Corrected Ave (4 peaks):				251.6		Corrected Ave (3 peaks):			235.3	RPD = 7

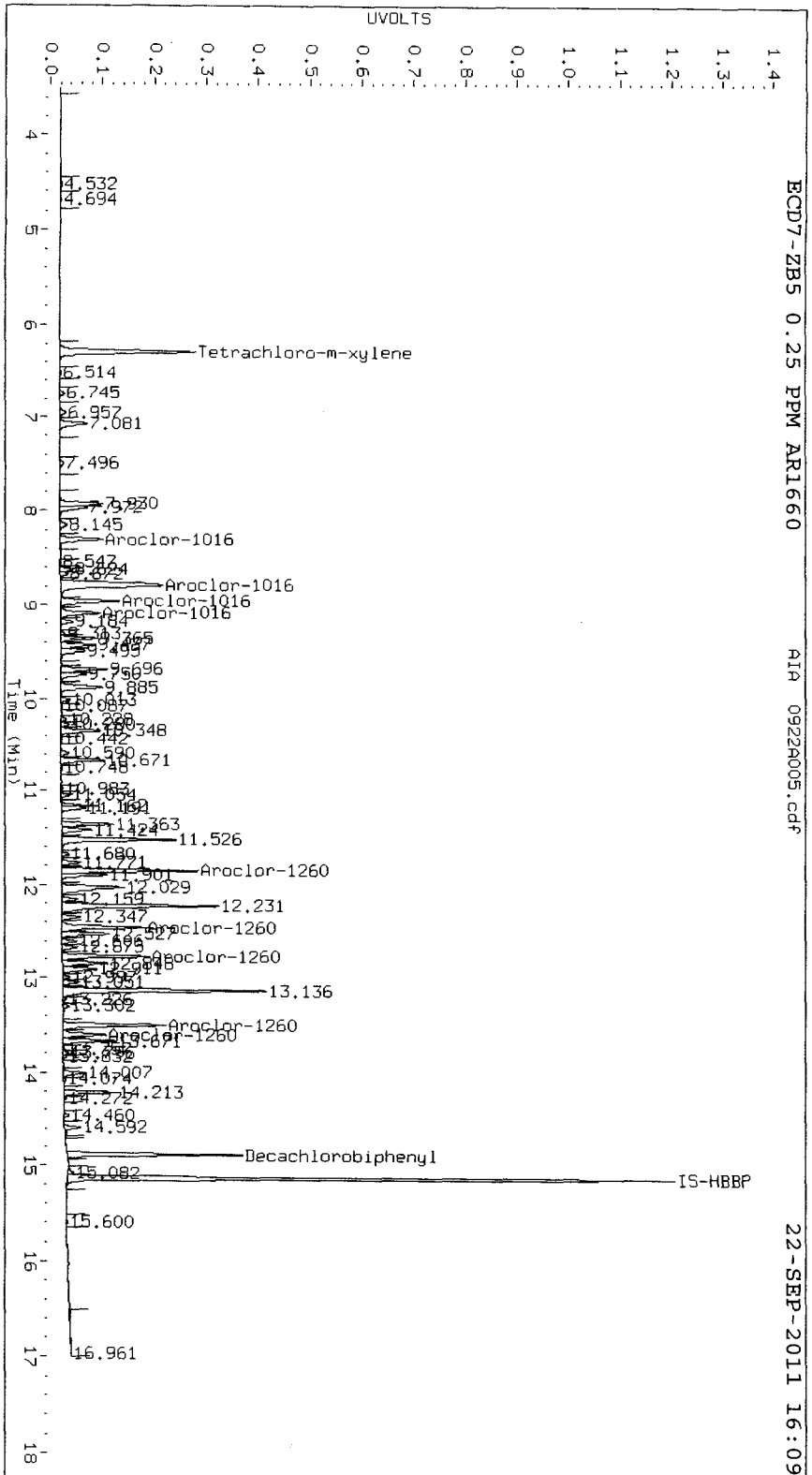
Total PCB Area Col1 (6.392 - 14.784) = 19758805 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 29188414 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.


UVOLTS
ECD7-ZB35 0.25 PPM AR1660
AIA 0922A005.cdf
22-SEP-2011 16:
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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ECD7-ZB5 0.25 PPM AR1660
AIA 0922A005.cdf
22-SEP-2011 16:09
Time (Min)
Tetrachloro-m-xylene
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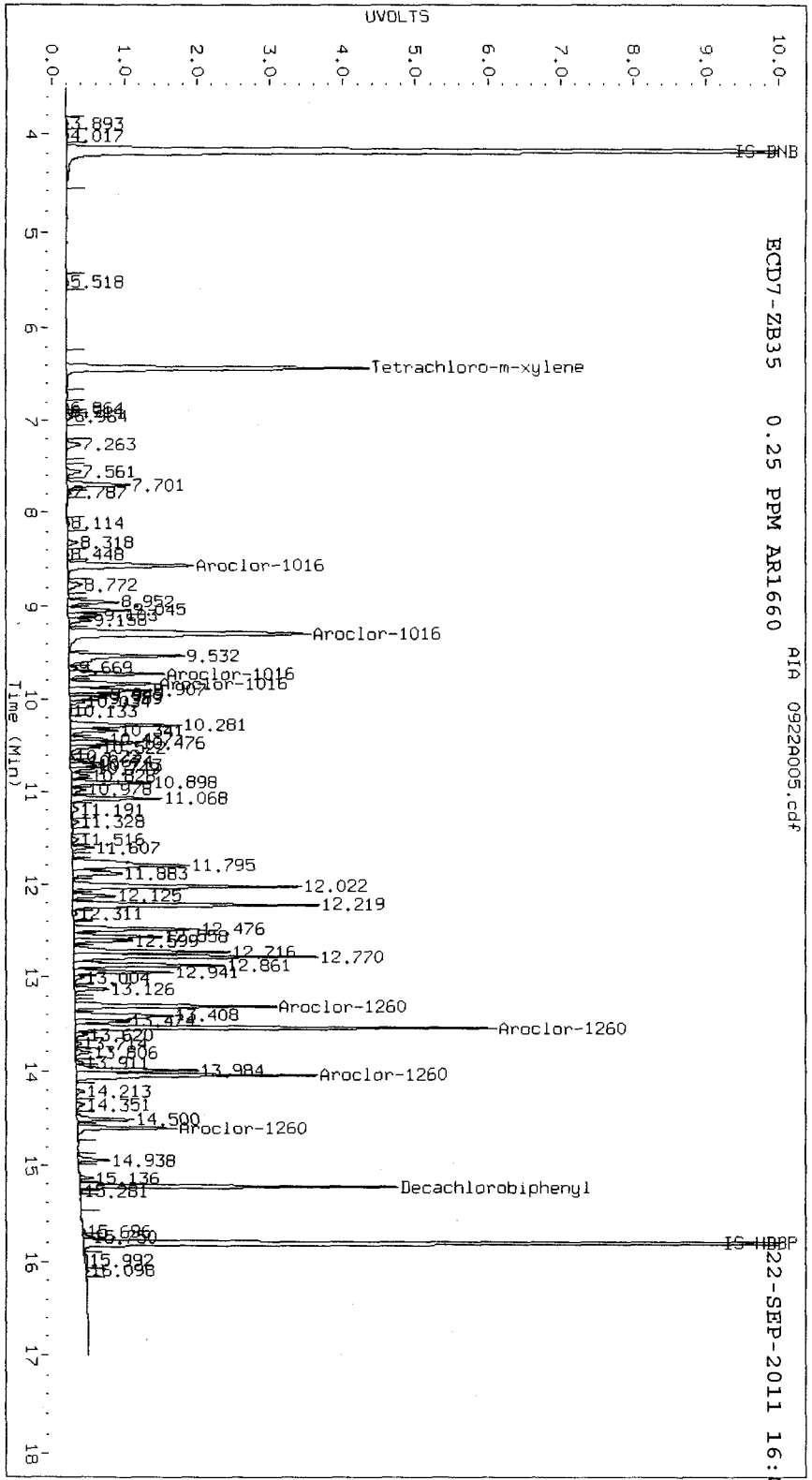
Decachlorobiphenyl
IS-HBBP

TR07:00077


UVOLTS
ECD7-ZB35 0.25 PPM AR1660
AIA 0922A005.cdf
22-SEP-2011 16:
IS-DNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1016
Aroclor-1016
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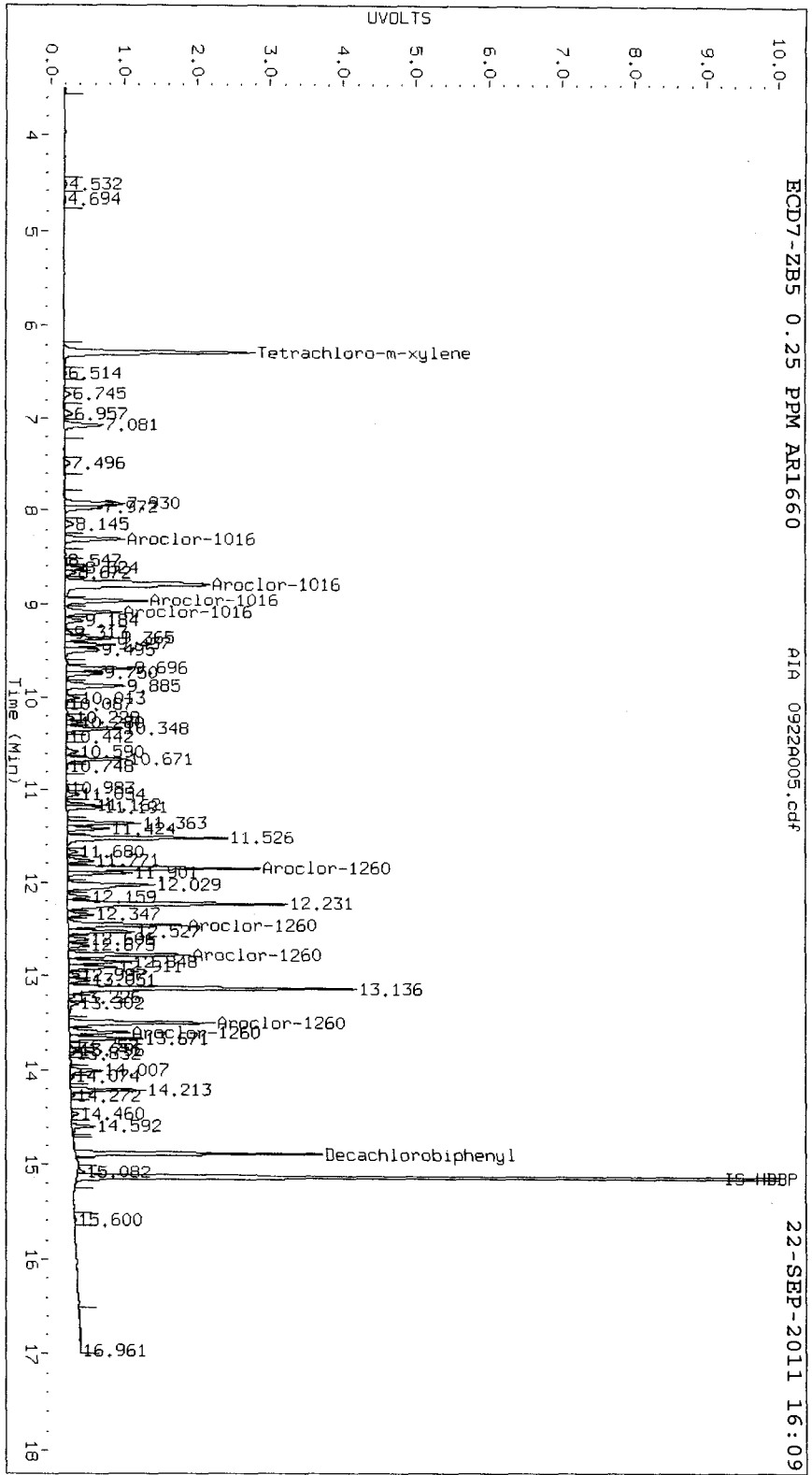
Decachlorobiphenyl
IS-HDBP
Time (Min)


UVOLTS
ECD7-ZB5 0.25 PPM AR1660
AIA 0922A005.cdf
22-SEP-2011 16:09
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1016
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Aroclor-1016
Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1260
Decachlorobiphenyl
IS-HDBP
Time (Min)

TR07:00078

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A006.d
Data file 2: 20110922.B/ical-2.b/0922A006.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.02 PPM AR1660
Client ID:
Injection Date: 22-SEP-2011 16:32
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.293	0.001	96817	6.432	0.001	173424	1.5	1.6	10.5	Tetrachloro-m-xyle
14.885	0.001	77977	15.225	0.000	135075	1.4	1.8	23.5	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	3.7	4.1
Decachlorobiphenyl	3.5	4.4

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5210231	3.0
Hexabromobiphenyl	4060201	4151038	2.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8017473	2.7
Hexabromobiphenyl	5725568	5870121	2.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

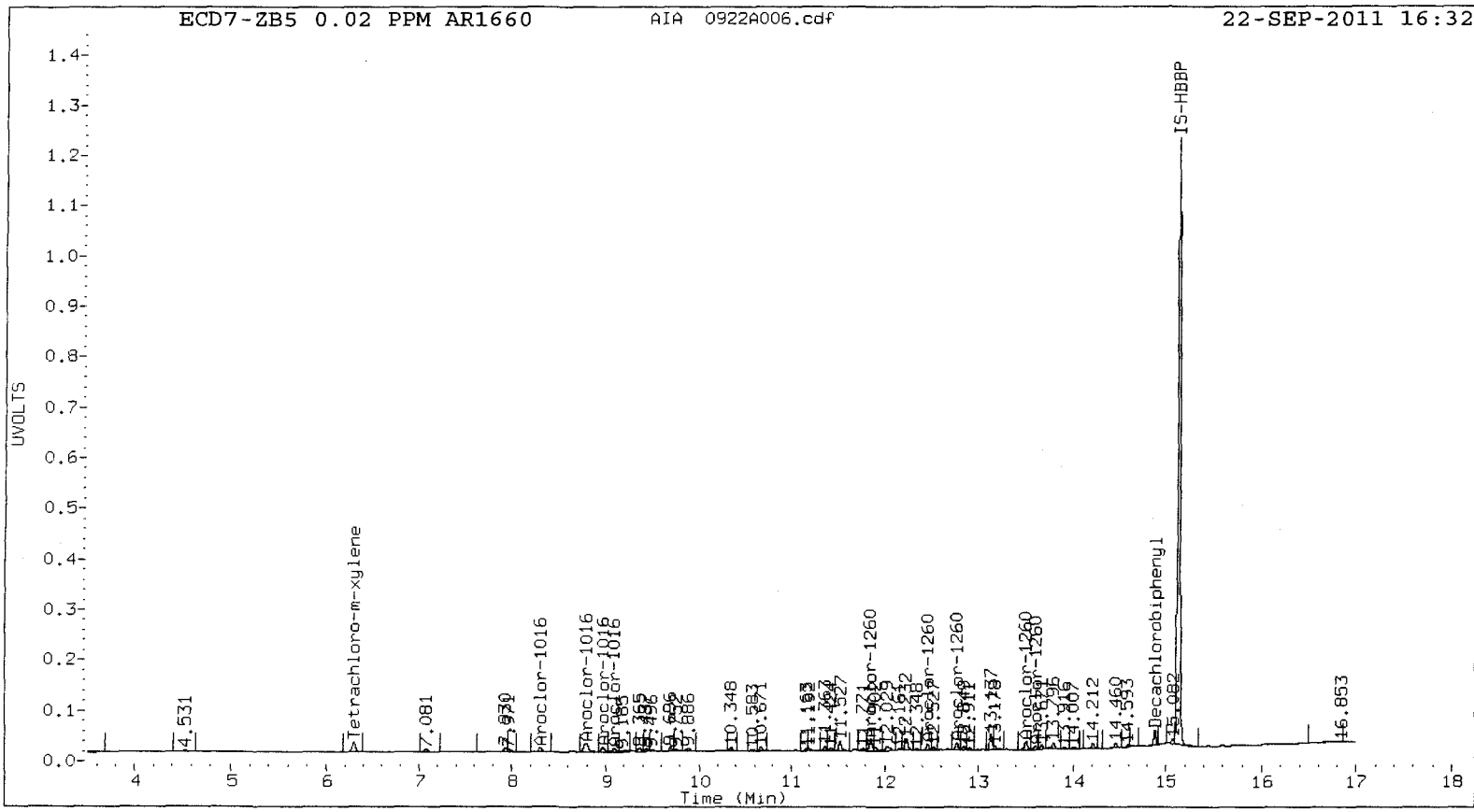
	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.306	0.001	33953	20.9	1	8.569	0.000	100063	23.3
Aroclor-1016	2	8.793	0.002	114812	20.5	2	9.299	0.000	208075	23.2
Aroclor-1016	3	8.967	0.001	46544	21.2	3	9.726	0.001	53205	23.1
Aroclor-1016	4	9.095	0.000	35195	22.6	4	9.835	0.000	63247	23.8
Total Col1Ave (4 peaks):				21.3		Total Col2Ave (4 peaks):			23.3	RPD = 9
Corrected Ave (3 peaks):				20.9		Corrected Ave (3 peaks):			23.2	RPD = 11
Aroclor-1260	1	11.853	0.001	86171	20.6	1	13.305	0.001	113128	23.7
Aroclor-1260	2	12.459	0.000	55231	20.3	2	13.541	0.000	214116	22.7
Aroclor-1260	3	12.774	0.000	54175	19.9	3	14.035	0.000	144154	23.3
Aroclor-1260	4	13.508	0.001	66994	19.7	4	14.590	0.001	49206	22.7
Aroclor-1260	5	13.608	0.001	25808	19.4	NS	---			----
Total Col1Ave (5 peaks):				20.0		Total Col2Ave (4 peaks):			23.1	RPD = 15
Corrected Ave (4 peaks):				19.8		Corrected Ave (3 peaks):			22.9	RPD = 14

Total PCB Area Col1 (6.392 - 14.784) = 1704286 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 3207962 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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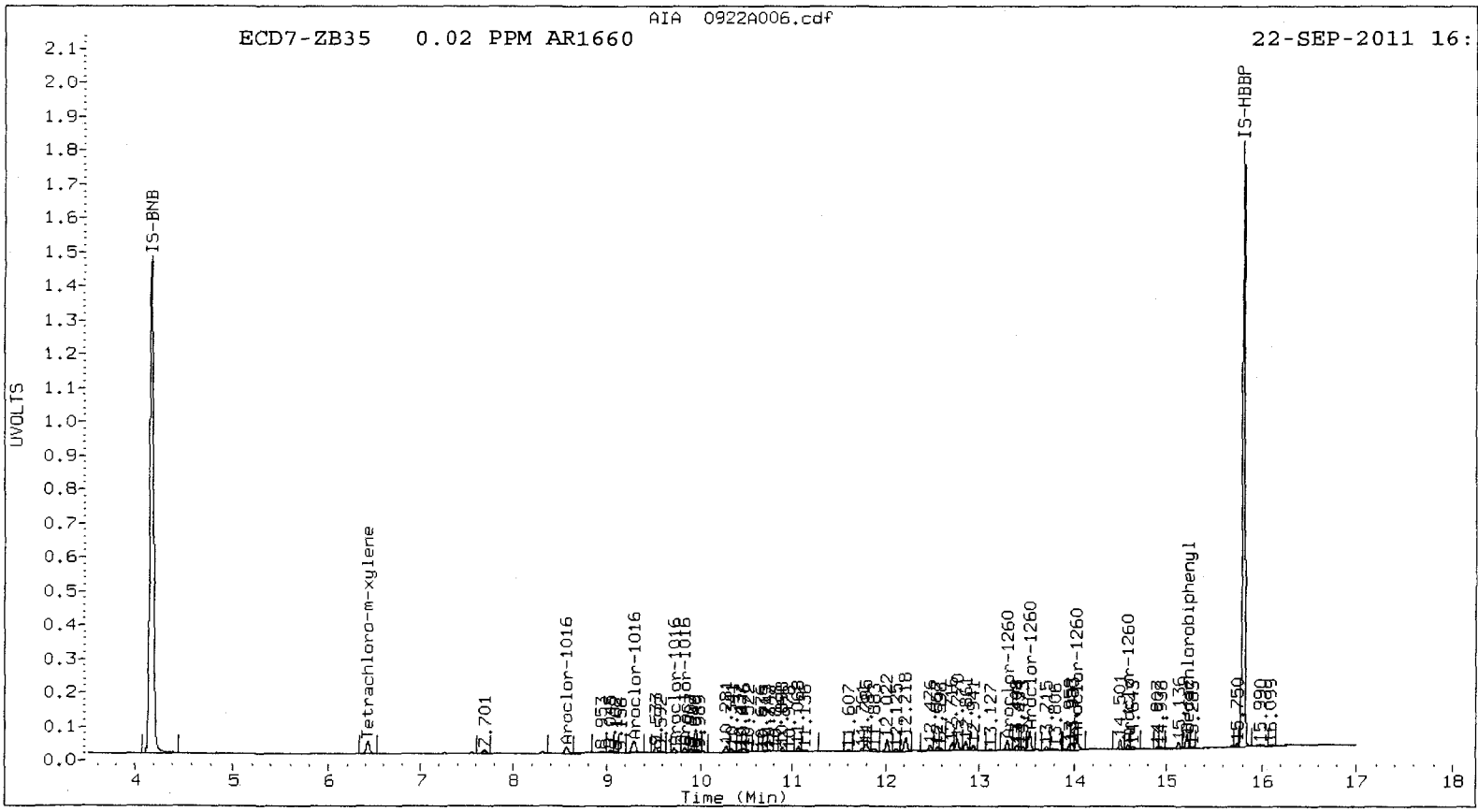
AIA 0922A006.cdf
22-SEP-2011 16:32
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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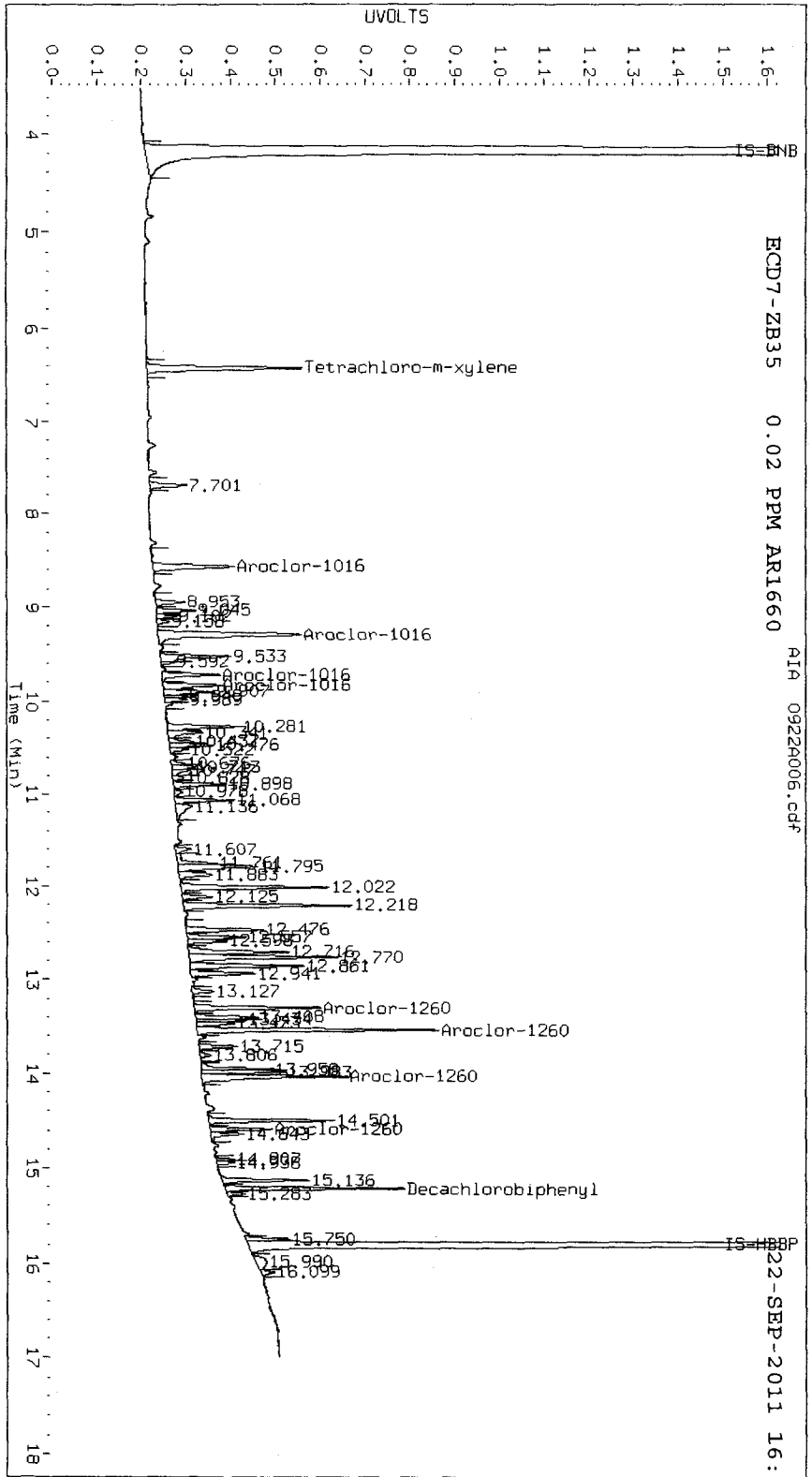
22-SEP-2011 16:
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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AIA 0922A006.cdf
22-SEP-2011 16:
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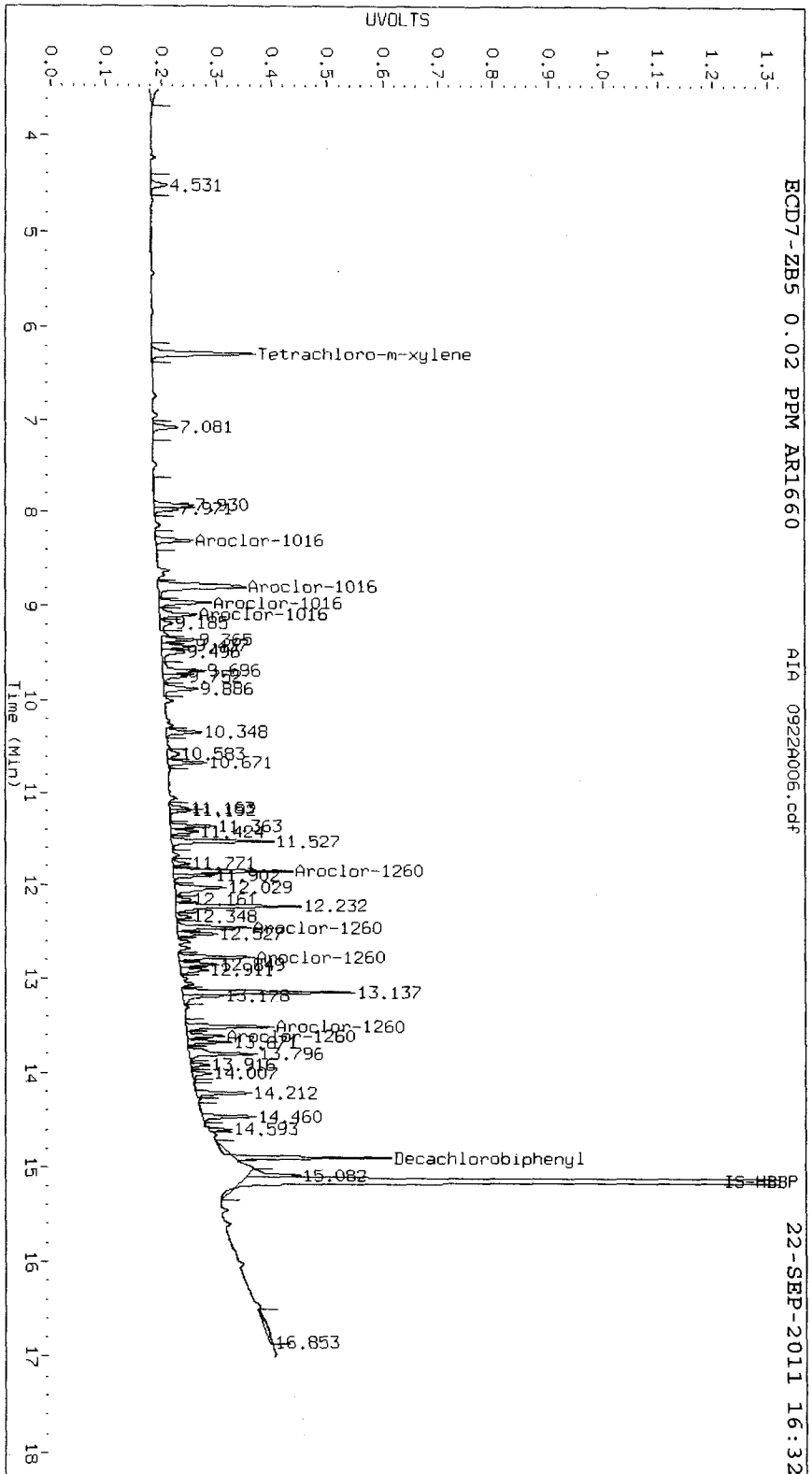
Time (Min)
IS=BNB
Tetrachloro-m-xylene
7.701
Aroclor-1016
Aroclor-1016
9.533
Aroclor-1016
Aroclor-1016
10.281
11.068
11.607
11.795
12.022
12.125
12.218
12.941
13.127
Aroclor-1260
Aroclor-1260
13.715
Aroclor-1260
14.501
Aroclor-1260
15.136
Decachlorobiphenyl
15.750
IS=HBBP
15.990
16.099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AIA 0922A006.cdf
22-SEP-2011 16:32
UVOLTS
Time (Min)
4.531
Tetrachloro-m-xylene
7.081
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1016
10.348
10.583
10.671
11.527
Aroclor-1260
12.029
12.232
Aroclor-1260
Aroclor-1260
13.137
Aroclor-1260
13.796
14.212
14.460
14.593
Decachlorobiphenyl
15.082
IS=HBBP
16.853

TR07:00083

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A007.d
Data file 2: 20110922.B/ical-2.b/0922A007.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.05 PPM AR1660
Client ID:
Injection Date: 22-SEP-2011 16:55
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	248544	6.430	0.000	419764	3.7	3.9	4.5	Tetrachloro-m-xyle
14.884	0.000	221786	15.225	0.000	315564	3.9	4.1	3.8	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	9.3	9.8
Decachlorobiphenyl	9.8	10.2

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5248267	3.8
Hexabromobiphenyl	4060201	4179904	2.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8084445	3.5
Hexabromobiphenyl	5725568	5920027	3.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

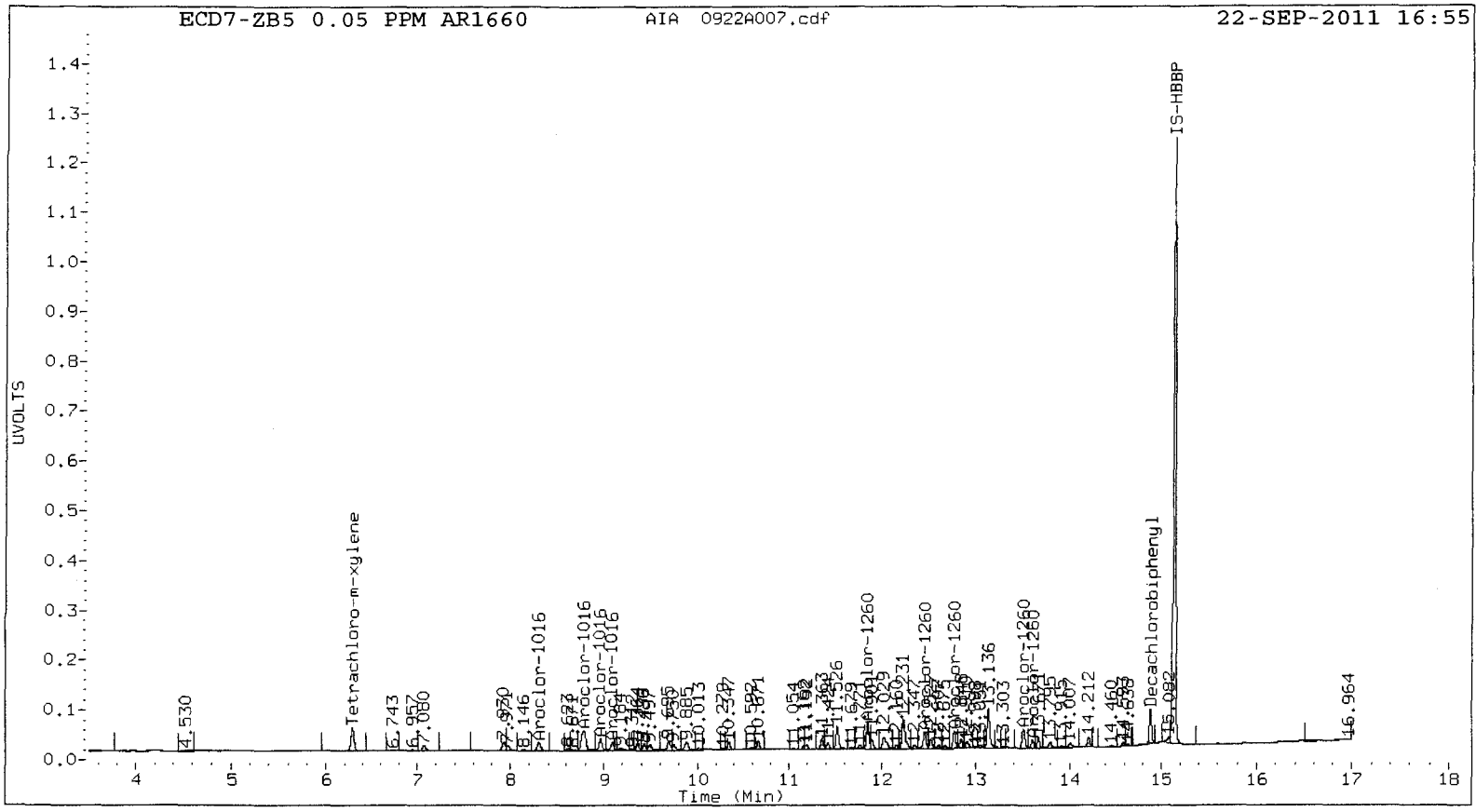
	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.305	0.000	82186	50.3	1	8.569	0.000	235167	54.3
Aroclor-1016	2	8.792	0.001	284059	50.3	2	9.299	0.000	473503	52.3
Aroclor-1016	3	8.966	0.001	113894	51.4	3	9.726	0.000	121791	52.5
Aroclor-1016	4	9.094	-0.001	81575	52.0	4	9.833	-0.001	145279	54.2
Total Col1Ave (4 peaks):				51.0		Total Col2Ave (4 peaks):			53.3	RPD = 4
Corrected Ave (3 peaks):				50.7		Corrected Ave (3 peaks):			53.0	RPD = 4
Aroclor-1260	1	11.853	0.000	210320	50.0	1	13.304	0.000	257472	53.5
Aroclor-1260	2	12.458	0.000	140230	51.1	2	13.541	0.000	493139	51.8
Aroclor-1260	3	12.774	0.000	135297	49.5	3	14.034	-0.001	328688	52.8
Aroclor-1260	4	13.508	0.000	167304	48.7	4	14.589	0.000	114774	52.5
Aroclor-1260	5	13.607	0.000	66465	49.7	NS	---			----
Total Col1Ave (5 peaks):				49.8		Total Col2Ave (4 peaks):			52.7	RPD = 6
Corrected Ave (4 peaks):				49.5		Corrected Ave (3 peaks):			52.4	RPD = 6

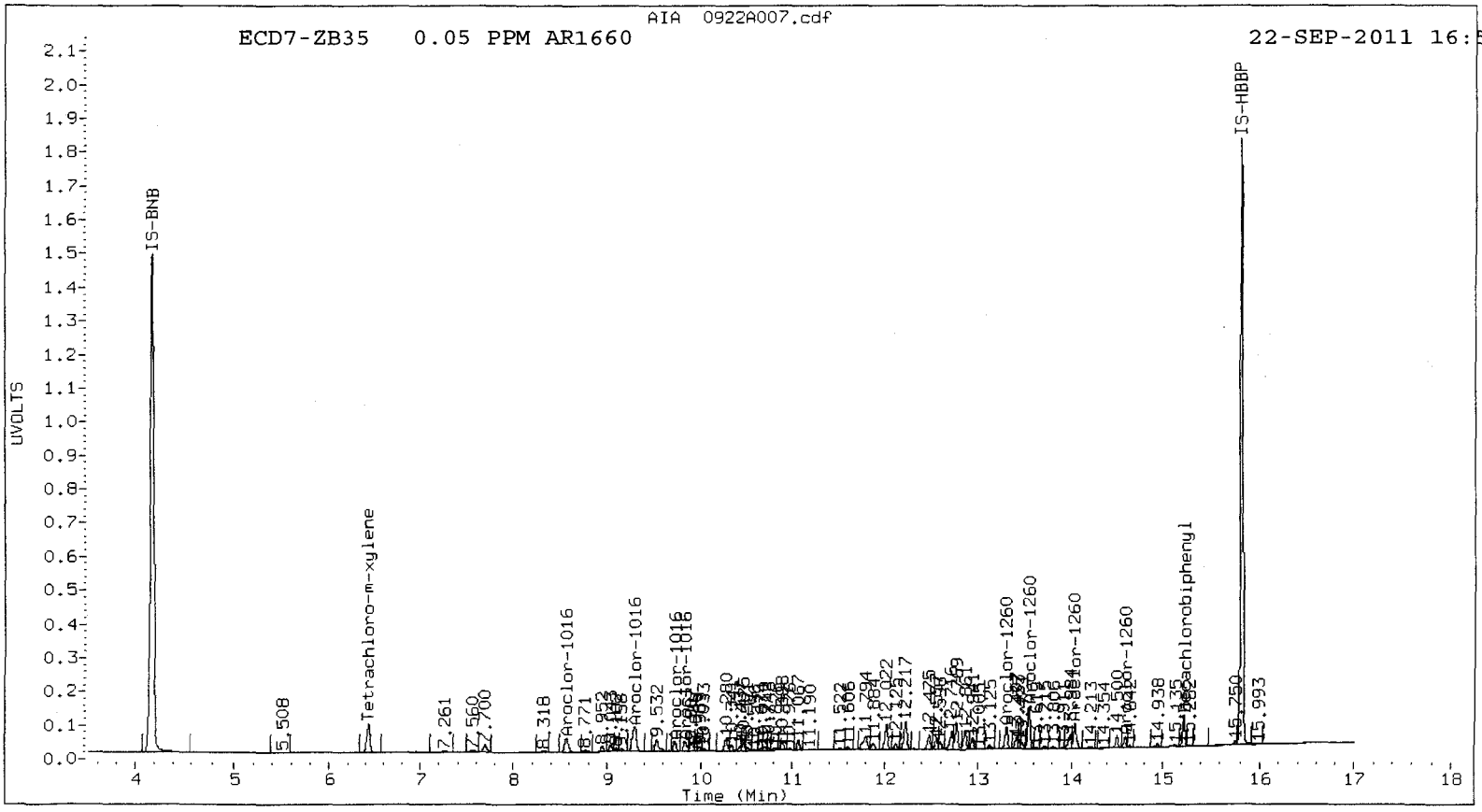
Total PCB Area Col1 (6.392 - 14.784) = 4147938 Col1 Total PCB = 0.1 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 7044412 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.


ECD7-ZB5 0.05 PPM AR1660
AIA 0922A007.cdf
22-SEP-2011 16:55
UVOLTS
Time (Min)
IS-HBBP
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor-1016
Aroclor-1260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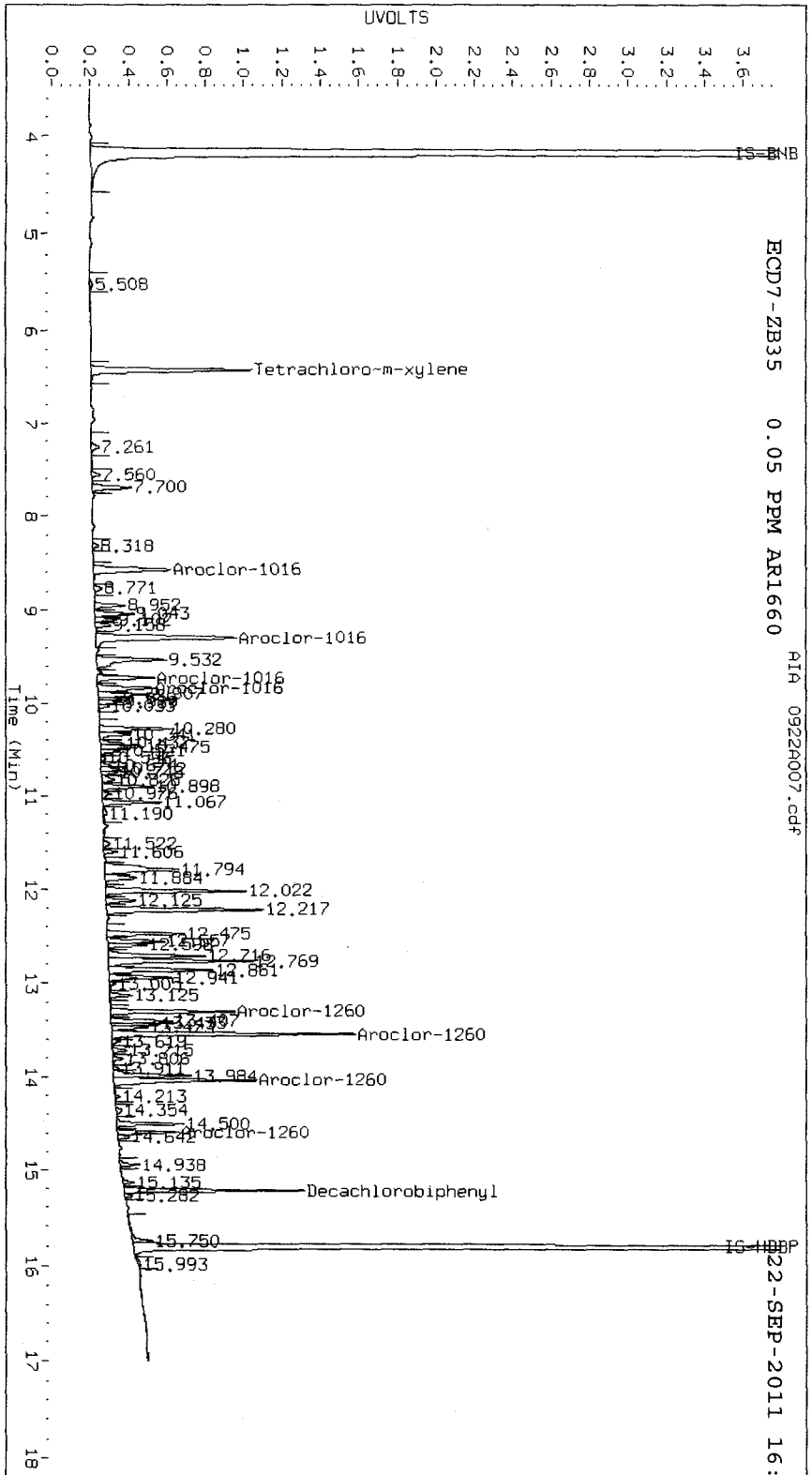
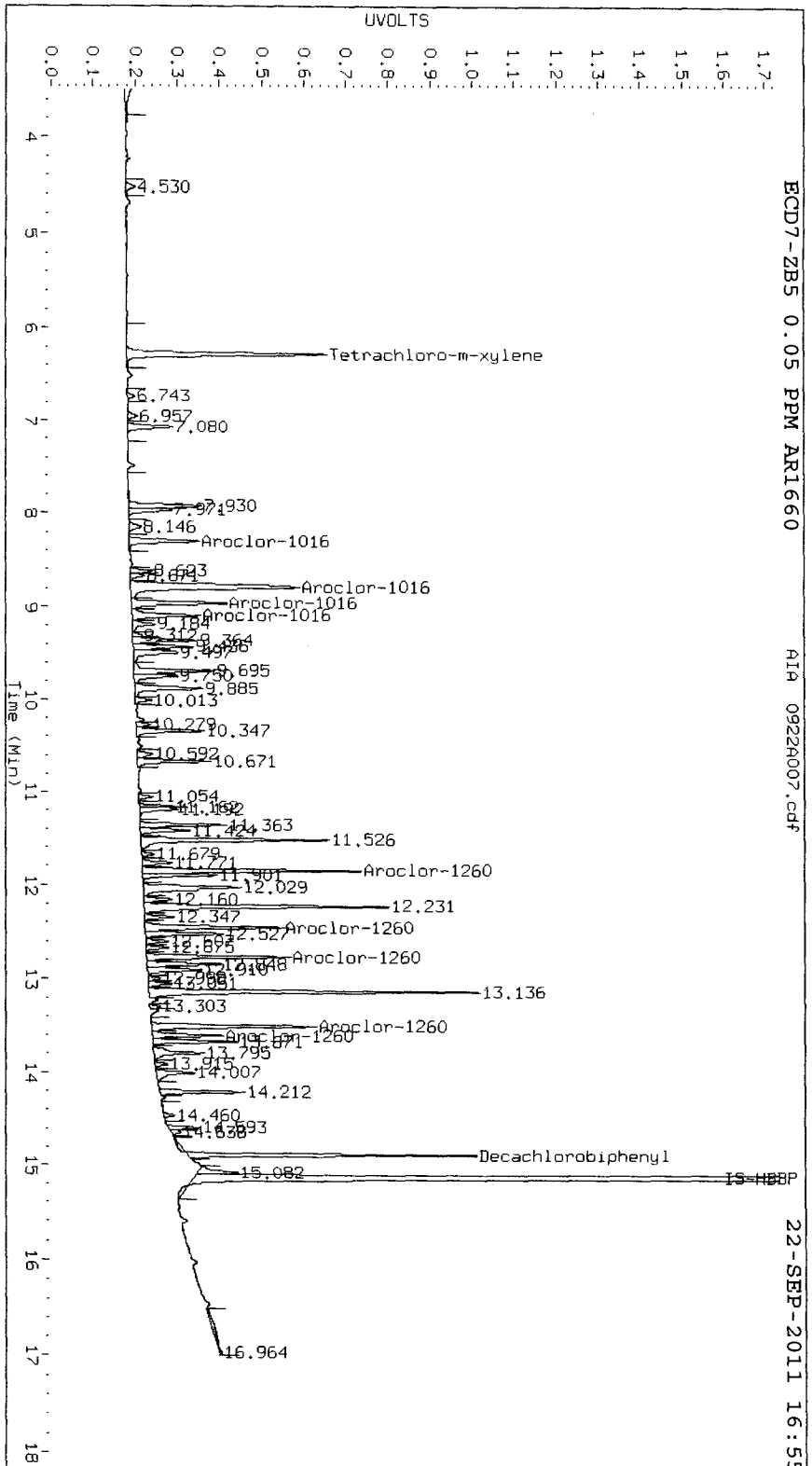
AIA 0922A007.cdf
22-SEP-2011 16:
UVOLTS
Time (Min)
IS-BNB
IS-HBBP
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor-1016
Aroclor-1260


UVOLTS
ECD7-ZB35 0.05 PPM AR1660
AIA 0922A007.cdf
22-SEP-2011 16:
Time (Min)
IS-BNB
5.508
Tetrachloro-m-xylene
7.261
7.560
7.700
8.318
Aroclor-1016
8.771
8.952
9.532
Aroclor-1016
10.280
11.190
11.522
11.606
11.794
12.022
12.125
12.217
12.475
12.716
12.769
12.941
13.125
Aroclor-1260
Aroclor-1260
13.984
Aroclor-1260
14.213
14.354
14.500
Aroclor-1260
14.938
15.135
Decachlorobiphenyl
15.750
IS-HBBP
15.993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AIA 0922A007.cdf
22-SEP-2011 16:55
Time (Min)
4.530
Tetrachloro-m-xylene
6.743
6.957
7.080
7.930
8.146
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1016
9.695
9.885
10.013
10.279
10.347
10.592
10.671
11.054
11.363
11.526
Aroclor-1260
12.029
12.160
12.231
12.347
12.527
Aroclor-1260
Aroclor-1260
13.136
13.303
Aroclor-1260
13.795
14.007
14.212
14.460
Decachlorobiphenyl
15.082
IS-HBBP
16.964

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A008.d
Data file 2: 20110922.B/ical-2.b/0922A008.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 1 PPM AR1660
Client ID:
Injection Date: 22-SEP-2011 17:18
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.293	0.001	5464672	6.432	0.001	8215922	84.7	79.6	6.1	Tetrachloro-m-xyle
14.884	0.000	4628347	15.225	0.000	5763209	83.1	75.9	9.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

2 09/23/11

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	211.7	199.0
Decachlorobiphenyl	207.8	189.8

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5090348	0.7
Hexabromobiphenyl	4060201	4128583	1.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7766048	-0.6
Hexabromobiphenyl	5725568	5821657	1.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

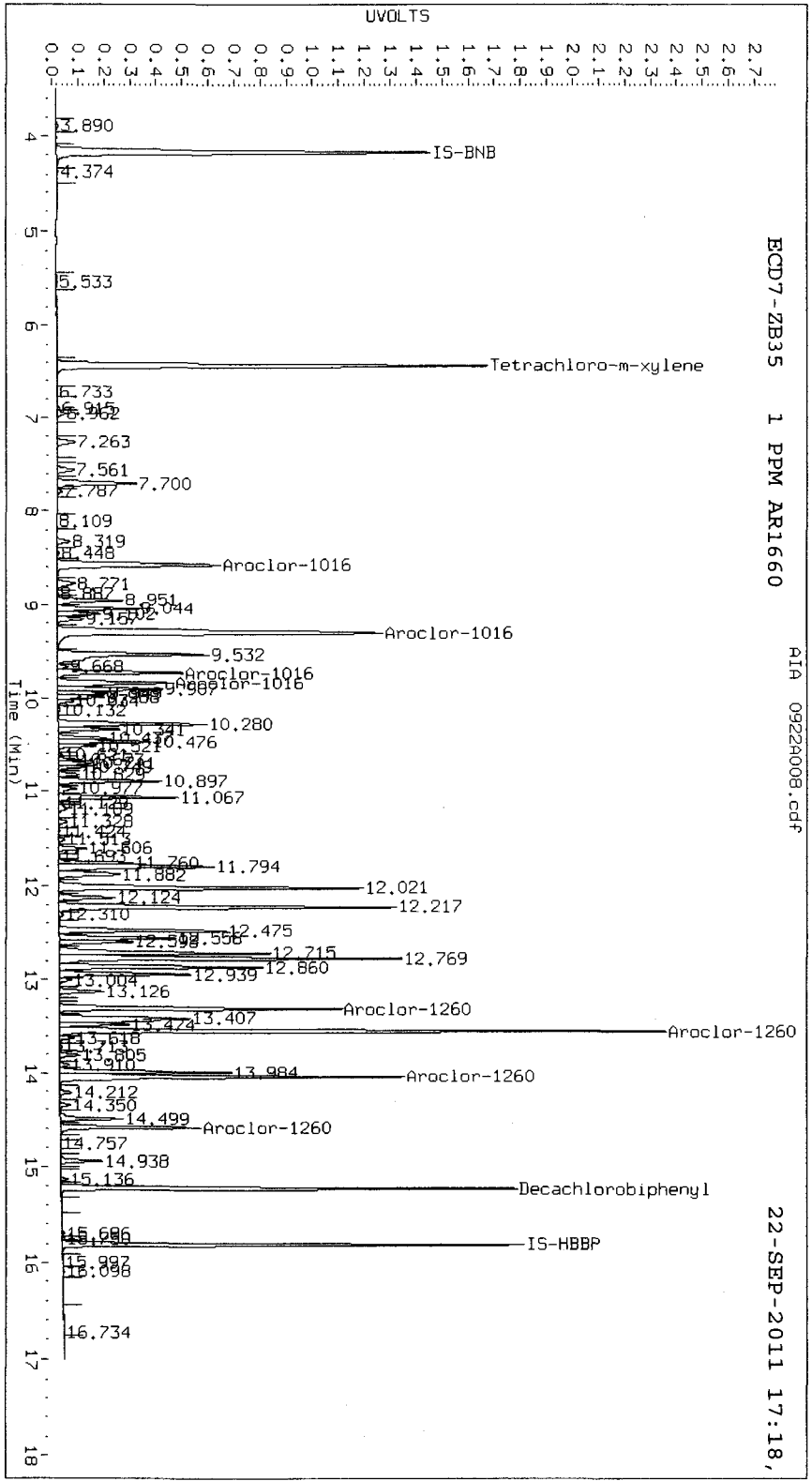
	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.305	0.000	1512621	954.2	1	8.569	0.000	3532685	848.5
Aroclor-1016	2	8.793	0.001	5218288	952.5	2	9.299	0.000	7710650	886.1
Aroclor-1016	3	8.965	0.000	1995046	929.0	3	9.725	0.000	1957840	878.7
Aroclor-1016	4	9.094	-0.001	1401822	920.7	4	9.834	0.000	2169468	841.9
Total Col1Ave (4 peaks):				939.1		Total Col2Ave (4 peaks):			863.8	RPD = 8
Corrected Ave (3 peaks):				934.0		Corrected Ave (3 peaks):			856.4	RPD = 9
Aroclor-1260	1	11.852	0.000	3996922	961.9	1	13.304	0.000	4097253	866.5
Aroclor-1260	2	12.458	-0.001	2589431	955.8	2	13.540	-0.001	8608863	919.1
Aroclor-1260	3	12.773	0.000	2660859	985.0	3	14.034	-0.001	5450765	890.0
Aroclor-1260	4	13.506	-0.001	3406312	1004.7	4	14.590	0.001	1884980	877.2
Aroclor-1260	5	13.607	0.000	1305766	988.4	NS	---			----
Total Col1Ave (5 peaks):				979.1		Total Col2Ave (4 peaks):			888.2	RPD = 10
Corrected Ave (4 peaks):				972.8		Corrected Ave (3 peaks):			877.9	RPD = 10

Total PCB Area Col1 (6.392 - 14.784) = 76275646 Col1 Total PCB = 1.9 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 105672851 Col2 Total PCB = 1.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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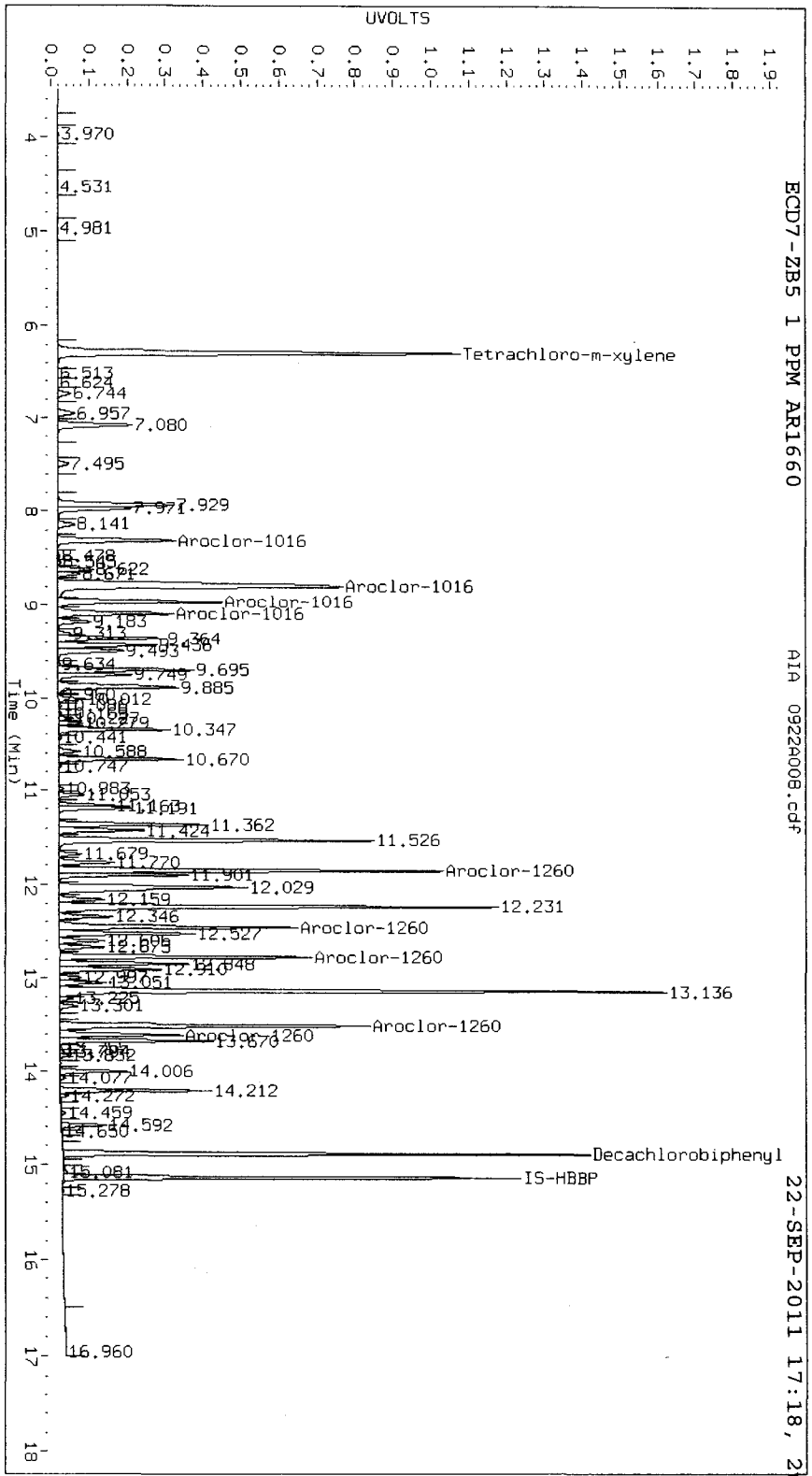
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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AIA 0922A008.cdf
22-SEP-2011 17:18, 2
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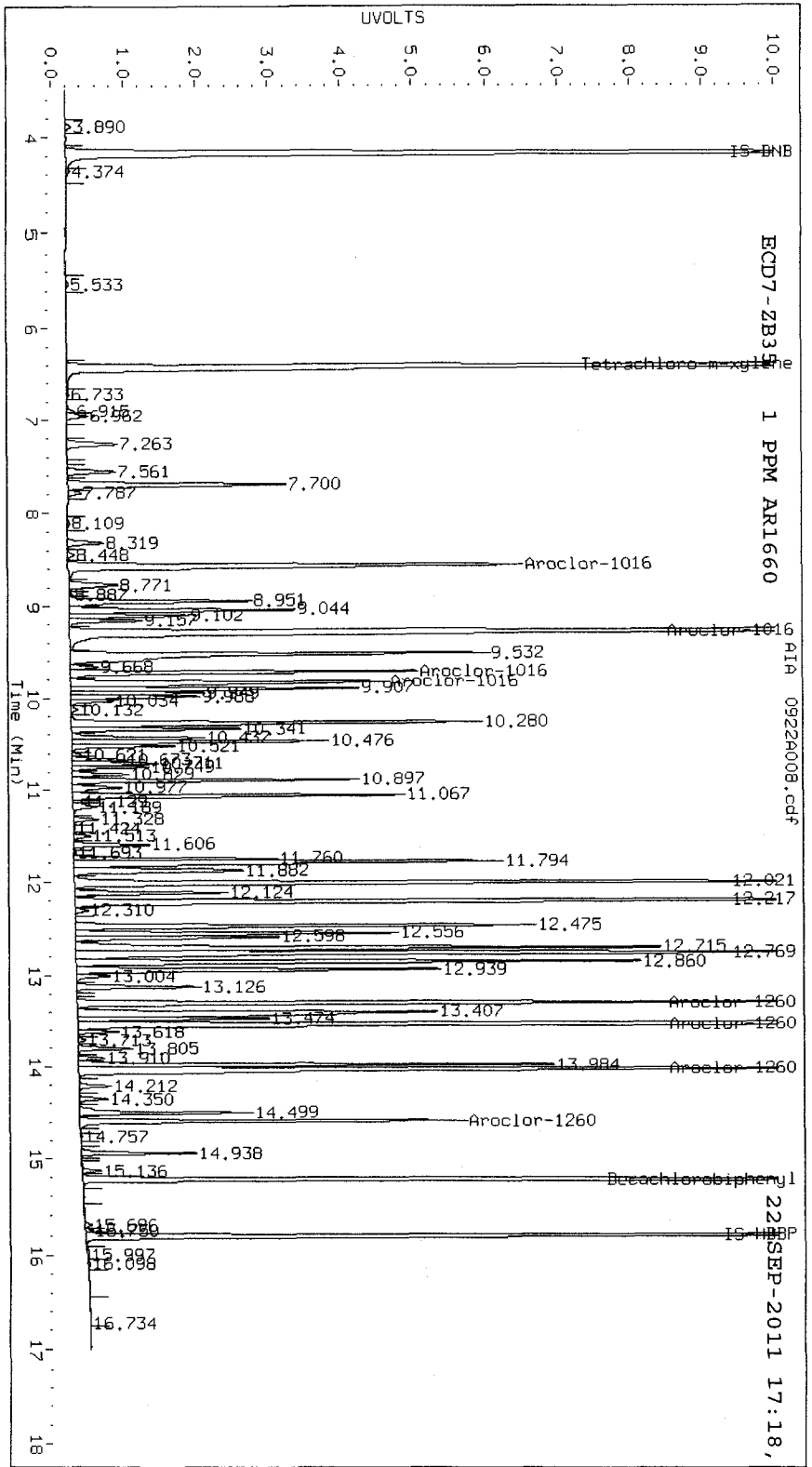
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP

TR07 : 00092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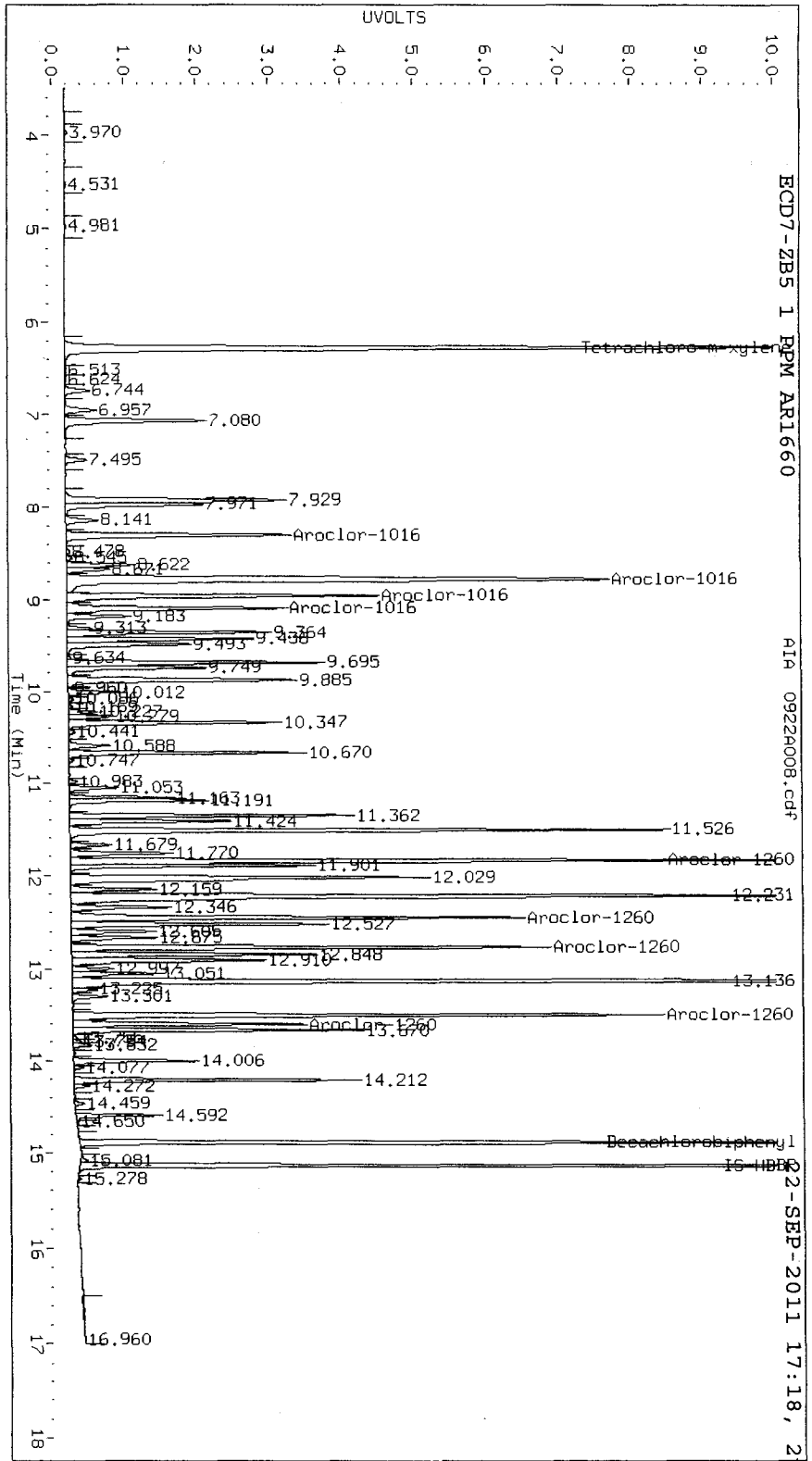
AIA 0922A008.cdf
22-SEP-2011 17:18,
Time (Min)
IS-DNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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AIA 0922A008.cdf
22-SEP-2011 17:18, 2
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP

TR07 : 00093

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A009.d
Data file 2: 20110922.B/ical-2.b/0922A009.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.1 PPM AR1660
Client ID:
Injection Date: 22-SEP-2011 17:40
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.293	0.001	536532	6.430	0.000	872901	8.0	8.1	0.6	Tetrachloro-m-xyle
14.885	0.001	479596	15.225	0.000	641228	8.3	8.2	1.9	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	20.0	20.1
Decachlorobiphenyl	20.8	20.4

JL 09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5290354	4.6
Hexabromobiphenyl	4060201	4278566	5.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8159946	4.5
Hexabromobiphenyl	5725568	6031834	5.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

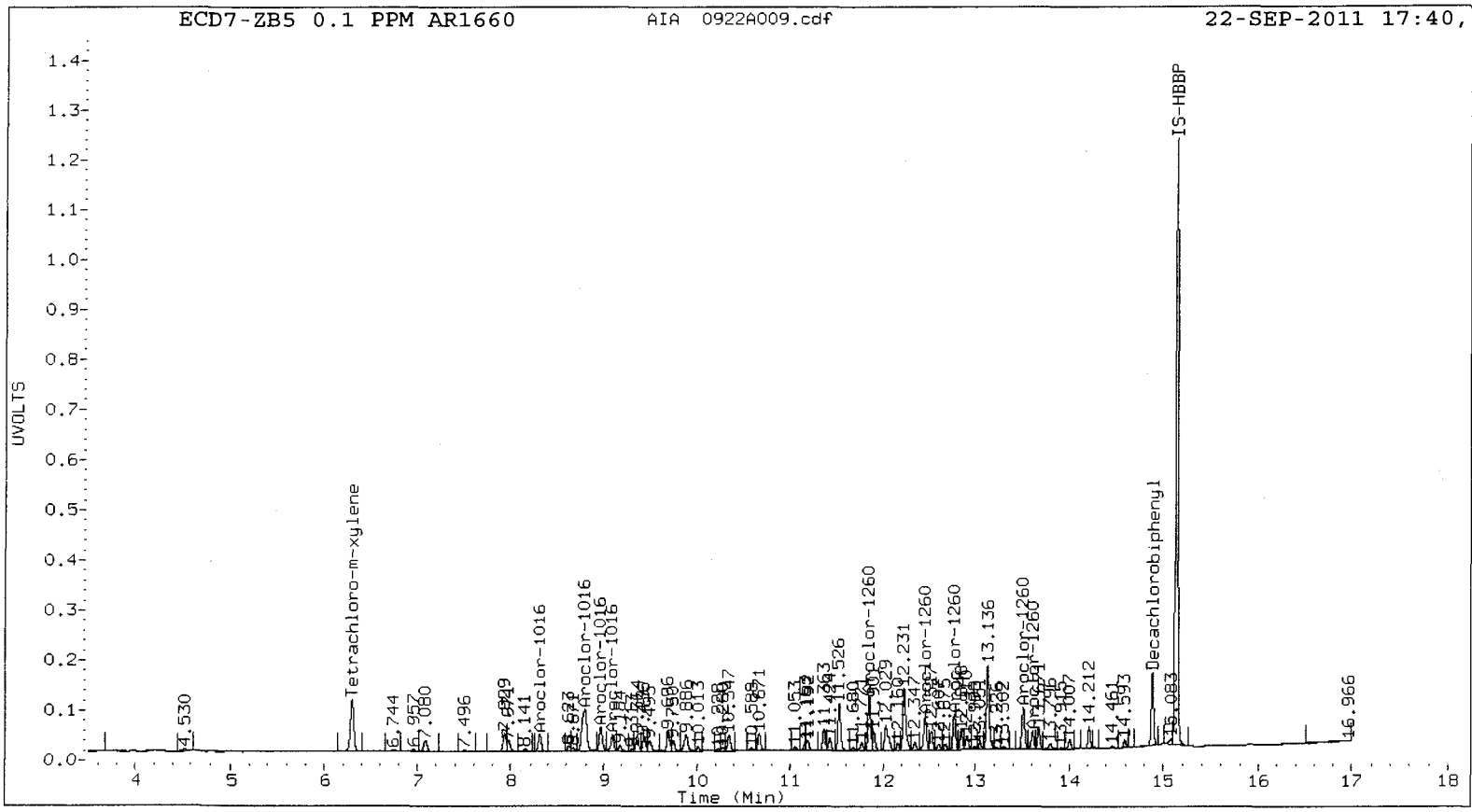
	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.306	0.000	169153	102.7	1	8.568	-0.001	460021	105.2
Aroclor-1016	2	8.793	0.002	587961	103.3	2	9.298	0.000	939588	102.8
Aroclor-1016	3	8.966	0.000	230822	103.4	3	9.726	0.000	243620	104.1
Aroclor-1016	4	9.095	0.000	159838	101.0	4	9.834	0.000	285480	105.4
Total Col1Ave (4 peaks):				102.6		Total Col2Ave (4 peaks):			104.4	RPD = 2
Corrected Ave (3 peaks):				102.3		Corrected Ave (3 peaks):			104.0	RPD = 2
Aroclor-1260	1	11.853	0.000	439048	102.0	1	13.304	0.000	507799	103.7
Aroclor-1260	2	12.459	0.000	286910	102.2	2	13.540	-0.001	995606	102.6
Aroclor-1260	3	12.774	0.000	285631	102.0	3	14.034	-0.001	654915	103.2
Aroclor-1260	4	13.508	0.001	357568	101.8	4	14.589	0.000	230589	103.6
Aroclor-1260	5	13.607	0.000	141577	103.4	NS	---			----
Total Col1Ave (5 peaks):				102.3		Total Col2Ave (4 peaks):			103.3	RPD = 1
Corrected Ave (4 peaks):				102.0		Corrected Ave (3 peaks):			103.1	RPD = 1

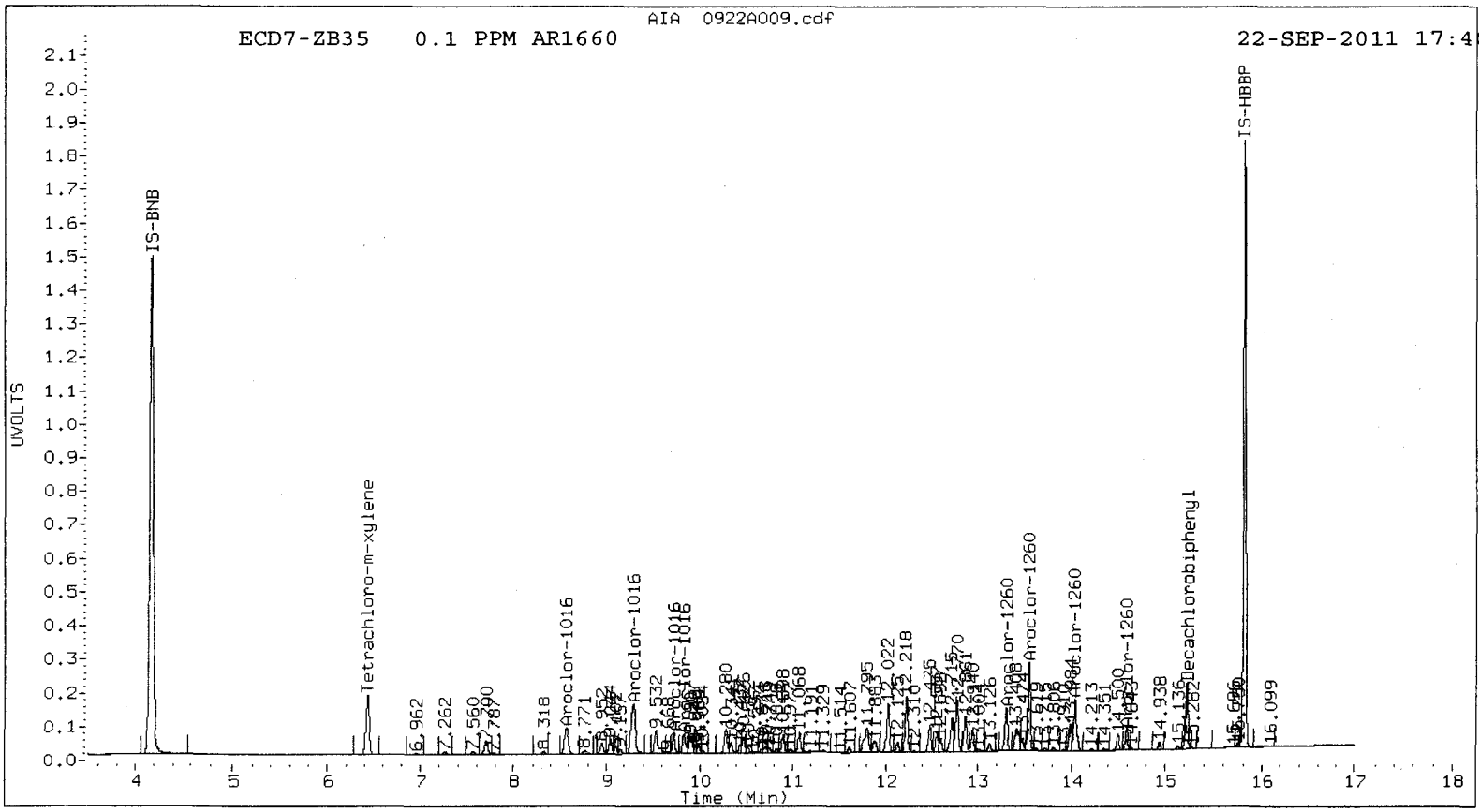
Total PCB Area Col1 (6.392 - 14.784) = 8446742 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 13658724 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.


ECD7-ZB5 0.1 PPM AR1660
AIA 0922A009.cdf
22-SEP-2011 17:40,
UVOLTS
Time (Min)
IS-HBBP
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor-1016
Aroclor-1260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AIA 0922A009.cdf
22-SEP-2011 17:4
UVOLTS
Time (Min)
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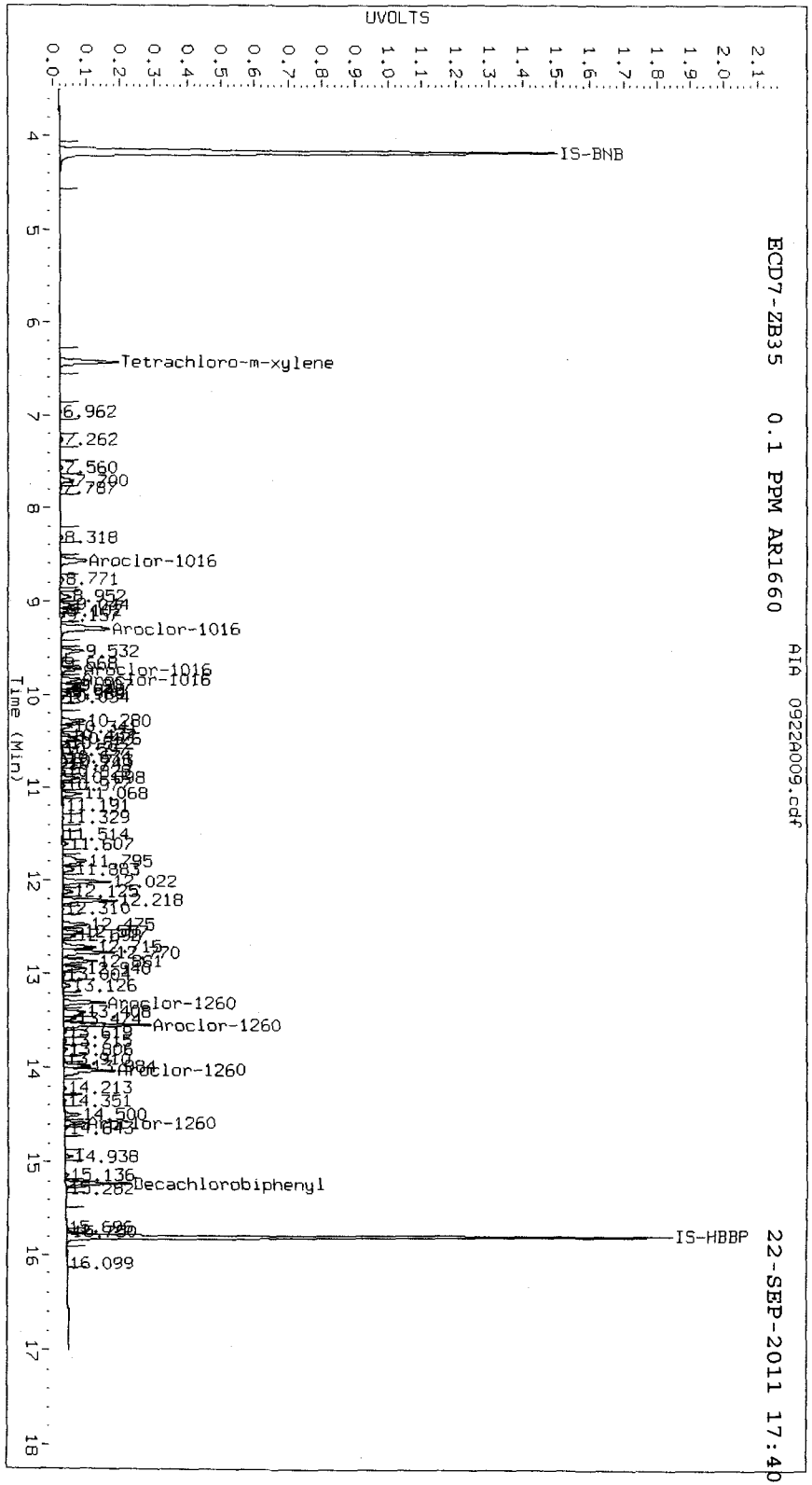
IS-HBBP
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor-1016
Aroclor-1260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Time (Min)
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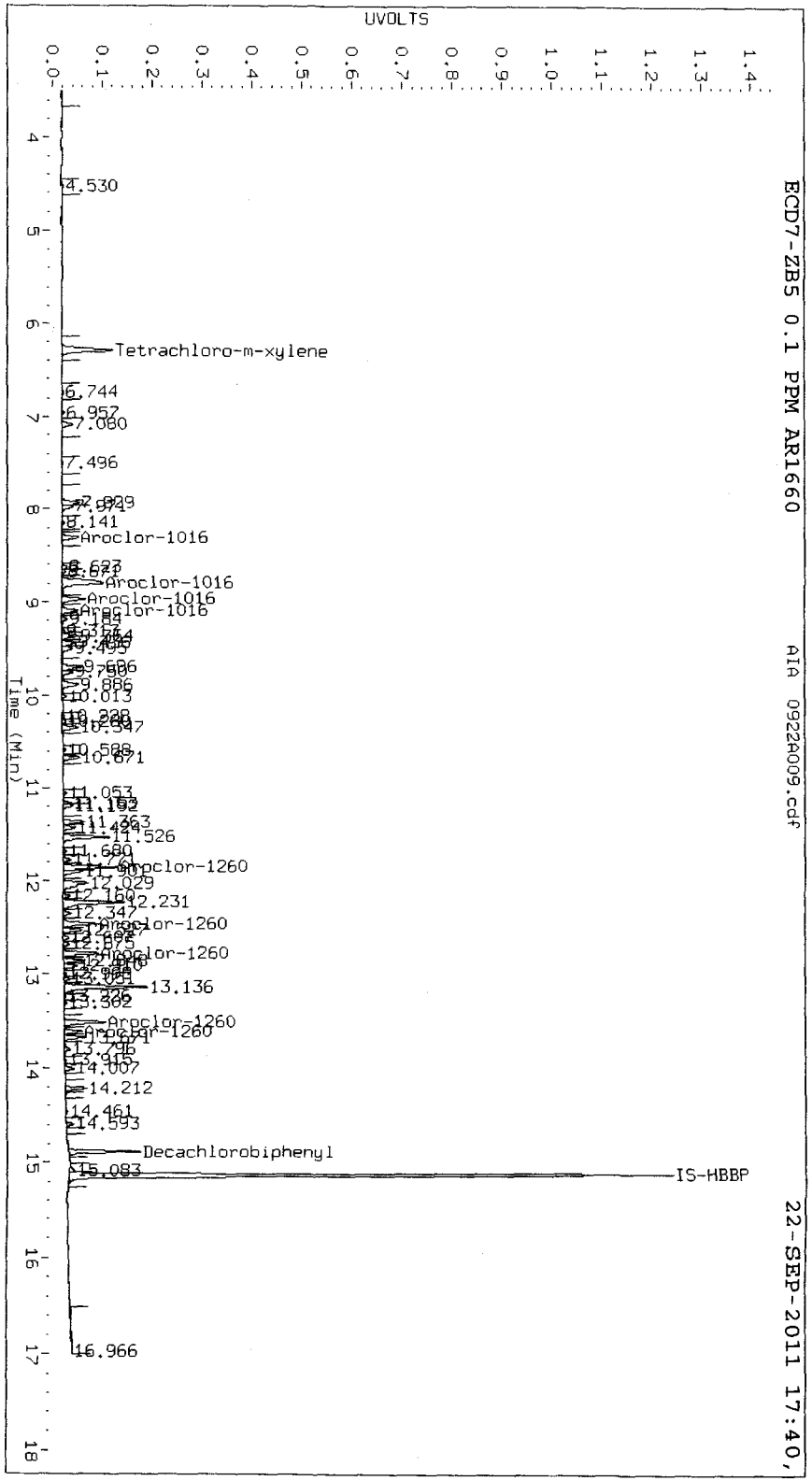
Aroclor-1016
Aroclor-1016
Aroclor-1260
Aroclor-1260
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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AIA 09224009.cdf
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UVOLTS
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1016
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Aroclor-1260
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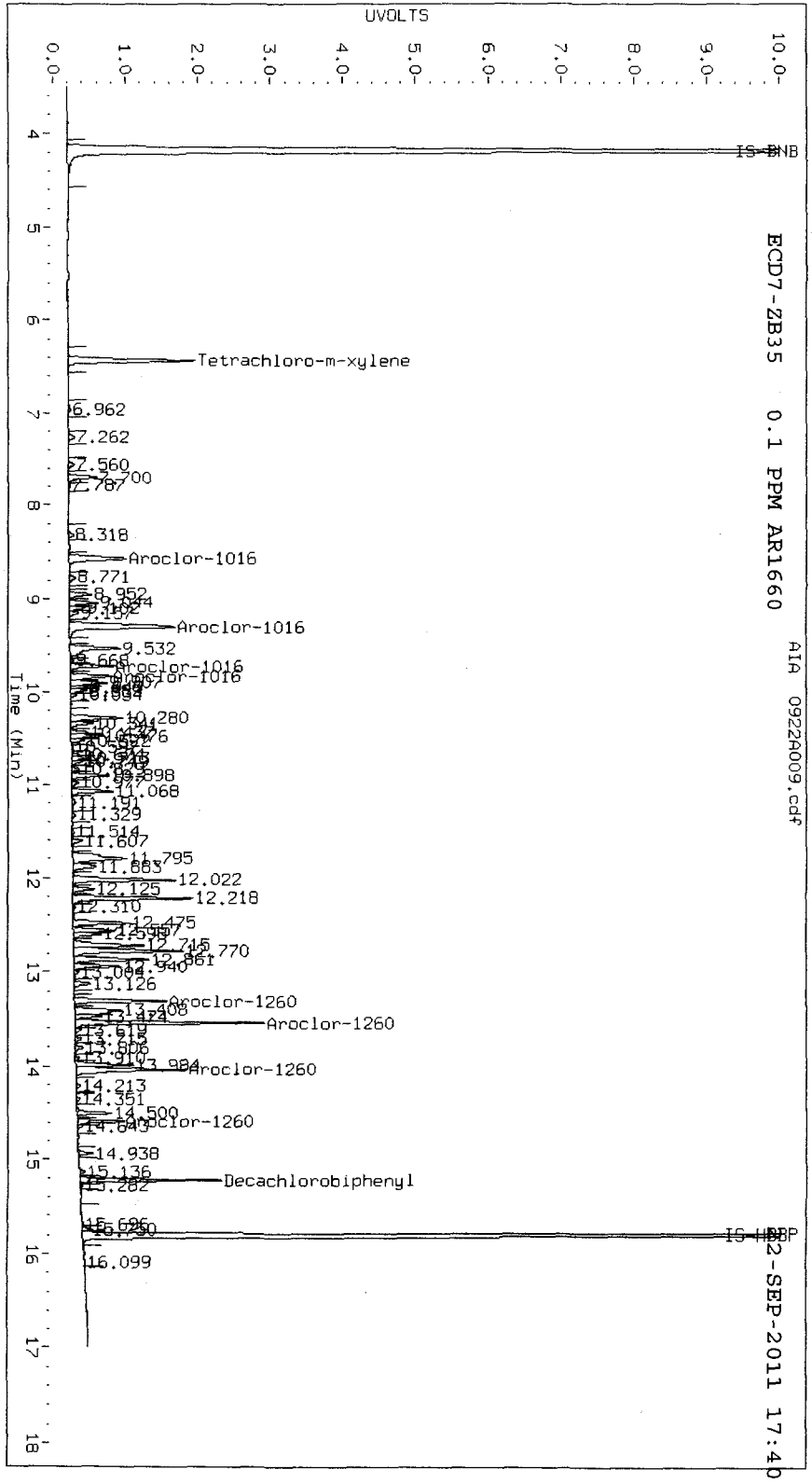
Decachlorobiphenyl
IS-HBBP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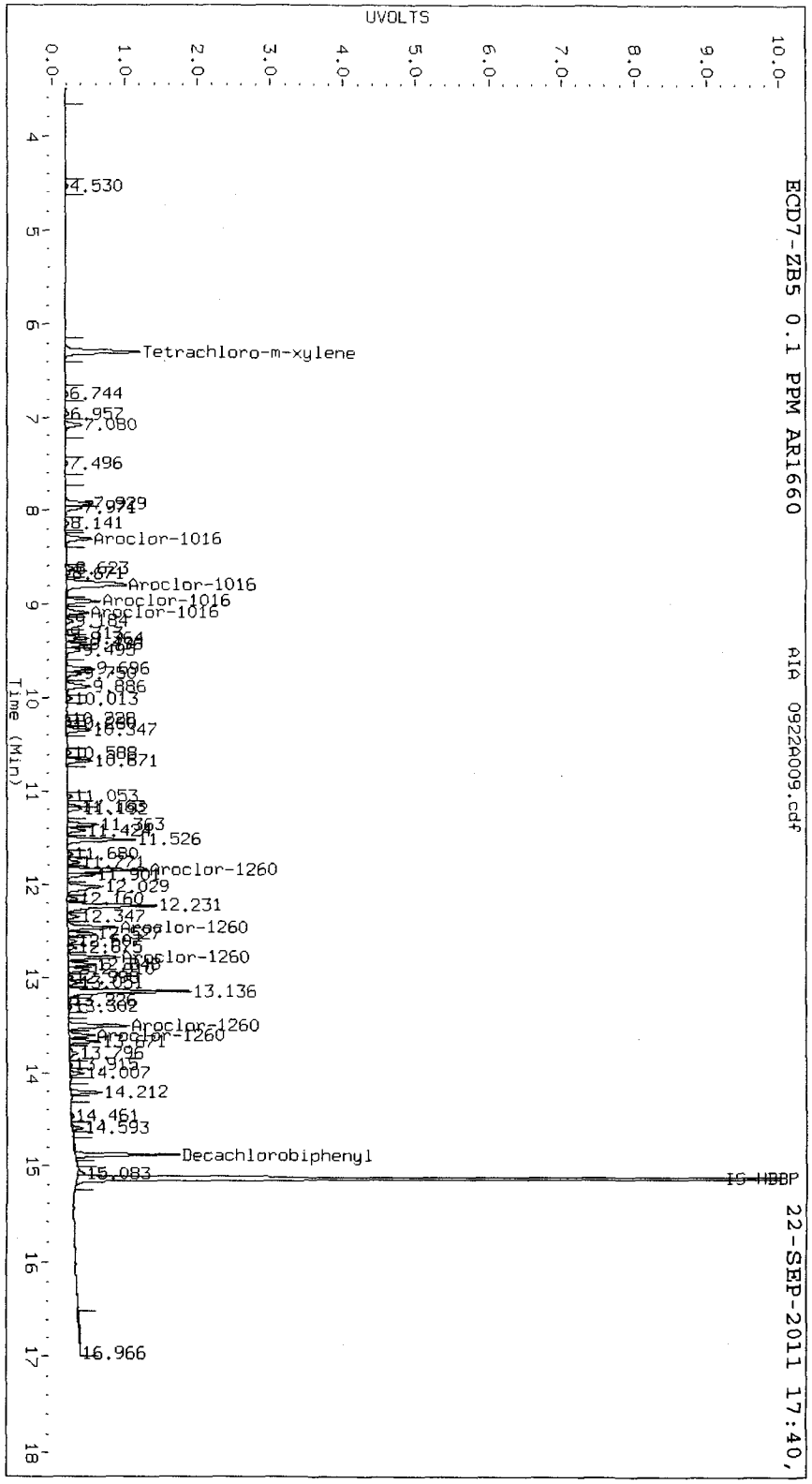
AIA 0922A009.cdf
22-SEP-2011 17:40
Time (Min)
IS-DNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-DBBP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ECD7-ZB5 0.1 PPM AR1660
AIA 0922A009.cdf
22-SEP-2011 17:40,
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-DBBP

TR97:00099

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A010.d
Data file 2: 20110922.B/ical-2.b/0922A010.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.5 PPM AR1660
Client ID:
Injection Date: 22-SEP-2011 18:03
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.293	0.001	2781326	6.431	0.001	4236800	41.9	39.9	4.9	Tetrachloro-m-xylen
14.885	0.001	2355039	15.225	0.000	2928191	41.4	37.9	8.8	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

JL 09/23/11

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	104.8	99.8
Decachlorobiphenyl	103.4	94.7

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5232204	3.5
Hexabromobiphenyl	4060201	4222160	4.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7989514	2.3
Hexabromobiphenyl	5725568	5928067	3.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

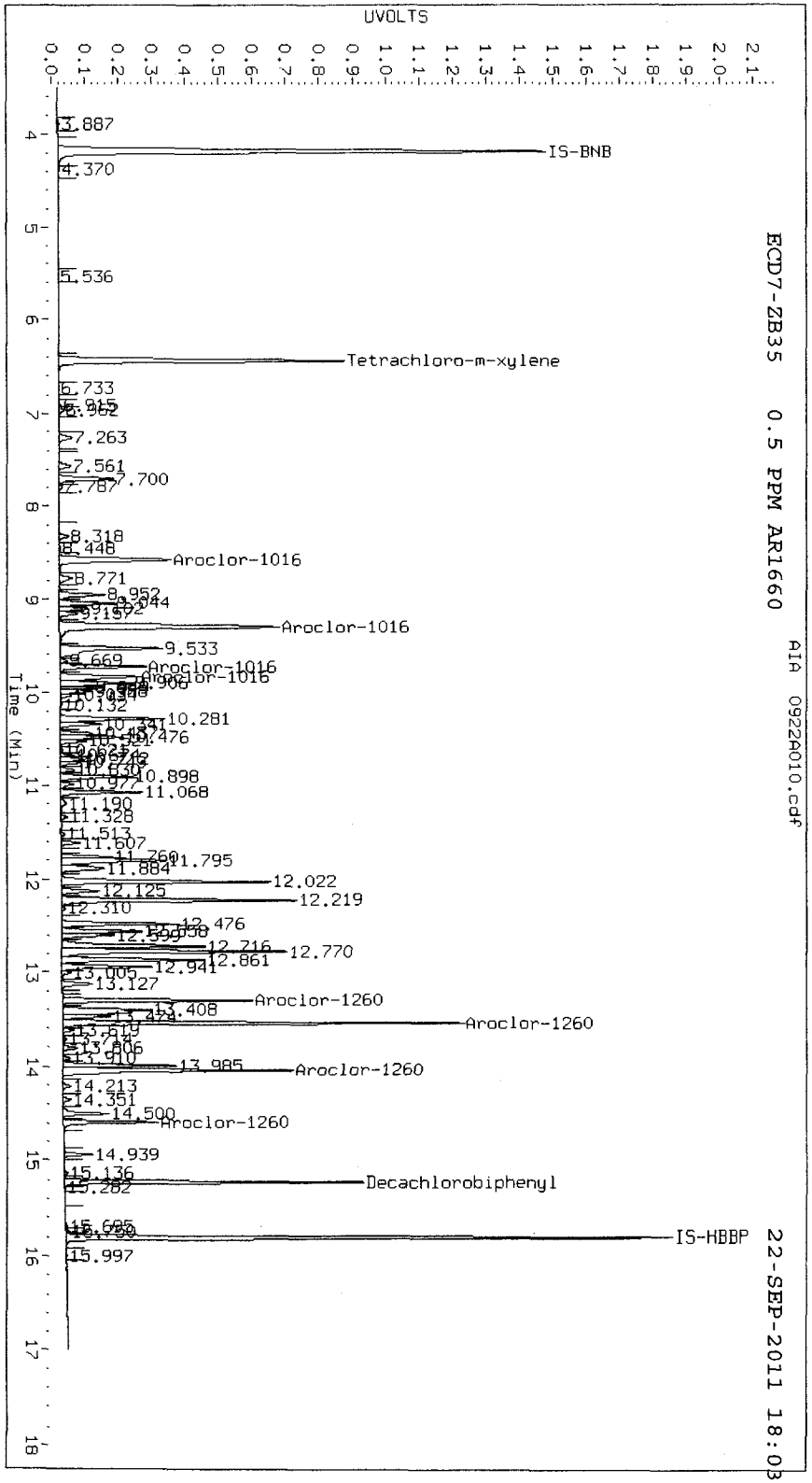
	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.306	0.000	787913	483.5	1	8.569	0.000	1918868	448.0
Aroclor-1016	2	8.791	0.000	2745356	487.5	2	9.298	0.000	4113388	459.5
Aroclor-1016	3	8.966	0.000	1050365	475.8	3	9.726	0.000	1050389	458.3
Aroclor-1016	4	9.094	0.000	728103	465.2	4	9.834	0.000	1177192	444.1
Total Col1Ave (4 peaks):				478.0		Total Col2Ave (4 peaks):			452.5	RPD = 5
Corrected Ave (3 peaks):				474.9		Corrected Ave (3 peaks):			450.1	RPD = 5
Aroclor-1260	1	11.853	0.000	2079056	489.3	1	13.304	0.000	2173116	451.3
Aroclor-1260	2	12.459	0.000	1365885	493.0	2	13.541	0.000	4469367	468.6
Aroclor-1260	3	12.774	0.000	1381017	499.9	3	14.035	0.000	2862508	459.0
Aroclor-1260	4	13.507	0.000	1754940	506.2	4	14.589	0.000	1014563	463.7
Aroclor-1260	5	13.607	0.000	677663	501.6	NS	---			----
Total Col1Ave (5 peaks):				498.0		Total Col2Ave (4 peaks):			460.6	RPD = 8
Corrected Ave (4 peaks):				495.9		Corrected Ave (3 peaks):			458.0	RPD = 8

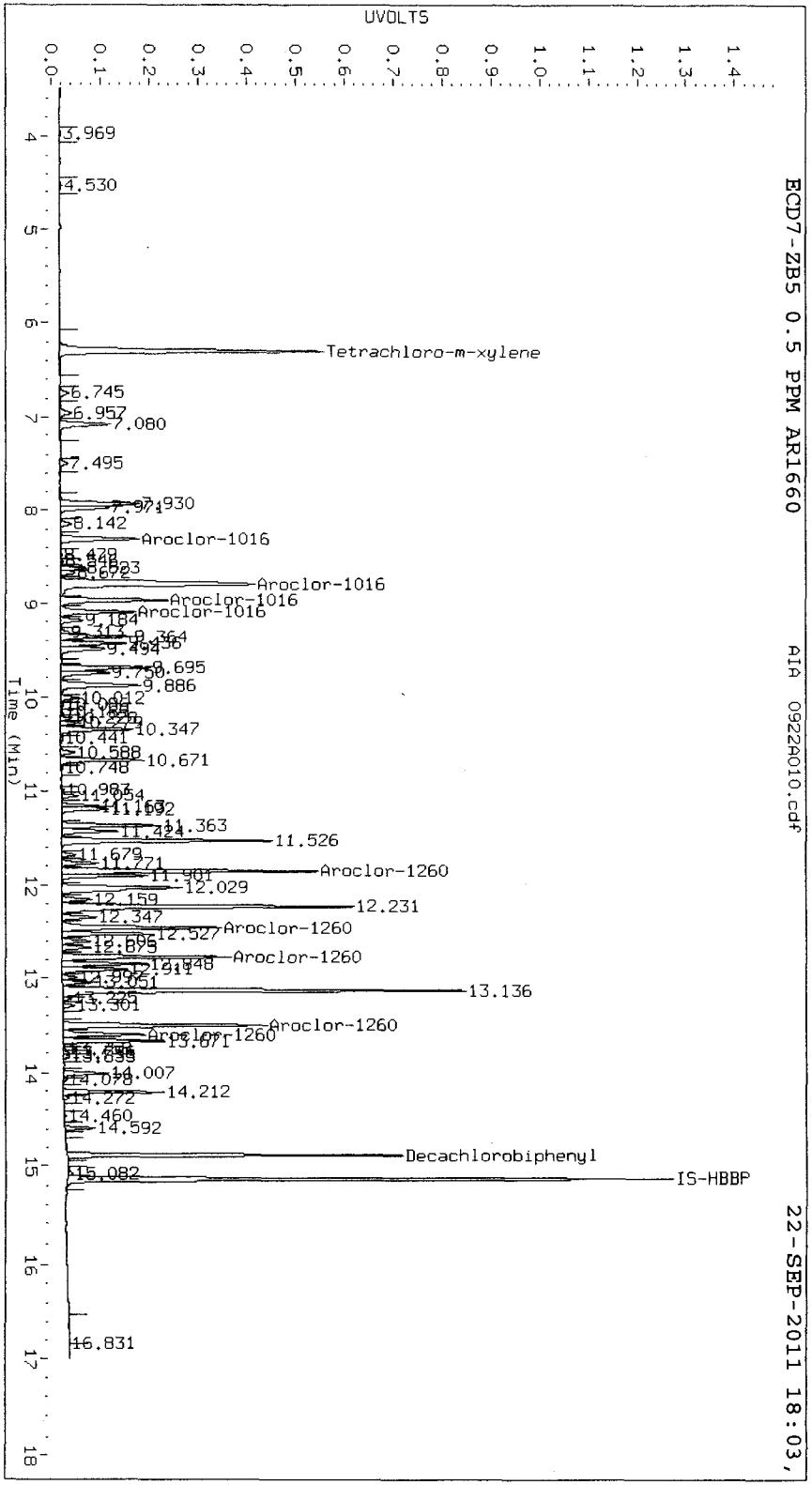
Total PCB Area Col1 (6.392 - 14.784) = 39606072 Col1 Total PCB = 1.0 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 56856765 Col2 Total PCB = 1.0 ppm*

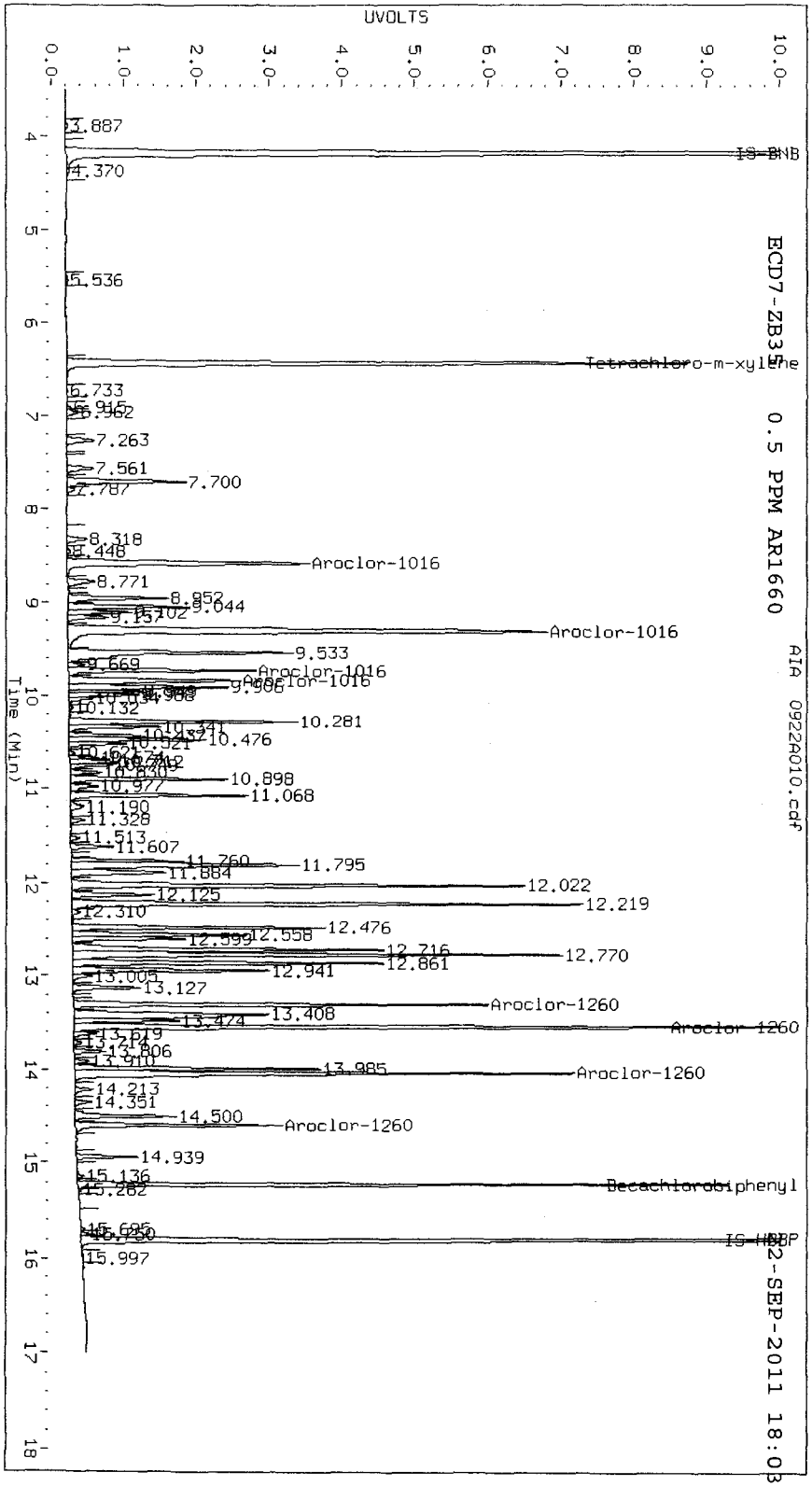
* Quantitated against AR1660 0.25ppm in Ical

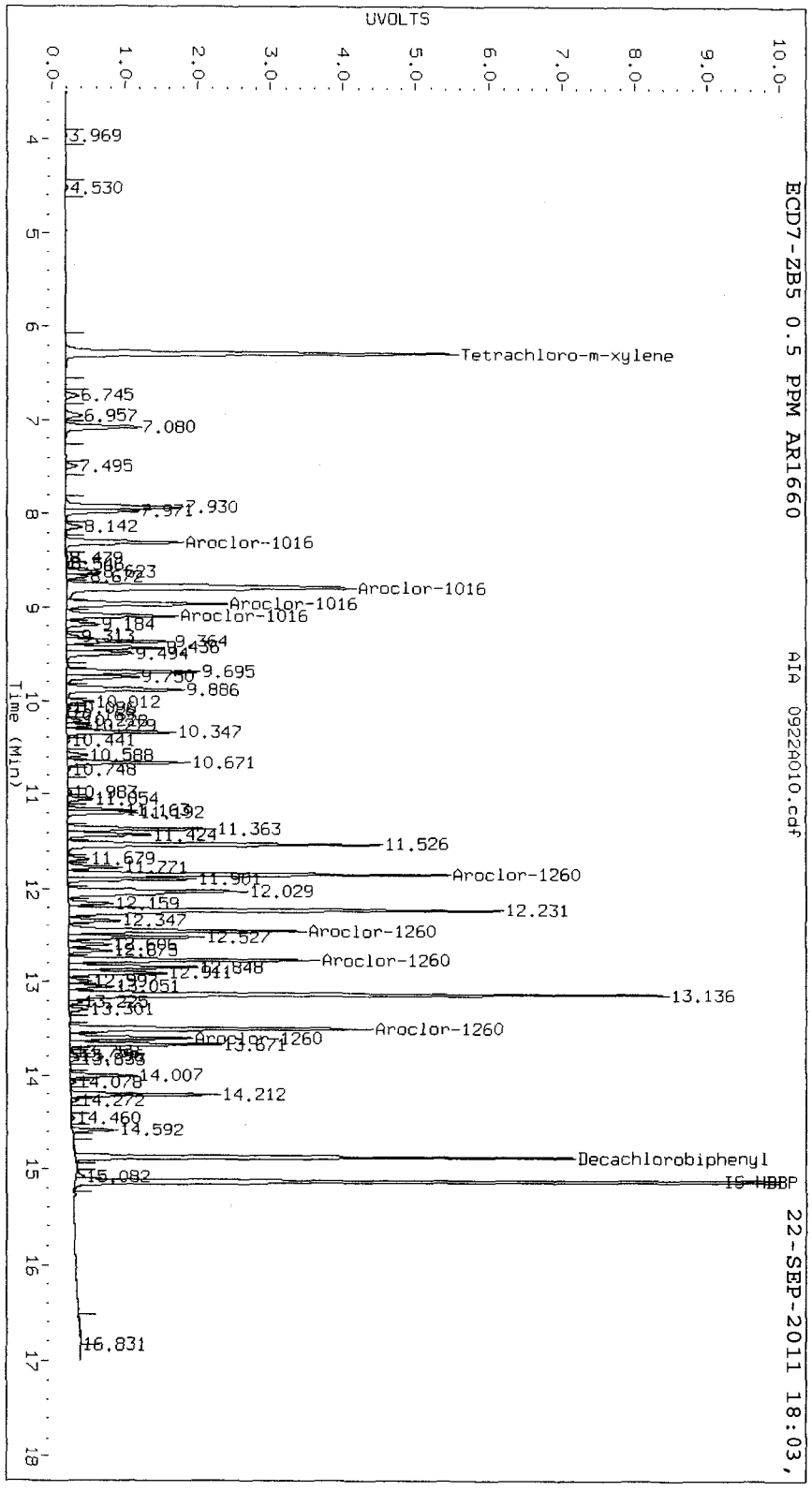
PCB-Form 10 Mod.


UVOLTS
ECD7-ZB35 0.5 PPM AR1660
AIA 0922A010.cdf
22-SEP-2011 18:03
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP


UVOLTS
ECD7-ZB5 0.5 PPM AR1660
AIA 0922A010.cdf
22-SEP-2011 18:03,
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP

TR07:001103


UVOLTS
ECD7-ZB35 0.5 PPM AR1660
AIA 0922A010.cdf
22-SEP-2011 18:03
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP


UVOLTS
ECD7-ZB5 0.5 PPM AR1660
AIA 0922A010.cdf
22-SEP-2011 18:03,
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP

TR97:001101

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A011.d
Data file 2: 20110922.B/ical-2.b/0922A011.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1242
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242
Client ID:
Injection Date: 22-SEP-2011 18:26
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.293	0.001	1386072	6.430	0.000	2178145	20.7	20.2	2.5	Tetrachloro-m-xylen
14.885	0.001	1150273	15.225	0.000	1442419	20.0	18.5	7.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.8	50.5
Decachlorobiphenyl	49.9	46.2

JCM 9/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5272812	4.3
Hexabromobiphenyl	4060201	4271852	5.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8109687	3.8
Hexabromobiphenyl	5725568	5984583	4.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	ZB5 Col Shift	Area	Amount	Peak#	RT	ZB35 Col Shift	Area	Amount
Aroclor-1242	1	8.305	0.000	321095	250.0	1	8.568	0.000	820989	250.0
Aroclor-1242	2	8.792	0.000	1112165	250.0	2	9.298	0.000	1718999	250.0
Aroclor-1242	3	8.965	0.000	431552	250.0	3	9.726	0.000	452109	250.0
Aroclor-1242	4	10.586	0.000	395091	250.0	4	11.192	0.000	719737	250.0

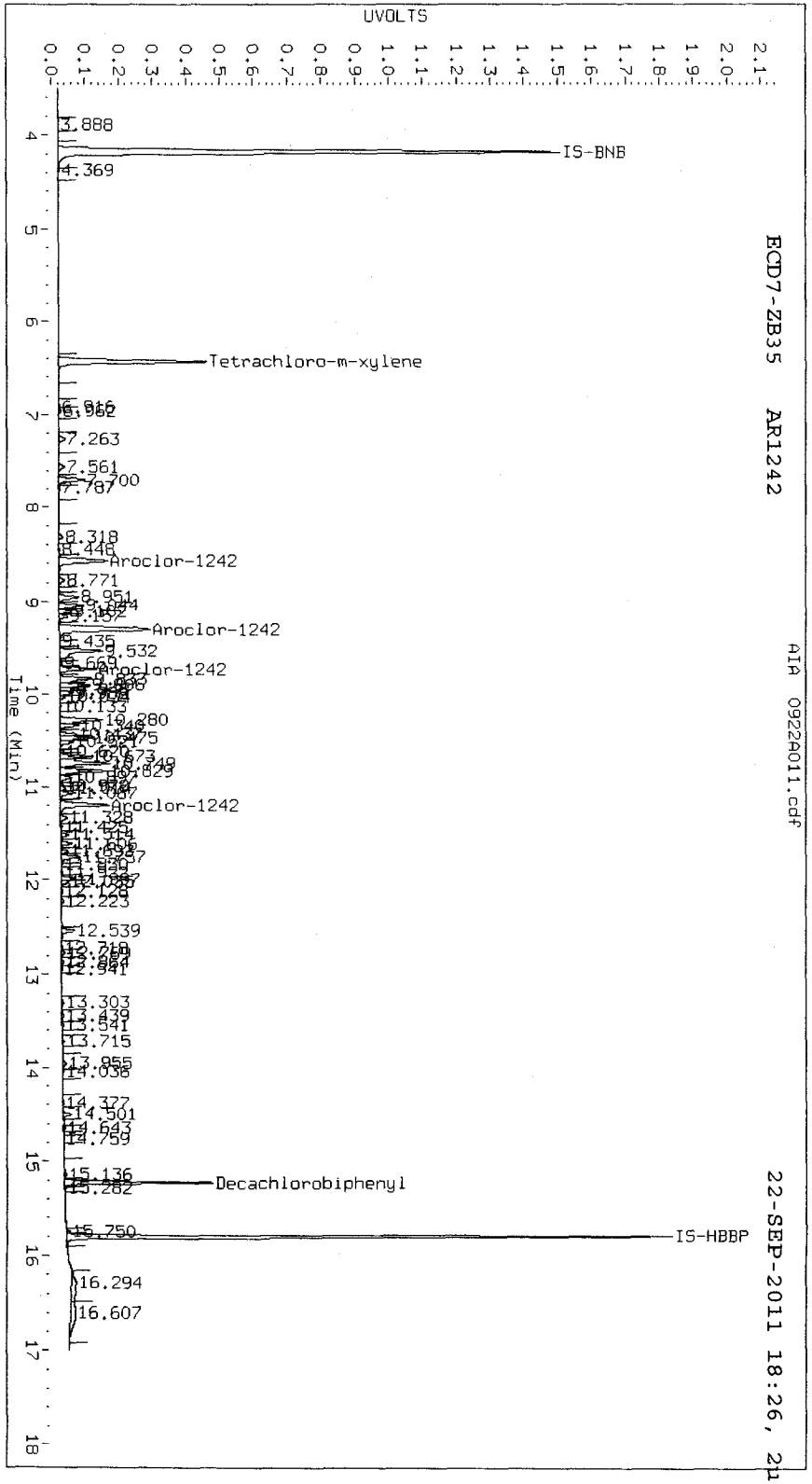
Total Col1Ave (4 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0

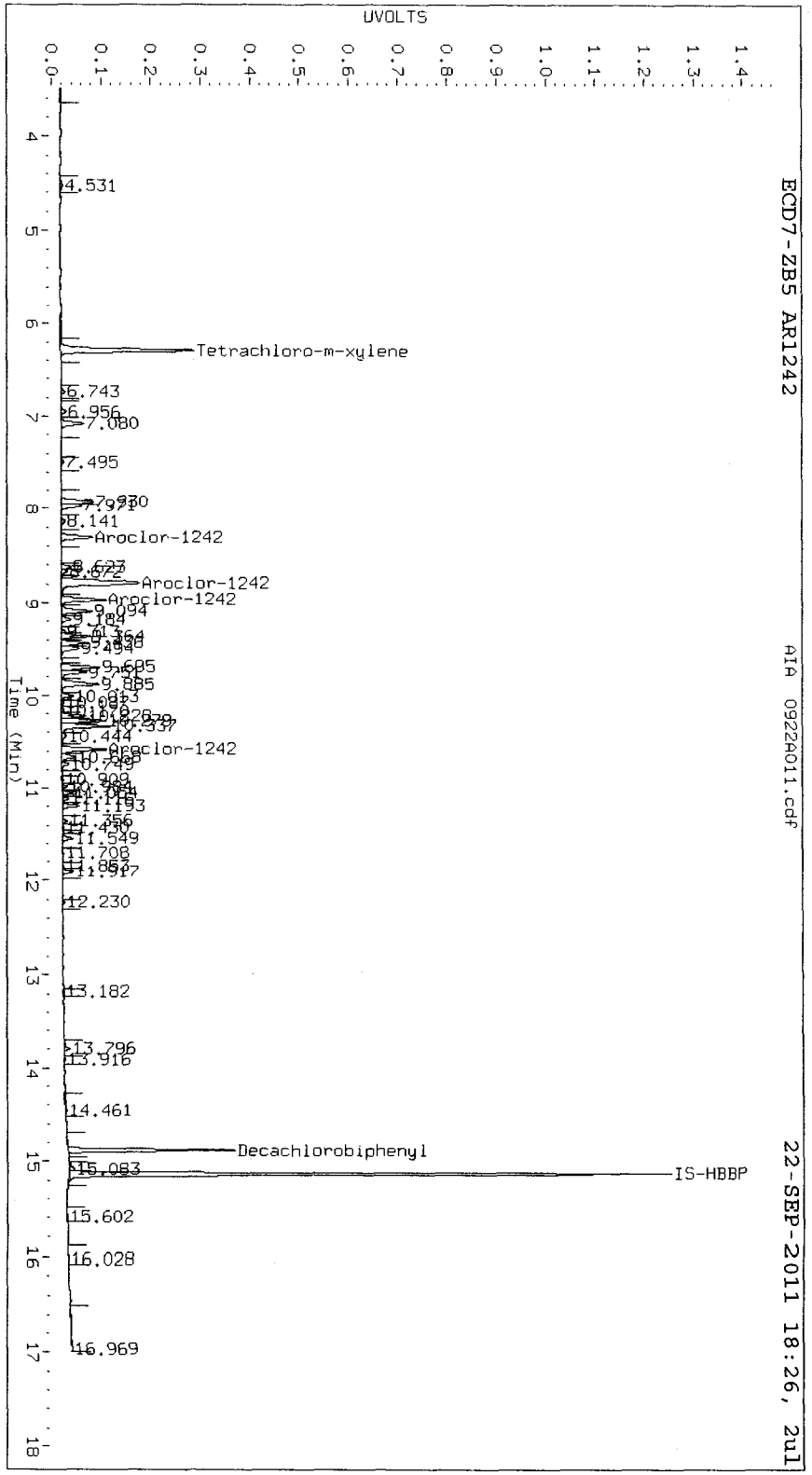
Corrected Ave (3 peaks): 250.0 Corrected Ave (3 peaks): 250.0 RPD = 0

Total PCB Area Col1 (6.392 - 14.784) = 7546628 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 12690270 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical


UVOLTS
ECD7-ZB35 AR1242
AIA 0922A011.cdf
22-SEP-2011 18:26, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1242
Decachlorobiphenyl
IS-HBBP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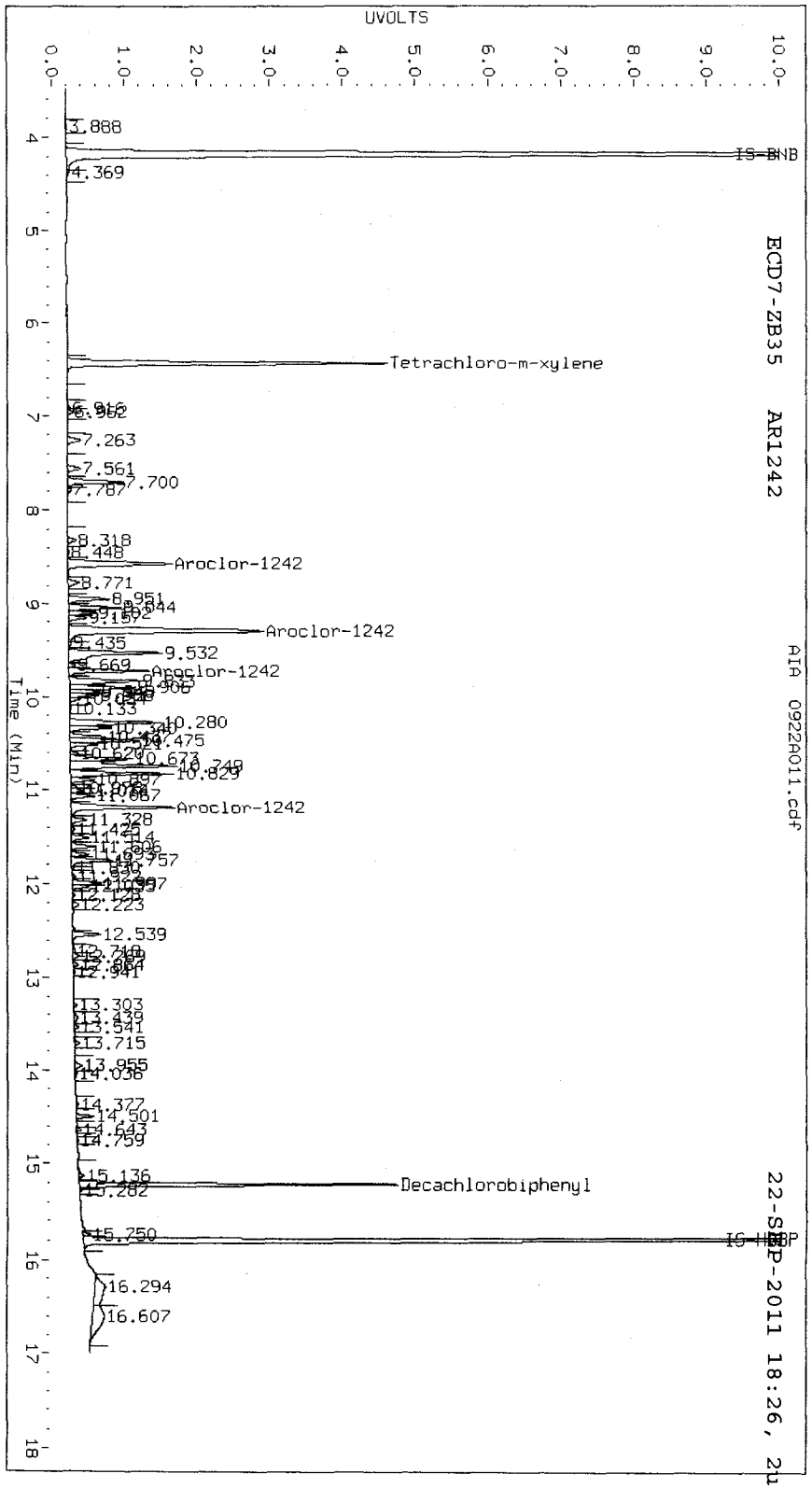
ECD7-ZB5 AR1242
AIA 0922A011.cdf
22-SEP-2011 18:26, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1242
Decachlorobiphenyl
IS-HBBP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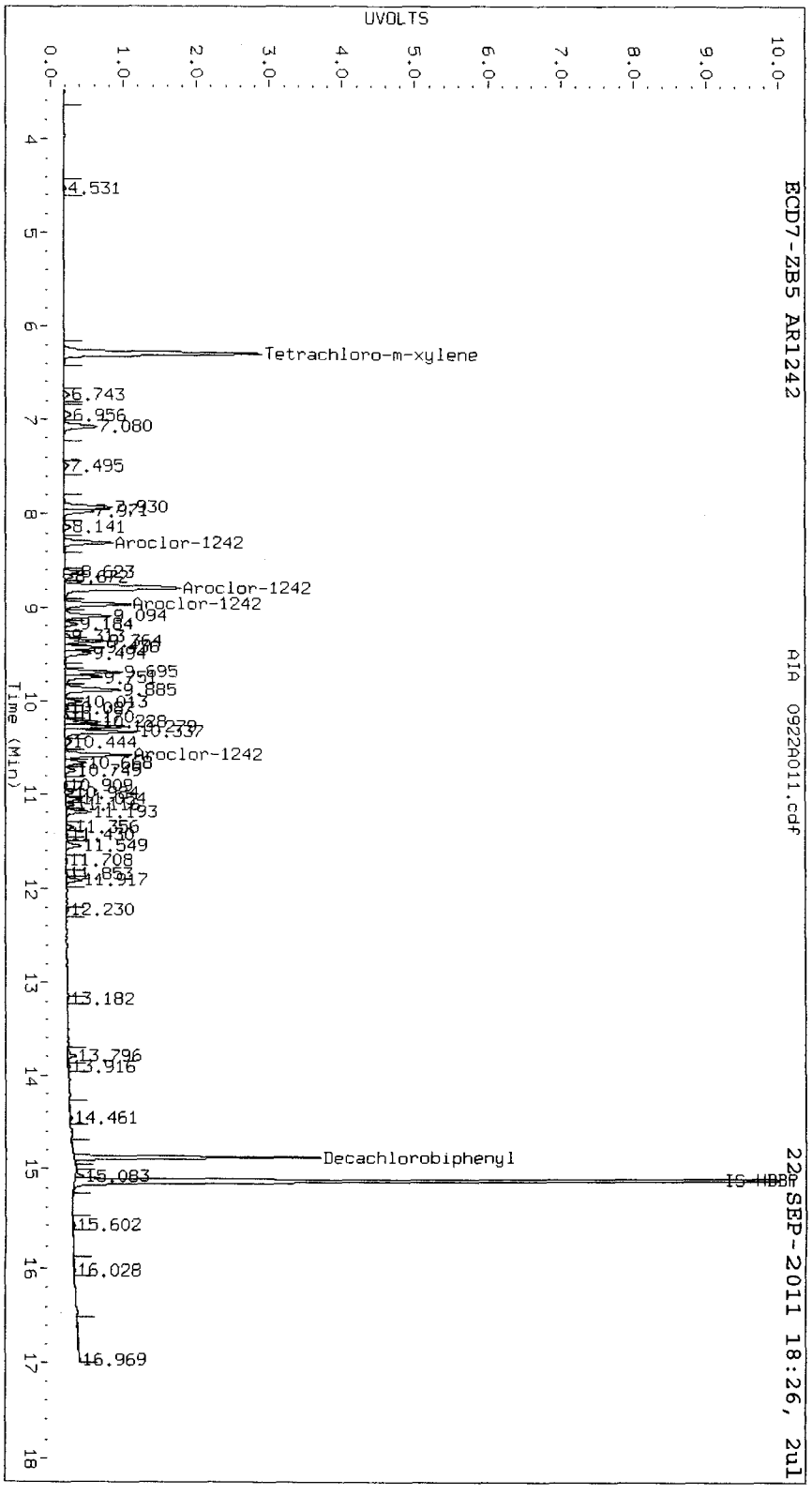
ECD7-ZB35 AR1242
AIA 0922A011.cdf
22-SEP-2011 18:26, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1242
Decachlorobiphenyl
IS-HBB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22-SEP-2011 18:26, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1242
Decachlorobiphenyl
IS-HBB

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A012.d
Data file 2: 20110922.B/ical-2.b/0922A012.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1248
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248
Client ID:
Injection Date: 22-SEP-2011 18:49
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	1406892	6.430	0.000	2230521	21.4	21.0	1.7	Tetrachloro-m-xylen
14.885	0.001	1183725	15.225	0.000	1487273	20.6	19.0	7.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	53.4	52.5
Decachlorobiphenyl	51.4	47.6

JC 09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5196006	2.8
Hexabromobiphenyl	4060201	4268552	5.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7992397	2.3
Hexabromobiphenyl	5725568	5991342	4.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1248	1	9.364	0.000	435793	250.0	1	9.833	0.000	796456	250.0
Aroclor-1248	2	9.695	0.000	529929	250.0	2	10.281	0.000	878175	250.0
Aroclor-1248	3	10.279	0.000	631845	250.0	3	10.829	0.000	878410	250.0
Aroclor-1248	4	10.585	0.000	589550	250.0	4	11.191	0.000	1128541	250.0

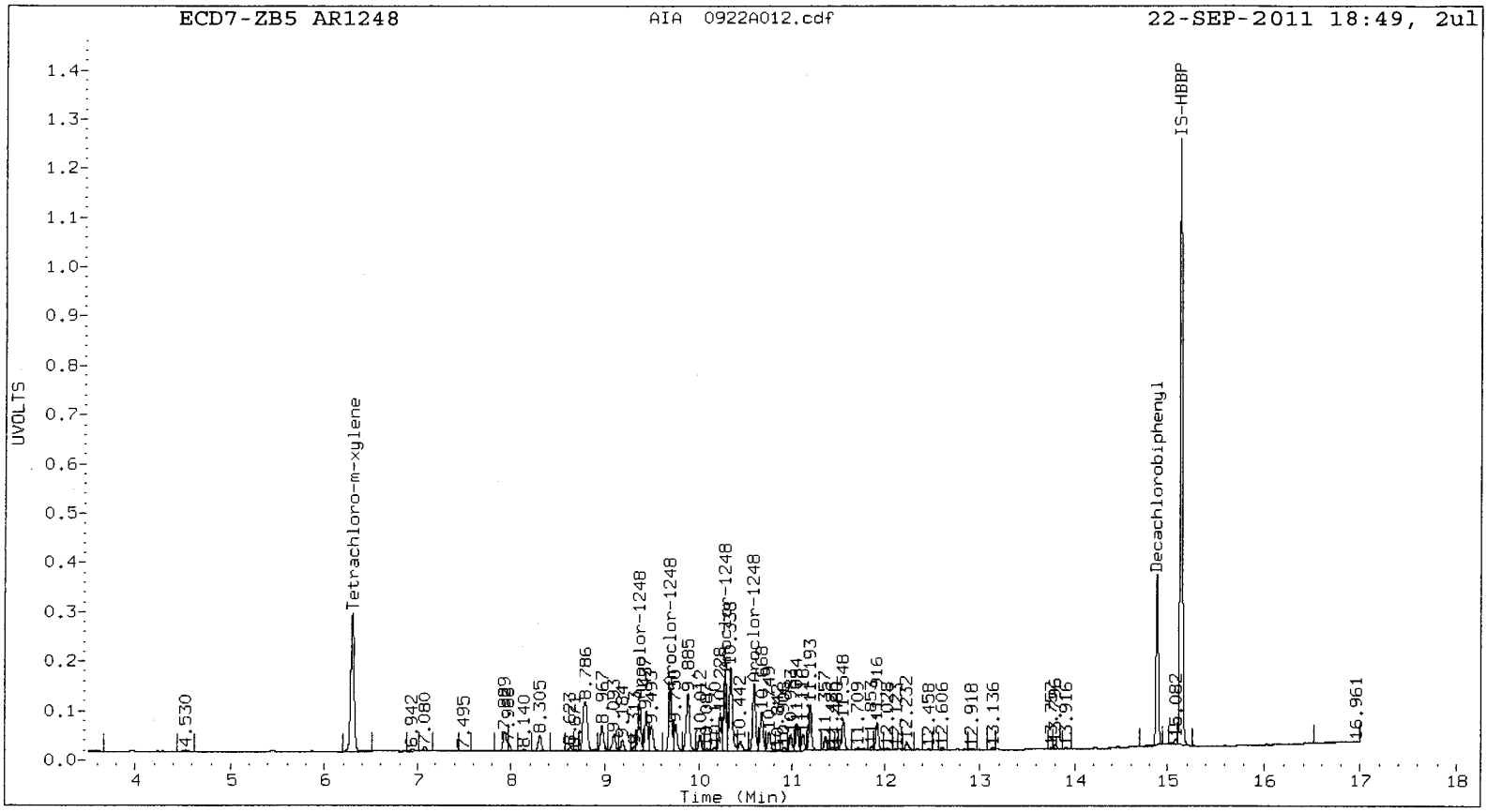
Total Col1Ave (4 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0

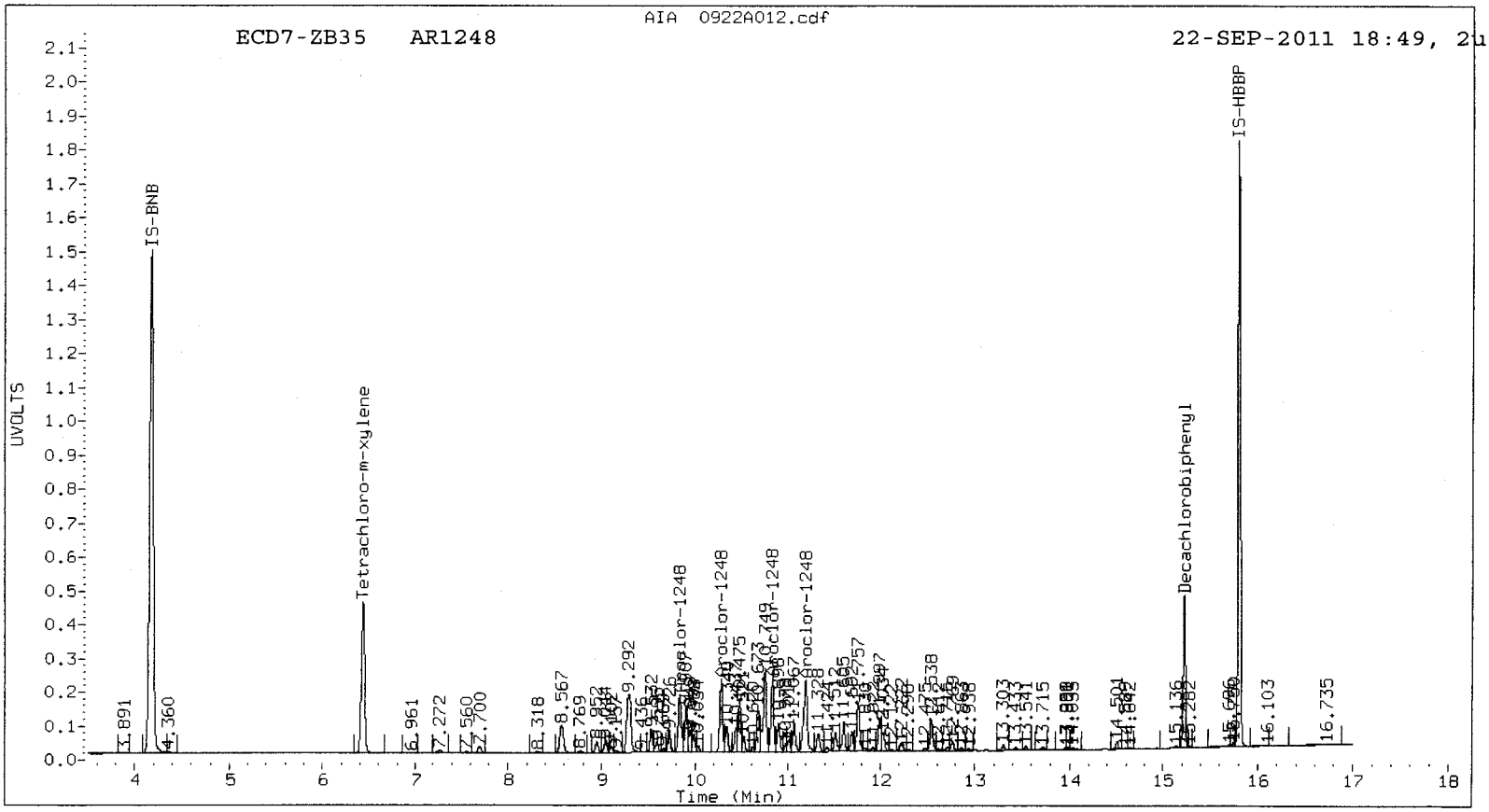
Corrected Ave (3 peaks): 250.0 Corrected Ave (3 peaks): 250.0 RPD = 0

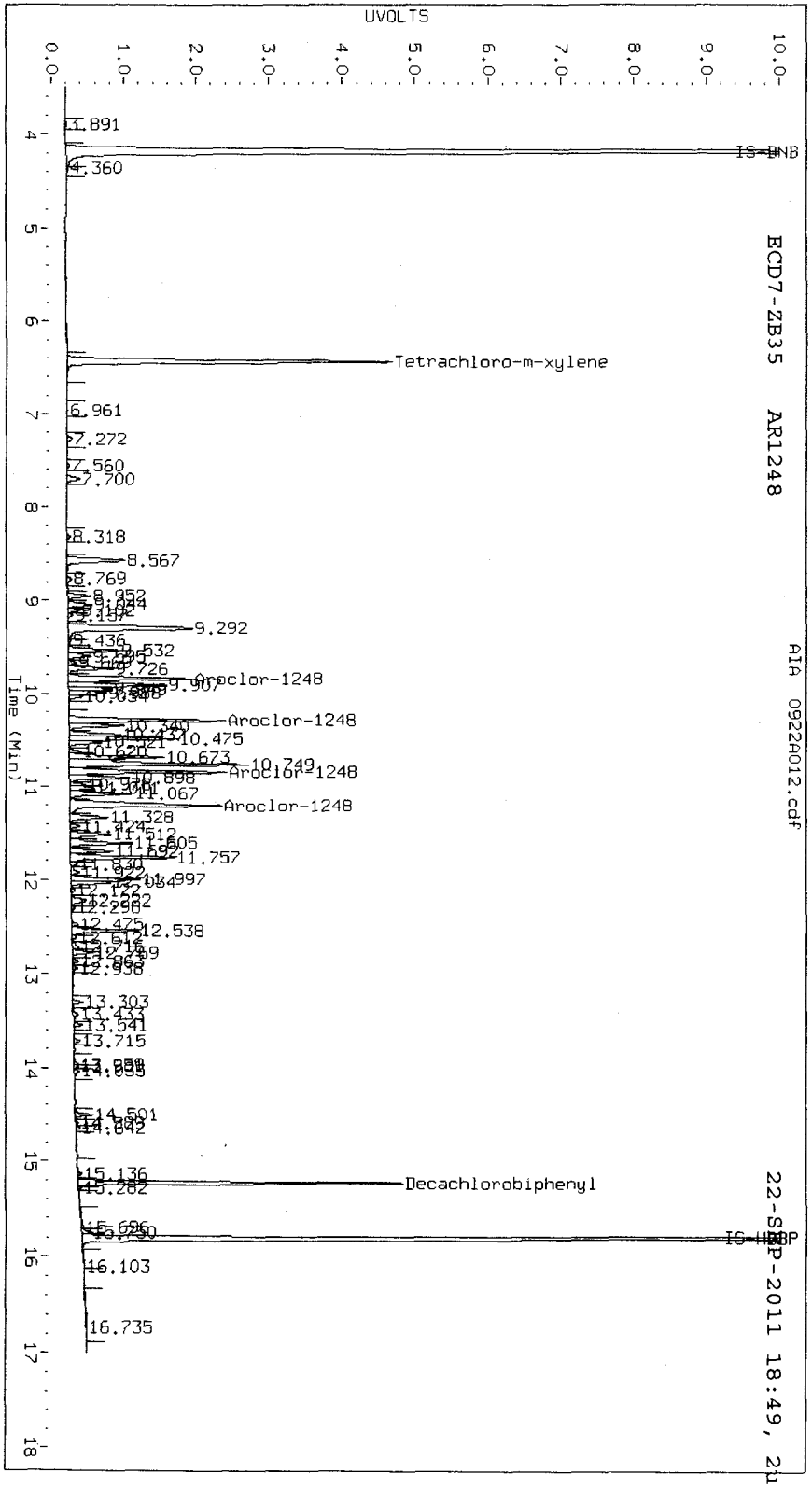
Total PCB Area Col1 (6.392 - 14.784) = 9334162 Col1 Total PCB = 0.2 ppm*

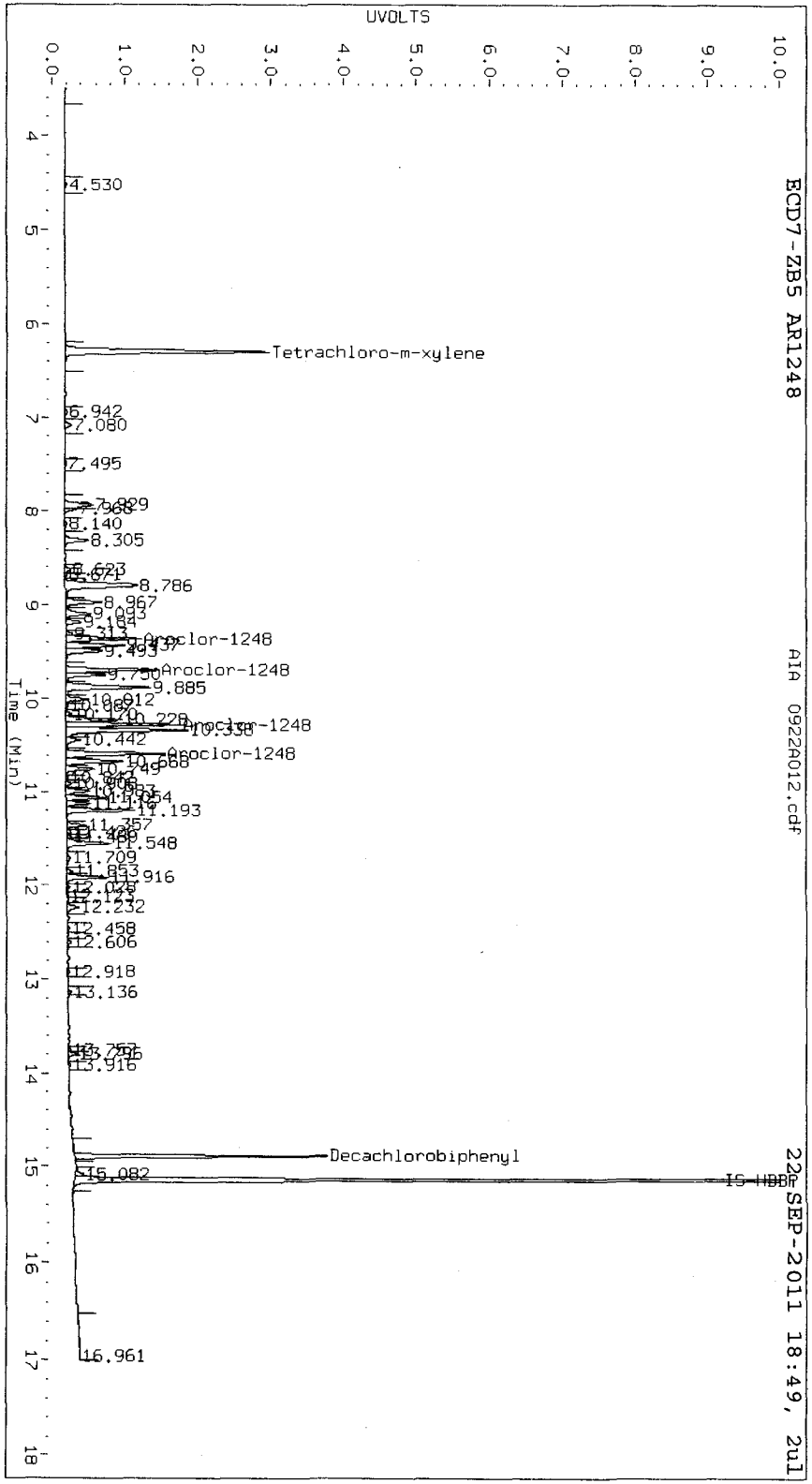
Total PCB Area Col2 (6.531 - 15.125) = 15372264 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical


ECD7-ZB5 AR1248
AIA 0922A012.cdf
22-SEP-2011 18:49, 2ul
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP


AIA 0922A012.cdf
ECD7-ZB35 AR1248
22-SEP-2011 18:49, 2u
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP


UVOLTS
ECD7-ZB35 AR1248
AIA 0922A012.cdf
22-SEP-2011 18:49, 2u
Time (Min)
IS-DNB
Tetrachloro-m-xylene
Aroclor-1248
Decachlorobiphenyl
IS-HBBP


UVOLTS
ECD7-ZB5 AR1248
AIA 0922A012.cdf
22-SEP-2011 18:49, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1248
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A013.d
Data file 2: 20110922.B/ical-2.b/0922A013.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1254
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254
Client ID:
Injection Date: 22-SEP-2011 19:12
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	1358119	6.431	0.000	2166758	20.4	20.2	1.3	Tetrachloro-m-xylen
14.884	0.000	1159875	15.225	0.000	1452068	19.9	18.5	7.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.0	50.4
Decachlorobiphenyl	49.9	46.2

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5247082	3.8
Hexabromobiphenyl	4060201	4311500	6.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8088675	3.6
Hexabromobiphenyl	5725568	6030479	5.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

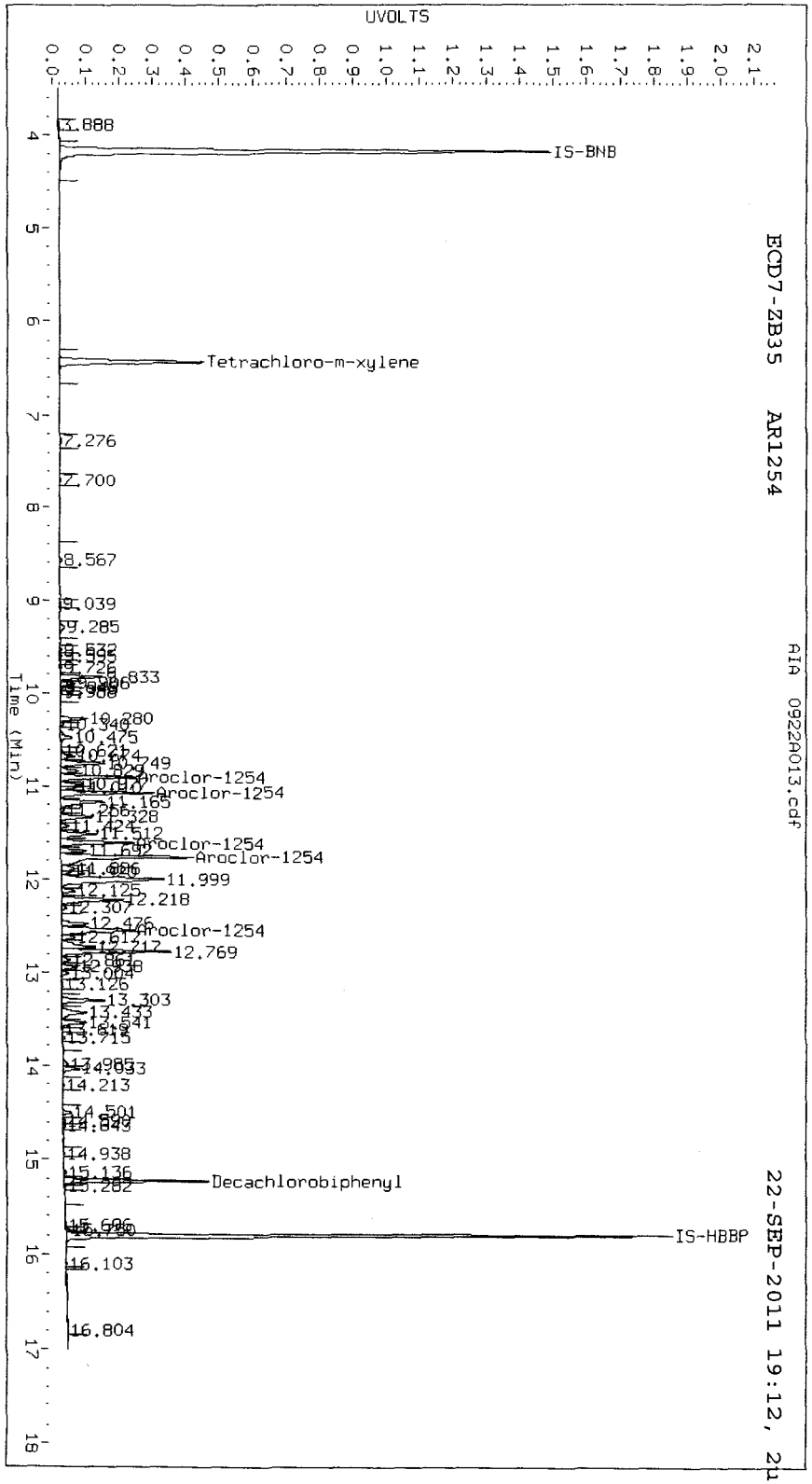
	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	10.346	0.000	703895	250.0	1	10.897	0.000	877307	250.0
Aroclor-1254	2	10.668	0.000	971499	250.0	2	11.068	0.000	1132955	250.0
Aroclor-1254	3	11.053	0.000	607524	250.0	3	11.606	0.000	892477	250.0
Aroclor-1254	4	11.192	0.000	1172627	250.0	4	11.758	0.000	1912072	250.0
Aroclor-1254	5	11.911	0.000	779811	250.0	5	12.543	0.000	1155471	250.0

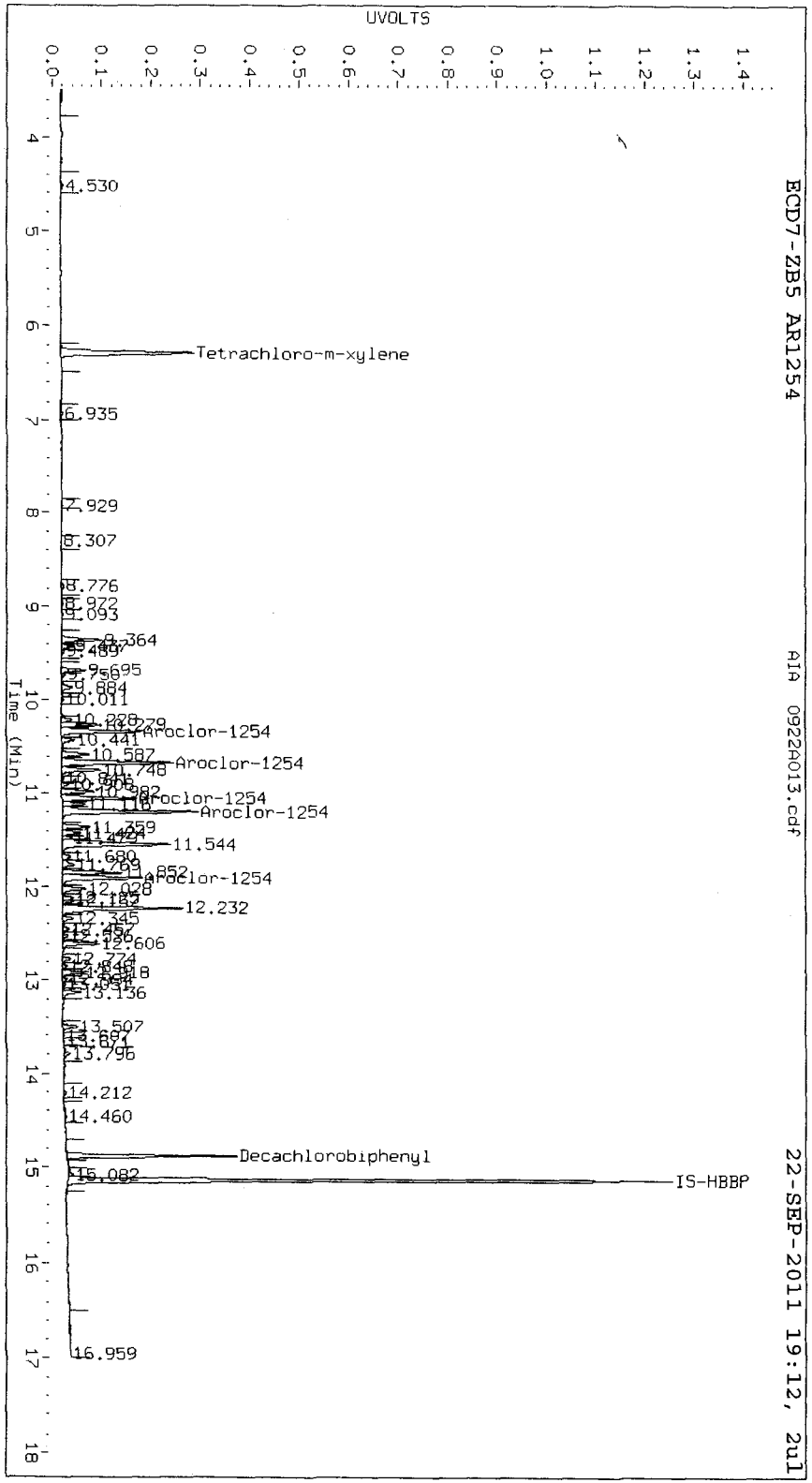
Total Col1Ave (5 peaks): 250.0 Total Col2Ave (5 peaks): 250.0 RPD = 0
Corrected Ave (4 peaks): 250.0 Corrected Ave (4 peaks): 250.0 RPD = 0

Total PCB Area Col1 (6.392 - 14.784) = 11878728 Col1 Total PCB = 0.3 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 18765007 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical


UVOLTS
ECD7-ZB35 AR1254
AIA 0922A013.cdf
22-SEP-2011 19:12, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1254
Decachlorobiphenyl
IS-HBBP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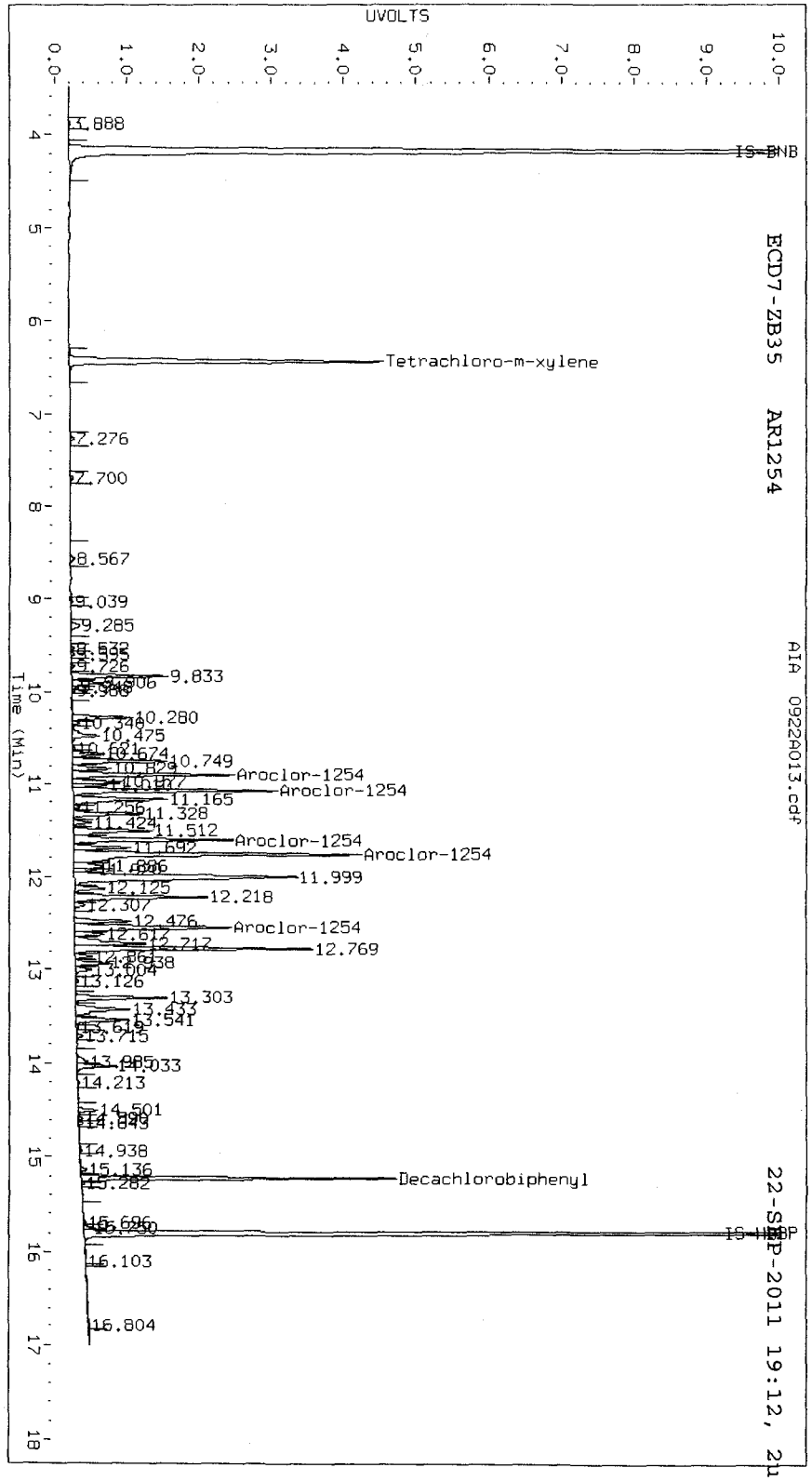
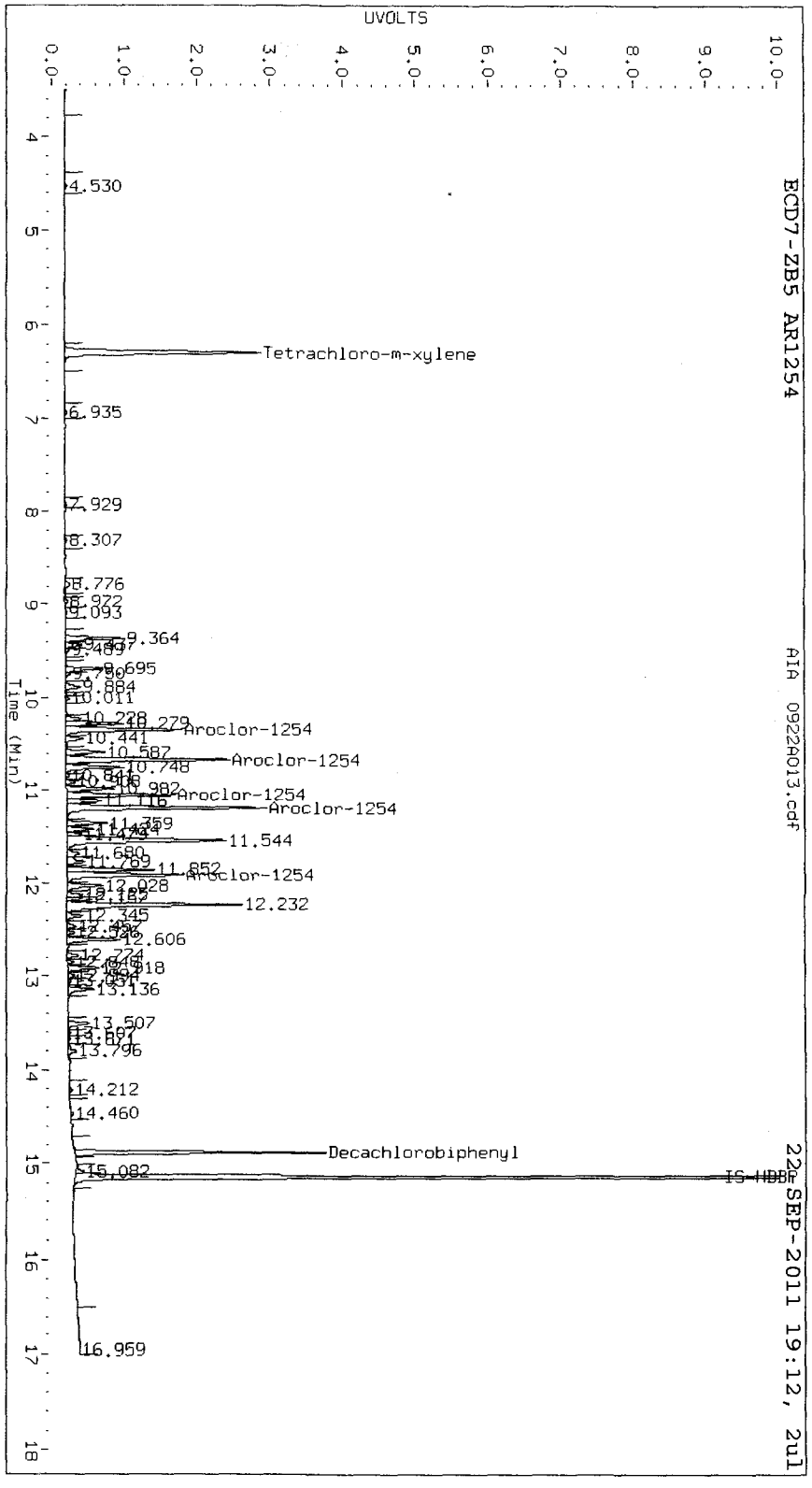
ECD7-ZB5 AR1254
AIA 0922A013.cdf
22-SEP-2011 19:12, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1254
Decachlorobiphenyl
IS-HBBP

TR07:00115


UVOLTS
ECD7-ZB35 AR1254
AIA 0922A013.cdf
22-SEP-2011 19:12, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1254
Decachlorobiphenyl
IS-IBBP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ECD7-ZB5 AR1254
AIA 0922A013.cdf
22-SEP-2011 19:12, 2u1
Time (Min)
Tetrachloro-m-xylene
Aroclor-1254
Decachlorobiphenyl
IS-IBBP

TR07:00116

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A014.d
Data file 2: 20110922.B/ical-2.b/0922A014.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR2162
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162
Client ID:
Injection Date: 22-SEP-2011 19:35
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.293	0.001	1442368	6.431	0.001	2202479	21.9	21.0	4.2	Tetrachloro-m-xylen
14.885	0.001	1190221	15.225	0.000	1500595	20.5	19.0	7.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	54.6	52.4
Decachlorobiphenyl	51.3	47.5

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5203932	2.9
Hexabromobiphenyl	4060201	4298335	5.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7907003	1.2
Hexabromobiphenyl	5725568	6052713	5.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1221	1	6.747	0.000	169872	250.0	1	7.259	0.000	306725	250.0
Aroclor-1221	2	6.958	0.000	128159	250.0	2	7.562	0.000	188607	250.0
Aroclor-1221	3	7.081	0.000	421088	250.0	3	7.700	0.000	577240	250.0
Aroclor-1221	NS	---			----	4	7.787	0.000	93776	250.0

Total Col1Ave (3 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0
Corrected Ave: < 3 Peaks Corrected Ave (3 peaks): 250.0

Aroclor-1262	1	12.458	0.000	1223276	250.0	1	12.860	0.000	1565331	250.0
Aroclor-1262	2	12.774	0.000	987740	250.0	2	13.303	0.000	1546851	250.0
Aroclor-1262	3	13.136	0.000	2321592	250.0	3	13.540	0.000	3019457	250.0
Aroclor-1262	4	13.607	0.000	925127	250.0	4	13.983	0.000	1321913	250.0
Aroclor-1262	5	13.671	0.000	938472	250.0	5	14.035	0.000	1972740	250.0

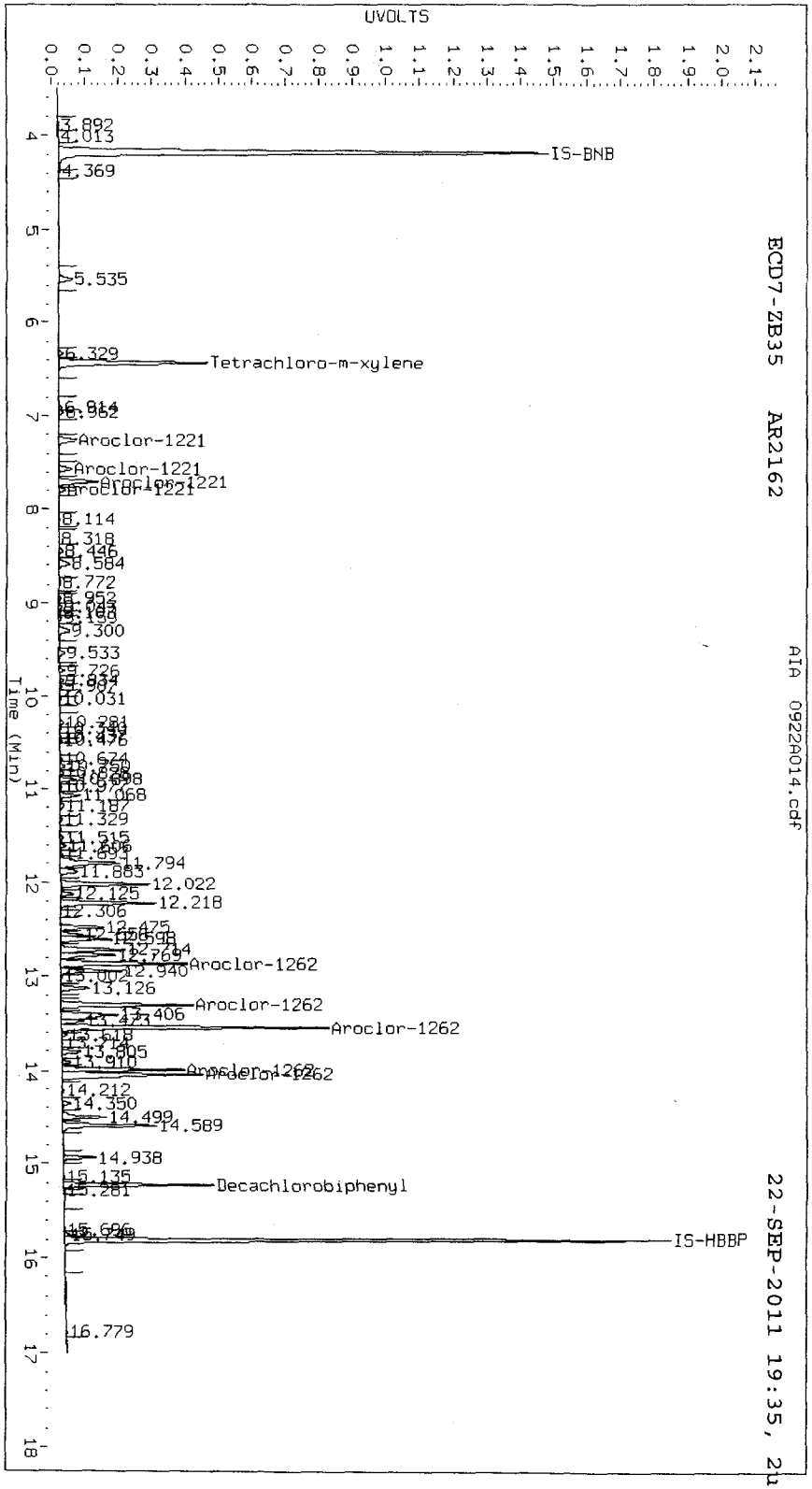
Total Col1Ave (5 peaks): 250.0 Total Col2Ave (5 peaks): 250.0 RPD = 0
Corrected Ave (4 peaks): 250.0 Corrected Ave (4 peaks): 250.0 RPD = 0

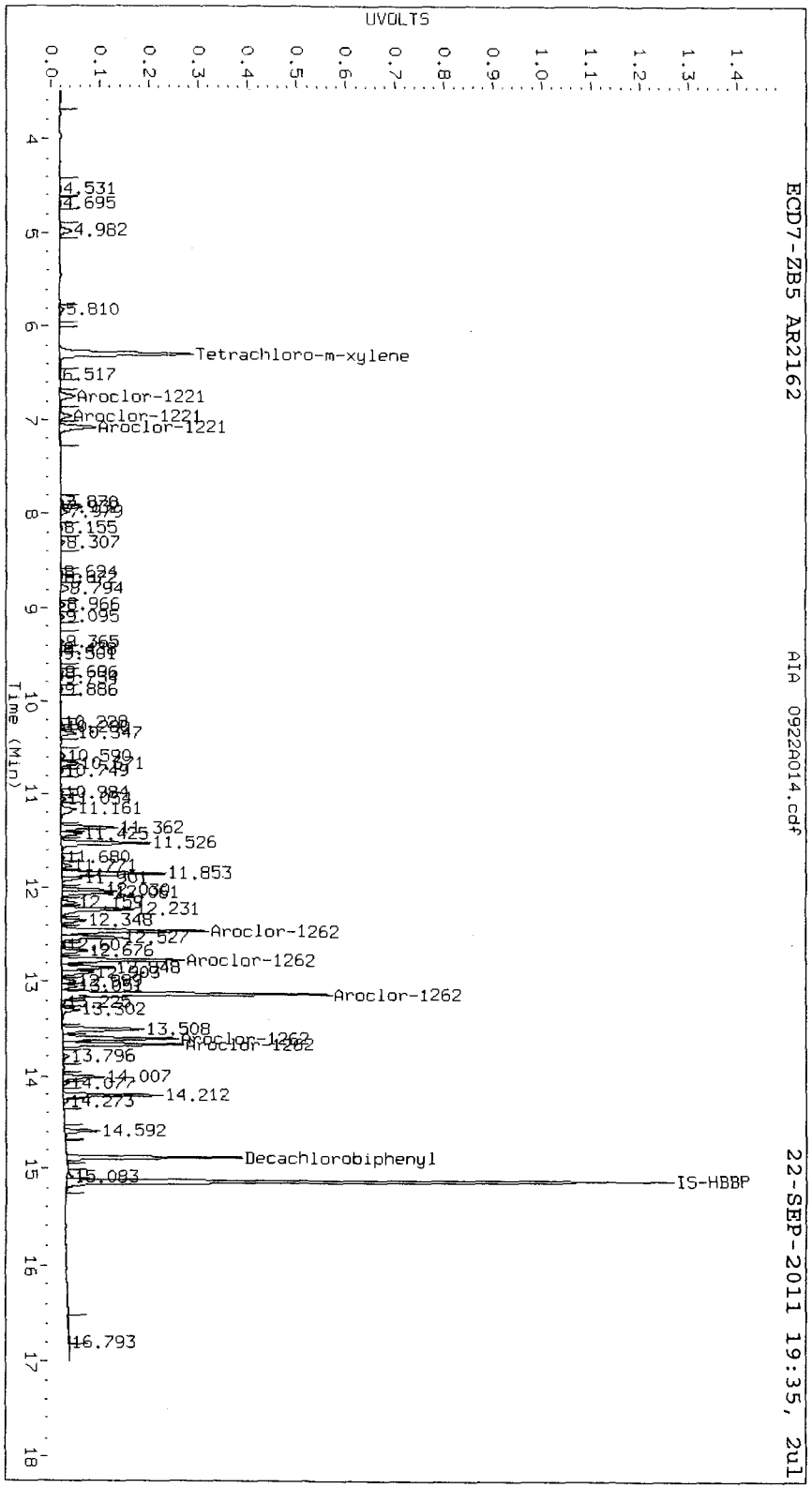
Total PCB Area Col1 (6.392 - 14.784) = 16649760 Col1 Total PCB = 0.4 ppm*

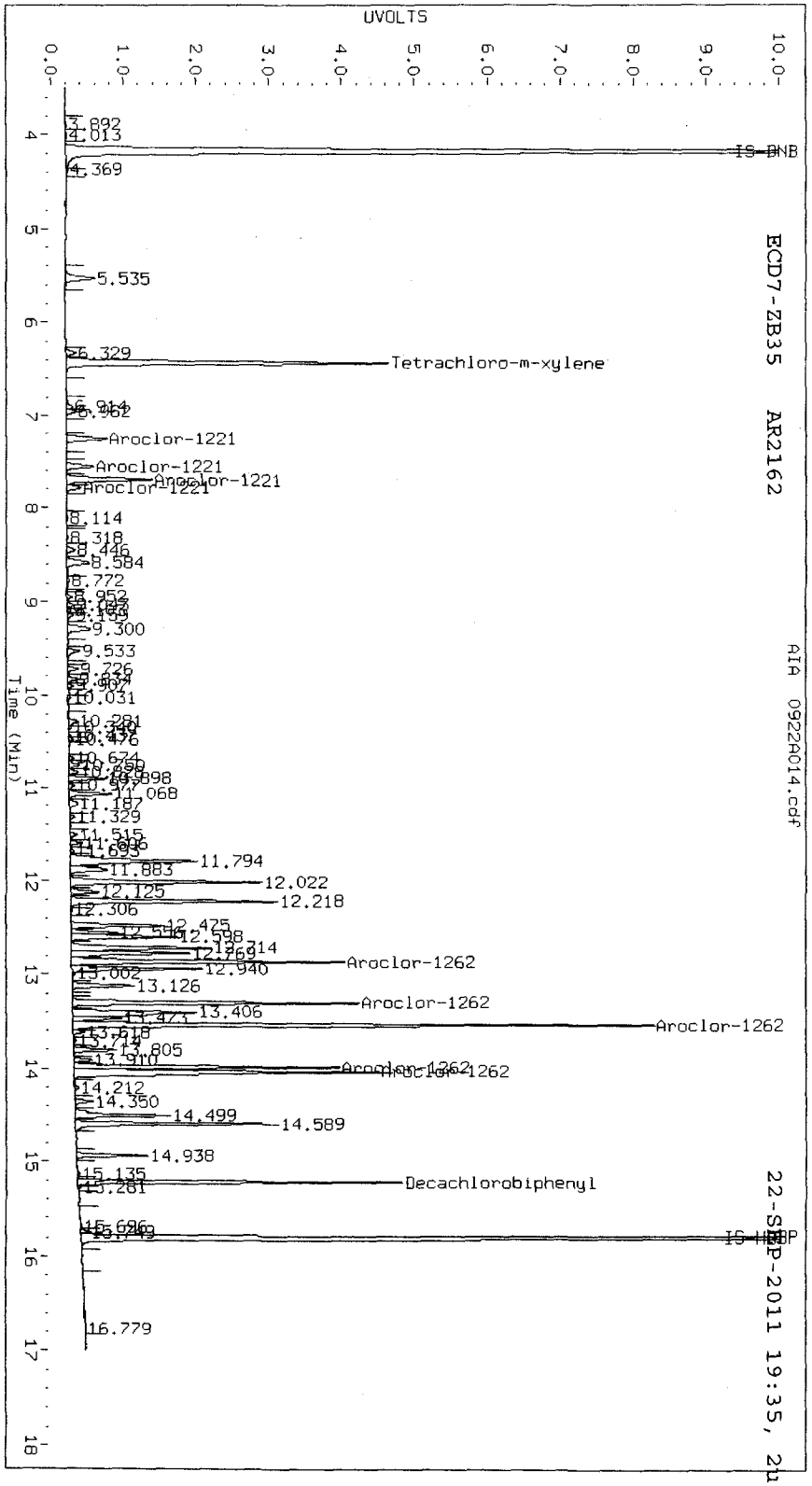
Total PCB Area Col2 (6.531 - 15.125) = 23938507 Col2 Total PCB = 0.4 ppm*

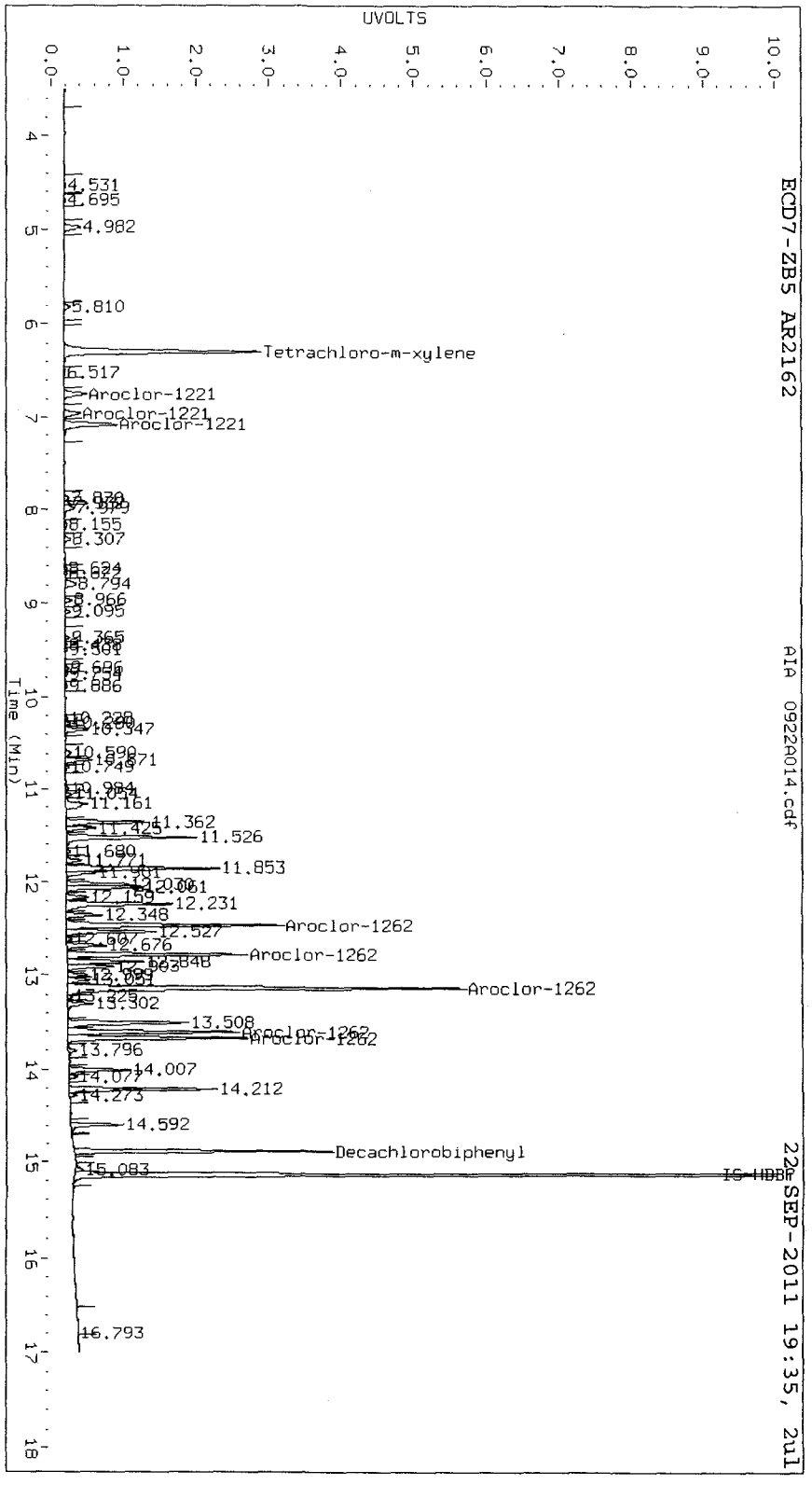
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.


UVOLTS
ECD7-ZB35 AR2162
AIA 0922A014.cdf
22-SEP-2011 19:35, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1262
Decachlorobiphenyl
IS-HBBP


UVOLTS
ECD7-ZB5 AR2162
AIA 0922A014.cdf
22-SEP-2011 19:35, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1262
Decachlorobiphenyl
IS-HBBP


UVOLTS
ECD7-ZB35 AR2162
AIA 0922A014.cdf
22-SEP-2011 19:35, 2u
Time (Min)
IS-DNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1262
Decachlorobiphenyl
IS-HDBP


UVOLTS
ECD7-ZB5 AR2162
AIA 0922A014.cdf
22-SEP-2011 19:35, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1262
Decachlorobiphenyl
IS-HDBP

TR07 : 001121

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A015.d
Data file 2: 20110922.B/ical-2.b/0922A015.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR3268
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268
Client ID:
Injection Date: 22-SEP-2011 19:58
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	1310495	6.431	0.000	2054114	19.9	19.3	3.4	Tetrachloro-m-xylen
14.884	0.000	2133696	15.225	0.000	2668066	36.7	33.8	8.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	49.8	48.1
Decachlorobiphenyl	91.8	84.5

JL 09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5189564	2.6
Hexabromobiphenyl	4060201	4306083	6.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8027898	2.8
Hexabromobiphenyl	5725568	6050077	5.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1232	1	8.305	0.000	160675	250.0	1	8.569	0.000	468058	250.0
Aroclor-1232	2	8.792	0.000	550414	250.0	2	9.298	0.000	895307	250.0
Aroclor-1232	3	8.965	0.000	216989	250.0	3	9.726	0.000	238746	250.0
Aroclor-1232	4	10.280	0.000	193022	250.0	4	11.192	0.000	397254	250.0

Total Col1Ave (4 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0
Corrected Ave (3 peaks): 250.0 Corrected Ave (3 peaks): 250.0 RPD = 0

Aroclor-1268	1	13.607	0.000	2474605	250.0	1	13.984	0.000	3048231	250.0
Aroclor-1268	2	13.669	0.000	2264030	250.0	2	14.038	0.000	2866214	250.0
Aroclor-1268	3	13.992	0.000	1895968	250.0	3	14.351	0.000	2292435	250.0
Aroclor-1268	4	14.593	0.000	5645448	250.0	4	14.939	0.000	6917904	250.0

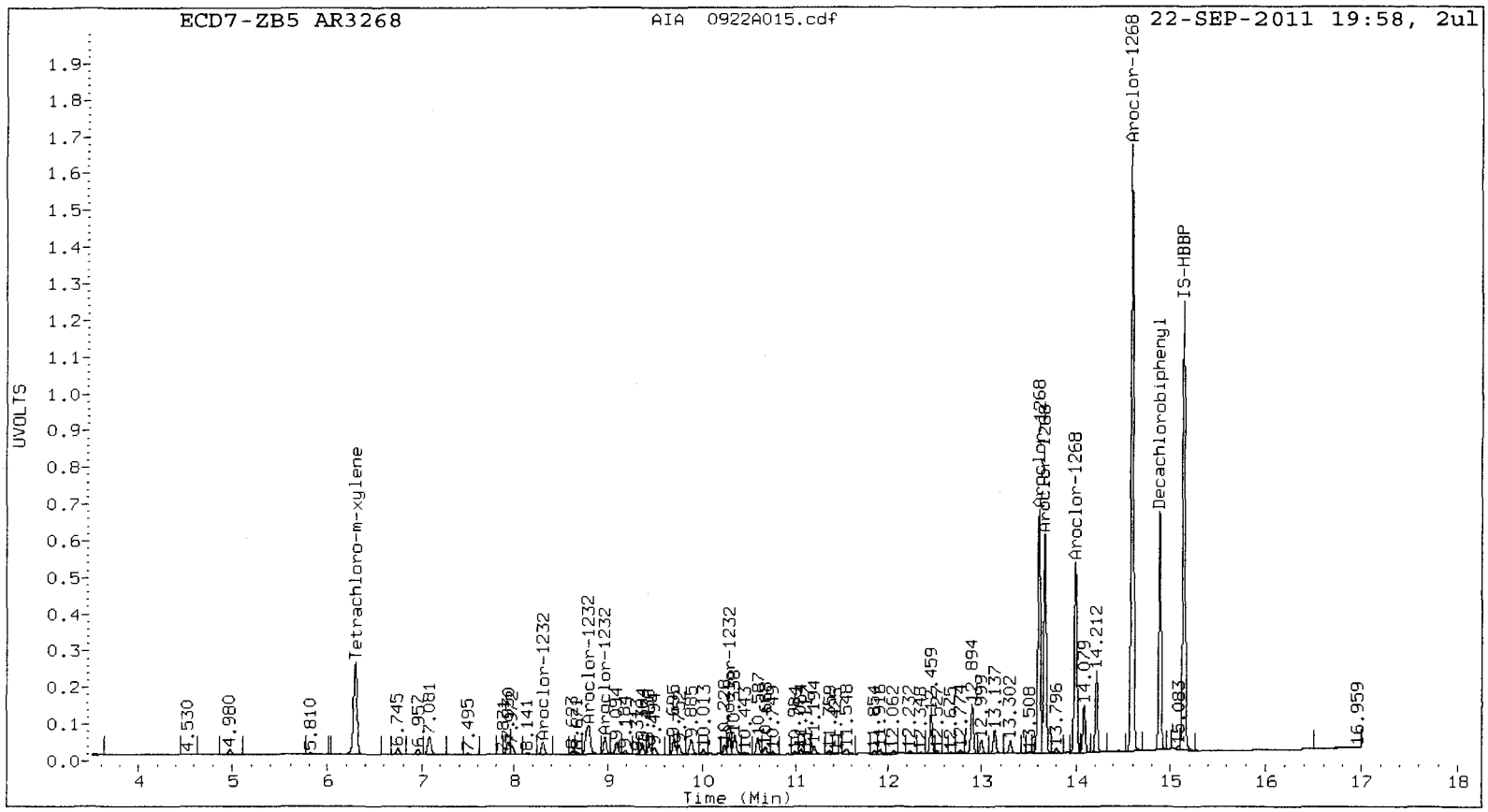
Total Col1Ave (4 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0
Corrected Ave (3 peaks): 250.0 Corrected Ave (3 peaks): 250.0 RPD = 0

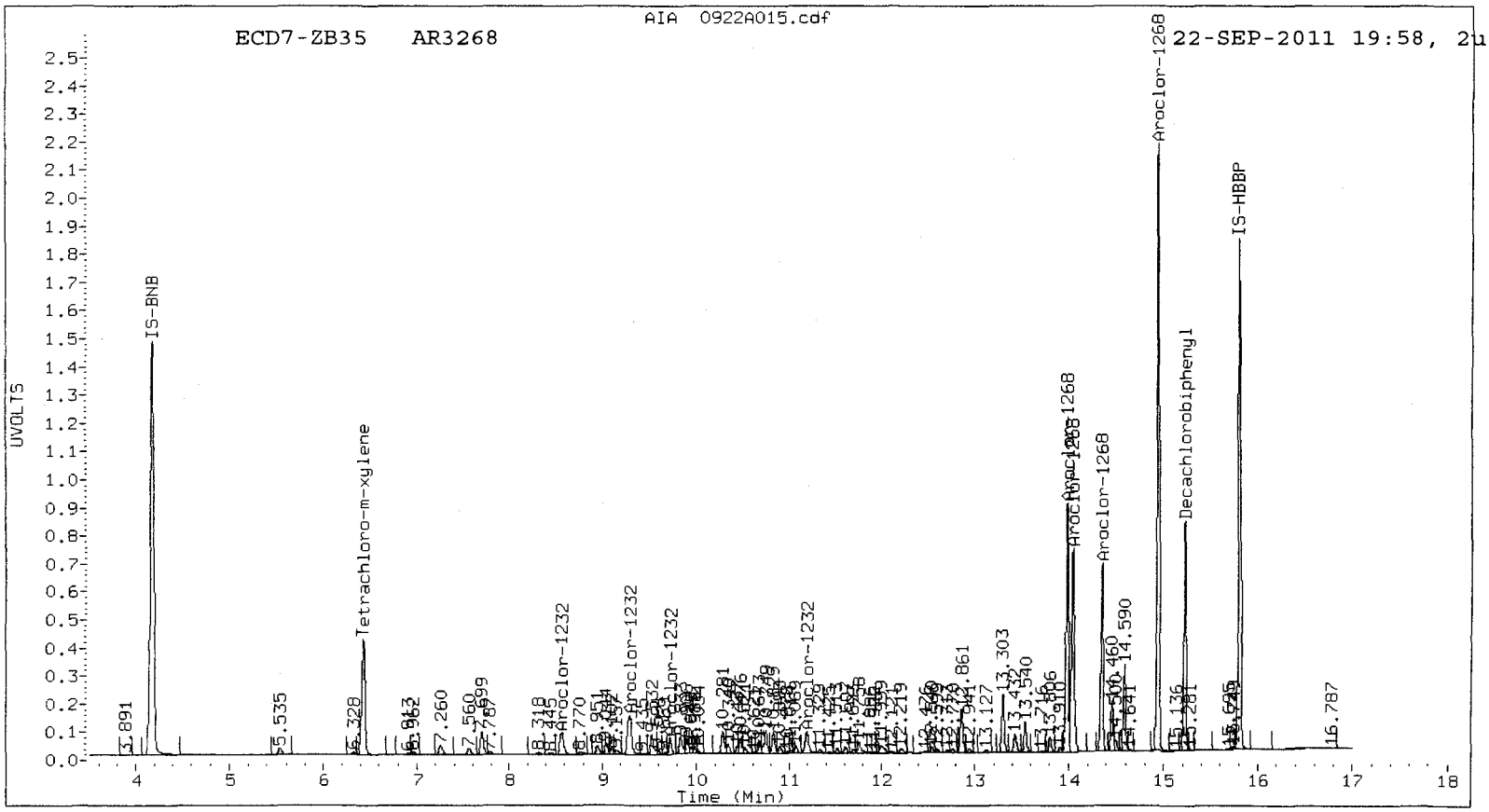
Total PCB Area Col1 (6.392 - 14.784) = 19531241 Col1 Total PCB = 0.5 ppm*

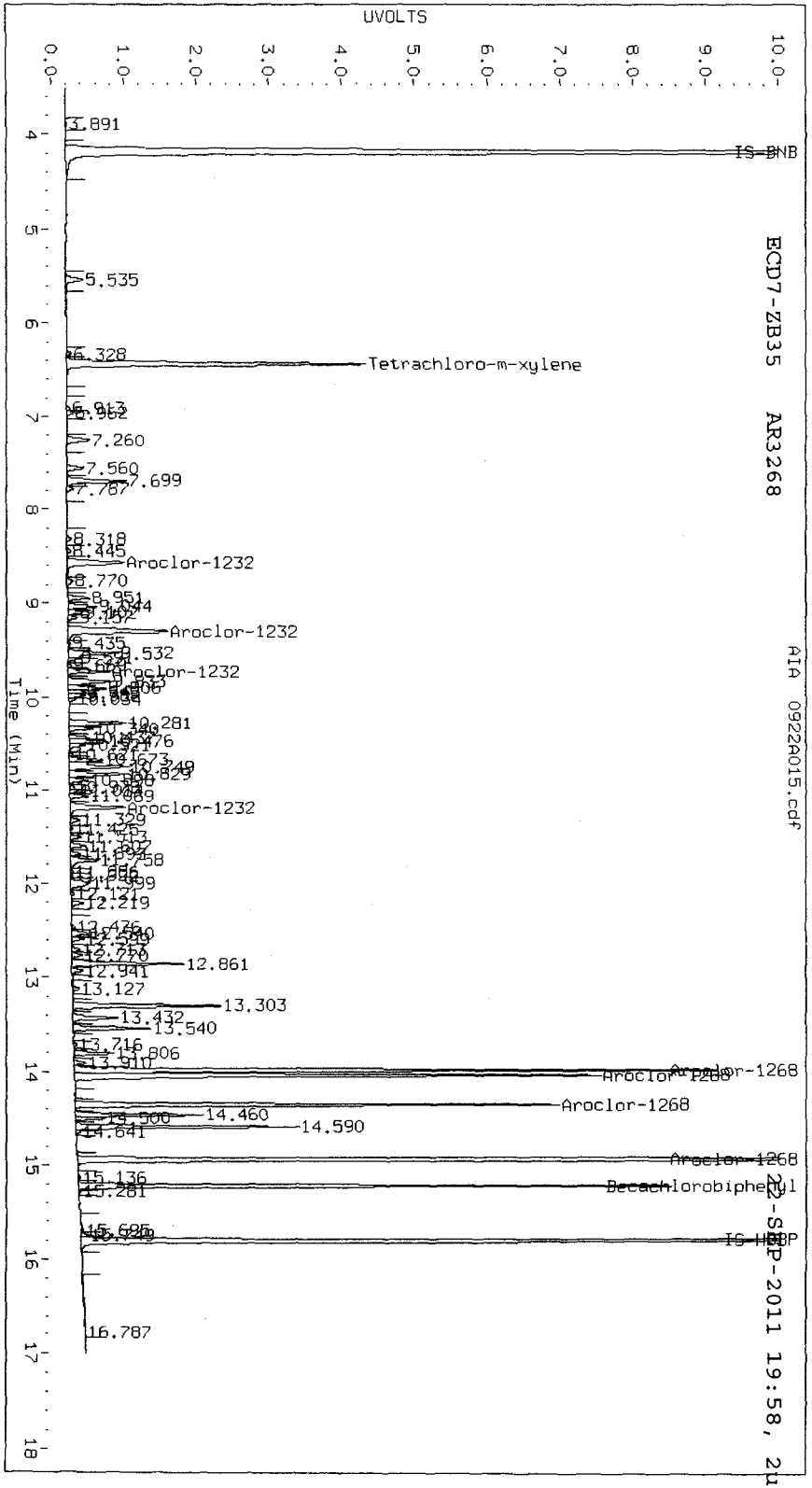
Total PCB Area Col2 (6.531 - 15.125) = 27162219 Col2 Total PCB = 0.5 ppm*

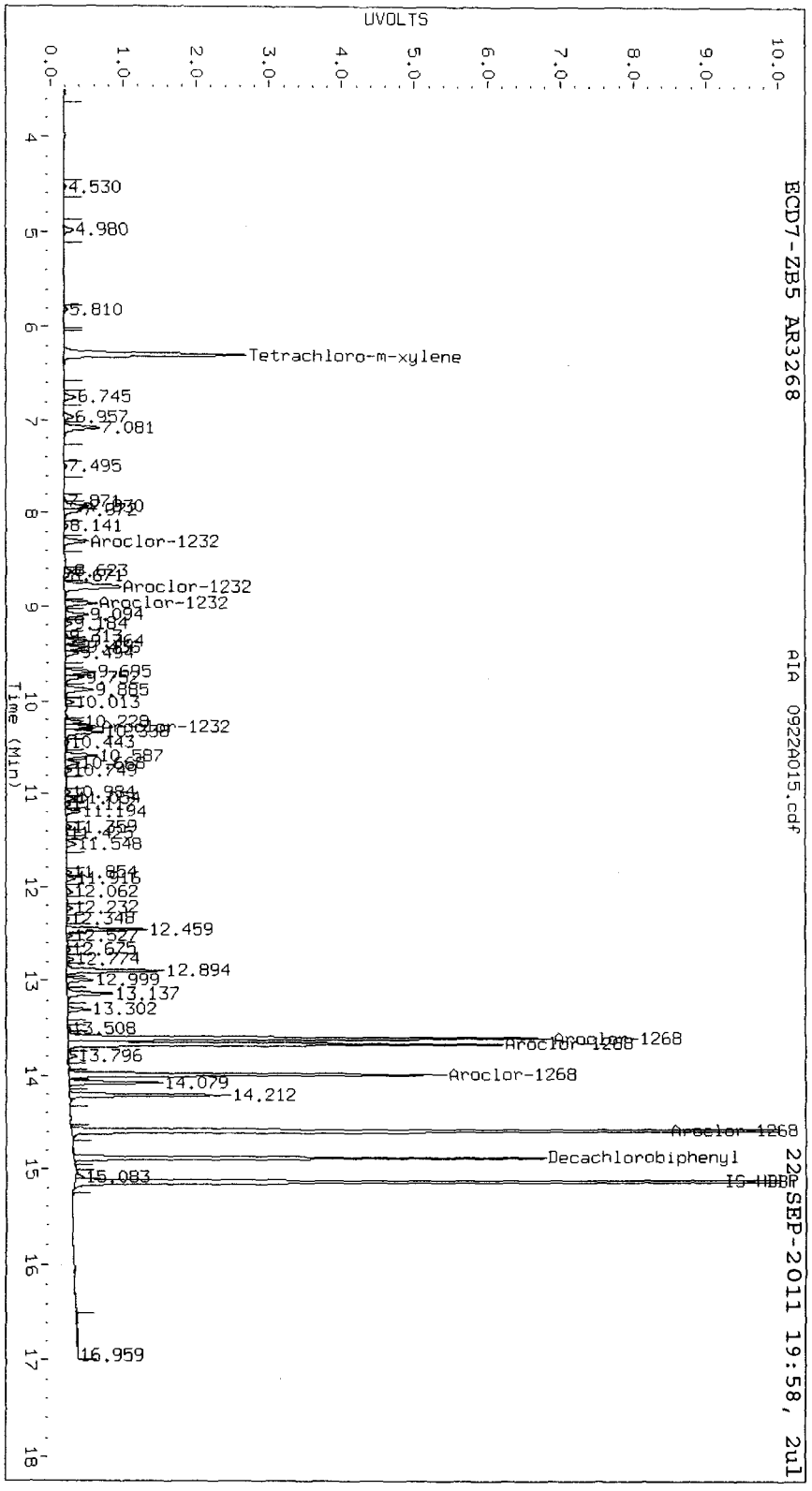
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.


ECD7-ZB5 AR3268
AIA 0922A015.cdf
22-SEP-2011 19:58, 2ul
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
Aroclor-1232
Aroclor-1268


ECD7-ZB35 AR3268
AIA 0922A015.cdf
22-SEP-2011 19:58, 2u
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
Aroclor-1232
Aroclor-1268


UVOLTS
ECD7-ZB35 AR3268
AIA 0922A015.cdf
22-SEP-2011 19:58, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1232
Aroclor-1268
Decachlorobiphenyl
IS-HBBP
12.861
13.303
14.460
14.590
16.787


UVOLTS
ECD7-ZB5 AR3268
AIA 0922A015.cdf
22-SEP-2011 19:58, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1232
Aroclor-1268
Decachlorobiphenyl
IS-HBBP
12.459
12.894
14.079
14.212
15.083
16.959

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A016.d
Data file 2: 20110922.B/ical-2.b/0922A016.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660 ICV
Client ID:
Injection Date: 22-SEP-2011 20:21
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	1378264	6.431	0.001	2166951	20.4	19.7	3.6	Tetrachloro-m-xylen
14.884	0.000	1165943	15.225	0.000	1471063	19.4	18.0	7.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.1	49.3
Decachlorobiphenyl	48.4	45.1

pk 09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5320462	5.2
Hexabromobiphenyl	4060201	4465934	10.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8271463	5.9
Hexabromobiphenyl	5725568	6256883	9.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.305	0.000	397178	239.7	1	8.569	0.000	1019506	229.9
Aroclor-1016	2	8.791	0.000	1365453	238.5	2	9.299	0.000	2111303	227.8
Aroclor-1016	3	8.966	0.000	532048	237.0	3	9.726	0.001	546738	230.4
Aroclor-1016	4	9.094	0.000	368745	231.7	4	9.834	0.000	610023	222.3
Total Col1Ave (4 peaks):				236.7		Total Col2Ave (4 peaks):			227.6	RPD = 4
Corrected Ave (3 peaks):				235.7		Corrected Ave (3 peaks):			226.7	RPD = 4
Aroclor-1221	1	6.744	-0.003	55861	80.4	1	7.262	0.003	122181	95.2
Aroclor-1221	2	6.957	-0.001	74855	142.8	2	7.561	0.000	105917	134.2
Aroclor-1221	3	7.081	-0.001	305849	177.6	3	7.700	0.000	461007	190.9
Aroclor-1221	NS	---			----	4	7.787	0.000	29588	75.4
Total Col1Ave (3 peaks):				133.6		Total Col2Ave (4 peaks):			123.9	RPD = 8
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			101.6	
Aroclor-1232	1	8.305	0.000	397178	602.8	1	8.569	0.000	1019506	528.5
Aroclor-1232	2	8.791	0.000	1365453	604.9	2	9.299	0.001	2111303	572.2
Aroclor-1232	3	8.966	0.000	532048	597.9	3	9.726	0.000	546738	555.7
Aroclor-1232	4	10.280	0.000	77744	98.2	4	11.190	-0.002	45547	27.8
Total Col1Ave (4 peaks):				476.0		Total Col2Ave (4 peaks):			421.0	RPD = 12
Corrected Ave (3 peaks):				433.0		Corrected Ave (3 peaks):			370.7	RPD = 16
Aroclor-1242	1	8.305	0.000	397178	306.5	1	8.569	0.001	1019506	304.4
Aroclor-1242	2	8.791	0.000	1365453	304.2	2	9.299	0.001	2111303	301.0
Aroclor-1242	3	8.966	0.000	532048	305.5	3	9.726	0.000	546738	296.4
Aroclor-1242	4	10.588	0.003	43844	27.5	4	11.190	-0.002	45547	15.5
Total Col1Ave (4 peaks):				235.9		Total Col2Ave (4 peaks):			229.3	RPD = 3
Corrected Ave (3 peaks):				212.4		Corrected Ave (3 peaks):			204.3	RPD = 4
Aroclor-1248	1	9.364	0.000	300560	168.4	1	9.834	0.000	610023	185.0
Aroclor-1248	2	9.695	0.000	387197	178.4	2	10.280	-0.001	685823	188.7
Aroclor-1248	3	10.280	0.001	77744	30.0	3	10.829	0.000	104195	28.7
Aroclor-1248	4	10.588	0.003	43844	18.2	4	11.190	-0.001	45547	9.7
Total Col1Ave (4 peaks):				98.7		Total Col2Ave (4 peaks):			103.0	RPD = 4
Corrected Ave (3 peaks):				72.2		Corrected Ave (3 peaks):			74.5	RPD = 3
Aroclor-1254	1	10.347	0.001	296838	104.0	1	10.898	0.001	390176	108.7
Aroclor-1254	2	10.671	0.002	269955	68.5	2	11.068	0.000	409515	88.4
Aroclor-1254	3	11.055	0.001	40178	16.3	3	11.606	0.000	75927	20.8
Aroclor-1254	4	11.191	-0.001	117800	24.8	4	11.794	0.036	1047691	134.0
Aroclor-1254	5	11.901	-0.009	288125	91.1	5	12.557	0.014	450172	95.2
Total Col1Ave (5 peaks):				60.9		Total Col2Ave (5 peaks):			89.4	RPD = 38
Corrected Ave (4 peaks):				50.2		Corrected Ave (4 peaks):			78.3	RPD = 44*
Aroclor-1260	1	11.853	0.000	1063765	236.7	1	13.304	0.000	1279570	251.8
Aroclor-1260	2	12.459	0.000	832621	284.1	2	13.540	-0.001	2685384	266.7
Aroclor-1260	3	12.774	0.000	814604	278.8	3	14.035	0.000	1724089	261.9
Aroclor-1260	4	13.507	0.000	960942	262.0	4	14.589	0.000	675599	292.5
Aroclor-1260	5	13.607	0.000	428527	299.9	NS	---			----
Total Col1Ave (5 peaks):				272.3		Total Col2Ave (4 peaks):			268.2	RPD = 1
Corrected Ave (4 peaks):				265.4		Corrected Ave (3 peaks):			260.2	RPD = 2
Aroclor-1262	1	12.459	0.000	832621	163.8	1	12.860	0.000	1127205	174.2
Aroclor-1262	2	12.774	0.000	814604	198.4	2	13.304	0.001	1279570	200.1
Aroclor-1262	3	13.136	0.000	2080687	215.6	3	13.540	0.000	2685384	215.1
Aroclor-1262	4	13.607	-0.001	428527	111.5	4	13.984	0.001	846462	154.9
Aroclor-1262	5	13.671	0.000	508536	130.4	5	14.035	0.000	1724089	211.4
Total Col1Ave (5 peaks):				163.9		Total Col2Ave (5 peaks):			191.1	RPD = 15
Corrected Ave (4 peaks):				151.0		Corrected Ave (4 peaks):			185.1	RPD = 20
Aroclor-1268	1	13.607	-0.001	428527	41.7	1	13.984	0.001	846462	67.1

Aroclor-1268	2	13.671	0.002	508536	54.1	2	14.035	-0.004	1724089	145.4
Aroclor-1268	3	14.006	0.015	212590	27.0	3	14.352	0.001	36039	3.8
Aroclor-1268	4	14.592	0.000	95945	4.1	4	14.938	-0.001	155213	5.4

Total Col1Ave (4 peaks): 31.8 Total Col2Ave (4 peaks): 55.4 RPD = 54*

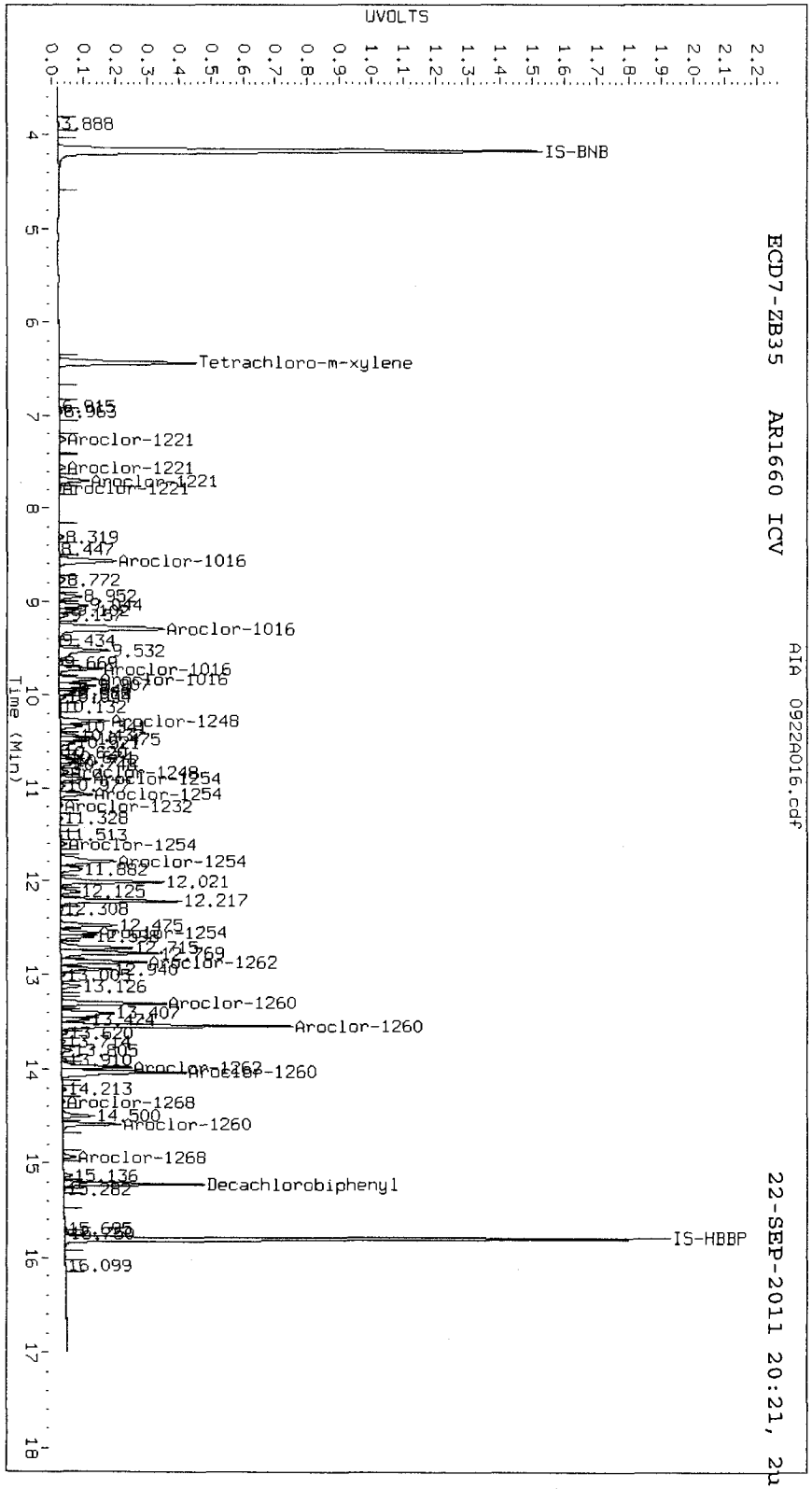
Corrected Ave (3 peaks): 24.3 Corrected Ave (3 peaks): 25.5 RPD = 5

Total PCB Area Col1 (6.392 - 14.784) = 20933210 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 31442026 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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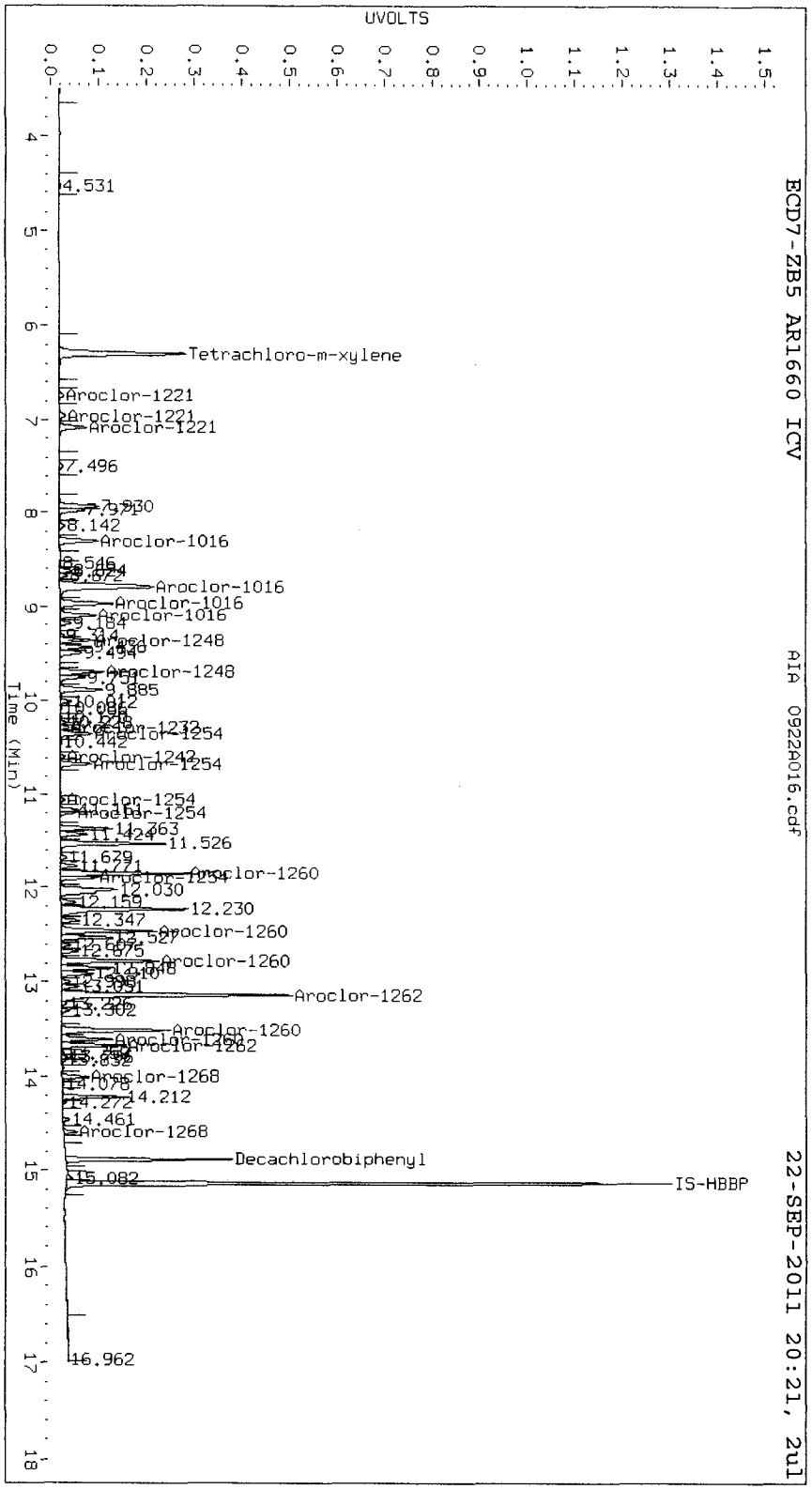
ECD7-ZB35 AR1660 ICV
AIA 0922A016.cdf
22-SEP-2011 20:21, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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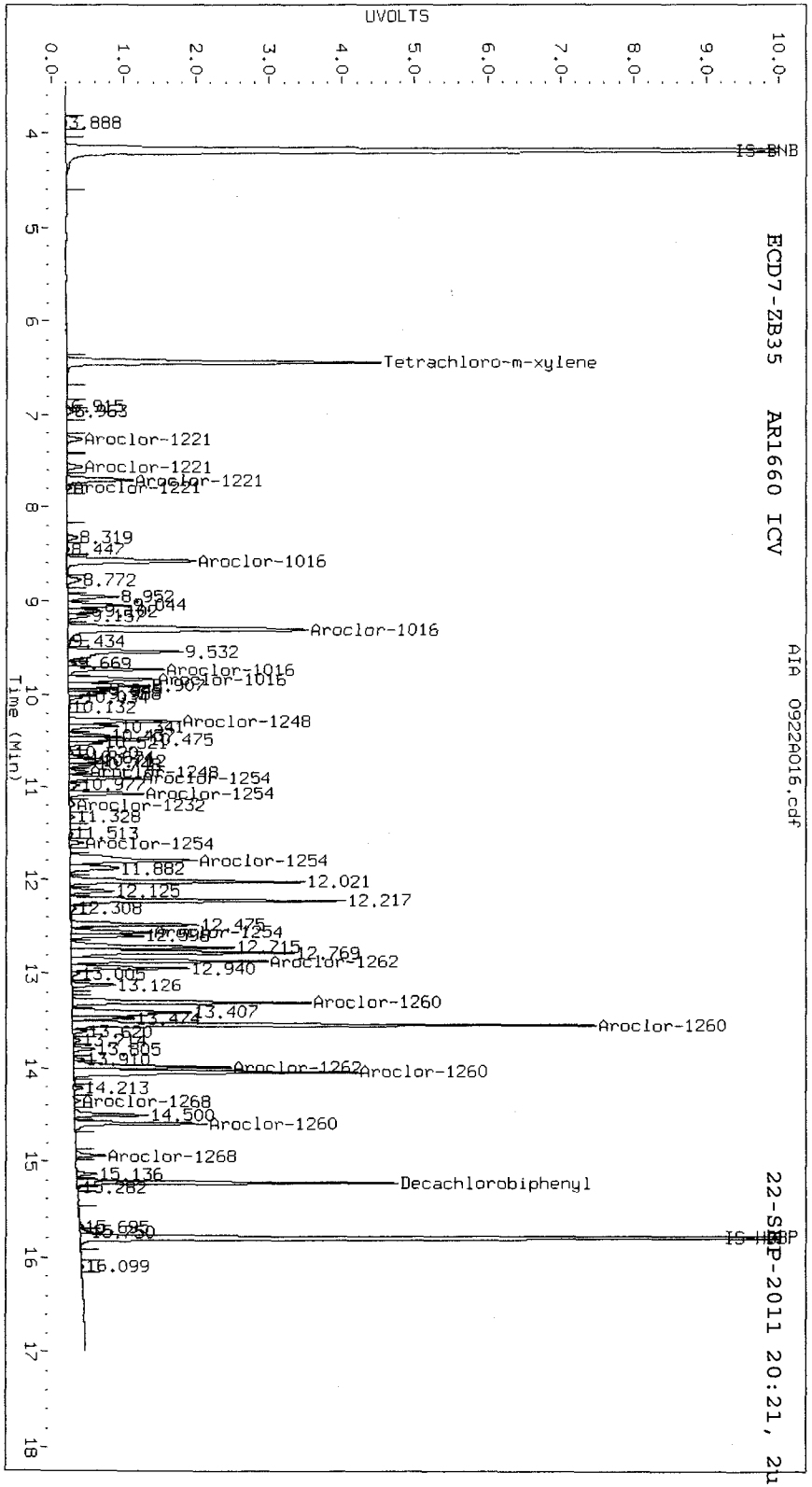
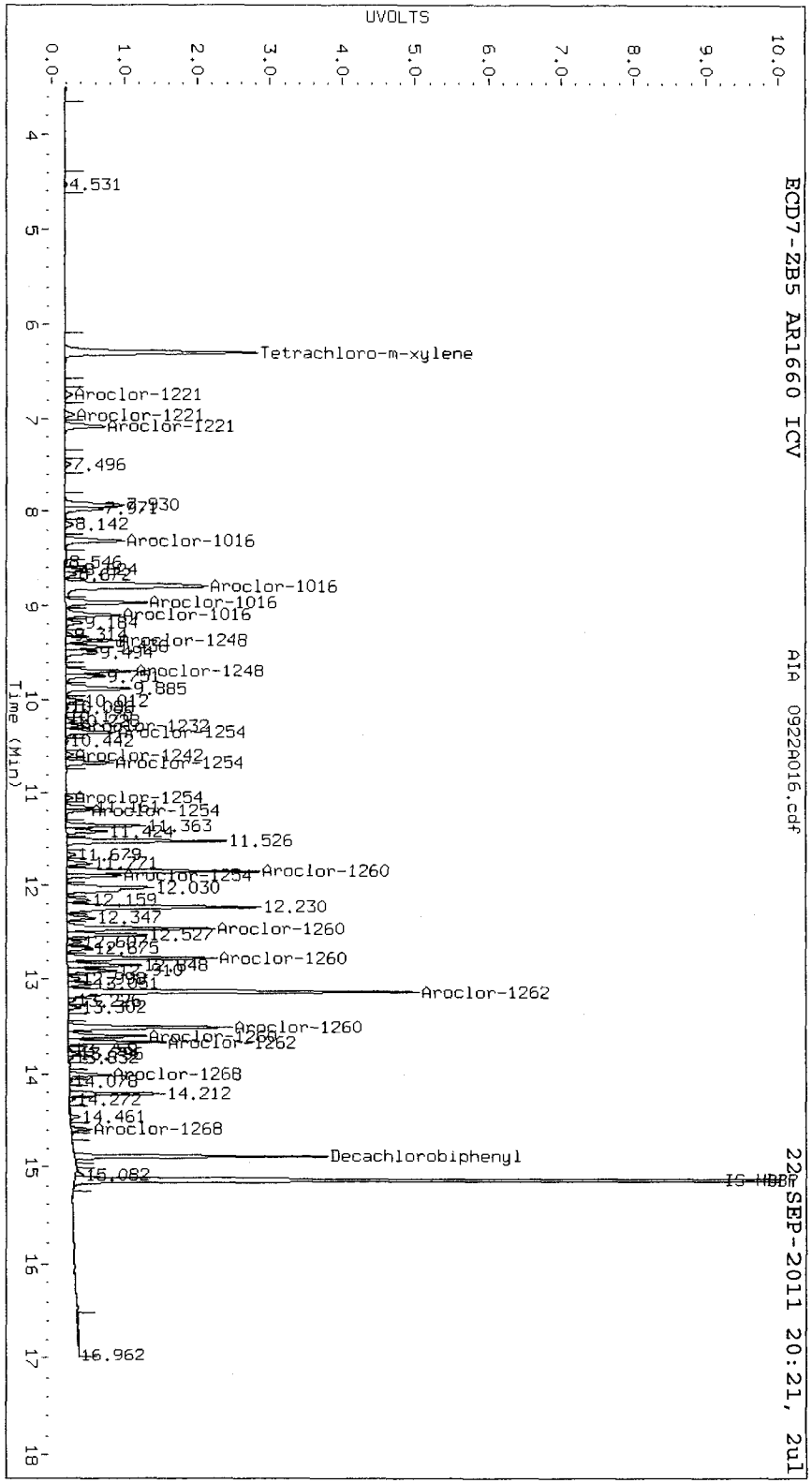
AIA 0922A016.cdf
22-SEP-2011 20:21, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1242
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TR07:001130


UVOLTS
ECD7-ZB35 AR1660 ICV
AIA 0922A016.cdf
22-SEP-2011 20:21, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP


UVOLTS
ECD7-ZB5 AR1660 ICV
AIA 0922A016.cdf
22-SEP-2011 20:21, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1242
Aroclor-1232
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TR07:001131

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A017.d
Data file 2: 20110922.B/ical-2.b/0922A017.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242 ICV
Client ID:
Injection Date: 22-SEP-2011 20:44
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.291	0.000	1408027	6.430	-0.001	2216957	21.3	20.6	3.2	Tetrachloro-m-xylen
14.884	0.000	1197844	15.225	0.000	1503371	20.5	18.9	8.2	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	53.1	51.5
Decachlorobiphenyl	51.3	47.3

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5224651	3.3
Hexabromobiphenyl	4060201	4325340	6.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8102476	3.8
Hexabromobiphenyl	5725568	6096962	6.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1016	1	8.305	-0.001	312368	192.0	1	8.568	-0.001	814375	187.5
Aroclor-1016	2	8.791	0.000	1070368	190.3	2	9.298	0.000	1673259	184.3
Aroclor-1016	3	8.965	0.000	417241	189.3	3	9.726	0.000	435391	187.3
Aroclor-1016	4	9.093	-0.001	289012	184.9	4	9.833	-0.001	510203	189.8
Total Col1Ave (4 peaks):				189.1		Total Col2Ave (4 peaks):			187.2	RPD = 1
Corrected Ave (3 peaks):				188.2		Corrected Ave (3 peaks):			186.4	RPD = 1
Aroclor-1221	1	6.743	-0.004	43855	64.3	1	7.263	0.004	103572	82.4
Aroclor-1221	2	6.956	-0.002	61496	119.5	2	7.559	-0.002	84804	109.7
Aroclor-1221	3	7.079	-0.002	239500	141.6	3	7.699	-0.001	369807	156.3
Aroclor-1221	NS	---			----	4	7.786	-0.002	27942	72.7
Total Col1Ave (3 peaks):				108.5		Total Col2Ave (4 peaks):			105.3	RPD = 3
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			88.3	
Aroclor-1232	1	8.305	-0.001	312368	482.8	1	8.568	-0.001	814375	431.0
Aroclor-1232	2	8.791	0.000	1070368	482.9	2	9.298	0.000	1673259	462.9
Aroclor-1232	3	8.965	0.000	417241	477.5	3	9.726	0.000	435391	451.7
Aroclor-1232	4	10.279	-0.001	343144	441.5	4	11.191	-0.001	684647	426.9
Total Col1Ave (4 peaks):				471.2		Total Col2Ave (4 peaks):			443.1	RPD = 6
Corrected Ave (3 peaks):				467.2		Corrected Ave (3 peaks):			436.5	RPD = 7
Aroclor-1242	1	8.305	-0.001	312368	245.4	1	8.568	0.000	814375	248.2
Aroclor-1242	2	8.791	0.000	1070368	242.8	2	9.298	0.000	1673259	243.6
Aroclor-1242	3	8.965	0.000	417241	243.9	3	9.726	0.000	435391	241.0
Aroclor-1242	4	10.586	0.000	357467	228.3	4	11.191	0.000	684647	238.0
Total Col1Ave (4 peaks):				240.1		Total Col2Ave (4 peaks):			242.7	RPD = 1
Corrected Ave (3 peaks):				238.3		Corrected Ave (3 peaks):			240.9	RPD = 1
Aroclor-1248	1	9.364	0.000	248558	141.8	1	9.833	0.000	510203	158.0
Aroclor-1248	2	9.695	0.000	314385	147.5	2	10.280	-0.001	605320	170.0
Aroclor-1248	3	10.279	0.000	343144	135.0	3	10.829	0.000	547306	153.6
Aroclor-1248	4	10.586	0.001	357467	150.8	4	11.191	0.001	684647	149.6
Total Col1Ave (4 peaks):				143.8		Total Col2Ave (4 peaks):			157.8	RPD = 9
Corrected Ave (3 peaks):				141.4		Corrected Ave (3 peaks):			153.7	RPD = 8
Aroclor-1254	1	10.338	-0.008	452898	161.5	1	10.898	0.001	194243	55.3
Aroclor-1254	2	10.668	-0.001	182716	47.2	2	11.068	0.000	204361	45.0
Aroclor-1254	3	11.054	0.001	109173	45.1	3	11.606	0.000	184829	51.7
Aroclor-1254	4	11.194	0.002	186598	40.0	4	11.758	0.000	346013	45.2
Aroclor-1254	5	11.915	0.005	117566	37.9	5	12.540	-0.003	213621	46.1
Total Col1Ave (5 peaks):				66.3		Total Col2Ave (5 peaks):			48.7	RPD = 31
Corrected Ave (4 peaks):				42.5		Corrected Ave (4 peaks):			47.0	RPD = 10
Aroclor-1260	1	---			0.0	1	13.304	0.000	48654	9.8
Aroclor-1260	2	---			0.0	2	13.542	0.001	28603	2.9
Aroclor-1260	3	---			0.0	3	14.035	0.000	22509	3.5
Aroclor-1260	4	---			0.0	4	14.644	0.055	23141	10.3
Aroclor-1260	5	---			0.0	NS	---			----
Col1Ave: <3 Quant Peaks						Col2Ave:			6.6	
Aroclor-1262	1	---			0.0	1	12.864	0.004	27539	4.4
Aroclor-1262	2	---			0.0	2	13.304	0.001	48654	7.8
Aroclor-1262	3	---			0.0	3	13.542	0.003	28603	2.4
Aroclor-1262	4	---			0.0	4	13.956	-0.027	42066	7.9
Aroclor-1262	5	---			0.0	5	14.035	0.000	22509	2.8
Col1Ave: <3 Quant Peaks						Col2Ave:			5.1	
Aroclor-1268	1	---			0.0	1	13.956	-0.028	42066	3.4
Aroclor-1268	2	---			0.0	2	14.035	-0.003	22509	1.9
Aroclor-1268	3	14.046	0.054	10587	1.4	3	14.377	0.026	14391	1.6

Aroclor-1268	4	14.640	0.047	12773	0.6	4	---	0.0

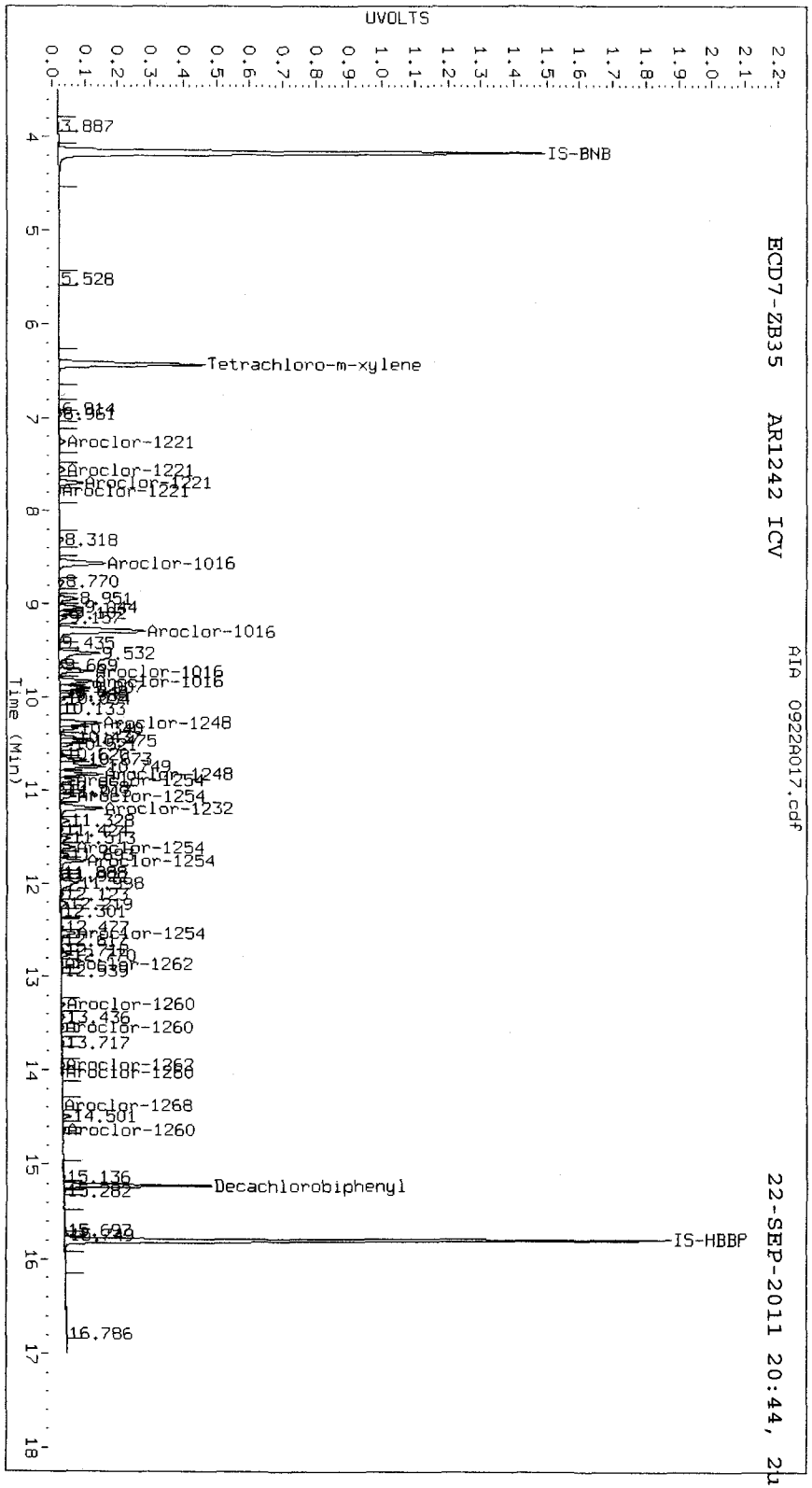
Col1Ave: <3 Quant Peaks Col2Ave: 2.3

Total PCB Area Col1 (6.392 - 14.784) = 7723993 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 13177145 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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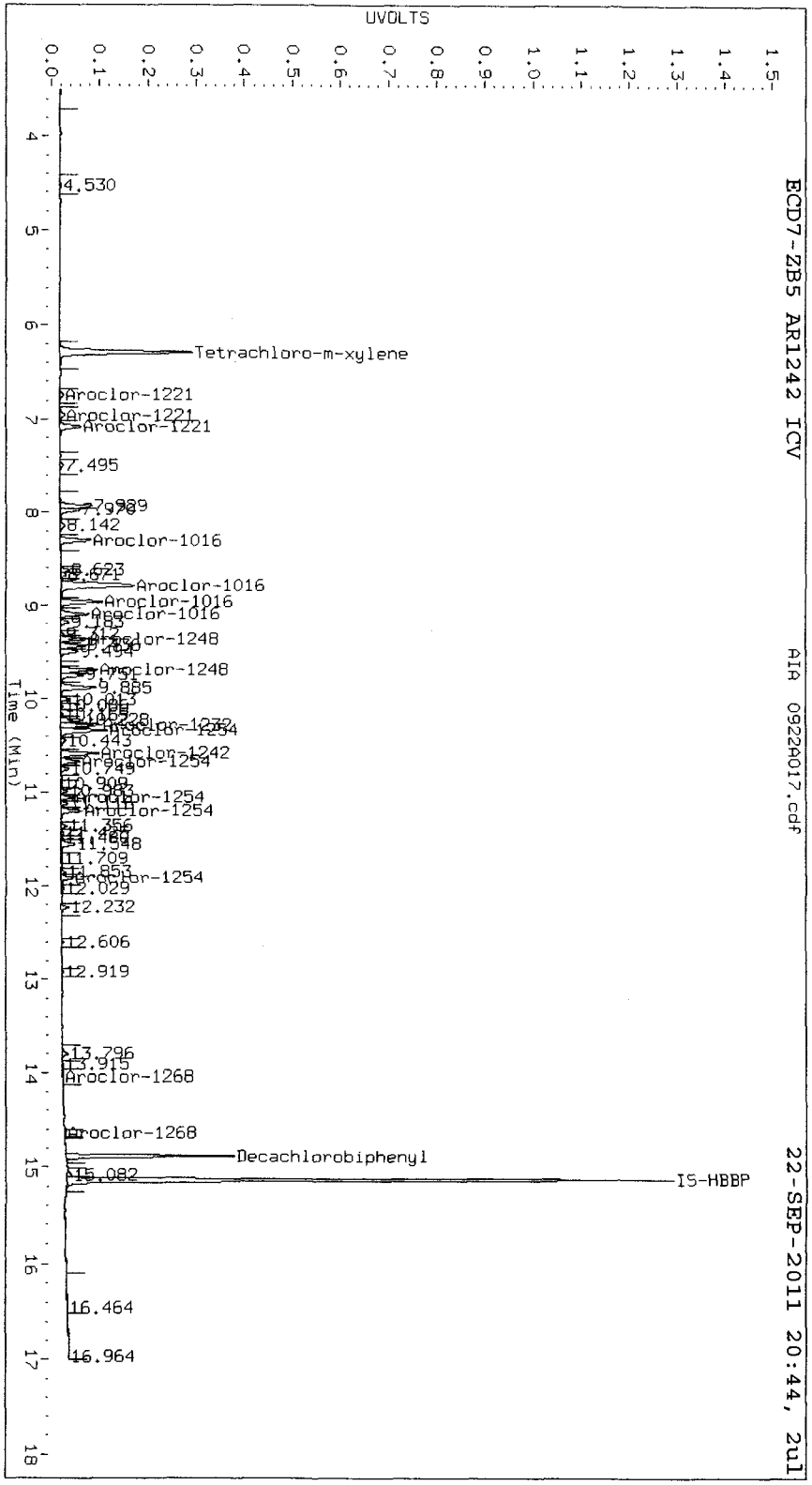
ECD7-ZB35 AR1242 ICV
AIA 0922A017.cdf
22-SEP-2011 20:44, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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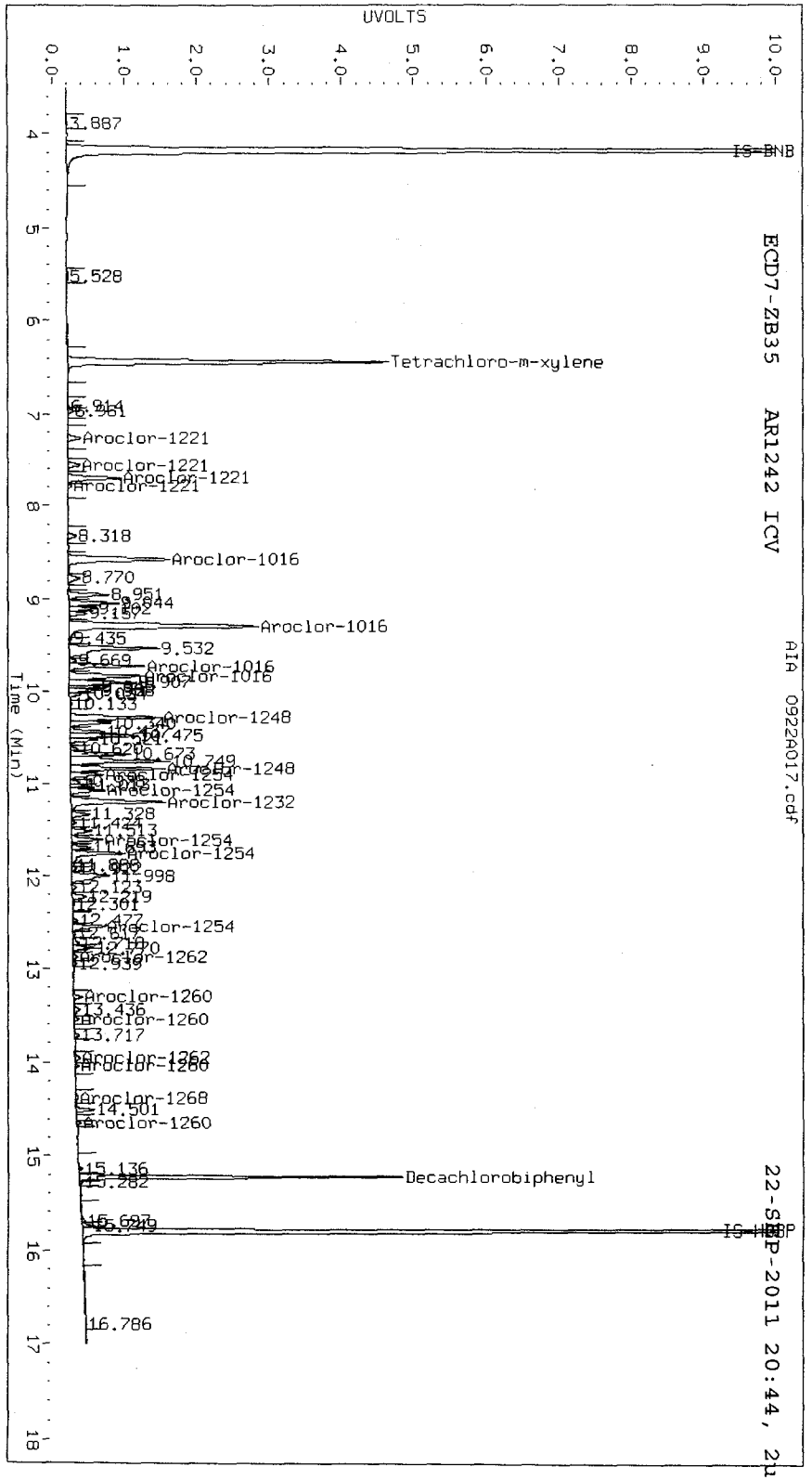
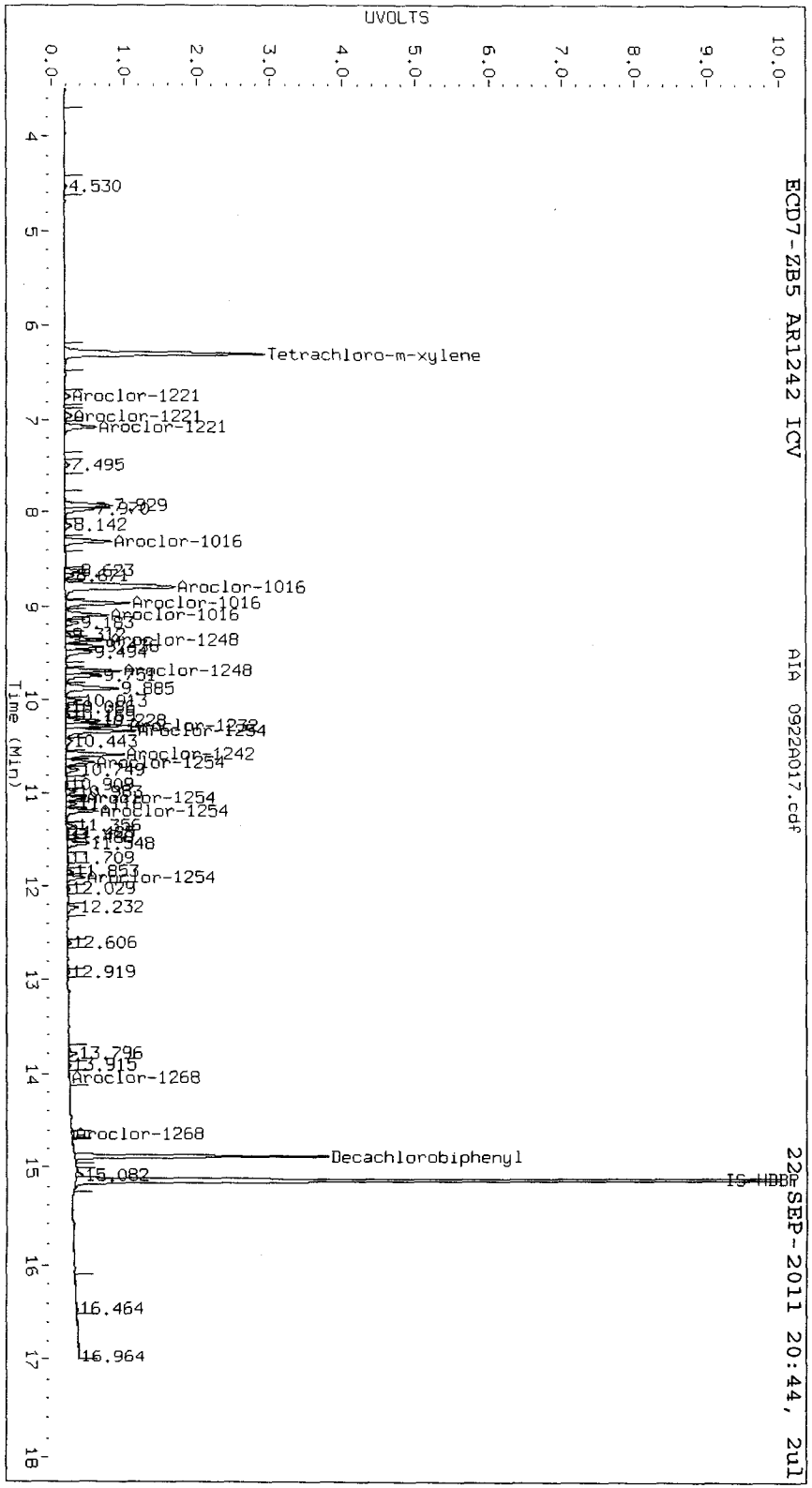
ECD7-ZB5 AR1242 ICV
AIA 0922A017.cdf
22-SEP-2011 20:44, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1242
Aroclor-1268
Decachlorobiphenyl
IS-HBBP


ECD7-ZB35 AR1242 ICV
AIA 0922A017.cdf
22-SEP-2011 20:44, 2u
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP


ECD7-ZB5 AR1242 ICV
AIA 0922A017.cdf
22-SEP-2011 20:44, 2ul
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1242
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A018.d
Data file 2: 20110922.B/ical-2.b/0922A018.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248 ICV
Client ID:
Injection Date: 22-SEP-2011 21:06
Report Date: 09/23/2011 12:42
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	1326510	6.431	0.000	2121340	19.9	19.7	1.0	Tetrachloro-m-xylen
14.884	0.000	1144503	15.225	0.000	1448687	19.5	18.1	7.9	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	49.9	49.4
Decachlorobiphenyl	48.8	45.2

9/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5245643	3.7
Hexabromobiphenyl	4060201	4342720	7.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8085103	3.5
Hexabromobiphenyl	5725568	6150436	7.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.306	0.000	134621	82.4	1	8.566	-0.003	399465	92.2
Aroclor-1016	2	8.780	-0.011	682011	120.8	2	9.291	-0.007	1093681	120.7
Aroclor-1016	3	8.968	0.003	231826	104.7	3	9.726	0.001	235896	101.7
Aroclor-1016	4	9.094	0.000	164726	105.0	4	9.833	-0.001	807190	300.9
Total Col1Ave (4 peaks):				103.2		Total Col2Ave (4 peaks):			153.9	RPD = 39
Corrected Ave (3 peaks):				97.4		Corrected Ave (3 peaks):			104.9	RPD = 7
Aroclor-1221	1	---			0.0	1	7.275	0.016	33996	27.1
Aroclor-1221	2	6.937	-0.021	17617	34.1	2	---			0.0
Aroclor-1221	3	7.081	-0.001	25850	15.2	3	7.701	0.000	49808	21.1
Aroclor-1221	NS	---			----	4	---			0.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	8.306	0.000	134621	207.2	1	8.566	-0.003	399465	211.9
Aroclor-1232	2	8.780	-0.011	682011	306.5	2	9.291	-0.007	1093681	303.2
Aroclor-1232	3	8.968	0.003	231826	264.2	3	9.726	0.000	235896	245.3
Aroclor-1232	4	10.279	0.000	650456	833.5	4	11.191	-0.001	1195058	746.8
Total Col1Ave (4 peaks):				402.8		Total Col2Ave (4 peaks):			376.8	RPD = 7
Corrected Ave (3 peaks):				259.3		Corrected Ave (3 peaks):			253.5	RPD = 2
Aroclor-1242	1	8.306	0.000	134621	105.4	1	8.566	-0.002	399465	122.0
Aroclor-1242	2	8.780	-0.011	682011	154.1	2	9.291	-0.007	1093681	159.5
Aroclor-1242	3	8.968	0.003	231826	135.0	3	9.726	0.000	235896	130.8
Aroclor-1242	4	10.586	0.000	617348	392.7	4	11.191	-0.001	1195058	416.4
Total Col1Ave (4 peaks):				196.8		Total Col2Ave (4 peaks):			207.2	RPD = 5
Corrected Ave (3 peaks):				131.5		Corrected Ave (3 peaks):			137.5	RPD = 4
Aroclor-1248	1	9.364	-0.001	437458	248.6	1	9.833	0.000	807190	250.5
Aroclor-1248	2	9.695	0.000	534069	249.6	2	10.280	0.000	848652	238.8
Aroclor-1248	3	10.279	0.000	650456	254.9	3	10.830	0.001	905161	254.7
Aroclor-1248	4	10.586	0.000	617348	259.3	4	11.191	0.000	1195058	261.7
Total Col1Ave (4 peaks):				253.1		Total Col2Ave (4 peaks):			251.4	RPD = 1
Corrected Ave (3 peaks):				251.0		Corrected Ave (3 peaks):			248.0	RPD = 1
Aroclor-1254	1	10.338	-0.007	820265	291.4	1	10.898	0.001	362369	103.3
Aroclor-1254	2	10.668	0.000	373197	96.1	2	11.068	0.000	375919	83.0
Aroclor-1254	3	11.054	0.000	238214	98.1	3	11.606	0.000	371886	104.2
Aroclor-1254	4	11.193	0.001	391214	83.4	4	11.758	0.000	616964	80.7
Aroclor-1254	5	11.916	0.005	268669	86.2	5	12.538	-0.004	446217	96.6
Total Col1Ave (5 peaks):				131.0		Total Col2Ave (5 peaks):			93.6	RPD = 33
Corrected Ave (4 peaks):				90.9		Corrected Ave (4 peaks):			90.9	RPD = 0
Aroclor-1260	1	11.853	0.000	28040	6.4	1	13.304	0.000	49676	9.9
Aroclor-1260	2	12.498	0.039	16705	5.9	2	13.542	0.001	31517	3.2
Aroclor-1260	3	---			0.0	3	14.035	0.000	27483	4.2
Aroclor-1260	4	---			0.0	4	14.643	0.054	21309	9.4
Aroclor-1260	5	---			0.0	NS	---			----
Col1Ave: <3 Quant Peaks						Col2Ave:			6.7	
Aroclor-1262	1	12.498	0.040	16705	3.4	1	12.863	0.003	29554	4.6
Aroclor-1262	2	---			0.0	2	13.304	0.001	49676	7.9
Aroclor-1262	3	13.137	0.000	10212	1.1	3	13.542	0.002	31517	2.6
Aroclor-1262	4	---			0.0	4	13.955	-0.028	41643	7.8
Aroclor-1262	5	---			0.0	5	14.035	0.000	27483	3.4
Col1Ave: <3 Quant Peaks						Col2Ave:			5.3	
Aroclor-1268	1	---			0.0	1	13.955	-0.028	41643	3.4
Aroclor-1268	2	---			0.0	2	14.035	-0.004	27483	2.4
Aroclor-1268	3	14.047	0.055	15001	2.0	3	14.376	0.025	14518	1.6
Aroclor-1268	4	14.640	0.047	14912	0.7	4	---			0.0

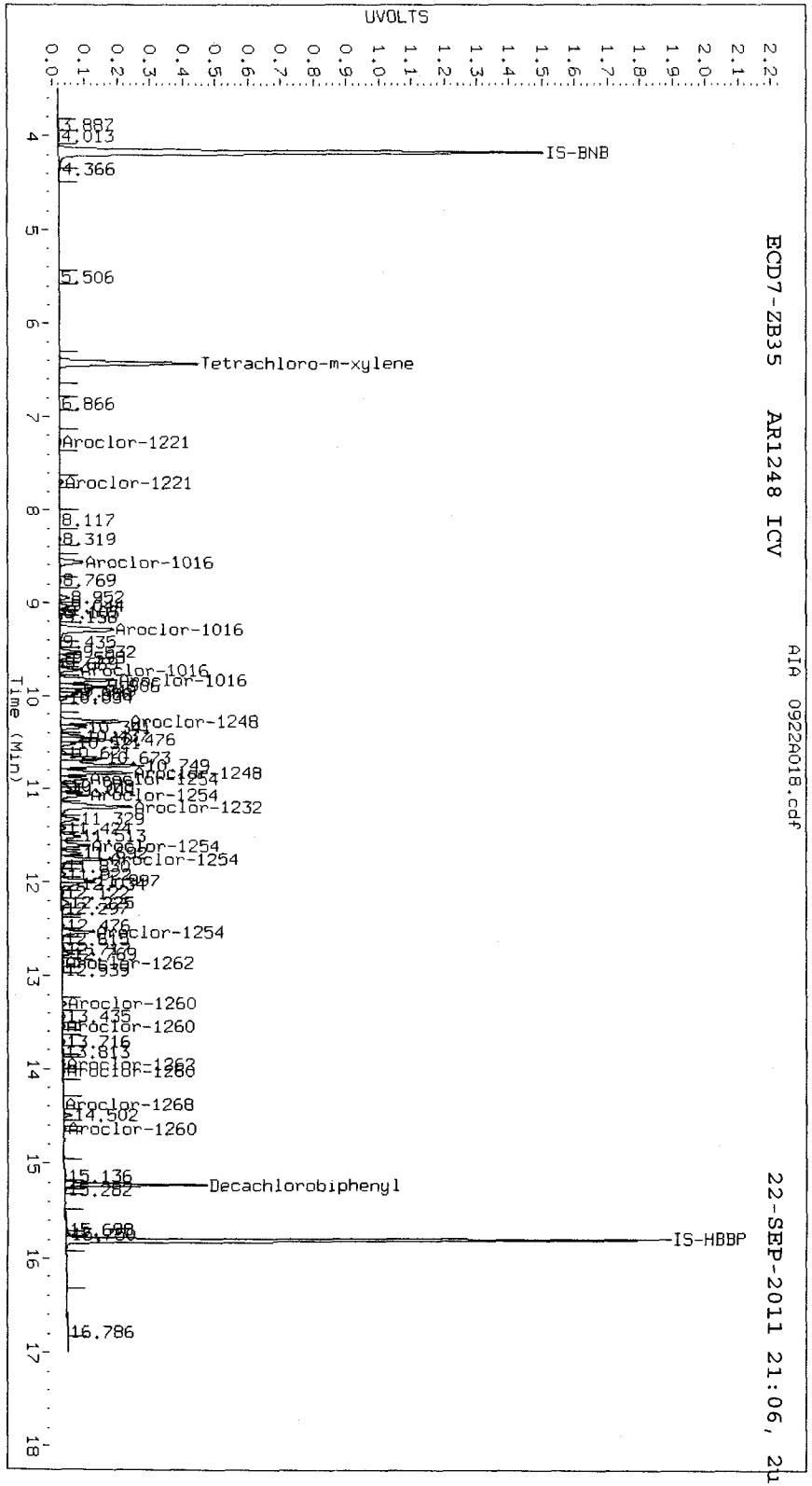
Col1Ave: <3 Quant Peaks Col2Ave: 2.4

Total PCB Area Col1 (6.392 - 14.784) = 9411357 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 15509938 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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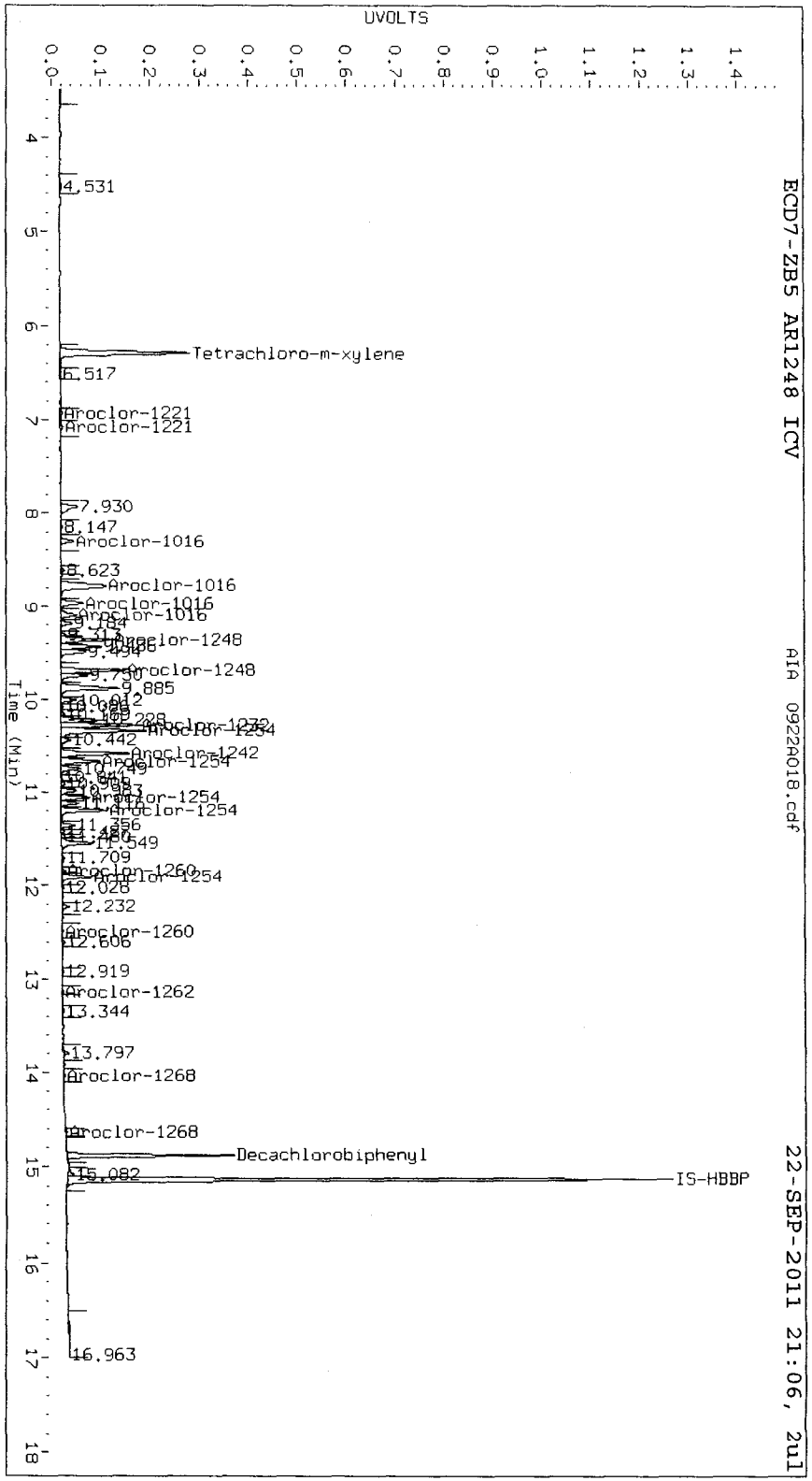
ECD7-ZB35 AR1248 ICV
AIA 0922A018.cdf
22-SEP-2011 21:06, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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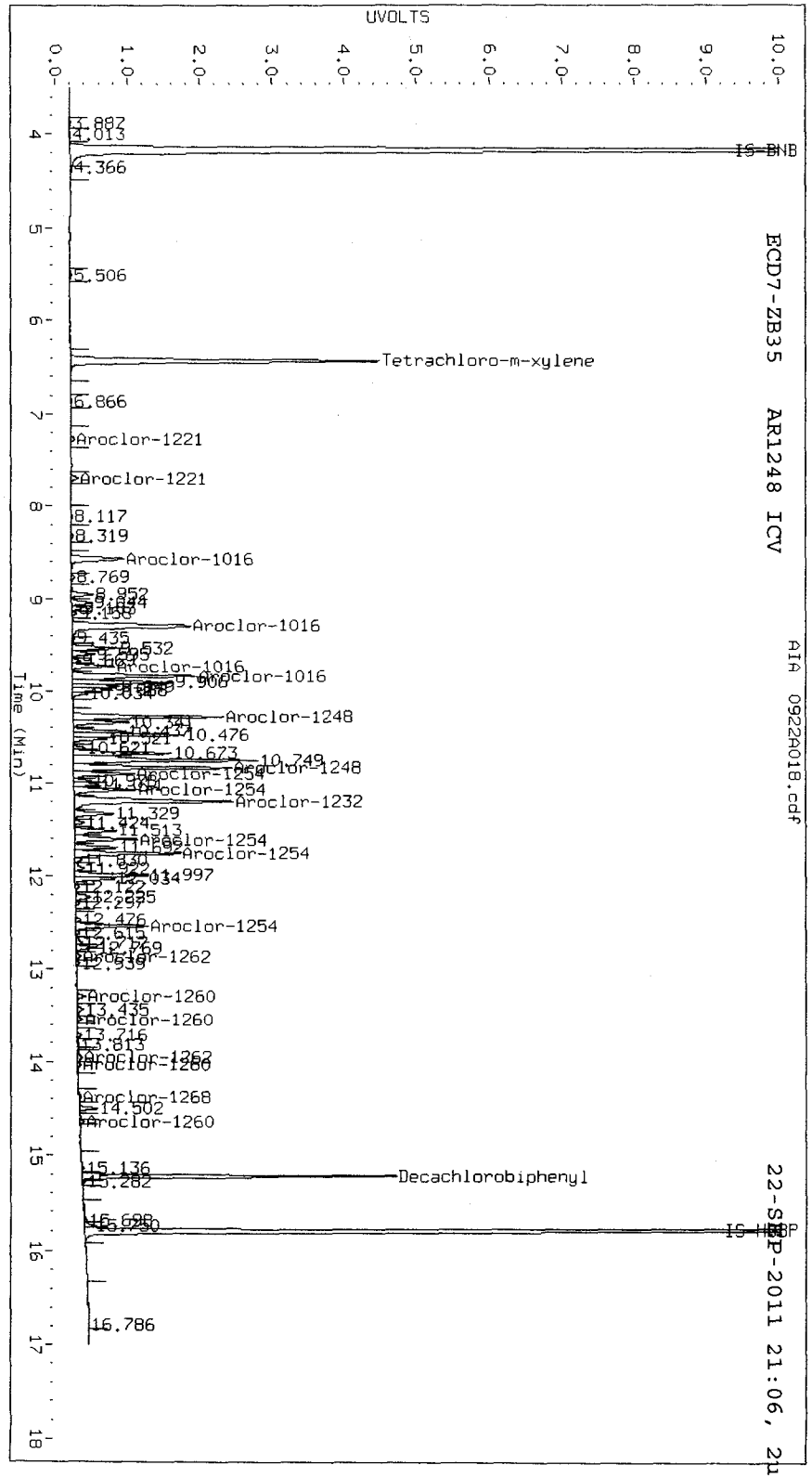
Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1242
Aroclor-1232
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TR07:001110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AIA 0922A018.cdf
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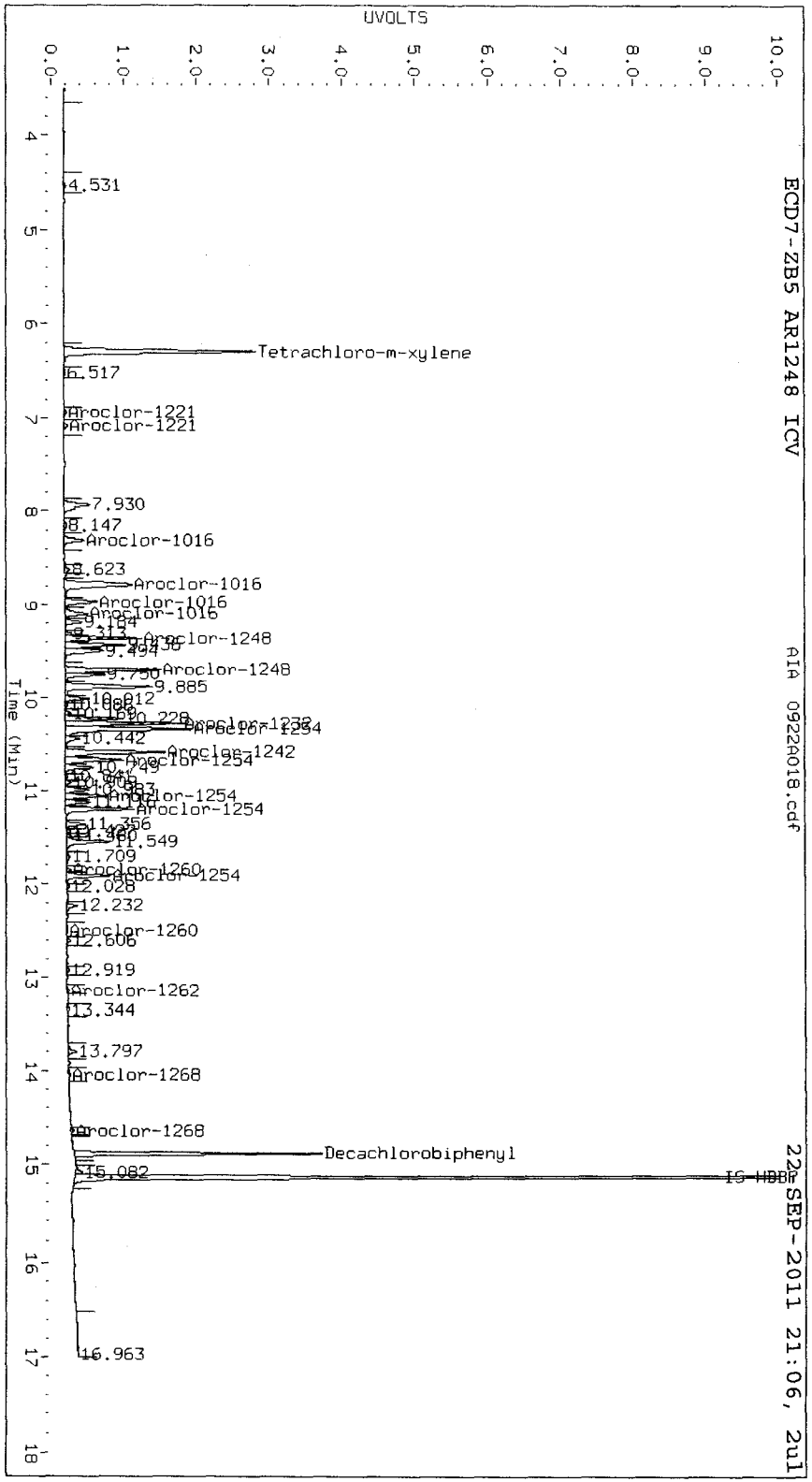
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP


UVOLTS
ECD7-ZB5 AR1248 ICV
AIA 0922A018.cdf
22-SEP-2011 21:06, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1242
Aroclor-1232
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TR07:00141

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A019.d
Data file 2: 20110922.B/ical-2.b/0922A019.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254 ICV
Client ID:
Injection Date: 22-SEP-2011 21:29
Report Date: 09/23/2011 12:42
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	1390465	6.430	-0.001	2239718	20.8	20.6	0.9	Tetrachloro-m-xylen
14.884	0.000	1218451	15.225	0.000	1532335	20.4	18.8	8.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.9	51.4
Decachlorobiphenyl	51.1	47.1

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5282355	4.5
Hexabromobiphenyl	4060201	4422768	8.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8192674	4.9
Hexabromobiphenyl	5725568	6240807	9.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	8.566	-0.003	16845	3.8
Aroclor-1016	2	8.777	-0.015	24089	4.2	2	9.285	-0.014	50024	5.4
Aroclor-1016	3	8.973	0.007	13396	6.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	9.832	-0.002	523287	192.5
		Col1Ave: <3 Quant Peaks					Col2Ave:		67.3	
Aroclor-1221	1	---			0.0	1	7.277	0.018	29086	22.9
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	7.701	0.001	10403	4.3
Aroclor-1221	NS	---			----	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1232	1	---			0.0	1	8.566	-0.003	16845	8.8
Aroclor-1232	2	8.777	-0.015	24089	10.7	2	9.285	-0.013	50024	13.7
Aroclor-1232	3	8.973	0.007	13396	15.2	3	---			0.0
Aroclor-1232	4	10.278	-0.001	298349	379.6	4	11.165	-0.027	610479	376.5
		Total Col1Ave (3 peaks):		135.2			Total Col2Ave (3 peaks):		133.0	RPD = 2
		Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks			
Aroclor-1242	1	---			0.0	1	8.566	-0.002	16845	5.1
Aroclor-1242	2	8.777	-0.015	24089	5.4	2	9.285	-0.014	50024	7.2
Aroclor-1242	3	8.973	0.007	13396	7.7	3	---			0.0
Aroclor-1242	4	10.588	0.002	213736	135.0	4	11.165	-0.027	610479	209.9
		Total Col1Ave (3 peaks):		49.4			Total Col2Ave (3 peaks):		74.1	RPD = 40
		Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks			
Aroclor-1248	1	9.363	-0.001	327351	184.7	1	9.832	-0.001	523287	160.2
Aroclor-1248	2	9.695	-0.001	186539	86.6	2	10.280	0.000	303489	84.3
Aroclor-1248	3	10.278	-0.001	298349	116.1	3	10.828	-0.001	194854	54.1
Aroclor-1248	4	10.588	0.003	213736	89.2	4	11.165	-0.026	610479	131.9
		Total Col1Ave (4 peaks):		119.1			Total Col2Ave (4 peaks):		107.6	RPD = 10
		Corrected Ave (3 peaks):		97.3			Corrected Ave (3 peaks):		90.1	RPD = 8
Aroclor-1254	1	10.346	0.001	694012	244.8	1	10.897	0.000	895683	252.0
Aroclor-1254	2	10.669	0.001	989895	253.0	2	11.067	-0.001	1162767	253.3
Aroclor-1254	3	11.053	0.000	621656	254.1	3	11.606	0.000	911668	252.1
Aroclor-1254	4	11.192	0.000	1181036	250.1	4	11.757	-0.001	1938721	250.3
Aroclor-1254	5	11.911	0.000	783773	249.6	5	12.543	0.000	1168781	249.7
		Total Col1Ave (5 peaks):		250.3			Total Col2Ave (5 peaks):		251.5	RPD = 0
		Corrected Ave (4 peaks):		249.4			Corrected Ave (4 peaks):		251.0	RPD = 1
Aroclor-1260	1	11.853	0.000	480662	108.0	1	13.302	-0.002	519873	102.6
Aroclor-1260	2	12.456	-0.002	54522	18.8	2	13.541	0.000	293748	29.3
Aroclor-1260	3	12.774	0.000	58723	20.3	3	14.033	-0.002	203757	31.0
Aroclor-1260	4	13.507	-0.001	128285	35.3	4	14.643	0.054	22229	9.6
Aroclor-1260	5	---			0.0	NS	---			----
		Total Col1Ave (4 peaks):		45.6			Total Col2Ave (4 peaks):		43.1	RPD = 6
		Corrected Ave (3 peaks):		24.8			Corrected Ave (3 peaks):		23.3	RPD = 6
Aroclor-1262	1	12.456	-0.002	54522	10.8	1	12.860	0.000	102838	15.9
Aroclor-1262	2	12.774	0.000	58723	14.4	2	13.302	-0.001	519873	81.5
Aroclor-1262	3	13.136	-0.001	136483	14.3	3	13.541	0.001	293748	23.6
Aroclor-1262	4	---			0.0	4	13.987	0.003	75613	13.9
Aroclor-1262	5	---			0.0	5	14.033	-0.002	203757	25.0
		Total Col1Ave (3 peaks):		13.2			Total Col2Ave (5 peaks):		32.0	RPD = 83*
		Corrected Ave: < 3 Peaks					Corrected Ave (4 peaks):		19.6	
Aroclor-1268	1	---			0.0	1	13.987	0.003	75613	6.0
Aroclor-1268	2	---			0.0	2	14.033	-0.005	203757	17.2
Aroclor-1268	3	14.045	0.054	14476	1.9	3	---			0.0

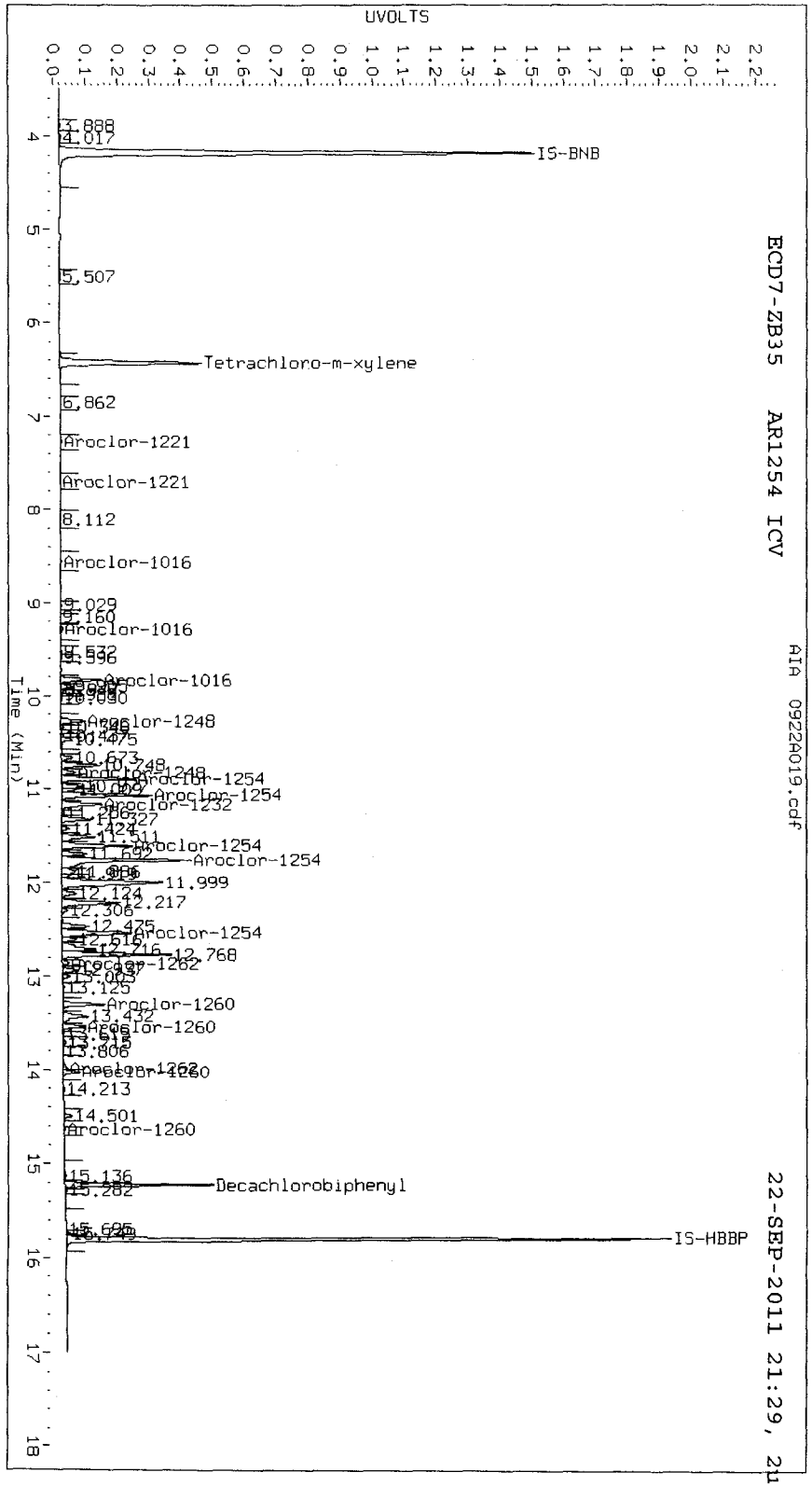
Aroclor-1268	4	14.639	0.046	10016	0.4	4	---	0.0
		Col1Ave: <3 Quant Peaks				Col2Ave: <3 Quant Peaks		

Total PCB Area Col1 (6.392 - 14.784) = 11875986 Col1 Total PCB = 0.3 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 18840165 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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AIA 0922A019.cdf
22-SEP-2011 21:29, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1221
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1254
Aroclor-1232
Aroclor-1254
Aroclor-1254
Aroclor-1254
Aroclor-1260
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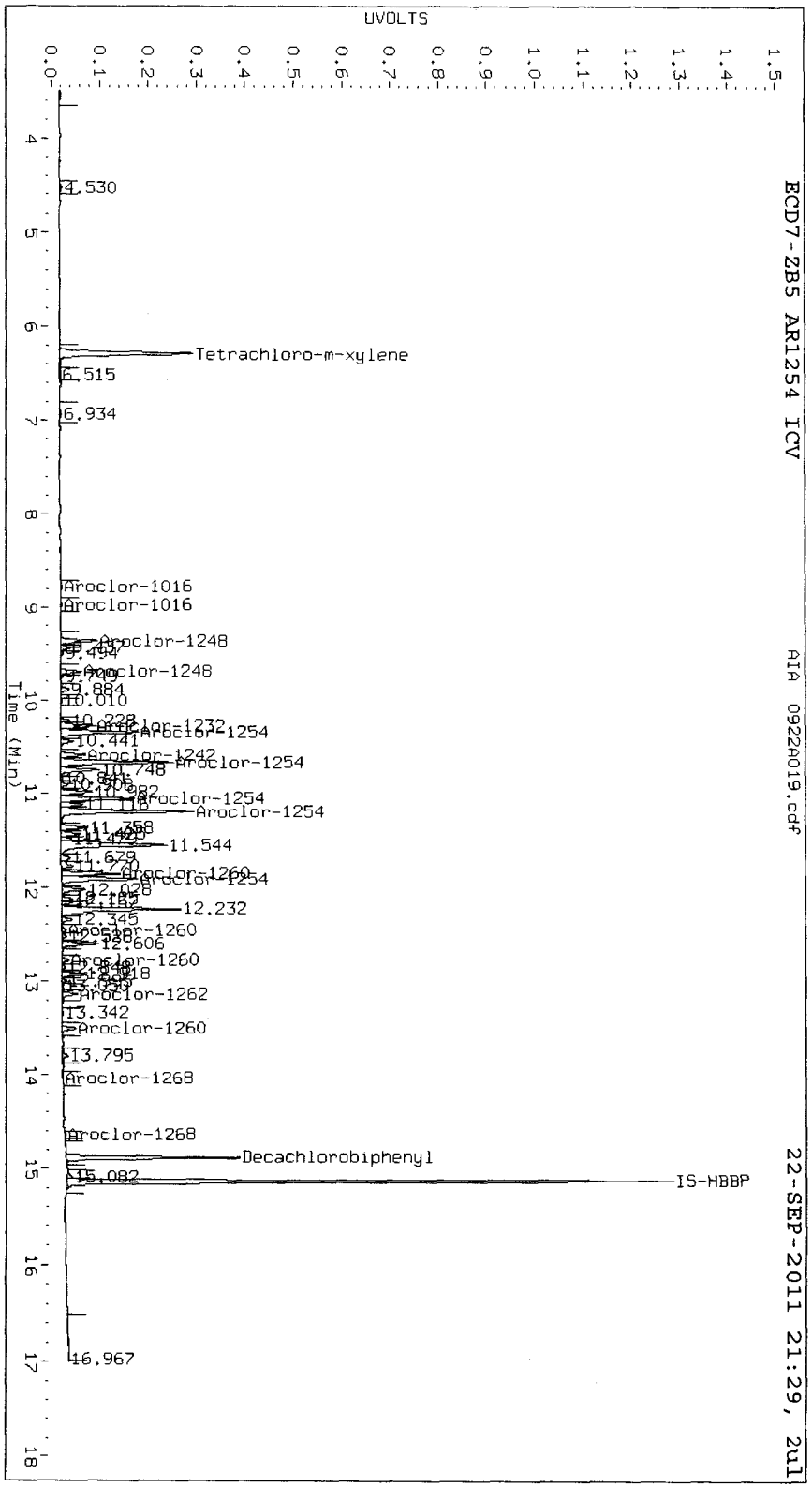
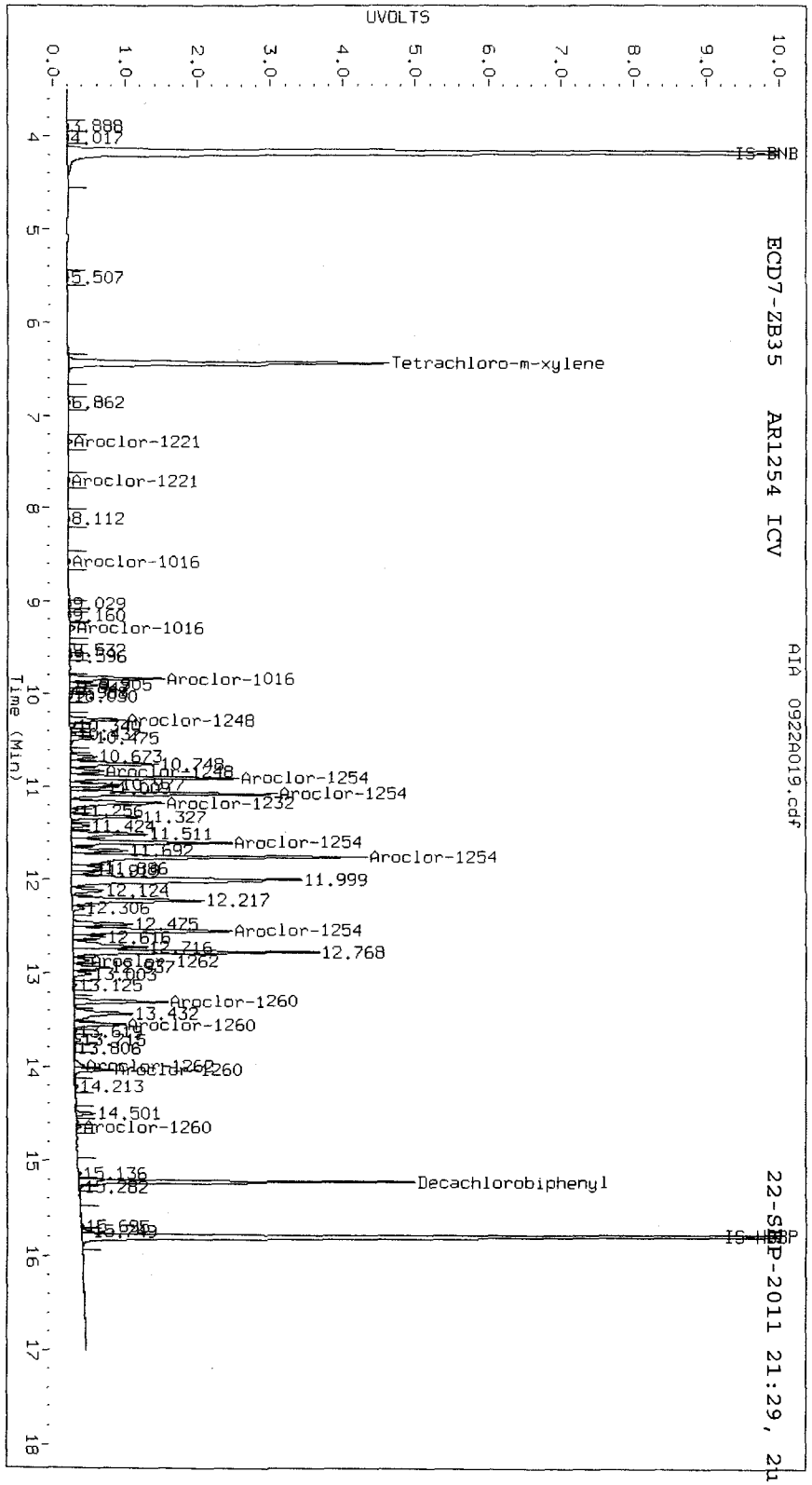
Aroclor-1260
Decachlorobiphenyl
IS-HBBP


UVOLTS
ECD7-ZB5 AR1254 ICV
AIA 0922A019.cdf
22-SEP-2011 21:29, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1016
Aroclor-1248
Aroclor-1248
Aroclor-1254
Aroclor-1242
Aroclor-1254
Aroclor-1254
Aroclor-1254
Aroclor-1260
Aroclor-1260
Aroclor-1262
Aroclor-1260
Aroclor-1268
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TR97:00145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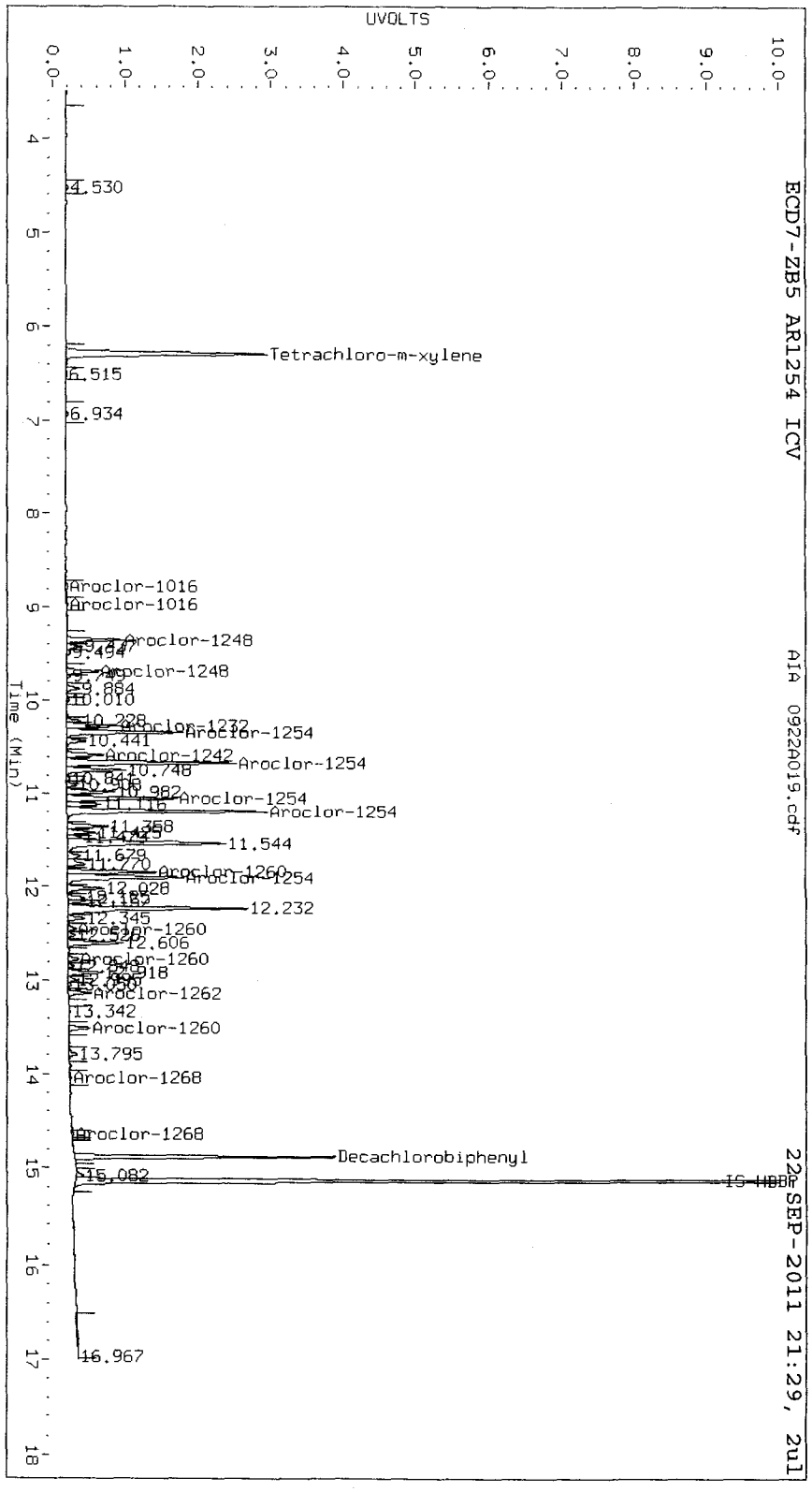
AIA 0922A019.cdf
22-SEP-2011 21:29, 2u
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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UVOLTS
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1242
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TR07:00146

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A020.d
Data file 2: 20110922.B/ical-2.b/0922A020.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162 ICV
Client ID:
Injection Date: 22-SEP-2011 21:52
Report Date: 09/23/2011 12:42
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	1385641	6.430	-0.001	2145866	20.7	19.8	4.2	Tetrachloro-m-xylen
14.884	0.000	1171912	15.224	-0.001	1483152	19.3	18.1	6.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.7	49.6
Decachlorobiphenyl	48.3	45.2

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5287808	4.6
Hexabromobiphenyl	4060201	4496425	10.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8146644	4.3
Hexabromobiphenyl	5725568	6294647	9.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.305	0.000	32054	19.5	1	8.583	0.014	186408	42.7
Aroclor-1016	2	8.794	0.002	88674	15.6	2	9.300	0.001	169919	18.6
Aroclor-1016	3	8.966	0.000	39612	17.8	3	9.726	0.001	43727	18.7
Aroclor-1016	4	9.094	-0.001	26119	16.5	4	9.833	-0.001	41756	15.4
Total Col1Ave (4 peaks):				17.3		Total Col2Ave (4 peaks):			23.9	RPD = 32
Corrected Ave (3 peaks):				16.6		Corrected Ave (3 peaks):			17.6	RPD = 6
Aroclor-1221	1	6.746	-0.001	170695	247.2	1	7.259	0.000	307189	243.0
Aroclor-1221	2	6.958	0.000	128032	245.8	2	7.561	-0.001	192307	247.4
Aroclor-1221	3	7.081	-0.001	419742	245.2	3	7.700	0.000	584149	245.6
Aroclor-1221	NS	---			----	4	7.787	-0.001	105764	273.7
Total Col1Ave (3 peaks):				246.1		Total Col2Ave (4 peaks):			252.4	RPD = 3
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			245.3	
Aroclor-1232	1	8.305	0.000	32054	48.9	1	8.583	0.014	186408	98.1
Aroclor-1232	2	8.794	0.002	88674	39.5	2	9.300	0.002	169919	46.8
Aroclor-1232	3	8.966	0.001	39612	44.8	3	9.726	0.000	43727	45.1
Aroclor-1232	4	10.280	0.001	19948	25.4	4	11.188	-0.004	65694	40.7
Total Col1Ave (4 peaks):				39.7		Total Col2Ave (4 peaks):			57.7	RPD = 37
Corrected Ave (3 peaks):				36.6		Corrected Ave (3 peaks):			44.2	RPD = 19
Aroclor-1242	1	8.305	0.000	32054	24.9	1	8.583	0.015	186408	56.5
Aroclor-1242	2	8.794	0.002	88674	19.9	2	9.300	0.002	169919	24.6
Aroclor-1242	3	8.966	0.001	39612	22.9	3	9.726	0.000	43727	24.1
Aroclor-1242	4	10.588	0.002	26614	16.8	4	11.188	-0.003	65694	22.7
Total Col1Ave (4 peaks):				21.1		Total Col2Ave (4 peaks):			32.0	RPD = 41*
Corrected Ave (3 peaks):				19.9		Corrected Ave (3 peaks):			23.8	RPD = 18
Aroclor-1248	1	9.364	0.000	20099	11.3	1	9.833	0.000	41756	12.9
Aroclor-1248	2	9.695	0.000	16905	7.8	2	10.280	-0.001	43573	12.2
Aroclor-1248	3	10.280	0.001	19948	7.8	3	10.829	0.000	32495	9.1
Aroclor-1248	4	10.588	0.002	26614	11.1	4	11.188	-0.003	65694	14.3
Total Col1Ave (4 peaks):				9.5		Total Col2Ave (4 peaks):			12.1	RPD = 24
Corrected Ave (3 peaks):				8.9		Corrected Ave (3 peaks):			11.4	RPD = 24
Aroclor-1254	1	10.347	0.001	118433	41.7	1	10.898	0.001	184842	52.3
Aroclor-1254	2	10.670	0.002	132156	33.7	2	11.067	0.000	217072	47.6
Aroclor-1254	3	11.053	0.000	24572	10.0	3	11.606	0.000	49832	13.9
Aroclor-1254	4	11.161	-0.031	177197	37.5	4	11.794	0.036	899271	116.7
Aroclor-1254	5	11.901	-0.010	153602	48.9	5	12.557	0.014	231083	49.6
Total Col1Ave (5 peaks):				34.4		Total Col2Ave (5 peaks):			56.0	RPD = 48*
Corrected Ave (4 peaks):				30.8		Corrected Ave (4 peaks):			40.8	RPD = 28
Aroclor-1260	1	11.853	0.000	780858	172.5	1	13.304	0.000	1571225	307.3
Aroclor-1260	2	12.457	-0.001	1186714	402.2	2	13.540	-0.001	2868761	283.2
Aroclor-1260	3	12.773	-0.001	994171	337.9	3	14.035	0.000	1978804	298.8
Aroclor-1260	4	13.507	0.000	694285	188.0	4	14.588	-0.001	1022777	440.2
Aroclor-1260	5	13.606	-0.001	954162	663.2	NS	---			----
Total Col1Ave (5 peaks):				352.8		Total Col2Ave (4 peaks):			332.4	RPD = 6
Corrected Ave (4 peaks):				275.2		Corrected Ave (3 peaks):			296.5	RPD = 7
Aroclor-1262	1	12.457	-0.001	1186714	231.8	1	12.860	0.000	1572364	241.5
Aroclor-1262	2	12.773	-0.001	994171	240.5	2	13.304	0.000	1571225	244.2
Aroclor-1262	3	13.136	-0.001	2189113	225.3	3	13.540	0.001	2868761	228.4
Aroclor-1262	4	13.606	-0.001	954162	246.5	4	13.983	-0.001	1358314	247.0
Aroclor-1262	5	13.670	-0.001	949624	241.8	5	14.035	0.000	1978804	241.1
Total Col1Ave (5 peaks):				237.2		Total Col2Ave (5 peaks):			240.4	RPD = 1
Corrected Ave (4 peaks):				234.9		Corrected Ave (4 peaks):			238.8	RPD = 2
Aroclor-1268	1	13.606	-0.001	954162	92.3	1	13.983	-0.001	1358314	107.1

Aroclor-1268	2	13.670	0.001	949624	100.4	2	14.035	-0.003	1978804	165.9
Aroclor-1268	3	14.006	0.014	354726	44.8	3	14.350	-0.001	104141	10.9
Aroclor-1268	4	14.592	0.000	268906	11.4	4	14.937	-0.001	359030	12.5

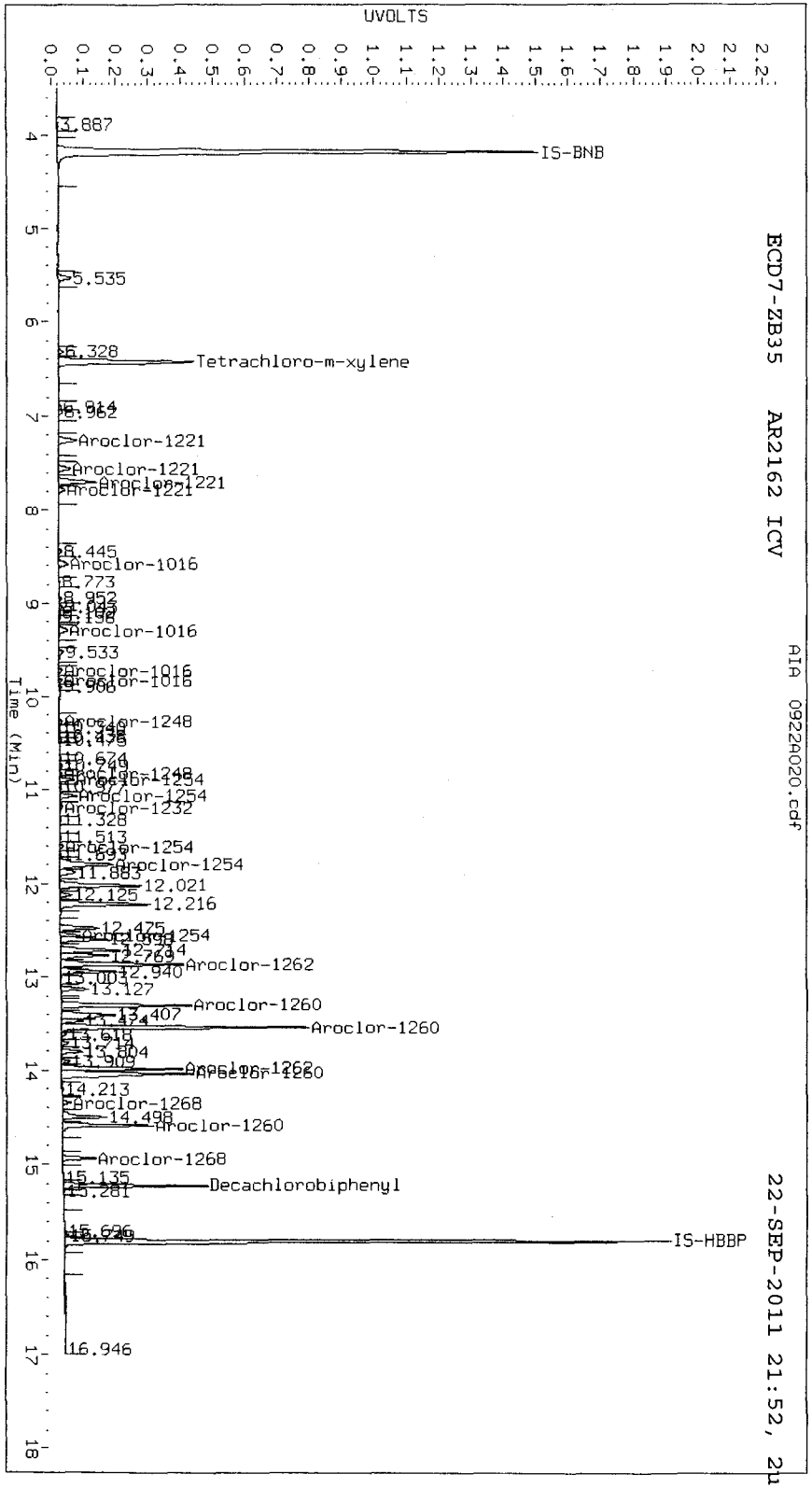
Total Col1Ave (4 peaks): 62.2 Total Col2Ave (4 peaks): 74.1 RPD = 17

Corrected Ave (3 peaks): 49.5 Corrected Ave (3 peaks): 43.5 RPD = 13

Total PCB Area Col1 (6.392 - 14.784) = 15914485 Col1 Total PCB = 0.4 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 23349355 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical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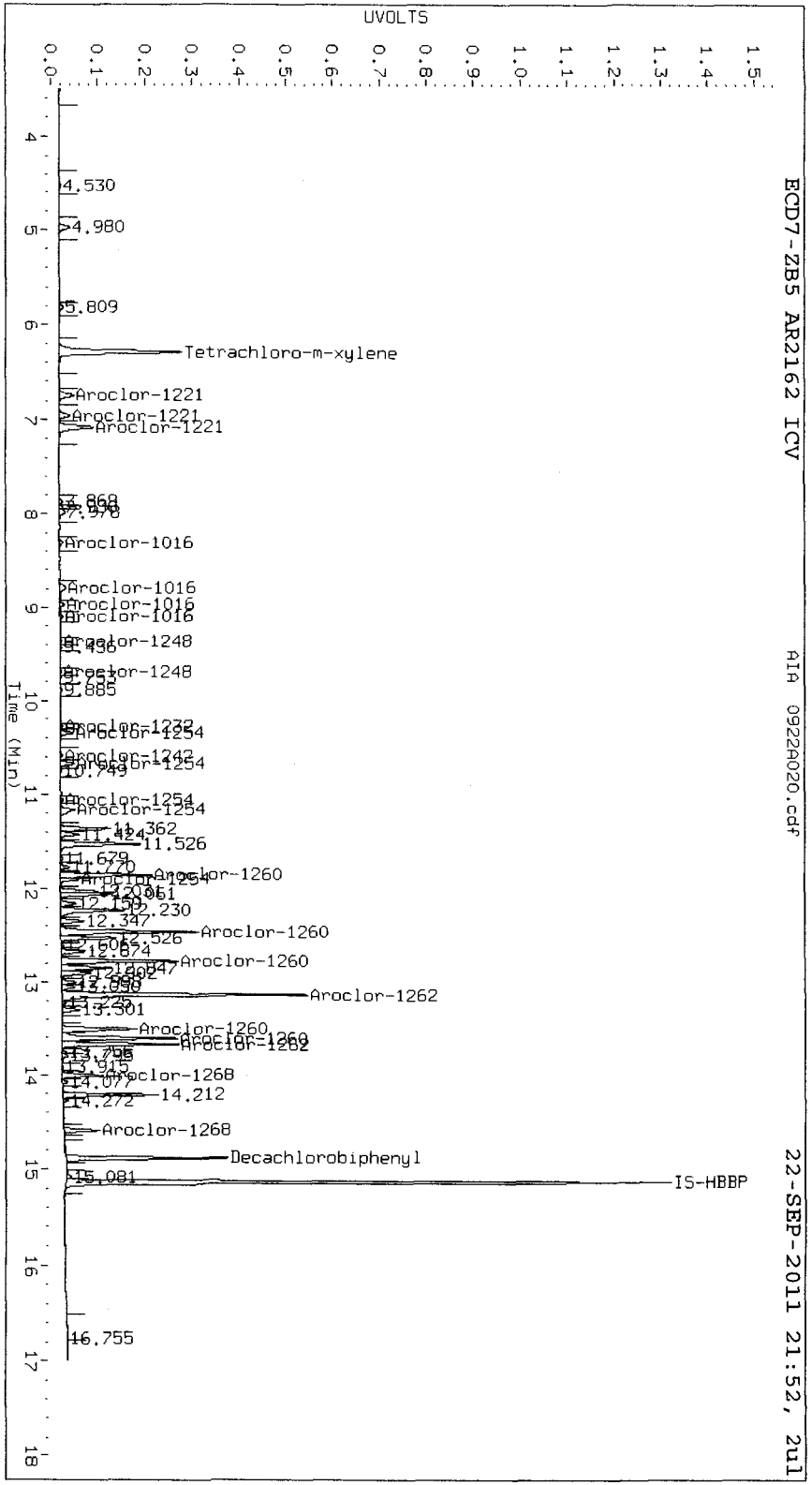
AIA 0922A020.cdf
22-SEP-2011 21:52, 2u
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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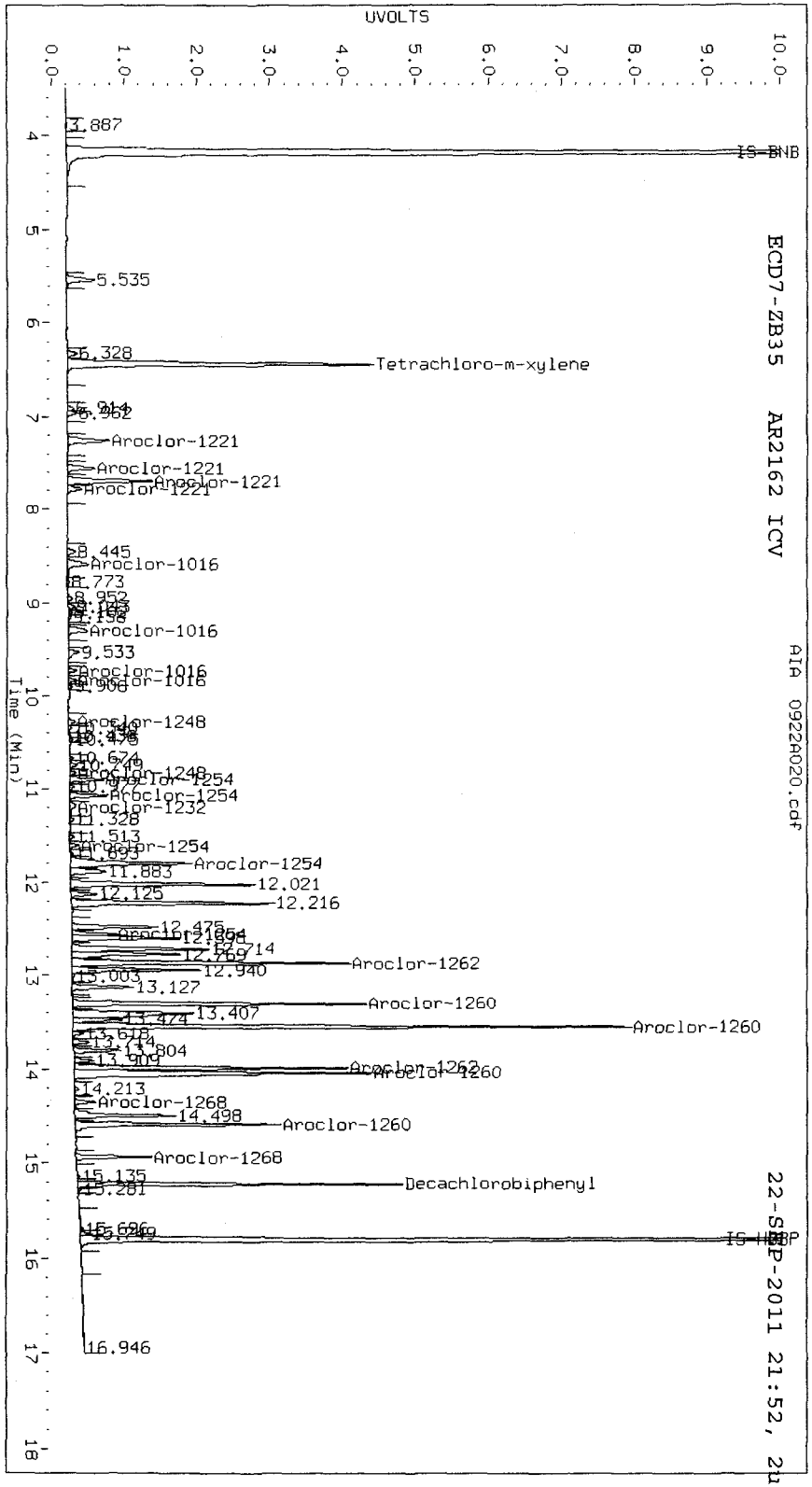
Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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ECD7-ZB35 AR2162 ICV
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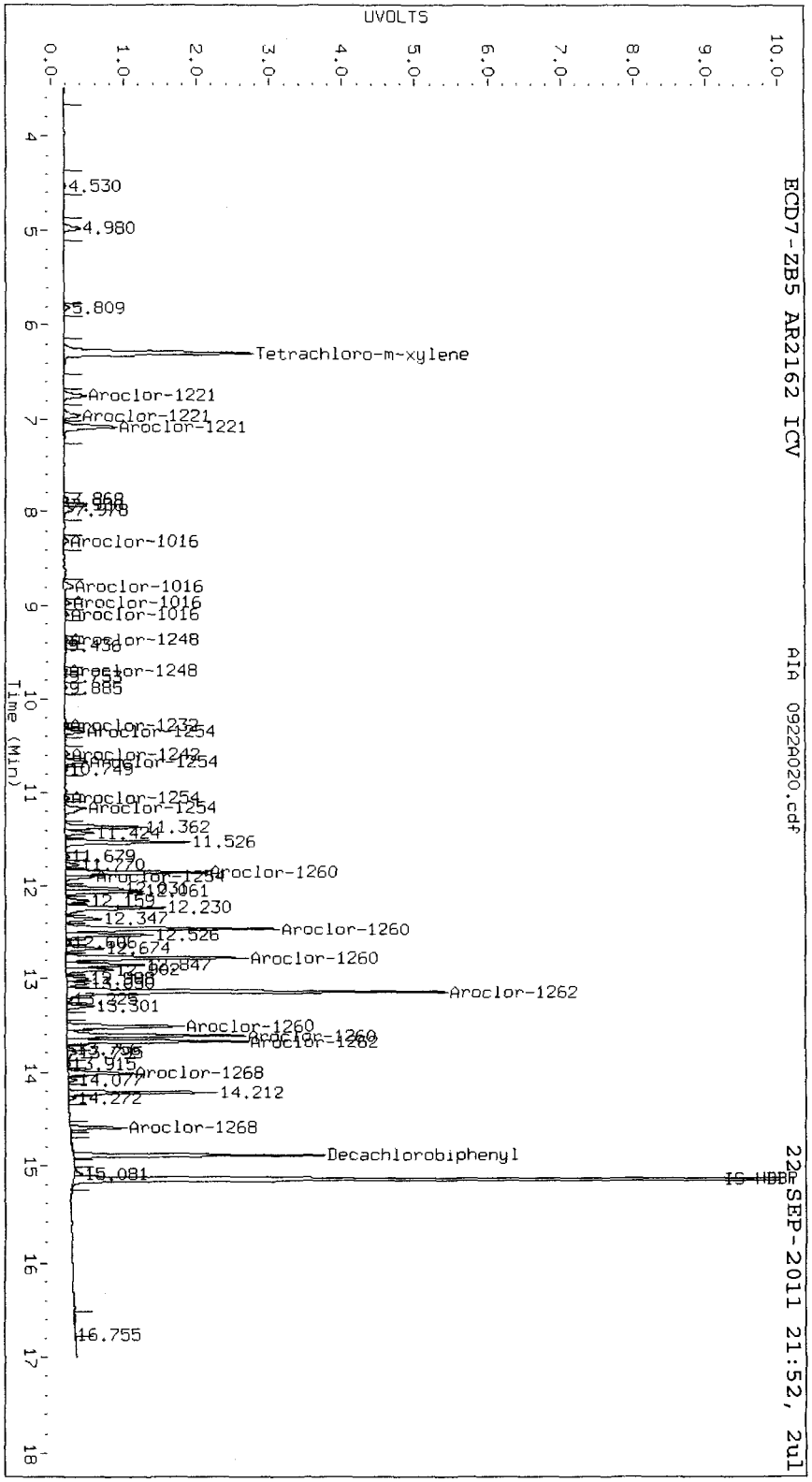
22-SEP-2011 21:52, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP


UVOLTS
ECD7-ZB5 AR2162 ICV
AIA 0922A020.cdf
22-SEP-2011 21:52, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1242
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TR07:001151

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A021.d
Data file 2: 20110922.B/ical-2.b/0922A021.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268 ICV
Client ID:
Injection Date: 22-SEP-2011 22:15
Report Date: 09/23/2011 12:42
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	1397472	6.430	-0.001	2198197	21.1	20.5	2.7	Tetrachloro-m-xylen
14.884	0.000	2048399	15.224	-0.001	2543255	34.4	31.4	9.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	52.6	51.2
Decachlorobiphenyl	86.1	78.4

JK 09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5234814	3.5
Hexabromobiphenyl	4060201	4410670	8.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8073184	3.4
Hexabromobiphenyl	5725568	6216232	8.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.304	-0.002	183271	112.4	1	8.569	0.000	527939	122.0
Aroclor-1016	2	8.792	0.000	614110	109.0	2	9.298	-0.001	989341	109.4
Aroclor-1016	3	8.965	-0.001	242187	109.7	3	9.725	0.000	267435	115.5
Aroclor-1016	4	9.094	-0.001	168608	107.7	4	9.833	-0.001	271326	101.3
Total Col1Ave (4 peaks):				109.7		Total Col2Ave (4 peaks):			112.0	RPD = 2
Corrected Ave (3 peaks):				108.8		Corrected Ave (3 peaks):			108.7	RPD = 0
Aroclor-1221	1	6.745	-0.002	103647	151.6	1	7.258	-0.001	201083	160.5
Aroclor-1221	2	6.957	-0.001	91658	177.7	2	7.560	-0.001	134508	174.6
Aroclor-1221	3	7.080	-0.002	331286	195.5	3	7.699	-0.001	485452	205.9
Aroclor-1221	NS	---			----	4	7.786	-0.002	63491	165.8
Total Col1Ave (3 peaks):				175.0		Total Col2Ave (4 peaks):			176.7	RPD = 1
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			167.0	
Aroclor-1232	1	8.304	-0.001	183271	282.7	1	8.569	0.000	527939	280.4
Aroclor-1232	2	8.792	0.000	614110	276.5	2	9.298	0.000	989341	274.7
Aroclor-1232	3	8.965	0.000	242187	276.6	3	9.725	-0.001	267435	278.5
Aroclor-1232	4	10.280	0.000	179828	230.9	4	11.191	-0.001	369899	231.5
Total Col1Ave (4 peaks):				266.7		Total Col2Ave (4 peaks):			266.3	RPD = 0
Corrected Ave (3 peaks):				261.3		Corrected Ave (3 peaks):			261.6	RPD = 0
Aroclor-1242	1	8.304	-0.001	183271	143.7	1	8.569	0.001	527939	161.5
Aroclor-1242	2	8.792	0.000	614110	139.0	2	9.298	0.000	989341	144.5
Aroclor-1242	3	8.965	0.000	242187	141.3	3	9.725	-0.001	267435	148.6
Aroclor-1242	4	10.586	0.000	193375	123.2	4	11.191	0.000	369899	129.1
Total Col1Ave (4 peaks):				136.8		Total Col2Ave (4 peaks):			145.9	RPD = 6
Corrected Ave (3 peaks):				134.5		Corrected Ave (3 peaks):			140.7	RPD = 4
Aroclor-1248	1	9.364	-0.001	126008	71.8	1	9.833	-0.001	271326	84.3
Aroclor-1248	2	9.694	-0.001	166157	77.8	2	10.280	-0.001	347242	97.9
Aroclor-1248	3	10.280	0.000	179828	70.6	3	10.830	0.001	320870	90.4
Aroclor-1248	4	10.586	0.000	193375	81.4	4	11.191	0.001	369899	81.1
Total Col1Ave (4 peaks):				75.4		Total Col2Ave (4 peaks):			88.4	RPD = 16
Corrected Ave (3 peaks):				73.4		Corrected Ave (3 peaks):			85.3	RPD = 15
Aroclor-1254	1	10.337	-0.009	226666	80.7	1	10.897	0.000	81457	23.3
Aroclor-1254	2	10.668	-0.001	68109	17.6	2	11.067	0.000	77904	17.2
Aroclor-1254	3	11.054	0.000	36133	14.9	3	11.606	0.000	64983	18.2
Aroclor-1254	4	11.193	0.001	64401	13.8	4	11.757	-0.001	152191	19.9
Aroclor-1254	5	11.916	0.005	35406	11.4	5	12.540	-0.003	69824	15.1
Total Col1Ave (5 peaks):				27.7		Total Col2Ave (5 peaks):			18.8	RPD = 38
Corrected Ave (4 peaks):				14.4		Corrected Ave (4 peaks):			17.6	RPD = 20
Aroclor-1260	1	11.853	0.000	29402	6.6	1	13.303	-0.001	970779	192.3
Aroclor-1260	2	12.458	-0.001	608806	210.3	2	13.540	-0.001	577671	57.8
Aroclor-1260	3	12.774	0.000	53655	18.6	3	14.037	0.002	3512932	537.2
Aroclor-1260	4	13.508	0.001	14944	4.1	4	14.589	0.000	1139169	496.5
Aroclor-1260	5	13.607	0.000	2771466	1963.7	NS	---			----
Total Col1Ave (5 peaks):				440.7		Total Col2Ave (4 peaks):			320.9	RPD = 31
Corrected Ave (4 peaks):				59.9		Corrected Ave (3 peaks):			248.8	RPD = 122*
Aroclor-1262	1	12.458	0.000	608806	121.3	1	12.860	0.000	858010	133.4
Aroclor-1262	2	12.774	0.000	53655	13.2	2	13.303	0.000	970779	152.8
Aroclor-1262	3	13.136	0.000	389825	40.9	3	13.540	0.000	577671	46.6
Aroclor-1262	4	13.607	-0.001	2771466	729.9	4	13.983	-0.001	3382916	622.9
Aroclor-1262	5	13.669	-0.002	2793415	725.2	5	14.037	0.002	3512932	433.5
Total Col1Ave (5 peaks):				326.1		Total Col2Ave (5 peaks):			277.8	RPD = 16
Corrected Ave (4 peaks):				225.1		Corrected Ave (4 peaks):			191.6	RPD = 16
Aroclor-1268	1	13.607	-0.001	2771466	273.4	1	13.983	-0.001	3382916	270.0

Aroclor-1268	2	13.669	0.000	2793415	301.1	2	14.037	-0.001	3512932	298.2
Aroclor-1268	3	13.991	-0.001	1909007	245.8	3	14.350	-0.001	2280531	242.1
Aroclor-1268	4	14.592	-0.001	5270226	227.8	4	14.938	0.000	6440385	226.5

Total Col1Ave (4 peaks): 262.0 Total Col2Ave (4 peaks): 259.2 RPD = 1

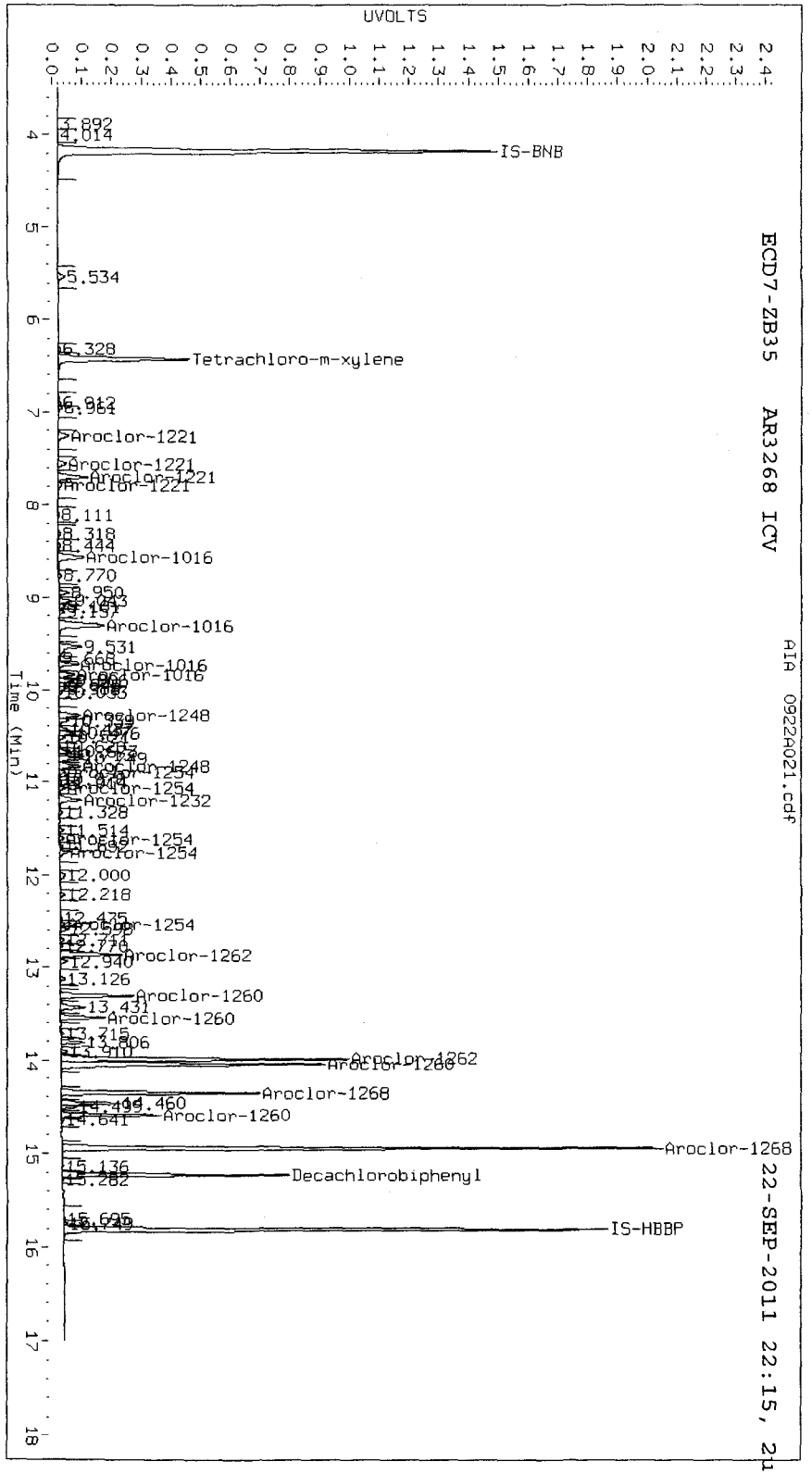
Corrected Ave (3 peaks): 249.0 Corrected Ave (3 peaks): 246.2 RPD = 1

Total PCB Area Col1 (6.392 - 14.784) = 20821832 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 28725278 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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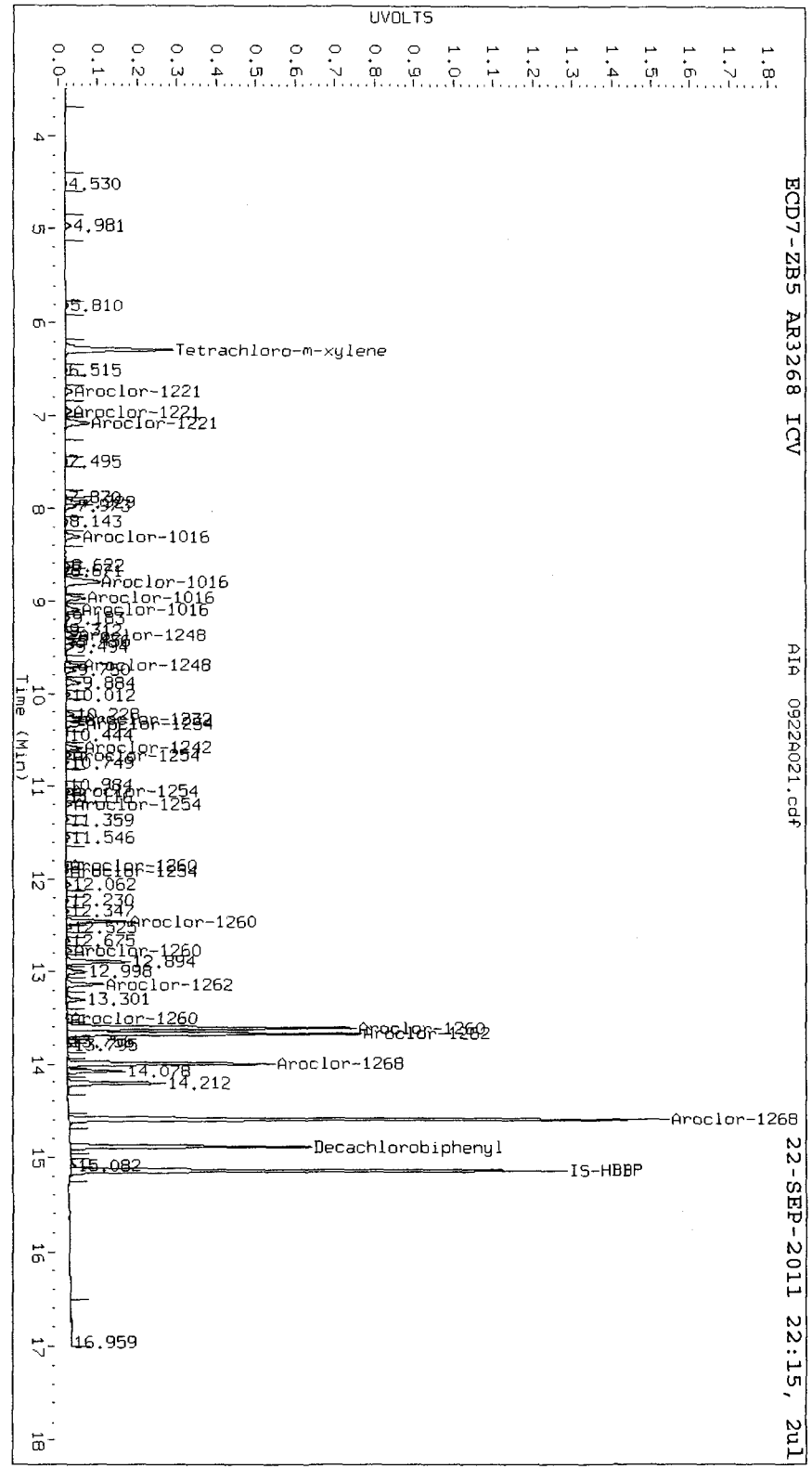
AIA 0922A021.cdf
22-SEP-2011 22:15, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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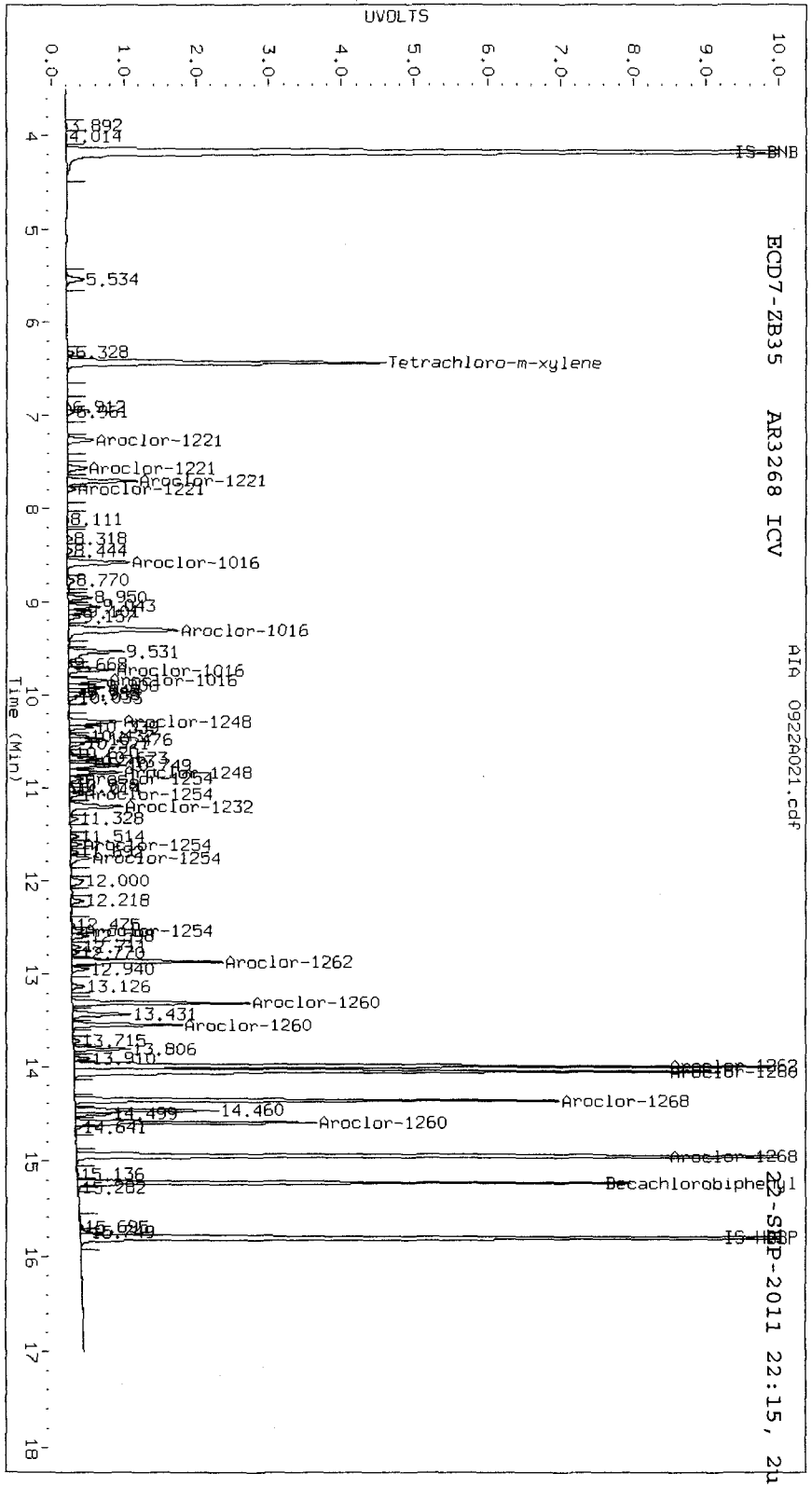
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1242
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
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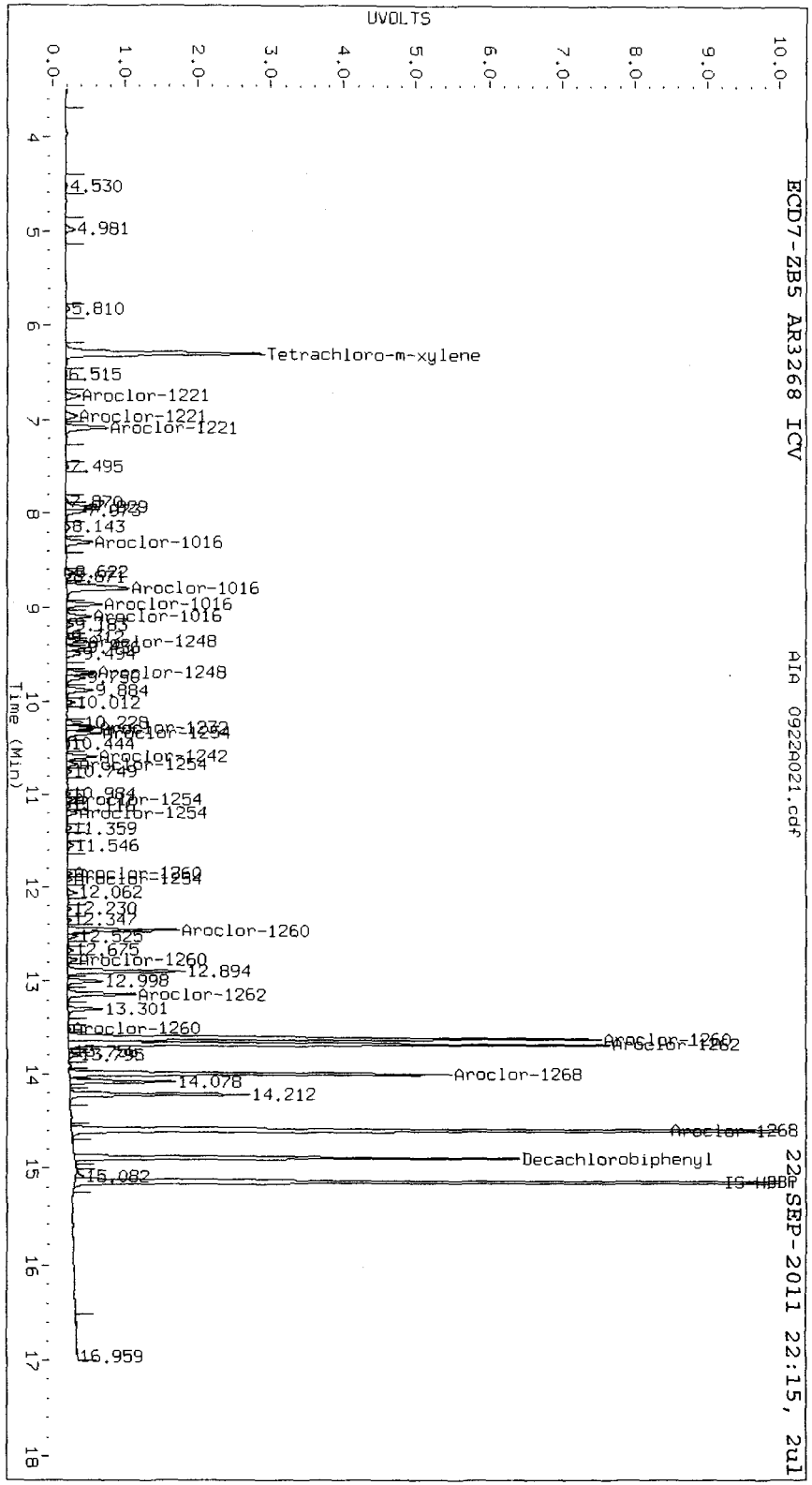
Decachlorobiphenyl
IS-HBBP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Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1242
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: 20110922.B/ddts-1.b/0922A022.d ARI ID: 0.1 PPM DDTS

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
10.633	0.000	4529883	11.162	0.000	6556416	0.100	0.100	0.0	2,4-DDE
11.198	0.000	3955530	11.853	0.000	5652817	0.100	0.100	0.0	2,4-DDD
11.709	0.000	5236129	12.306	0.000	15844696	0.100	0.200#	66.7*	2,4-DDT
11.072	0.000	7463996	11.546	0.000	10554641	0.100	0.100	0.0	4,4-DDE
11.653	0.000	6008880	12.306	0.000	15844696	0.100	0.200#	66.7*	4,4-DDD
12.168	0.000	6586226	12.748	0.000	9209445	0.100	0.100	0.0	4,4-DDT

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

7E

8082 DDT BREAKDOWN VERIFICATION SUMMARY

Lab ID: DDT BD

Analysis Date: 22-SEP-2011 23:01 Init. Calib. Date: 22-SEP-2011

GC Column: ZB5 ID: 0.53(mm)

COMPOUND	RT	AREA
4,4-DDE	11.073	72022
4,4-DDD	11.656	113166
4,4-DDT	12.167	7094887

Col 1: 4,4-DDT Percent Breakdown = 2.5 %

GC Column: ZB35 ID: 0.53(mm)

COMPOUND	RT	AREA
4,4-DDE	11.546	146056
4,4-DDD/2,4-DDT	12.313	331861
4,4-DDT	12.749	10175625

Col 2: 4,4-DDT Percent Breakdown = 4.5 %

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

PCB Raw Data
Run Logs, Continuing Calibrations, and Raw Data

ARI Job ID: TR07

Analytical Resources Inc.: Organics Instrument Log

ECD7 Serial No.: US00003975

Date: 10/10/11 Analysis: PCB's Analyst: JK

Column 1 Serial No.: 196396 Column Type: ZB5

Column 2 Serial No.: 175388 Column Type: ZB35

GC Method: PCB ICal Date: 09/22/11

IS	Ical/Ccal	ICV
1878-3	1868-4	1803-1,2,3
	1801-1,2,3	1804-1,2,3
	1802-1,2,3	

Document All Maintenance Tasks In StarLIMS

	Inject Date/Time	Filename	DF	LabID
1	10-OCT-2011 10:20	1010A001.d	1	DDT
2	10-OCT-2011 10:42	1010A002.d	1	DDT BD
3	10-OCT-2011 11:05	1010A003.d	1	AR1242
4	10-OCT-2011 11:28	1010A004.d	1	AR1660
5	10-OCT-2011 11:51	1010A005.d	5	TQ17F
6	10-OCT-2011 12:14	1010A006.d	1	AR1248
7	10-OCT-2011 12:37	1010A007.d	1	AR1660
8	10-OCT-2011 13:00	1010A008.d	1	AR1254
9	10-OCT-2011 14:14	1010A009.d	1	DDT
10	10-OCT-2011 14:37	1010A010.d	1	DDT BD
11	10-OCT-2011 15:00	1010A011.d	1	AR1242
12	10-OCT-2011 15:23	1010A012.d	1	AR1660
13	10-OCT-2011 15:46	1010A013.d	1	TQ47MBS1
14	10-OCT-2011 16:09	1010A014.d	1	TQ47LCSS1
15	10-OCT-2011 16:31	1010A015.d	1	TQ47LCSDS1
16	10-OCT-2011 16:54	1010A016.d	1	TQ47A
17	10-OCT-2011 17:17	1010A017.d	1	TQ47B
18	10-OCT-2011 17:40	1010A018.d	1	TQ47C
19	10-OCT-2011 18:03	1010A019.d	1	TQ47D
20	10-OCT-2011 18:26	1010A020.d	1	TQ47E
21	10-OCT-2011 18:49	1010A021.d	1	TQ47F
22	10-OCT-2011 19:12	1010A022.d	1	TQ47G
23	10-OCT-2011 19:35	1010A023.d	1	AR1248
24	10-OCT-2011 19:58	1010A024.d	1	AR1660
25	10-OCT-2011 20:21	1010A025.d	5	TQ47H
26	10-OCT-2011 20:44	1010A026.d	1	TQ47I
27	10-OCT-2011 21:07	1010A027.d	1	TQ47J
28	10-OCT-2011 21:30	1010A028.d	1	TQ47K
29	10-OCT-2011 21:52	1010A029.d	5	TQ47L
30	10-OCT-2011 22:15	1010A030.d	1	TQ47M
31	10-OCT-2011 22:38	1010A031.d	1	TQ47N
32	10-OCT-2011 23:01	1010A032.d	1	TQ47O
33	10-OCT-2011 23:24	1010A033.d	5	TQ47P
34	10-OCT-2011 23:47	1010A034.d	1	TQ47Q
35	11-OCT-2011 00:10	1010A035.d	1	AR1254
36	11-OCT-2011 00:33	1010A036.d	1	AR1660
37	11-OCT-2011 00:56	1010A037.d	1	TQ47R
38	11-OCT-2011 01:19	1010A038.d	1	TQ47RMS
39	11-OCT-2011 01:42	1010A039.d	1	TQ47RMSD
40	11-OCT-2011 02:05	1010A040.d	1	TQ47S
41	11-OCT-2011 02:28	1010A041.d	5	TQ47T
42	11-OCT-2011 02:51	1010A042.d	1	AR1242
43	11-OCT-2011 03:14	1010A043.d	1	AR1660
44	11-OCT-2011 03:37	1010A044.d	1	TN70MBS1
45	11-OCT-2011 04:00	1010A045.d	1	TN70LCSS1
46	11-OCT-2011 04:23	1010A046.d	1	TN70QLS
47	11-OCT-2011 04:46	1010A047.d	1	TN70A
48	11-OCT-2011 05:08	1010A048.d	1	TN70B
49	11-OCT-2011 05:31	1010A049.d	1	TN70C
50	11-OCT-2011 05:54	1010A050.d	1	TN70D
51	11-OCT-2011 06:17	1010A051.d	1	TN70E
52	11-OCT-2011 06:40	1010A052.d	1	TN70F
53	11-OCT-2011 07:03	1010A053.d	1	AR1248
54	11-OCT-2011 07:26	1010A054.d	1	AR1660
55	11-OCT-2011 07:49	1010A055.d	1	TN70G
56	11-OCT-2011 08:12	1010A056.d	1	TN70H
57	11-OCT-2011 08:35	1010A057.d	2	TQ17F
58	11-OCT-2011 08:58	1010A058.d	1	AR1242
59	11-OCT-2011 09:21	1010A059.d	1	AR1660
60	11-OCT-2011 09:44	1010A060.d	1	TN70I
61	11-OCT-2011 10:36	1010A062.d	1	TN70IMS
62	11-OCT-2011 10:59	1010A063.d	1	TN70IMSD
63	11-OCT-2011 11:22	1010A064.d	1	TN70J
64	11-OCT-2011 11:45	1010A065.d	1	TN70K
65	11-OCT-2011 12:08	1010A066.d	2	TQ17F
66	11-OCT-2011 12:31	1010A067.d	1	AR1254
67	11-OCT-2011 12:54	1010A068.d	1	AR1660
68	11-OCT-2011 13:17	1010A069.d	1	AR1254
69	11-OCT-2011 13:40	1010A070.d	1	AR1660
70	11-OCT-2011 14:03	1010A071.d	1	TN70L
71	11-OCT-2011 14:26	1010A072.d	1	TN70M
72	11-OCT-2011 14:49	1010A073.d	1	TN70N
73	11-OCT-2011 15:11	1010A074.d	1	TN70O
74	11-OCT-2011 15:34	1010A075.d	1	TN70P
75	11-OCT-2011 15:57	1010A076.d	1	TN70Q
76	11-OCT-2011 16:20	1010A077.d	1	TN70R
77	11-OCT-2011 16:43	1010A078.d	1	TN70S
78	11-OCT-2011 17:06	1010A079.d	1	TN70T
79	11-OCT-2011 17:29	1010A080.d	1	AR1242
80	11-OCT-2011 17:52	1010A081.d	1	AR1660
81	11-OCT-2011 18:15	1010A082.d	1	AR1242
82	11-OCT-2011 18:38	1010A083.d	1	AR1660
83	11-OCT-2011 19:01	1010A084.d	1	DDT
84	11-OCT-2011 19:24	1010A085.d	1	DDT BD
85	11-OCT-2011 19:47	1010A086.d	1	TQ53MBS1
86	11-OCT-2011 20:09	1010A087.d	1	TQ53LCSS1
87	11-OCT-2011 20:32	1010A088.d	1	TQ53LCSDS
88	11-OCT-2011 20:55	1010A089.d	1	TQ53A
89	11-OCT-2011 21:18	1010A090.d	1	TQ53B
90	11-OCT-2011 21:41	1010A091.d	1	TQ53C
91	11-OCT-2011 22:04	1010A092.d	1	TQ53D
92	11-OCT-2011 22:27	1010A093.d	1	TQ53E
93	11-OCT-2011 22:50	1010A094.d	1	TQ53F
94	11-OCT-2011 23:13	1010A095.d	1	AR1248
95	11-OCT-2011 23:36	1010A096.d	1	AR1660
96	11-OCT-2011 23:59	1010A097.d	1	TQ53G
97	12-OCT-2011 00:22	1010A098.d	1	TQ53GMS
98	12-OCT-2011 00:44	1010A099.d	1	TQ53GMSD
99	12-OCT-2011 01:07	1010A100.d	1	TQ53H

JK JK 10/20/11

continued

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

TR07 : 00160

Analytical Resources Inc.: Organics Instrument Log

ECD7 Serial No.: US00003975

Date:_____ Analysis: _____ Analyst: _____

Column 1 Serial No.: _____ Column Type:_____

Column 2 Serial No.: _____ Column Type:_____

GC Method:_____ Cal Date:_____

IS	Ical/Ccal	ICV

Document All Maintenance Tasks In StarLIMS

	Inject Date/Time	Filename	DF	LabID
1	12-OCT-2011 01:30	1010A101.d	1	TQ53I
2	12-OCT-2011 01:53	1010A102.d	1	TQ53J
3	12-OCT-2011 02:16	1010A103.d	1	TQ53K
4	12-OCT-2011 02:39	1010A104.d	1	TQ53L
5	12-OCT-2011 03:02	1010A105.d	1	AR1254
6	12-OCT-2011 03:25	1010A106.d	1	AR1660
7	12-OCT-2011 03:48	1010A107.d	20	TQ53M
8	12-OCT-2011 04:10	1010A108.d	1	TQ53N
9	12-OCT-2011 04:33	1010A109.d	1	TQ53O
10	12-OCT-2011 04:56	1010A110.d	1	TQ53P
11	12-OCT-2011 05:19	1010A111.d	1	TQ53Q
12	12-OCT-2011 05:42	1010A112.d	1	TQ53R
13	12-OCT-2011 06:05	1010A113.d	1	TQ53S
14	12-OCT-2011 06:28	1010A114.d	1	TQ53T
15	12-OCT-2011 06:50	1010A115.d	1	AR1242
16	12-OCT-2011 07:13	1010A116.d	1	AR1660
17	12-OCT-2011 07:36	1010A117.d	1	AR1242
18	12-OCT-2011 07:59	1010A118.d	1	AR1660
19	12-OCT-2011 08:22	1010A119.d	1	TQ66MBS1
20	12-OCT-2011 08:45	1010A120.d	1	TQ66LCSS1
21	12-OCT-2011 09:08	1010A121.d	1	TQ66LCSDS1
22	12-OCT-2011 09:30	1010A122.d	1	TQ66A
23	12-OCT-2011 09:53	1010A123.d	1	TQ66B
24	12-OCT-2011 10:16	1010A124.d	1	TQ66C
25	12-OCT-2011 10:39	1010A125.d	1	TQ66D
26	12-OCT-2011 11:02	1010A126.d	1	TQ66E
27	12-OCT-2011 11:25	1010A127.d	1	TQ66F
28	12-OCT-2011 11:48	1010A128.d	1	TQ66G
29	12-OCT-2011 12:11	1010A129.d	1	AR1248
30	12-OCT-2011 12:34	1010A130.d	1	AR1660
31	12-OCT-2011 12:56	1010A131.d	1	TR07MBW1
32	12-OCT-2011 13:19	1010A132.d	1	TR07LCSW1
33	12-OCT-2011 13:42	1010A133.d	1	TR07LCSDW1
34	12-OCT-2011 14:05	1010A134.d	1	TR07A
35	12-OCT-2011 14:28	1010A135.d	1	TR07B
36	12-OCT-2011 14:51	1010A136.d	1	AR1254
37	12-OCT-2011 15:14	1010A137.d	1	AR1660
38	12-OCT-2011 15:37	1010A138.d	1	TQ66H
39	12-OCT-2011 16:00	1010A139.d	1	TQ66I
40	12-OCT-2011 16:23	1010A140.d	1	TQ66J
41	12-OCT-2011 16:45	1010A141.d	10	TQ55A
42	12-OCT-2011 17:08	1010A142.d	10	TQ55B
43	12-OCT-2011 17:31	1010A143.d	1	TQ55C
44	12-OCT-2011 17:54	1010A144.d	5	TQ55D
45	12-OCT-2011 18:17	1010A145.d	1	TQ55E
46	12-OCT-2011 18:40	1010A146.d	1	TQ55EMS
47	12-OCT-2011 19:03	1010A147.d	1	TQ55EMSD
48	12-OCT-2011 19:26	1010A148.d	1	TQ55F
49	12-OCT-2011 19:49	1010A149.d	1	TQ55G
50	12-OCT-2011 20:11	1010A150.d	5	TQ55H
51	12-OCT-2011 20:34	1010A151.d	1	TQ55I
52	12-OCT-2011 20:57	1010A152.d	1	TQ55J
53	12-OCT-2011 21:20	1010A153.d	1	AR1242
54	12-OCT-2011 21:43	1010A154.d	1	AR1660
55	12-OCT-2011 22:06	1010A155.d	1	TQ54MBS1
56	12-OCT-2011 22:29	1010A156.d	1	TQ54LCSS1
57	12-OCT-2011 22:52	1010A157.d	1	TQ54H
58	12-OCT-2011 23:14	1010A158.d	1	TQ54HMS
59	12-OCT-2011 23:37	1010A159.d	1	TQ54HMSD
60	13-OCT-2011 00:00	1010A160.d	1	TQ57A
61	13-OCT-2011 00:23	1010A161.d	1	TQ57B
62	13-OCT-2011 00:46	1010A162.d	1	TQ57C
63	13-OCT-2011 01:09	1010A163.d	10	TO86A
64	13-OCT-2011 01:32	1010A164.d	10	TO86AMS
65	13-OCT-2011 01:54	1010A165.d	10	TO86AMSD
66	13-OCT-2011 02:17	1010A166.d	1	AR1248
67	13-OCT-2011 02:40	1010A167.d	1	AR1660
68	13-OCT-2011 03:03	1010A168.d	1	TQ47MBS1
69	13-OCT-2011 03:26	1010A169.d	1	TQ47LCSS1
70	13-OCT-2011 03:49	1010A170.d	1	TQ47LCSDS1
71	13-OCT-2011 04:11	1010A171.d	1	TQ47E
72	13-OCT-2011 04:34	1010A172.d	1	TQ47M
73	13-OCT-2011 04:57	1010A173.d	1	TQ47N
74	13-OCT-2011 05:20	1010A174.d	1	TQ47S
75	13-OCT-2011 05:42	1010A175.d	1	TQ48J
76	13-OCT-2011 06:05	1010A176.d	1	AR1242
77	13-OCT-2011 06:28	1010A177.d	1	AR1660
78	13-OCT-2011 06:51	1010A178.d	1	AR1242
79	13-OCT-2011 07:14	1010A179.d	1	AR1660
80	13-OCT-2011 13:23	1010A181.d	1	AR1254
81	13-OCT-2011 13:45	1010A182.d	1	AR1660
82	13-OCT-2011 14:08	1010A183.d	1	TO86A
83	13-OCT-2011 14:08	1010A183.d	1	TO86A
84	13-OCT-2011 14:31	1010A184.d	1	TO86AMS
85	13-OCT-2011 14:54	1010A185.d	1	TO86AMSD
86	13-OCT-2011 15:17	1010A186.d	1	AR1248
87	13-OCT-2011 15:40	1010A187.d	1	AR1660
88	13-OCT-2011 16:03	1010A188.d	100	TQ55A
89	13-OCT-2011 16:26	1010A189.d	50	TQ55B
90	13-OCT-2011 16:49	1010A190.d	10	TQ55C
91	13-OCT-2011 17:12	1010A191.d	25	TQ55H
92	13-OCT-2011 17:35	1010A192.d	1	AR1242
93	13-OCT-2011 17:57	1010A193.d	1	AR1660
94	13-OCT-2011 18:20	1010A194.d	1	TR23MBS1
95	13-OCT-2011 18:43	1010A195.d	1	TR23LCSS1
96	13-OCT-2011 19:06	1010A196.d	1	TR23LCSDS
97	13-OCT-2011 19:29	1010A197.d	1	TR23A
98	13-OCT-2011 19:52	1010A198.d	1	TR24MBW1
99	13-OCT-2011 20:15	1010A199.d	1	TR24LCSW
100	13-OCT-2011 20:38	1010A200.d	1	TR24LCS

10/20/11

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Start a new page for each QC period. Document All Maintenance Tasks In StarLIMS

Analytical Resources Inc.: Organics Instrument Log
ECD7 Serial No.: US00003975

Date:_____ Analysis: _____ Analyst: _____

Column 1 Serial No.: _____ Column Type:_____

Column 2 Serial No.: _____ Column Type:_____

GC Method:_____ ICal Date:_____

IS	Ical/Ccal	ICV

continued

Document All Maintenance Tasks In StarLIMS

	Inject Date/Time	Filename	DF	LabID
1	13-OCT-2011 21:01	1010A201.d	1	TR24A
2	13-OCT-2011 21:24	1010A202.d	1	TR24B
3	13-OCT-2011 21:47	1010A203.d	1	TR00MBW1
4	13-OCT-2011 22:10	1010A204.d	1	TR00LCSW1
5	13-OCT-2011 22:33	1010A205.d	1	TR00LCSDW1
6	13-OCT-2011 22:55	1010A206.d	1	TR00A
7	13-OCT-2011 23:18	1010A207.d	1	TR00B
8	13-OCT-2011 23:41	1010A208.d	1	TR00C
9	14-OCT-2011 00:04	1010A209.d	1	AR1254
10	14-OCT-2011 00:27	1010A210.d	1	AR1660
11	14-OCT-2011 00:50	1010A211.d	1	TO80MBS1
12	14-OCT-2011 01:13	1010A212.d	1	TO80LCSS1
13	14-OCT-2011 01:36	1010A213.d	1	TO80LCSDS1
14	14-OCT-2011 01:58	1010A214.d	1	TO80A
15	14-OCT-2011 02:21	1010A215.d	1	TP18A
16	14-OCT-2011 02:44	1010A216.d	1	TP18B
17	14-OCT-2011 03:07	1010A217.d	1	TP18C
18	14-OCT-2011 03:30	1010A218.d	1	TP18D
19	14-OCT-2011 03:53	1010A219.d	1	TP18E
20	14-OCT-2011 04:15	1010A220.d	1	TP18F
21	14-OCT-2011 04:38	1010A221.d	1	AR1248
22	14-OCT-2011 05:01	1010A222.d	1	AR1660
23	14-OCT-2011 05:24	1010A223.d	1	AR1248
24	14-OCT-2011 05:47	1010A224.d	1	AR1660

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

TR07:00162

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1010-1.b/1010A129.d
Data file 2: 20110922.B/1010-2.b/1010A129.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1248
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248
Client ID:
Injection Date: 12-OCT-2011 12:11
Report Date: 10/12/2011 14:29
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.297	-0.001	1414330	6.431	-0.001	2367788	21.0	20.9	0.5	Tetrachloro-m-xylen
14.884	0.000	1183898	15.222	0.000	1563087	22.5	21.2	6.0	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	52.4	52.2
Decachlorobiphenyl	56.3	53.0

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5317561	5.2
Hexabromobiphenyl	4060201	3900982	-3.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8540105	9.4
Hexabromobiphenyl	5725568	5658843	-1.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1248	1	9.366	0.000	443214	248.4	1	9.833	0.000	826750	242.9
Aroclor-1248	2	9.698	0.000	535264	246.7	2	10.279	0.000	890390	237.2
Aroclor-1248	3	10.281	0.000	639697	247.3	3	10.828	0.000	892978	237.8
Aroclor-1248	4	10.587	0.000	601533	249.3	4	11.189	0.000	1163762	241.3

Total Col1Ave (4 peaks): 247.9 Total Col2Ave (4 peaks): 239.8 RPD = 3

Corrected Ave (3 peaks): 247.5 Corrected Ave (3 peaks): 238.8 RPD = 4

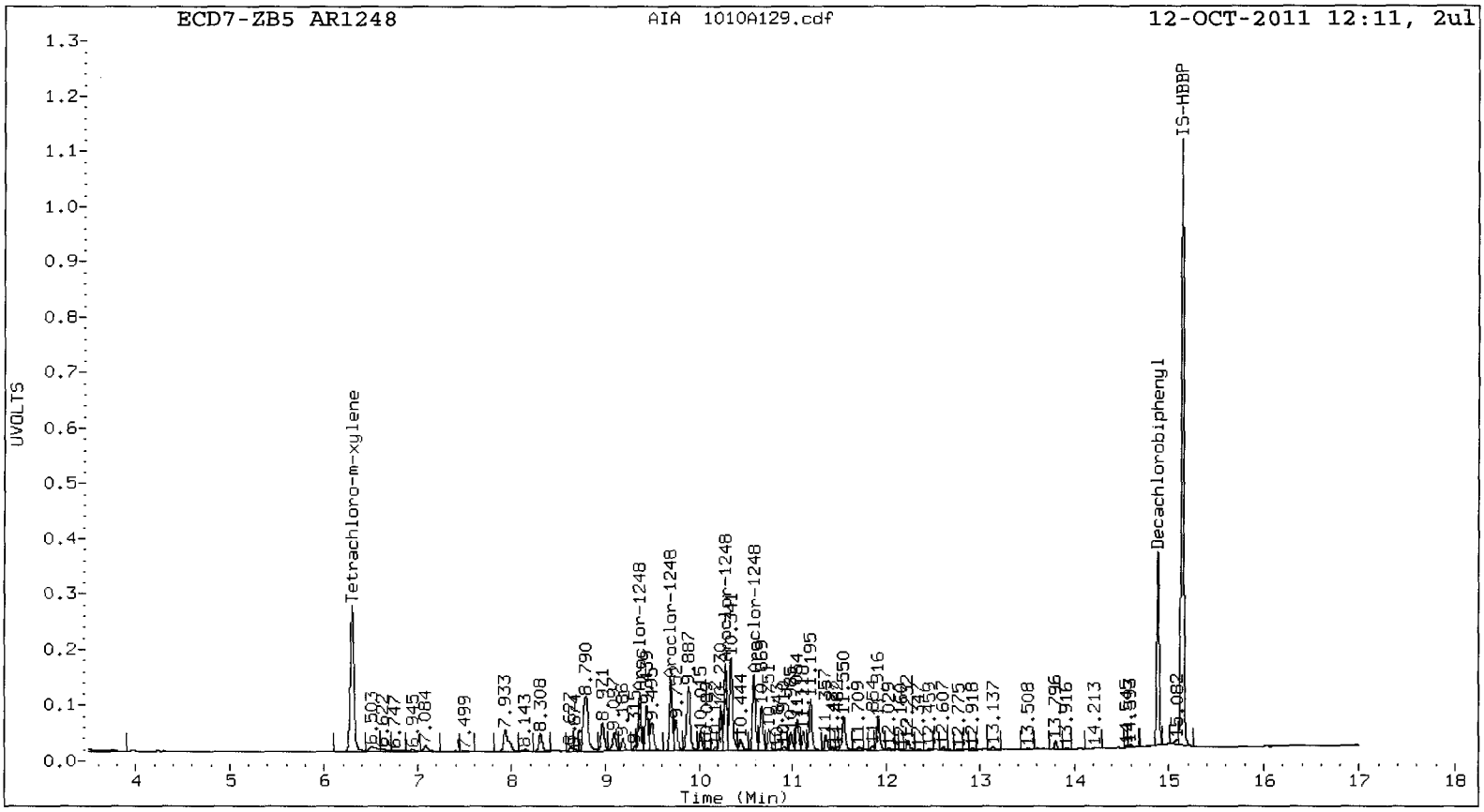
Total PCB Area Col1 (6.398 - 14.784) = 9862911 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.532 - 15.122) = 16173488 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

1/3

10.12.11


ECD7-ZB5 AR1248
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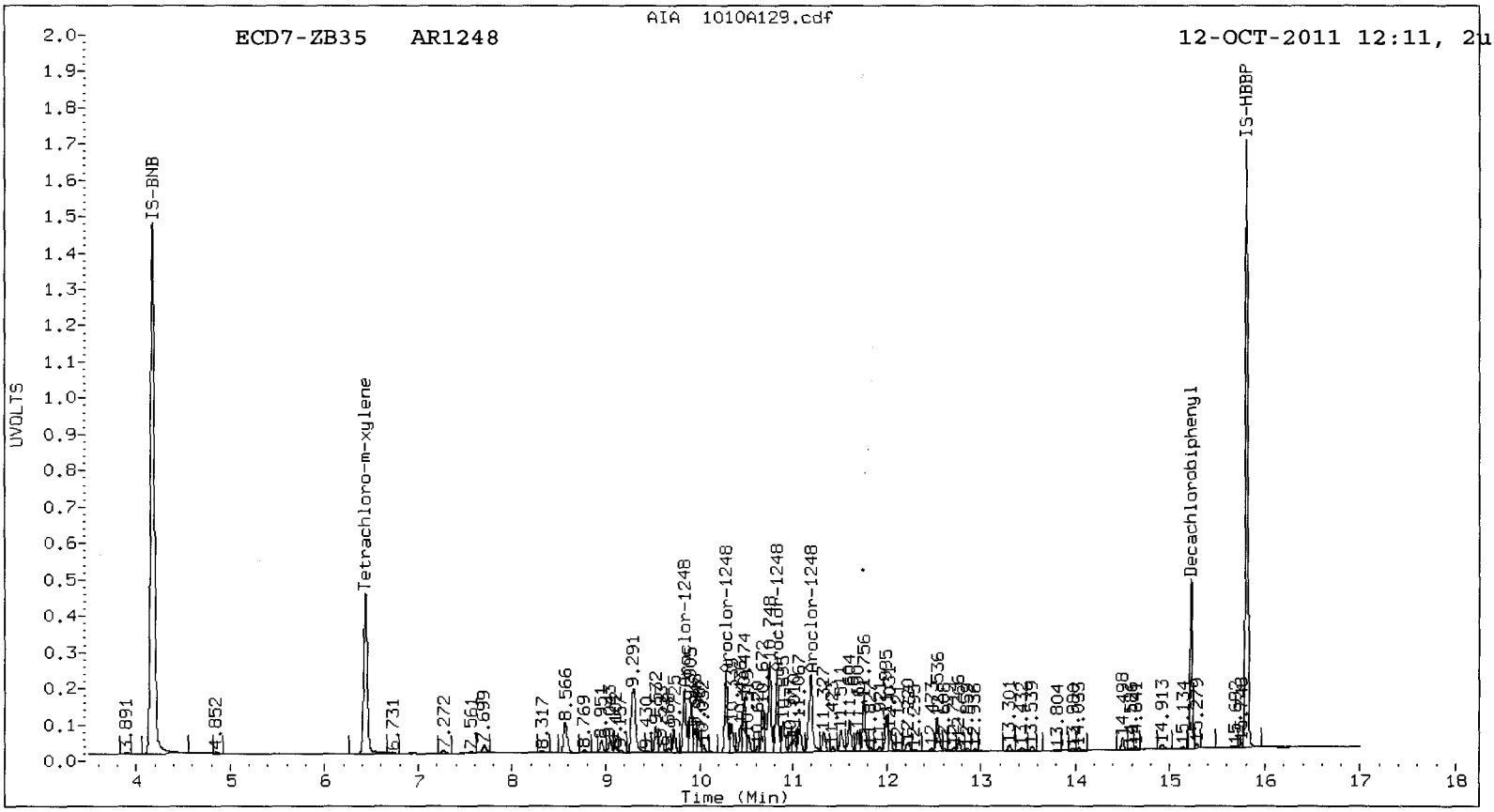
12-OCT-2011 12:11, 2ul
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Aroclor-1248
Decachlorobiphenyl
IS-HBBP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12-OCT-2011 12:11, 2u
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1248
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1010-1.b/1010A130.d
Data file 2: 20110922.B/1010-2.b/1010A130.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660
Client ID:
Injection Date: 12-OCT-2011 12:34
Report Date: 10/12/2011 14:18
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.298	0.000	1210696	6.432	0.000	1997761	20.9	20.6	1.4	Tetrachloro-m-xylen
14.884	0.000	1090879	15.222	0.000	1449193	23.8	22.3	6.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	52.3	51.6
Decachlorobiphenyl	59.4	55.8

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	4561942	-9.8
Hexabromobiphenyl	4060201	3401641	-16.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7284637	-6.7
Hexabromobiphenyl	5725568	4980037	-13.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

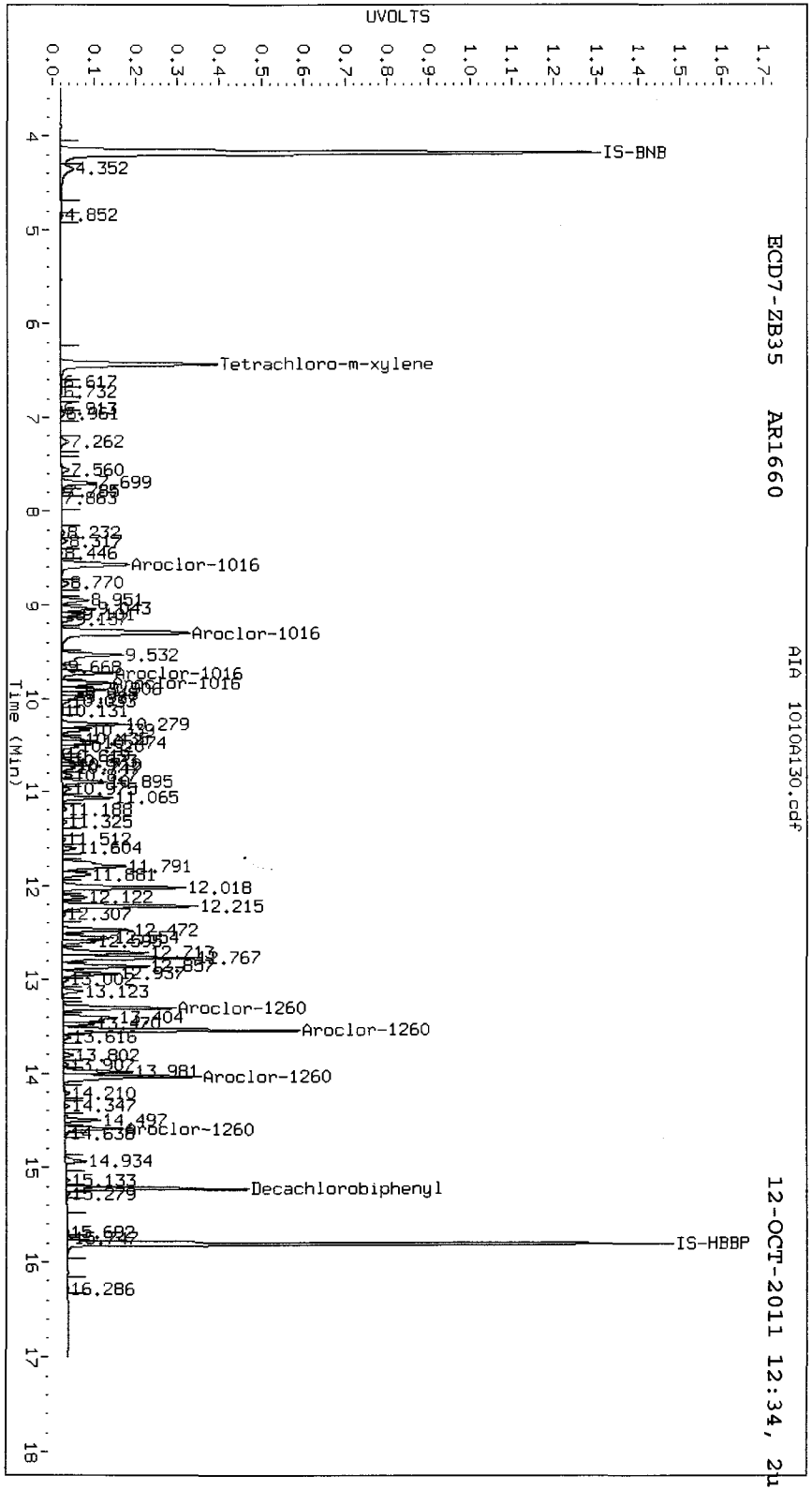
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	8.309	0.000	370105	260.5	1	8.568	0.000	978589	250.6
Aroclor-1016	2	8.795	0.000	1275065	259.7	2	9.298	0.000	2045190	250.6
Aroclor-1016	3	8.969	0.000	493115	256.2	3	9.725	0.000	526221	251.8
Aroclor-1016	4	9.097	0.000	341770	250.5	4	9.833	0.000	596231	246.7
Total Col1Ave (4 peaks):				256.7		Total Col2Ave (4 peaks):			249.9	RPD = 3
Corrected Ave (3 peaks):				255.5		Corrected Ave (3 peaks):			249.3	RPD = 2
Aroclor-1260	1	11.853	0.000	947443	276.7	1	13.300	0.000	1062665	262.7
Aroclor-1260	2	12.458	0.000	620956	278.2	2	13.538	0.000	2114418	263.9
Aroclor-1260	3	12.774	0.000	628597	282.4	3	14.031	0.000	1421972	271.4
Aroclor-1260	4	13.507	0.000	801181	286.8	4	14.586	0.000	513225	279.2
Aroclor-1260	5	13.607	0.000	310685	285.4	NS	---			----
Total Col1Ave (5 peaks):				281.9		Total Col2Ave (4 peaks):			269.3	RPD = 5
Corrected Ave (4 peaks):				280.7		Corrected Ave (3 peaks):			266.0	RPD = 5

Total PCB Area Col1 (6.398 - 14.784) = 18525375 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.532 - 15.122) = 28715181 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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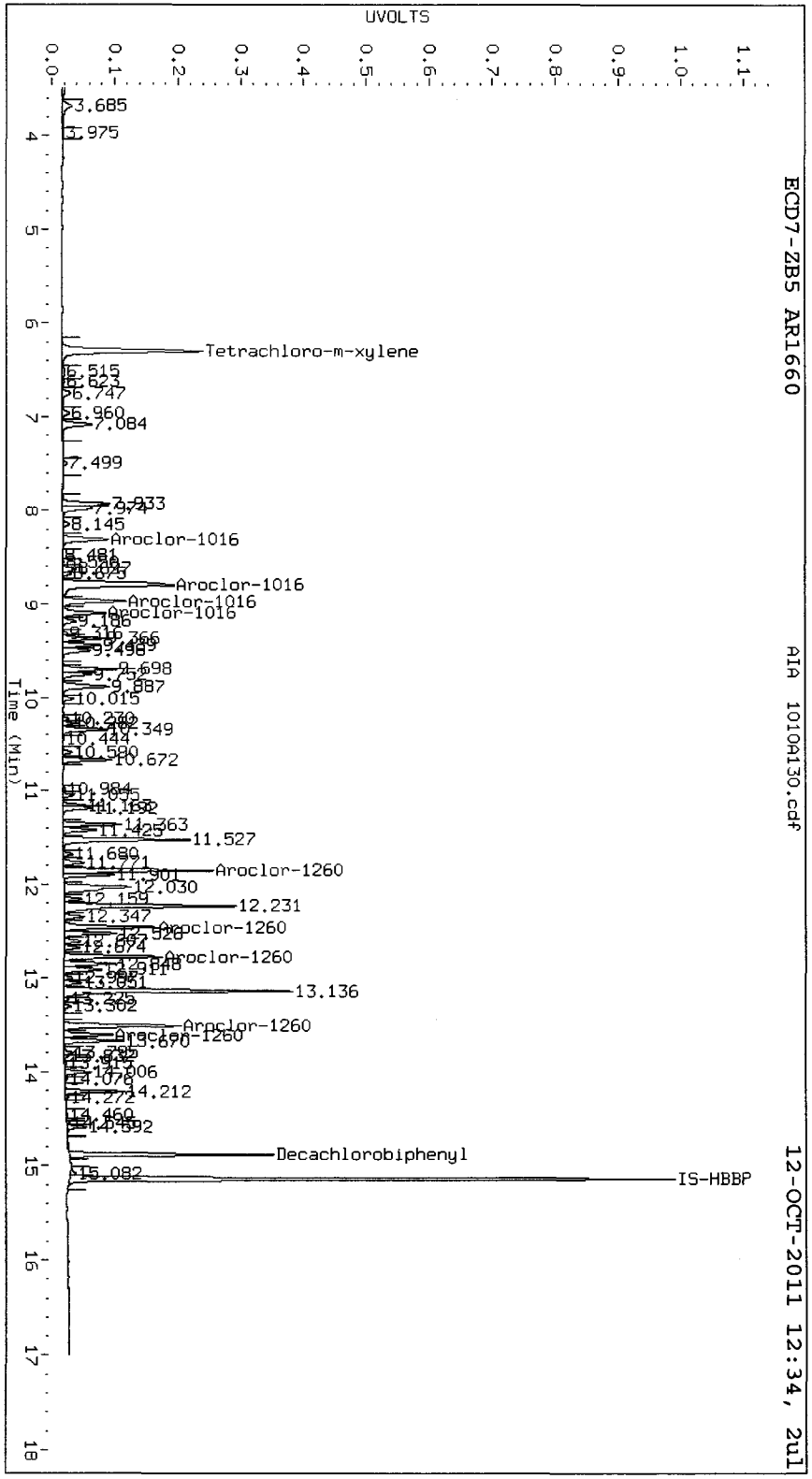
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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UVOLTS
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1010-1.b/1010A131.d
Data file 2: 20110922.B/1010-2.b/1010A131.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: TR07MBW1
Client ID: TR07MBW1
Injection Date: 12-OCT-2011 12:56
Report Date: 10/12/2011 14:18
Matrix: WATER
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.298	-0.001	1564107	6.431	0.000	2557421	16.4	16.1	2.0	Tetrachloro-m-xylen
14.884	0.000	1918627	15.222	0.000	2487507	21.7	20.6	5.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	41.0	40.2
Decachlorobiphenyl	54.2	51.5

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	7523591	48.8
Hexabromobiphenyl	4060201	6561909	61.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	11973572	53.3
Hexabromobiphenyl	5725568	9256836	61.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	7.277	0.018	33902	18.2
Aroclor-1221	2	---			0.0	2	7.587	0.025	114957	100.6
Aroclor-1221	3	---			0.0	3	7.710	0.010	15967	4.6
Aroclor-1221	NS	---			----	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: 41.1				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	9.342	-0.024	37461	14.8	1	---			0.0
Aroclor-1248	2	---			0.0	2	10.234	-0.046	29729	5.6
Aroclor-1248	3	10.207	-0.075	45007	12.3	3	---			0.0
Aroclor-1248	4	10.564	-0.024	11366	3.3	4	11.129	-0.060	16421	2.4
	Total Col1Ave (3 peaks):			10.2		Col2Ave: <3 Quant Peaks				
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	11.129	0.064	16421	2.4
Aroclor-1254	3	---			0.0	3	11.700	0.097	62992	11.9
Aroclor-1254	4	---			0.0	4	---			0.0
Aroclor-1254	5	---			0.0	5	12.581	0.042	18862	2.8
	Col1Ave: <3 Quant Peaks					Col2Ave: 5.7				
Aroclor-1260	1	---			0.0	1	---			0.0
Aroclor-1260	2	---			0.0	2	---			0.0
Aroclor-1260	3	---			0.0	3	13.953	-0.078	21765	2.2
Aroclor-1260	4	---			0.0	4	14.640	0.054	25935	7.6
Aroclor-1260	5	---			0.0	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1262	1	---			0.0	1	12.869	0.009	12853	1.3
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	13.953	-0.030	21765	2.7
Aroclor-1262	5	---			0.0	5	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	13.953	-0.030	21765	1.2
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	14.911	-0.027	56348	1.3
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

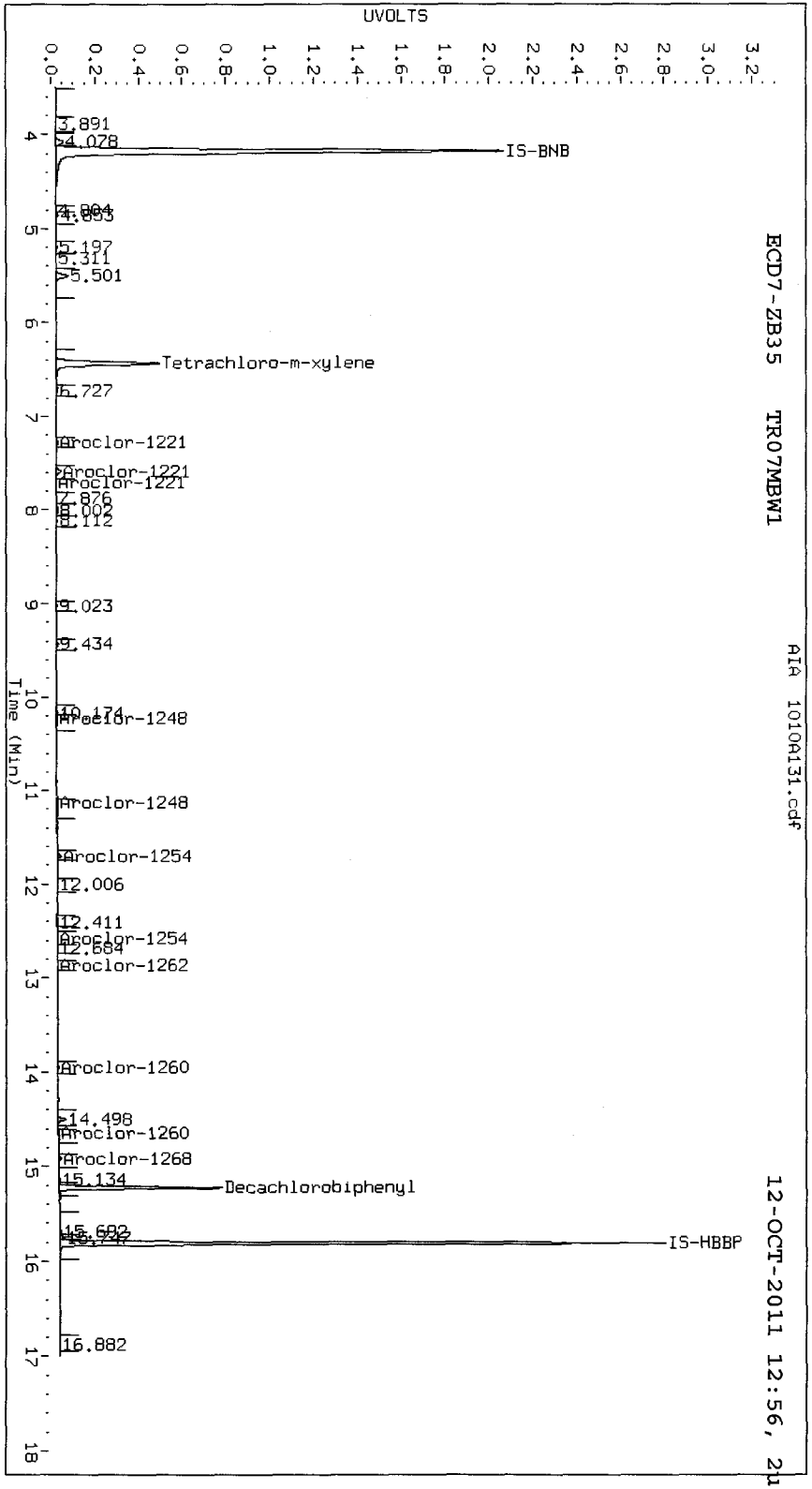
Total PCB Area Col1 (6.398 - 14.784) = 353935 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (6.532 - 15.122) = 776940 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

UD
10.12.11

PCB-Form 10 Mod.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Tetrachloro-m-xylene
Aroclor-1221
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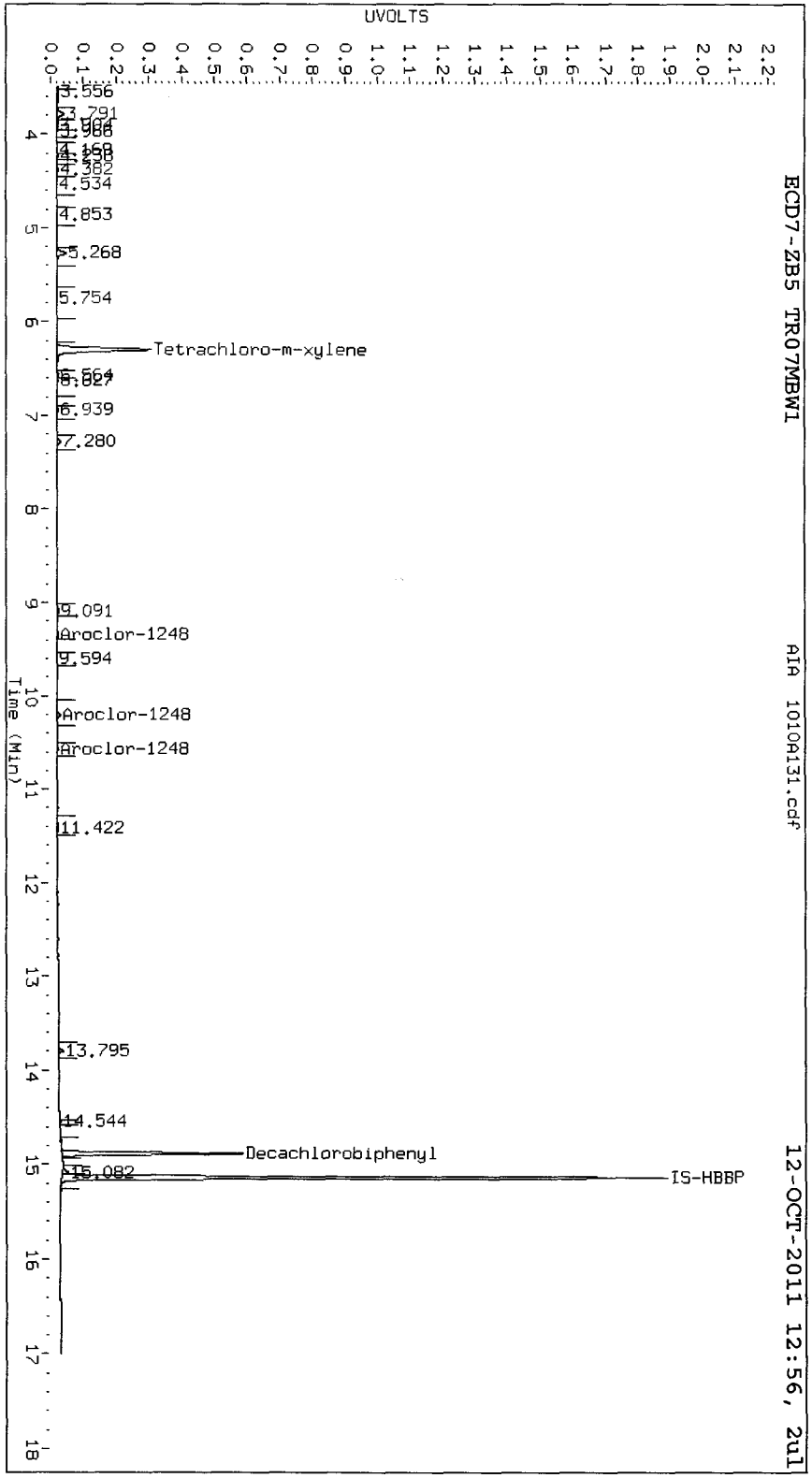
Aroclor-1254
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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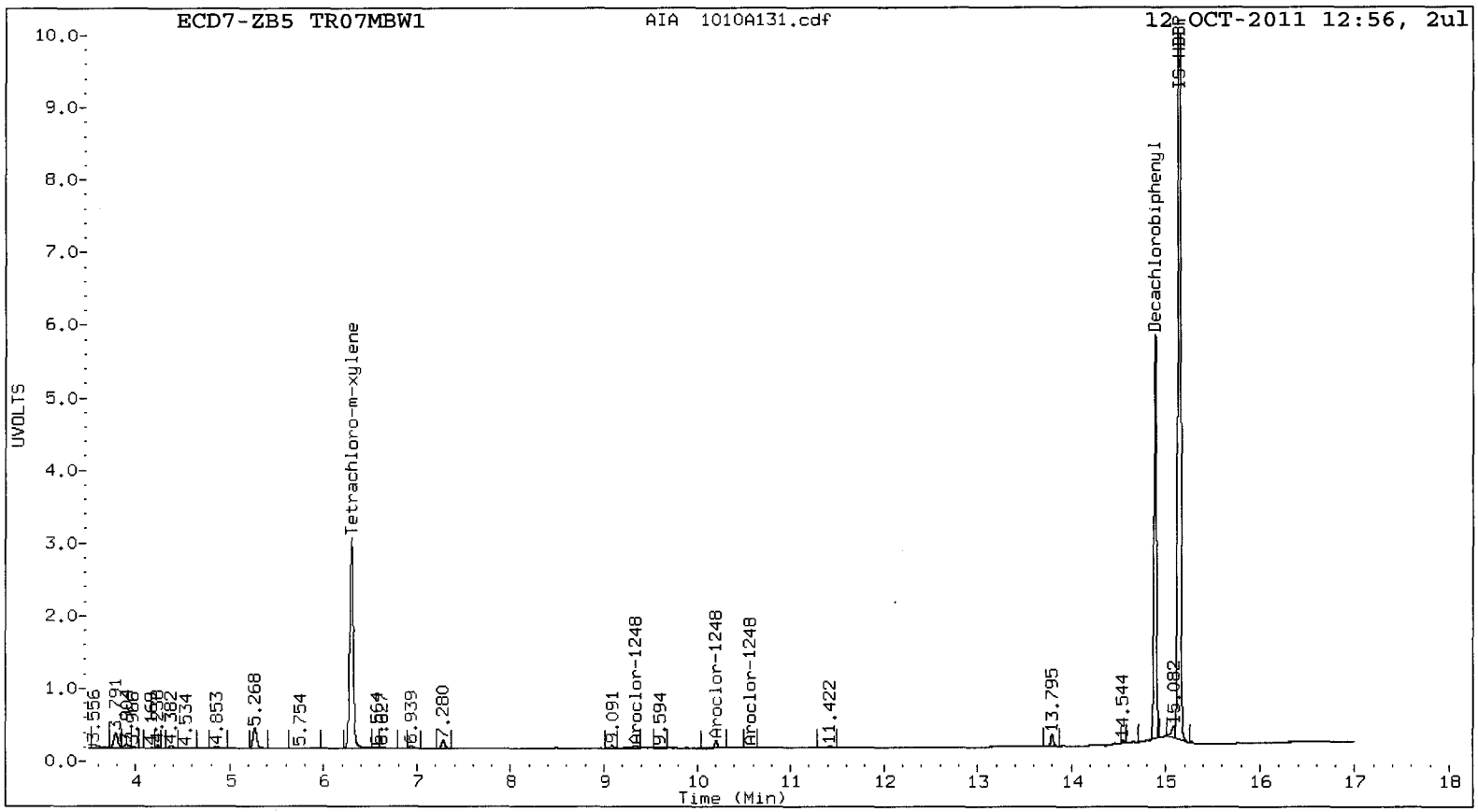
Decachlorobiphenyl
IS-HBBP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UVOLTS
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
IS HBBP
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Aroclor-1248
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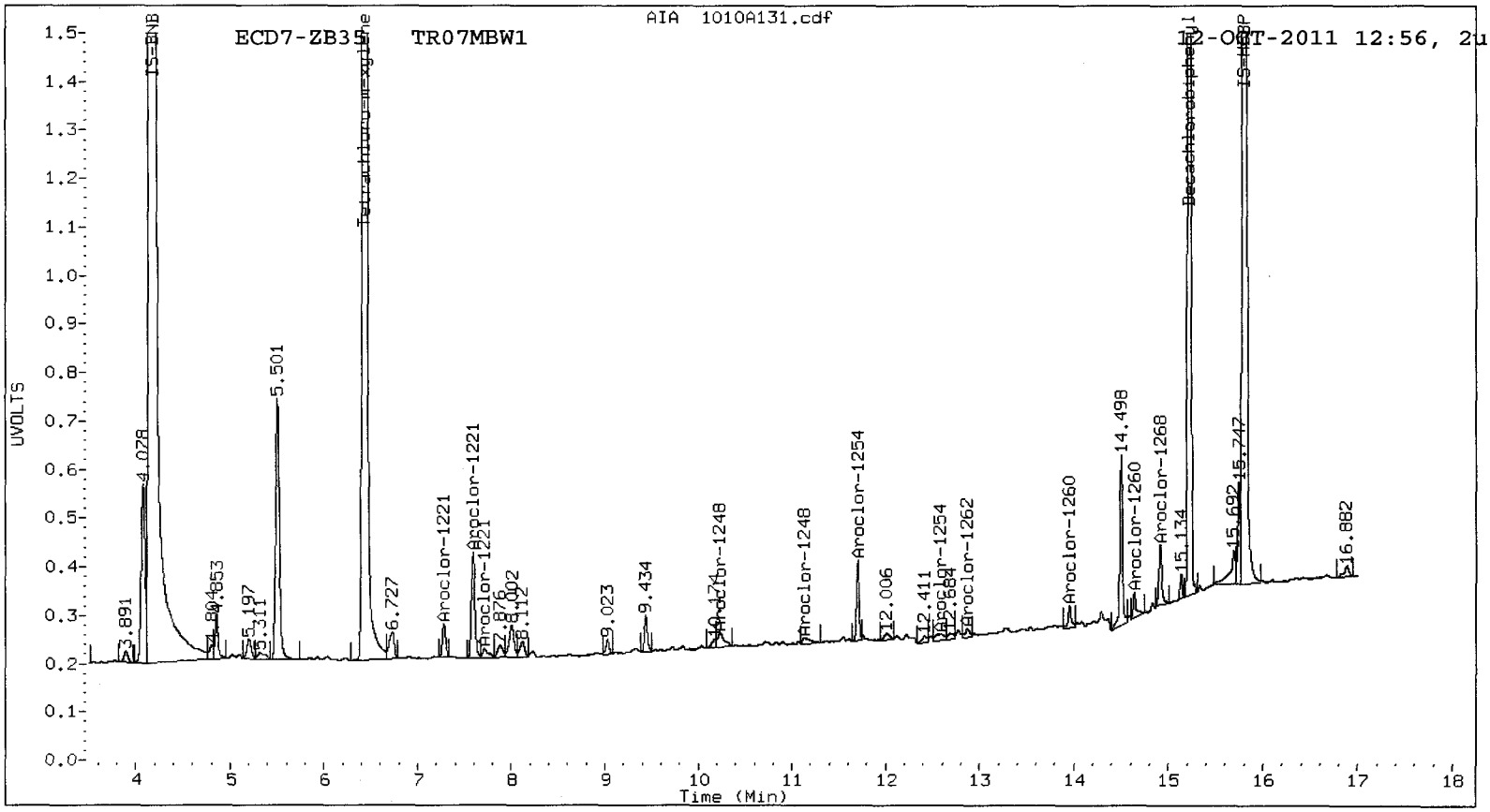
5.754
6.939
7.280
11.422
13.795
14.544
15.082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Tetrachloro-m-xylene
Decachlorobiphenyl
IS HBBP
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6.727
Aroclor-1221
Aroclor-1221
Aroclor-1221
9.023
9.434
Aroclor-1248
Aroclor-1248
Aroclor-1254
12.006
Aroclor-1254
Aroclor-1262
Aroclor-1260
14.498
Aroclor-1260
Aroclor-1268
15.134
15.692
15.747
16.882

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1010-1.b/1010A132.d
Data file 2: 20110922.B/1010-2.b/1010A132.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: TR07LCSW1
Client ID: TR07LCSW1
Injection Date: 12-OCT-2011 13:19
Report Date: 10/12/2011 14:18
Matrix: WATER
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.296	-0.002	1537326	6.431	-0.001	2523095	17.8	17.8	0.2	Tetrachloro-m-xylen
14.885	0.001	1867665	15.222	0.000	2433256	21.5	20.6	4.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	44.5	44.4
Decachlorobiphenyl	53.7	51.4

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	6815185	34.8
Hexabromobiphenyl	4060201	6445760	58.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	10694642	36.9
Hexabromobiphenyl	5725568	9076120	58.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col				ZB35 Col				
Aroclor-1016	1	8.308	-0.001	113614	53.5	1	8.568	0.000	324724	56.6
Aroclor-1016	2	8.796	0.001	395982	54.0	2	9.299	0.001	667128	55.7
Aroclor-1016	3	8.969	-0.001	159385	55.4	3	9.725	0.000	184256	60.1
Aroclor-1016	4	9.096	-0.001	126189	61.9	4	9.833	0.000	214036	60.3
Total Col1Ave (4 peaks):				56.2		Total Col2Ave (4 peaks):			58.2	RPD = 3
Corrected Ave (3 peaks):				54.3		Corrected Ave (3 peaks):			57.5	RPD = 6
Aroclor-1221	1	6.747	0.001	16974	19.1	1	7.271	0.012	75011	45.2
Aroclor-1221	2	6.947	-0.011	38298	57.0	2	7.585	0.023	133765	131.1
Aroclor-1221	3	7.084	0.002	85366	38.7	3	7.700	0.000	143314	45.9
Aroclor-1221	NS	---			----	4	7.781	-0.006	15786	31.1
Total Col1Ave (3 peaks):				38.3		Total Col2Ave (4 peaks):			63.3	RPD = 49*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			40.7	
Aroclor-1232	1	8.308	0.002	113614	134.6	1	8.568	-0.002	324724	130.2
Aroclor-1232	2	8.796	0.004	395982	137.0	2	9.299	0.001	667128	139.8
Aroclor-1232	3	8.969	0.003	159385	139.8	3	9.725	-0.001	184256	144.8
Aroclor-1232	4	10.281	0.002	21337	21.0	4	11.187	-0.004	25598	12.1
Total Col1Ave (4 peaks):				108.1		Total Col2Ave (4 peaks):			106.7	RPD = 1
Corrected Ave (3 peaks):				97.5		Corrected Ave (3 peaks):			94.0	RPD = 4
Aroclor-1242	1	8.308	-0.001	113614	68.4	1	8.568	0.000	324724	75.0
Aroclor-1242	2	8.796	0.001	395982	68.9	2	9.299	0.001	667128	73.6
Aroclor-1242	3	8.969	0.000	159385	71.4	3	9.725	0.000	184256	77.3
Aroclor-1242	4	10.589	0.002	34066	16.7	4	11.187	-0.002	25598	6.7
Total Col1Ave (4 peaks):				56.4		Total Col2Ave (4 peaks):			58.1	RPD = 3
Corrected Ave (3 peaks):				51.3		Corrected Ave (3 peaks):			51.8	RPD = 1
Aroclor-1248	1	9.366	0.000	130098	56.9	1	9.833	0.001	214036	50.2
Aroclor-1248	2	9.697	0.000	119365	42.9	2	10.280	0.000	261524	55.6
Aroclor-1248	3	10.281	0.000	21337	6.4	3	10.827	-0.001	34596	7.4
Aroclor-1248	4	10.589	0.002	34066	11.0	4	11.187	-0.002	25598	4.2
Total Col1Ave (4 peaks):				29.3		Total Col2Ave (4 peaks):			29.4	RPD = 0
Corrected Ave (3 peaks):				20.1		Corrected Ave (3 peaks):			20.6	RPD = 2
Aroclor-1254	1	10.349	0.001	106288	29.1	1	10.896	0.001	160466	34.6
Aroclor-1254	2	10.672	0.002	112639	22.3	2	11.066	0.001	182206	30.4
Aroclor-1254	3	11.055	0.001	24803	7.9	3	11.604	0.001	44523	9.4
Aroclor-1254	4	11.192	-0.001	63872	10.5	4	11.791	0.036	400918	39.6
Aroclor-1254	5	11.901	-0.009	109545	27.0	5	12.553	0.014	193488	31.7
Total Col1Ave (5 peaks):				19.4		Total Col2Ave (5 peaks):			29.1	RPD = 40*
Corrected Ave (4 peaks):				16.9		Corrected Ave (4 peaks):			26.5	RPD = 44*
Aroclor-1260	1	11.853	0.000	331294	51.1	1	13.301	0.001	412351	55.9
Aroclor-1260	2	12.458	0.000	218330	51.6	2	13.537	0.000	795749	54.5
Aroclor-1260	3	12.774	0.000	217652	51.6	3	14.031	0.000	551073	57.7
Aroclor-1260	4	13.507	0.000	275958	52.1	4	14.587	0.000	206410	61.6
Aroclor-1260	5	13.607	0.000	110922	53.8	NS	---			----
Total Col1Ave (5 peaks):				52.0		Total Col2Ave (4 peaks):			57.4	RPD = 10
Corrected Ave (4 peaks):				51.6		Corrected Ave (3 peaks):			56.0	RPD = 8
Aroclor-1262	1	12.458	0.000	218330	29.8	1	12.858	-0.002	348122	37.1
Aroclor-1262	2	12.774	0.000	217652	36.7	2	13.301	-0.003	412351	44.4
Aroclor-1262	3	13.136	0.000	537588	38.6	3	13.537	-0.002	795749	43.9
Aroclor-1262	4	13.607	-0.001	110922	20.0	4	13.981	-0.002	254220	32.1
Aroclor-1262	5	13.670	0.000	126941	22.6	5	14.031	-0.003	551073	46.6
Total Col1Ave (5 peaks):				29.5		Total Col2Ave (5 peaks):			40.8	RPD = 32
Corrected Ave (4 peaks):				27.3		Corrected Ave (4 peaks):			39.4	RPD = 36
Aroclor-1268	1	13.607	-0.001	110922	7.5	1	13.981	-0.003	254220	13.9

Aroclor-1268 2	13.670	0.001	126941	9.4	2	14.031	-0.007	551073	32.0
Aroclor-1268 3	14.006	0.014	57945	5.1	3	14.347	-0.004	12641	0.9
Aroclor-1268 4	14.593	0.000	33523	1.0	4	14.934	-0.005	110635	2.7

Total Col1Ave (4 peaks): 5.7 Total Col2Ave (4 peaks): 12.4 RPD = 73*

Corrected Ave (3 peaks): 4.5 Corrected Ave (3 peaks): 5.8 RPD = 25

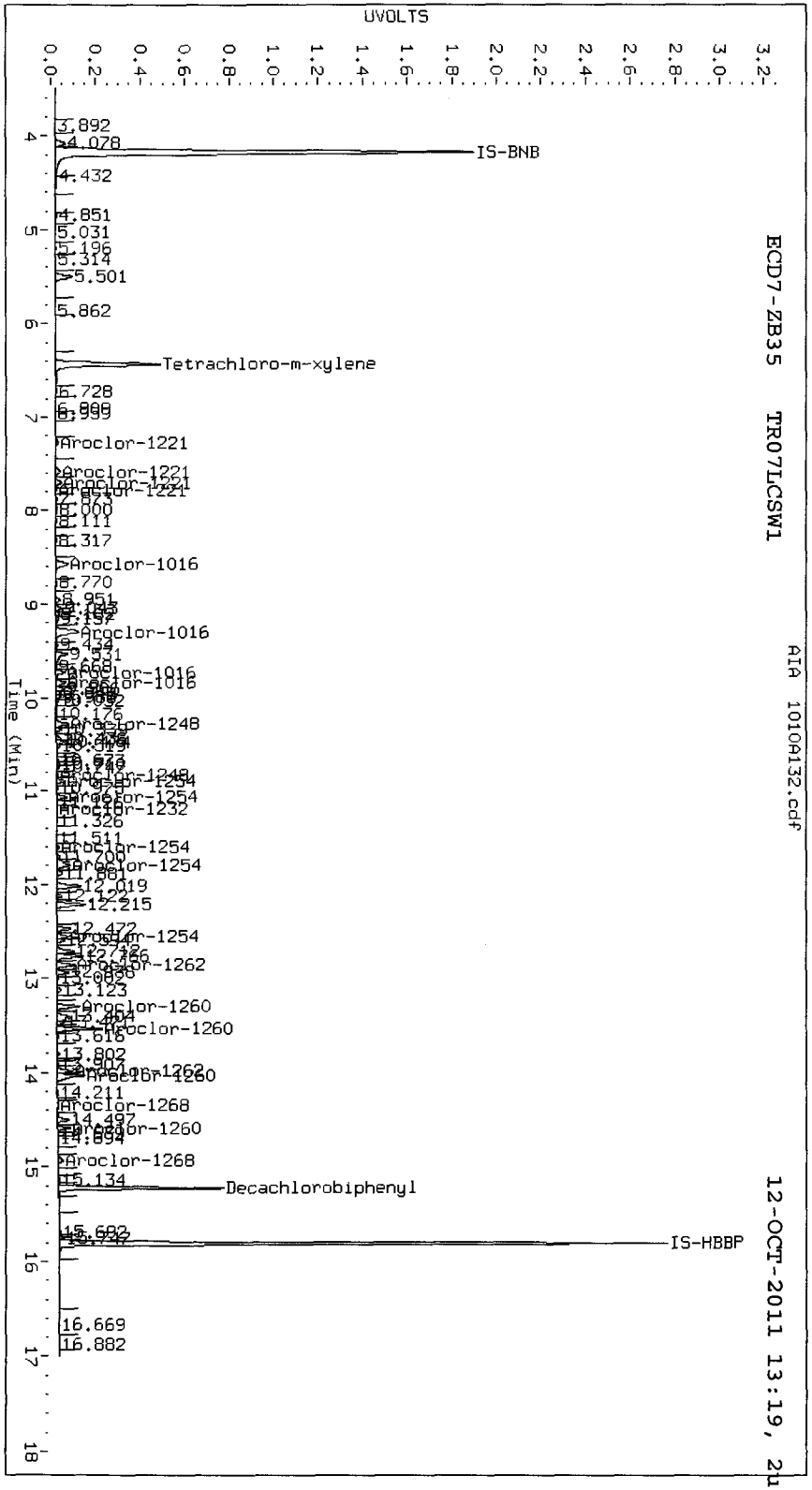
Total PCB Area Col1 (6.398 - 14.784) = 6480707 Col1 Total PCB = 0.1 ppm*

Total PCB Area Col2 (6.532 - 15.122) = 11218668 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

VJ
10.12.11

PCB-Form 10 Mod.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Time (Min)
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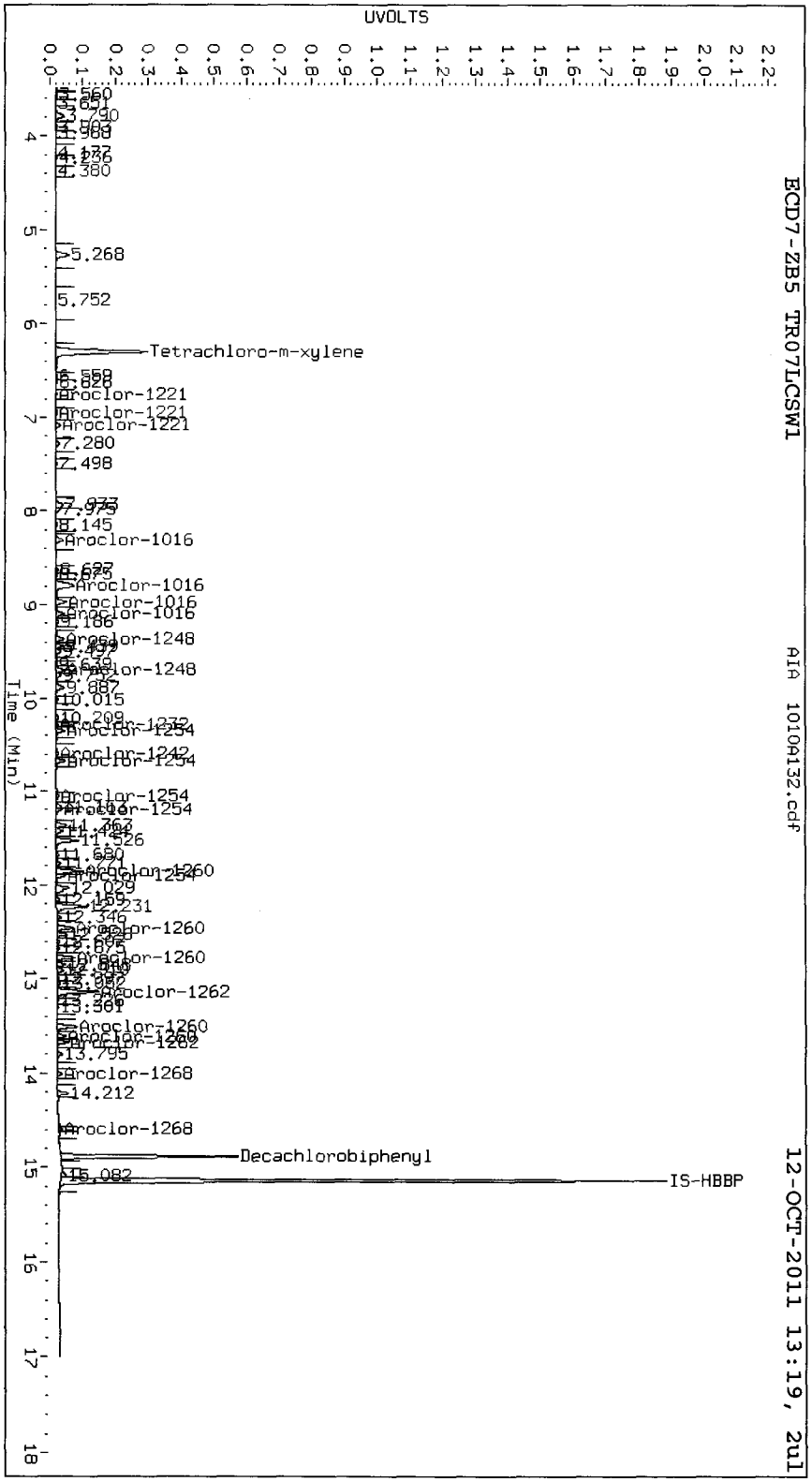
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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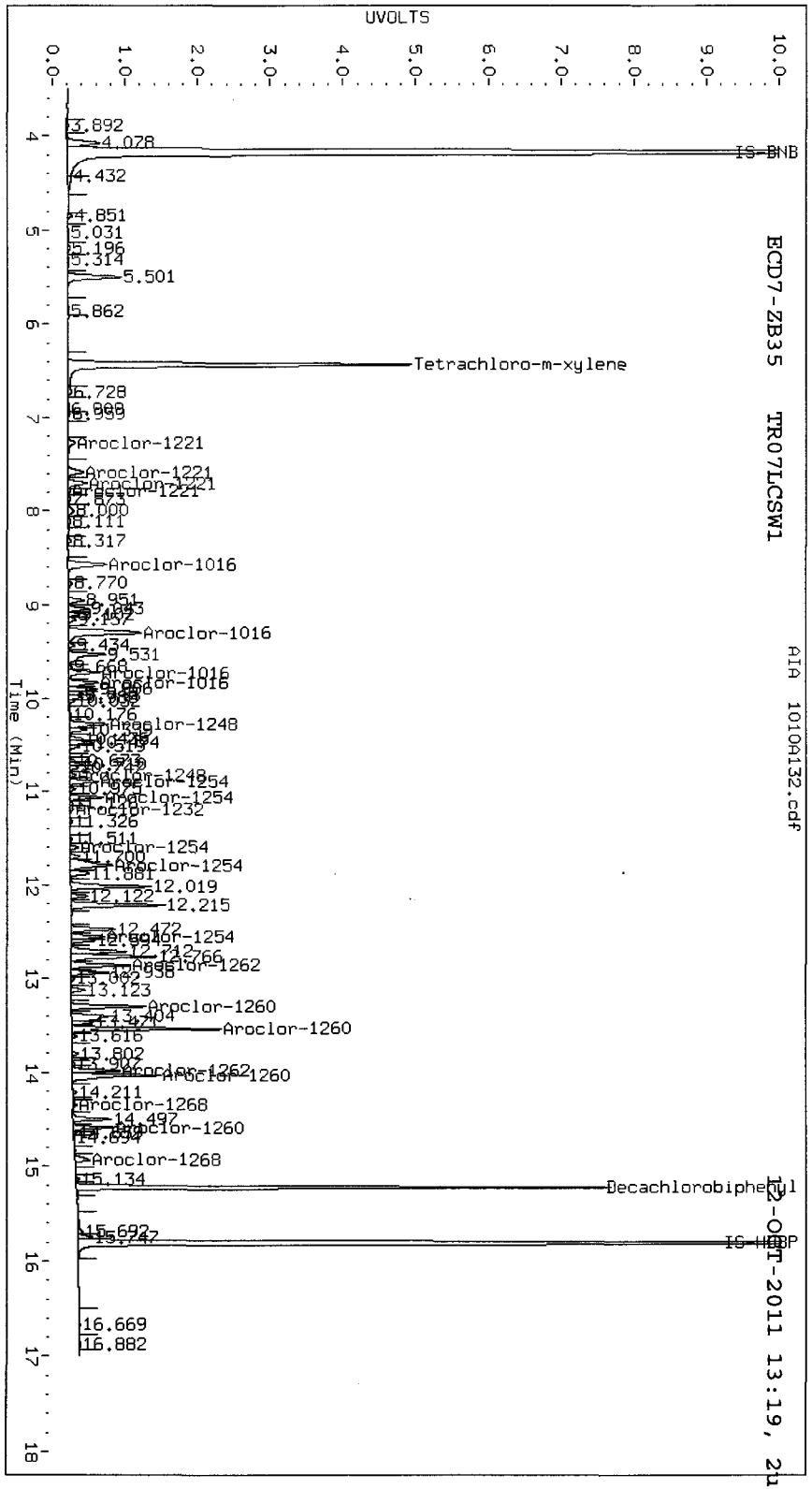
Decachlorobiphenyl
IS-HBBP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Tetrachloro-m-xylene
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Aroclor-1248
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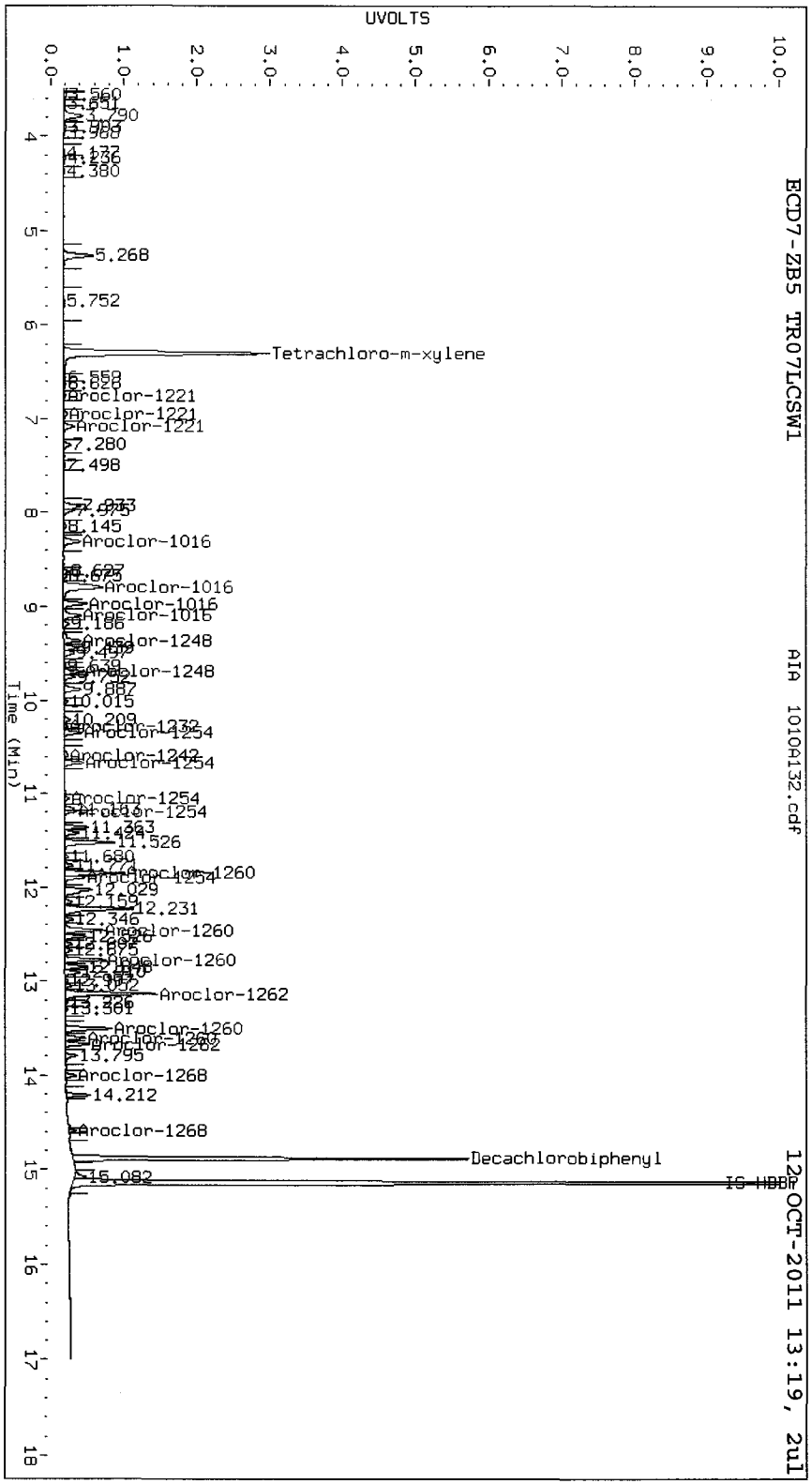
Decachlorobiphenyl
IS-HBBP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Tetrachloro-m-xylene
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Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1242
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1010-1.b/1010A133.d
Data file 2: 20110922.B/1010-2.b/1010A133.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: TR07LCSDW1
Client ID: TR07LCSDW1
Injection Date: 12-OCT-2011 13:42
Report Date: 10/12/2011 14:18
Matrix: WATER
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.298	-0.001	1636551	6.432	0.000	2670366	19.0	18.7	1.3	Tetrachloro-m-xylen
14.885	0.001	1966792	15.222	-0.001	2533543	20.8	19.8	4.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	47.5	46.8
Decachlorobiphenyl	51.9	49.5

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	6800085	34.5
Hexabromobiphenyl	4060201	7024978	73.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	10729683	37.4
Hexabromobiphenyl	5725568	9809213	71.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col				ZB35 Col				
Aroclor-1016	1	8.309	0.000	133121	62.9	1	8.568	0.000	357553	62.2
Aroclor-1016	2	8.797	0.002	445070	60.8	2	9.299	0.001	762137	63.4
Aroclor-1016	3	8.970	0.000	181229	63.2	3	9.726	0.001	224246	72.8
Aroclor-1016	4	9.097	0.000	150030	73.8	4	9.833	0.000	253764	71.3
Total Col1Ave (4 peaks):				65.2		Total Col2Ave (4 peaks):			67.4	RPD = 3
Corrected Ave (3 peaks):				62.3		Corrected Ave (3 peaks):			65.6	RPD = 5
Aroclor-1221	1	6.748	0.001	17290	19.5	1	7.272	0.013	70299	42.2
Aroclor-1221	2	6.950	-0.009	48673	72.7	2	7.585	0.023	133506	130.4
Aroclor-1221	3	7.085	0.004	87216	39.6	3	7.700	0.000	149797	47.8
Aroclor-1221	NS	---			----	4	7.781	-0.006	10856	21.3
Total Col1Ave (3 peaks):				43.9		Total Col2Ave (4 peaks):			60.4	RPD = 32
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			37.1	
Aroclor-1232	1	8.309	0.004	133121	158.1	1	8.568	-0.001	357553	142.9
Aroclor-1232	2	8.797	0.005	445070	154.3	2	9.299	0.001	762137	159.2
Aroclor-1232	3	8.970	0.004	181229	159.3	3	9.726	0.000	224246	175.7
Aroclor-1232	4	10.281	0.002	37196	36.8	4	11.188	-0.004	55610	26.2
Total Col1Ave (4 peaks):				127.1		Total Col2Ave (4 peaks):			126.0	RPD = 1
Corrected Ave (3 peaks):				116.4		Corrected Ave (3 peaks):			109.4	RPD = 6
Aroclor-1242	1	8.309	0.001	133121	80.4	1	8.568	0.000	357553	82.3
Aroclor-1242	2	8.797	0.001	445070	77.6	2	9.299	0.001	762137	83.8
Aroclor-1242	3	8.970	0.001	181229	81.4	3	9.726	0.001	224246	93.7
Aroclor-1242	4	10.589	0.002	53757	26.4	4	11.188	-0.002	55610	14.6
Total Col1Ave (4 peaks):				66.4		Total Col2Ave (4 peaks):			68.6	RPD = 3
Corrected Ave (3 peaks):				61.4		Corrected Ave (3 peaks):			60.2	RPD = 2
Aroclor-1248	1	9.367	0.000	171843	75.3	1	9.833	0.001	253764	59.3
Aroclor-1248	2	9.698	0.000	142428	51.3	2	10.280	0.001	316786	67.2
Aroclor-1248	3	10.281	0.000	37196	11.2	3	10.828	0.000	56998	12.1
Aroclor-1248	4	10.589	0.002	53757	17.4	4	11.188	-0.002	55610	9.2
Total Col1Ave (4 peaks):				38.8		Total Col2Ave (4 peaks):			36.9	RPD = 5
Corrected Ave (3 peaks):				26.7		Corrected Ave (3 peaks):			26.9	RPD = 1
Aroclor-1254	1	10.349	0.001	143849	39.4	1	10.896	0.000	190038	40.8
Aroclor-1254	2	10.672	0.002	142027	28.2	2	11.066	0.001	227699	37.9
Aroclor-1254	3	11.055	0.002	46586	14.8	3	11.603	0.001	65972	13.9
Aroclor-1254	4	11.192	-0.001	87833	14.4	4	11.792	0.037	443819	43.7
Aroclor-1254	5	11.901	-0.009	131028	32.4	5	12.553	0.014	212947	34.7
Total Col1Ave (5 peaks):				25.9		Total Col2Ave (5 peaks):			34.2	RPD = 28
Corrected Ave (4 peaks):				22.5		Corrected Ave (4 peaks):			31.8	RPD = 35
Aroclor-1260	1	11.853	0.001	371944	52.6	1	13.300	0.000	443938	55.7
Aroclor-1260	2	12.459	0.001	242500	52.6	2	13.537	0.000	865445	54.8
Aroclor-1260	3	12.774	0.001	242084	52.7	3	14.031	0.000	598496	58.0
Aroclor-1260	4	13.507	0.000	306828	53.2	4	14.586	0.000	222485	61.4
Aroclor-1260	5	13.606	0.000	122914	54.7	NS	---			----
Total Col1Ave (5 peaks):				53.1		Total Col2Ave (4 peaks):			57.5	RPD = 8
Corrected Ave (4 peaks):				52.8		Corrected Ave (3 peaks):			56.2	RPD = 6
Aroclor-1262	1	12.459	0.000	242500	30.3	1	12.857	-0.004	375765	37.0
Aroclor-1262	2	12.774	0.000	242084	37.5	2	13.300	-0.003	443938	44.3
Aroclor-1262	3	13.136	0.000	598544	39.4	3	13.537	-0.002	865445	44.2
Aroclor-1262	4	13.606	-0.001	122914	20.3	4	13.981	-0.002	279601	32.6
Aroclor-1262	5	13.670	-0.001	140610	22.9	5	14.031	-0.004	598496	46.8
Total Col1Ave (5 peaks):				30.1		Total Col2Ave (5 peaks):			41.0	RPD = 31
Corrected Ave (4 peaks):				27.8		Corrected Ave (4 peaks):			39.5	RPD = 35
Aroclor-1268	1	13.606	-0.001	122914	7.6	1	13.981	-0.002	279601	14.1

Aroclor-1268	2	13.670	0.001	140610	9.5	2	14.031	-0.007	598496	32.2
Aroclor-1268	3	14.006	0.014	63284	5.1	3	14.348	-0.003	11766	0.8
Aroclor-1268	4	14.592	-0.001	39036	1.1	4	14.934	-0.005	117709	2.6

Total Col1Ave (4 peaks): 5.8 Total Col2Ave (4 peaks): 12.4 RPD = 72*

Corrected Ave (3 peaks): 4.6 Corrected Ave (3 peaks): 5.9 RPD = 24

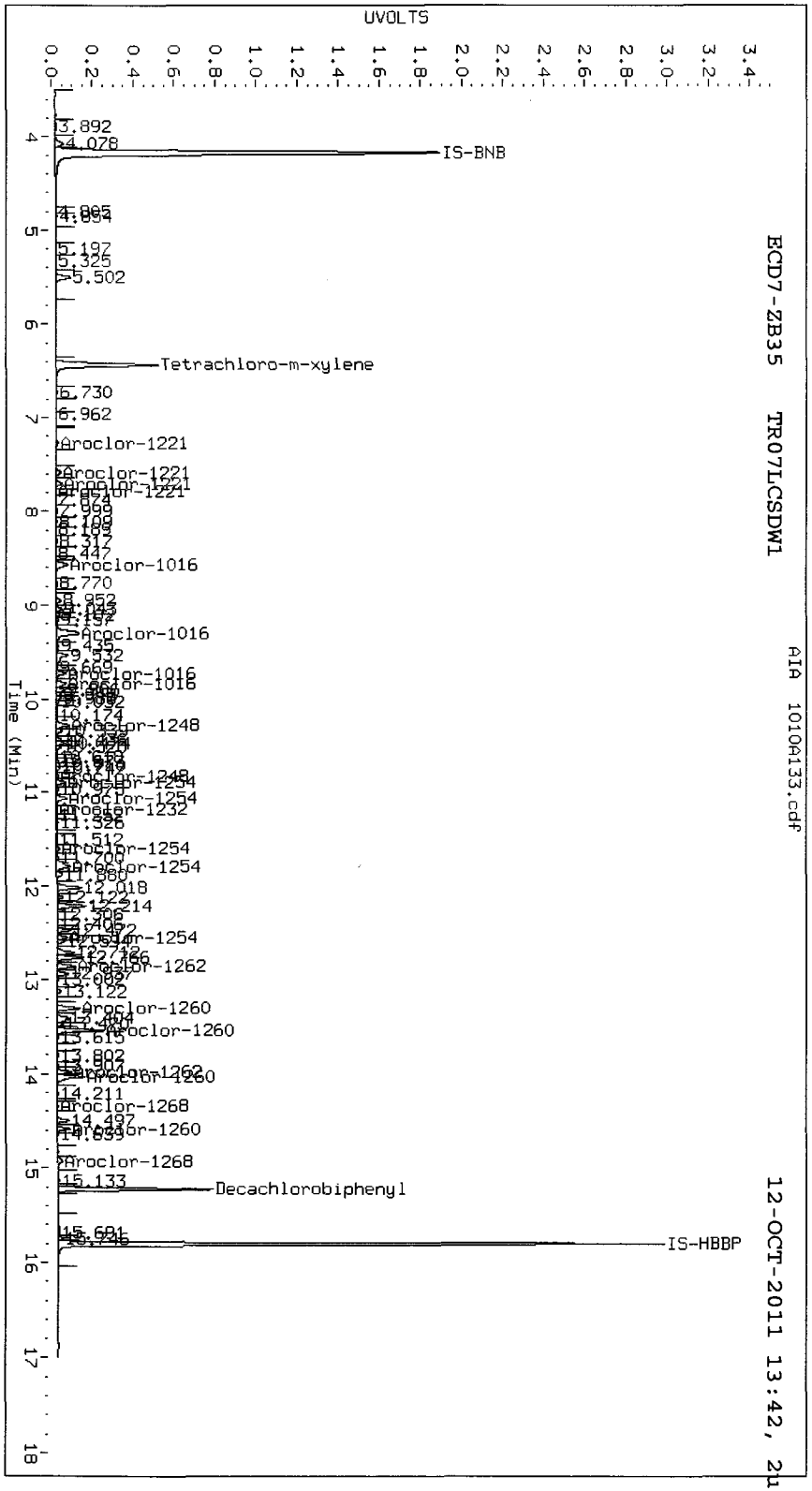
Total PCB Area Col1 (6.398 - 14.784) = 7763881 Col1 Total PCB = 0.1 ppm*

Total PCB Area Col2 (6.532 - 15.122) = 12880432 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

VB
10.12.11

PCB-Form 10 Mod.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Aroclor-1016
Aroclor-1248
Aroclor-1254
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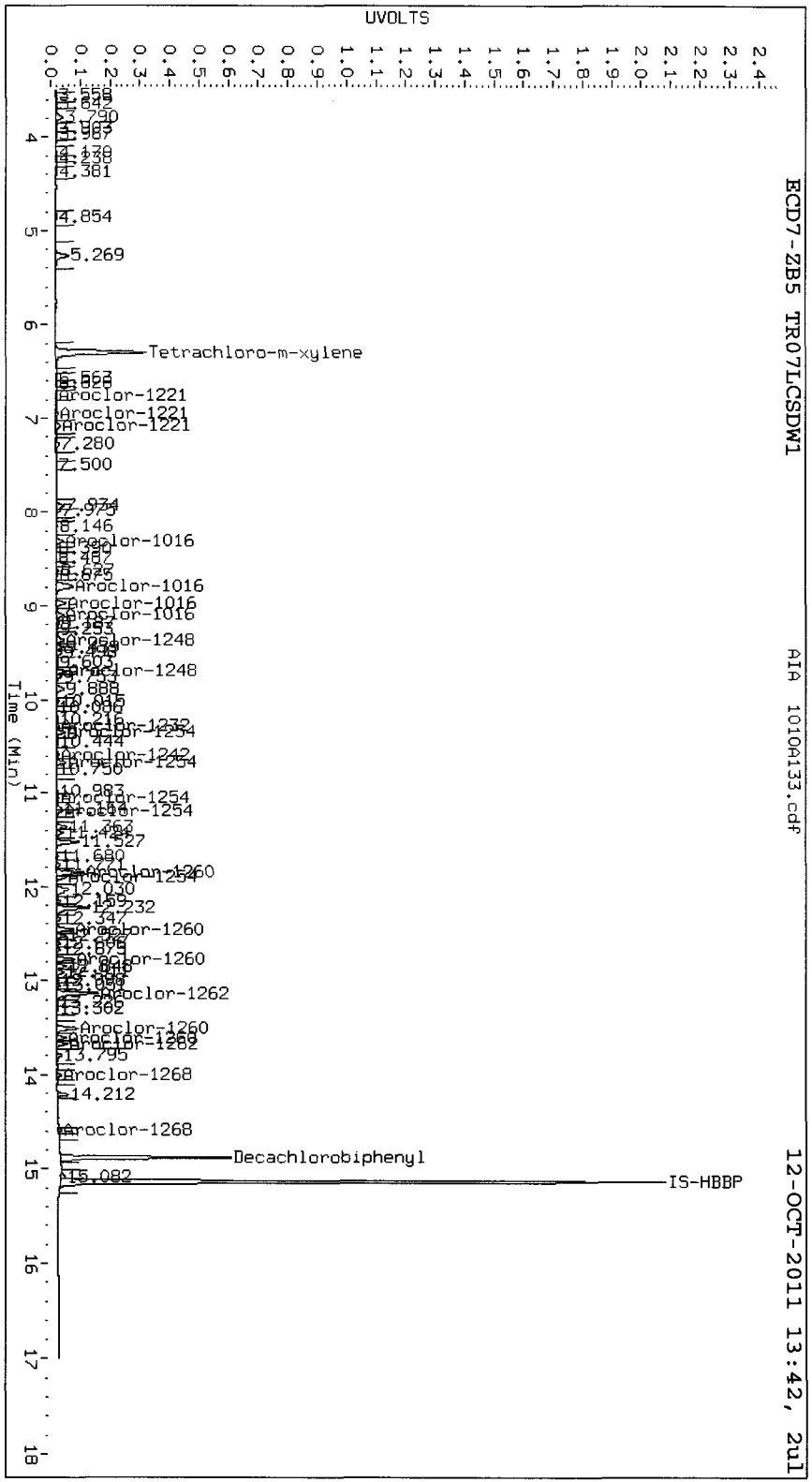
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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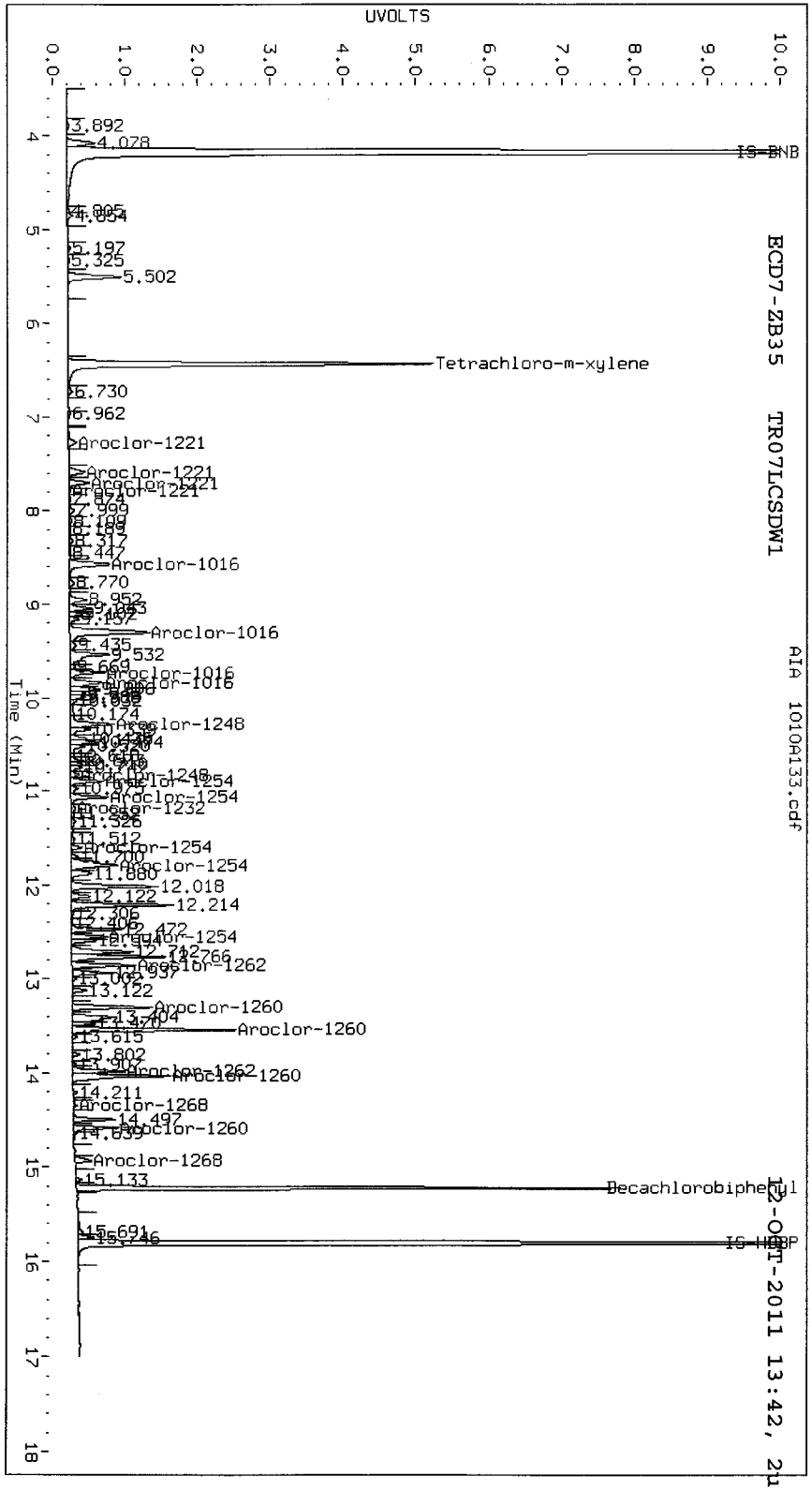
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TR07:00183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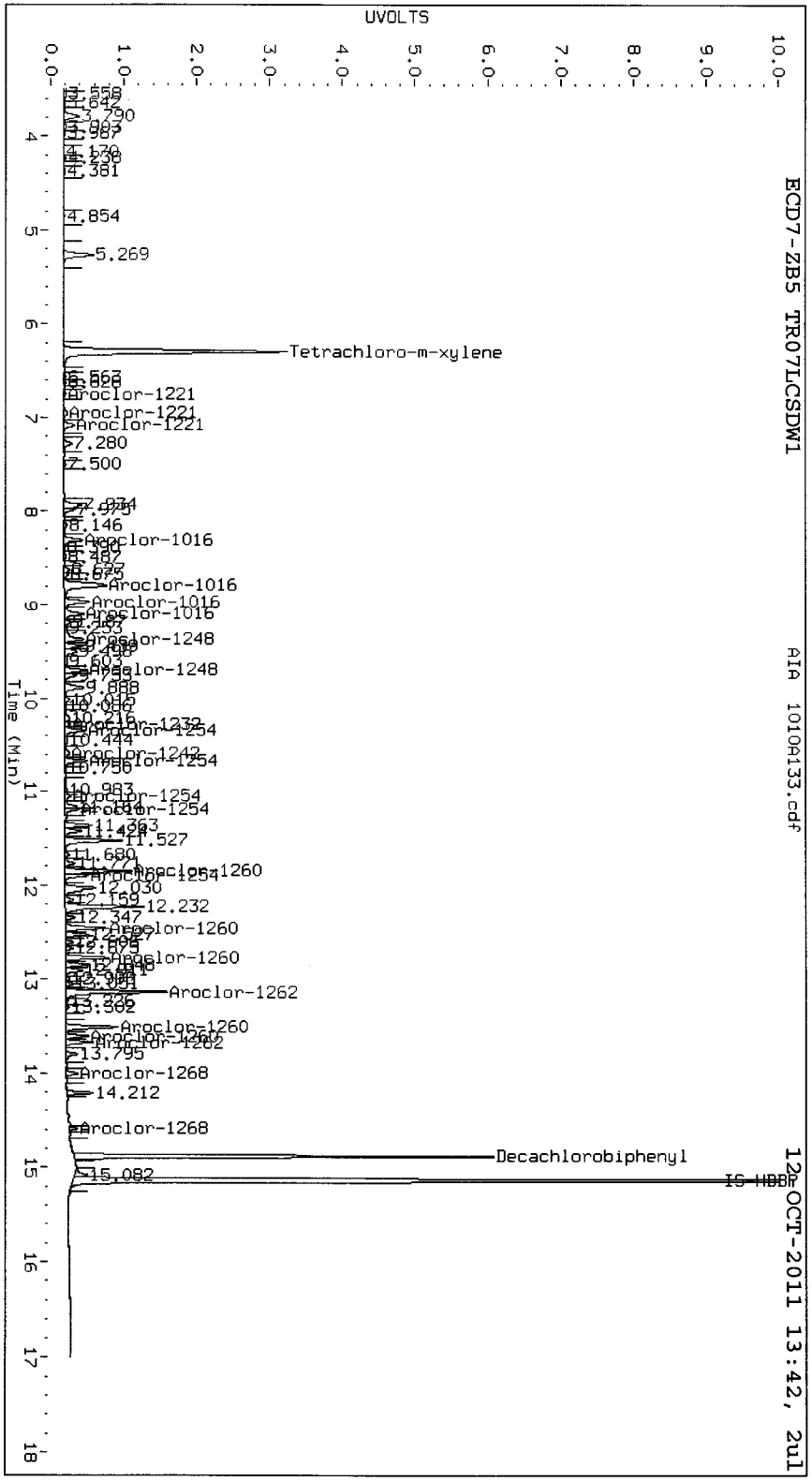
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HDBP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Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HDBP

TR07:00184

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1010-1.b/1010A134.d
Data file 2: 20110922.B/1010-2.b/1010A134.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: TR07A
Client ID: SW0010
Injection Date: 12-OCT-2011 14:05
Report Date: 10/12/2011 15:02
Matrix: WATER
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.296	-0.002	1673110	6.430	-0.001	2730956	24.6	23.6	4.1	Tetrachloro-m-xylen
14.884	0.000	1952194	15.222	0.000	2537022	28.8	27.4	4.9	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	61.5	59.1
Decachlorobiphenyl	72.0	68.5

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5361275	6.0
Hexabromobiphenyl	4060201	5027599	23.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8697707	11.4
Hexabromobiphenyl	5725568	7095602	23.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	8.305	-0.004	15455	9.3	1	8.565	-0.003	49786	10.7	20%
Aroclor-1016	2	8.779	-0.016	23735	4.1	2	9.283	-0.015	58253	6.0	
Aroclor-1016	3	8.982	0.012	31878	14.1	3	9.704	-0.021	27173	10.9	
Aroclor-1016	4	9.086	-0.011	32770	20.4	4	9.832	-0.001	183048	63.4	
Total Col1Ave (4 peaks):				12.0		Total Col2Ave (4 peaks):			22.7	RPD = 62*	
Corrected Ave (3 peaks):				9.2		Corrected Ave (3 peaks):			9.2	RPD = 0	
Aroclor-1221	1	---			0.0	1	7.277	0.018	40464	30.0	20%
Aroclor-1221	2	6.939	-0.019	31372	59.4	2	7.585	0.023	34462	41.5	
Aroclor-1221	3	7.094	0.012	11001	6.3	3	7.717	0.017	30184	11.9	
Aroclor-1221	NS	---			----	4	---			0.0	
Col1Ave: <3 Quant Peaks						Col2Ave: rt 27.8					
Aroclor-1232	1	8.305	0.000	15455	23.3	1	8.565	-0.005	49786	24.5	20%
Aroclor-1232	2	8.779	-0.013	23735	10.4	2	9.283	-0.015	58253	15.0	
Aroclor-1232	3	8.982	0.016	31878	35.6	3	9.704	-0.022	27173	26.3	
Aroclor-1232	4	10.348	0.069	66284	83.1	4	11.163	-0.029	71042	41.3	
Total Col1Ave (4 peaks):				~~38.1~~		Total Col2Ave (4 peaks):			26.8	RPD = 35	
Corrected Ave (3 peaks):				23.1		Corrected Ave (3 peaks):			21.9	RPD = 5	
Aroclor-1242	1	8.305	-0.003	15455	11.8	1	8.565	-0.003	49786	14.1	20%
Aroclor-1242	2	8.779	-0.017	23735	5.2	2	9.283	-0.015	58253	7.9	
Aroclor-1242	3	8.982	0.013	31878	18.2	3	9.704	-0.021	27173	14.0	
Aroclor-1242	4	10.589	0.002	21257	13.2	4	11.163	-0.026	71042	23.0	
Total Col1Ave (4 peaks):				12.1		Total Col2Ave (4 peaks):			14.8	RPD = 20	
Corrected Ave (3 peaks):				10.1		Corrected Ave (3 peaks):			12.0	RPD = 17	
Aroclor-1248	1	9.366	0.000	141181	~~78.5~~	1	9.832	0.000	183048	~~52.8~~	20%
Aroclor-1248	2	9.698	0.000	32783	15.0	2	10.279	0.000	112003	29.3	
Aroclor-1248	3	10.348	0.067	66284	25.4	3	10.827	-0.001	41509	10.9	
Aroclor-1248	4	10.589	0.002	21257	8.7	4	11.163	-0.026	71042	14.5	
Total Col1Ave (4 peaks):				31.9		Total Col2Ave (4 peaks):			26.9	RPD = 17	
Corrected Ave (3 peaks):				16.4		Corrected Ave (3 peaks):			18.2	RPD = 11	
Aroclor-1254	1	10.348	0.000	66284	23.0	1	10.896	0.001	107891	28.6	
Aroclor-1254	2	10.669	-0.001	53019	13.4	2	11.066	0.001	89716	18.4	
Aroclor-1254	3	11.056	0.002	20303	8.2	3	11.604	0.001	41383	10.8	
Aroclor-1254	4	11.194	0.000	78621	16.4	4	11.755	0.000	167180	20.3	
Aroclor-1254	5	11.905	-0.005	25122	7.9	5	12.549	0.010	70158	14.1	
Total Col1Ave (5 peaks):				13.8		Total Col2Ave (5 peaks):			18.4	RPD = 29	
Corrected Ave (4 peaks):				11.5		Corrected Ave (4 peaks):			15.9	RPD = 33	
Aroclor-1260	1	11.853	0.000	30537	6.0	1	13.299	-0.001	36024	6.3	
Aroclor-1260	2	---			0.0	2	13.538	0.000	39183	3.4	
Aroclor-1260	3	---			0.0	3	14.031	0.000	39491	5.3	
Aroclor-1260	4	13.507	0.000	14429	3.5	4	14.587	0.000	22909	8.7	
Aroclor-1260	5	---			0.0	NS	---			----	
Col1Ave: <3 Quant Peaks						Col2Ave: 5.9					
Aroclor-1262	1	---			0.0	1	12.859	-0.001	25160	3.4	
Aroclor-1262	2	---			0.0	2	13.299	-0.004	36024	5.0	
Aroclor-1262	3	---			0.0	3	13.538	-0.002	39183	2.8	
Aroclor-1262	4	---			0.0	4	13.952	-0.031	102882	16.6	
Aroclor-1262	5	---			0.0	5	14.031	-0.004	39491	4.3	
Col1Ave: <3 Quant Peaks						Col2Ave: 6.4					
Aroclor-1268	1	---			0.0	1	13.952	-0.032	102882	7.2	
Aroclor-1268	2	---			0.0	2	14.031	-0.007	39491	2.9	
Aroclor-1268	3	---			0.0	3	---			0.0	
Aroclor-1268	4	---			0.0	4	14.908	-0.030	67707	2.1	

Col1Ave: <3 Quant Peaks Col2Ave: 4.1

Total PCB Area Col1 (6.398 - 14.784) = 3521328 Col1 Total PCB = 0.1 ppm*

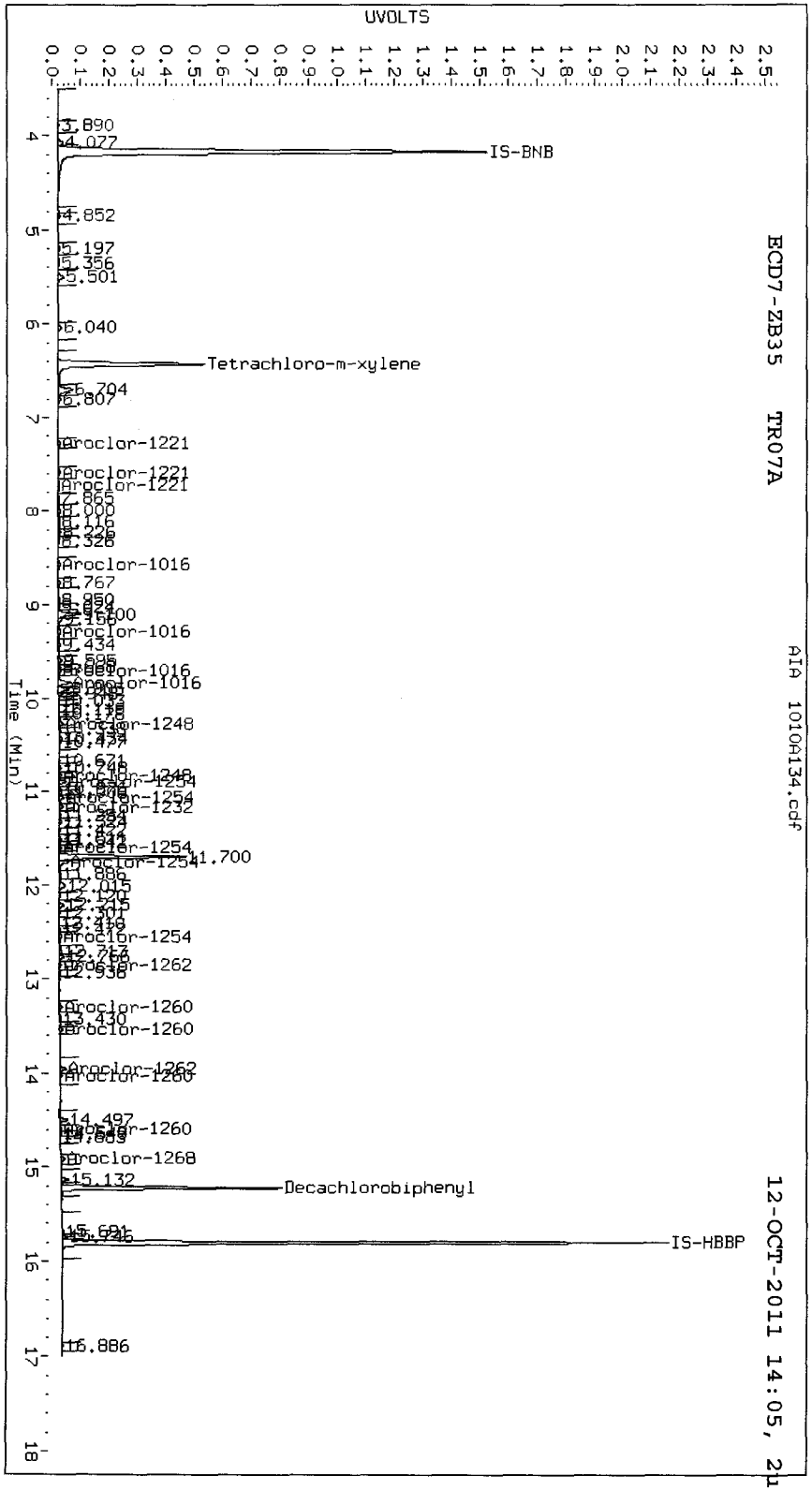
Total PCB Area Col2 (6.532 - 15.122) = 5625216 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

VD

10.12.11

PCB-Form 10 Mod.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Aroclor-1016
Aroclor-1248
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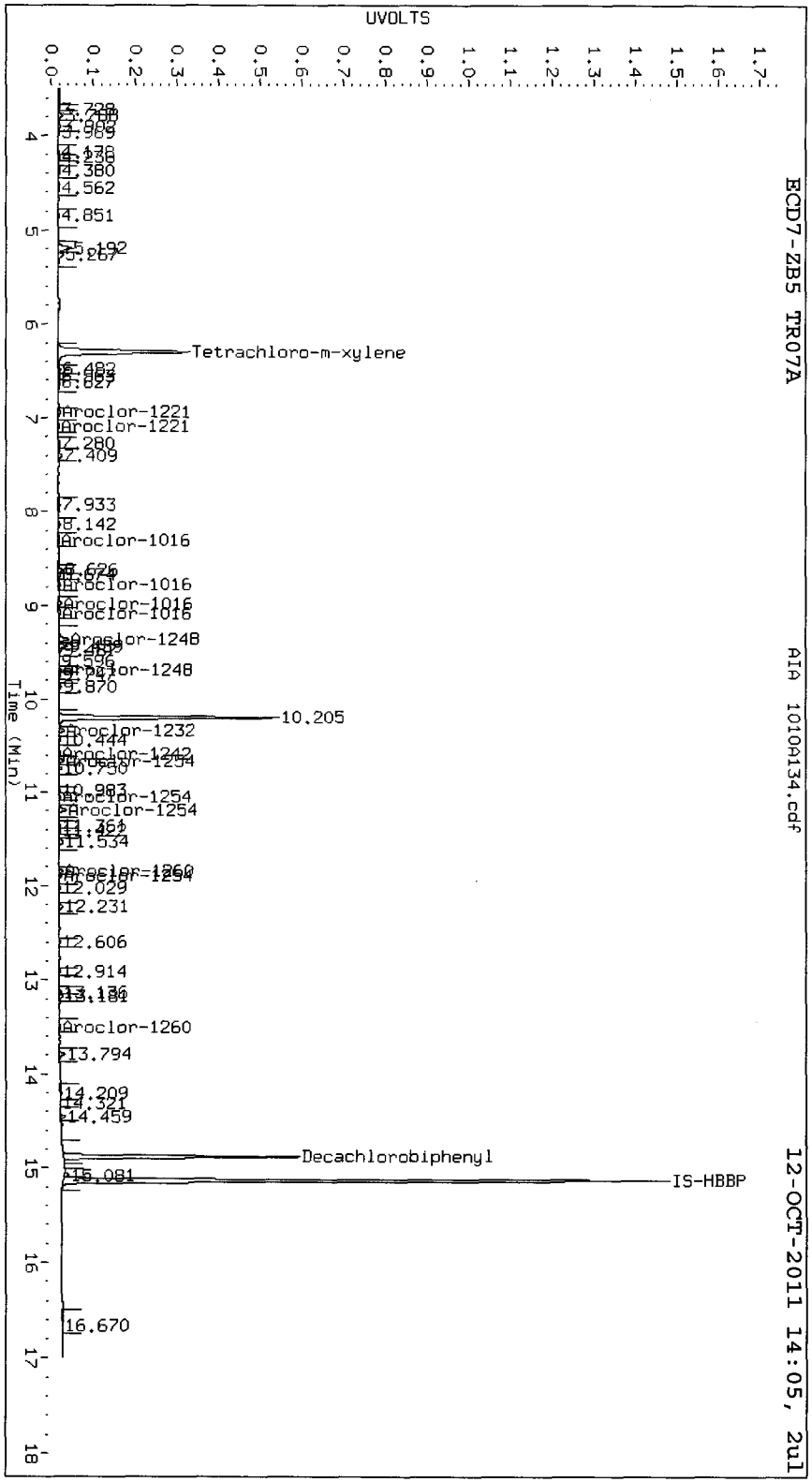
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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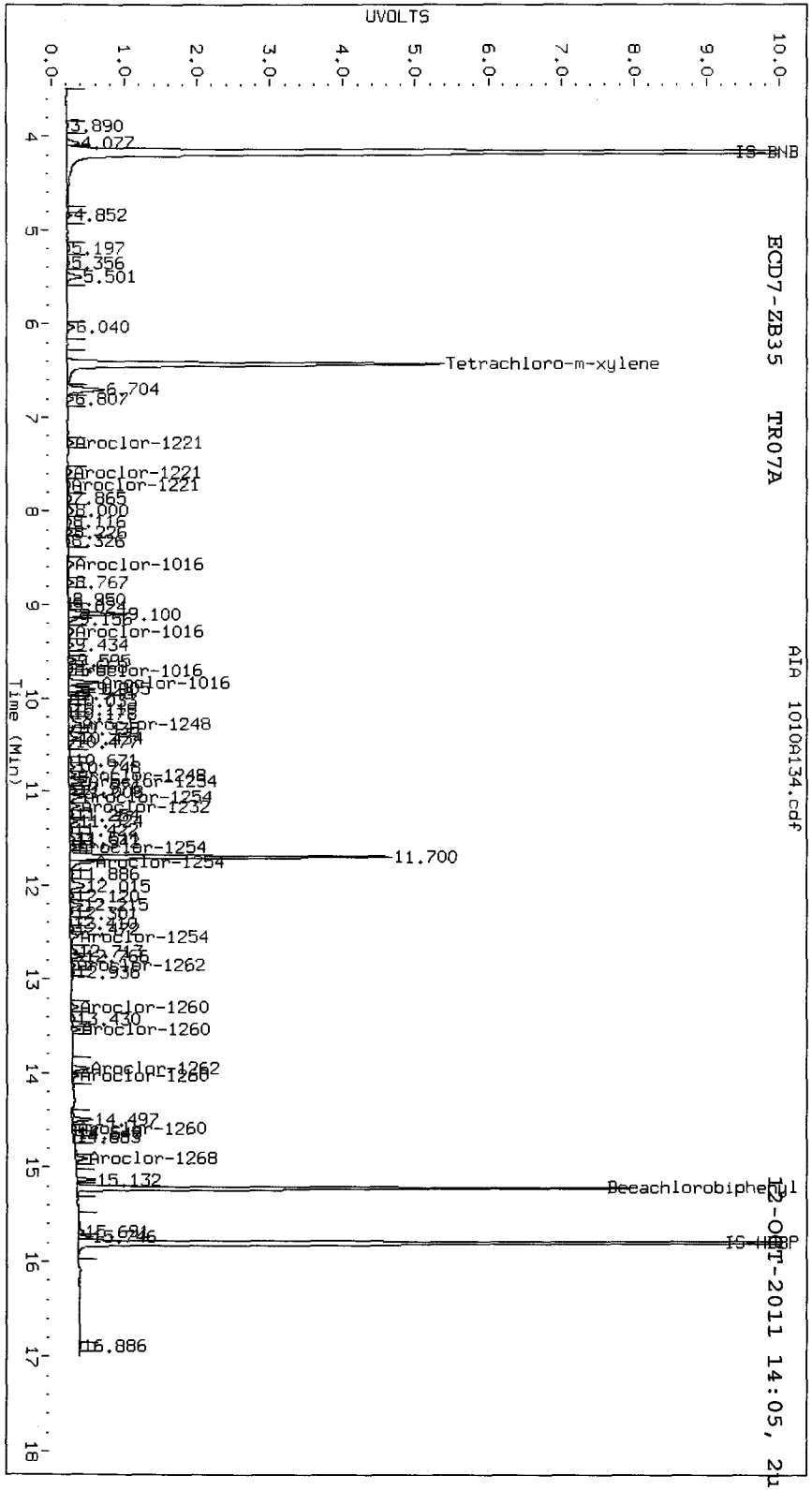
Decachlorobiphenyl
IS-HBBP

TR07 : 00188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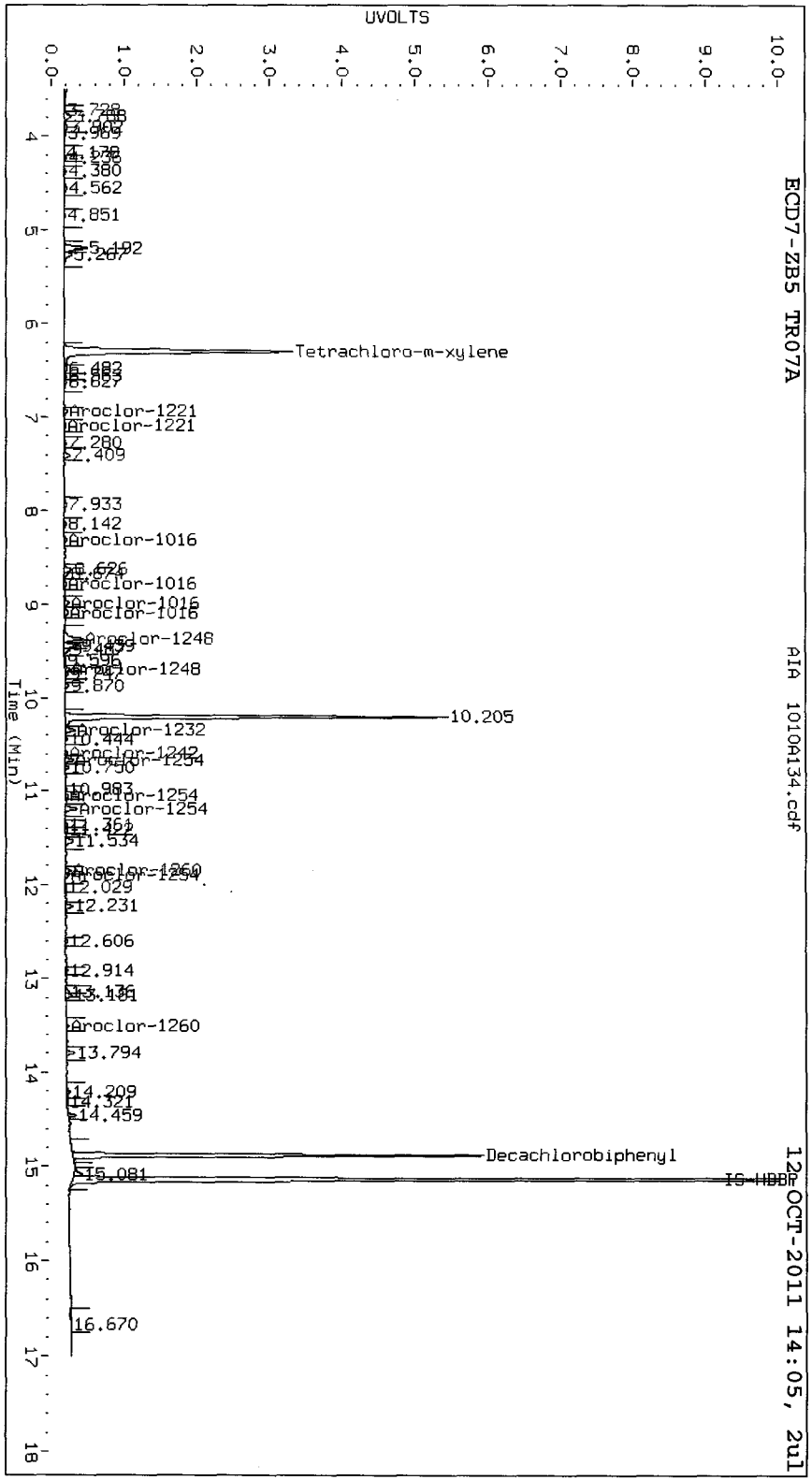
Decachlorobiphenyl
IS-HBBP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Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1260
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1010-1.b/1010A135.d
Data file 2: 20110922.B/1010-2.b/1010A135.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: TR07B
Client ID: SW0011
Injection Date: 12-OCT-2011 14:28
Report Date: 10/12/2011 15:03
Matrix: WATER
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.296	-0.002	1714007	6.431	-0.001	2803573	21.9	22.3	1.9	Tetrachloro-m-xylen
14.884	0.000	2155666	15.222	-0.001	2795778	26.0	25.0	3.9	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	54.8	55.8
Decachlorobiphenyl	65.1	62.6

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	6170348	22.0
Hexabromobiphenyl	4060201	6140746	51.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	9447073	21.0
Hexabromobiphenyl	5725568	8561136	49.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	8.305	-0.004	15108	7.9	1	8.566	-0.002	30599	6.0
Aroclor-1016	2	8.778	-0.017	18794	2.8	2	9.284	-0.014	43861	4.1
Aroclor-1016	3	8.980	0.011	25823	9.9	3	9.719	-0.006	13630	5.0
Aroclor-1016	4	9.089	-0.009	31079	16.8	4	9.832	-0.001	134887	43.0
Total Col1Ave (4 peaks):				9.4	Total Col2Ave (4 peaks):				14.6	RPD = 43*
Corrected Ave (3 peaks):				6.9	Corrected Ave (3 peaks):				5.1	RPD = 30
Aroclor-1221	1	---			0.0	1	7.276	0.017	41539	28.3
Aroclor-1221	2	6.939	-0.019	31954	52.6	2	7.586	0.024	674437	748.2
Aroclor-1221	3	7.095	0.014	13151	6.6	3	7.716	0.016	32303	11.7
Aroclor-1221	NS	---			----	4	7.769	-0.018	19691	43.9
Col1Ave: <3 Quant Peaks						Col2Ave:		208.1		
Aroclor-1232	1	8.305	0.000	15108	19.8	1	8.566	-0.004	30599	13.9
Aroclor-1232	2	8.778	-0.014	18794	7.2	2	9.284	-0.014	43861	10.4
Aroclor-1232	3	8.980	0.015	25823	25.0	3	9.719	-0.007	13630	12.1
Aroclor-1232	4	10.280	0.000	13709	14.9	4	11.163	-0.029	76218	40.8
Total Col1Ave (4 peaks):				16.7	Total Col2Ave (4 peaks):				19.3	RPD = 14
Corrected Ave (3 peaks):				14.0	Corrected Ave (3 peaks):				12.1	RPD = 14
Aroclor-1242	1	8.305	-0.004	15108	10.1	1	8.566	-0.002	30599	8.0
Aroclor-1242	2	8.778	-0.018	18794	3.6	2	9.284	-0.013	43861	5.5
Aroclor-1242	3	8.980	0.012	25823	12.8	3	9.719	-0.006	13630	6.5
Aroclor-1242	4	10.587	0.000	31762	17.2	4	11.163	-0.026	76218	22.7
Total Col1Ave (4 peaks):				10.9	Total Col2Ave (4 peaks):				10.7	RPD = 2
Corrected Ave (3 peaks):				8.8	Corrected Ave (3 peaks):				6.6	RPD = 28
Aroclor-1248	1	9.366	-0.001	104521	50.5	1	9.832	0.000	134887	35.8
Aroclor-1248	2	9.697	0.000	25766	10.2	2	10.277	-0.002	102787	24.8
Aroclor-1248	3	10.280	-0.002	13709	4.6	3	10.826	-0.002	33721	8.1
Aroclor-1248	4	10.587	0.000	31762	11.3	4	11.163	-0.026	76218	14.3
Total Col1Ave (4 peaks):				19.2	Total Col2Ave (4 peaks):				20.7	RPD = 8
Corrected Ave (3 peaks):				8.7	Corrected Ave (3 peaks):				15.7	RPD = 57*
Aroclor-1254	1	10.348	0.000	48756	14.7	1	10.896	0.000	82092	20.0
Aroclor-1254	2	10.669	-0.001	42942	9.4	2	11.067	0.001	66373	12.5
Aroclor-1254	3	11.057	0.003	19214	6.7	3	11.604	0.001	29170	7.0
Aroclor-1254	4	11.194	0.001	58987	10.7	4	11.755	0.000	126824	14.2
Aroclor-1254	5	11.906	-0.004	23329	6.4	5	12.549	0.010	45518	8.4
Total Col1Ave (5 peaks):				9.6	Total Col2Ave (5 peaks):				12.4	RPD = 26
Corrected Ave (4 peaks):				8.3	Corrected Ave (4 peaks):				10.5	RPD = 24
Aroclor-1260	1	11.853	0.001	25466	4.1	1	13.299	-0.001	32282	4.6
Aroclor-1260	2	---			0.0	2	13.538	0.000	40507	2.9
Aroclor-1260	3	---			0.0	3	14.031	0.000	44930	5.0
Aroclor-1260	4	13.506	-0.001	11793	2.3	4	14.587	0.001	22139	7.0
Aroclor-1260	5	---			0.0	NS	---			----
Col1Ave: <3 Quant Peaks						Col2Ave:		4.9		
Aroclor-1262	1	---			0.0	1	12.859	-0.001	26634	3.0
Aroclor-1262	2	---			0.0	2	13.299	-0.004	32282	3.7
Aroclor-1262	3	---			0.0	3	13.538	-0.002	40507	2.4
Aroclor-1262	4	---			0.0	4	13.952	-0.031	52410	7.0
Aroclor-1262	5	---			0.0	5	14.031	-0.004	44930	4.0
Col1Ave: <3 Quant Peaks						Col2Ave:		4.0		
Aroclor-1268	1	---			0.0	1	13.952	-0.031	52410	3.0
Aroclor-1268	2	---			0.0	2	14.031	-0.007	44930	2.8
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	14.911	-0.028	54377	1.4

Col1Ave: <3 Quant Peaks Col2Ave: 2.4

Total PCB Area Col1 (6.398 - 14.784) = 2041489 Col1 Total PCB = 0.0 ppm*

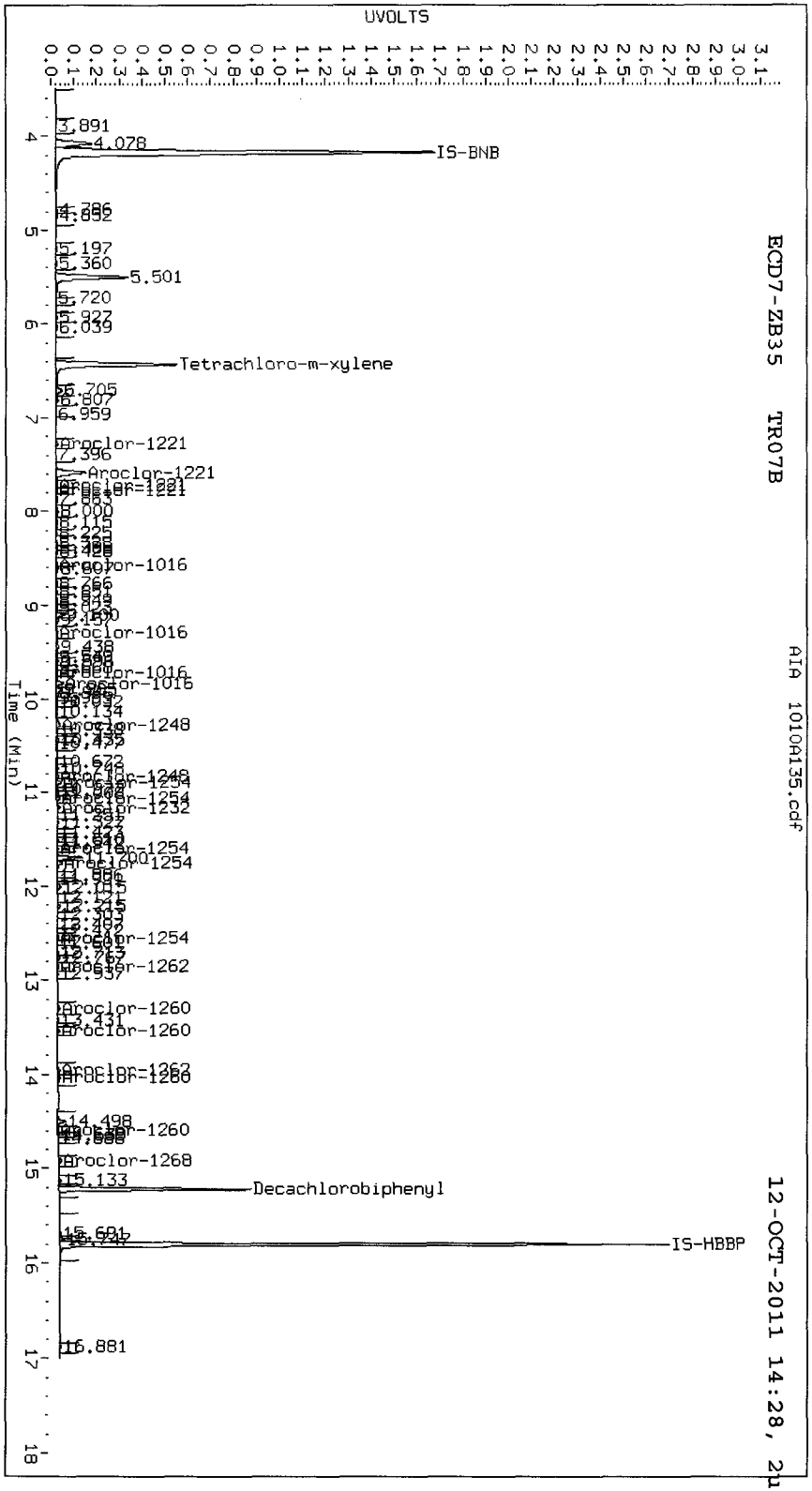
Total PCB Area Col2 (6.532 - 15.122) = 4313366 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

VD

10.12.11

PCB-Form 10 Mod.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Time (Min)
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Tetrachloro-m-xylene
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Aroclor-1248
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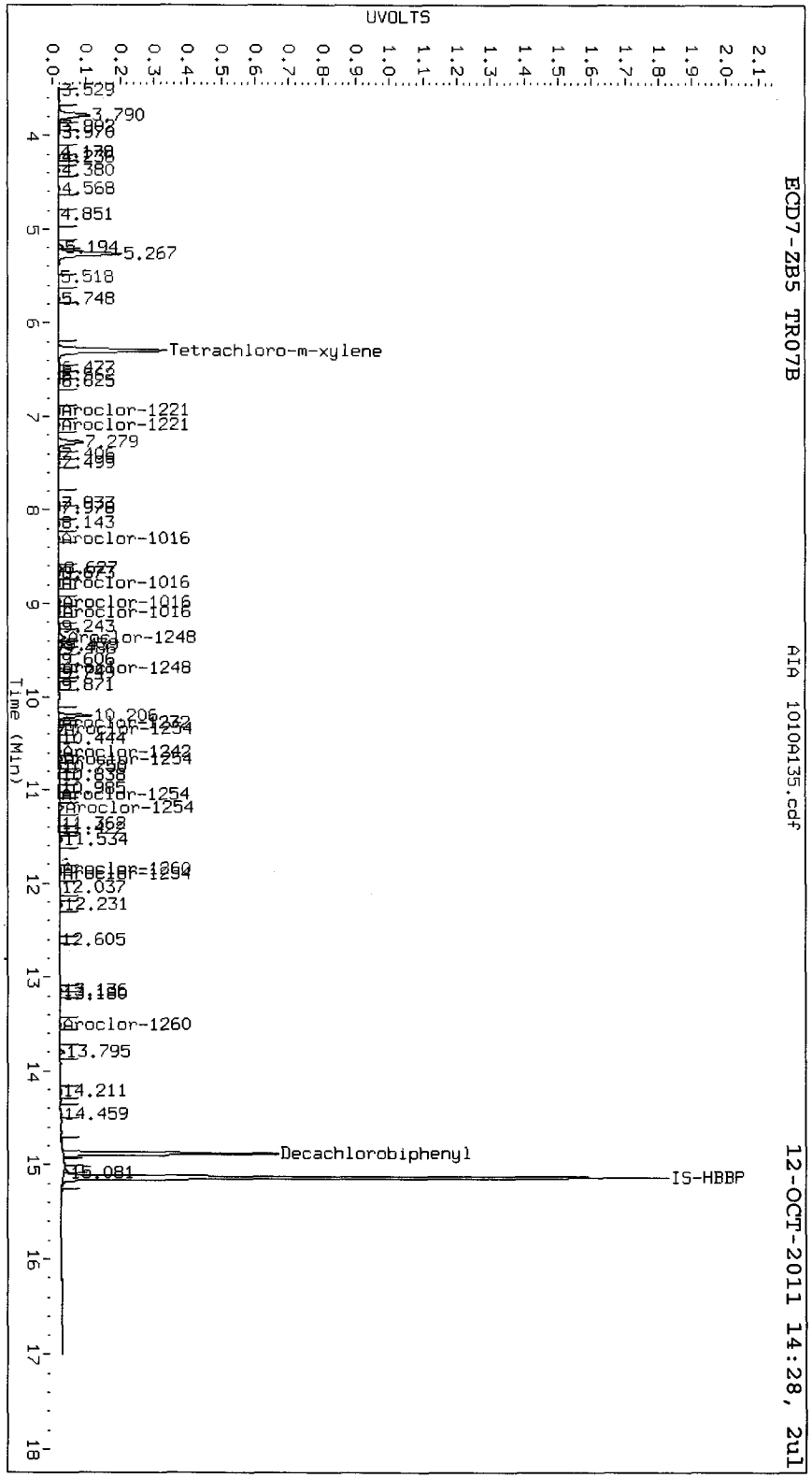
Decachlorobiphenyl
IS-HBBP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Aroclor-1221
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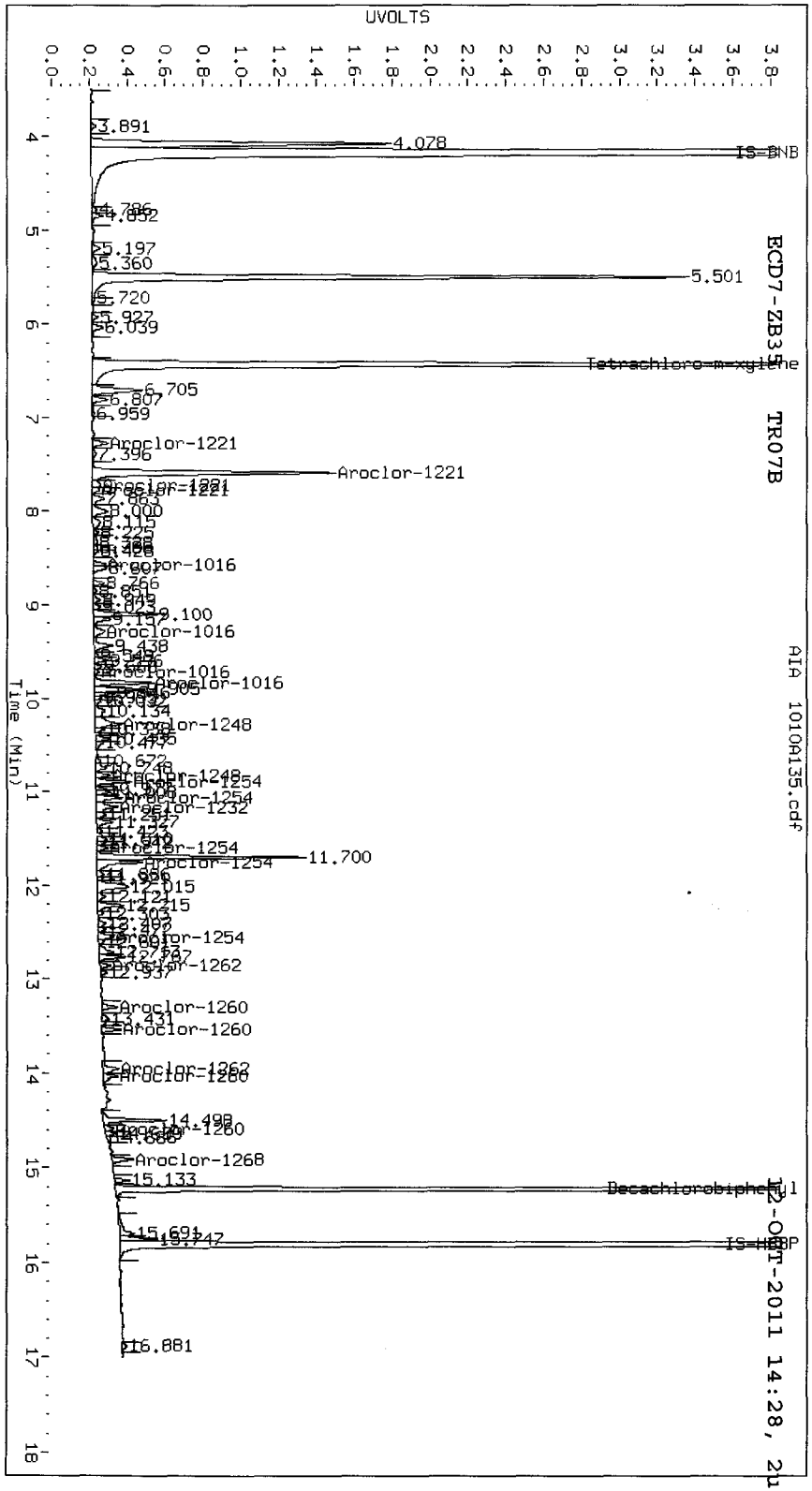
Decachlorobiphenyl
IS-HBBP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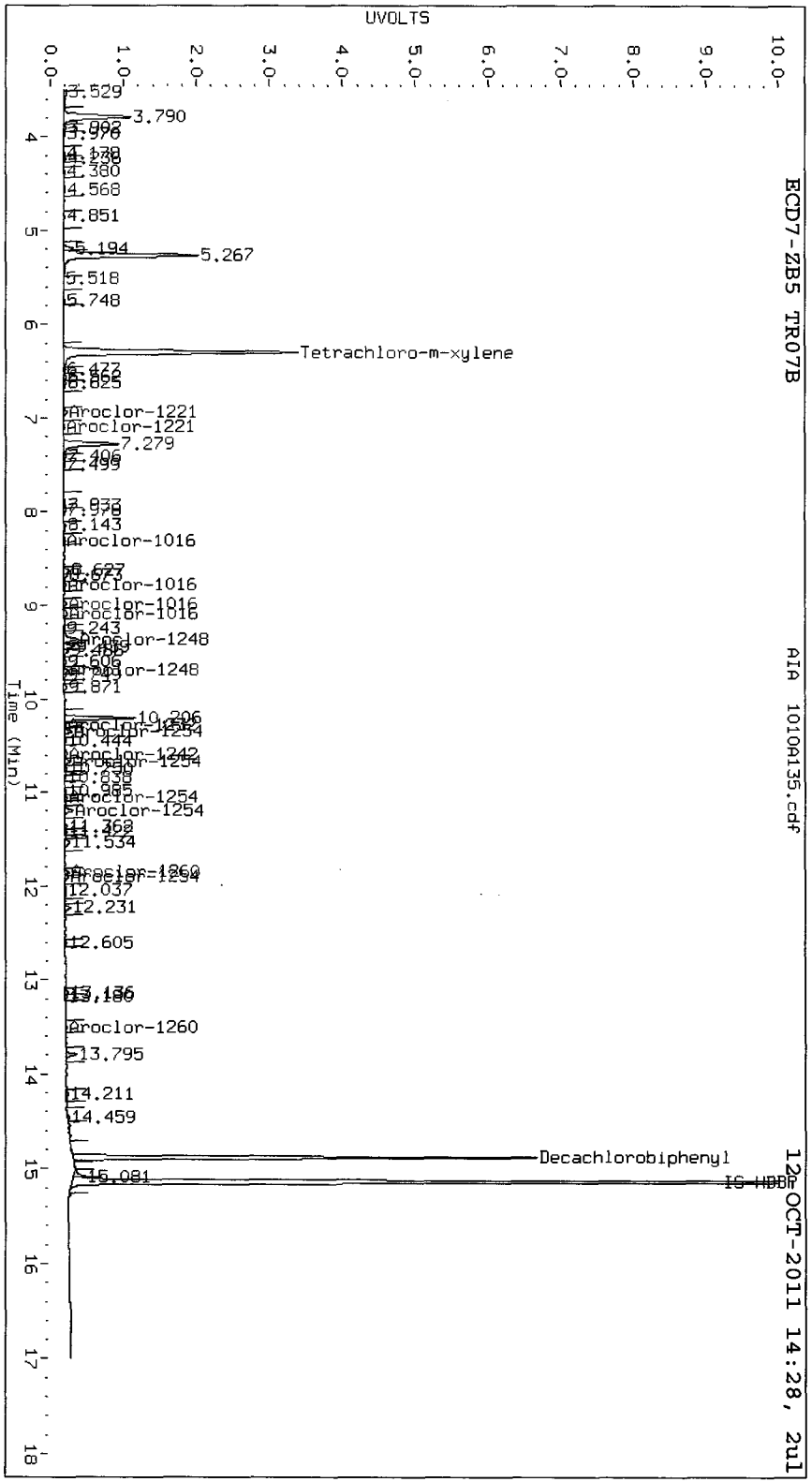
12-OCT-2011 14:28, 2ul
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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ECD7-ZB5 TR07B
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12-OCT-2011 14:28, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1242
Aroclor-1260
Decachlorobiphenyl
IS-HBBP

TR07:00194

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1010-1.b/1010A136.d
Data file 2: 20110922.B/1010-2.b/1010A136.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1254
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254
Client ID:
Injection Date: 12-OCT-2011 14:51
Report Date: 10/12/2011 15:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.297	0.000	1469751	6.431	-0.001	2483836	20.4	20.6	0.7	Tetrachloro-m-xylen
14.884	0.000	1357403	15.222	0.000	1772070	21.9	20.5	6.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.1	51.5
Decachlorobiphenyl	54.7	51.3

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5668313	12.1
Hexabromobiphenyl	4060201	4600592	13.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	9077543	16.2
Hexabromobiphenyl	5725568	6618616	15.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1254	1	10.348	0.000	778504	256.0	1	10.896	0.000	983105	249.6
Aroclor-1254	2	10.670	0.000	1073126	255.6	2	11.066	0.000	1265101	248.7
Aroclor-1254	3	11.055	0.000	674333	256.9	3	11.604	0.000	997189	248.9
Aroclor-1254	4	11.193	0.000	1300026	256.6	4	11.756	0.000	2138333	249.1
Aroclor-1254	5	11.911	0.000	865360	256.8	5	12.540	0.000	1292482	249.2

Total Col1Ave (5 peaks): 256.4 Total Col2Ave (5 peaks): 249.1 RPD = 3

Corrected Ave (4 peaks): 256.2 Corrected Ave (4 peaks): 249.0 RPD = 3

Total PCB Area Col1 (6.397 - 14.784) = 13498787 Col1 Total PCB = 0.3 ppm*

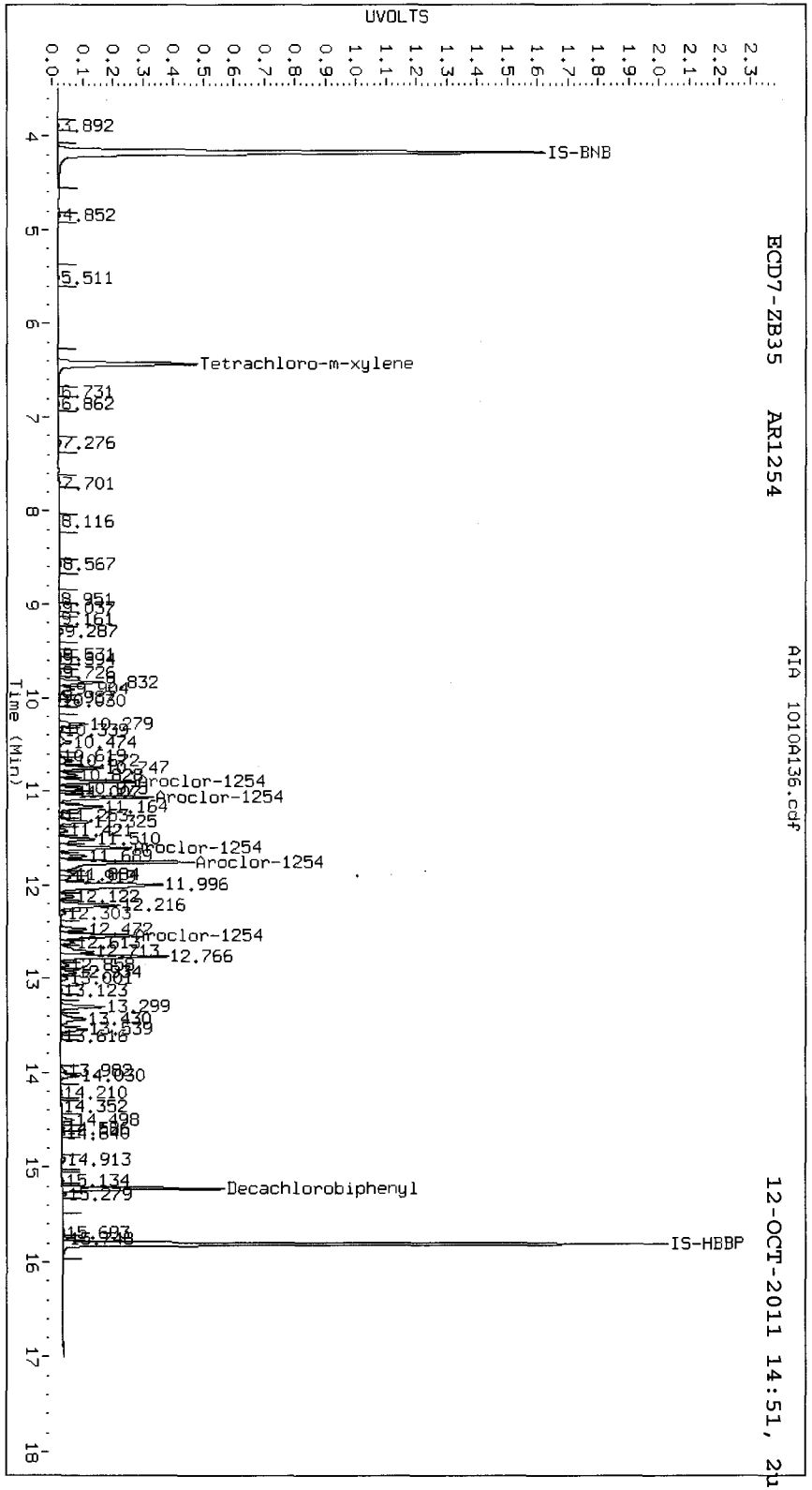
Total PCB Area Col2 (6.531 - 15.122) = 21357167 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

UB

10.12.11

PCB-Form 10 Mod.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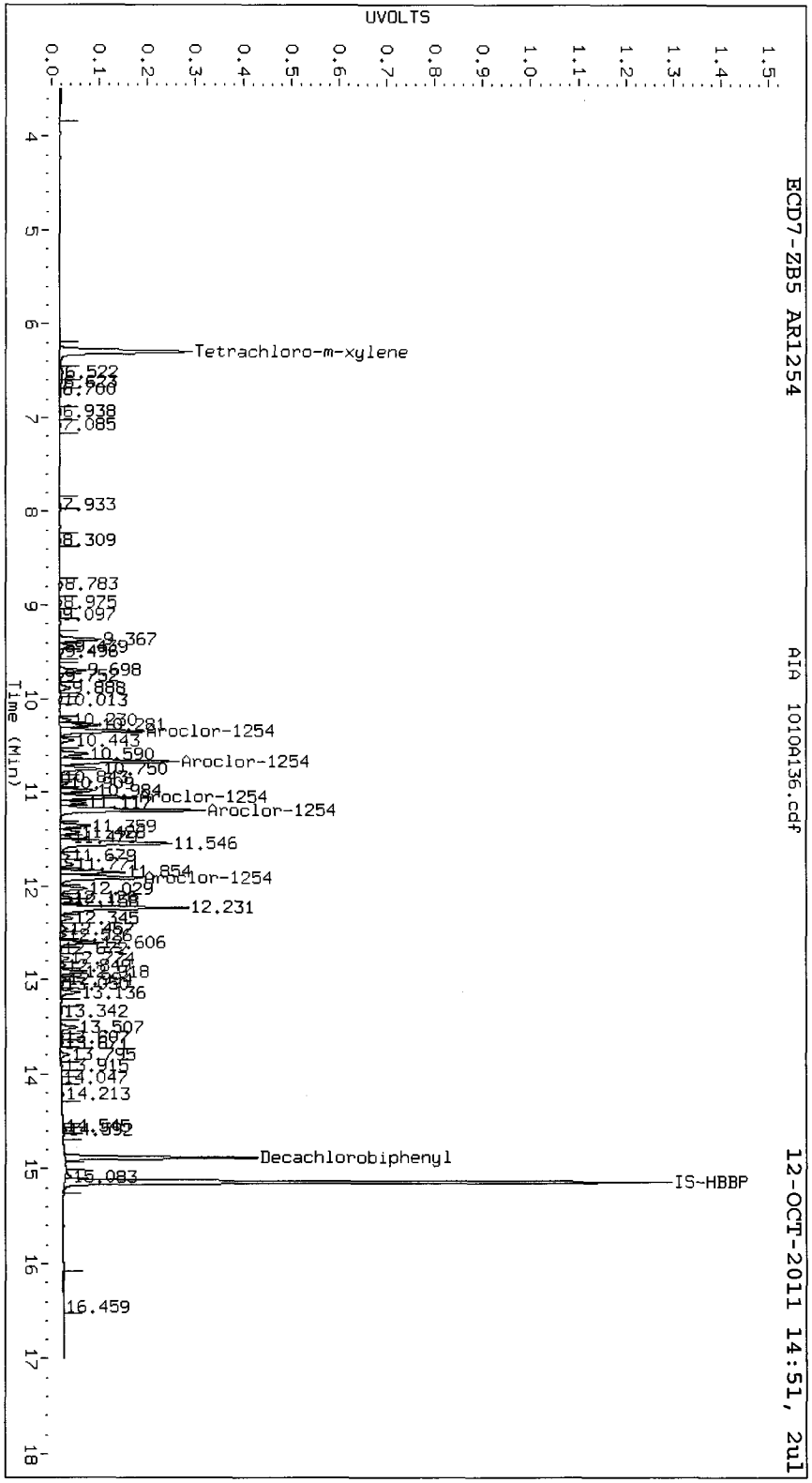
AIA 1010A136.cdf
12-OCT-2011 14:51, 2u
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1254
Decachlorobiphenyl
IS-HBBP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12-OCT-2011 14:51, 2ul
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Aroclor-1254
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1010-1.b/1010A137.d
Data file 2: 20110922.B/1010-2.b/1010A137.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660
Client ID:
Injection Date: 12-OCT-2011 15:14
Report Date: 10/12/2011 15:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.297	0.000	1208447	6.431	0.000	1989185	20.7	20.5	1.1	Tetrachloro-m-xylen
14.884	0.000	1179247	15.222	0.000	1557946	23.6	22.1	6.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.8	51.2
Decachlorobiphenyl	58.9	55.3

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	4599163	-9.0
Hexabromobiphenyl	4060201	3711435	-8.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7302598	-6.5
Hexabromobiphenyl	5725568	5400229	-5.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	8.308	0.000	366853	256.1	1	8.567	0.000	983905	251.3
Aroclor-1016	2	8.794	0.000	1262275	255.0	2	9.296	0.000	2045225	250.0
Aroclor-1016	3	8.969	0.000	488596	251.8	3	9.724	0.000	526315	251.2
Aroclor-1016	4	9.097	0.000	338435	246.0	4	9.832	0.000	598414	247.0
Total Col1Ave (4 peaks):				252.2		Total Col2Ave (4 peaks):			249.9	RPD = 1
Corrected Ave (3 peaks):				250.9		Corrected Ave (3 peaks):			249.4	RPD = 1
Aroclor-1260	1	11.853	0.000	955144	255.7	1	13.300	0.000	1091237	248.8
Aroclor-1260	2	12.457	0.000	628414	258.0	2	13.538	0.000	2184717	251.4
Aroclor-1260	3	12.773	0.000	638837	263.1	3	14.031	0.000	1484037	261.2
Aroclor-1260	4	13.507	0.000	827832	271.6	4	14.586	0.000	547860	274.9
Aroclor-1260	5	13.607	0.000	322691	271.7	NS	---			----
Total Col1Ave (5 peaks):				264.0		Total Col2Ave (4 peaks):			259.1	RPD = 2
Corrected Ave (4 peaks):				262.1		Corrected Ave (3 peaks):			253.8	RPD = 3

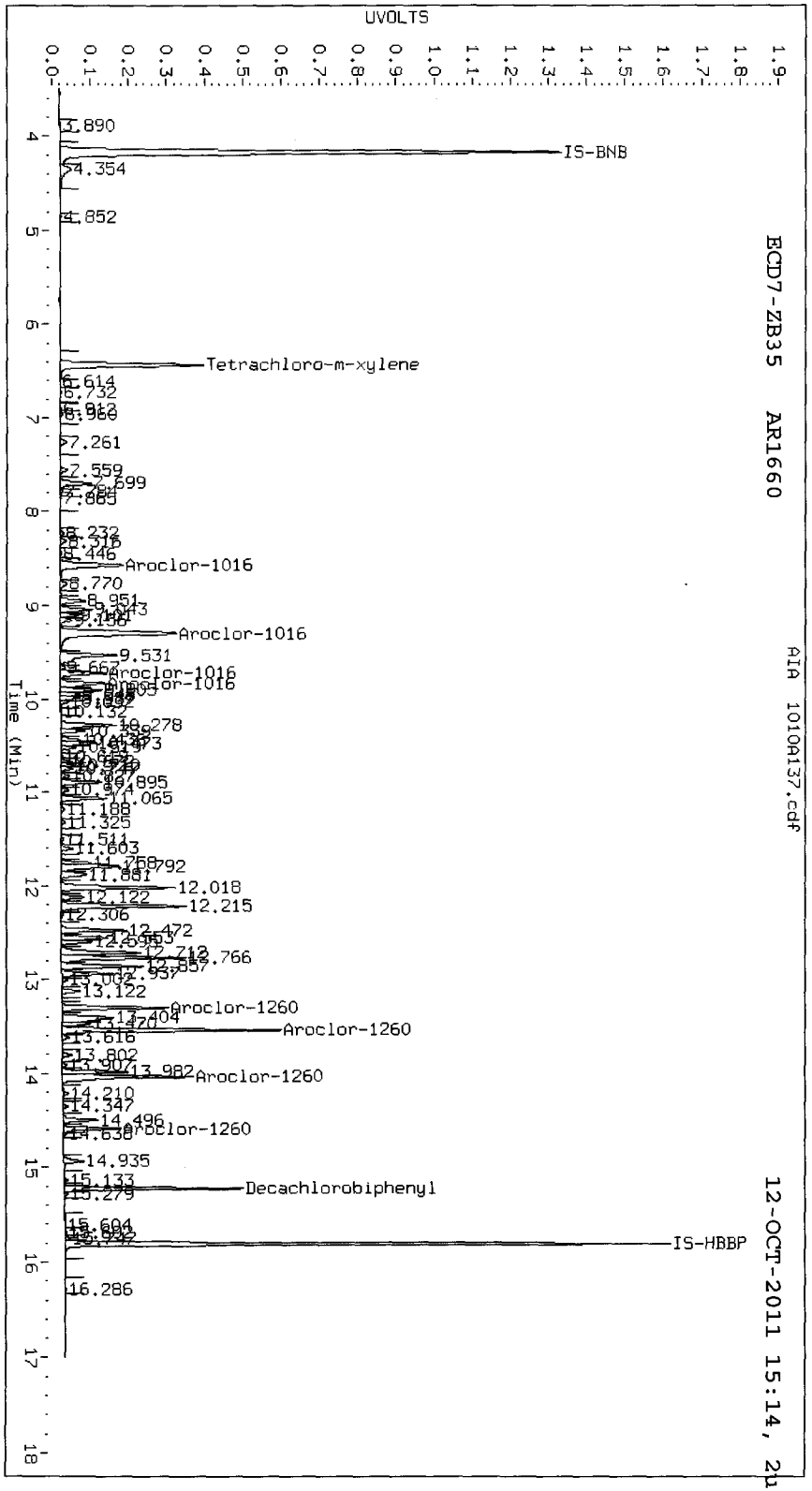
Total PCB Area Col1 (6.397 - 14.784) = 18668984 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.531 - 15.122) = 29224219 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

LB
10.12.11

PCB-Form 10 Mod.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Time (Min)
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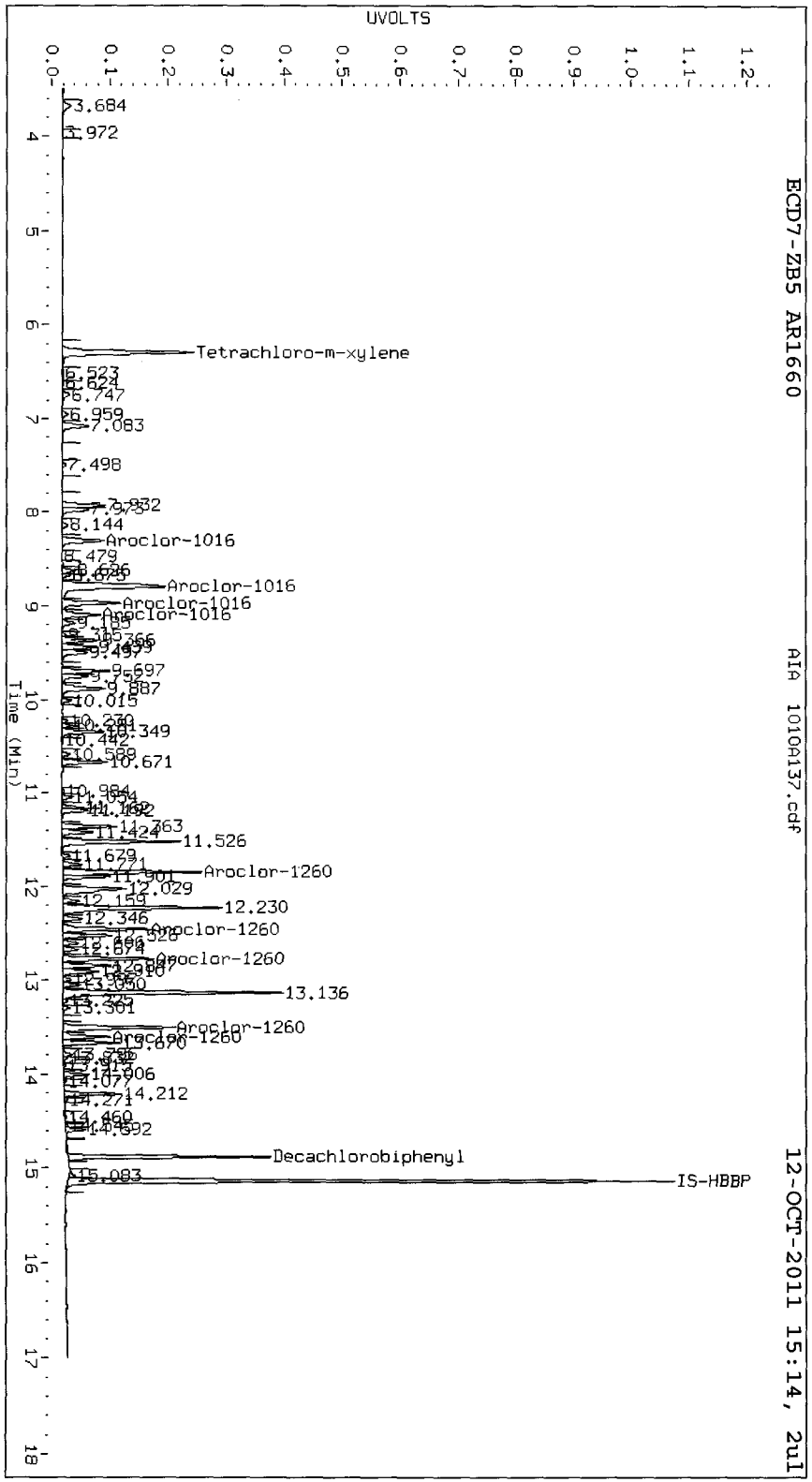
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP

TR97:002201

General Chemistry Raw Data
Analyst Notes and Raw Data

ARI Job ID: TR07

w
10-17-11

TOTAL SUSPENDED SOLIDS / VOLATILE SUSPENDED SOLIDS (TSS / TVSS) DATE: 10/12/2011

Methods : SM 2540 D-97, 2540 E-97 ANALYST: CDE 12:16

Instrumentation ***Drying Ovens:*** 12 ***Analytical Balance:*** 1123230597

Muffle Furnace: NA

make no entries to shaded cells
they are calculated !!

TSS (mg/l) calculated as:
Final dry wt (mg) = (minimum Dry Wt - Tare Wt)*1000
TSS = [(Final Dry Wt)/ ml Sample] * 1000
if dy wt < 1mg, TSS = <1mg / mL sample * 1000
with "<" flag

Loss on ignition (LOI) = TVSS (mg/L) calculated as:
LOI (mg) = Dry wt(mg) -((min ash wt - tare wt) * 1000)
TVSS (mg/L) = LOI / mL sample * 1000
if LOI <1mg, TVSS = <1mg / mL sample * 1000
with "<" flag

LCS source: *Cellulose, MP Biomedicals Lot# **6399J*** 0.05 grams to 1000 mL = **50** ***mg/L TSS***

SAMPLE ID	DISH #	filtered (mL)	TARE WT (grams)	DRY WT 104C (grams) 1	2	3	4	DryWT (mg)	TSS (mg/L)	ASH WT 550C (grams) 1	2	3	4	LOI (mg)	TVSS (mg/l)
Cal Weight ID			CV-02	CV-02	CV-02	CV-02	CV-02			CV-02	CV-02	CV-02	CV-02		
Date & Time				10/12/11 15:01	10/12/11 16:39										
Cal Wt (g)	10.0000			10.0000	10.0000										
record weights to 4 places				*Cal OK!*	*Cal OK!*										
BLANK		1000	0.1206	0.1205	0.1205	STOP		-0.1	**< 1**						
LCS # 583-6		1000	0.1200	0.1685	0.1685	STOP		48.5	**48.5**	97.0%	% Recovery				
TR07 A1		900	0.1176	0.1276	0.1276	STOP		10.0	**11.1**						
TR07 B1		925	0.1168	0.1267	0.1267	STOP		9.9	**10.7**						
TR08 B11		895	0.1179	0.1825	0.1826	STOP		64.6	**72.2**						
TR08 B12 dup		920	0.1205	0.1826	0.1826	STOP		62.1	**67.5**						
								RPD =	*6.7%*					*RPD =*	*NA*
TR15 A1		1000	0.1178	0.1185	0.1185	STOP		0.7	**< 1**						
TR15 B1		1000	0.1144	0.1276	0.1275	STOP		13.1	**13.1**						
TR15 C1		1000	0.1163	0.1295	0.1295	STOP		13.2	**13.2**						
TR18 A5		300	0.1133	0.1377	0.1375	STOP		24.2	**80.7**						
TR18 A5 dup		300	0.1180	0.1428	0.1427	STOP		24.7	**82.3**						
								RPD =	*2.0%*					*RPD =*	*NA*
TR25 A2		925	0.1193	0.1231	0.1231	STOP		3.8	**4.1**						

TR07 : 002203

Analytical Resources, Incorporated
Analytical Chemists and Consultants

TOTAL SUSPENDED (TSS) / TOTAL VOLATILE SUSPENDED SOLID(TVSS) BENCHSHEET

Analyst:	Date/Time:	Oven #:	Muffle Furnance:	Balance:
	10-12-11 12:16	12	N/A	1123230597

Dry at 104 °C (12-24 hrs) then combust at 550 °C for 30 min. Record Weights to 4 places

TSS (mg/L) calculated as:
Final Dry Weight (mg) = (Min Dry Weight – Tare Weight) * 1000
TSS = (Final Dry Weight) / (mL Sample) * 1000
If dry wt < 1 mg / mL sample * 1000 use "<" flag

Loss on Ignition (LOI) = TVSS (mg / L) is calculated as:
LOI (mg / L) = Dry Weight (mg) – [(Minimum Ash Weight – Tare Weight) * 1000]
TVSS (mg / L) = LOI / mL sample * 1,000
If LOI < 1 mg, TVSS = < 1 mg / mL sample * 1000 use "<" flag

LCS (Cellulose from MP Biochemicals) Lott #	6399J	0.0500 Gram to 1000 mL = **50 mg / L TSS**								
Cal Weight ID	CV-02	CV-02	CV-02	CV-02	CV-02			CV-02	CV-02	
Date & Time:			10-12-11 15:01	10-12-11 16:39						
Cal Weight (10.0000g):			10.0000	10.0000						

Sample ID	Dish #	Filtered mL	Tare	Dry Weight 104°C (grams) 1	2	3	Dry Wt mg	TSS	Ash Weight 550°C 1	2	LOI - mg	TVSS mg/L
BLANK	P9421	1000	0.1206	0.1205	0.1205							
LCS# 583-6	2	↓	0.1200	0.1685	0.1685							
TR07 A1	3	900	0.1176	0.1276	0.1276							
↓ B1	4	925	0.1168	0.1267	0.1267							
TR08 B11	5	895	0.1179	0.1825	0.1826							
↓ B12 dup	6	920	0.1205	0.1826	0.1826							
TR15 A1	P3676	1000	0.1178	0.1185	0.1185							
↓ B1	77	↓	0.1144	0.1276	0.1275							
↓ C1	78	↓	0.1163	0.1295	0.1295							
TR18 A5	80	300	0.1133	0.1377	0.1375							
↓ A5 dup	81	↓	0.1180	0.1428	0.1427							
TR25 A3	82	925	0.1193	0.1231	0.1231							

10-12-11 CLOC

TR07 : 00284

Table of Contents: ARI Job TS00

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PCB Raw Data		
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General Chemistry Raw Data		
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Signature

October-17-2011
Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

October 17, 2011

Kimberly Magruder-Carlton
Integral Consulting
411 1st Avenue S, Suite 550
Seattle, WA 98104

RE: A0006 14L Slip 4
ARI Job No.: TS00

Dear Kim;

Please find enclosed the original Chain-of-Custody (COC) record, sample receipt documentation, and the final data package for samples from the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Susan D. Dunnihoo
Director, Client Services
sue@arilabs.com
206-695-6207

Enclosures

cc: eFile TS00

SD/co

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Documentation

ARI Job ID: TS00

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: TS00	Turn-around Requested: RUSH 24 hr.
ARI Client Company: Integral	Phone: 360.756.9296
Client Contact: Kim Carlton	
Client Project Name: SUP 4 EAA	
Client Project #: A0006 14L	Samplers: J. SUND

Page: 1 of 1

Date: 10/13/11 Ice Present? Y

No. of Coolers: 2 Cooler Temps: 5.9, 5.7

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Tag #	Date	Time	Matrix	No Containers	RBs	TSS							Notes/Comments
SW0012	1087-1092	10/13/11	1040	W	6	X	X							
SW0013	1093-1095	↓	1045	↓	3	X	X							
SW0014	1096-1098	↓	1105	↓	3	X	X							
RB0002	1099-1100	↓	1205	↓	2	X								
SW0015	1101-1103	↓	1240	↓	3									HOLD
SW0016	1104-1106	↓	1255	↓	3									HOLD

Comments/Special Instructions
Please reference work order #
A0006-14L-ARI-02

Relinquished by (Signature)	Received by (Signature)	Relinquished by (Signature)	Received by (Signature)
Printed Name: Jane Sund	Printed Name: Jennifer Millsap	Printed Name:	Printed Name:
Company: Integral	Company: ARI	Company:	Company:
Date & Time: 10/13/11 1415	Date & Time: 10/13/11 1415	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Integral

COC No(s) _____ (NA)

Assigned ARI Job No TS00

Project Name: Slip 4 EAA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Tracking No. _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6 0 °C for chemistry) 5.9 5.7 ___ ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID# 90877952

Cooler Accepted by JM Date 10/13/11 Time 1415

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used? Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	(NO)
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)	_____	

Was Sample Split by ARI: (NA) YES Date/Time _____ Equipment _____ Split by _____

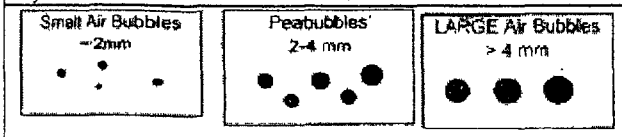
Samples Logged by JM Date 10/13/11 Time 1437

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By _____ Date _____



Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: TS00

Case Narrative

Client: Integral Consulting
Project: A0006 14L Slip 4
ARI Job No.: TS00

Sample receipt

Six water samples were received on October 13, 2011. The cooler temperatures were 5.7 and 5.9°C as measured by IR thermometer following ARI SOP. Select samples were archived upon receipt. Please see the enclosed Cooler Receipt Form for details of sample receipt.

Aroclor PCBs by EPA 8082

The samples and associated laboratory QC were extracted and analyzed within recommended holding times.

Initial and continuing calibrations met requirements. Internal standards were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS percent recoveries were within control limits.

The matrix spike and matrix spike duplicate percent recoveries were within advisory control limits.

Conventional Analyses (TSS)

The samples were prepared and analyzed within the required holding times.

The method blank was clean at the reporting limit. The LCS recovery was within control limits.

A separate sample volume was received for the replicate and was analyzed as a whole sample without compositing with the parent sample. The replicate RPD for TSS was outside the 20% control limit for sample **SW0012**. All other quality control parameters were met. No corrective action was taken.

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: TS00
Client: Integral Consulting, Inc.
Project Event: A0006 14L
Project Name: Slip 4 EAA

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	SW0012	TS00A	11-23456	Water	10/13/11 10:40	10/13/11 14:15
2.	SW0013	TS00B	11-23457	Water	10/13/11 10:45	10/13/11 14:15
3.	SW0014	TS00C	11-23458	Water	10/13/11 11:05	10/13/11 14:15
4.	RB0002	TS00D	11-23459	Water	10/13/11 12:05	10/13/11 14:15
5.	SW0015	TS00E	11-23460	Water	10/13/11 12:40	10/13/11 14:15
6.	SW0016	TS00F	11-23461	Water	10/13/11 12:55	10/13/11 14:15

Printed 10/13/11

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Data Reporting Qualifiers

Effective 2/14/2011

Inorganic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Duplicate RPD is not within established control limits

B — Reported value is less than the CRDL but ≥ the Reporting Limit

N — Matrix Spike recovery not within established control limits

NA — Not Applicable, analyte not spiked

H — The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L — Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Flagged value is not within established control limits

B — Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J — Estimated concentration when the value is less than ARI's established reporting limits

D — The spiked compound was not detected due to sample extract dilution

E — Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q — Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

TS00 : 00008

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**

Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Quality Control Criteria for Analysis of Aqueous and Tissue Samples for Aroclors (Polychlorinated Biphenyls – PCB) EPA Method 8082B

ARI Analysis Code	Target RL	Extraction	LOQ[1]	Analyte	LOD[2]	Spike Recovery Control Limits[9]			RPD[4]
						LCS	MB/LCS Surrogate	Sample Surrogate	
Aqueous Samples (Separatory Funnel Extraction – EPA Method 3510C)									
PCBWSI 01-3018F	1 µg/L	500 to 5 mL	1 µg/L	Aroclor 1016	0.130	45 – 121	--	--	≤ 40
				Aroclor 1260	0.147	54 – 129	--	--	
				TCMX	--	--	40 – 118	38 – 118	
				DCBP	--	--	41 – 111	29 – 118	
PCBWS M 02-3021F	0.1 µg/L	500 to 1 mL	0.1µg/L	Aroclor 1016	0.0175	36 – **100**	--	--	≤ 40
				Aroclor 1260	0.0174	41 – 113	--	--	
				TCMX	--	--	29 – **100**	25 – **100**	
				DCBP	--	--	39 – 116	**10** – 128	
PCBWSL 03-3022F	0.01 µg/L	1 L to 0.5 mL[5]	0.01 µg/L	Aroclor 1016	0.00248	44 – 117	--	--	≤ 40
				Aroclor 1260	0.00276	46 – 131	--	--	
				TCMX	--	--	31 – **100**	21 – **100**	
				DCBP	--	--	32 – 108	19 – 111	
TCLP Extract (Separatory Funnel Extraction – EPA Method 3510C)									
PCBWST 04-3023F	10 µg/L	100 to 10 mL	10 µg/L	Aroclor 1016	0.132[8]	30 – 160	--	--	≤ 40
				Aroclor 1260	0.165[8]	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	
Tissue Samples (Tissuemizer/Blender Extraction – EPA Method 3550C – Modified)									
PCBUZI 10-3027F	20 µg/L	10 g to 2 mL	20 µg/kg Wet	Aroclor 1016	2.92[6]	30 – 160	--	--	≤ 40
				Aroclor 1260	3.91[6]	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	
PCBUZL 11-3030F	4 µg/L	25 g to 1 mL	4 µg/kg Wet	Aroclor 1016	2.37[7]	30 – 160	--	--	≤ 40
				Aroclor 1260	1.06[7]	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	

(1) Limit of Quantitation as defined in ARI SOP 1018S. The spike concentration used to determine the LOD.
(2) Limit of Detection as defined in ARI SOP 1018S
(3) Highlighted control limits (**bold font**) are adjusted from the calculated values to reflect that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(4) Acceptance criteria for the relative percent difference (RPD) between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then

$$RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$$

(5) Low level extraction solvent is Hexane instead of Methylene Chloride.
(6) LOD study SM10
(7) LOD Study QZ25
(8) Based on PCBWSI until sufficient TCLP data is collected to calculate an LOD.
(9) 30 – 160 are default limits used when there is insufficient data to calculate historic control limits

TS00:00011

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Conventional Wet Chemistry

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 125	75 - 125
Chloride	75 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

TS00:00012

PCB Analysis
Report and Summary QC Forms

ARI Job ID: TS00

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: SW0012
SAMPLE

Lab Sample ID: TS00A
LIMS ID: 11-23456
Matrix: Water
Data Release Authorized:
Reported: 10/17/11

QC Report No: TS00-Integral Consulting, Inc.
Project: Slip 4 EAA
A0006 14L
Date Sampled: 10/13/11
Date Received: 10/13/11

Date Extracted: 10/13/11
Date Analyzed: 10/14/11 14:27
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1330 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.0080	< 0.0080 U
53469-21-9	Aroclor 1242	0.0080	< 0.0080 U
12672-29-6	Aroclor 1248	0.0080	< 0.0080 U
11097-69-1	Aroclor 1254	0.0080	< 0.0080 U
11096-82-5	Aroclor 1260	0.0080	< 0.0080 U
11104-28-2	Aroclor 1221	0.0080	< 0.0080 U
11141-16-5	Aroclor 1232	0.011	< 0.011 Y

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	85.0%
Tetrachlorometaxylene	69.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: SW0013
SAMPLE

Lab Sample ID: TS00B
LIMS ID: 11-23457
Matrix: Water
Data Release Authorized:
Reported: 10/17/11

QC Report No: TS00-Integral Consulting, Inc.
Project: Slip 4 EAA
A0006 14L
Date Sampled: 10/13/11
Date Received: 10/13/11

Date Extracted: 10/13/11
Date Analyzed: 10/14/11 15:36
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.015	< 0.015 Y

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	79.8%
Tetrachlorometaxylene	57.5%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: SW0014
SAMPLE

Lab Sample ID: TS00C
LIMS ID: 11-23458
Matrix: Water
Data Release Authorized:
Reported: 10/17/11

QC Report No: TS00-Integral Consulting, Inc.
Project: Slip 4 EAA
A0006 14L
Date Sampled: 10/13/11
Date Received: 10/13/11

Date Extracted: 10/13/11
Date Analyzed: 10/14/11 15:59
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	89.5%
Tetrachlorometaxylene	64.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: RB0002
SAMPLE

Lab Sample ID: TS00D
LIMS ID: 11-23459
Matrix: Water
Data Release Authorized:
Reported: 10/17/11

QC Report No: TS00-Integral Consulting, Inc.
Project: Slip 4 EAA
A0006 14L
Date Sampled: 10/13/11
Date Received: 10/13/11

Date Extracted: 10/13/11
Date Analyzed: 10/14/11 16:22
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	87.5%
Tetrachlorometaxylene	62.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: TS00-Integral Consulting, Inc.
Project: Slip 4 EAA
A0006 14L

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-101311	83.5%	32-108	58.2%	31-100	0
LCS-101311	84.5%	32-108	63.5%	31-100	0
SW0012	85.0%	19-111	69.0%	21-100	0
SW0012 MS	72.5%	19-111	52.0%	21-100	0
SW0012 MSD	87.0%	19-111	63.8%	21-100	0
SW0013	79.8%	19-111	57.5%	21-100	0
SW0014	89.5%	19-111	64.0%	21-100	0
RB0002	87.5%	19-111	62.8%	21-100	0

Prep Method: SW3510C
Log Number Range: 11-23456 to 11-23459

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: SW0012
MS/MSD

Lab Sample ID: TS00A
LIMS ID: 11-23456
Matrix: Water
Data Release Authorized:
Reported: 10/17/11

QC Report No: TS00-Integral Consulting, Inc.
Project: Slip 4 EAA
A0006 14L
Date Sampled: 10/13/11
Date Received: 10/13/11

Date Extracted MS/MSD: 10/13/11

Date Analyzed MS: 10/14/11 14:50
MSD: 10/14/11 15:13
Instrument/Analyst MS: ECD7/JGR
MSD: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount MS: 1330 mL
MSD: 1330 mL
Final Extract Volume MS: 0.5 mL
MSD: 0.5 mL
Dilution Factor MS: 1.00
MSD: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Aroclor 1016	< 0.008	0.036	0.038	94.7%	0.035	0.038	92.1%	2.8%
Aroclor 1260	< 0.008	0.035	0.038	92.1%	0.035	0.038	92.1%	0.0%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: SW0012
MATRIX SPIKE

Lab Sample ID: TS00A
LIMS ID: 11-23456
Matrix: Water
Data Release Authorized:
Reported: 10/17/11

QC Report No: TS00-Integral Consulting, Inc.
Project: Slip 4 EAA
A0006 14L
Date Sampled: 10/13/11
Date Received: 10/13/11

Date Extracted: 10/13/11
Date Analyzed: 10/14/11 14:50
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1330 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.0080	---
53469-21-9	Aroclor 1242	0.0080	< 0.0080 U
12672-29-6	Aroclor 1248	0.0080	< 0.0080 U
11097-69-1	Aroclor 1254	0.0080	< 0.0080 U
11096-82-5	Aroclor 1260	0.0080	---
11104-28-2	Aroclor 1221	0.0080	< 0.0080 U
11141-16-5	Aroclor 1232	0.0080	< 0.0080 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	72.5%
Tetrachlorometaxylene	52.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: SW0012
MATRIX SPIKE DUP

Lab Sample ID: TS00A
LIMS ID: 11-23456
Matrix: Water
Data Release Authorized:
Reported: 10/17/11

QC Report No: TS00-Integral Consulting, Inc.
Project: Slip 4 EAA
A0006 14L
Date Sampled: 10/13/11
Date Received: 10/13/11

Date Extracted: 10/13/11
Date Analyzed: 10/14/11 15:13
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1330 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.0080	---
53469-21-9	Aroclor 1242	0.0080	< 0.0080 U
12672-29-6	Aroclor 1248	0.0080	< 0.0080 U
11097-69-1	Aroclor 1254	0.0080	< 0.0080 U
11096-82-5	Aroclor 1260	0.0080	---
11104-28-2	Aroclor 1221	0.0080	< 0.0080 U
11141-16-5	Aroclor 1232	0.0080	< 0.0080 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	87.0%
Tetrachlorometaxylene	63.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: LCS-101311
LAB CONTROL

Lab Sample ID: LCS-101311
LIMS ID: 11-23456
Matrix: Water
Data Release Authorized:
Reported: 10/17/11

QC Report No: TS00-Integral Consulting, Inc.
Project: Slip 4 EAA
A0006 14L
Date Sampled: NA
Date Received: NA

Date Extracted: 10/13/11
Date Analyzed: 10/14/11 14:04
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

Analyte	Lab Control	Spike Added	Recovery
Aroclor 1016	0.042	0.050	84.0%
Aroclor 1260	0.048	0.050	96.0%

PCB Surrogate Recovery

Decachlorobiphenyl	84.5%
Tetrachlorometaxylene	63.5%

Results reported in µg/L

FORM III

PCB METHOD BLANK SUMMARY

BLANK NO.

TS00MBW1

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL

ARI Job No.: TS00

Project: SLIP 4 EAA

Lab Sample ID: TS00MBW1

Lab File ID: 1014A003

Date Extracted: 10/13/11

Matrix: LIQUID

Date Analyzed: 10/14/11

Instrument ID: ECD7

Time Analyzed: 1341

GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	TS00LCSW1	TS00LCSW1	10/14/11
02	SW0012	TS00A	10/14/11
03	SW0012 MS	TS00AMS	10/14/11
04	SW0012 MSD	TS00AMSD	10/14/11
05	SW0013	TS00B	10/14/11
06	SW0014	TS00C	10/14/11
07	RB0002	TS00D	10/14/11

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: MB-101311
METHOD BLANK

Lab Sample ID: MB-101311
LIMS ID: 11-23456
Matrix: Water
Data Release Authorized:
Reported: 10/17/11

QC Report No: TS00-Integral Consulting, Inc.
Project: Slip 4 EAA
A0006 14L
Date Sampled: NA
Date Received: NA

Date Extracted: 10/13/11
Date Analyzed: 10/14/11 13:41
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	83.5%
Tetrachlorometaxylene	58.2%

FORM I

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING

ARI Job No.: TS00 Project: SLIP 4 EAA

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 09/22/11

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 6.20- 6.40	0.9291	0.9471	1.0142	1.0592	1.0632	1.0735	1.0144	6.2
DCB 14.78-14.98	0.9392	1.0612	1.1209	1.1161	1.1156	1.1210	1.0790	6.7

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.21- 8.41	0.0261	0.0251	0.0256	0.0249	0.0241	0.0238	0.0249	3.5
2	8.69- 8.89	0.0881	0.0866	0.0889	0.0870	0.0840	0.0820	0.0861	3.0
3	8.87- 9.07	0.0357	0.0347	0.0349	0.0337	0.0321	0.0314	0.0338	5.1
4	9.00- 9.20	0.0270	0.0249	0.0242	0.0232	0.0223	0.0220	0.0239	7.8

AROCLOR AVERAGE %RSD = 4.8

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	11.75-11.95	0.0830	0.0805	0.0821	0.0812	0.0788	0.0774	0.0805	2.6
2	12.36-12.56	0.0532	0.0537	0.0536	0.0525	0.0518	0.0502	0.0525	2.6
3	12.67-12.87	0.0522	0.0518	0.0534	0.0528	0.0523	0.0516	0.0523	1.3
4	13.41-13.61	0.0646	0.0640	0.0669	0.0662	0.0665	0.0660	0.0657	1.7
5	13.51-13.71	0.0249	0.0254	0.0265	0.0258	0.0257	0.0253	0.0256	2.1

AROCLOR AVERAGE %RSD = 2.1

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC — Client: INTEGRAL CONSULTING

ARI Job No.: TS00 — Project: SLIP 4 EAA

GC Column: ZB35 — Instrument ID: ECD7

Calibration Date: 09/22/11

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 6.33- 6.53	1.0815	1.0384	1.0697	1.0701	1.0606	1.0579	1.0631	1.4
DCB 15.12-15.32	1.1505	1.0661	1.0631	1.0023	0.9879	0.9900	1.0433	6.1

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.46- 8.66	0.0499	0.0465	0.0451	0.0410	0.0384	0.0364	0.0429	12.1
2	9.19- 9.39	0.1038	0.0937	0.0921	0.0864	0.0824	0.0794	0.0896	9.9
3	9.62- 9.82	0.0265	0.0241	0.0239	0.0220	0.0210	0.0202	0.0230	10.2
4	9.73- 9.93	0.0316	0.0288	0.0280	0.0250	0.0236	0.0223	0.0265	13.1

AROCLOR AVERAGE %RSD = 11.3

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	13.20-13.40	0.0771	0.0696	0.0673	0.0609	0.0587	0.0563	0.0650	12.0
2	13.44-13.64	0.1459	0.1333	0.1320	0.1222	0.1206	0.1183	0.1287	8.1
3	13.93-14.13	0.0982	0.0888	0.0869	0.0789	0.0773	0.0749	0.0842	10.5
4	14.48-14.68	0.0335	0.0310	0.0306	0.0288	0.0274	0.0259	0.0295	9.3

AROCLOR AVERAGE %RSD = 10.0

FORM VI PCB-1

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING

ARI Job No.: TS00 Project: SLIP 4 EAA

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 09/22/11

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	6.747	6.65- 6.85	0.01045
2	6.958	6.86- 7.06	0.00788
3	7.081	6.98- 7.18	0.02589

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	8.305	8.21- 8.41	0.00991
2	8.792	8.69- 8.89	0.03394
3	8.965	8.87- 9.07	0.01338
4	10.280	10.18-10.38	0.01190

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.309	8.21- 8.41	0.01949
2	8.796	8.70- 8.90	0.06750
3	8.969	8.87- 9.07	0.02619
4	10.586	10.49-10.69	0.02398

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.365	9.26- 9.46	0.02684
2	9.696	9.60- 9.80	0.03264
3	10.280	10.18-10.38	0.03891
4	10.585	10.49-10.69	0.03631

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING

ARI Job No.: TS00 Project: SLIP 4 EAA

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 09/22/11

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.351	10.25-10.45	0.04293
2	10.673	10.57-10.77	0.05925
3	11.057	10.96-11.16	0.03705
4	11.196	11.10-11.30	0.07151
5	11.915	11.81-12.01	0.04756

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.458	12.36-12.56	0.09107
2	12.774	12.67-12.87	0.07353
3	13.136	13.04-13.24	0.17284
4	13.607	13.51-13.71	0.06887
5	13.671	13.57-13.77	0.06987

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.607	13.51-13.71	0.18390
2	13.669	13.57-13.77	0.16825
3	13.992	13.89-14.09	0.14090
4	14.593	14.49-14.69	0.41953

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING

ARI Job No.: TS00 Project: SLIP 4 EAA

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 09/22/11

Aroclor-1221

Peak	RT	RT WIN	Cal Factor
1	7.259	7.16- 7.36	0.01241
2	7.562	7.46- 7.66	0.00763
3	7.700	7.60- 7.80	0.02336
4	7.787	7.69- 7.89	0.00380

Aroclor-1232

Peak	RT	RT WIN	Cal Factor
1	8.569	8.47- 8.67	0.01866
2	9.298	9.20- 9.40	0.03569
3	9.726	9.63- 9.83	0.00952
4	11.192	11.09-11.29	0.01583

Aroclor-1242

Peak	RT	RT WIN	Cal Factor
1	8.566	8.47- 8.67	0.03240
2	9.297	9.20- 9.40	0.06783
3	9.723	9.62- 9.82	0.01784
4	11.188	11.09-11.29	0.02840

Aroclor-1248

Peak	RT	RT WIN	Cal Factor
1	9.830	9.73- 9.93	0.03189
2	10.276	10.18-10.38	0.03516
3	10.825	10.73-10.93	0.03517
4	11.187	11.09-11.29	0.04518

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING

ARI Job No.: TS00 Project: SLIP 4 EAA

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 09/22/11

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.887	10.79-10.99	0.03471
2	11.058	10.96-11.16	0.04482
3	11.596	11.50-11.70	0.03531
4	11.749	11.65-11.85	0.07564
5	12.533	12.43-12.63	0.04571

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.860	12.76-12.96	0.08276
2	13.303	13.20-13.40	0.08178
3	13.540	13.44-13.64	0.15964
4	13.983	13.88-14.08	0.06989
5	14.035	13.93-14.13	0.10430

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.984	13.88-14.08	0.16123
2	14.038	13.94-14.14	0.15160
3	14.351	14.25-14.45	0.12125
4	14.939	14.84-15.04	0.36590

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING

ARI Job No.: TS00 Project: SLIP 4 EAA

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 09/22/11

Date Analyzed :10/14/11

Lab Standard ID: AR1254 Time Analyzed :1256

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.35	10.25	10.45	248.2	250.0	-0.7
Aroclor-1254-2	10.67	10.57	10.77	249.0	250.0	-0.4
Aroclor-1254-3	11.06	10.96	11.16	252.4	250.0	1.0
Aroclor-1254-4	11.20	11.10	11.30	249.4	250.0	-0.2
Aroclor-1254-5	11.91	11.81	12.01	248.8	250.0	-0.5

AVERAGE %D = 0.6

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL CONSULTING

ARI Job No.: TS00

Project: SLIP 4 EAA

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 09/22/11

Date Analyzed :10/14/11

Lab Standard ID: AR1254

Time Analyzed :1256

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.89	10.79	10.99	249.1	250.0	-0.4
Aroclor-1254-2	11.06	10.96	11.16	250.3	250.0	0.1
Aroclor-1254-3	11.60	11.50	11.70	248.9	250.0	-0.4
Aroclor-1254-4	11.75	11.65	11.85	250.3	250.0	0.1
Aroclor-1254-5	12.53	12.43	12.63	245.8	250.0	-1.7

AVERAGE %D = 0.5

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING

ARI Job No.: TS00 Project: SLIP 4 EAA

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 09/22/11

Date Analyzed :10/14/11

Lab Standard ID: AR1660 Time Analyzed :1319

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.30	8.21	8.41	252.5	250.0	1.0
Aroclor-1016-2	8.79	8.69	8.89	250.7	250.0	0.3
Aroclor-1016-3	8.96	8.87	9.07	247.1	250.0	-1.1
Aroclor-1016-4	9.09	9.00	9.20	240.8	250.0	-3.7

AVERAGE %D = 1.5

Date Analyzed :10/14/11

Lab Standard ID: AR1660 Time Analyzed :1319

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.85	11.75	11.95	269.8	250.0	7.9
Aroclor-1260-2	12.46	12.36	12.56	268.6	250.0	7.4
Aroclor-1260-3	12.77	12.67	12.87	274.4	250.0	9.7
Aroclor-1260-4	13.51	13.41	13.61	278.1	250.0	11.2
Aroclor-1260-5	13.61	13.51	13.71	274.6	250.0	9.8

AVERAGE %D = 9.2

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING

ARI Job No.: TS00 Project: SLIP 4 EAA

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 09/22/11

Date Analyzed :10/14/11

Lab Standard ID: AR1660 Time Analyzed :1319

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.56	8.46	8.66	250.5	250.0	0.2
Aroclor-1016-2	9.29	9.19	9.39	248.7	250.0	-0.5
Aroclor-1016-3	9.72	9.62	9.82	250.3	250.0	0.1
Aroclor-1016-4	9.83	9.73	9.93	244.7	250.0	-2.1

AVERAGE %D = 0.7

Date Analyzed :10/14/11

Lab Standard ID: AR1660 Time Analyzed :1319

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	13.30	13.20	13.40	262.9	250.0	5.2
Aroclor-1260-2	13.53	13.44	13.64	266.9	250.0	6.8
Aroclor-1260-3	14.03	13.93	14.13	270.7	250.0	8.3
Aroclor-1260-4	14.58	14.48	14.68	292.9	250.0	17.2

AVERAGE %D = 9.4

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL CONSULTING

ARI Job No.: TS00

Project: SLIP 4 EAA

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 09/22/11

Date Analyzed :10/14/11

Lab Standard ID: AR1242

Time Analyzed :1645

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	8.31	8.21	8.41	249.9	250.0	-0.0
Aroclor-1242-2	8.80	8.70	8.90	244.9	250.0	-2.0
Aroclor-1242-3	8.97	8.87	9.07	245.5	250.0	-1.8
Aroclor-1242-4	10.59	10.49	10.69	247.1	250.0	-1.2

AVERAGE %D = 1.2

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: INTEGRAL CONSULTING

ARI Job No.: TS00

Project: SLIP 4 EAA

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 09/22/11

Date Analyzed :10/14/11

Lab Standard ID: AR1242

Time Analyzed :1645

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	8.57	8.47	8.67	248.8	250.0	-0.5
Aroclor-1242-2	9.30	9.20	9.40	249.2	250.0	-0.3
Aroclor-1242-3	9.72	9.62	9.82	248.0	250.0	-0.8
Aroclor-1242-4	11.19	11.09	11.29	247.8	250.0	-0.9

AVERAGE %D = 0.6

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING

ARI Job No.: TS00 Project: SLIP 4 EAA

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 09/22/11

Date Analyzed :10/14/11

Lab Standard ID: AR1660 Time Analyzed :1708

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.31	8.21	8.41	253.8	250.0	1.5
Aroclor-1016-2	8.79	8.69	8.89	251.2	250.0	0.5
Aroclor-1016-3	8.97	8.87	9.07	248.4	250.0	-0.6
Aroclor-1016-4	9.10	9.00	9.20	241.2	250.0	-3.5

AVERAGE %D = 1.5

Date Analyzed :10/14/11

Lab Standard ID: AR1660 Time Analyzed :1708

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.85	11.75	11.95	260.7	250.0	4.3
Aroclor-1260-2	12.46	12.36	12.56	261.2	250.0	4.5
Aroclor-1260-3	12.77	12.67	12.87	267.1	250.0	6.8
Aroclor-1260-4	13.51	13.41	13.61	273.4	250.0	9.4
Aroclor-1260-5	13.61	13.51	13.71	269.9	250.0	8.0

AVERAGE %D = 6.6

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING

ARI Job No.: TS00 Project: SLIP 4 EAA

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 09/22/11

Date Analyzed :10/14/11

Lab Standard ID: AR1660 Time Analyzed :1708

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.56	8.46	8.66	249.8	250.0	-0.1
Aroclor-1016-2	9.29	9.19	9.39	248.7	250.0	-0.5
Aroclor-1016-3	9.72	9.62	9.82	249.7	250.0	-0.1
Aroclor-1016-4	9.83	9.73	9.93	244.6	250.0	-2.2

AVERAGE %D = 0.7

Date Analyzed :10/14/11

Lab Standard ID: AR1660 Time Analyzed :1708

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	13.30	13.20	13.40	258.4	250.0	3.4
Aroclor-1260-2	13.54	13.44	13.64	261.7	250.0	4.7
Aroclor-1260-3	14.03	13.93	14.13	267.8	250.0	7.1
Aroclor-1260-4	14.58	14.48	14.68	279.4	250.0	11.8

AVERAGE %D = 6.8

FORM VII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING

ARI Job No.: TS00 Project: SLIP 4 EAA

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 09/22/11

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	IS1 AREA	RT	IS2 AREA	RT
ICAL MIDPT	5056450	3.314	4060201	15.139
UPPER LIMIT	10112900	3.414	8120402	15.239
LOWER LIMIT	2528225	3.214	2030100	15.039

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	09/22/11	1546	5180147	3.311	4174393	15.139
02		0.25 PPM AR1	09/22/11	1609	5056450	3.314	4060201	15.139
03		0.02 PPM AR1	09/22/11	1632	5210231	3.313	4151038	15.140
04		0.05 PPM AR1	09/22/11	1655	5248267	3.311	4179904	15.140
05		1 PPM AR1660	09/22/11	1718	5090348	3.312	4128583	15.139
06		0.1 PPM AR16	09/22/11	1740	5290354	3.312	4278566	15.139
07		0.5 PPM AR16	09/22/11	1803	5232204	3.312	4222160	15.139
08		AR1242	09/22/11	1826	5272812	3.312	4271852	15.140
09		AR1248	09/22/11	1849	5196006	3.313	4268552	15.139
10		AR1254	09/22/11	1912	5247082	3.311	4311500	15.139
11		AR2162	09/22/11	1935	5203932	3.314	4298335	15.139
12		AR3268	09/22/11	1958	5189564	3.312	4306083	15.139
13	ZZZZZ	ZZZZZ	09/22/11	2021	5320462	3.312	4465934	15.139
14	ZZZZZ	ZZZZZ	09/22/11	2044	5224651	3.311	4325340	15.139
15	ZZZZZ	ZZZZZ	09/22/11	2106	5245643	3.311	4342720	15.139
16	ZZZZZ	ZZZZZ	09/22/11	2129	5282355	3.311	4422768	15.139
17	ZZZZZ	ZZZZZ	09/22/11	2152	5287808	3.311	4496425	15.139
18	ZZZZZ	ZZZZZ	09/22/11	2215	5234814	3.313	4410670	15.139
19		AR1254	10/14/11	1256	7566668	3.315	5522650	15.142
20		AR1660	10/14/11	1319	5482132	3.312	4014914	15.139
21	TS00MBW1	TS00MBW1	10/14/11	1341	4933352	3.313	3759985	15.138
22	TS00LCSW1	TS00LCSW1	10/14/11	1404	4905357	3.314	3940125	15.138
23	SW0012	TS00A	10/14/11	1427	4970657	3.315	3785361	15.139
24	SW0012 MS	TS00AMS	10/14/11	1450	5044611	3.317	3950063	15.139
25	SW0012 MSD	TS00AMSD	10/14/11	1513	4907426	3.317	3830554	15.138
26	SW0013	TS00B	10/14/11	1536	4884674	3.318	3773107	15.139
27	SW0014	TS00C	10/14/11	1559	4894902	3.315	3920779	15.138
28	RB0002	TS00D	10/14/11	1622	4995418	3.314	4071153	15.139
29		AR1242	10/14/11	1645	6270847	3.318	4798970	15.139
30		AR1660	10/14/11	1708	5417149	3.315	4174494	15.138
31	ZZZZZ	ZZZZZ	10/14/11	1731	6327124	3.317	4828859	15.138
32	ZZZZZ	ZZZZZ	10/14/11	1754	6564817	3.317	5168631	15.139

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM VIII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: INTEGRAL CONSULTING

ARI Job No.: TS00 Project: SLIP 4 EAA

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 09/22/11

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	IS1 AREA	RT	IS2 AREA	RT
ICAL MIDPT	7809454	4.177	5725568	15.808
UPPER LIMIT	15618908	4.277	11451136	15.908
LOWER LIMIT	3904727	4.077	2862784	15.708

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	09/22/11	1546	7964318	4.175	5907034	15.808
02		0.25 PPM AR1	09/22/11	1609	7809454	4.177	5725568	15.808
03		0.02 PPM AR1	09/22/11	1632	8017473	4.176	5870121	15.809
04		0.05 PPM AR1	09/22/11	1655	8084445	4.174	5920027	15.809
05		1 PPM AR1660	09/22/11	1718	7766048	4.175	5821657	15.809
06		0.1 PPM AR16	09/22/11	1740	8159946	4.175	6031834	15.809
07		0.5 PPM AR16	09/22/11	1803	7989514	4.175	5928067	15.808
08		AR1242	09/22/11	1826	8109687	4.175	5984583	15.809
09		AR1248	09/22/11	1849	7992397	4.175	5991342	15.808
10		AR1254	09/22/11	1912	8088675	4.174	6030479	15.808
11		AR2162	09/22/11	1935	7907003	4.177	6052713	15.808
12		AR3268	09/22/11	1958	8027898	4.175	6050077	15.808
13	ZZZZZ	ZZZZZ	09/22/11	2021	8271463	4.175	6256883	15.808
14	ZZZZZ	ZZZZZ	09/22/11	2044	8102476	4.175	6096962	15.808
15	ZZZZZ	ZZZZZ	09/22/11	2106	8085103	4.174	6150436	15.809
16	ZZZZZ	ZZZZZ	09/22/11	2129	8192674	4.175	6240807	15.808
17	ZZZZZ	ZZZZZ	09/22/11	2152	8146644	4.175	6294647	15.807
18	ZZZZZ	ZZZZZ	09/22/11	2215	8073184	4.175	6216232	15.808
19		AR1254	10/14/11	1256	11790182	4.151	7851003	15.803
20		AR1660	10/14/11	1319	8599061	4.166	5800545	15.803
21	TS00MBW1	TS00MBW1	10/14/11	1341	7814920	4.169	5389194	15.804
22	TS00LCSW1	TS00LCSW1	10/14/11	1404	7864902	4.170	5628680	15.804
23	SW0012	TS00A	10/14/11	1427	7828912	4.172	5415518	15.804
24	SW0012 MS	TS00AMS	10/14/11	1450	8133082	4.173	5602341	15.805
25	SW0012 MSD	TS00AMSD	10/14/11	1513	7832726	4.173	5484567	15.803
26	SW0013	TS00B	10/14/11	1536	8035029	4.174	5384010	15.805
27	SW0014	TS00C	10/14/11	1559	7940791	4.172	5531825	15.804
28	RB0002	TS00D	10/14/11	1622	8162684	4.171	5688725	15.804
29		AR1242	10/14/11	1645	10135110	4.175	6799534	15.805
30		AR1660	10/14/11	1708	8644202	4.172	6089371	15.805
31	ZZZZZ	ZZZZZ	10/14/11	1731	10168746	4.174	6950922	15.804
32	ZZZZZ	ZZZZZ	10/14/11	1754	10436644	4.173	7374292	15.804

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM VIII PCB

General Chemistry Analysis
Report and Summary QC Forms

ARI Job ID: TS00

SAMPLE RESULTS-CONVENTIONALS
TS00-Integral Consulting, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 10/14/11

Project: Slip 4 EAA
Event: A0006 14L
Date Sampled: 10/13/11
Date Received: 10/13/11

Client ID: SW0012
ARI ID: 11-23456 TS00A

Analyte	Date Batch	Method	Units	RL	Sample
Total Suspended Solids	10/14/11 101411#1	EPA 160.2	mg/L	1.2	7.2

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
TS00-Integral Consulting, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 10/14/11

Project: Slip 4 EAA
Event: A0006 14L
Date Sampled: 10/13/11
Date Received: 10/13/11

Client ID: SW0013
ARI ID: 11-23457 TS00B

Analyte	Date Batch	Method	Units	RL	Sample
Total Suspended Solids	10/14/11 101411#1	EPA 160.2	mg/L	1.2	7.9

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
TS00-Integral Consulting, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 10/14/11

Project: Slip 4 EAA
Event: A0006 14L
Date Sampled: 10/13/11
Date Received: 10/13/11

Client ID: SW0014
ARI ID: 11-23458 TS00C

Analyte	Date Batch	Method	Units	RL	Sample
Total Suspended Solids	10/14/11 101411#1	EPA 160.2	mg/L	1.1	5.1

RL Analytical reporting limit
U Undetected at reported detection limit

REPLICATE RESULTS-CONVENTIONALS
TS00-Integral Consulting, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized: JB
Reported: 10/14/11

Project: Slip 4 EAA
Event: A0006 14L
Date Sampled: 10/13/11
Date Received: 10/13/11

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: TS00A Client ID: SW0012						
Total Suspended Solids	EPA 160.2	10/14/11	mg/L	7.2	5.7	23.3%

LAB CONTROL RESULTS-CONVENTIONALS
TS00-Integral Consulting, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 10/14/11

Project: Slip 4 EAA
Event: A0006 14L
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
Total Suspended Solids EPA 160.2	ICVL	10/14/11	mg/L	49.6	50.0	99.2%

METHOD BLANK RESULTS-CONVENTIONALS
TS00-Integral Consulting, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized
Reported: 10/14/11

Project: Slip 4 EAA
Event: A0006 14L
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Total Suspended Solids	EPA 160.2	10/14/11	mg/L	< 1.0 U	

PCB Raw Data
Extraction Bench Sheets and Notes

ARI Job ID: TS00

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Benchsheet

PCB – Water
Separatory Funnel (3510C) (SOP # 3311S)

Preparation Test PCB Low Level # 3 (PCBWSL) Low Level (0.01ppb)

ARI Job No(s) TS00 Batch set up by: SH

Bottle #	ARI Sample I.D.	Verify Client ID 10/13/11 Date	Volume Extracted	PH 5-9 Y/N	KD	Turbo Vap 1 2 3	(REQ) Acid Clean (1:1)	(REQ) Sulfur Clean 1 2 3 (1:1)	(REQ) Silica Gel Clean (1:1)	Turbo Vap 1 2 3	Final Effective Volume	Volume to Lab	Comments
	TS00 MBW		1000mL				4mL	4mL	1mL		0.5mL	0.5mL	
	SBW												
	~~SBW Dup.~~												
	~~QLS~~												
3-5 6	TS00 A	Checked	1333mL										See notes Homogenized
	Ams												
	Amsd												
2	B		1000mL										
	C												
1	D												

SR/YL

AC 10-13-11 10/13/11 CJZ 10/14/11

Analyst/Date: DG 10/13/11

Standard	Standard ID	Volume	Expiration Date	Analyst	Witness
Surrogate	D3	100µL	12/16/11	DG	AC
Spike	13	25µL	1/31/12	DG	AC
~~QLS Spike~~	~~23~~	~~50µL~~			

Extraction Time: 18:00

SPECIAL INSTRUCTIONS: 1. Rinse all glassware with Low Level Hexane. 2. Verify pH.

3. Adjust pH (if necessary=Analyst Notes). 4. Add Surr/Spike. 5. Extract 3X with 60mL Low Level Hexane.

6. KD (NO Drying Column) at 100°. RINSE SNYDER COLUMNS WITH LOW LEVEL HEXANE 7. TurboVap.

8. Clean-ups=Transfer Rinse. 9. TurboVap. 10. Vial with Low Level Hexane.

A. Archive Y/N

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

ARI Job No.: TS00

Client ID: Integral Consulting, Inc.

Parameter: PCB low level

Client Project: Slip 4 EAA

Note problems, concerns, corrective actions	Analyst/Date
Screens: Soil/Sediment/Solid/Other:	
☐ No Anomalies (standard soil/sediment)	
☐ Wet sediment/sludge=	
☐ Standing Water Decanted=	
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay (Difficult to homogenize/Mixed with Kitchen Aid)=	
☐ Rocks/Organics=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
Aqueous:	
☒ No Anomalies	DB 10/13/10
☒ Turbid/Color= (light yellow) A-C	↓
☐ Particulates=	
☐ Emulsions=	
☒ Other (Details)= A, Ans, Ansd = By Accident (Training issue) (4) 1.0L Bottles were homogenized into a 4.0L Amber Solvent Bottle. 1.33L was extracted instead of 1.0L each. No Archive	TH 10/13/11 ↓
☐ Other Notes/Comments=	

3056F

Revision 007
02/25/10

TS00 : 00052

PCB Raw Data
Initial Calibration

ARI Job ID: TS00

Analytical Resources, Incorporated
Analytical Chemists and Consultants

GC Analyst Notes / Corrective Action Log

ARI Project ID: _____ Client ID: _____

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): PCBs TCMX DCB

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: 09/22/11 Analysis Start: 09/22/11

Endrin/DDT Breakdown <15%? YES / NO / NA

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 / 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: _____ **Date:** 09/23/11

Reviewer: _____ **Date:** 9/23/11

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

Method File: /chem2/ecd7.i/20110922.B/PCB1.m
Batch File: /chem2/ecd7.i/20110922.B/ical-1.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	0922A005	0922A006	0922A007	0922A008	0922A009	0922A010
INJ.DATE:	22-SEP-2011	22-SEP-2011	22-SEP-2011	22-SEP-2011	22-SEP-2011	22-SEP-2011
INJ.TIME:	16:09	16:32	16:55	17:18	17:40	18:03

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	3.314	3.313	3.311	3.312	3.312	3.312	3.312	3.212-3.412	3.312	0.001
$ 1 Tetrachloro-m-xylene	6.293	6.293	6.292	6.293	6.293	6.293	6.292	6.192-6.392	6.293	0.000
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	6.747	6.647-6.847	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	8.305	8.205-8.405	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	8.305	8.205-8.405	+++++	+++++
7 Aroclor-1016	8.306	8.306	8.305	8.305	8.306	8.306	8.306	8.206-8.406	8.306	0.000
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	9.364	9.264-9.464	+++++	+++++
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	10.346	10.246-10.446	+++++	+++++
9 Aroclor-1260	11.853	11.853	11.853	11.852	11.853	11.853	11.853	11.753-11.953	11.853	0.000
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	12.458	12.358-12.558	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	13.607	13.507-13.707	+++++	+++++
$ 13 Decachlorobiphenyl	14.885	14.885	14.884	14.884	14.885	14.885	14.884	14.784-14.984	14.885	0.000
* 12 IS-HBBP	15.139	15.140	15.140	15.139	15.139	15.139	15.140	15.040-15.240	15.139	0 000
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	10.633	10.583-10.683	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	11.198	11.148-11.248	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	11.709	11.659-11.759	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	11.072	10.972-11.172	+++++	+++++

Reviewer 1 _____ Date: 09/23/11
Reviewer 2 _____ Date: 9/23/11

1500 : 00055

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

Method File: /chem2/ecd7.i/20110922.B/PCB1.m
Batch File: /chem2/ecd7.i/20110922.B/ical-1.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	11.653	11.553-11.753	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	12.168	12.068-12.268	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

Method File: /chem2/ecd7.i/20110922.B/PCB2.m
Batch File: /chem2/ecd7.i/20110922.B/ical-2.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	0922A005	0922A006	0922A007	0922A008	0922A009	0922A010
INJ.DATE:	22-SEP-2011	22-SEP-2011	22-SEP-2011	22-SEP-2011	22-SEP-2011	22-SEP-2011
INJ.TIME:	16:09	16.32	16:55	17 18	17:40	18·03

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 40 IS-BNB	4.177	4.176	4.174	4.175	4.175	4.175	4.175	4.075-4.275	4.175	0.001
$ 2 Tetrachloro-m-xylene	6.432	6.432	6.430	6.432	6.430	6.431	6.431	6.331-6.531	6.431	0.001
1 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	7.259	7.159-7.359	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	8.569	8.469-8.669	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	8.568	8.468-8.668	+++++	+++++
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	9.833	9.733-9.933	+++++	+++++
7 Aroclor-1016	8.569	8.569	8.569	8 569	8.568	8.569	8.569	8.469-8.669	8.569	0.001
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	10.897	10.797-10.997	+++++	+++++
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	12.860	12.760-12.960	+++++	+++++
9 Aroclor-1260	13.304	13.305	13.304	13.304	13.304	13.304	13.304	13.204-13.404	13.304	0.000
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	13 984	13.884-14.084	+++++	+++++
$ 13 Decachlorobiphenyl	15.225	15.225	15.225	15.225	15.225	15.225	15.225	15.125-15.325	15.225	0.000
* 12 IS-HBBP	15.808	15.809	15.809	15.809	15.809	15.808	15.808	15.708-15.908	15.809	0.000
41 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	11.162	11.112-11.212	+++++	+++++
42 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	11.853	11.803-11.903	+++++	+++++
44 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	11.546	11.446-11.646	+++++	+++++
45 4,4-DDD/2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	12.306	12.206-12.406	+++++	+++++

Reviewer 1 _____ Date: 09/23/11
Reviewer 2 _____ Date: 9/23/11

TSO 00057

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

Method File: /chem2/ecd7.i/20110922.B/PCB2.m
Batch File: /chem2/ecd7.i/20110922.B/ical-2.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
46 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	12.748	12.648-12.848	+++++	+++++
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.703	1 603-1.803	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	7.117	7 017-7.217	+++++	+++++

T500 : 00058

MANUAL INTEGRATION SUMMARY FOR DATABATCH - /chem2/ecd7.i/20110922.B/ical-2.b

ARI Job No.: IB Method: PCB2.m Instrument: ecd7.i Date: 22-SEP-2011

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1546	0922A004.d	IB		1	NO MANUAL INTEGRATION
1609	0922A005.d	0.25 PPM	AR1660	1	NO MANUAL INTEGRATION
1632	0922A006.d	0.02 PPM	AR1660	1	NO MANUAL INTEGRATION
1655	0922A007.d	0.05 PPM	AR1660	1	NO MANUAL INTEGRATION
1718	0922A008.d	1 PPM	AR1660	1	NO MANUAL INTEGRATION
1740	0922A009.d	0.1 PPM	AR1660	1	NO MANUAL INTEGRATION
1803	0922A010.d	0.5 PPM	AR1660	1	NO MANUAL INTEGRATION
1826	0922A011.d	AR1242		1	NO MANUAL INTEGRATION
1849	0922A012.d	AR1248		1	NO MANUAL INTEGRATION
1912	0922A013.d	AR1254		1	NO MANUAL INTEGRATION
1935	0922A014.d	AR2162		1	NO MANUAL INTEGRATION
1958	0922A015.d	AR3268		1	NO MANUAL INTEGRATION
2021	0922A016.d	AR1660	ICV	1	NO MANUAL INTEGRATION
2044	0922A017.d	AR1242	ICV	1	NO MANUAL INTEGRATION
2106	0922A018.d	AR1248	ICV	1	NO MANUAL INTEGRATION
2129	0922A019.d	AR1254	ICV	1	NO MANUAL INTEGRATION
2152	0922A020.d	AR2162	ICV	1	NO MANUAL INTEGRATION
2215	0922A021.d	AR3268	ICV	1	NO MANUAL INTEGRATION
1546	0922A004.d	IB		1	NO MANUAL INTEGRATION
1609	0922A005.d	0.25 PPM	AR1660	1	NO MANUAL INTEGRATION
1632	0922A006.d	0 02 PPM	AR1660	1	NO MANUAL INTEGRATION

T5000 00059

MANUAL INTEGRATION SUMMARY FOR DATABATCH - /chem2/ecd7.i/20110922.B/ical-2.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1655	0922A007.d	0.05 PPM	AR1660	1	NO MANUAL INTEGRATION
1718	0922A008.d	1 PPM	AR1660	1	NO MANUAL INTEGRATION
1740	0922A009.d	0.1 PPM	AR1660	1	NO MANUAL INTEGRATION
1803	0922A010.d	0.5 PPM	AR1660	1	NO MANUAL INTEGRATION
1826	0922A011.d	AR1242		1	NO MANUAL INTEGRATION
1849	0922A012.d	AR1248		1	NO MANUAL INTEGRATION
1912	0922A013.d	AR1254		1	NO MANUAL INTEGRATION
1935	0922A014.d	AR2162		1	NO MANUAL INTEGRATION
1958	0922A015.d	AR3268		1	NO MANUAL INTEGRATION
2021	0922A016.d	AR1660	ICV	1	NO MANUAL INTEGRATION
2044	0922A017.d	AR1242	ICV	1	NO MANUAL INTEGRATION
2106	0922A018.d	AR1248	ICV	1	NO MANUAL INTEGRATION
2129	0922A019.d	AR1254	ICV	1	NO MANUAL INTEGRATION
2152	0922A020.d	AR2162	ICV	1	NO MANUAL INTEGRATION
2215	0922A021.d	AR3268	ICV	1	NO MANUAL INTEGRATION

T5003 : 00051

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB2.m
Cal Date : 23-Sep-2011 12:25 jrains
Curve Type : Average

Calibration File Names:
Level 1: /chem2/ecd7.i/20110922.B/ical-2.b/0922A006.d
Level 2: /chem2/ecd7.i/20110922.B/ical-2.b/0922A007.d
Level 3: /chem2/ecd7.i/20110922.B/ical-2.b/0922A009.d
Level 4: /chem2/ecd7.i/20110922.B/ical-2.b/0922A005.d
Level 5: /chem2/ecd7.i/20110922.B/ical-2.b/0922A010.d
Level 6: /chem2/ecd7.i/20110922.B/ical-2.b/0922A008.d
Level 7: /chem2/ecd7.i/20110922.B/ical-2.b/0922A015.d
Level 8: /chem2/ecd7.i/20110922.B/ddts-2.b/0922A022.d

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250 000 Level 7	0.000e+00 Level 8						
1 Aroclor-1221(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01241	+++++					0.01241	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00763	+++++					0.00763	0 000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02336	+++++					0.02336	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00380	+++++					0 00380	0 000
4 Aroclor-1232(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01866	+++++					0.01866	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03569	+++++					0.03569	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB2.m
Cal Date : 23-Sep-2011 12:25 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000 000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00952	+++++					0.00952	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01583	+++++					0.01583	0.000
3 Aroclor-1242 (1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03240	+++++					0.03240	0 000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06783	+++++					0.06783	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01784	+++++					0 01784	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02840	+++++					0.02840	0 000
6 Aroclor-1248 (1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0 03189	+++++					0.03189	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03516	+++++					0.03516	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03517	+++++					0.03517	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB2.m
Cal Date : 23-Sep-2011 12:25 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04518	+++++					0 04518	0.000
7 Aroclor-1016(1)	0.04992	0.04654	0.04510	0.04096	0.03843	0.03639		
	+++++	+++++					0.04289	12.050
(2)	0.10381	0.09371	0.09212	0.08638	0.08238	0.07943		
	+++++	+++++					0.08964	9.868
(3)	0.02654	0.02410	0.02388	0.02197	0.02104	0.02017		
	+++++	+++++					0.02295	10 216
(4)	0.03155	0.02875	0.02799	0.02504	0.02357	0.02235		
	+++++	+++++					0.02654	13.131
8 Aroclor-1254(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03471	+++++					0.03471	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04482	+++++					0 04482	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0 03531	+++++					0.03531	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0 07564	+++++					0.07564	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB2.m
Cal Date : 23-Sep-2011 12:25 jrains
Curve Type : Average

Compound	20 000 Level 1	50 000 Level 2	100 000 Level 3	250 000 Level 4	500.000 Level 5	1000.000 Level 6	___ RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(5)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04571	+++++					0.04571	0.000
10 Aroclor-1262(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.08276	+++++					0.08276	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.08178	+++++					0 08178	0 000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.15964	+++++					0.15964	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06989	+++++					0.06989	0.000
(5)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.10430	+++++					0.10430	0.000
9 Aroclor-1260(1)	0.07709	0.06959	0.06735	0.06087	0.05865	0.05630		
	+++++	+++++					0 06498	12 032
(2)	0.14590	0.13328	0 13205	0.12217	0.12063	0.11830		
	+++++	+++++					0 12872	8.104
(3)	0 09823	0.08883	0.08686	0.07889	0.07726	0.07490		
	+++++	+++++					0.08416	10.469

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB2.m
Cal Date : 23-Sep-2011 12:25 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	___ RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(4)	0.03353	0.03102	0.03058	0.02876	0.02738	0.02590		
	++++++	++++++					0 02953	9 298
11 Aroclor-1268(1)	++++++	++++++	++++++	++++++	++++++	++++++		
	0.16123	++++++					0 16123	0 000
(2)	++++++	++++++	++++++	++++++	++++++	++++++		
	0 15160	++++++					0 15160	0.000
(3)	++++++	++++++	++++++	++++++	++++++	++++++		
	0.12125	++++++					0.12125	0.000
(4)	++++++	++++++	++++++	++++++	++++++	++++++		
	0.36590	++++++					0.36590	0.000
41 2,4-DDE	++++++	++++++	++++++	++++++	++++++	++++++		
	++++++	666					666	0.000
42 2,4-DDD	++++++	++++++	++++++	++++++	++++++	++++++		
	++++++	574					574	0.000
44 4,4-DDE	++++++	++++++	++++++	++++++	++++++	++++++		
	++++++	1073					1073	0.000
45 4,4-DDD/2,4-DDT	++++++	++++++	++++++	++++++	++++++	++++++		
	++++++	805					805	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB2.m
Cal Date : 23-Sep-2011 12:25 jrains
Curve Type : Average

Compound	20.000 Level 1	50 000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	___ RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
46 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	936					936	0.000
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
$ 2 Tetrachloro-m-xylene	1.08154	1.03845	1.06974	1.07010	1.06059	1.05793		
	+++++	+++++					1.06306	1.379
$ 13 Decachlorobiphenyl	1.15053	1.06609	1.06307	1.00227	0.98791	0.98996		
	+++++	+++++					1 04331	6.063

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB1.m
Cal Date : 23-Sep-2011 12:29 jrains
Curve Type : Average

Calibration File Names:
Level 1: /chem2/ecd7.i/20110922.B/ical-1.b/0922A006.d
Level 2: /chem2/ecd7.i/20110922.B/ical-1.b/0922A007.d
Level 3: /chem2/ecd7.i/20110922.B/ical-1.b/0922A009.d
Level 4: /chem2/ecd7.i/20110922.B/ical-1.b/0922A005.d
Level 5: /chem2/ecd7.i/20110922.B/ical-1.b/0922A010.d
Level 6: /chem2/ecd7.i/20110922.B/ical-1.b/0922A008.d
Level 7: /chem2/ecd7.i/20110922.B/ical-1.b/0922A015.d
Level 8: /chem2/ecd7.i/20110922.B/ddts-1.b/0922A022.d

Compound	20.000 Level 1	50.000 Level 2	100 000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
2 Aroclor-1221(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01045	+++++					0 01045	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00788	+++++					0.00788	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0 02589	+++++					0 02589	0.000
3 Aroclor-1242(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01949	+++++					0.01949	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06750	+++++					0.06750	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02619	+++++					0.02619	0 000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB1.m
Cal Date : 23-Sep-2011 12:29 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02398	+++++					0.02398	0 000
4 Aroclor-1232(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00991	+++++					0.00991	0 000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03394	+++++					0.03394	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01338	+++++					0.01338	0 000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0 01190	+++++					0 01190	0.000
7 Aroclor-1016(1)	0.02607	0.02506	0.02558	0.02492	0.02409	0.02377		
	+++++	+++++					0.02491	3.483
(2)	0.08814	0.08660	0.08891	0.08700	0.08395	0.08201		
	+++++	+++++					0.08610	3.049
(3)	0.03573	0.03472	0.03490	0.03368	0.03212	0.03135		
	+++++	+++++					0 03375	5.065
(4)	0.02702	0.02487	0.02417	0.02322	0.02227	0.02203		
	+++++	+++++					0 02393	7.791

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB1.m
Cal Date : 23-Sep-2011 12:29 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	0.000e+00 Level 8	___ RRF	% RSD
6 Aroclor-1248(1)	++++++	++++++	++++++	++++++	++++++	++++++	0.02684	++++++	0.02684	0.000
(2)	++++++	++++++	++++++	++++++	++++++	++++++	0.03264	++++++	0.03264	0.000
(3)	++++++	++++++	++++++	++++++	++++++	++++++	0.03891	++++++	0 03891	0.000
(4)	++++++	++++++	++++++	++++++	++++++	++++++	0.03631	++++++	0.03631	0.000
8 Aroclor-1254(1)	++++++	++++++	++++++	++++++	++++++	++++++	0.04293	++++++	0.04293	0.000
(2)	++++++	++++++	++++++	++++++	++++++	++++++	0.05925	++++++	0.05925	0 000
(3)	++++++	++++++	++++++	++++++	++++++	++++++	0.03705	++++++	0.03705	0 000
(4)	++++++	++++++	++++++	++++++	++++++	++++++	0.07151	++++++	0.07151	0.000
(5)	++++++	++++++	++++++	++++++	++++++	++++++	0.04756	++++++	0.04756	0.000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB1.m
Cal Date : 23-Sep-2011 12:29 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000 000 Level 6	250.000 Level 7	0.000e+00 Level 8	___ RRF	% RSD
9 Aroclor-1260(1)	0.08304	0.08051	0.08209	0.08123	0.07879	0.07745			0 08052	2 590
	+++++	+++++								
(2)	0.05322	0.05368	0.05365	0.05250	0.05176	0.05018			0.05250	2.580
	+++++	+++++								
(3)	0.05220	0.05179	0.05341	0.05279	0.05233	0.05156			0.05235	1.287
	+++++	+++++								
(4)	0.06456	0.06404	0.06686	0.06621	0.06650	0.06600			0.06569	1.721
	+++++	+++++								
(5)	0.02487	0.02544	0 02647	0.02583	0 02568	0 02530			0.02560	2.117
	+++++	+++++								
10 Aroclor-1262(1)	+++++	+++++	+++++	+++++	+++++	+++++			0 09107	0.000
	0.09107	+++++								
(2)	+++++	+++++	+++++	+++++	+++++	+++++			0.07353	0.000
	0.07353	+++++								
(3)	+++++	+++++	+++++	+++++	+++++	+++++			0.17284	0.000
	0.17284	+++++								
(4)	+++++	+++++	+++++	+++++	+++++	+++++			0.06887	0.000
	0 06887	+++++								

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB1.m
Cal Date : 23-Sep-2011 12:29 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(5)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06987	+++++					0.06987	0.000
11 Aroclor-1268(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.18390	+++++					0 18390	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.16825	+++++					0 16825	0 000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.14090	+++++					0.14090	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.41953	+++++					0 41953	0 000
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	714					714	0.000
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	624					624	0.000
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	826					826	0.000
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	1177					1177	0 000

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-SEP-2011 16:09
End Cal Date : 22-SEP-2011 22:38
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem2/ecd7.i/20110922.B/PCB1.m
Cal Date : 23-Sep-2011 12:29 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	___ RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	948					948	0.000
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	1039					1039	0.000
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
$ 1 Tetrachloro-m-xylene	0.92910	0.94715	1.01417	1.05917	1.06316	1.07354		
	+++++	+++++					1.01438	6.184
$ 13 Decachlorobiphenyl	0.93925	1.06120	1.12093	1.11610	1.11556	1.12105		
	+++++	+++++					1 07901	6.694

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A004.d
Data file 2: 20110922.B/ical-2.b/0922A004.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: IB
Client ID:
Injection Date: 22-SEP-2011 15:46
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.001	3201984	6.431	0.001	4986764	48.7	47.1	3.4	Tetrachloro-m-xylen
14.884	0.000	2534821	15.225	0.000	3185326	45.0	41.3	8.5	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	121.9	117.8
Decachlorobiphenyl	112.6	103.4

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5180147	2.4
Hexabromobiphenyl	4060201	4174393	2.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7964318	2.0
Hexabromobiphenyl	5725568	5907034	3.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

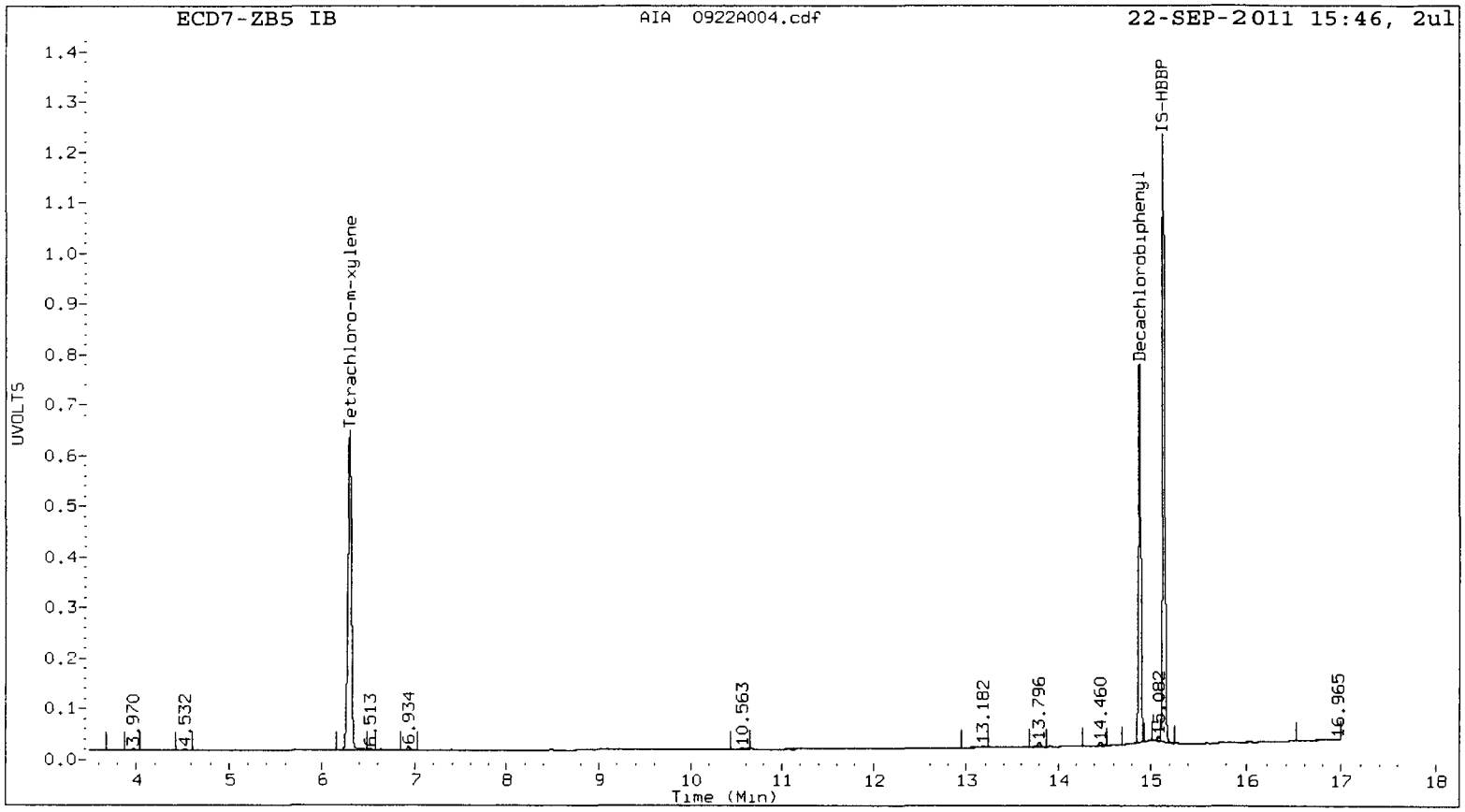
Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	7.278	0.019	59276	48.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	7.706	0.006	11573	5.0
Aroclor-1221	NS	---			----	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	---			0.0	3	---			0.0
Aroclor-1254	4	---			0.0	4	---			0.0
Aroclor-1254	5	---			0.0	5	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	---			0.0	1	---			0.0
Aroclor-1260	2	---			0.0	2	13.452	-0.089	11965	1.3
Aroclor-1260	3	---			0.0	3	14.034	-0.001	10472	1.7
Aroclor-1260	4	---			0.0	4	14.643	0.054	13207	6.1
Aroclor-1260	5	---			0.0	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: 3.0				
Aroclor-1262	1	---			0.0	1	12.868	0.008	15222	2.5
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	13.452	-0.087	11965	1.0
Aroclor-1262	4	---			0.0	4	13.955	-0.028	57201	11.1
Aroclor-1262	5	---			0.0	5	14.034	-0.001	10472	1.4
	Col1Ave: <3 Quant Peaks					Col2Ave: 4.0				
Aroclor-1268	1	---			0.0	1	13.955	-0.028	57201	4.8
Aroclor-1268	2	---			0.0	2	14.034	-0.005	10472	0.9
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	14.908	-0.031	11700	0.4
	Col1Ave: <3 Quant Peaks					Col2Ave: 2.1				

Total PCB Area Col1 (6.392 - 14.784) = 153129 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 393373 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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22-SEP-2011 15:46, 2ul
UVOLTS
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
3.970
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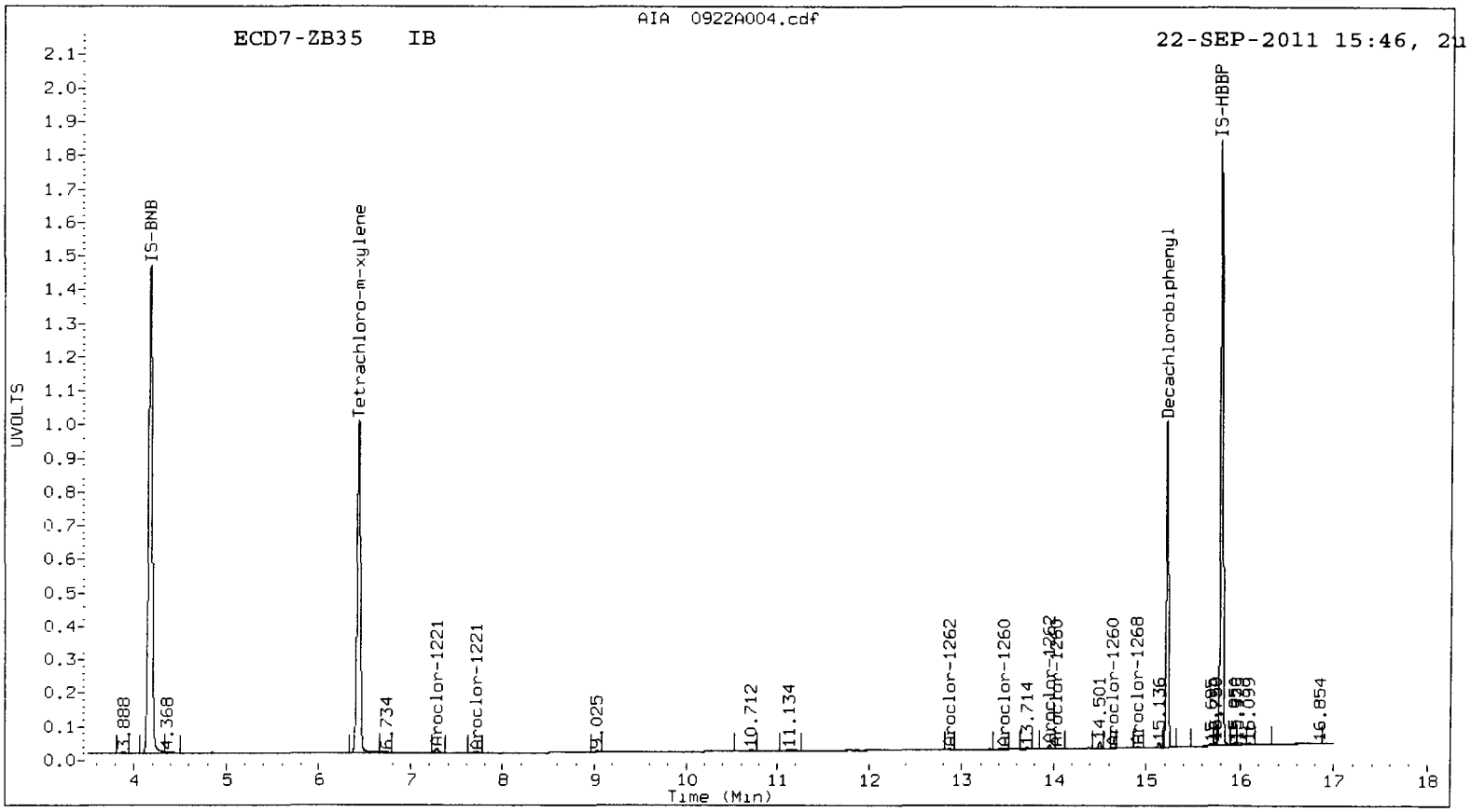
6.513
6.934
10.563
13.182
13.796
14.460
15.082
16.965
Time (Min)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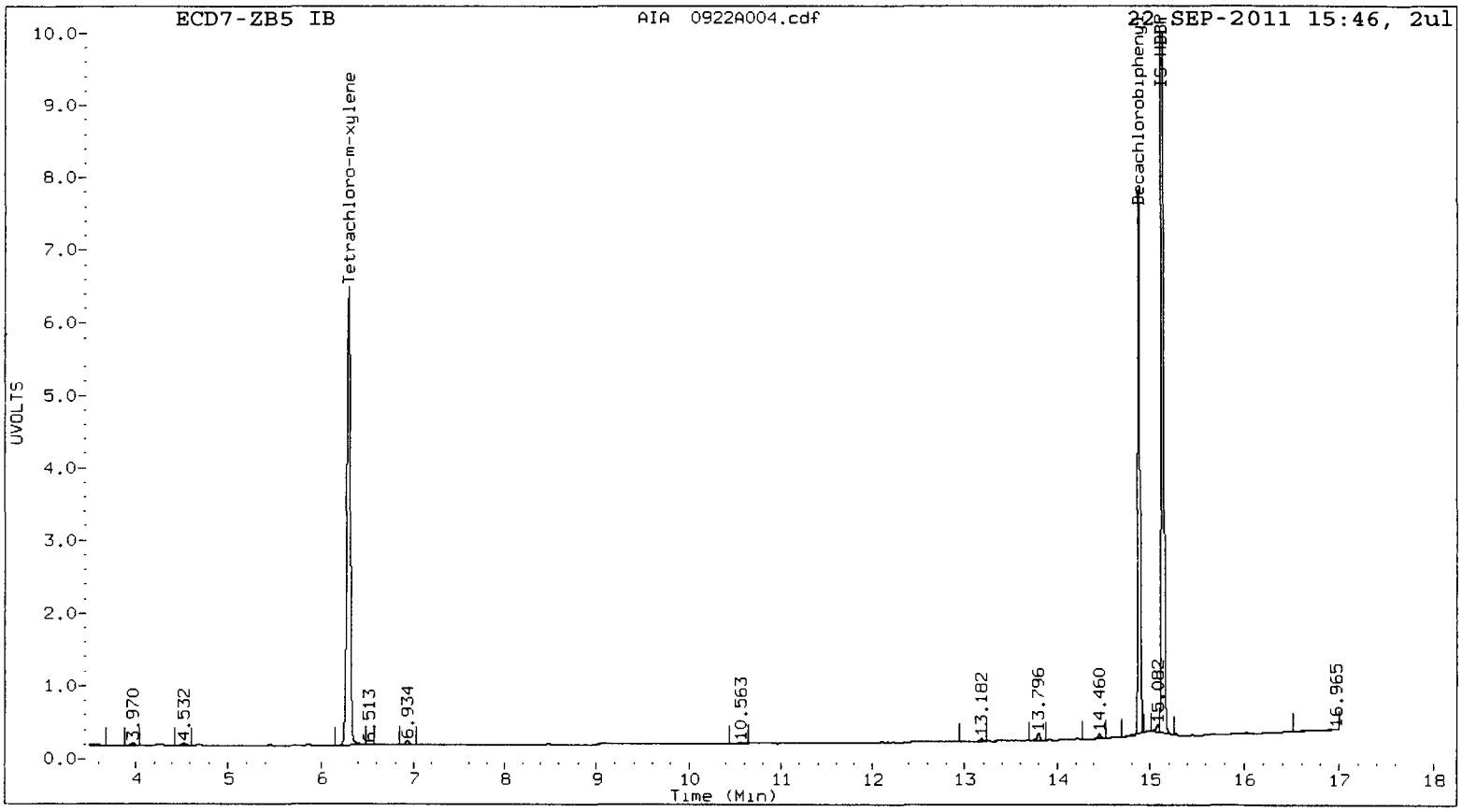
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
3.888
4.368
6.734
Aroclor-1221
Aroclor-1221
9.025
10.712
11.134
Aroclor-1262
Aroclor-1260
13.714
14.501
Aroclor-1260
Aroclor-1268
15.136
16.854
Time (Min)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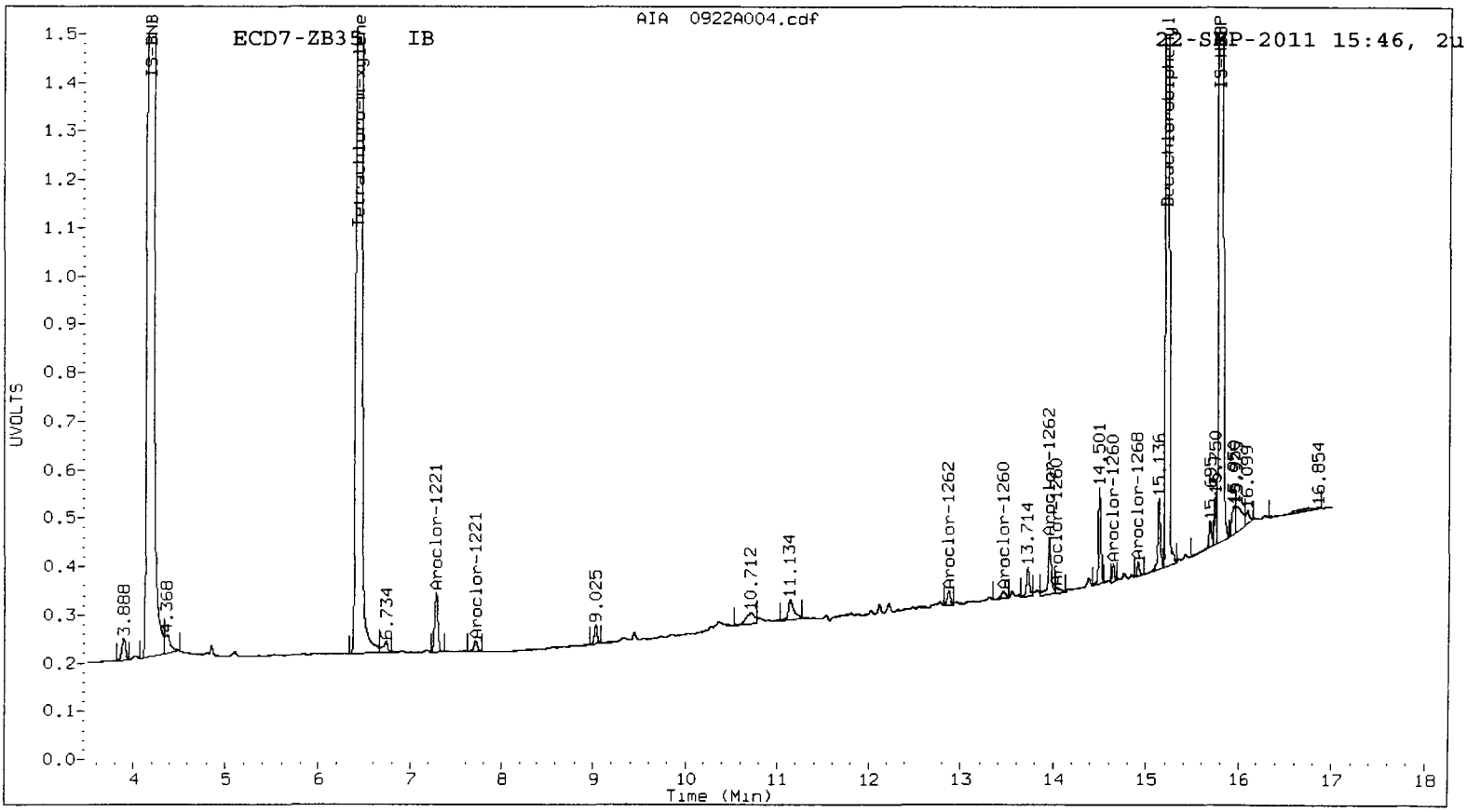
AIA 0922A004.cdf
22-SEP-2011 15:46, 2ul
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
3.970
4.532
6.513
6.934
10.563
13.182
13.796
14.460
15.082
16.965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22-SEP-2011 15:46, 2u
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
3.888
4.368
6.734
Aroclor-1221
Aroclor-1221
9.025
10.712
11.134
Aroclor-1262
Aroclor-1260
13.714
Aroclor-1262
Aroclor-1260
14.501
Aroclor-1260
Aroclor-1268
15.136
16.099
16.854

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A005.d
Data file 2: 20110922.B/ical-2.b/0922A005.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25 PPM AR1660
Client ID:
Injection Date: 22-SEP-2011 16:09
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.293	0.002	1338914	6.432	0.001	2089232	20.9	20.1	3.7	Tetrachloro-m-xylen
14.885	0.001	1132900	15.225	0.000	1434645	20.7	19.2	7.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

09/23/11

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	52.2	50.3
Decachlorobiphenyl	51.7	48.0

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5056450	0.0
Hexabromobiphenyl	4060201	4060201	0.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7809454	0.0
Hexabromobiphenyl	5725568	5725568	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

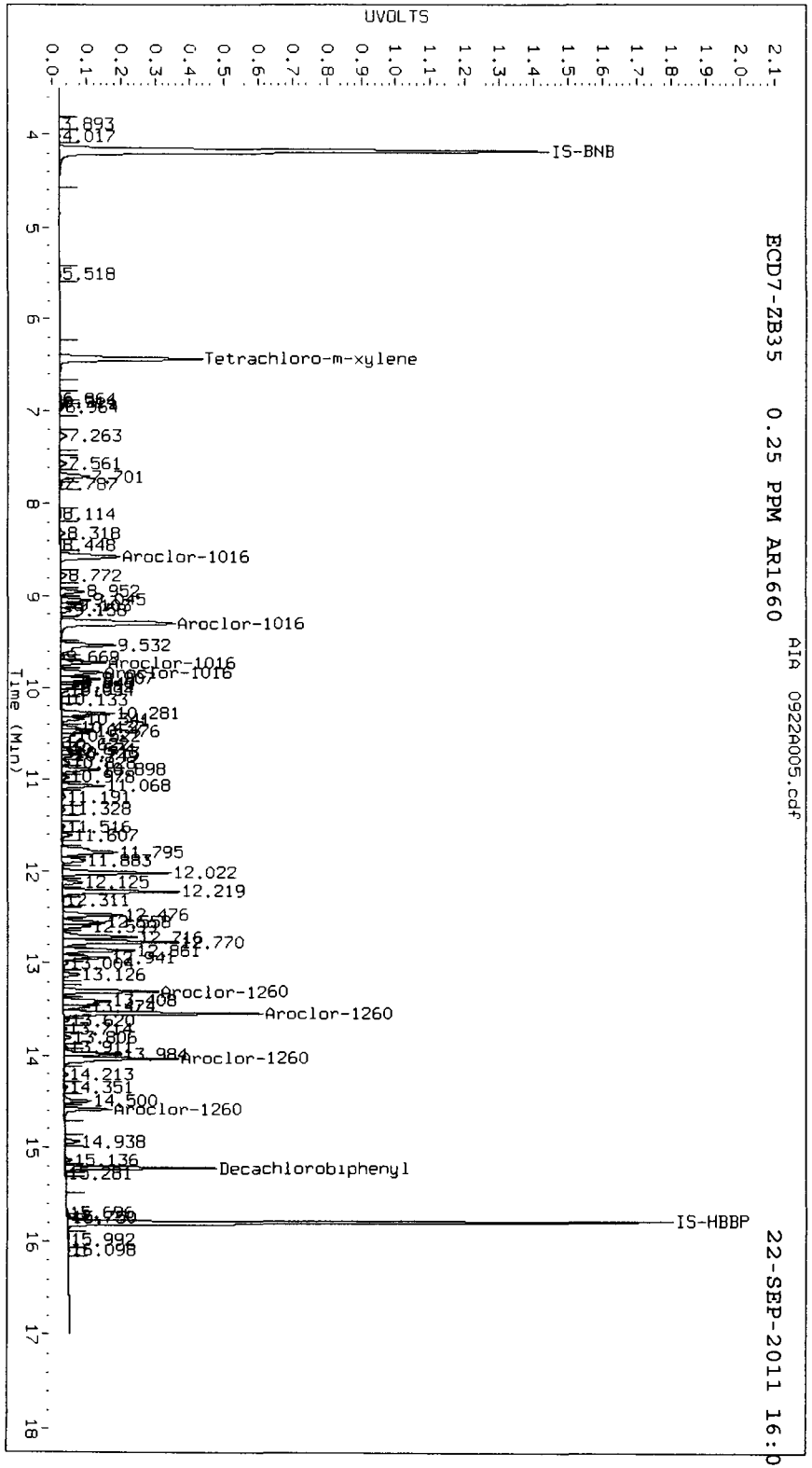
	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.306	0.000	393738	250.0	1	8.569	0.000	999550	238.7
Aroclor-1016	2	8.792	0.001	1374747	252.6	2	9.299	0.001	2108072	240.9
Aroclor-1016	3	8.966	0.000	532168	249.5	3	9.726	0.001	536200	239.3
Aroclor-1016	4	9.094	0.000	366835	242.5	4	9.834	0.000	611164	235.9
Total Col1Ave (4 peaks):				248.7	Total Col2Ave (4 peaks):				238.7	RPD = 4
Corrected Ave (3 peaks):				247.3	Corrected Ave (3 peaks):				238.0	RPD = 4
Aroclor-1260	1	11.853	0.000	1030711	252.2	1	13.304	0.000	1089166	234.2
Aroclor-1260	2	12.458	0.000	666186	250.0	2	13.541	0.000	2185860	237.3
Aroclor-1260	3	12.774	0.000	669784	252.1	3	14.034	-0.001	1411474	234.3
Aroclor-1260	4	13.507	-0.001	840021	251.9	4	14.589	0.000	514499	243.4
Aroclor-1260	5	13.607	0.000	327736	252.3	NS	---			----
Total Col1Ave (5 peaks):				251.7	Total Col2Ave (4 peaks):				237.3	RPD = 6
Corrected Ave (4 peaks):				251.6	Corrected Ave (3 peaks):				235.3	RPD = 7

Total PCB Area Col1 (6.392 - 14.784) = 19758805 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 29188414 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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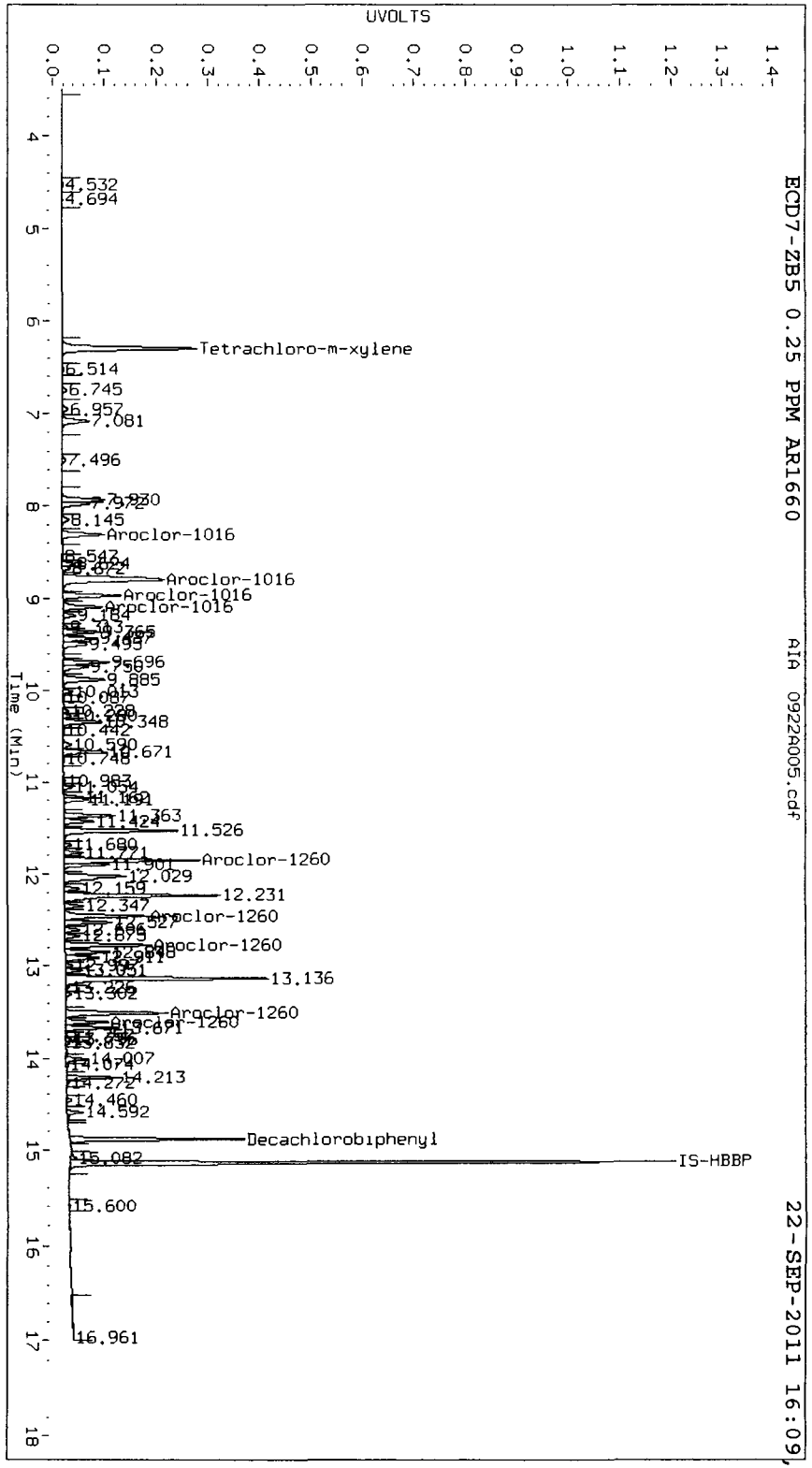
AIA 0922A005.cdf
22-SEP-2011 16:0
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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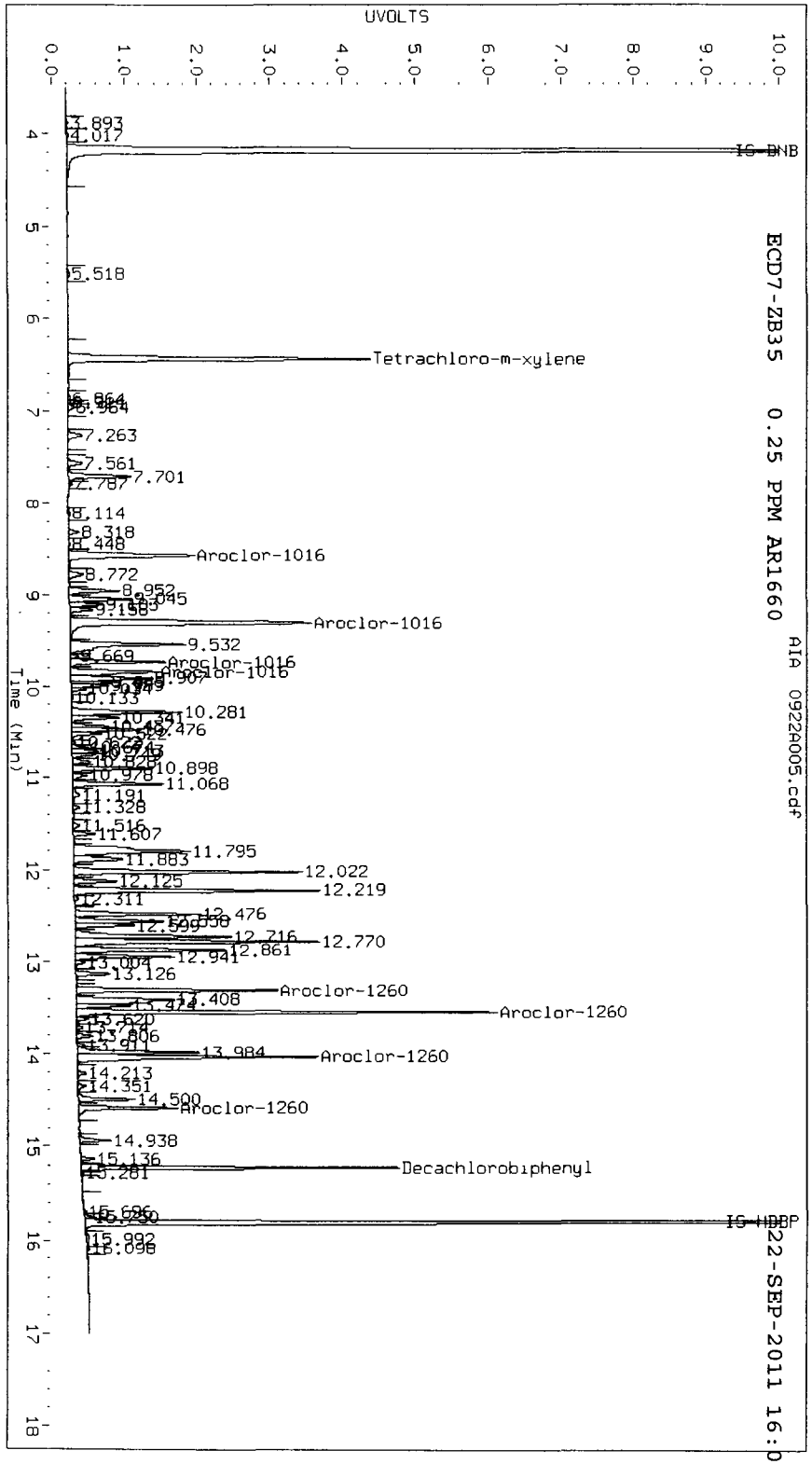
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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Time (Min)
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
ECD7-ZB35 0.25 PPM AR1660
AIA 0922A005.cdf
22-SEP-2011 16:0
IS-DNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1016
Aroclor-1016
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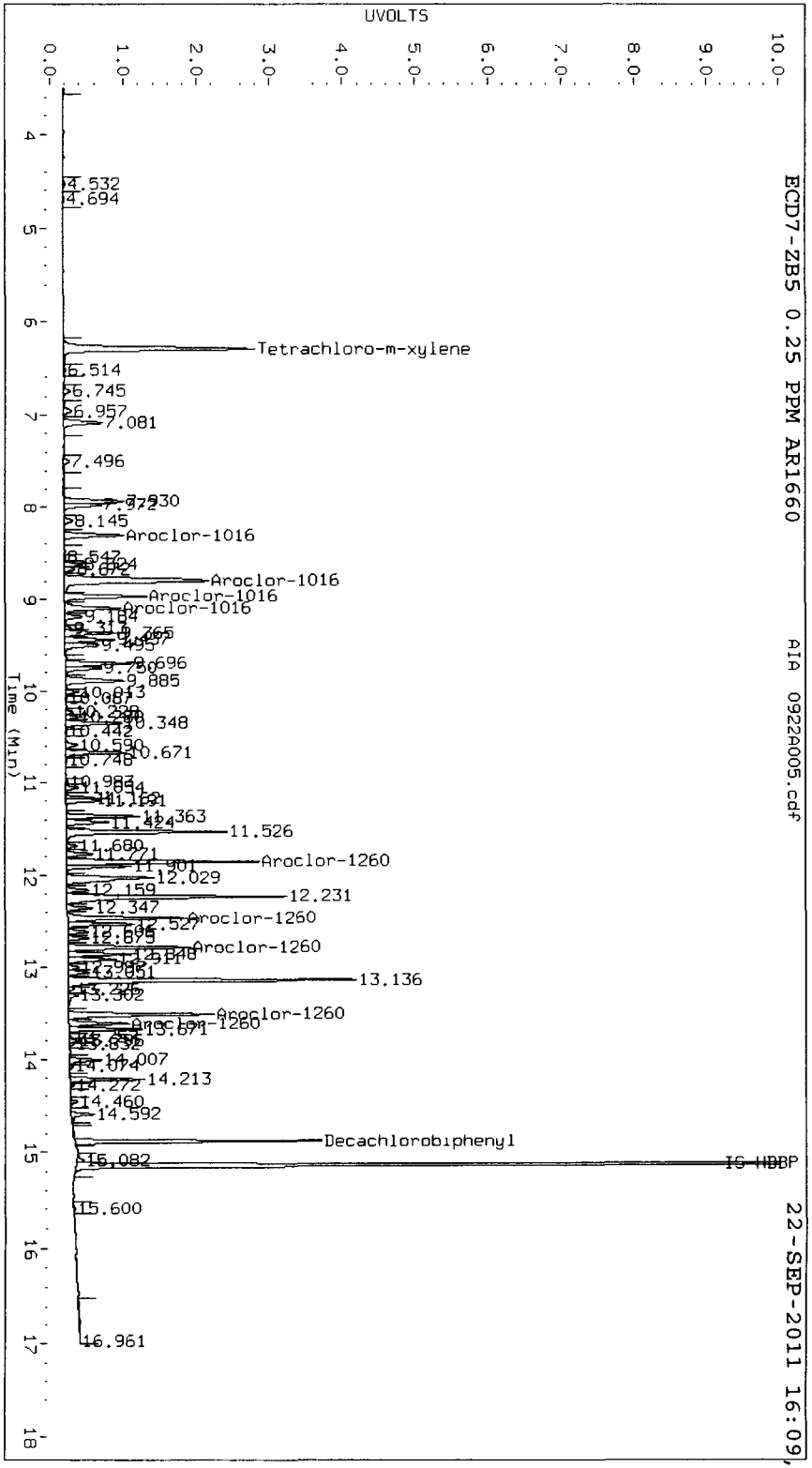
Decachlorobiphenyl
IS-HDBP


UVOLTS
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Time (Min)
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
ECD7-ZB5 0.25 PPM AR1660
AIA 0922A005.cdf
22-SEP-2011 16:09
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1016
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Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1260
Decachlorobiphenyl
IS-HDBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A006.d
Data file 2: 20110922.B/ical-2.b/0922A006.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.02 PPM AR1660
Client ID:
Injection Date: 22-SEP-2011 16:32
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.293	0.001	96817	6.432	0.001	173424	1.5	1.6	10.5	Tetrachloro-m-xylen
14.885	0.001	77977	15.225	0.000	135075	1.4	1.8	23.5	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	3.7	4.1
Decachlorobiphenyl	3.5	4.4

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5210231	3.0
Hexabromobiphenyl	4060201	4151038	2.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8017473	2.7
Hexabromobiphenyl	5725568	5870121	2.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

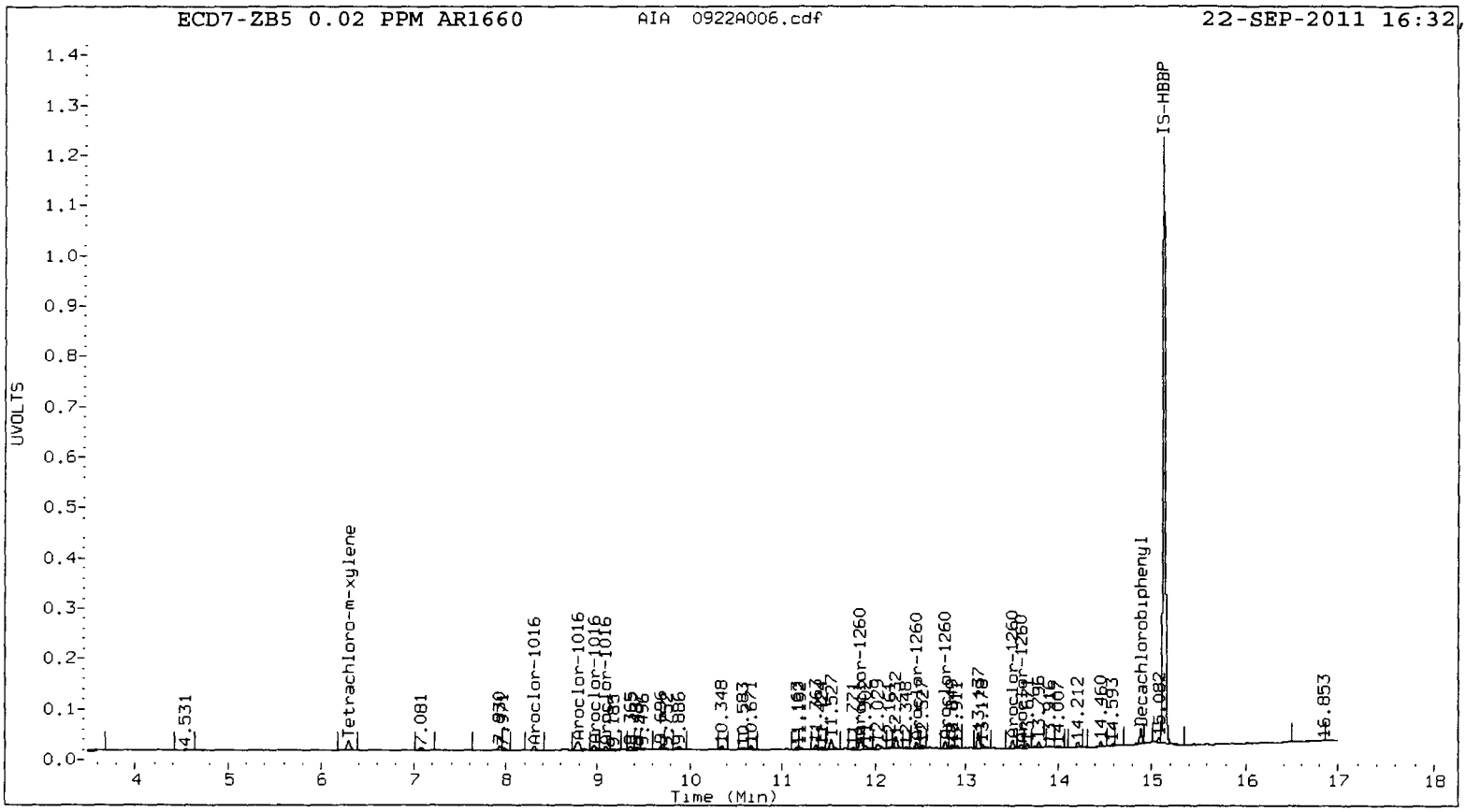
	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.306	0.001	33953	20.9	1	8.569	0.000	100063	23.3
Aroclor-1016	2	8.793	0.002	114812	20.5	2	9.299	0.000	208075	23.2
Aroclor-1016	3	8.967	0.001	46544	21.2	3	9.726	0.001	53205	23.1
Aroclor-1016	4	9.095	0.000	35195	22.6	4	9.835	0.000	63247	23.8
Total Col1Ave (4 peaks):				21.3		Total Col2Ave (4 peaks):			23.3	RPD = 9
Corrected Ave (3 peaks):				20.9		Corrected Ave (3 peaks):			23.2	RPD = 11
Aroclor-1260	1	11.853	0.001	86171	20.6	1	13.305	0.001	113128	23.7
Aroclor-1260	2	12.459	0.000	55231	20.3	2	13.541	0.000	214116	22.7
Aroclor-1260	3	12.774	0.000	54175	19.9	3	14.035	0.000	144154	23.3
Aroclor-1260	4	13.508	0.001	66994	19.7	4	14.590	0.001	49206	22.7
Aroclor-1260	5	13.608	0.001	25808	19.4	NS	---			----
Total Col1Ave (5 peaks):				20.0		Total Col2Ave (4 peaks):			23.1	RPD = 15
Corrected Ave (4 peaks):				19.8		Corrected Ave (3 peaks):			22.9	RPD = 14

Total PCB Area Col1 (6.392 - 14.784) = 1704286 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 3207962 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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Time (Min)
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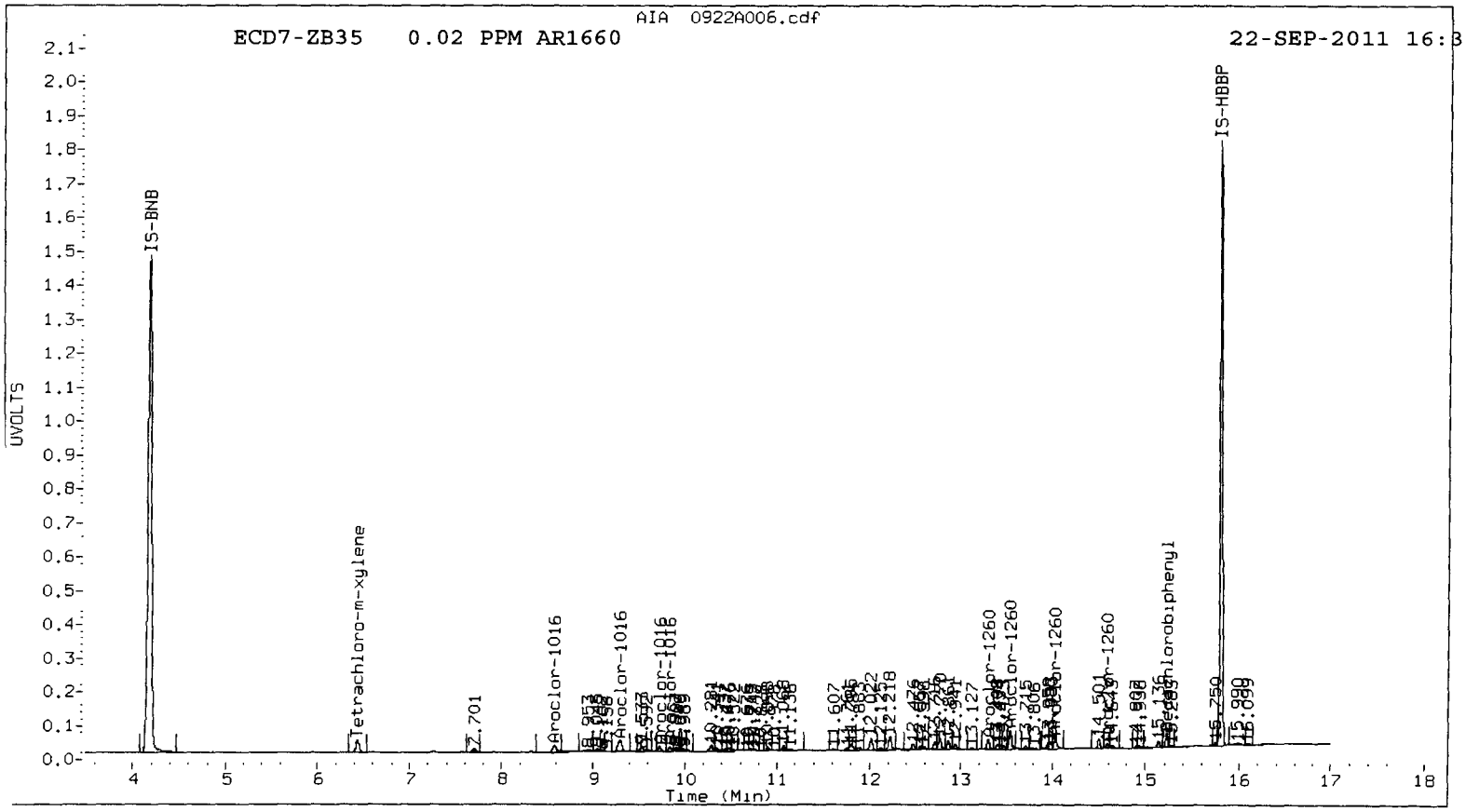
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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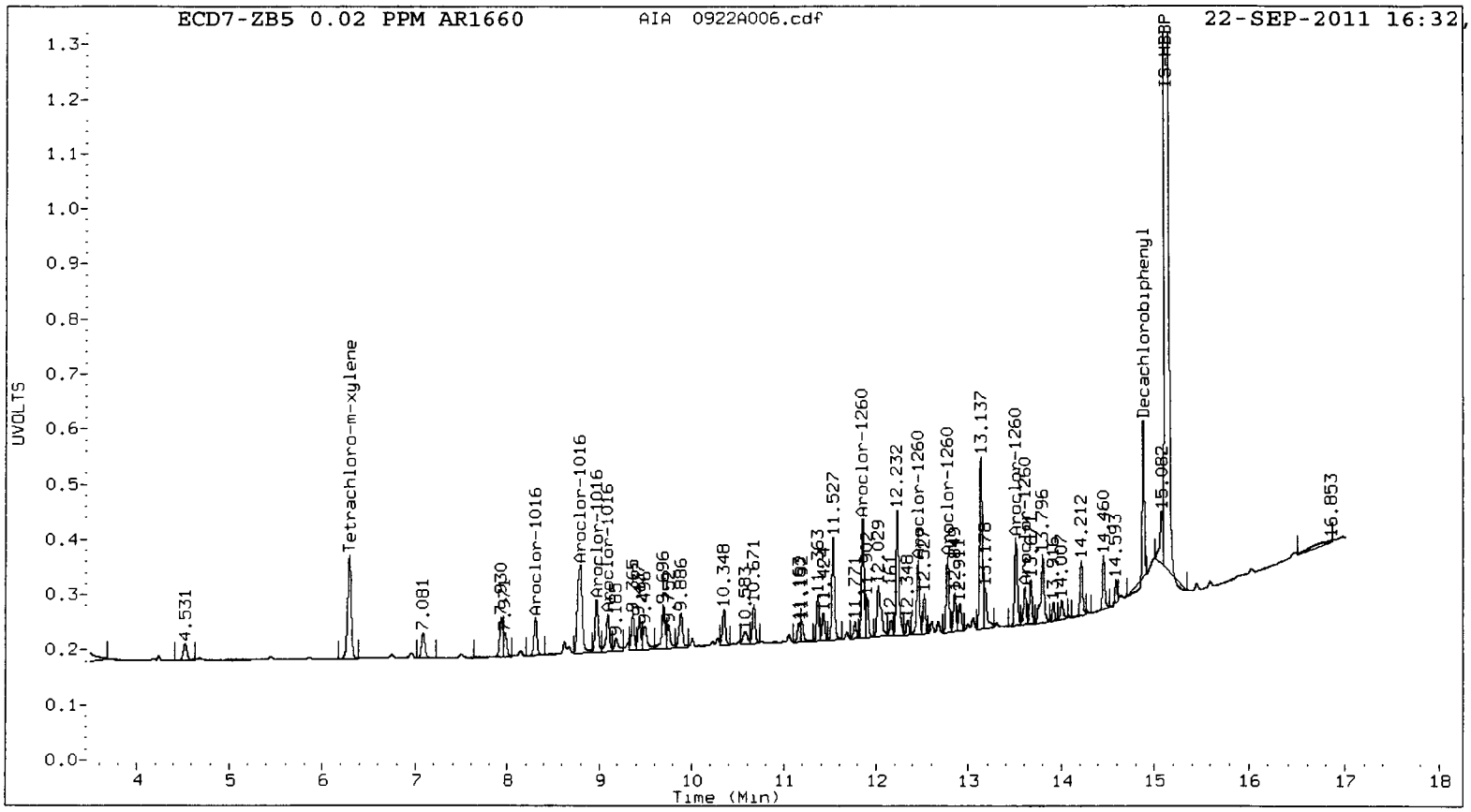
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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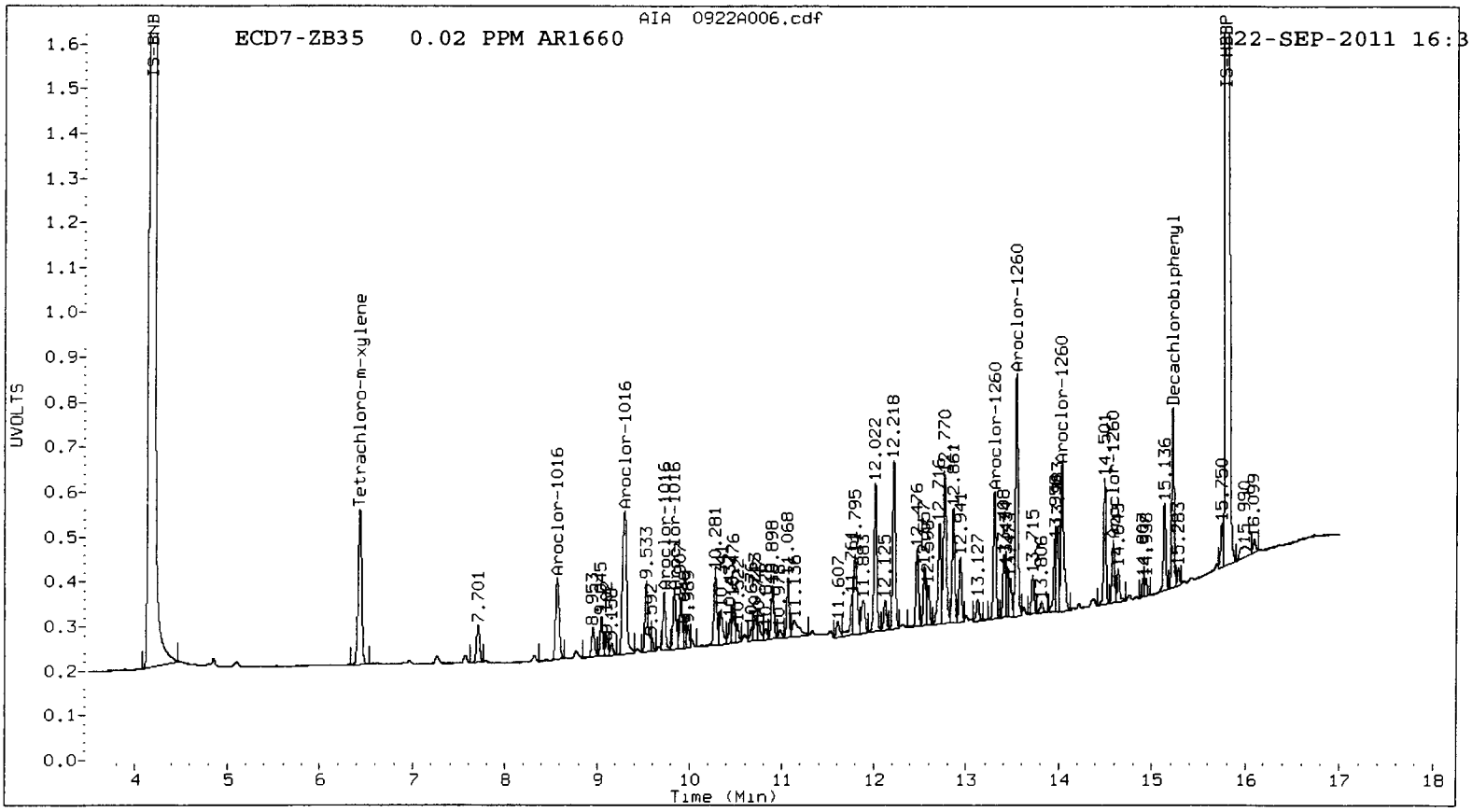
AIA 0922A006.cdf
22-SEP-2011 16:32
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor-1016
Aroclor-1260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AIA 0922A006.cdf
22-SEP-2011 16:3
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor-1016
Aroclor-1260

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A007.d
Data file 2: 20110922.B/ical-2.b/0922A007.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.05 PPM AR1660
Client ID:
Injection Date: 22-SEP-2011 16:55
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	248544	6.430	0.000	419764	3.7	3.9	4.5	Tetrachloro-m-xylen
14.884	0.000	221786	15.225	0.000	315564	3.9	4.1	3.8	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	9.3	9.8
Decachlorobiphenyl	9.8	10.2

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5248267	3.8
Hexabromobiphenyl	4060201	4179904	2.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8084445	3.5
Hexabromobiphenyl	5725568	5920027	3.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

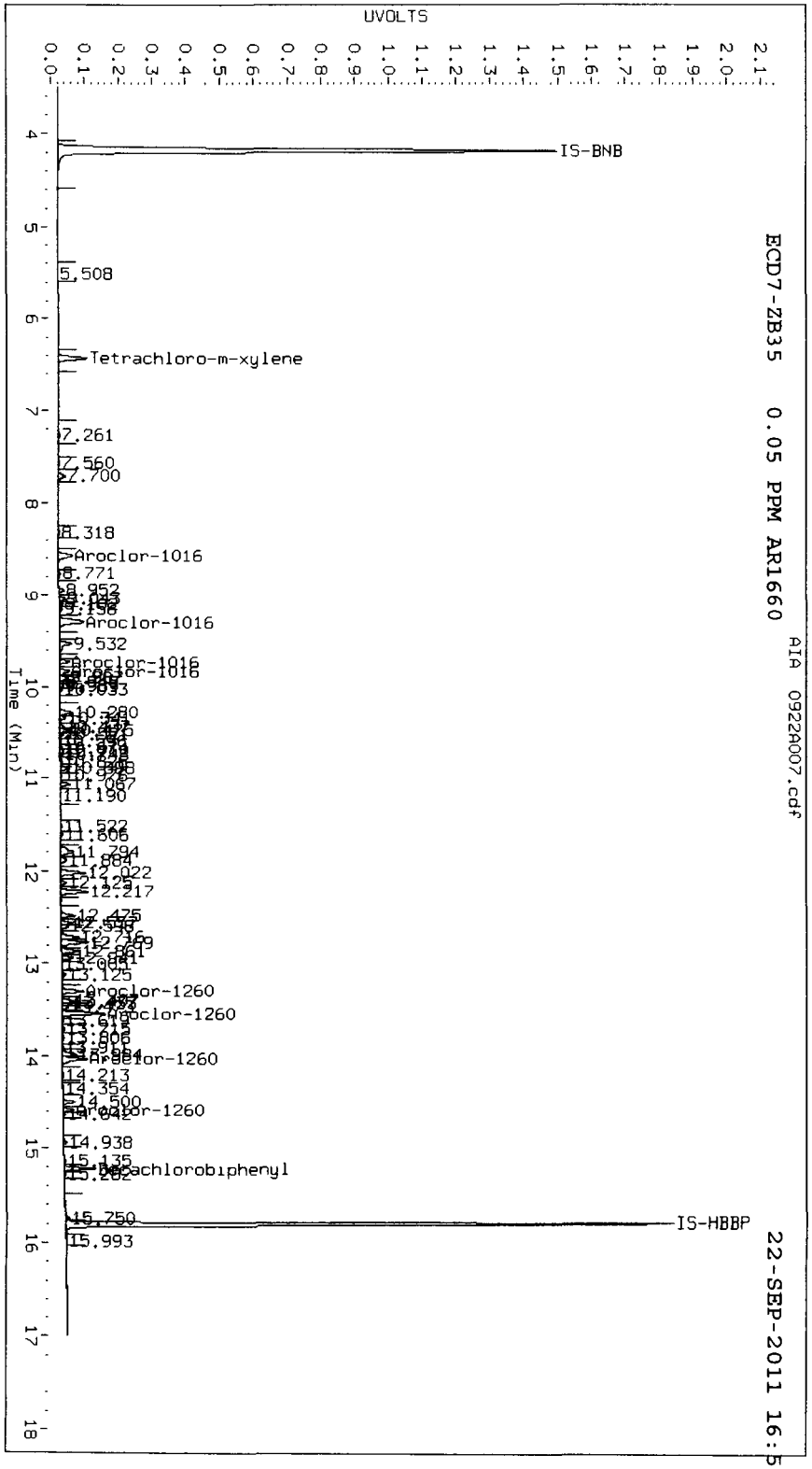
	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.305	0.000	82186	50.3	1	8.569	0.000	235167	54.3
Aroclor-1016	2	8.792	0.001	284059	50.3	2	9.299	0.000	473503	52.3
Aroclor-1016	3	8.966	0.001	113894	51.4	3	9.726	0.000	121791	52.5
Aroclor-1016	4	9.094	-0.001	81575	52.0	4	9.833	-0.001	145279	54.2
Total Col1Ave (4 peaks):				51.0		Total Col2Ave (4 peaks):			53.3	RPD = 4
Corrected Ave (3 peaks):				50.7		Corrected Ave (3 peaks):			53.0	RPD = 4
Aroclor-1260	1	11.853	0.000	210320	50.0	1	13.304	0.000	257472	53.5
Aroclor-1260	2	12.458	0.000	140230	51.1	2	13.541	0.000	493139	51.8
Aroclor-1260	3	12.774	0.000	135297	49.5	3	14.034	-0.001	328688	52.8
Aroclor-1260	4	13.508	0.000	167304	48.7	4	14.589	0.000	114774	52.5
Aroclor-1260	5	13.607	0.000	66465	49.7	NS	---			----
Total Col1Ave (5 peaks):				49.8		Total Col2Ave (4 peaks):			52.7	RPD = 6
Corrected Ave (4 peaks):				49.5		Corrected Ave (3 peaks):			52.4	RPD = 6

Total PCB Area Col1 (6.392 - 14.784) = 4147938 Col1 Total PCB = 0.1 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 7044412 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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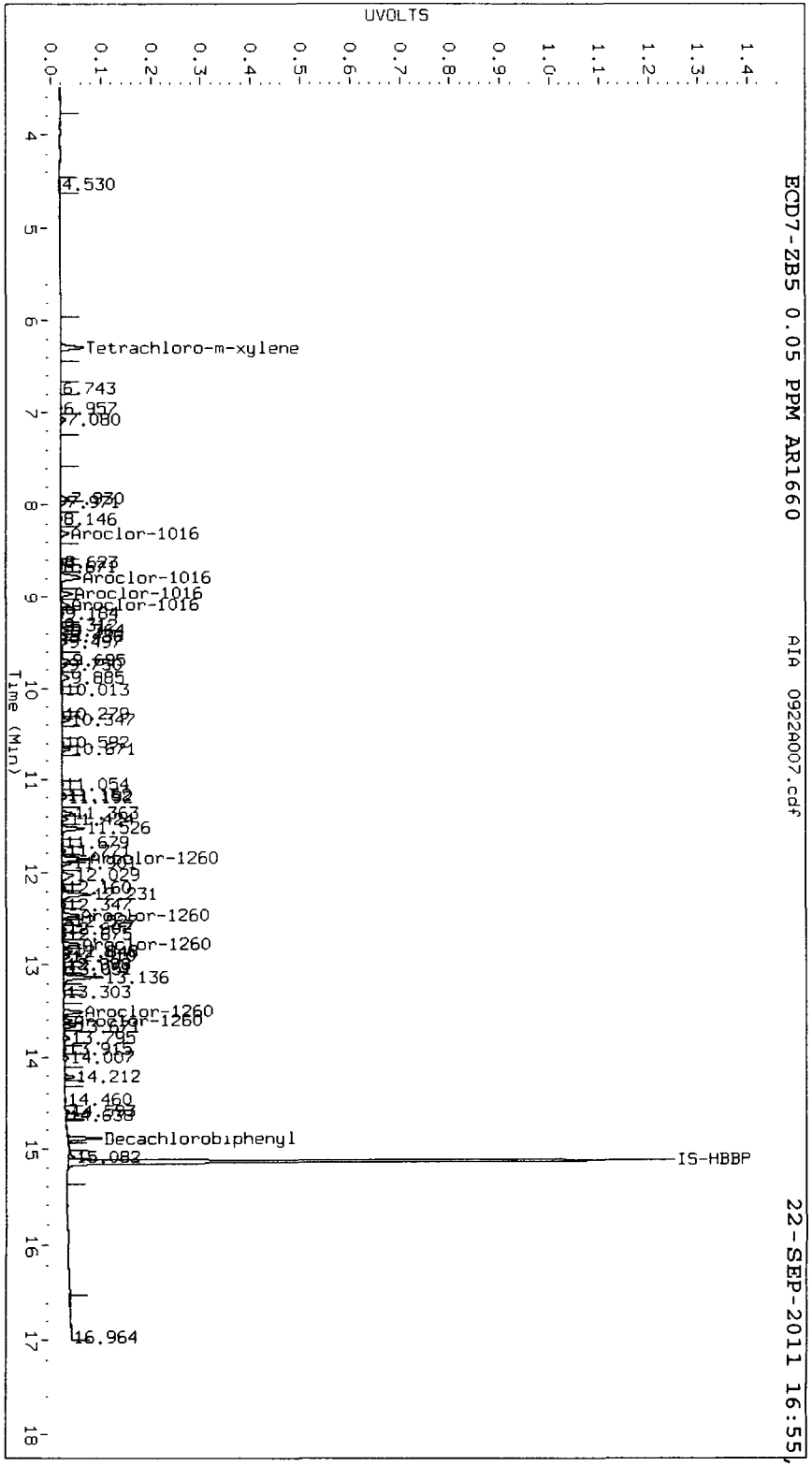
AIA 0922A007.cdf
22-SEP-2011 16:5
UVOLTS
Time (Min)
IS-BNB
5.508
Tetrachloro-m-xylene
7.261
7.560
7.700
8.318
Aroclor-1016
8.771
8.952
Aroclor-1016
9.532
Aroclor-1016
10.280
11.067
11.190
11.606
11.794
12.022
12.217
12.475
12.861
13.125
Aroclor-1260
Aroclor-1260
Aroclor-1260
14.213
14.354
14.500
Aroclor-1260
14.938
15.135
Decachlorobiphenyl
15.750
IS-HBBP
15.993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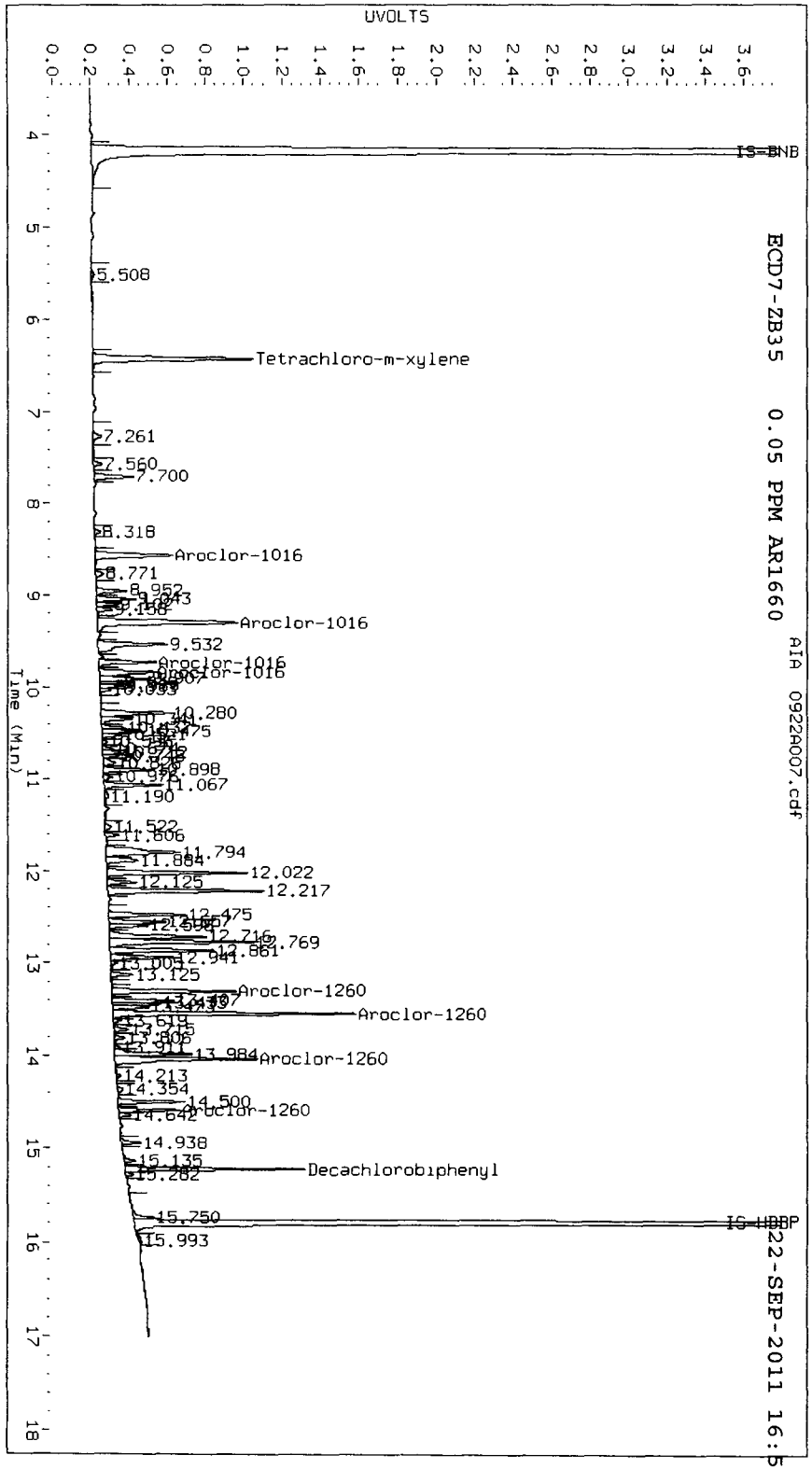
UVOLTS
Time (Min)
4.530
Tetrachloro-m-xylene
6.743
6.957
7.080
7.930
7.971
8.146
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1016
9.885
10.013
10.347
10.871
11.054
11.363
11.526
11.629
Aroclor-1260
12.029
12.160
12.347
Aroclor-1260
Aroclor-1260
13.136
13.303
Aroclor-1260
Aroclor-1260
14.007
14.212
14.460
Decachlorobiphenyl
15.082
IS-HBBP
16.964

TS00:00092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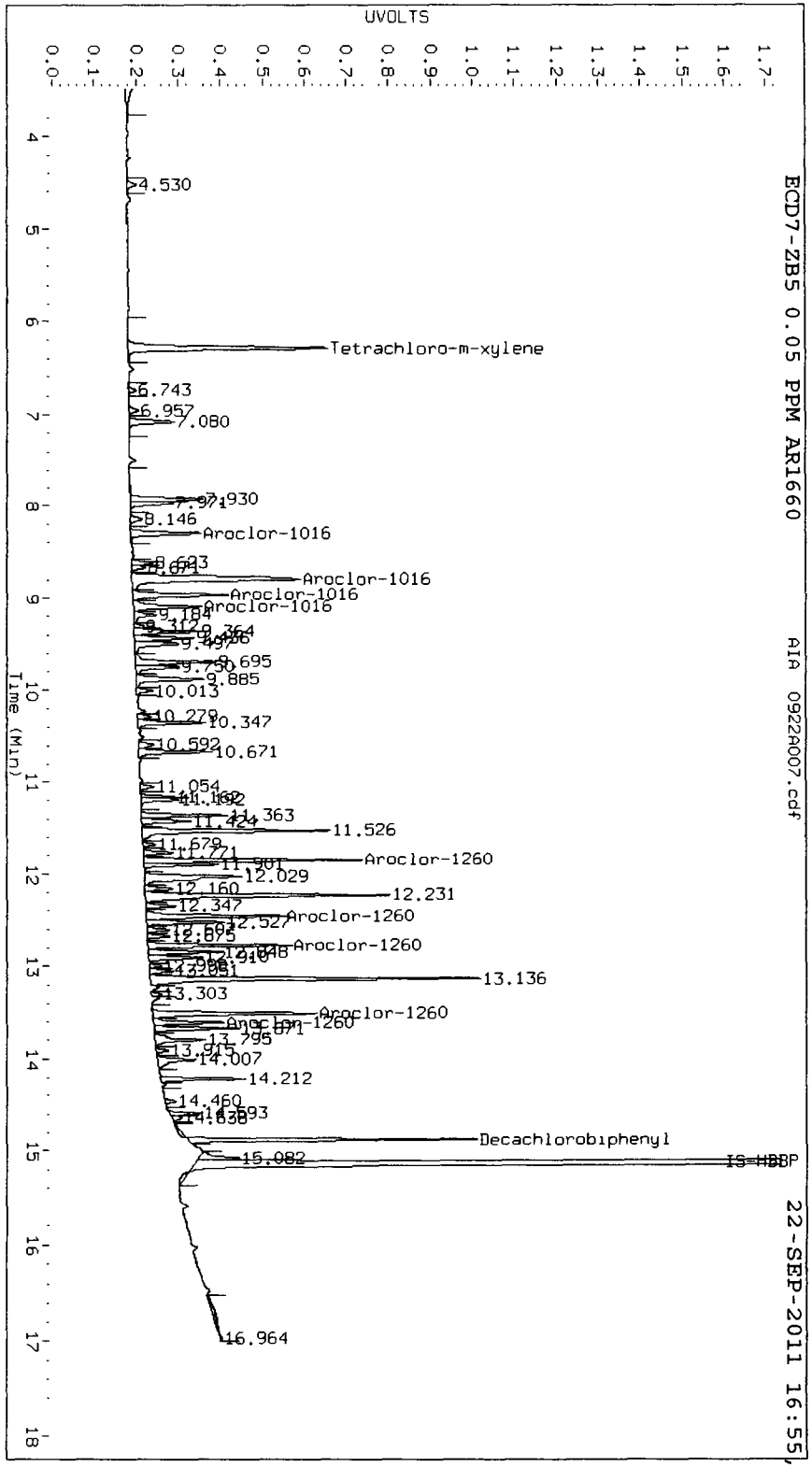
ECD7-ZB35 0.05 PPM AR1660
AIA 0922A007.cdf
22-SEP-2011 16:5
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1260
Decachlorobiphenyl
IS-HBBP


UVOLTS
ECD7-ZB5 0.05 PPM AR1660
AIA 0922A007.cdf
22-SEP-2011 16:55
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1260
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A008.d
Data file 2: 20110922.B/ical-2.b/0922A008.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 1 PPM AR1660
Client ID:
Injection Date: 22-SEP-2011 17:18
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.293	0.001	5464672	6.432	0.001	8215922	84.7	79.6	6.1	Tetrachloro-m-xylen
14.884	0.000	4628347	15.225	0.000	5763209	83.1	75.9	9.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

2 09/23/11

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	211.7	199.0
Decachlorobiphenyl	207.8	189.8

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5090348	0.7
Hexabromobiphenyl	4060201	4128583	1.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7766048	-0.6
Hexabromobiphenyl	5725568	5821657	1.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.305	0.000	1512621	954.2	1	8.569	0.000	3532685	848.5
Aroclor-1016	2	8.793	0.001	5218288	952.5	2	9.299	0.000	7710650	886.1
Aroclor-1016	3	8.965	0.000	1995046	929.0	3	9.725	0.000	1957840	878.7
Aroclor-1016	4	9.094	-0.001	1401822	920.7	4	9.834	0.000	2169468	841.9

Total Col1Ave (4 peaks): 939.1 Total Col2Ave (4 peaks): 863.8 RPD = 8
Corrected Ave (3 peaks): 934.0 Corrected Ave (3 peaks): 856.4 RPD = 9

Aroclor-1260	1	11.852	0.000	3996922	961.9	1	13.304	0.000	4097253	866.5
Aroclor-1260	2	12.458	-0.001	2589431	955.8	2	13.540	-0.001	8608863	919.1
Aroclor-1260	3	12.773	0.000	2660859	985.0	3	14.034	-0.001	5450765	890.0
Aroclor-1260	4	13.506	-0.001	3406312	1004.7	4	14.590	0.001	1884980	877.2
Aroclor-1260	5	13.607	0.000	1305766	988.4	NS	---			----

Total Col1Ave (5 peaks): 979.1 Total Col2Ave (4 peaks): 888.2 RPD = 10
Corrected Ave (4 peaks): 972.8 Corrected Ave (3 peaks): 877.9 RPD = 10

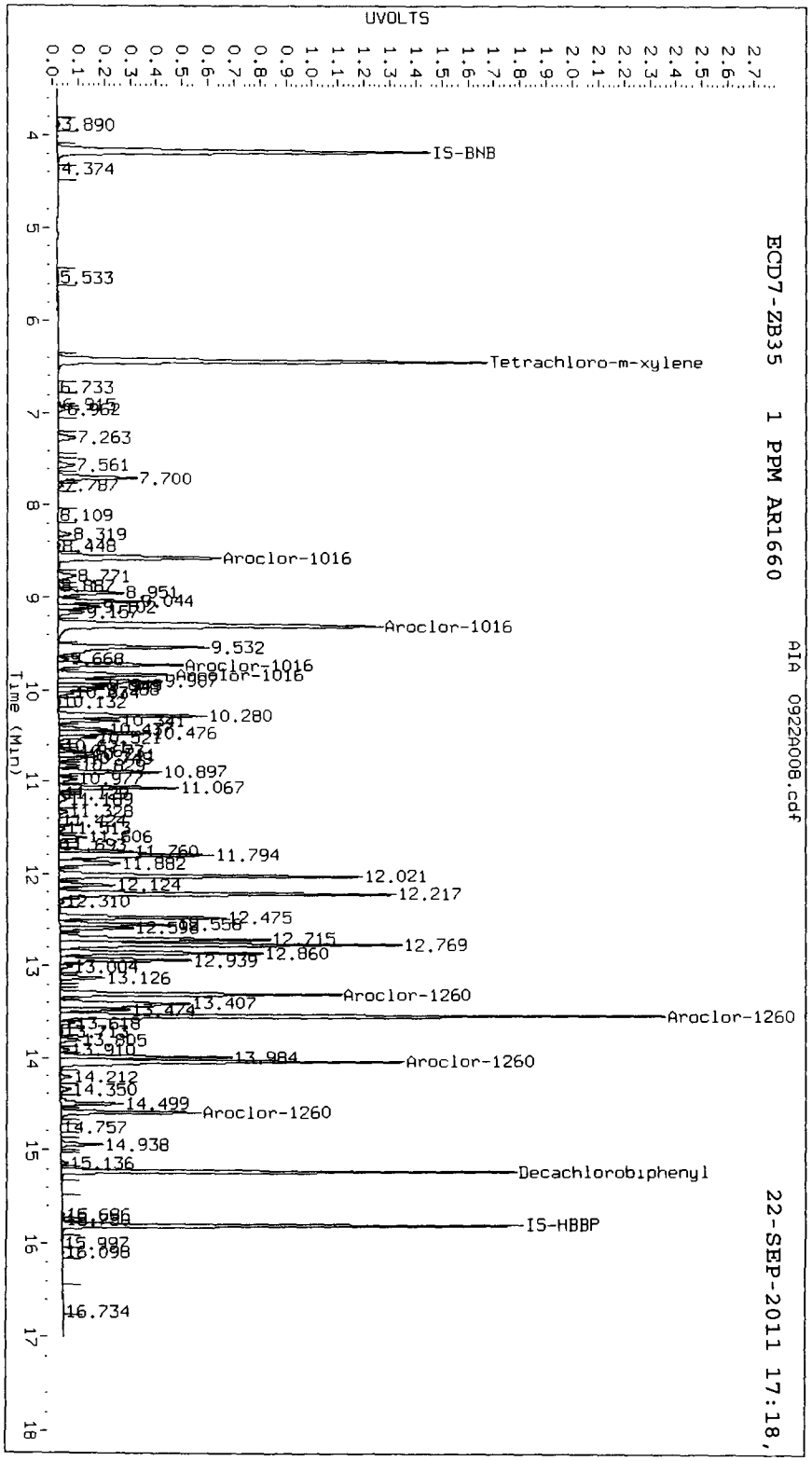
Total PCB Area Col1 (6.392 - 14.784) = 76275646 Col1 Total PCB = 1.9 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 105672851 Col2 Total PCB = 1.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

TS00:00096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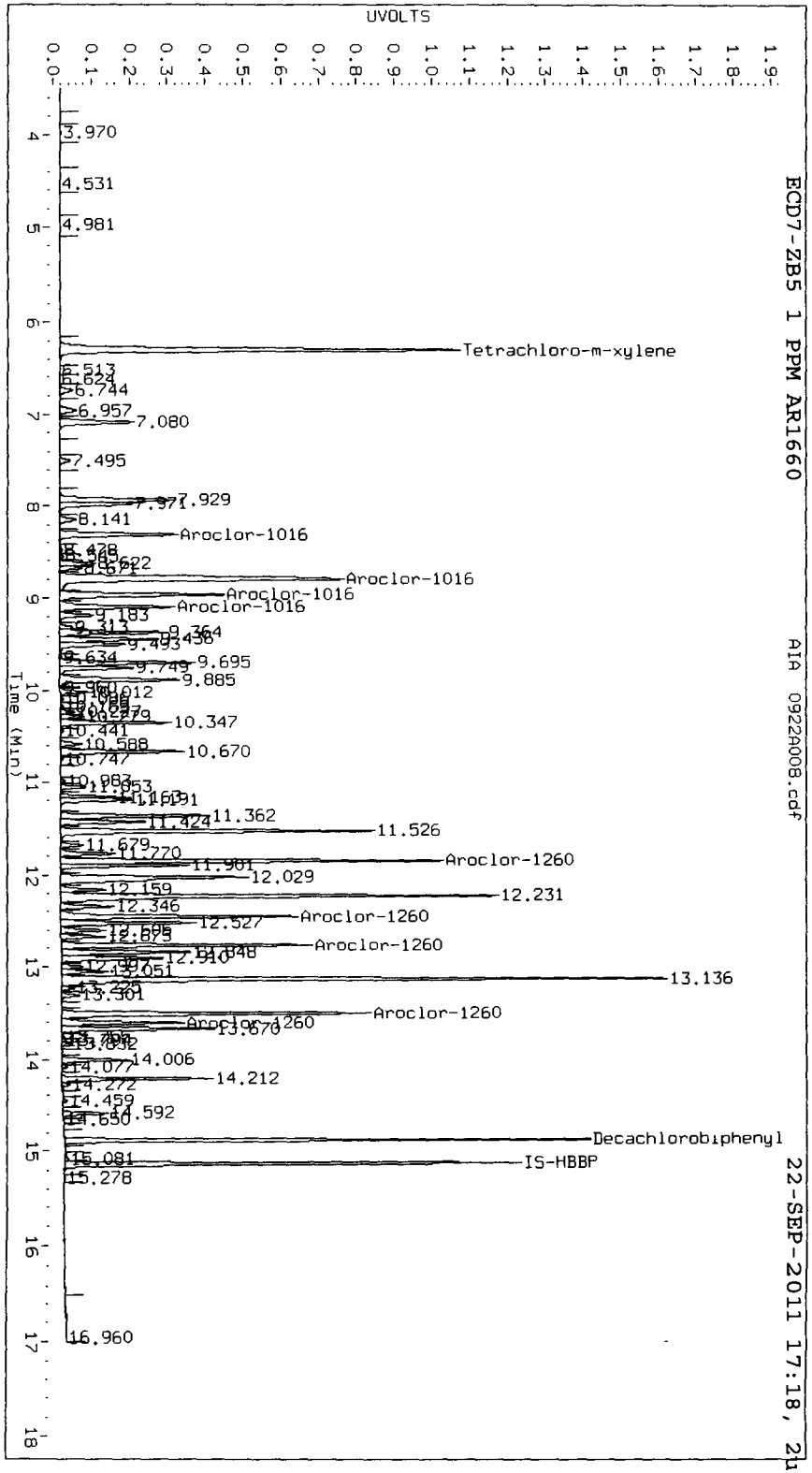
AIA 0922A008.cdf
22-SEP-2011 17:18,
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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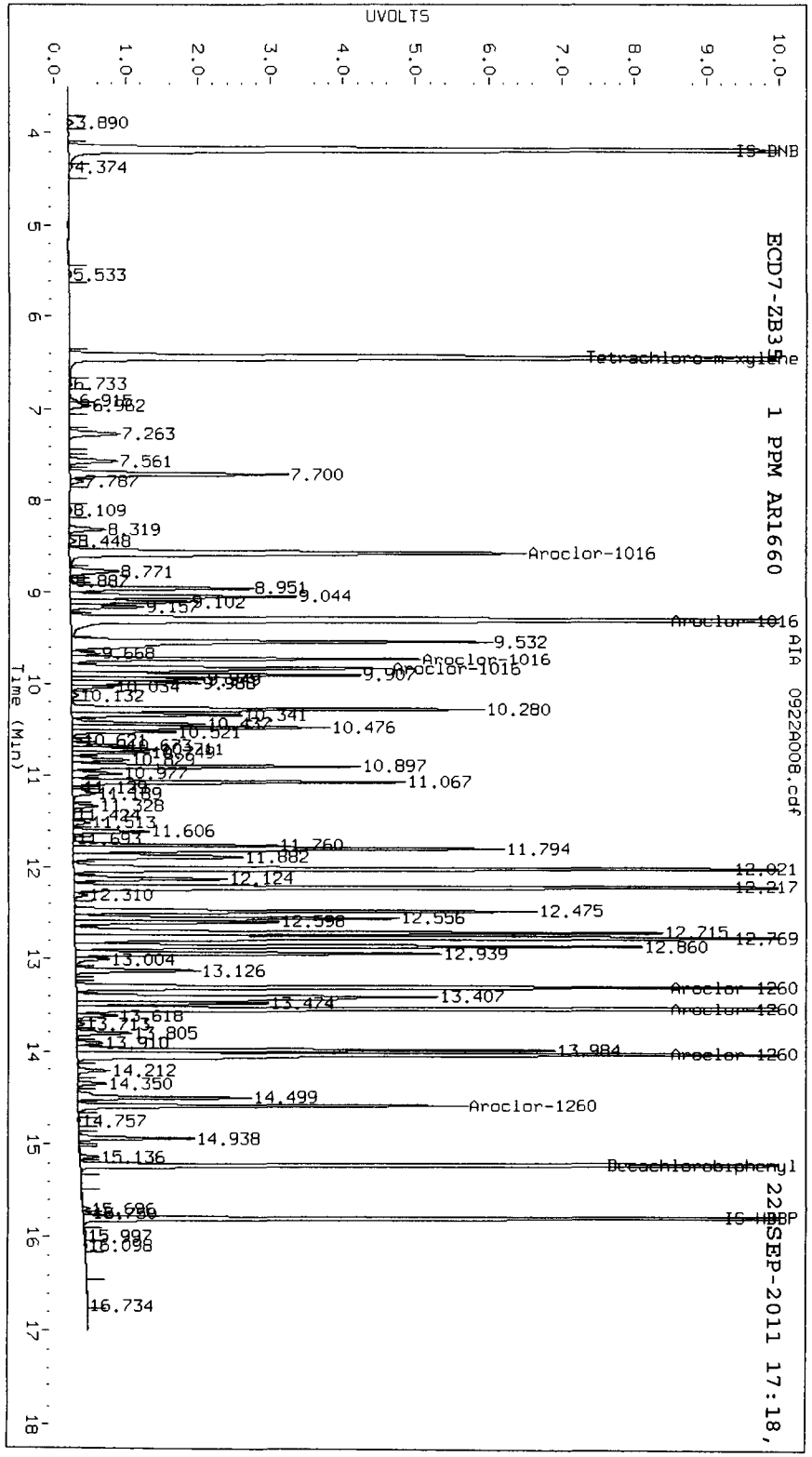
AIA 0922A008.cdf
22-SEP-2011 17:18, 2
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0
Time (Min)
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
ECD7-ZB35 1 PPM AR1660
AIA 0922A008.cdf
22-SEP-2011 17:18,
IS-DNB
Tetrachloro-m-xylene
7.263
7.561
7.700
7.787
8.319
Aroclor-1016
8.771
8.951
9.044
9.532
9.907
10.280
10.476
10.897
11.067
11.606
11.794
11.882
12.124
12.310
12.475
12.556
12.715
12.860
12.939
13.004
13.126
13.407
13.474
13.984
14.212
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14.499
Aroclor-1260
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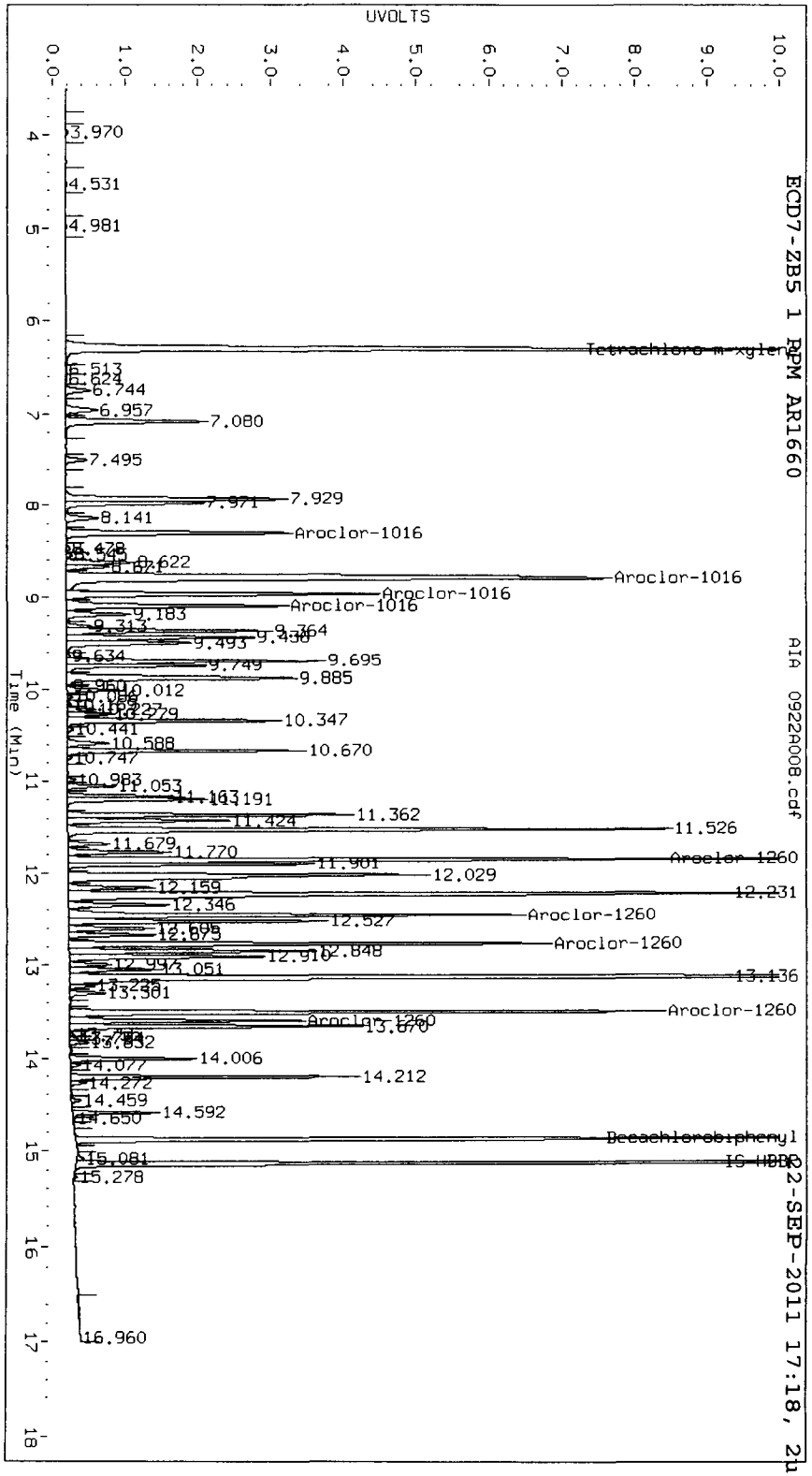
14.938
15.136
Decachlorobiphenyl
IS-HBBP
16.734


UVOLTS
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0
Time (Min)
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
ECD7-ZB5 1 PPM AR1660
AIA 0922A008.cdf
22-SEP-2011 17:18, 2u
Tetrachloro-m-xylene
6.744
6.957
7.080
7.495
7.929
8.141
Aroclor-1016
Aroclor-1016
Aroclor-1016
9.183
9.493
9.695
9.885
10.347
10.588
10.670
11.362
11.526
Aroclor-1260
12.029
12.231
Aroclor-1260
Aroclor-1260
Aroclor-1260
13.051
13.136
Aroclor-1260
14.006
14.212
14.592
Decachlorobiphenyl
IS-HBBP
16.960

TS00:00068

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A009.d
Data file 2: 20110922.B/ical-2.b/0922A009.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.1 PPM AR1660
Client ID:
Injection Date: 22-SEP-2011 17:40
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.293	0.001	536532	6.430	0.000	872901	8.0	8.1	0.6	Tetrachloro-m-xylen
14.885	0.001	479596	15.225	0.000	641228	8.3	8.2	1.9	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	20.0	20.1
Decachlorobiphenyl	20.8	20.4

pc 09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5290354	4.6
Hexabromobiphenyl	4060201	4278566	5.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8159946	4.5
Hexabromobiphenyl	5725568	6031834	5.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

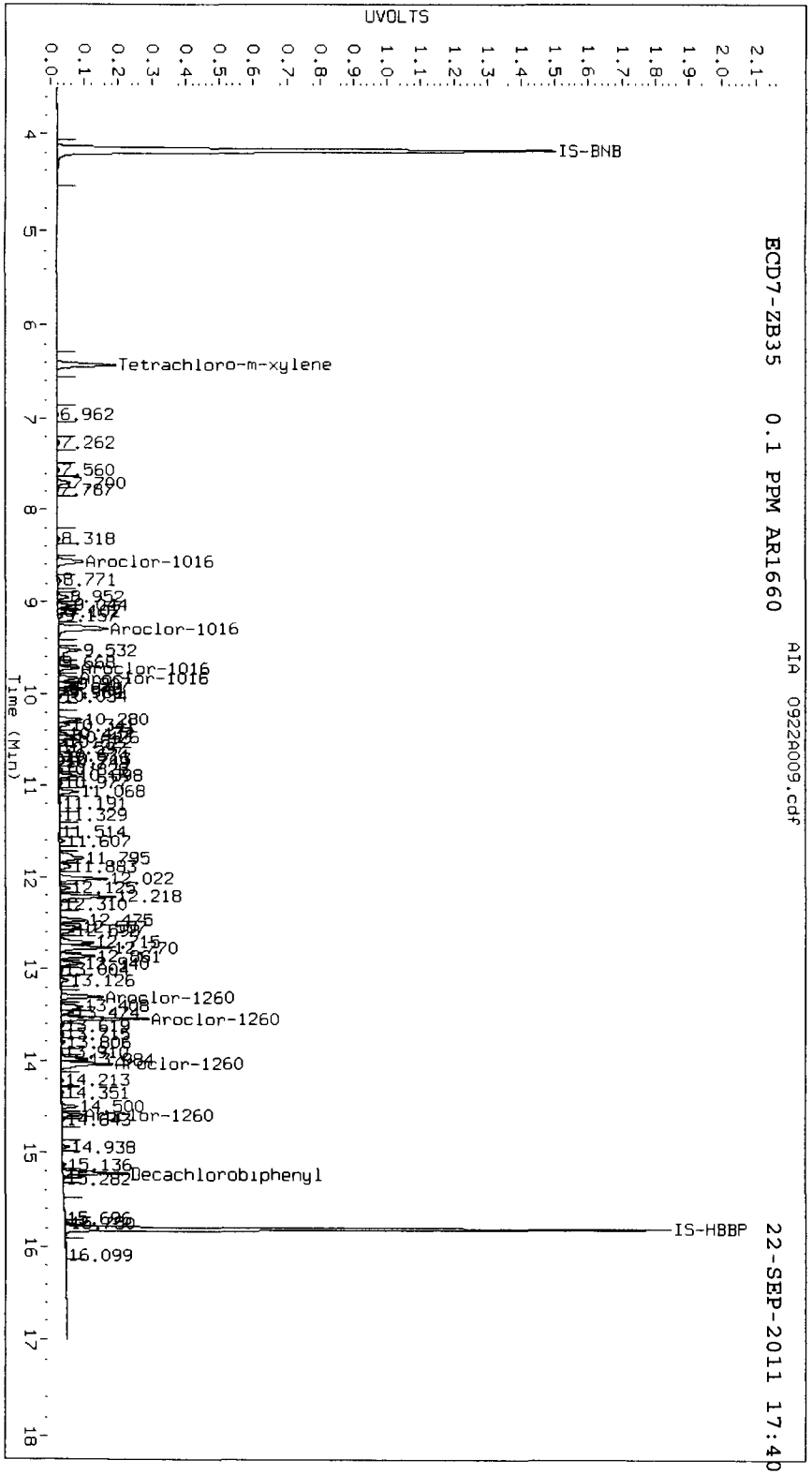
	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.306	0.000	169153	102.7	1	8.568	-0.001	460021	105.2
Aroclor-1016	2	8.793	0.002	587961	103.3	2	9.298	0.000	939588	102.8
Aroclor-1016	3	8.966	0.000	230822	103.4	3	9.726	0.000	243620	104.1
Aroclor-1016	4	9.095	0.000	159838	101.0	4	9.834	0.000	285480	105.4
Total Col1Ave (4 peaks):				102.6		Total Col2Ave (4 peaks):			104.4	RPD = 2
Corrected Ave (3 peaks):				102.3		Corrected Ave (3 peaks):			104.0	RPD = 2
Aroclor-1260	1	11.853	0.000	439048	102.0	1	13.304	0.000	507799	103.7
Aroclor-1260	2	12.459	0.000	286910	102.2	2	13.540	-0.001	995606	102.6
Aroclor-1260	3	12.774	0.000	285631	102.0	3	14.034	-0.001	654915	103.2
Aroclor-1260	4	13.508	0.001	357568	101.8	4	14.589	0.000	230589	103.6
Aroclor-1260	5	13.607	0.000	141577	103.4	NS	---			----
Total Col1Ave (5 peaks):				102.3		Total Col2Ave (4 peaks):			103.3	RPD = 1
Corrected Ave (4 peaks):				102.0		Corrected Ave (3 peaks):			103.1	RPD = 1

Total PCB Area Col1 (6.392 - 14.784) = 8446742 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 13658724 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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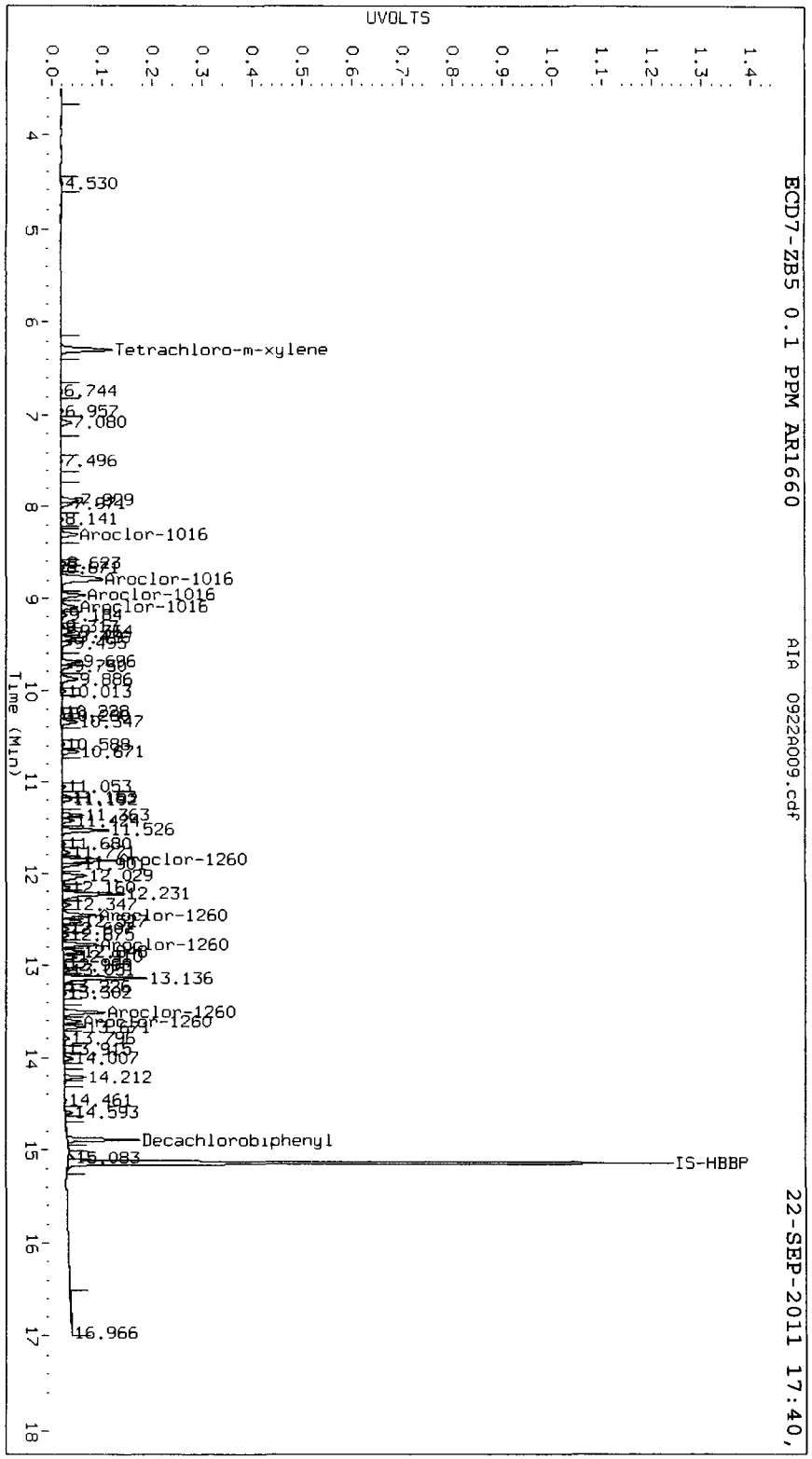
22-SEP-2011 17:40
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP


ECD7-ZB5 0.1 PPM AR1660
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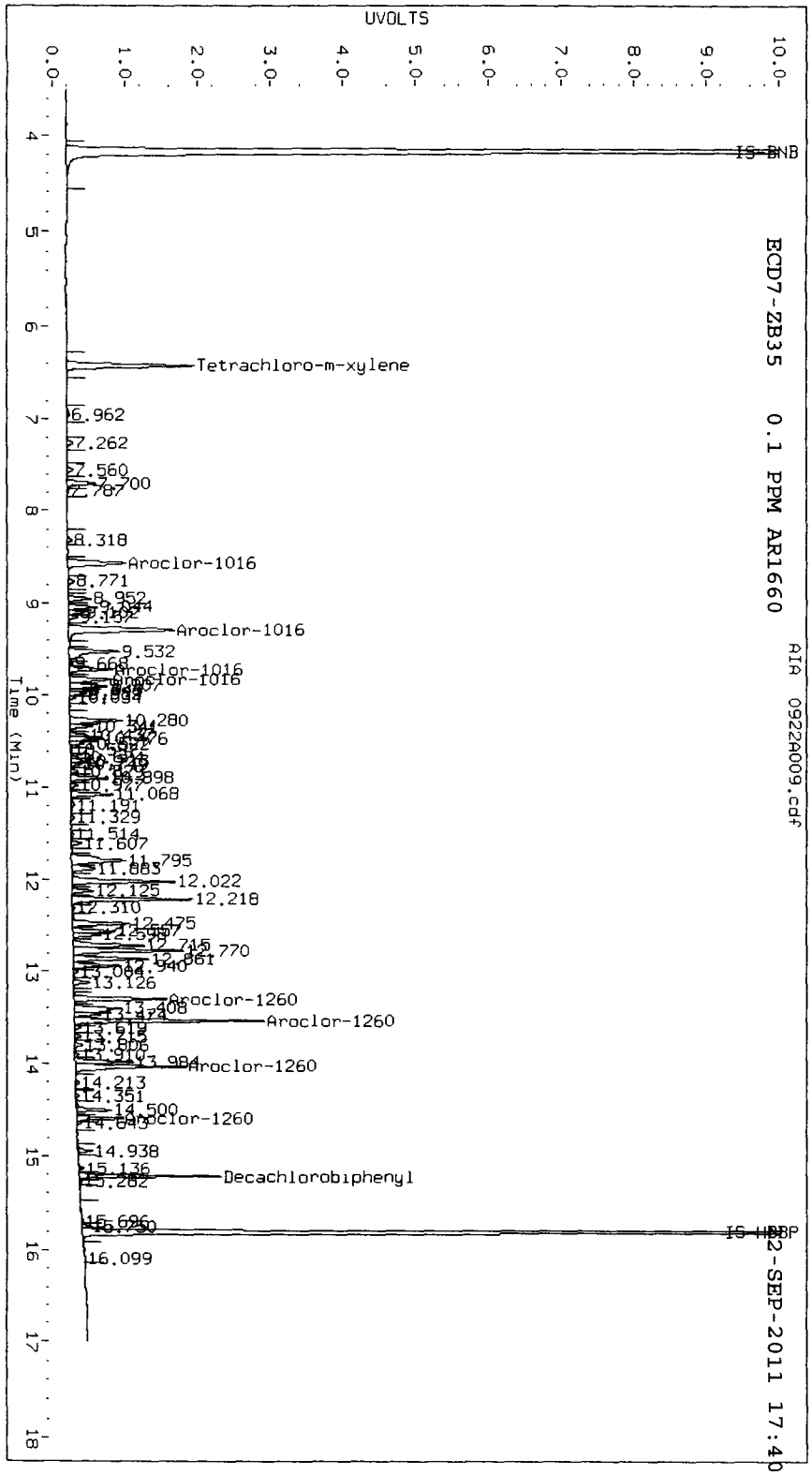
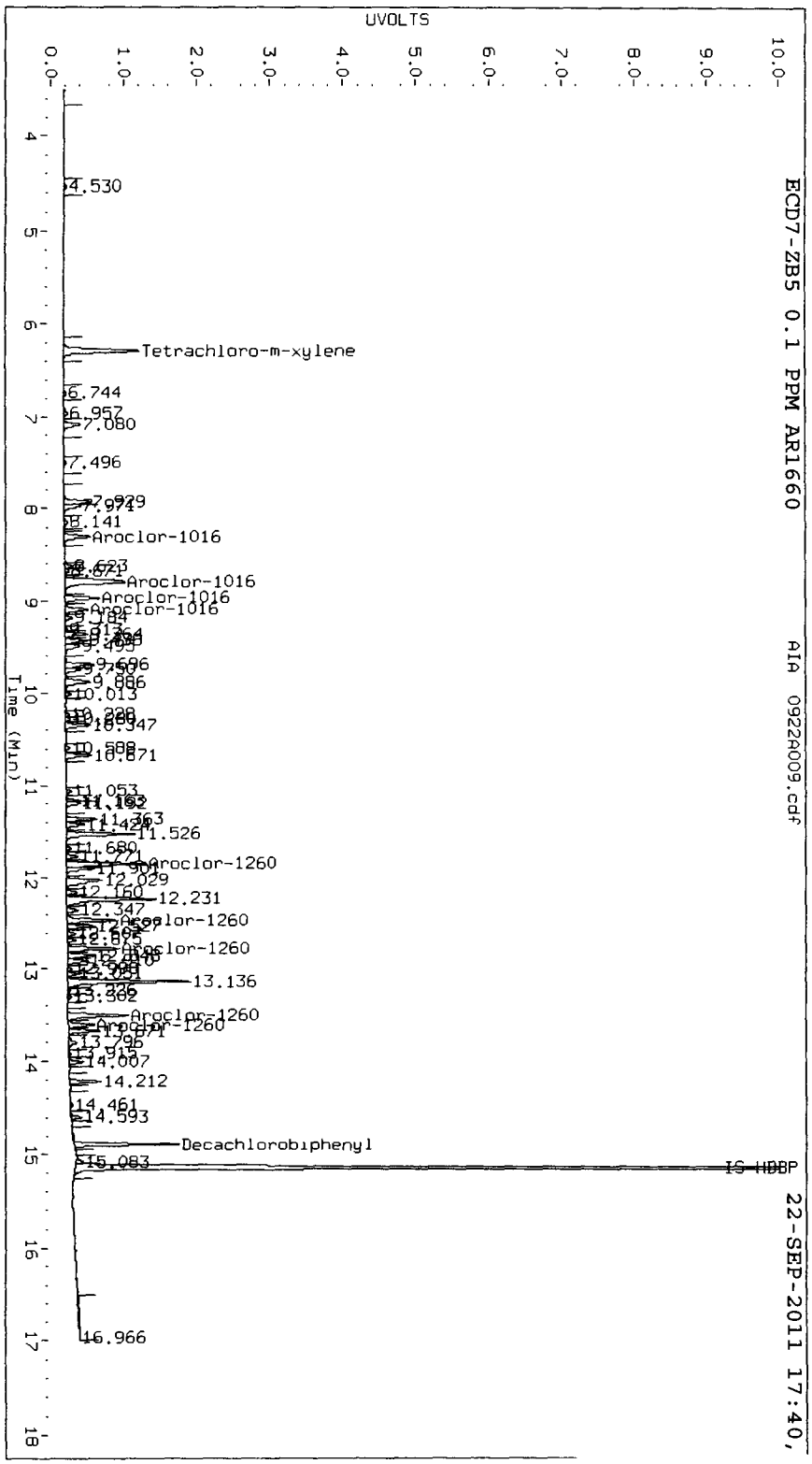
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP


ECD7-ZB35 0.1 PPM AR1660
AIA 0922A009.cdf
22-SEP-2011 17:40
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HDBP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AIA 0922A009.cdf
22-SEP-2011 17:40,
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HDBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A010.d
Data file 2: 20110922.B/ical-2.b/0922A010.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.5 PPM AR1660
Client ID:
Injection Date: 22-SEP-2011 18:03
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.293	0.001	2781326	6.431	0.001	4236800	41.9	39.9	4.9	Tetrachloro-m-xylen
14.885	0.001	2355039	15.225	0.000	2928191	41.4	37.9	8.8	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

JL 09/23/11

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	104.8	99.8
Decachlorobiphenyl	103.4	94.7

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5232204	3.5
Hexabromobiphenyl	4060201	4222160	4.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7989514	2.3
Hexabromobiphenyl	5725568	5928067	3.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

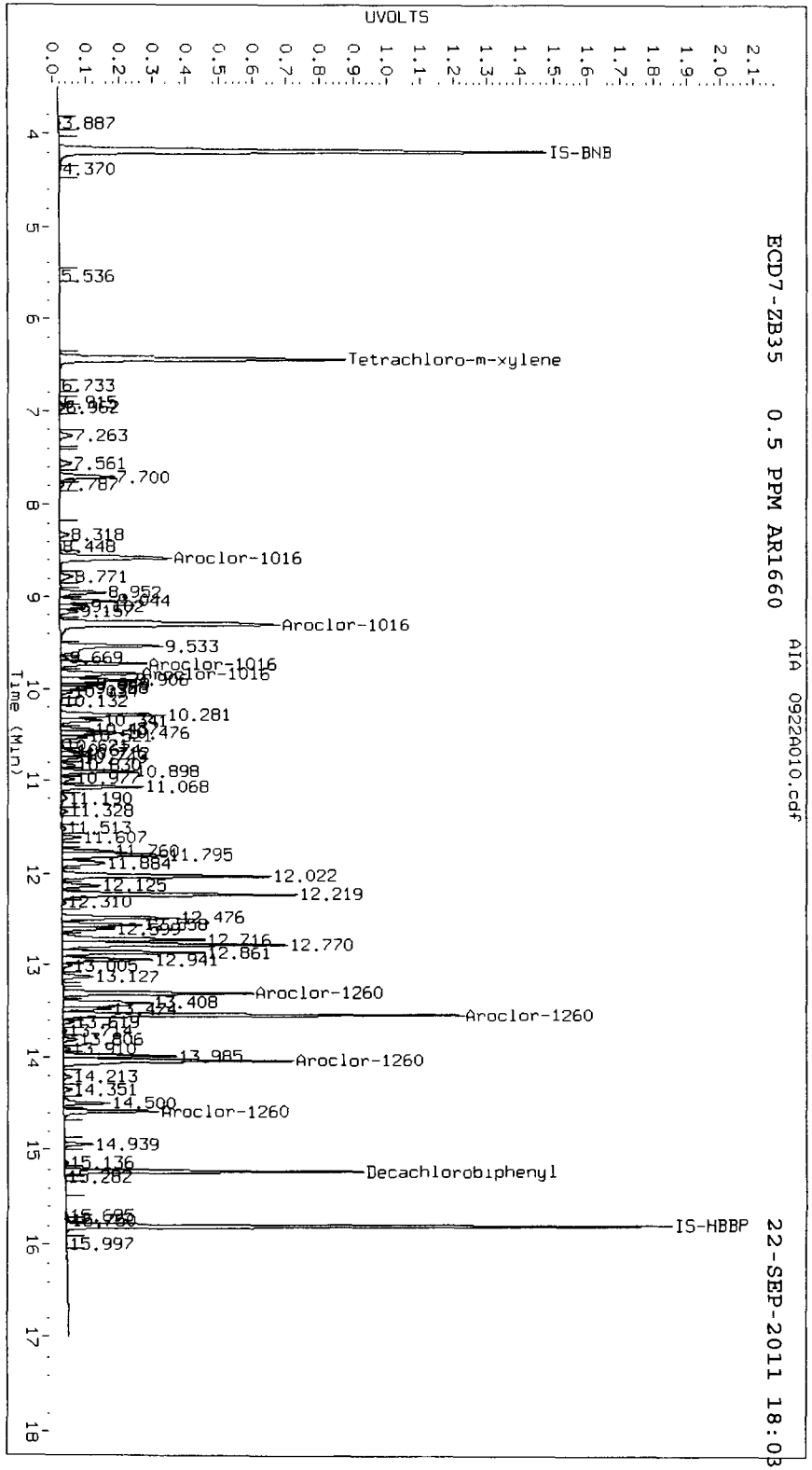
	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.306	0.000	787913	483.5	1	8.569	0.000	1918868	448.0
Aroclor-1016	2	8.791	0.000	2745356	487.5	2	9.298	0.000	4113388	459.5
Aroclor-1016	3	8.966	0.000	1050365	475.8	3	9.726	0.000	1050389	458.3
Aroclor-1016	4	9.094	0.000	728103	465.2	4	9.834	0.000	1177192	444.1
Total Col1Ave (4 peaks):				478.0		Total Col2Ave (4 peaks):			452.5	RPD = 5
Corrected Ave (3 peaks):				474.9		Corrected Ave (3 peaks):			450.1	RPD = 5
Aroclor-1260	1	11.853	0.000	2079056	489.3	1	13.304	0.000	2173116	451.3
Aroclor-1260	2	12.459	0.000	1365885	493.0	2	13.541	0.000	4469367	468.6
Aroclor-1260	3	12.774	0.000	1381017	499.9	3	14.035	0.000	2862508	459.0
Aroclor-1260	4	13.507	0.000	1754940	506.2	4	14.589	0.000	1014563	463.7
Aroclor-1260	5	13.607	0.000	677663	501.6	NS	---			----
Total Col1Ave (5 peaks):				498.0		Total Col2Ave (4 peaks):			460.6	RPD = 8
Corrected Ave (4 peaks):				495.9		Corrected Ave (3 peaks):			458.0	RPD = 8

Total PCB Area Col1 (6.392 - 14.784) = 39606072 Col1 Total PCB = 1.0 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 56856765 Col2 Total PCB = 1.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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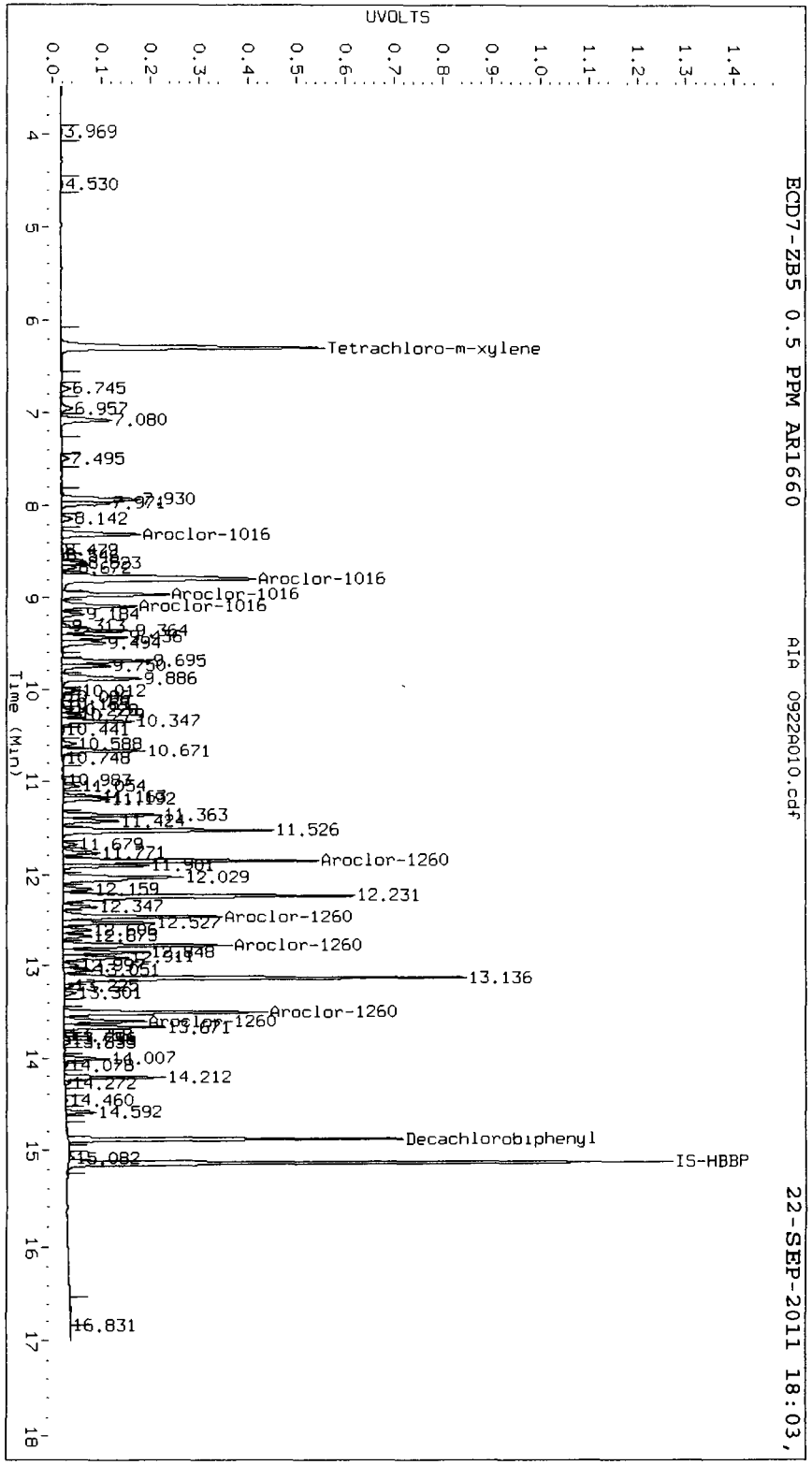
ECD7-ZB35 0.5 PPM AR1660
AIA 0922A010.cdf
22-SEP-2011 18:03
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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AIA 0922A010.cdf
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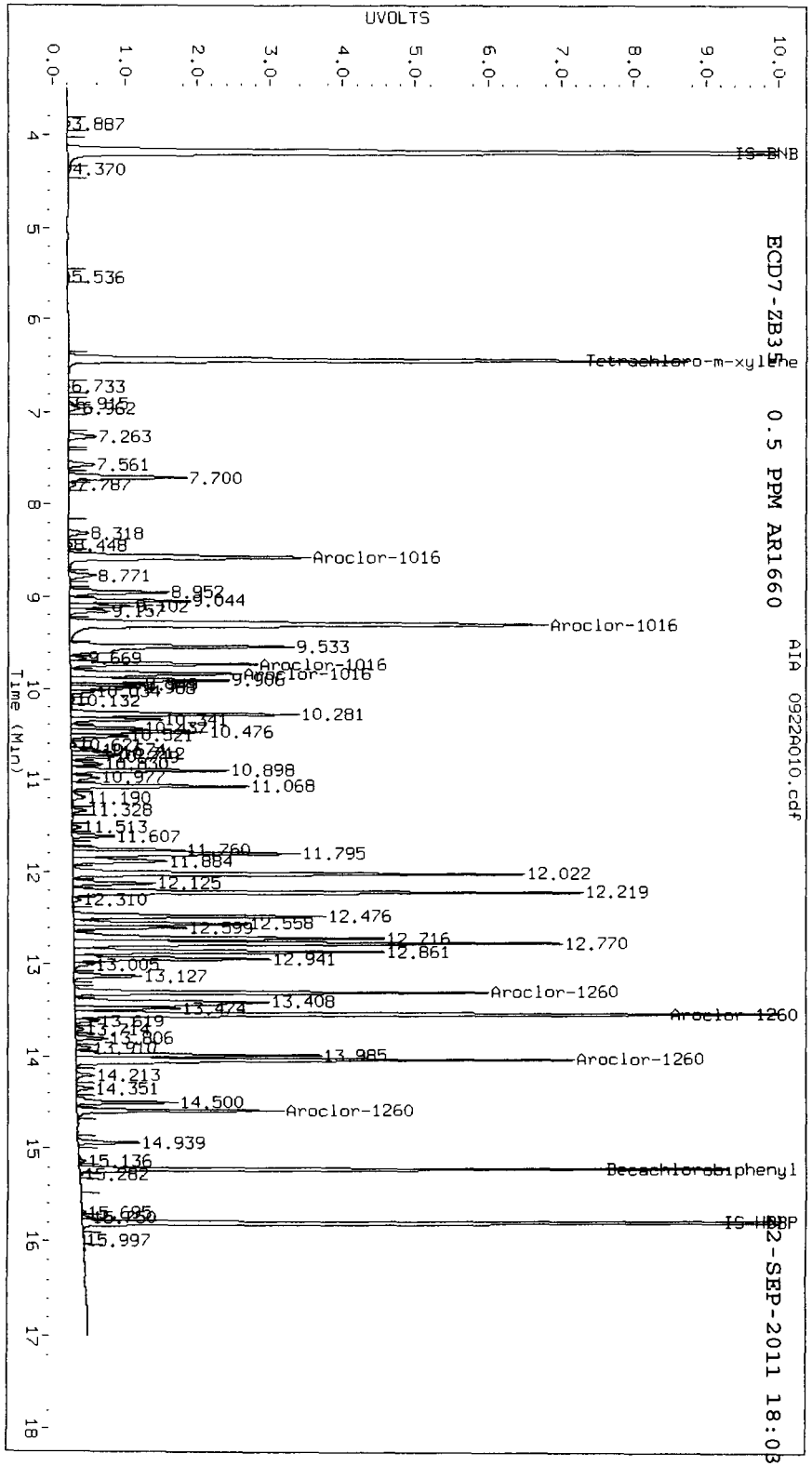
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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Time (Min)
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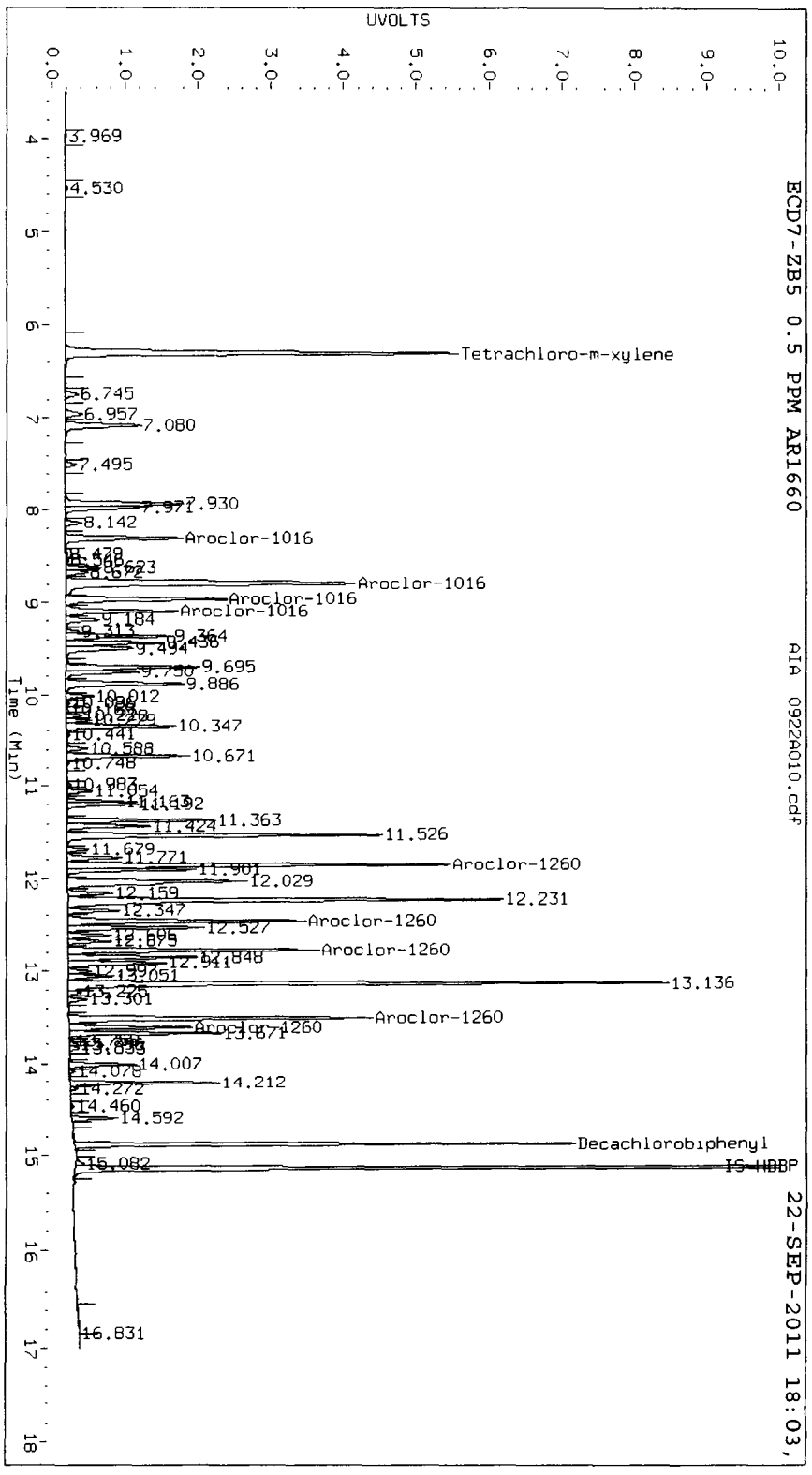
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HDBP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AIA 0922A010.cdf
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Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HDBP

TG00:00103

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A011.d
Data file 2: 20110922.B/ical-2.b/0922A011.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1242
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242
Client ID:
Injection Date: 22-SEP-2011 18:26
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.293	0.001	1386072	6.430	0.000	2178145	20.7	20.2	2.5	Tetrachloro-m-xylen
14.885	0.001	1150273	15.225	0.000	1442419	20.0	18.5	7.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.8	50.5
Decachlorobiphenyl	49.9	46.2

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5272812	4.3
Hexabromobiphenyl	4060201	4271852	5.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8109687	3.8
Hexabromobiphenyl	5725568	5984583	4.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1242	1	8.305	0.000	321095	250.0	1	8.568	0.000	820989	250.0
Aroclor-1242	2	8.792	0.000	1112165	250.0	2	9.298	0.000	1718999	250.0
Aroclor-1242	3	8.965	0.000	431552	250.0	3	9.726	0.000	452109	250.0
Aroclor-1242	4	10.586	0.000	395091	250.0	4	11.192	0.000	719737	250.0

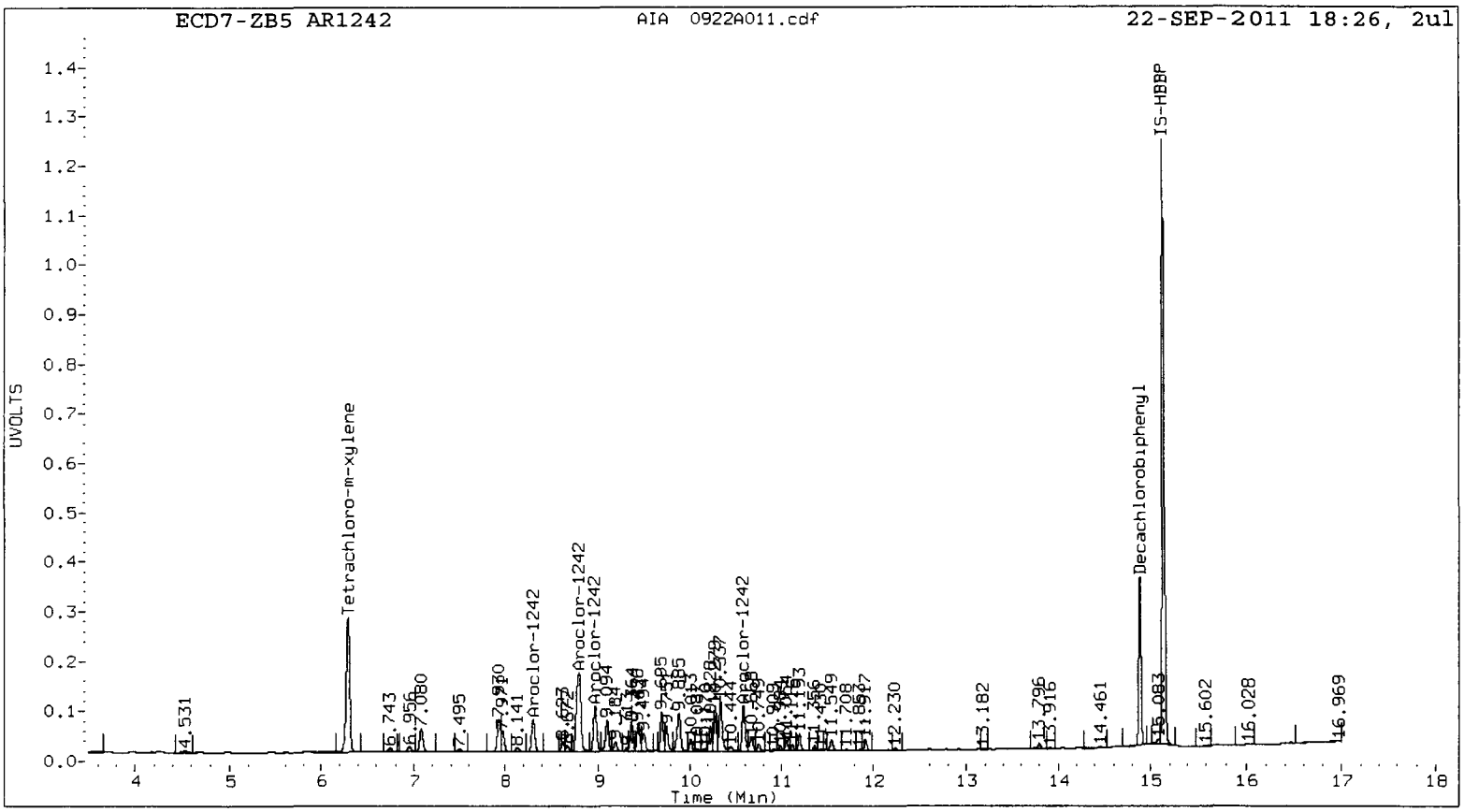
Total Col1Ave (4 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0

Corrected Ave (3 peaks): 250.0 Corrected Ave (3 peaks): 250.0 RPD = 0

Total PCB Area Col1 (6.392 - 14.784) = 7546628 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 12690270 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical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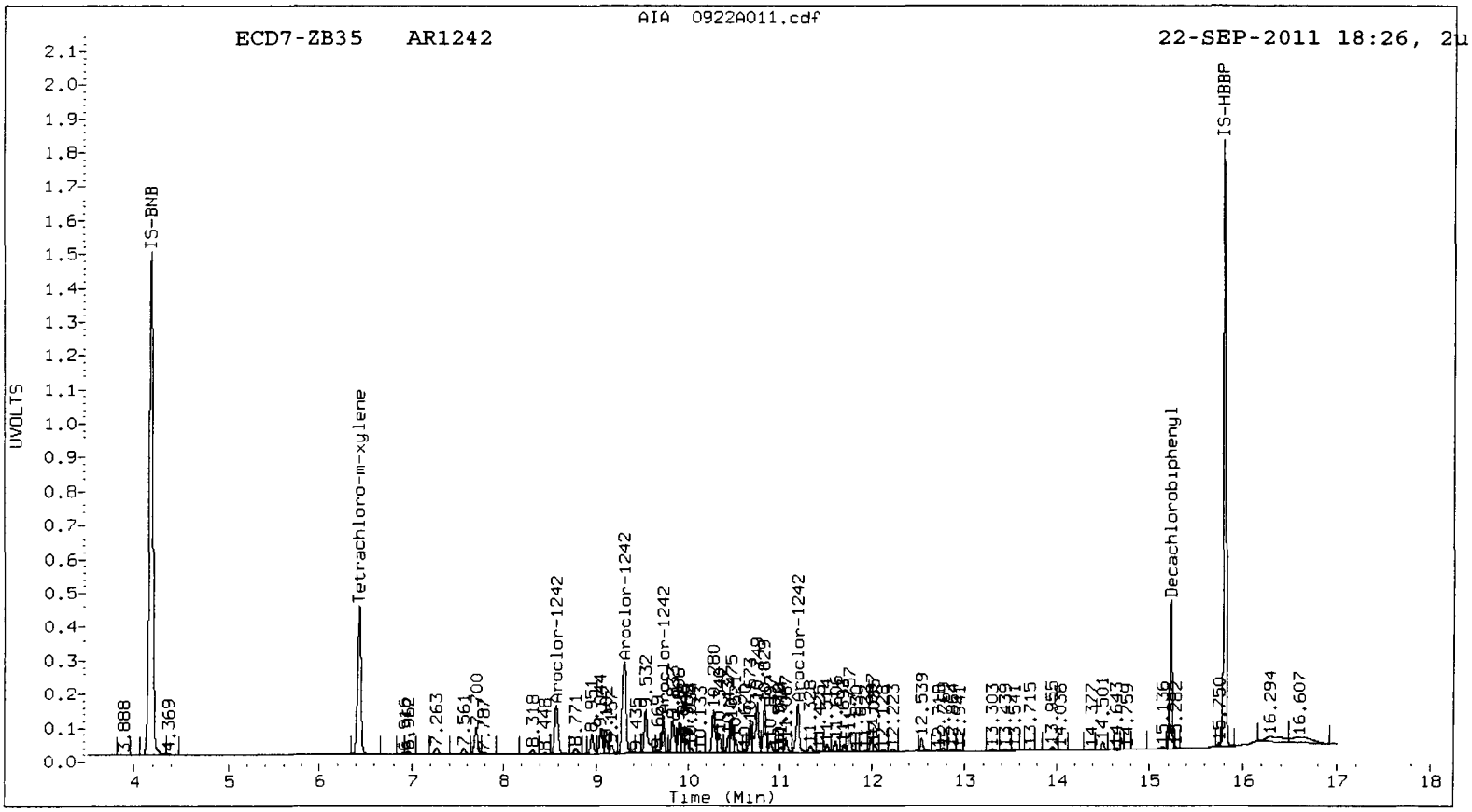
AIA 0922A011.cdf
22-SEP-2011 18:26, 2ul
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Aroclor-1242
Decachlorobiphenyl
IS-HBBP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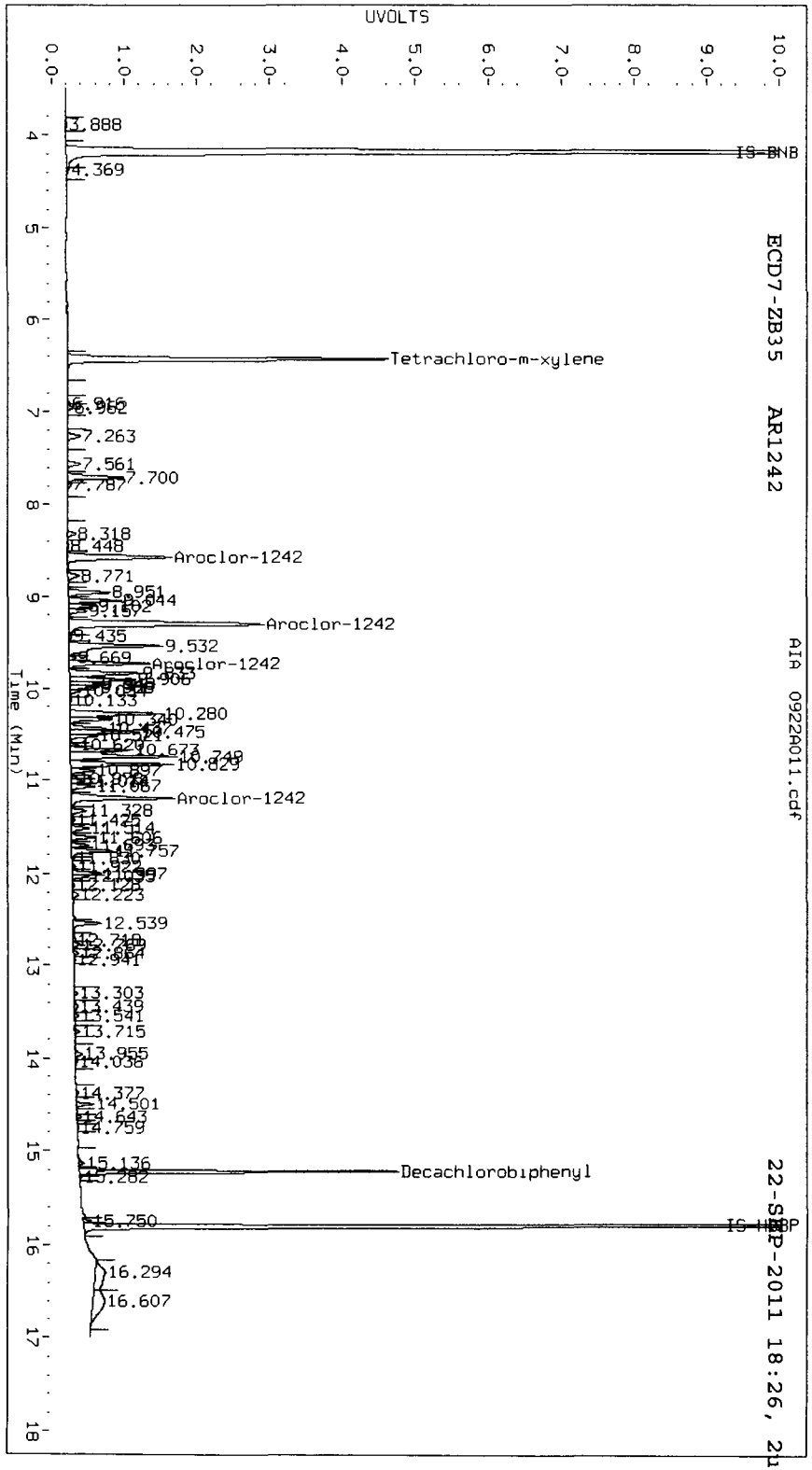
ECD7-ZB35 AR1242
22-SEP-2011 18:26, 2u
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1242
Decachlorobiphenyl
IS-HBBP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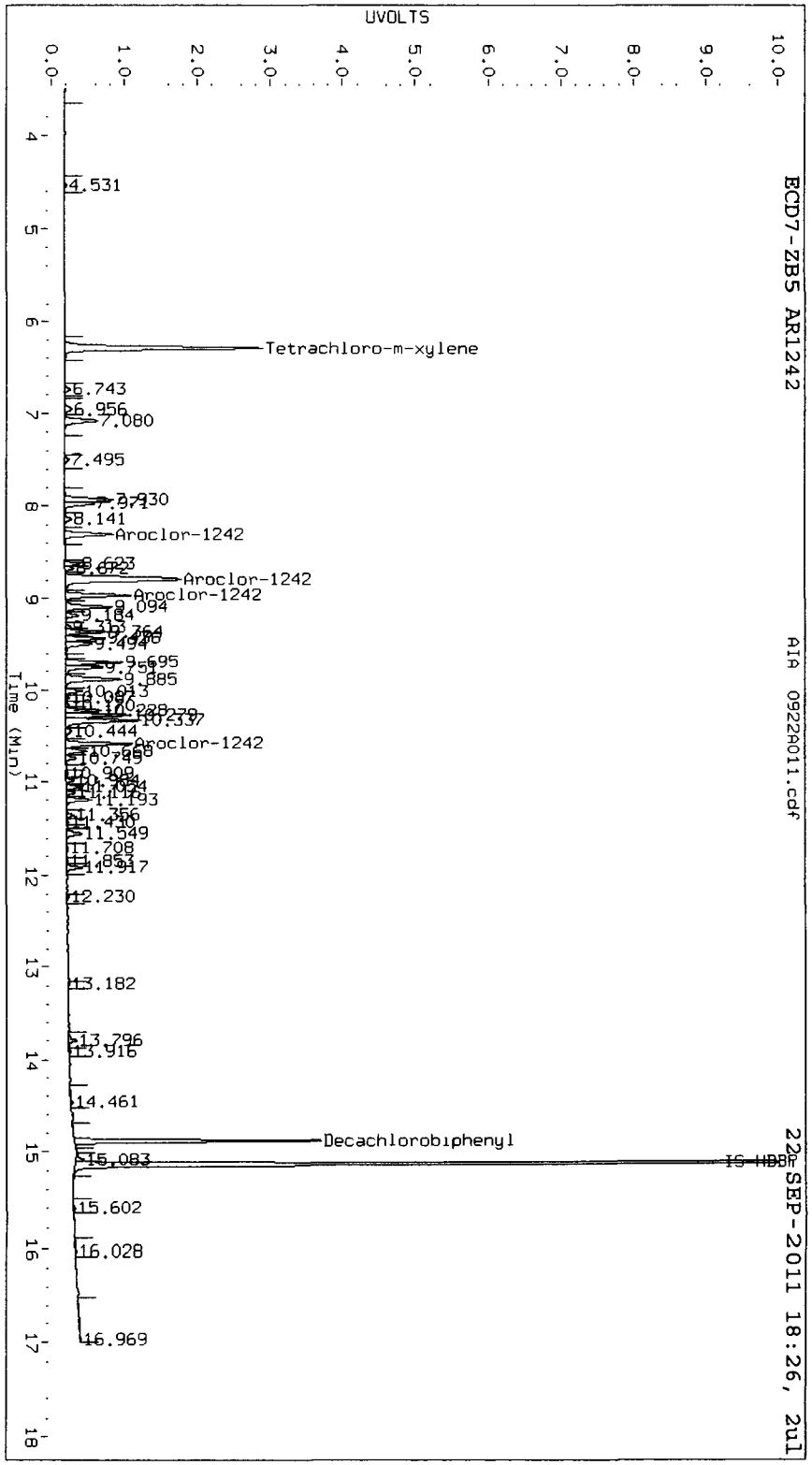
ECD7-ZB35 AR1242
AIA 0922A011.cdf
22-SEP-2011 18:26, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1242
Decachlorobiphenyl
IS-HBBP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ECD7-ZB5 AR1242
AIA 0922A011.cdf
22-SEP-2011 18:26, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1242
Decachlorobiphenyl
IS-HBBP

TS00:00112

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A012.d
Data file 2: 20110922.B/ical-2.b/0922A012.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1248
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248
Client ID:
Injection Date: 22-SEP-2011 18:49
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	1406892	6.430	0.000	2230521	21.4	21.0	1.7	Tetrachloro-m-xylen
14.885	0.001	1183725	15.225	0.000	1487273	20.6	19.0	7.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	53.4	52.5
Decachlorobiphenyl	51.4	47.6

JK 09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5196006	2.8
Hexabromobiphenyl	4060201	4268552	5.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7992397	2.3
Hexabromobiphenyl	5725568	5991342	4.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

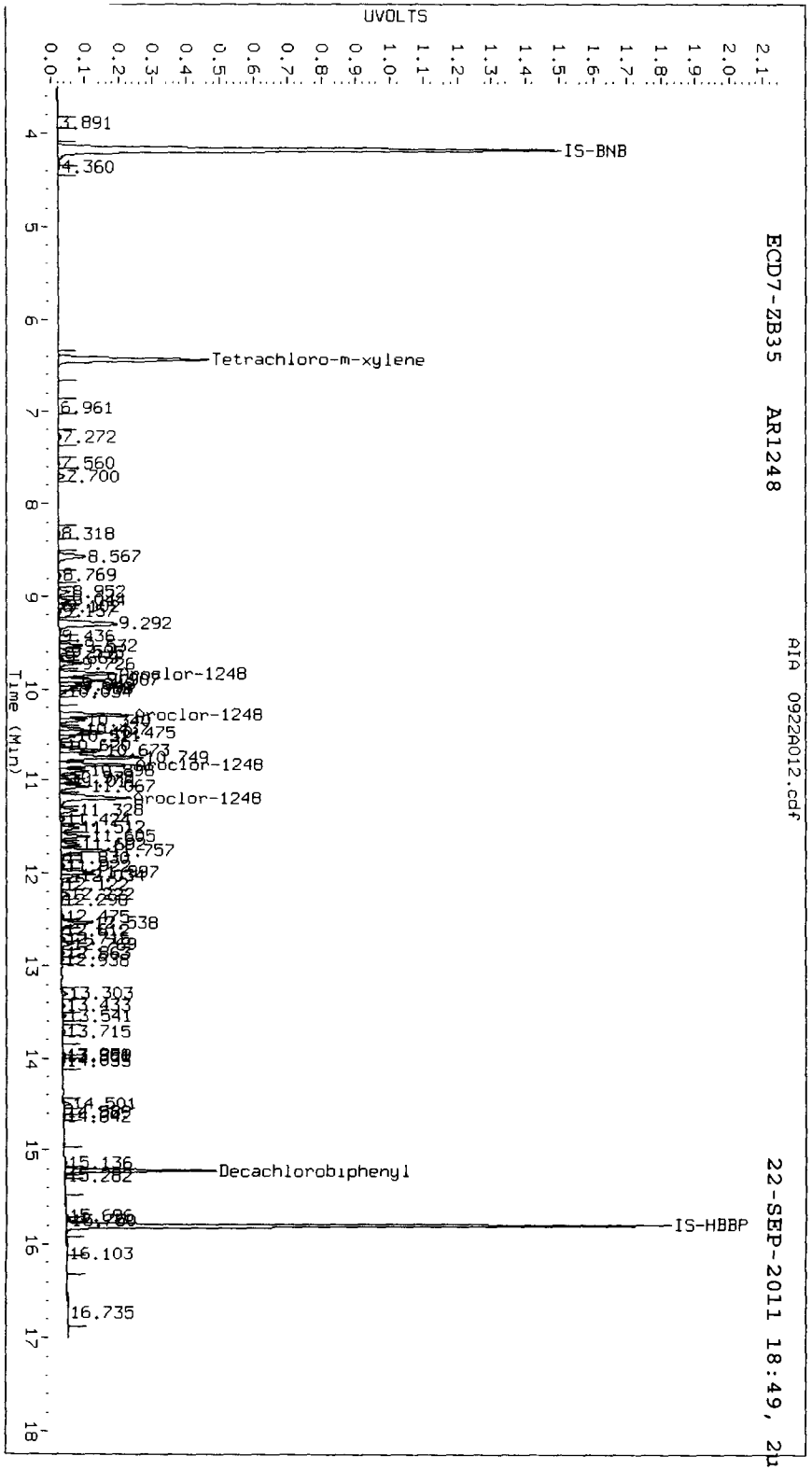
	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1248	1	9.364	0.000	435793	250.0	1	9.833	0.000	796456	250.0
Aroclor-1248	2	9.695	0.000	529929	250.0	2	10.281	0.000	878175	250.0
Aroclor-1248	3	10.279	0.000	631845	250.0	3	10.829	0.000	878410	250.0
Aroclor-1248	4	10.585	0.000	589550	250.0	4	11.191	0.000	1128541	250.0

Total Col1Ave (4 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0
Corrected Ave (3 peaks): 250.0 Corrected Ave (3 peaks): 250.0 RPD = 0

Total PCB Area Col1 (6.392 - 14.784) = 9334162 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 15372264 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical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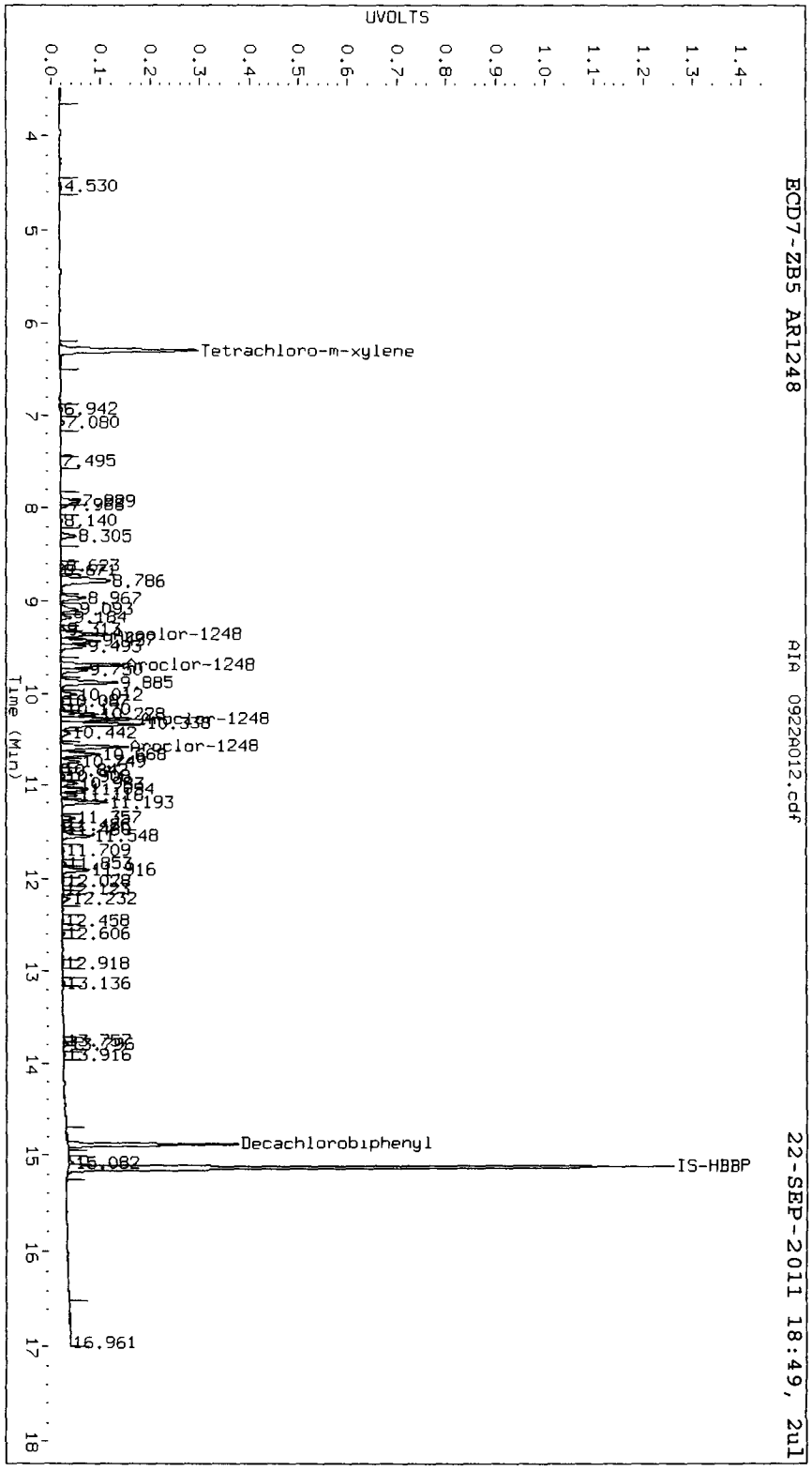
AIA 0922A012.cdf
22-SEP-2011 18:49, 2u
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
Aroclor-1248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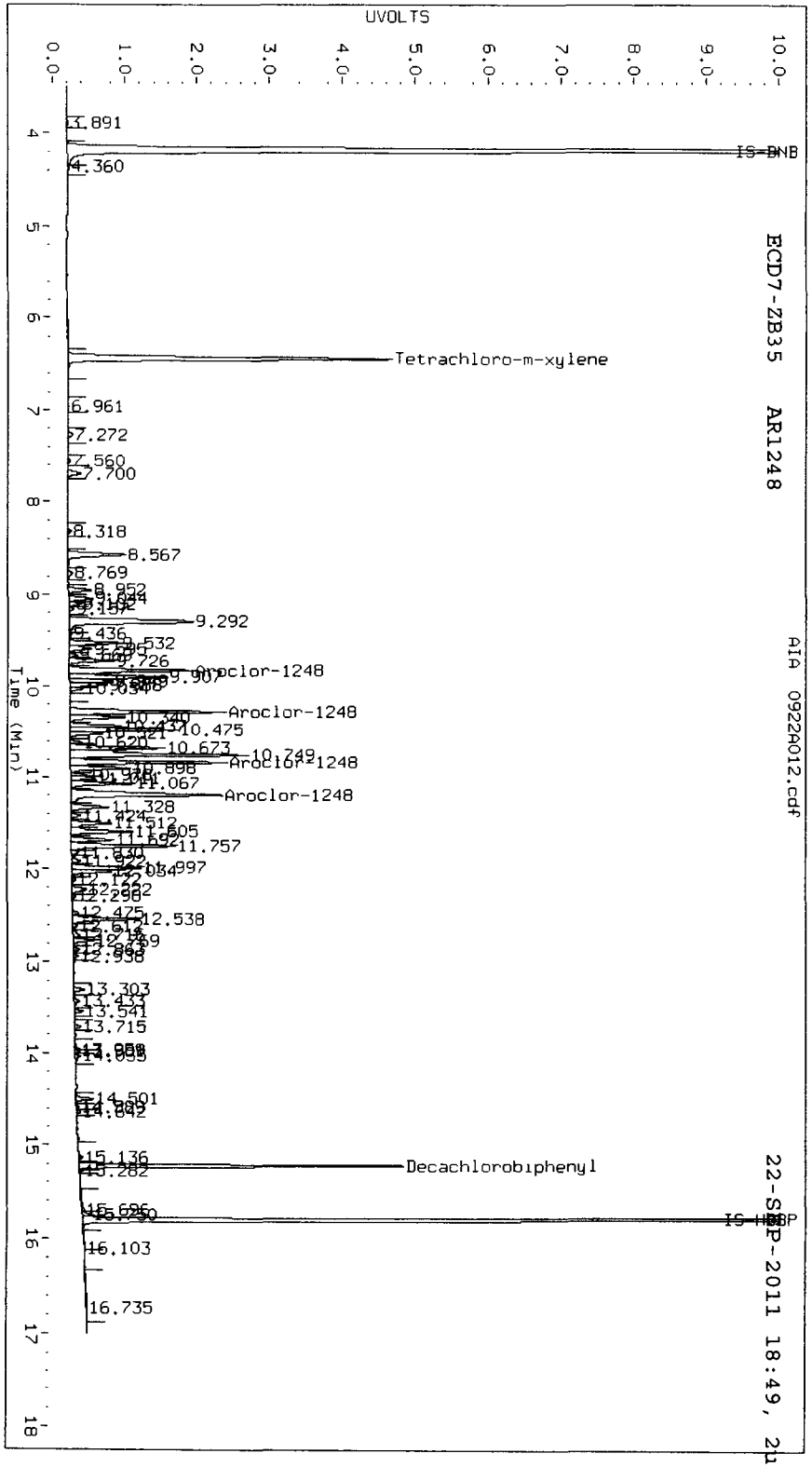
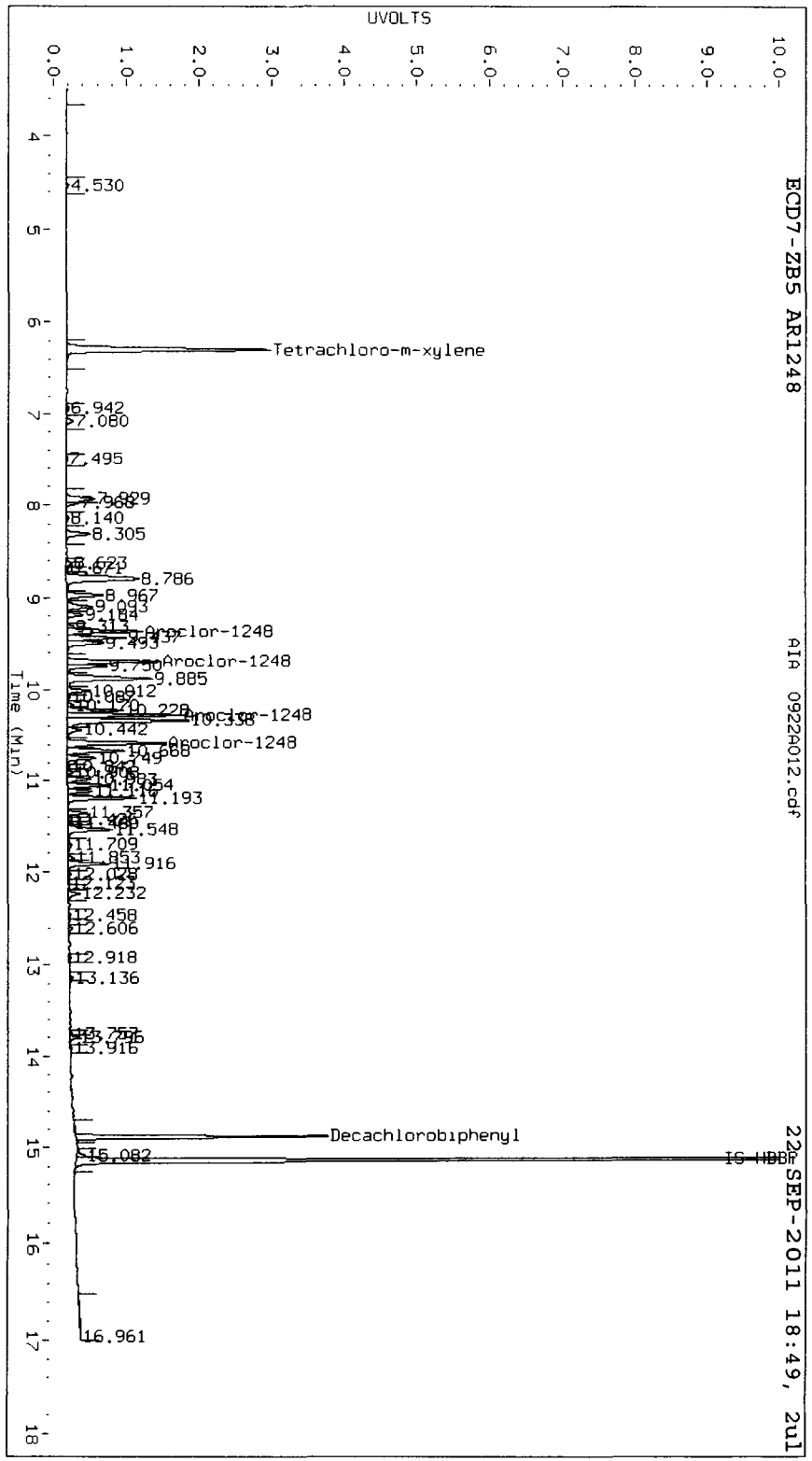
AIA 0922A012.cdf
22-SEP-2011 18:49, 2ul
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
Aroclor-1248


UVOLTS
ECD7-ZB35 AR1248
AIA 0922A012.cdf
22-SEP-2011 18:49, 2u
Time (Min)
IS-DNB
Tetrachloro-m-xylene
Aroclor-1248
Decachlorobiphenyl
IS-HBBP


UVOLTS
ECD7-ZB5 AR1248
AIA 0922A012.cdf
22-SEP-2011 18:49, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1248
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A013.d
Data file 2: 20110922.B/ical-2.b/0922A013.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1254
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254
Client ID:
Injection Date: 22-SEP-2011 19:12
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	1358119	6.431	0.000	2166758	20.4	20.2	1.3	Tetrachloro-m-xylen
14.884	0.000	1159875	15.225	0.000	1452068	19.9	18.5	7.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.0	50.4
Decachlorobiphenyl	49.9	46.2

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5247082	3.8
Hexabromobiphenyl	4060201	4311500	6.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8088675	3.6
Hexabromobiphenyl	5725568	6030479	5.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

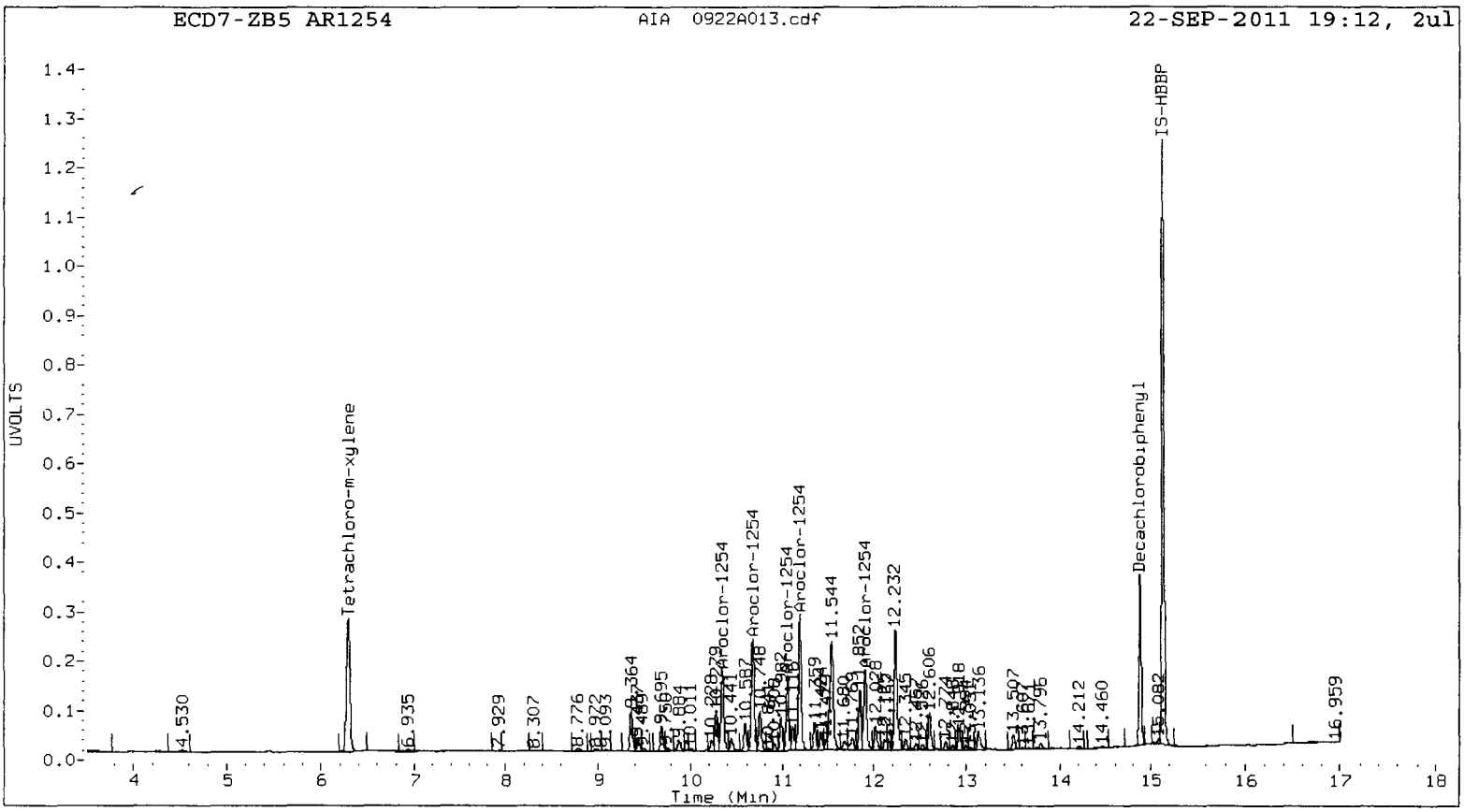
	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	10.346	0.000	703895	250.0	1	10.897	0.000	877307	250.0
Aroclor-1254	2	10.668	0.000	971499	250.0	2	11.068	0.000	1132955	250.0
Aroclor-1254	3	11.053	0.000	607524	250.0	3	11.606	0.000	892477	250.0
Aroclor-1254	4	11.192	0.000	1172627	250.0	4	11.758	0.000	1912072	250.0
Aroclor-1254	5	11.911	0.000	779811	250.0	5	12.543	0.000	1155471	250.0

Total Col1Ave (5 peaks): 250.0 Total Col2Ave (5 peaks): 250.0 RPD = 0
Corrected Ave (4 peaks): 250.0 Corrected Ave (4 peaks): 250.0 RPD = 0

Total PCB Area Col1 (6.392 - 14.784) = 11878728 Col1 Total PCB = 0.3 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 18765007 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical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22-SEP-2011 19:12, 2ul
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
Aroclor-1254
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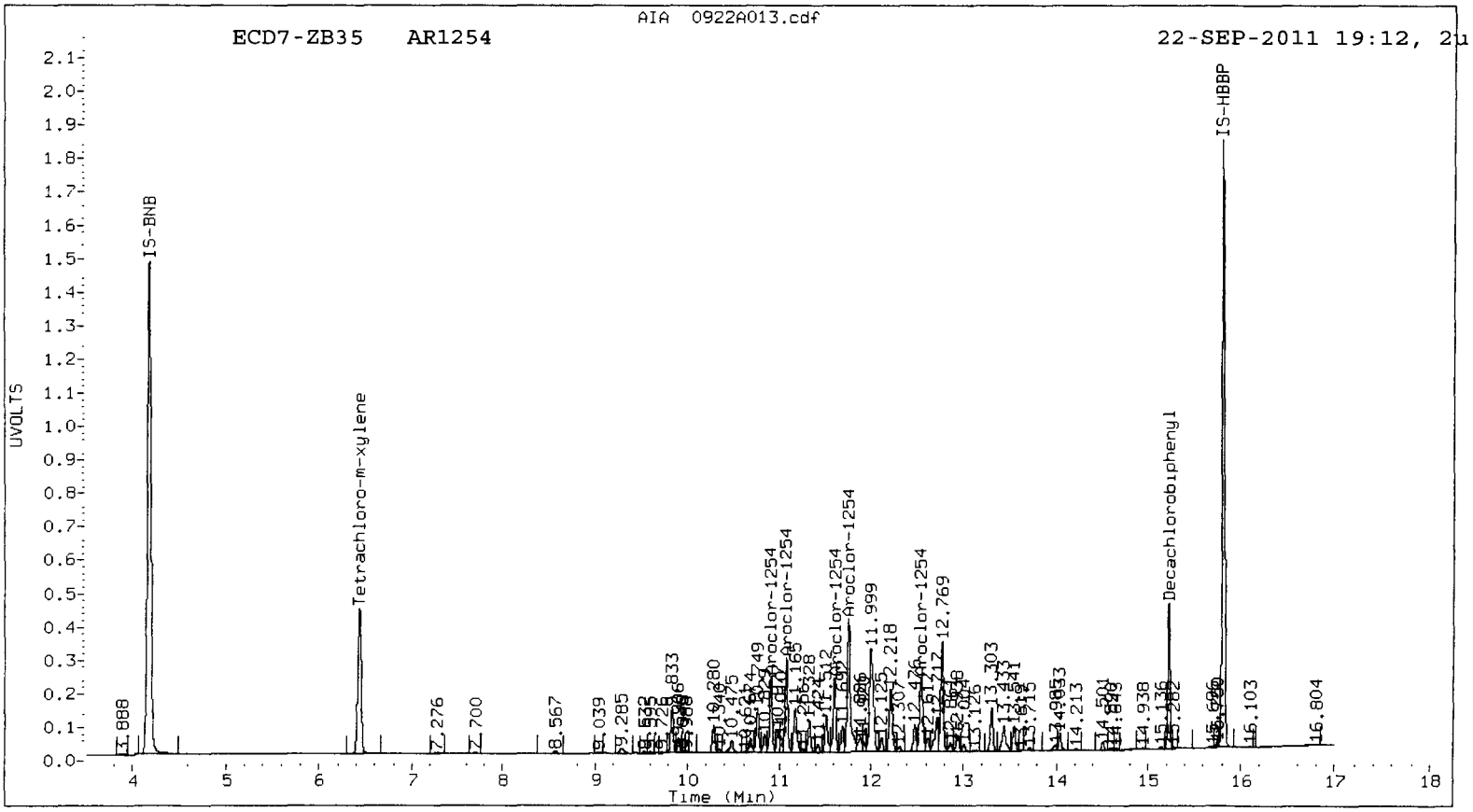
7.929
8.307
11.544
12.232
14.212
14.460
16.959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22-SEP-2011 19:12, 2u
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
Aroclor-1254
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8.567
9.039
11.999
12.218
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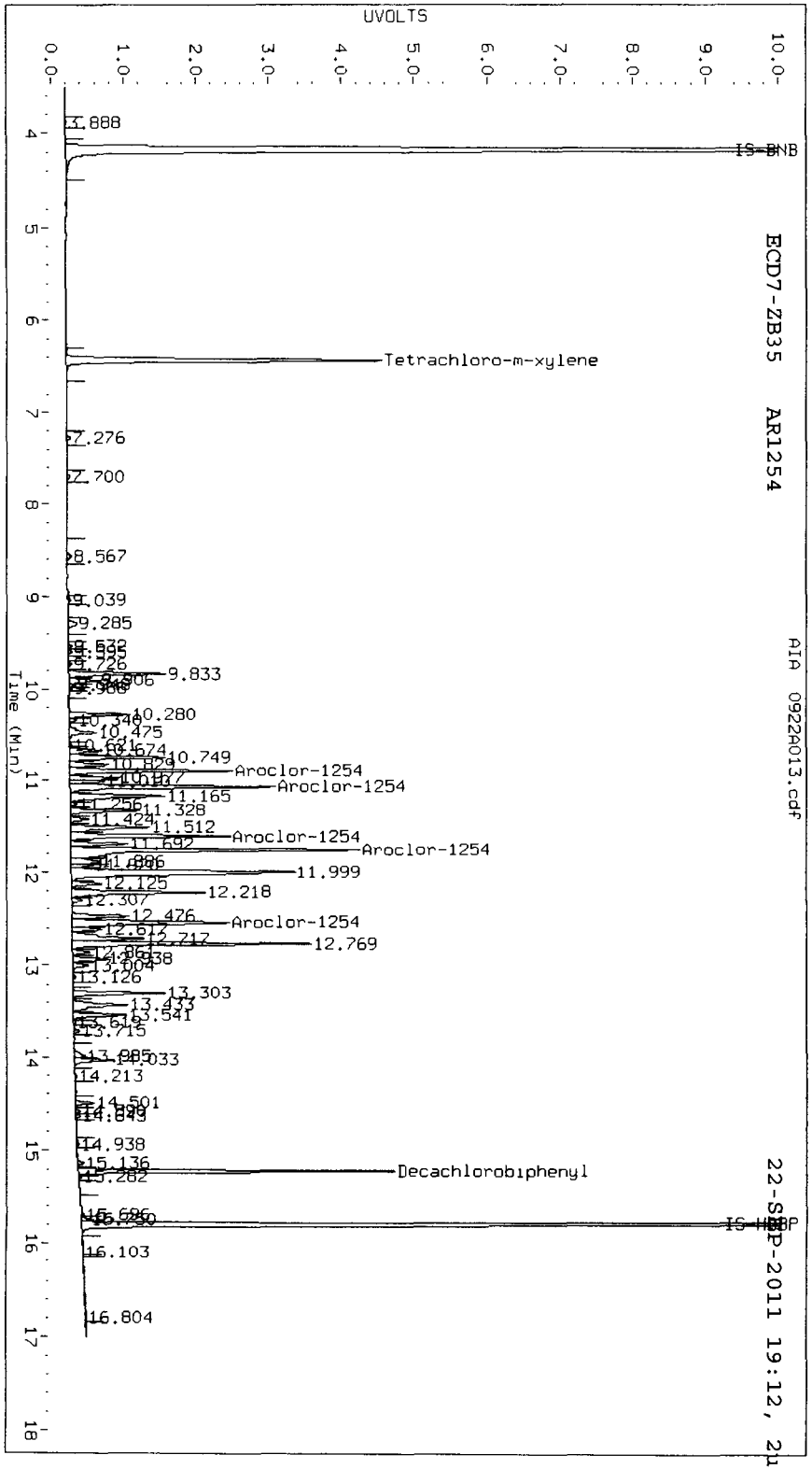
16.103
16.804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AIA 0922A013.cdf
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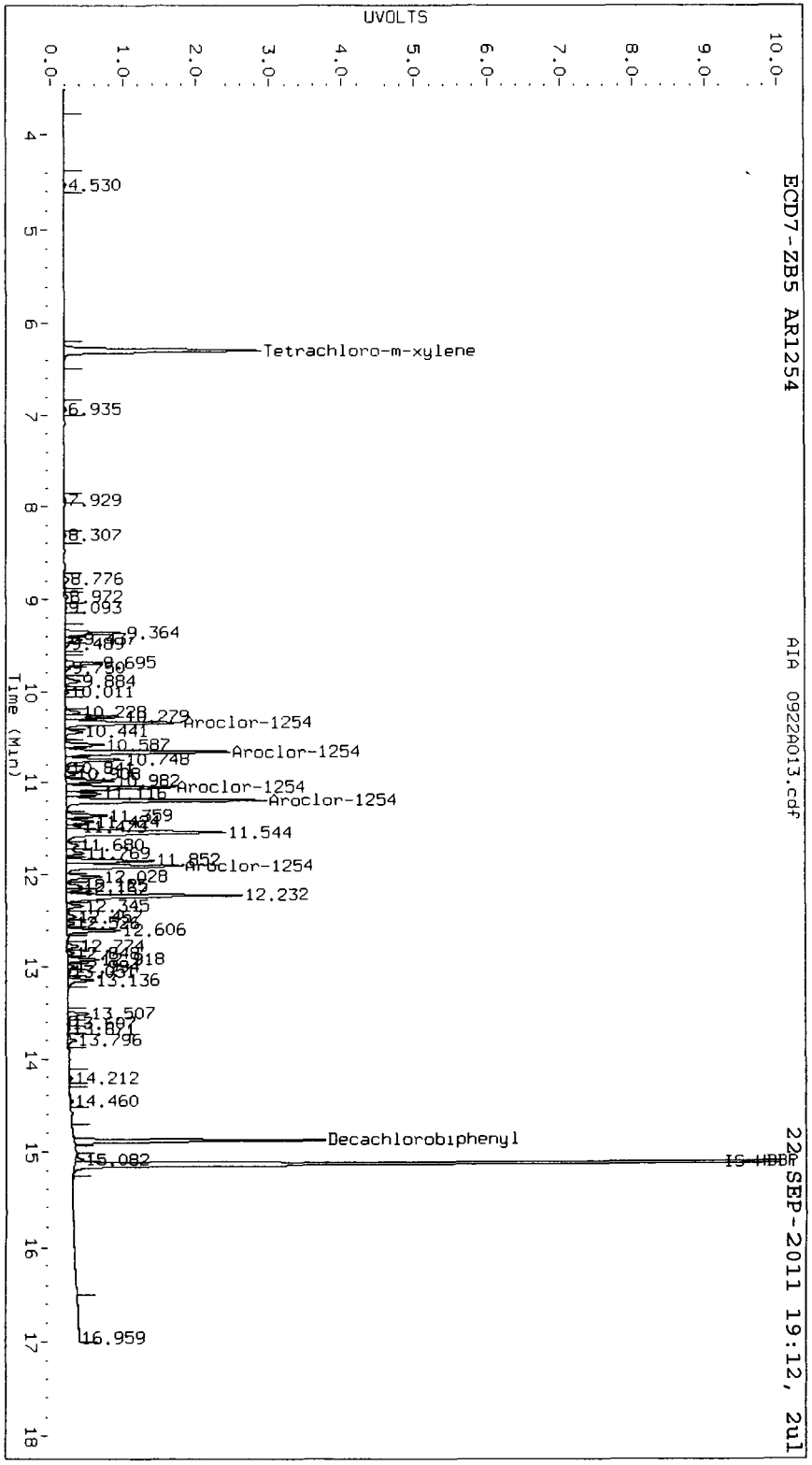
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1254
Decachlorobiphenyl
IS-HBBP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ECD7-ZB5 AR1254
AIA 0922A013.cdf
22-SEP-2011 19:12, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1254
Decachlorobiphenyl
IS-HBBP

TS00:00120

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A014.d
Data file 2: 20110922.B/ical-2.b/0922A014.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR2162
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162
Client ID:
Injection Date: 22-SEP-2011 19:35
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.293	0.001	1442368	6.431	0.001	2202479	21.9	21.0	4.2	Tetrachloro-m-xylen
14.885	0.001	1190221	15.225	0.000	1500595	20.5	19.0	7.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	54.6	52.4
Decachlorobiphenyl	51.3	47.5

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5203932	2.9
Hexabromobiphenyl	4060201	4298335	5.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7907003	1.2
Hexabromobiphenyl	5725568	6052713	5.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1221	1	6.747	0.000	169872	250.0	1	7.259	0.000	306725	250.0
Aroclor-1221	2	6.958	0.000	128159	250.0	2	7.562	0.000	188607	250.0
Aroclor-1221	3	7.081	0.000	421088	250.0	3	7.700	0.000	577240	250.0
Aroclor-1221	NS	---			----	4	7.787	0.000	93776	250.0

Total Col1Ave (3 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0
Corrected Ave: < 3 Peaks Corrected Ave (3 peaks): 250.0

Aroclor-1262	1	12.458	0.000	1223276	250.0	1	12.860	0.000	1565331	250.0
Aroclor-1262	2	12.774	0.000	987740	250.0	2	13.303	0.000	1546851	250.0
Aroclor-1262	3	13.136	0.000	2321592	250.0	3	13.540	0.000	3019457	250.0
Aroclor-1262	4	13.607	0.000	925127	250.0	4	13.983	0.000	1321913	250.0
Aroclor-1262	5	13.671	0.000	938472	250.0	5	14.035	0.000	1972740	250.0

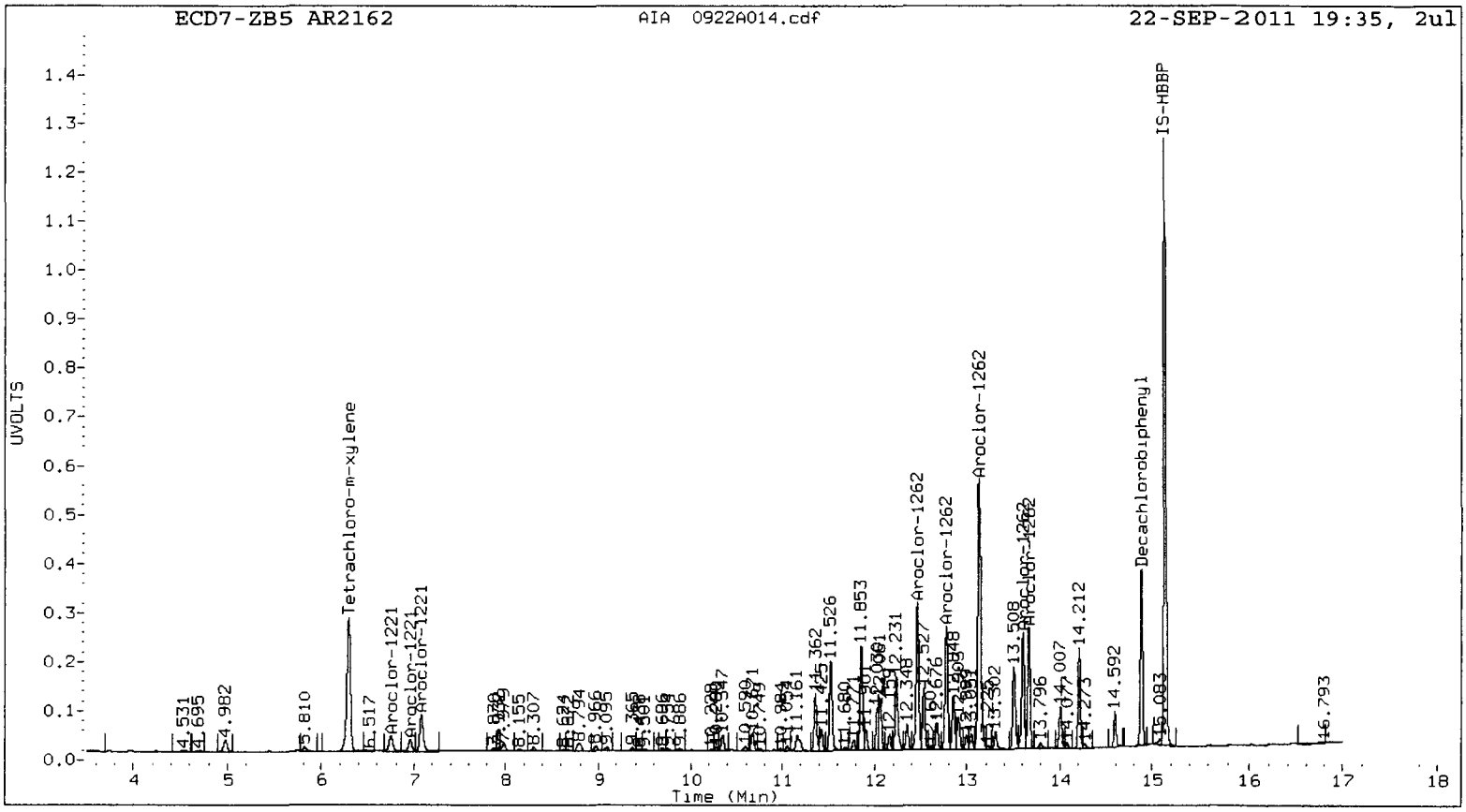
Total Col1Ave (5 peaks): 250.0 Total Col2Ave (5 peaks): 250.0 RPD = 0
Corrected Ave (4 peaks): 250.0 Corrected Ave (4 peaks): 250.0 RPD = 0

Total PCB Area Col1 (6.392 - 14.784) = 16649760 Col1 Total PCB = 0.4 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 23938507 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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22-SEP-2011 19:35, 2ul
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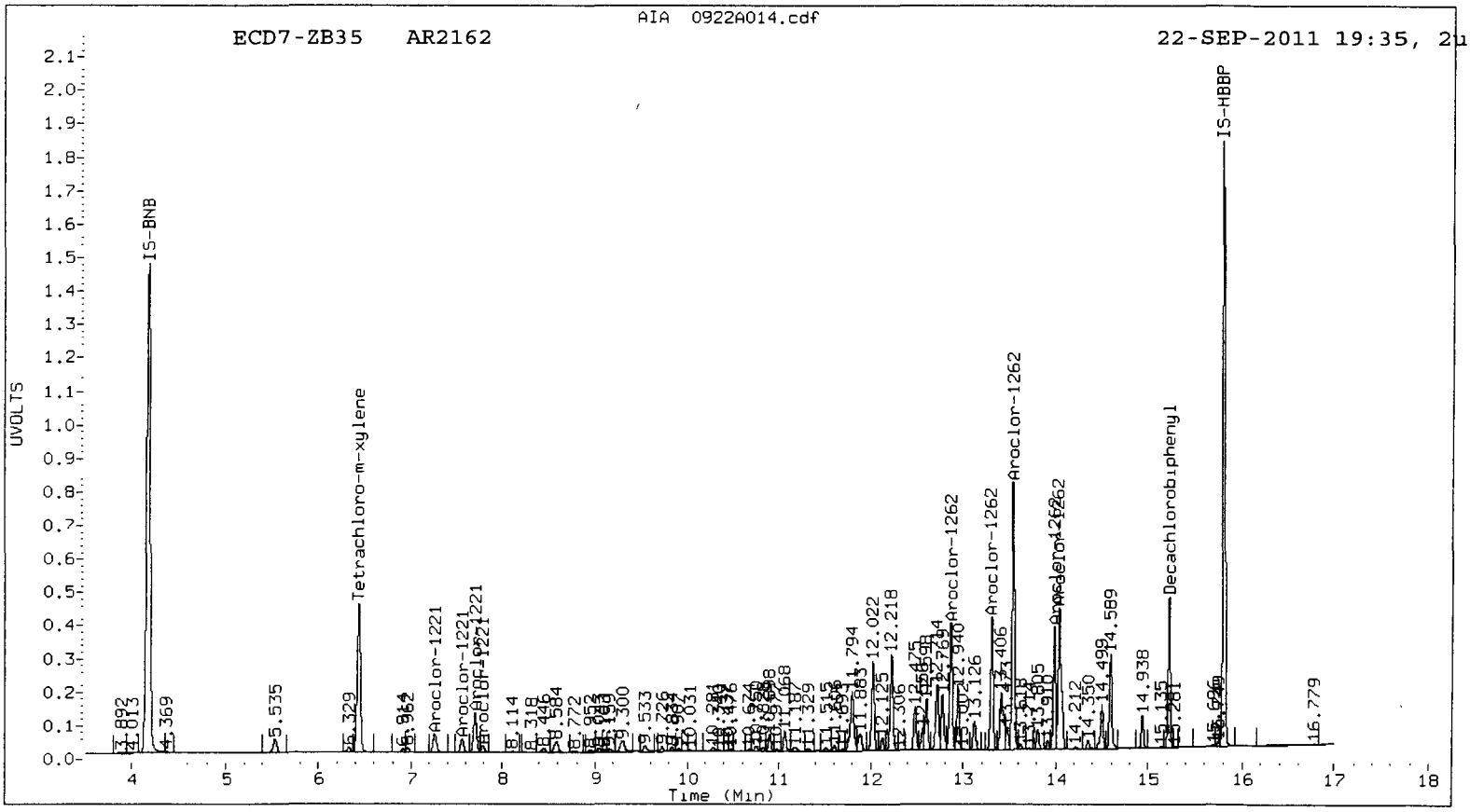
Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1262
Decachlorobiphenyl
IS-HBBP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Time (Min)
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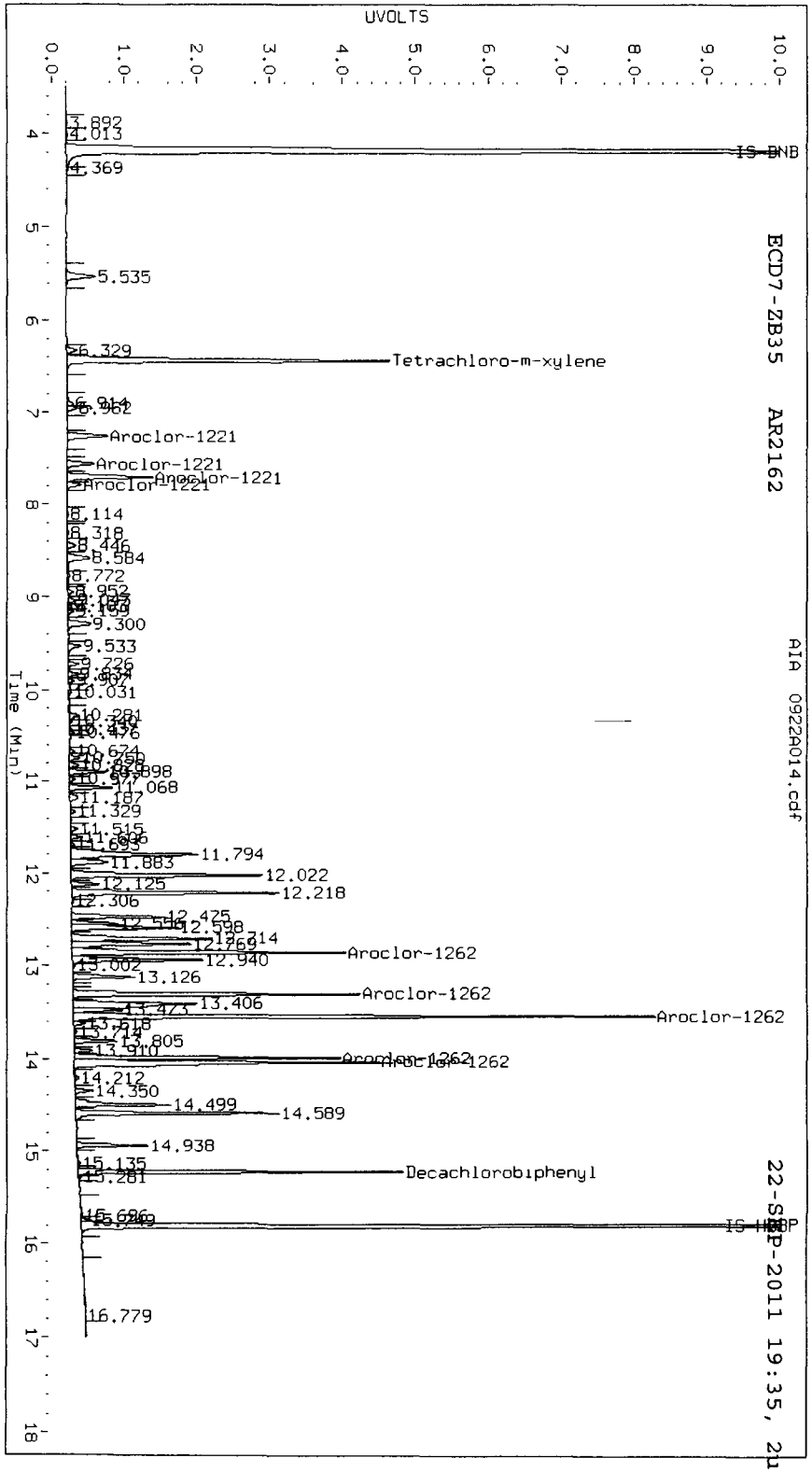
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1262
Decachlorobiphenyl
IS-HBBP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Time (Min)
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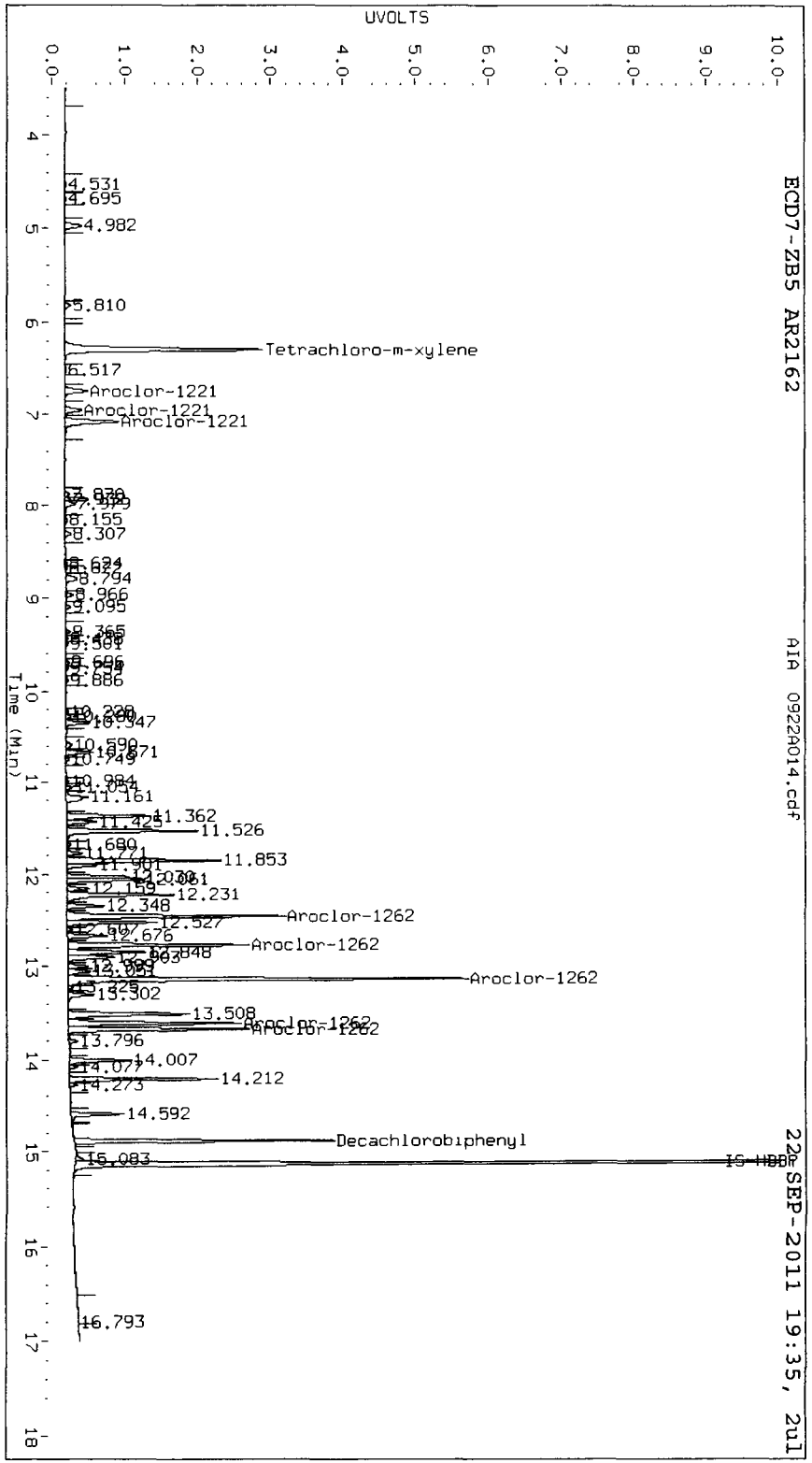
Aroclor-1262
Decachlorobiphenyl
IS-HBP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22-SEP-2011 19:35, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1262
Decachlorobiphenyl
IS-HBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A015.d
Data file 2: 20110922.B/ical-2.b/0922A015.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR3268
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268
Client ID:
Injection Date: 22-SEP-2011 19:58
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	1310495	6.431	0.000	2054114	19.9	19.3	3.4	Tetrachloro-m-xylen
14.884	0.000	2133696	15.225	0.000	2668066	36.7	33.8	8.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	49.8	48.1
Decachlorobiphenyl	91.8	84.5

JL 09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5189564	2.6
Hexabromobiphenyl	4060201	4306083	6.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8027898	2.8
Hexabromobiphenyl	5725568	6050077	5.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1232	1	8.305	0.000	160675	250.0	1	8.569	0.000	468058	250.0
Aroclor-1232	2	8.792	0.000	550414	250.0	2	9.298	0.000	895307	250.0
Aroclor-1232	3	8.965	0.000	216989	250.0	3	9.726	0.000	238746	250.0
Aroclor-1232	4	10.280	0.000	193022	250.0	4	11.192	0.000	397254	250.0

Total Col1Ave (4 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0
Corrected Ave (3 peaks): 250.0 Corrected Ave (3 peaks): 250.0 RPD = 0

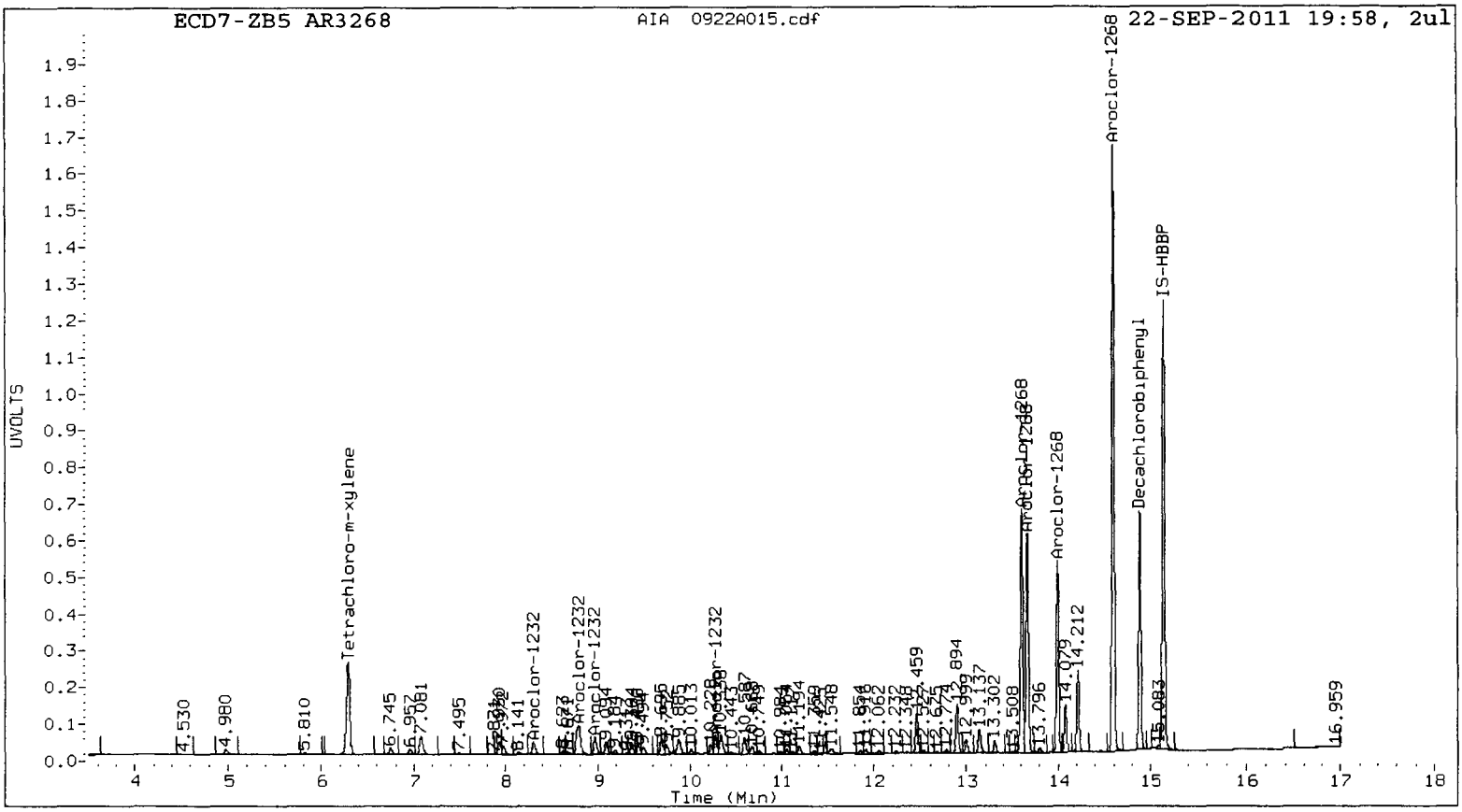
Aroclor-1268	1	13.607	0.000	2474605	250.0	1	13.984	0.000	3048231	250.0
Aroclor-1268	2	13.669	0.000	2264030	250.0	2	14.038	0.000	2866214	250.0
Aroclor-1268	3	13.992	0.000	1895968	250.0	3	14.351	0.000	2292435	250.0
Aroclor-1268	4	14.593	0.000	5645448	250.0	4	14.939	0.000	6917904	250.0

Total Col1Ave (4 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0
Corrected Ave (3 peaks): 250.0 Corrected Ave (3 peaks): 250.0 RPD = 0

Total PCB Area Col1 (6.392 - 14.784) = 19531241 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 27162219 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical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AIA 0922A015.cdf
22-SEP-2011 19:58, 2ul
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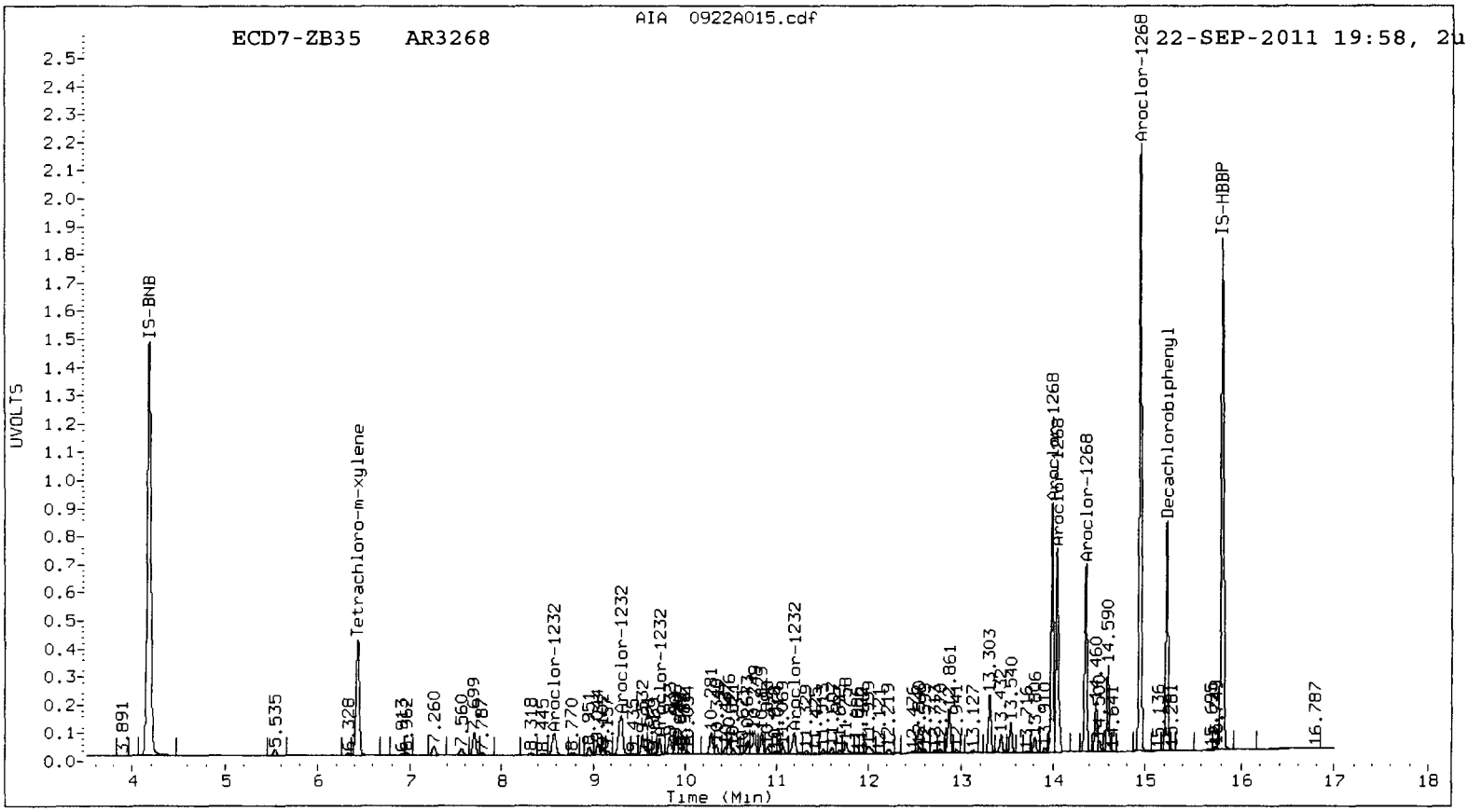
Time (Min)
Tetrachloro-m-xylene
Aroclor-1232
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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22-SEP-2011 19:58, 2u
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
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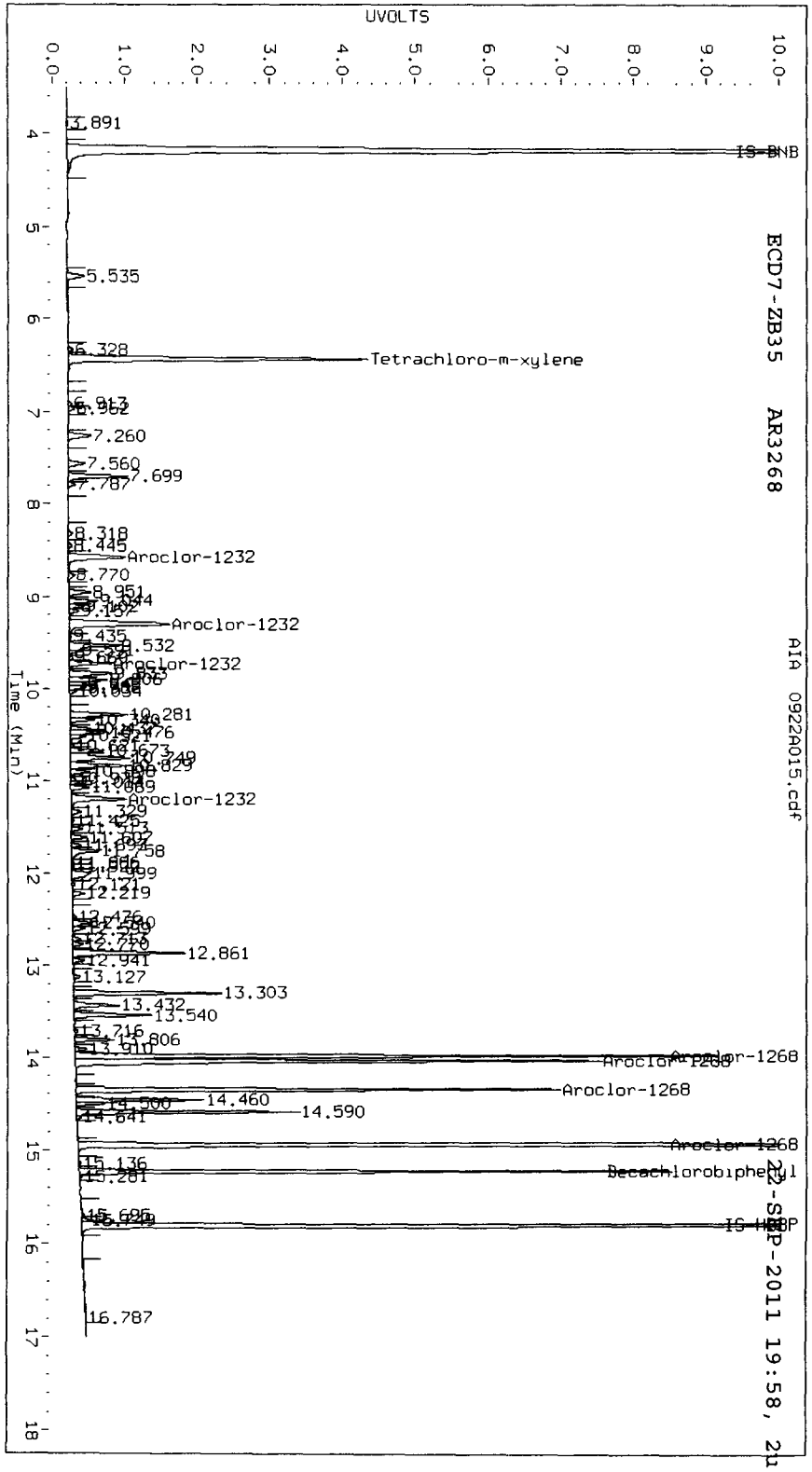
Decachlorobiphenyl
IS-HBBP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ECD7-ZB35 AR3268
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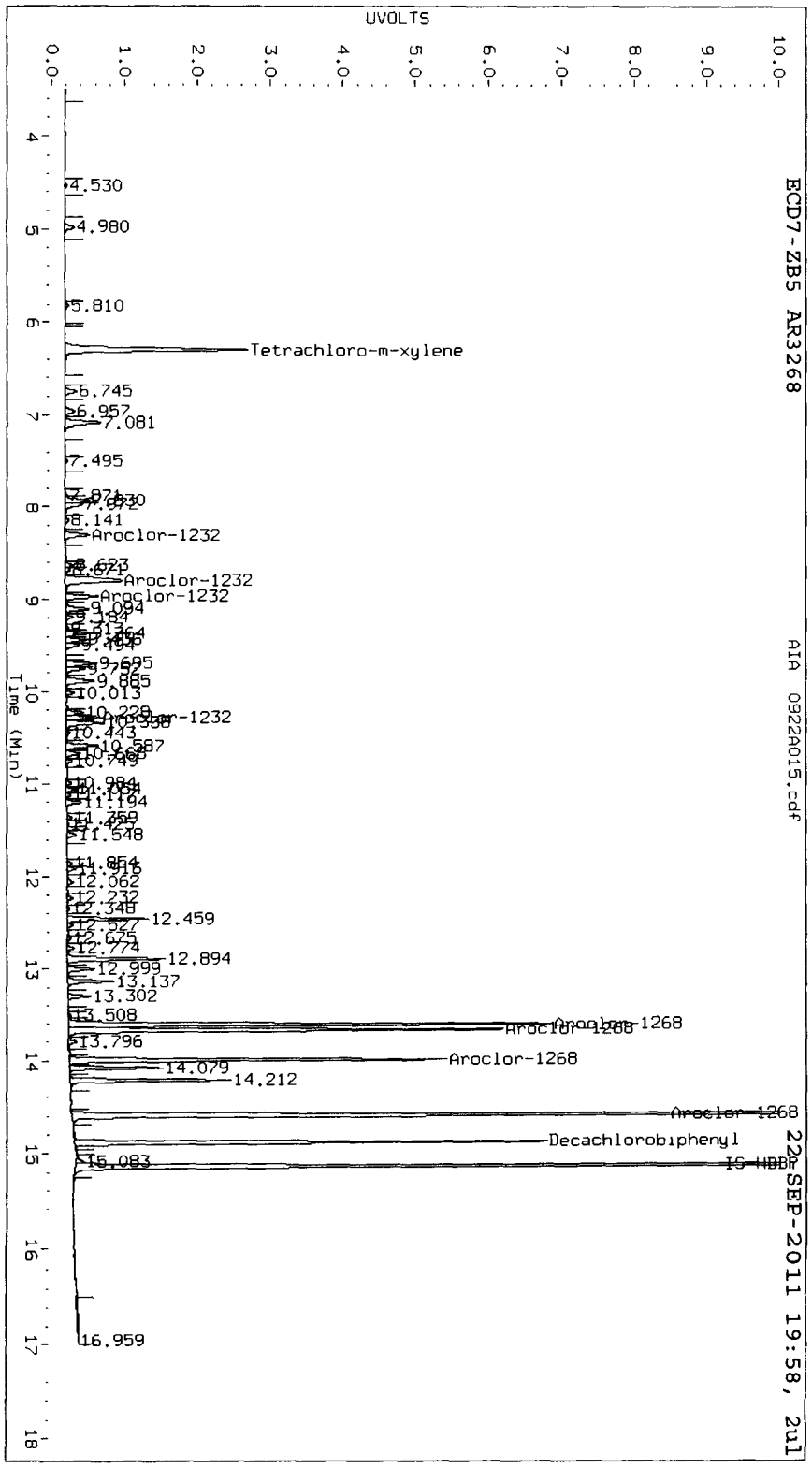
Time (Min)
IS-DNB
Tetrachloro-m-xylene
Aroclor-1232
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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ECD7-ZB5 AR3268
AIA 0922A015.cdf
22-SEP-2011 19:58, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1232
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A016.d
Data file 2: 20110922.B/ical-2.b/0922A016.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660 ICV
Client ID:
Injection Date: 22-SEP-2011 20:21
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	1378264	6.431	0.001	2166951	20.4	19.7	3.6	Tetrachloro-m-xylen
14.884	0.000	1165943	15.225	0.000	1471063	19.4	18.0	7.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.1	49.3
Decachlorobiphenyl	48.4	45.1

JR 09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5320462	5.2
Hexabromobiphenyl	4060201	4465934	10.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8271463	5.9
Hexabromobiphenyl	5725568	6256883	9.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	8.305	0.000	397178	239.7	1	8.569	0.000	1019506	229.9
Aroclor-1016	2	8.791	0.000	1365453	238.5	2	9.299	0.000	2111303	227.8
Aroclor-1016	3	8.966	0.000	532048	237.0	3	9.726	0.001	546738	230.4
Aroclor-1016	4	9.094	0.000	368745	231.7	4	9.834	0.000	610023	222.3
Total Col1Ave (4 peaks):				236.7		Total Col2Ave (4 peaks):			227.6	RPD = 4
Corrected Ave (3 peaks):				235.7		Corrected Ave (3 peaks):			226.7	RPD = 4
Aroclor-1221	1	6.744	-0.003	55861	80.4	1	7.262	0.003	122181	95.2
Aroclor-1221	2	6.957	-0.001	74855	142.8	2	7.561	0.000	105917	134.2
Aroclor-1221	3	7.081	-0.001	305849	177.6	3	7.700	0.000	461007	190.9
Aroclor-1221	NS	---			----	4	7.787	0.000	29588	75.4
Total Col1Ave (3 peaks):				133.6		Total Col2Ave (4 peaks):			123.9	RPD = 8
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			101.6	
Aroclor-1232	1	8.305	0.000	397178	602.8	1	8.569	0.000	1019506	528.5
Aroclor-1232	2	8.791	0.000	1365453	604.9	2	9.299	0.001	2111303	572.2
Aroclor-1232	3	8.966	0.000	532048	597.9	3	9.726	0.000	546738	555.7
Aroclor-1232	4	10.280	0.000	77744	98.2	4	11.190	-0.002	45547	27.8
Total Col1Ave (4 peaks):				476.0		Total Col2Ave (4 peaks):			421.0	RPD = 12
Corrected Ave (3 peaks):				433.0		Corrected Ave (3 peaks):			370.7	RPD = 16
Aroclor-1242	1	8.305	0.000	397178	306.5	1	8.569	0.001	1019506	304.4
Aroclor-1242	2	8.791	0.000	1365453	304.2	2	9.299	0.001	2111303	301.0
Aroclor-1242	3	8.966	0.000	532048	305.5	3	9.726	0.000	546738	296.4
Aroclor-1242	4	10.588	0.003	43844	27.5	4	11.190	-0.002	45547	15.5
Total Col1Ave (4 peaks):				235.9		Total Col2Ave (4 peaks):			229.3	RPD = 3
Corrected Ave (3 peaks):				212.4		Corrected Ave (3 peaks):			204.3	RPD = 4
Aroclor-1248	1	9.364	0.000	300560	168.4	1	9.834	0.000	610023	185.0
Aroclor-1248	2	9.695	0.000	387197	178.4	2	10.280	-0.001	685823	188.7
Aroclor-1248	3	10.280	0.001	77744	30.0	3	10.829	0.000	104195	28.7
Aroclor-1248	4	10.588	0.003	43844	18.2	4	11.190	-0.001	45547	9.7
Total Col1Ave (4 peaks):				98.7		Total Col2Ave (4 peaks):			103.0	RPD = 4
Corrected Ave (3 peaks):				72.2		Corrected Ave (3 peaks):			74.5	RPD = 3
Aroclor-1254	1	10.347	0.001	296838	104.0	1	10.898	0.001	390176	108.7
Aroclor-1254	2	10.671	0.002	269955	68.5	2	11.068	0.000	409515	88.4
Aroclor-1254	3	11.055	0.001	40178	16.3	3	11.606	0.000	75927	20.8
Aroclor-1254	4	11.191	-0.001	117800	24.8	4	11.794	0.036	1047691	134.0
Aroclor-1254	5	11.901	-0.009	288125	91.1	5	12.557	0.014	450172	95.2
Total Col1Ave (5 peaks):				60.9		Total Col2Ave (5 peaks):			89.4	RPD = 38
Corrected Ave (4 peaks):				50.2		Corrected Ave (4 peaks):			78.3	RPD = 44*
Aroclor-1260	1	11.853	0.000	1063765	236.7	1	13.304	0.000	1279570	251.8
Aroclor-1260	2	12.459	0.000	832621	284.1	2	13.540	-0.001	2685384	266.7
Aroclor-1260	3	12.774	0.000	814604	278.8	3	14.035	0.000	1724089	261.9
Aroclor-1260	4	13.507	0.000	960942	262.0	4	14.589	0.000	675599	292.5
Aroclor-1260	5	13.607	0.000	428527	299.9	NS	---			----
Total Col1Ave (5 peaks):				272.3		Total Col2Ave (4 peaks):			268.2	RPD = 1
Corrected Ave (4 peaks):				265.4		Corrected Ave (3 peaks):			260.2	RPD = 2
Aroclor-1262	1	12.459	0.000	832621	163.8	1	12.860	0.000	1127205	174.2
Aroclor-1262	2	12.774	0.000	814604	198.4	2	13.304	0.001	1279570	200.1
Aroclor-1262	3	13.136	0.000	2080687	215.6	3	13.540	0.000	2685384	215.1
Aroclor-1262	4	13.607	-0.001	428527	111.5	4	13.984	0.001	846462	154.9
Aroclor-1262	5	13.671	0.000	508536	130.4	5	14.035	0.000	1724089	211.4
Total Col1Ave (5 peaks):				163.9		Total Col2Ave (5 peaks):			191.1	RPD = 15
Corrected Ave (4 peaks):				151.0		Corrected Ave (4 peaks):			185.1	RPD = 20
Aroclor-1268	1	13.607	-0.001	428527	41.7	1	13.984	0.001	846462	67.1

Aroclor-1268	2	13.671	0.002	508536	54.1	2	14.035	-0.004	1724089	145.4
Aroclor-1268	3	14.006	0.015	212590	27.0	3	14.352	0.001	36039	3.8
Aroclor-1268	4	14.592	0.000	95945	4.1	4	14.938	-0.001	155213	5.4

Total Col1Ave (4 peaks): 31.8 Total Col2Ave (4 peaks): 55.4 RPD = 54*

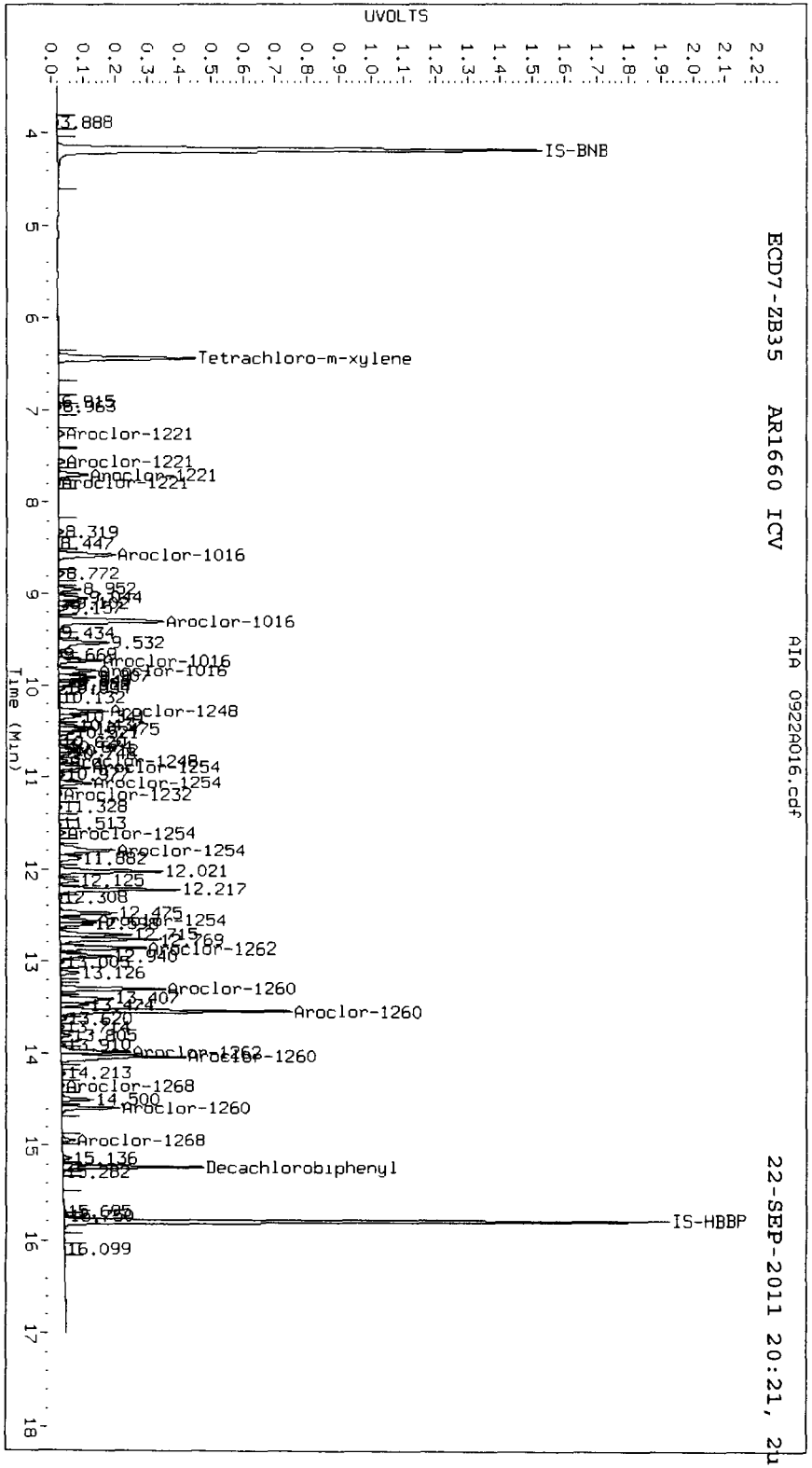
Corrected Ave (3 peaks): 24.3 Corrected Ave (3 peaks): 25.5 RPD = 5

Total PCB Area Col1 (6.392 - 14.784) = 20933210 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 31442026 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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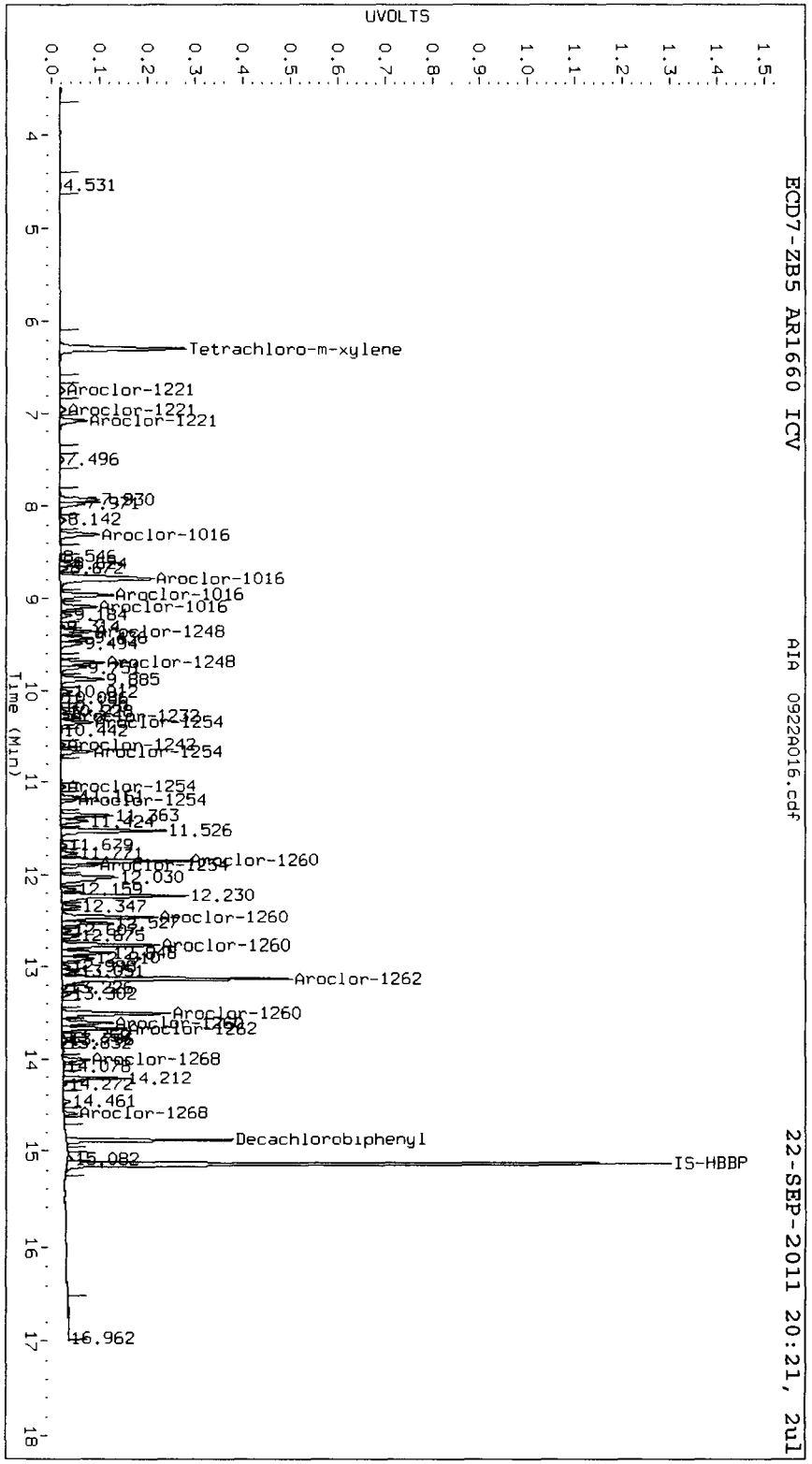
22-SEP-2011 20:21, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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AIA 0922A016.cdf
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Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
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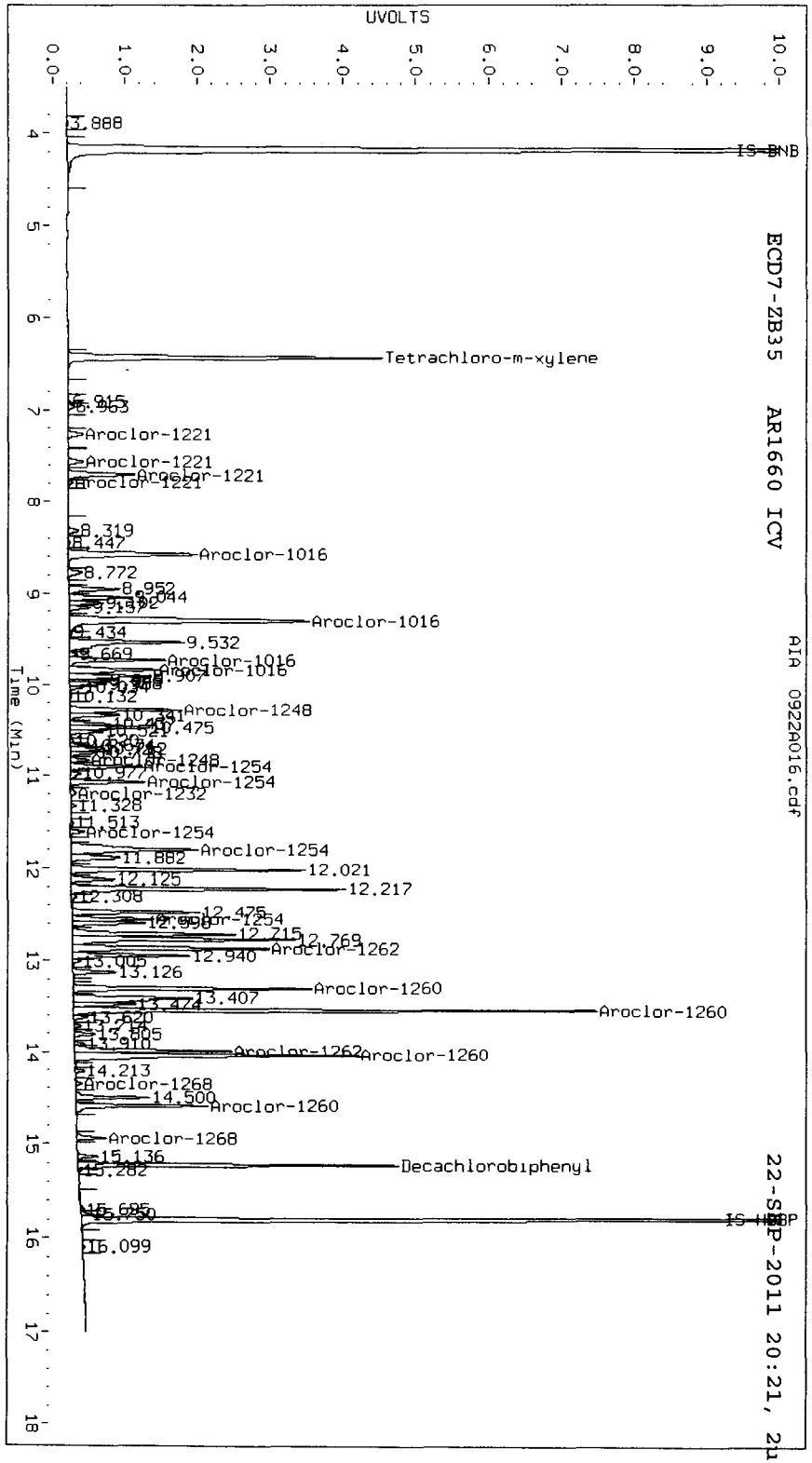
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
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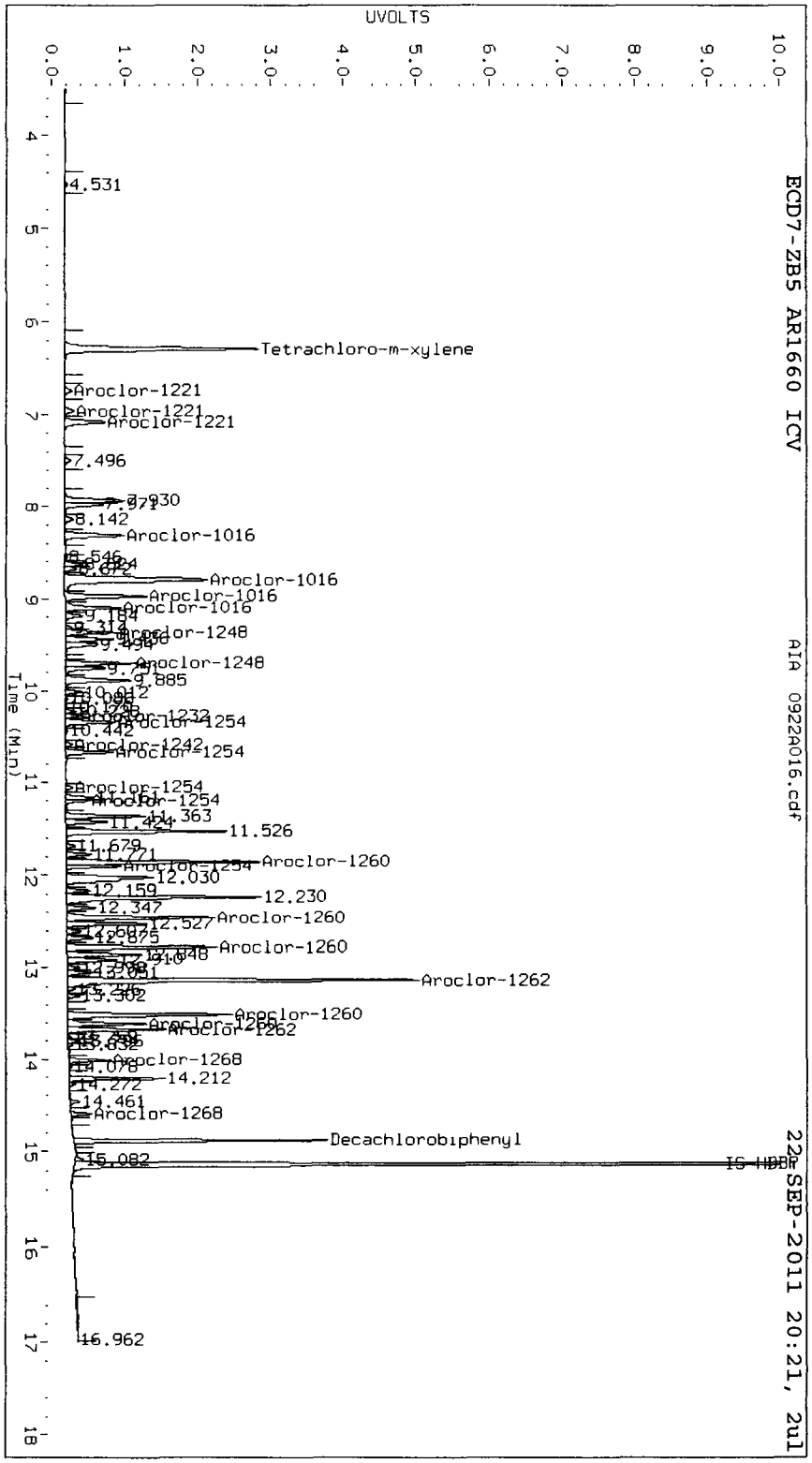
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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22-SEP-2011 20:21, 2ul
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Aroclor-1016
Aroclor-1248
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Aroclor-1232
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TS00:00135

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A017.d
Data file 2: 20110922.B/ical-2.b/0922A017.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242 ICV
Client ID:
Injection Date: 22-SEP-2011 20:44
Report Date: 09/23/2011 12:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.291	0.000	1408027	6.430	-0.001	2216957	21.3	20.6	3.2	Tetrachloro-m-xylen
14.884	0.000	1197844	15.225	0.000	1503371	20.5	18.9	8.2	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	53.1	51.5
Decachlorobiphenyl	51.3	47.3

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5224651	3.3
Hexabromobiphenyl	4060201	4325340	6.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8102476	3.8
Hexabromobiphenyl	5725568	6096962	6.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.305	-0.001	312368	192.0	1	8.568	-0.001	814375	187.5
Aroclor-1016	2	8.791	0.000	1070368	190.3	2	9.298	0.000	1673259	184.3
Aroclor-1016	3	8.965	0.000	417241	189.3	3	9.726	0.000	435391	187.3
Aroclor-1016	4	9.093	-0.001	289012	184.9	4	9.833	-0.001	510203	189.8
Total Col1Ave (4 peaks):				189.1		Total Col2Ave (4 peaks):			187.2	RPD = 1
Corrected Ave (3 peaks):				188.2		Corrected Ave (3 peaks):			186.4	RPD = 1
Aroclor-1221	1	6.743	-0.004	43855	64.3	1	7.263	0.004	103572	82.4
Aroclor-1221	2	6.956	-0.002	61496	119.5	2	7.559	-0.002	84804	109.7
Aroclor-1221	3	7.079	-0.002	239500	141.6	3	7.699	-0.001	369807	156.3
Aroclor-1221	NS	---			----	4	7.786	-0.002	27942	72.7
Total Col1Ave (3 peaks):				108.5		Total Col2Ave (4 peaks):			105.3	RPD = 3
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			88.3	
Aroclor-1232	1	8.305	-0.001	312368	482.8	1	8.568	-0.001	814375	431.0
Aroclor-1232	2	8.791	0.000	1070368	482.9	2	9.298	0.000	1673259	462.9
Aroclor-1232	3	8.965	0.000	417241	477.5	3	9.726	0.000	435391	451.7
Aroclor-1232	4	10.279	-0.001	343144	441.5	4	11.191	-0.001	684647	426.9
Total Col1Ave (4 peaks):				471.2		Total Col2Ave (4 peaks):			443.1	RPD = 6
Corrected Ave (3 peaks):				467.2		Corrected Ave (3 peaks):			436.5	RPD = 7
Aroclor-1242	1	8.305	-0.001	312368	245.4	1	8.568	0.000	814375	248.2
Aroclor-1242	2	8.791	0.000	1070368	242.8	2	9.298	0.000	1673259	243.6
Aroclor-1242	3	8.965	0.000	417241	243.9	3	9.726	0.000	435391	241.0
Aroclor-1242	4	10.586	0.000	357467	228.3	4	11.191	0.000	684647	238.0
Total Col1Ave (4 peaks):				240.1		Total Col2Ave (4 peaks):			242.7	RPD = 1
Corrected Ave (3 peaks):				238.3		Corrected Ave (3 peaks):			240.9	RPD = 1
Aroclor-1248	1	9.364	0.000	248558	141.8	1	9.833	0.000	510203	158.0
Aroclor-1248	2	9.695	0.000	314385	147.5	2	10.280	-0.001	605320	170.0
Aroclor-1248	3	10.279	0.000	343144	135.0	3	10.829	0.000	547306	153.6
Aroclor-1248	4	10.586	0.001	357467	150.8	4	11.191	0.001	684647	149.6
Total Col1Ave (4 peaks):				143.8		Total Col2Ave (4 peaks):			157.8	RPD = 9
Corrected Ave (3 peaks):				141.4		Corrected Ave (3 peaks):			153.7	RPD = 8
Aroclor-1254	1	10.338	-0.008	452898	161.5	1	10.898	0.001	194243	55.3
Aroclor-1254	2	10.668	-0.001	182716	47.2	2	11.068	0.000	204361	45.0
Aroclor-1254	3	11.054	0.001	109173	45.1	3	11.606	0.000	184829	51.7
Aroclor-1254	4	11.194	0.002	186598	40.0	4	11.758	0.000	346013	45.2
Aroclor-1254	5	11.915	0.005	117566	37.9	5	12.540	-0.003	213621	46.1
Total Col1Ave (5 peaks):				66.3		Total Col2Ave (5 peaks):			48.7	RPD = 31
Corrected Ave (4 peaks):				42.5		Corrected Ave (4 peaks):			47.0	RPD = 10
Aroclor-1260	1	---			0.0	1	13.304	0.000	48654	9.8
Aroclor-1260	2	---			0.0	2	13.542	0.001	28603	2.9
Aroclor-1260	3	---			0.0	3	14.035	0.000	22509	3.5
Aroclor-1260	4	---			0.0	4	14.644	0.055	23141	10.3
Aroclor-1260	5	---			0.0	NS	---			----
Col1Ave: <3 Quant Peaks						Col2Ave:			6.6	
Aroclor-1262	1	---			0.0	1	12.864	0.004	27539	4.4
Aroclor-1262	2	---			0.0	2	13.304	0.001	48654	7.8
Aroclor-1262	3	---			0.0	3	13.542	0.003	28603	2.4
Aroclor-1262	4	---			0.0	4	13.956	-0.027	42066	7.9
Aroclor-1262	5	---			0.0	5	14.035	0.000	22509	2.8
Col1Ave: <3 Quant Peaks						Col2Ave:			5.1	
Aroclor-1268	1	---			0.0	1	13.956	-0.028	42066	3.4
Aroclor-1268	2	---			0.0	2	14.035	-0.003	22509	1.9
Aroclor-1268	3	14.046	0.054	10587	1.4	3	14.377	0.026	14391	1.6

Aroclor-1268	4	14.640	0.047	12773	0.6	4	---	0.0

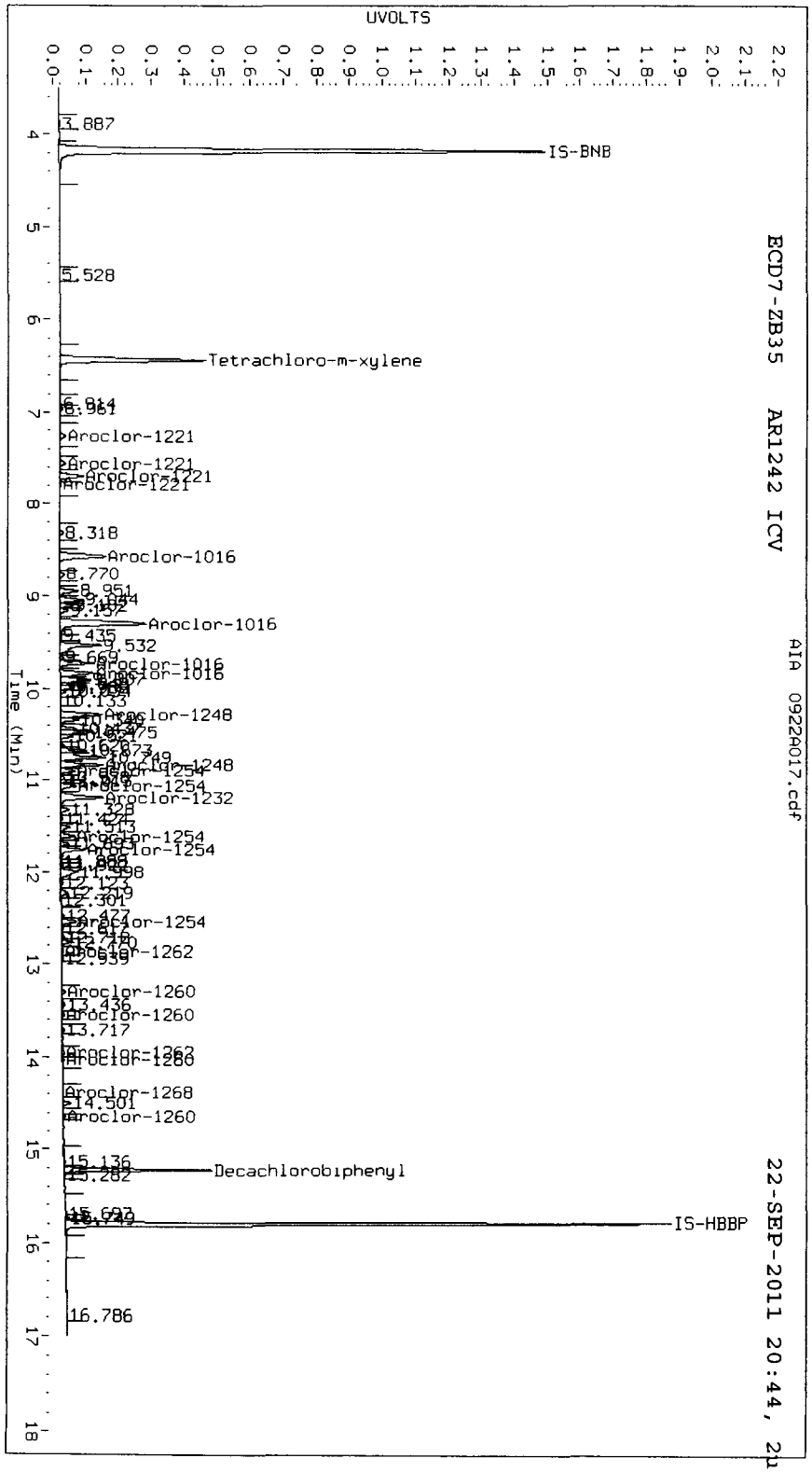
Col1Ave: <3 Quant Peaks Col2Ave: 2.3

Total PCB Area Col1 (6.392 - 14.784) = 7723993 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 13177145 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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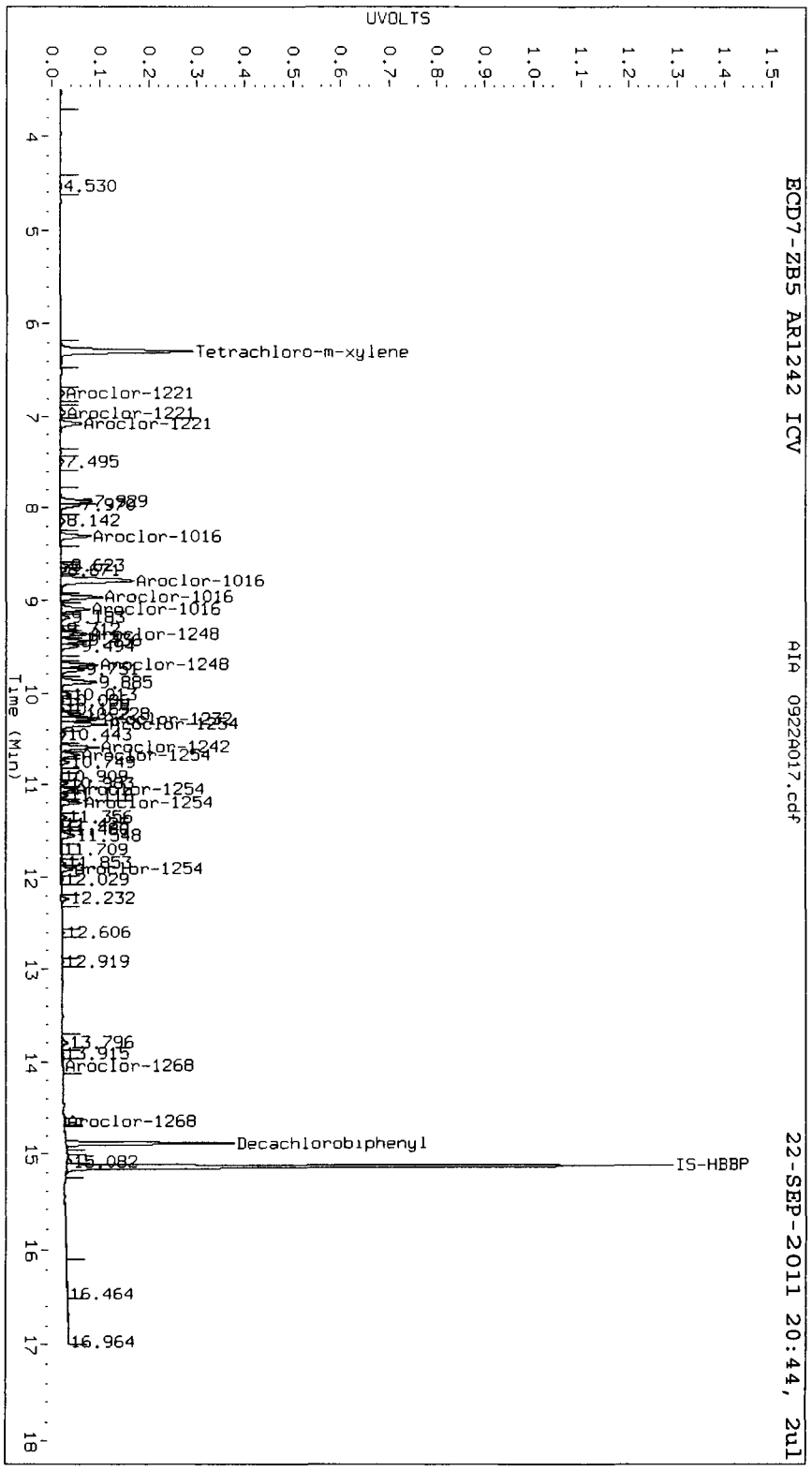
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1242
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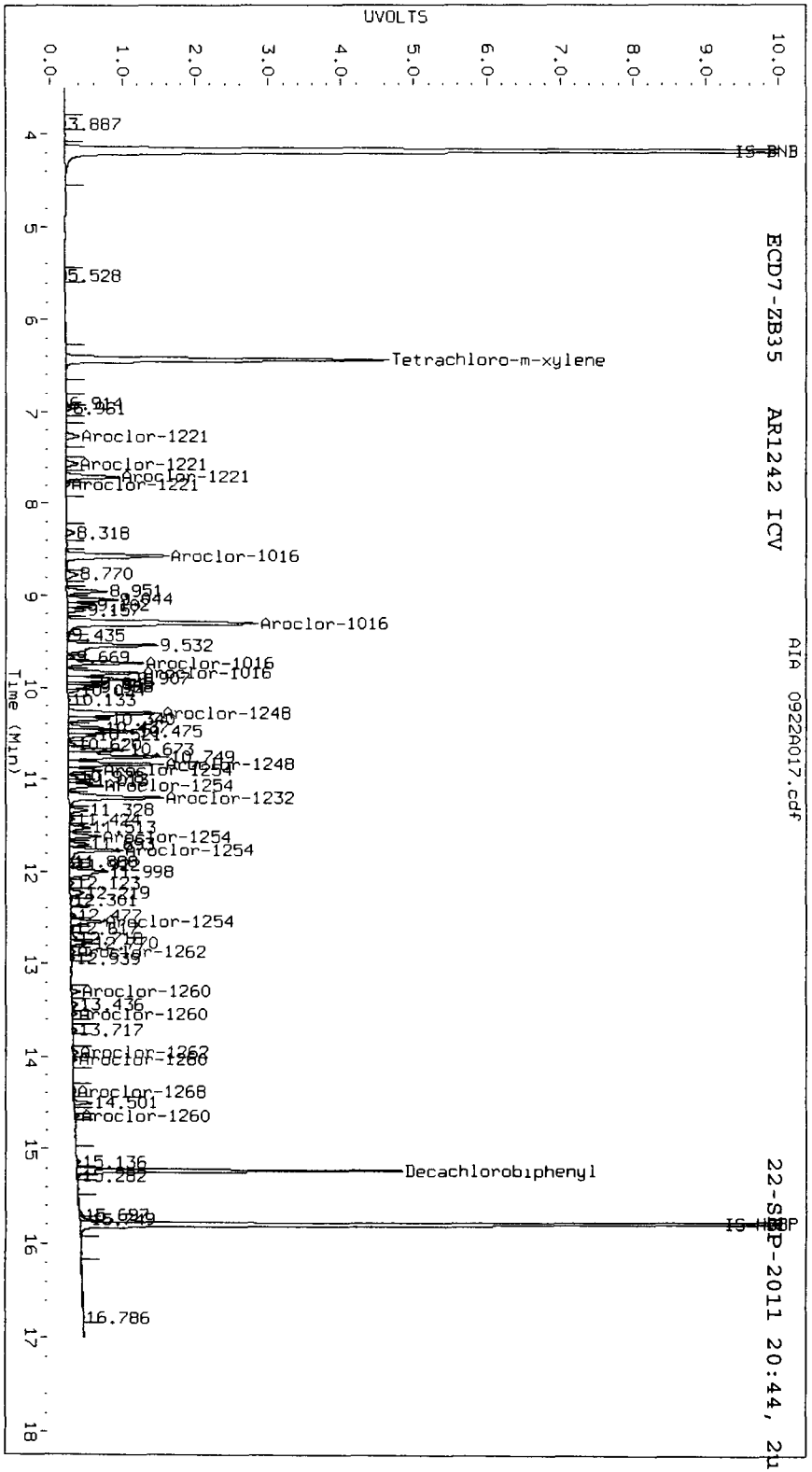
Decachlorobiphenyl
IS-HBBP

TS00:001139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UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
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Aroclor-1262
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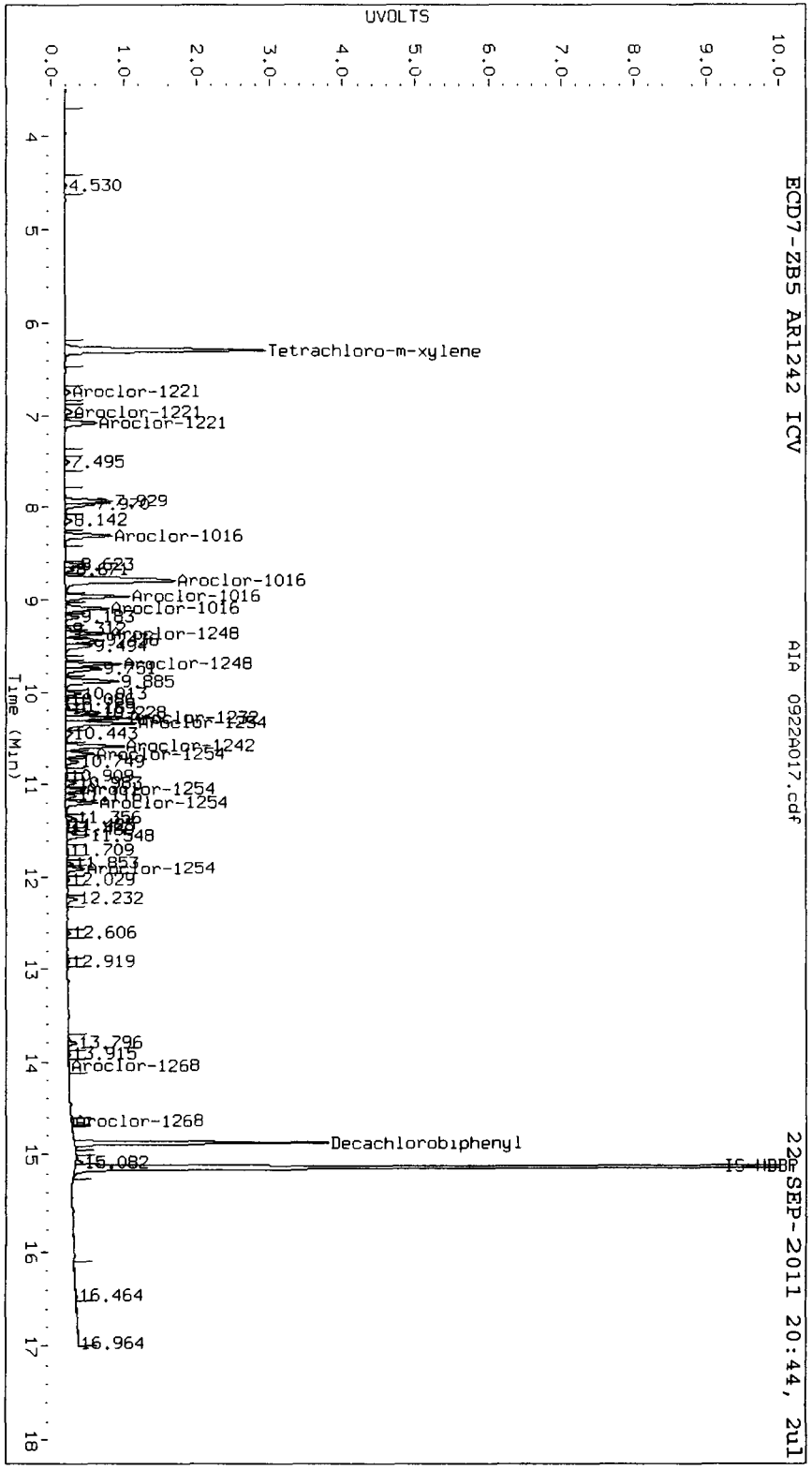
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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22-SEP-2011 20:44, 2ul
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1242
Aroclor-1254
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TS00 00140

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A018.d
Data file 2: 20110922.B/ical-2.b/0922A018.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248 ICV
Client ID:
Injection Date: 22-SEP-2011 21:06
Report Date: 09/23/2011 12:42
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	1326510	6.431	0.000	2121340	19.9	19.7	1.0	Tetrachloro-m-xylen
14.884	0.000	1144503	15.225	0.000	1448687	19.5	18.1	7.9	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	49.9	49.4
Decachlorobiphenyl	48.8	45.2

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5245643	3.7
Hexabromobiphenyl	4060201	4342720	7.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8085103	3.5
Hexabromobiphenyl	5725568	6150436	7.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.306	0.000	134621	82.4	1	8.566	-0.003	399465	92.2
Aroclor-1016	2	8.780	-0.011	682011	120.8	2	9.291	-0.007	1093681	120.7
Aroclor-1016	3	8.968	0.003	231826	104.7	3	9.726	0.001	235896	101.7
Aroclor-1016	4	9.094	0.000	164726	105.0	4	9.833	-0.001	807190	300.9
Total Col1Ave (4 peaks): 103.2						Total Col2Ave (4 peaks): 153.9				RPD = 39
Corrected Ave (3 peaks): 97.4						Corrected Ave (3 peaks): 104.9				RPD = 7
Aroclor-1221	1	---			0.0	1	7.275	0.016	33996	27.1
Aroclor-1221	2	6.937	-0.021	17617	34.1	2	---			0.0
Aroclor-1221	3	7.081	-0.001	25850	15.2	3	7.701	0.000	49808	21.1
Aroclor-1221	NS	---			----	4	---			0.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	8.306	0.000	134621	207.2	1	8.566	-0.003	399465	211.9
Aroclor-1232	2	8.780	-0.011	682011	306.5	2	9.291	-0.007	1093681	303.2
Aroclor-1232	3	8.968	0.003	231826	264.2	3	9.726	0.000	235896	245.3
Aroclor-1232	4	10.279	0.000	650456	833.5	4	11.191	-0.001	1195058	746.8
Total Col1Ave (4 peaks): 402.8						Total Col2Ave (4 peaks): 376.8				RPD = 7
Corrected Ave (3 peaks): 259.3						Corrected Ave (3 peaks): 253.5				RPD = 2
Aroclor-1242	1	8.306	0.000	134621	105.4	1	8.566	-0.002	399465	122.0
Aroclor-1242	2	8.780	-0.011	682011	154.1	2	9.291	-0.007	1093681	159.5
Aroclor-1242	3	8.968	0.003	231826	135.0	3	9.726	0.000	235896	130.8
Aroclor-1242	4	10.586	0.000	617348	392.7	4	11.191	-0.001	1195058	416.4
Total Col1Ave (4 peaks): 196.8						Total Col2Ave (4 peaks): 207.2				RPD = 5
Corrected Ave (3 peaks): 131.5						Corrected Ave (3 peaks): 137.5				RPD = 4
Aroclor-1248	1	9.364	-0.001	437458	248.6	1	9.833	0.000	807190	250.5
Aroclor-1248	2	9.695	0.000	534069	249.6	2	10.280	0.000	848652	238.8
Aroclor-1248	3	10.279	0.000	650456	254.9	3	10.830	0.001	905161	254.7
Aroclor-1248	4	10.586	0.000	617348	259.3	4	11.191	0.000	1195058	261.7
Total Col1Ave (4 peaks): 253.1						Total Col2Ave (4 peaks): 251.4				RPD = 1
Corrected Ave (3 peaks): 251.0						Corrected Ave (3 peaks): 248.0				RPD = 1
Aroclor-1254	1	10.338	-0.007	820265	291.4	1	10.898	0.001	362369	103.3
Aroclor-1254	2	10.668	0.000	373197	96.1	2	11.068	0.000	375919	83.0
Aroclor-1254	3	11.054	0.000	238214	98.1	3	11.606	0.000	371886	104.2
Aroclor-1254	4	11.193	0.001	391214	83.4	4	11.758	0.000	616964	80.7
Aroclor-1254	5	11.916	0.005	268669	86.2	5	12.538	-0.004	446217	96.6
Total Col1Ave (5 peaks): 131.0						Total Col2Ave (5 peaks): 93.6				RPD = 33
Corrected Ave (4 peaks): 90.9						Corrected Ave (4 peaks): 90.9				RPD = 0
Aroclor-1260	1	11.853	0.000	28040	6.4	1	13.304	0.000	49676	9.9
Aroclor-1260	2	12.498	0.039	16705	5.9	2	13.542	0.001	31517	3.2
Aroclor-1260	3	---			0.0	3	14.035	0.000	27483	4.2
Aroclor-1260	4	---			0.0	4	14.643	0.054	21309	9.4
Aroclor-1260	5	---			0.0	NS	---			----
Col1Ave: <3 Quant Peaks						Col2Ave: 6.7				
Aroclor-1262	1	12.498	0.040	16705	3.4	1	12.863	0.003	29554	4.6
Aroclor-1262	2	---			0.0	2	13.304	0.001	49676	7.9
Aroclor-1262	3	13.137	0.000	10212	1.1	3	13.542	0.002	31517	2.6
Aroclor-1262	4	---			0.0	4	13.955	-0.028	41643	7.8
Aroclor-1262	5	---			0.0	5	14.035	0.000	27483	3.4
Col1Ave: <3 Quant Peaks						Col2Ave: 5.3				
Aroclor-1268	1	---			0.0	1	13.955	-0.028	41643	3.4
Aroclor-1268	2	---			0.0	2	14.035	-0.004	27483	2.4
Aroclor-1268	3	14.047	0.055	15001	2.0	3	14.376	0.025	14518	1.6
Aroclor-1268	4	14.640	0.047	14912	0.7	4	---			0.0

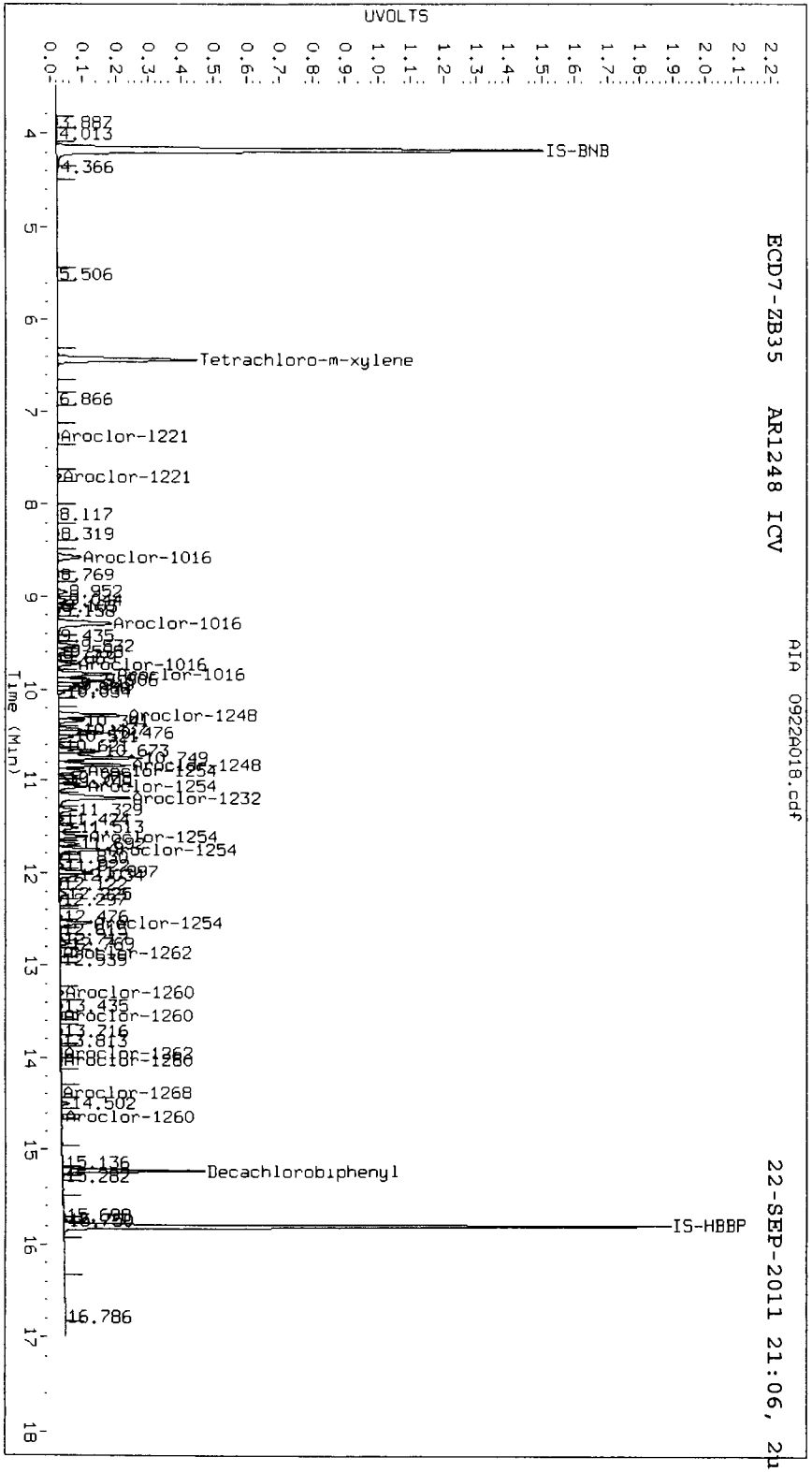
Col1Ave: <3 Quant Peaks Col2Ave: 2.4

Total PCB Area Col1 (6.392 - 14.784) = 9411357 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 15509938 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1221
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1248
Aroclor-1248
Aroclor-1254
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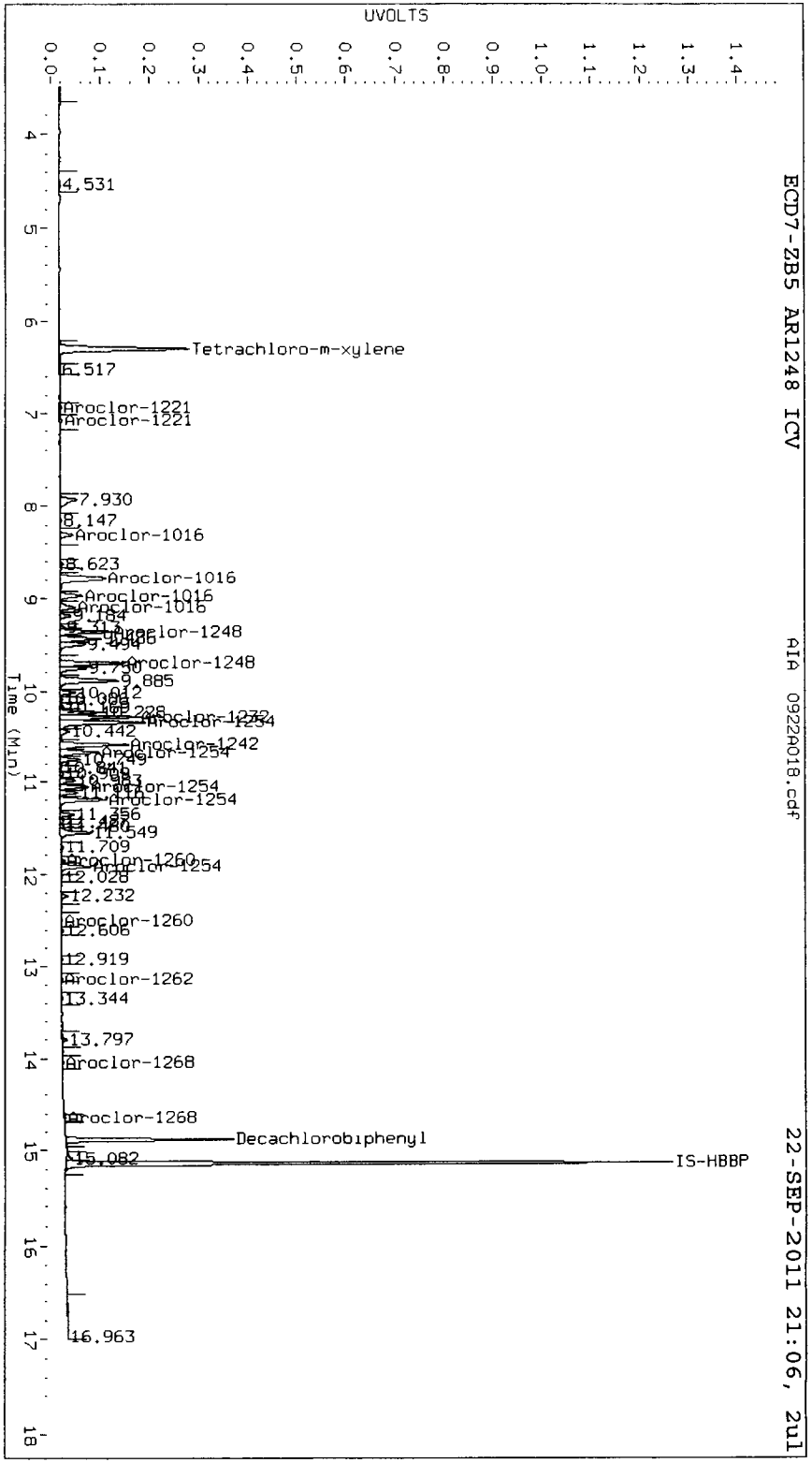
Decachlorobiphenyl
IS-HBBP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Time (Min)
Tetrachloro-m-xylene
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Aroclor-1221
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Aroclor-1248
Aroclor-1248
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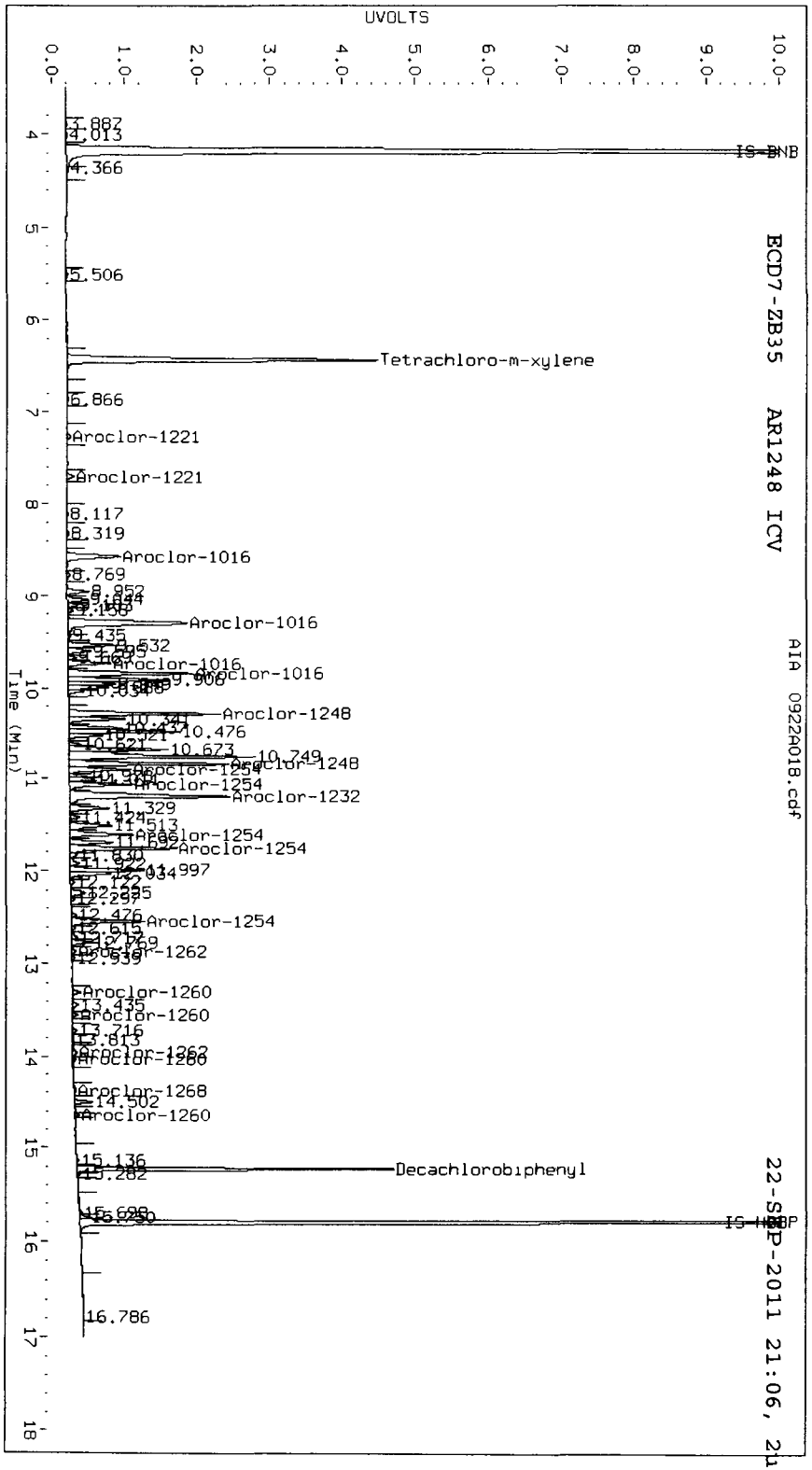
IS-HBBP

TS00 : 00114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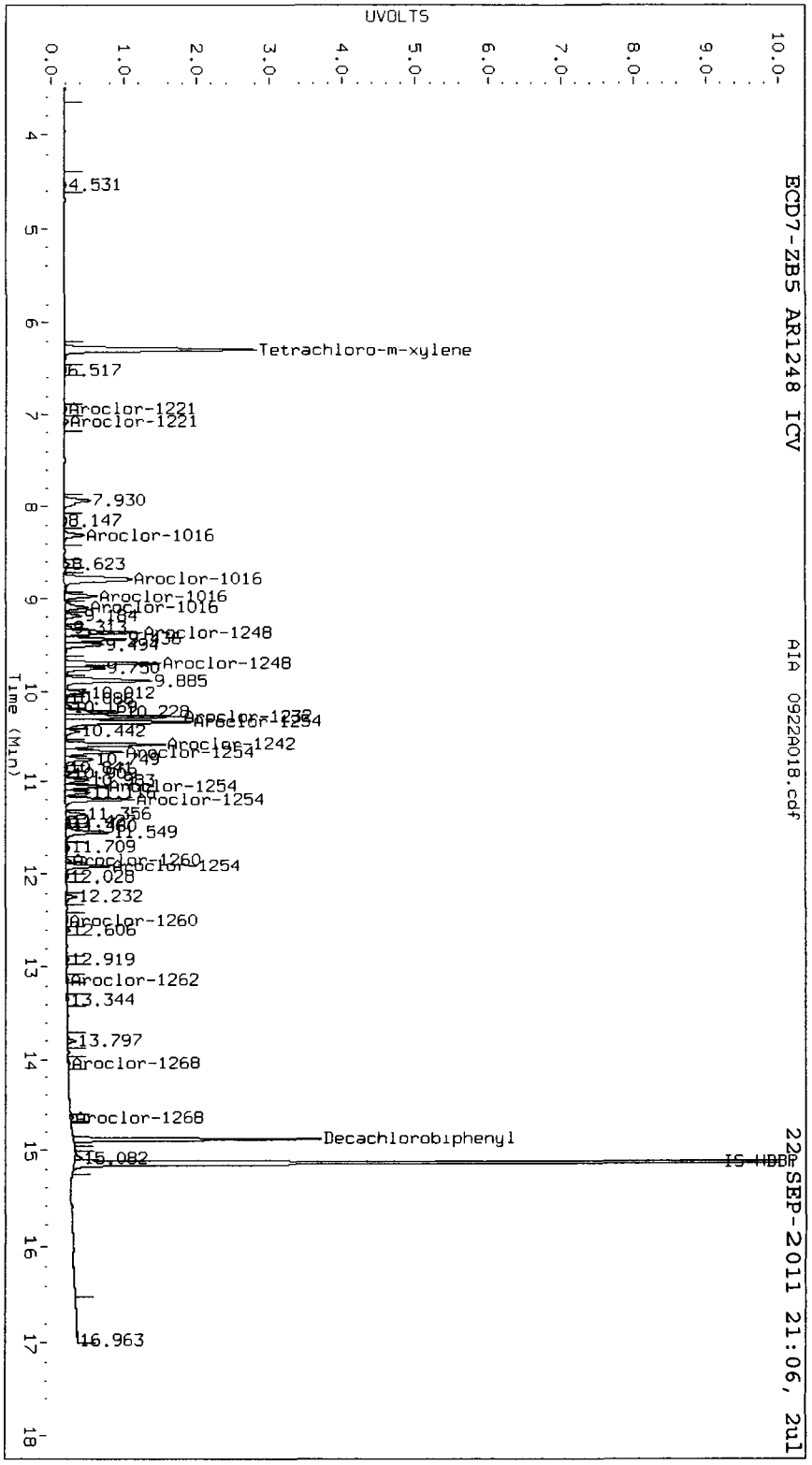
Decachlorobiphenyl
IS-HBBP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Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1242
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

T500:00115

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A019.d
Data file 2: 20110922.B/ical-2.b/0922A019.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254 ICV
Client ID:
Injection Date: 22-SEP-2011 21:29
Report Date: 09/23/2011 12:42
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	1390465	6.430	-0.001	2239718	20.8	20.6	0.9	Tetrachloro-m-xylen
14.884	0.000	1218451	15.225	0.000	1532335	20.4	18.8	8.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.9	51.4
Decachlorobiphenyl	51.1	47.1

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5282355	4.5
Hexabromobiphenyl	4060201	4422768	8.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8192674	4.9
Hexabromobiphenyl	5725568	6240807	9.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	8.566	-0.003	16845	3.8
Aroclor-1016	2	8.777	-0.015	24089	4.2	2	9.285	-0.014	50024	5.4
Aroclor-1016	3	8.973	0.007	13396	6.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	9.832	-0.002	523287	192.5
	Col1Ave: <3 Quant Peaks					Col2Ave: 67.3				
Aroclor-1221	1	---			0.0	1	7.277	0.018	29086	22.9
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	7.701	0.001	10403	4.3
Aroclor-1221	NS	---			----	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	8.566	-0.003	16845	8.8
Aroclor-1232	2	8.777	-0.015	24089	10.7	2	9.285	-0.013	50024	13.7
Aroclor-1232	3	8.973	0.007	13396	15.2	3	---			0.0
Aroclor-1232	4	10.278	-0.001	298349	379.6	4	11.165	-0.027	610479	376.5
	Total Col1Ave (3 peaks): 135.2					Total Col2Ave (3 peaks): 133.0 RPD = 2				
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1242	1	---			0.0	1	8.566	-0.002	16845	5.1
Aroclor-1242	2	8.777	-0.015	24089	5.4	2	9.285	-0.014	50024	7.2
Aroclor-1242	3	8.973	0.007	13396	7.7	3	---			0.0
Aroclor-1242	4	10.588	0.002	213736	135.0	4	11.165	-0.027	610479	209.9
	Total Col1Ave (3 peaks): 49.4					Total Col2Ave (3 peaks): 74.1 RPD = 40				
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1248	1	9.363	-0.001	327351	184.7	1	9.832	-0.001	523287	160.2
Aroclor-1248	2	9.695	-0.001	186539	86.6	2	10.280	0.000	303489	84.3
Aroclor-1248	3	10.278	-0.001	298349	116.1	3	10.828	-0.001	194854	54.1
Aroclor-1248	4	10.588	0.003	213736	89.2	4	11.165	-0.026	610479	131.9
	Total Col1Ave (4 peaks): 119.1					Total Col2Ave (4 peaks): 107.6 RPD = 10				
	Corrected Ave (3 peaks): 97.3					Corrected Ave (3 peaks): 90.1 RPD = 8				
Aroclor-1254	1	10.346	0.001	694012	244.8	1	10.897	0.000	895683	252.0
Aroclor-1254	2	10.669	0.001	989895	253.0	2	11.067	-0.001	1162767	253.3
Aroclor-1254	3	11.053	0.000	621656	254.1	3	11.606	0.000	911668	252.1
Aroclor-1254	4	11.192	0.000	1181036	250.1	4	11.757	-0.001	1938721	250.3
Aroclor-1254	5	11.911	0.000	783773	249.6	5	12.543	0.000	1168781	249.7
	Total Col1Ave (5 peaks): 250.3					Total Col2Ave (5 peaks): 251.5 RPD = 0				
	Corrected Ave (4 peaks): 249.4					Corrected Ave (4 peaks): 251.0 RPD = 1				
Aroclor-1260	1	11.853	0.000	480662	108.0	1	13.302	-0.002	519873	102.6
Aroclor-1260	2	12.456	-0.002	54522	18.8	2	13.541	0.000	293748	29.3
Aroclor-1260	3	12.774	0.000	58723	20.3	3	14.033	-0.002	203757	31.0
Aroclor-1260	4	13.507	-0.001	128285	35.3	4	14.643	0.054	22229	9.6
Aroclor-1260	5	---			0.0	NS	---			----
	Total Col1Ave (4 peaks): 45.6					Total Col2Ave (4 peaks): 43.1 RPD = 6				
	Corrected Ave (3 peaks): 24.8					Corrected Ave (3 peaks): 23.3 RPD = 6				
Aroclor-1262	1	12.456	-0.002	54522	10.8	1	12.860	0.000	102838	15.9
Aroclor-1262	2	12.774	0.000	58723	14.4	2	13.302	-0.001	519873	81.5
Aroclor-1262	3	13.136	-0.001	136483	14.3	3	13.541	0.001	293748	23.6
Aroclor-1262	4	---			0.0	4	13.987	0.003	75613	13.9
Aroclor-1262	5	---			0.0	5	14.033	-0.002	203757	25.0
	Total Col1Ave (3 peaks): 13.2					Total Col2Ave (5 peaks): 32.0 RPD = 83*				
	Corrected Ave: < 3 Peaks					Corrected Ave (4 peaks): 19.6				
Aroclor-1268	1	---			0.0	1	13.987	0.003	75613	6.0
Aroclor-1268	2	---			0.0	2	14.033	-0.005	203757	17.2
Aroclor-1268	3	14.045	0.054	14476	1.9	3	---			0.0

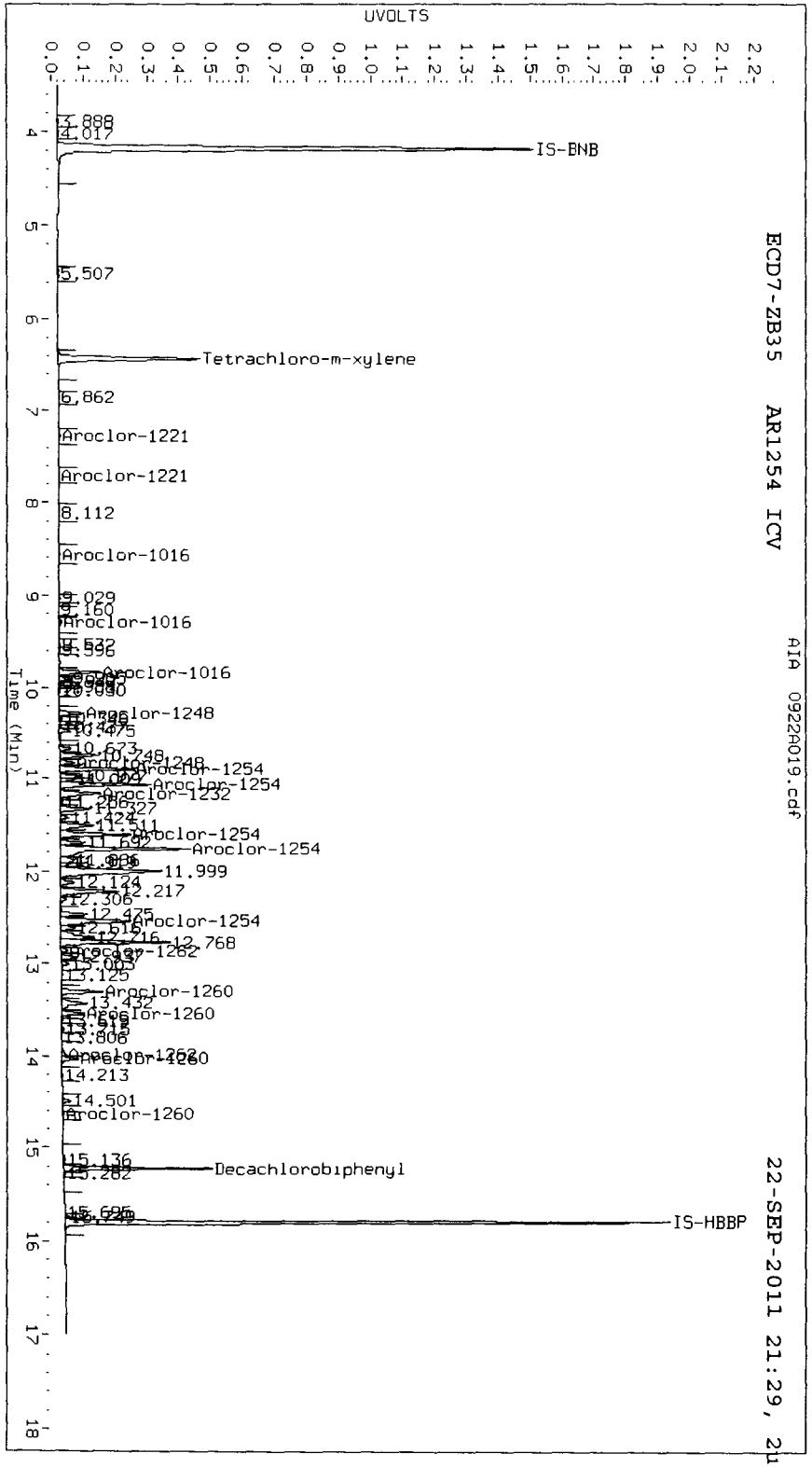
Aroclor-1268	4	14.639	0.046	10016	0.4	4	---	0.0
		Col1Ave: <3 Quant Peaks				Col2Ave: <3 Quant Peaks		

Total PCB Area Col1 (6.392 - 14.784) = 11875986 Col1 Total PCB = 0.3 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 18840165 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1221
Aroclor-1016
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1254
Aroclor-1254
Aroclor-1254
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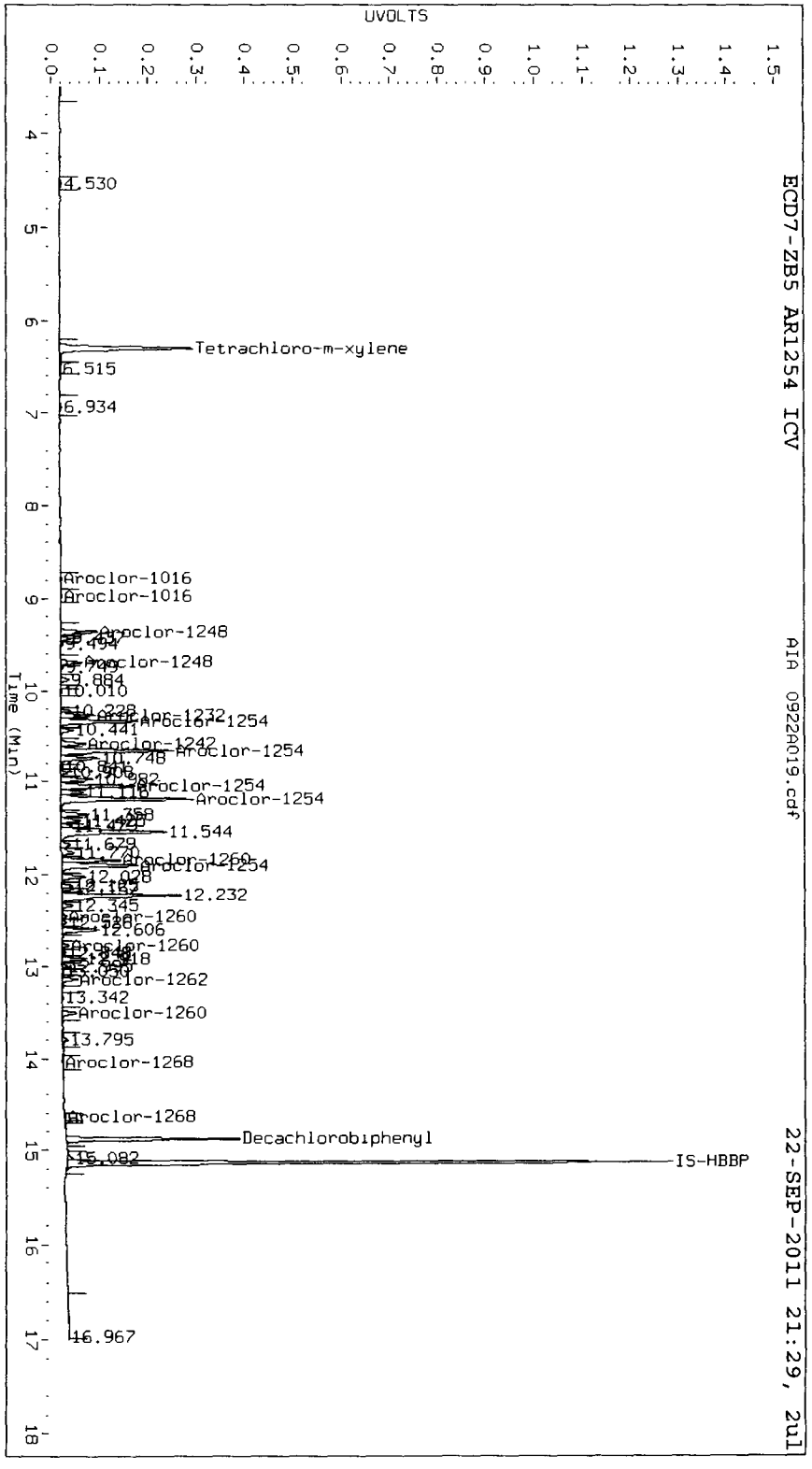
Decachlorobiphenyl
IS-HBBP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Time (Min)
Tetrachloro-m-xylene
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Aroclor-1016
Aroclor-1248
Aroclor-1248
Aroclor-1254
Aroclor-1254
Aroclor-1254
Aroclor-1254
Aroclor-1260
Aroclor-1260
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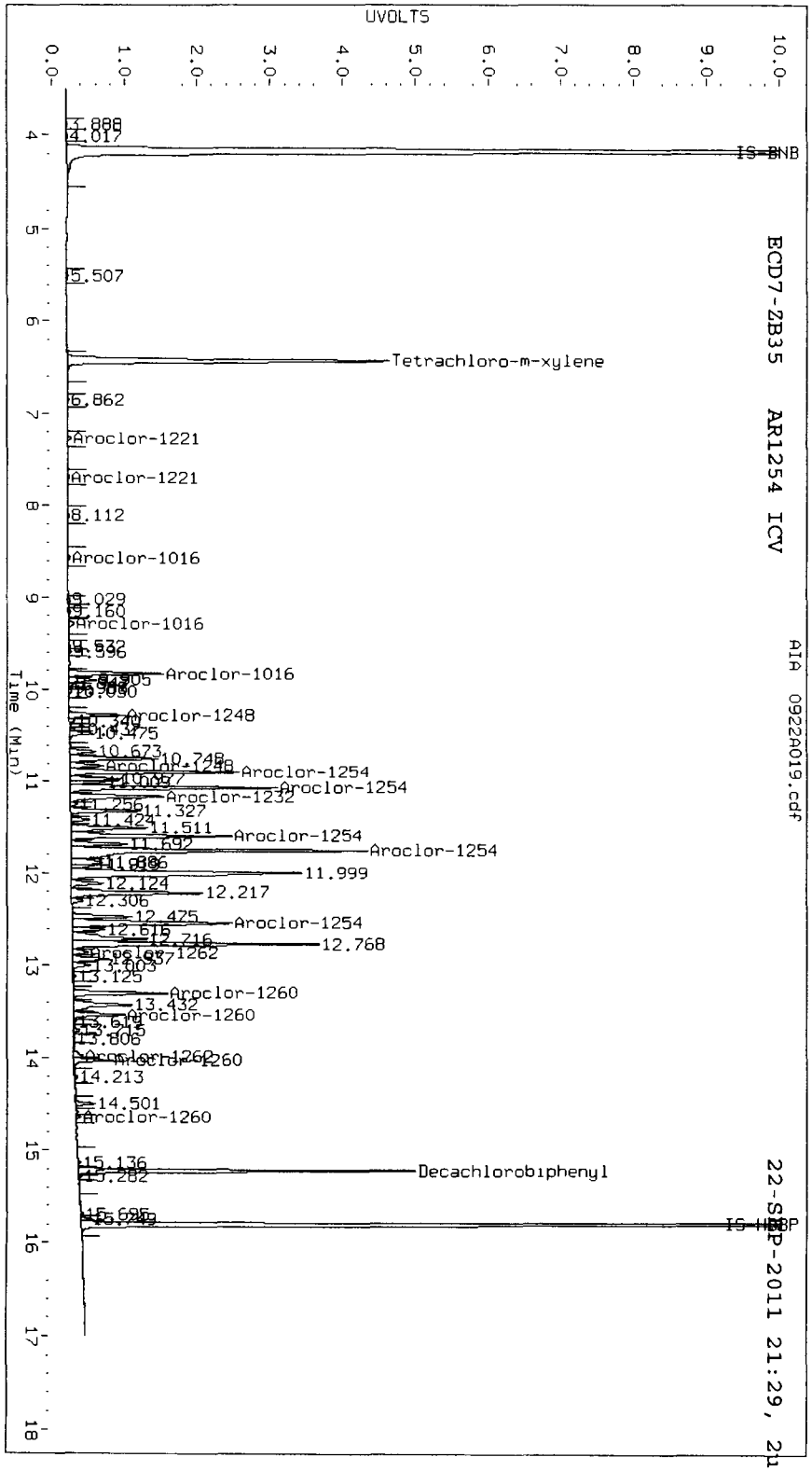
Aroclor-1268
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TS00 : 00115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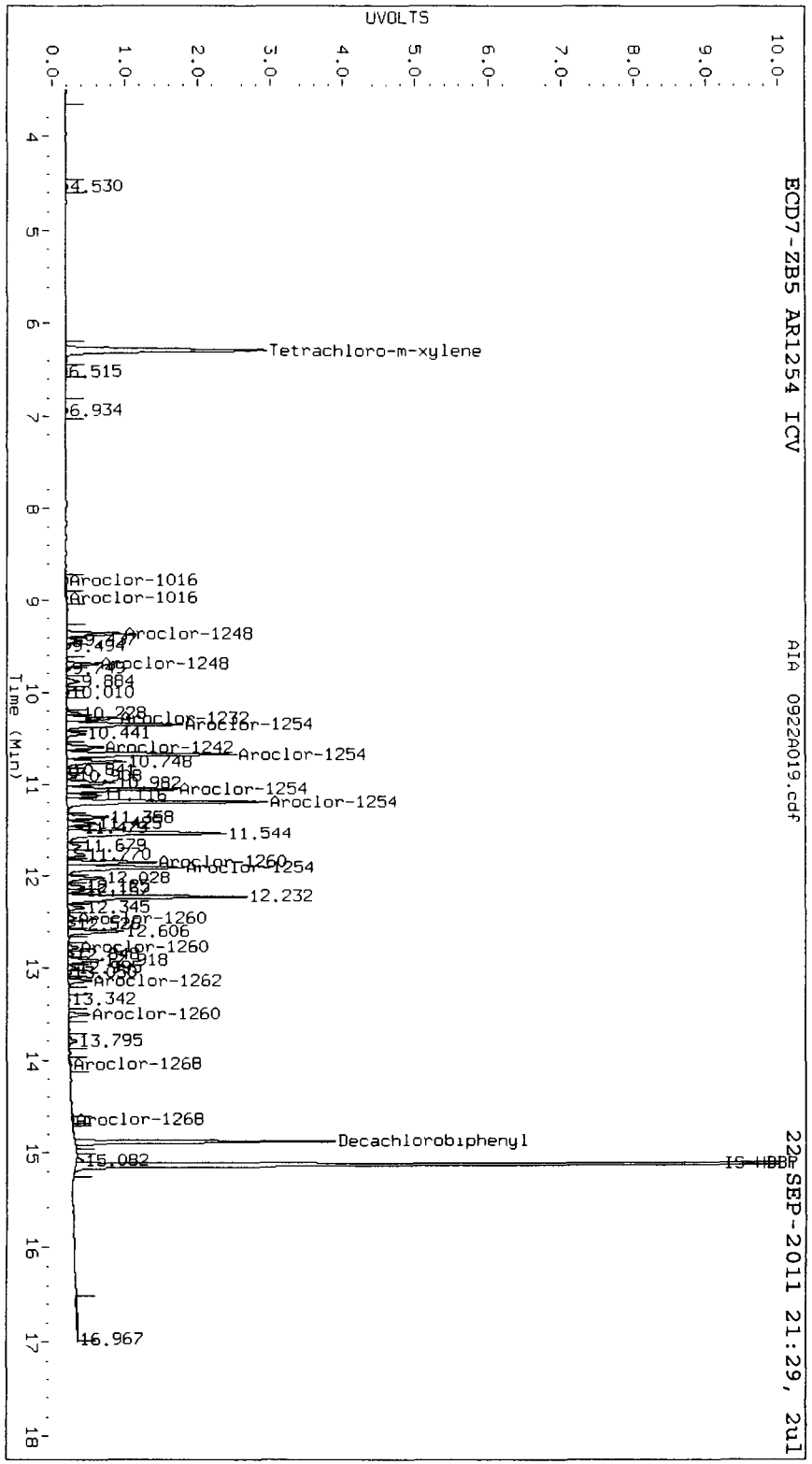
22-SEP-2011 21:29, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1260
Aroclor-1262
Decachlorobiphenyl
IS-HBBP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ECD7-ZB5 AR1254 ICV
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22-SEP-2011 21:29, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1242
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TS00:00150

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A020.d
Data file 2: 20110922.B/ical-2.b/0922A020.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162 ICV
Client ID:
Injection Date: 22-SEP-2011 21:52
Report Date: 09/23/2011 12:42
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	1385641	6.430	-0.001	2145866	20.7	19.8	4.2	Tetrachloro-m-xylen
14.884	0.000	1171912	15.224	-0.001	1483152	19.3	18.1	6.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.7	49.6
Decachlorobiphenyl	48.3	45.2

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5287808	4.6
Hexabromobiphenyl	4060201	4496425	10.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8146644	4.3
Hexabromobiphenyl	5725568	6294647	9.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.305	0.000	32054	19.5	1	8.583	0.014	186408	42.7
Aroclor-1016	2	8.794	0.002	88674	15.6	2	9.300	0.001	169919	18.6
Aroclor-1016	3	8.966	0.000	39612	17.8	3	9.726	0.001	43727	18.7
Aroclor-1016	4	9.094	-0.001	26119	16.5	4	9.833	-0.001	41756	15.4
Total Col1Ave (4 peaks):				17.3		Total Col2Ave (4 peaks):			23.9	RPD = 32
Corrected Ave (3 peaks):				16.6		Corrected Ave (3 peaks):			17.6	RPD = 6
Aroclor-1221	1	6.746	-0.001	170695	247.2	1	7.259	0.000	307189	243.0
Aroclor-1221	2	6.958	0.000	128032	245.8	2	7.561	-0.001	192307	247.4
Aroclor-1221	3	7.081	-0.001	419742	245.2	3	7.700	0.000	584149	245.6
Aroclor-1221	NS	---			----	4	7.787	-0.001	105764	273.7
Total Col1Ave (3 peaks):				246.1		Total Col2Ave (4 peaks):			252.4	RPD = 3
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			245.3	
Aroclor-1232	1	8.305	0.000	32054	48.9	1	8.583	0.014	186408	98.1
Aroclor-1232	2	8.794	0.002	88674	39.5	2	9.300	0.002	169919	46.8
Aroclor-1232	3	8.966	0.001	39612	44.8	3	9.726	0.000	43727	45.1
Aroclor-1232	4	10.280	0.001	19948	25.4	4	11.188	-0.004	65694	40.7
Total Col1Ave (4 peaks):				39.7		Total Col2Ave (4 peaks):			57.7	RPD = 37
Corrected Ave (3 peaks):				36.6		Corrected Ave (3 peaks):			44.2	RPD = 19
Aroclor-1242	1	8.305	0.000	32054	24.9	1	8.583	0.015	186408	56.5
Aroclor-1242	2	8.794	0.002	88674	19.9	2	9.300	0.002	169919	24.6
Aroclor-1242	3	8.966	0.001	39612	22.9	3	9.726	0.000	43727	24.1
Aroclor-1242	4	10.588	0.002	26614	16.8	4	11.188	-0.003	65694	22.7
Total Col1Ave (4 peaks):				21.1		Total Col2Ave (4 peaks):			32.0	RPD = 41*
Corrected Ave (3 peaks):				19.9		Corrected Ave (3 peaks):			23.8	RPD = 18
Aroclor-1248	1	9.364	0.000	20099	11.3	1	9.833	0.000	41756	12.9
Aroclor-1248	2	9.695	0.000	16905	7.8	2	10.280	-0.001	43573	12.2
Aroclor-1248	3	10.280	0.001	19948	7.8	3	10.829	0.000	32495	9.1
Aroclor-1248	4	10.588	0.002	26614	11.1	4	11.188	-0.003	65694	14.3
Total Col1Ave (4 peaks):				9.5		Total Col2Ave (4 peaks):			12.1	RPD = 24
Corrected Ave (3 peaks):				8.9		Corrected Ave (3 peaks):			11.4	RPD = 24
Aroclor-1254	1	10.347	0.001	118433	41.7	1	10.898	0.001	184842	52.3
Aroclor-1254	2	10.670	0.002	132156	33.7	2	11.067	0.000	217072	47.6
Aroclor-1254	3	11.053	0.000	24572	10.0	3	11.606	0.000	49832	13.9
Aroclor-1254	4	11.161	-0.031	177197	37.5	4	11.794	0.036	899271	116.7
Aroclor-1254	5	11.901	-0.010	153602	48.9	5	12.557	0.014	231083	49.6
Total Col1Ave (5 peaks):				34.4		Total Col2Ave (5 peaks):			56.0	RPD = 48*
Corrected Ave (4 peaks):				30.8		Corrected Ave (4 peaks):			40.8	RPD = 28
Aroclor-1260	1	11.853	0.000	780858	172.5	1	13.304	0.000	1571225	307.3
Aroclor-1260	2	12.457	-0.001	1186714	402.2	2	13.540	-0.001	2868761	283.2
Aroclor-1260	3	12.773	-0.001	994171	337.9	3	14.035	0.000	1978804	298.8
Aroclor-1260	4	13.507	0.000	694285	188.0	4	14.588	-0.001	1022777	440.2
Aroclor-1260	5	13.606	-0.001	954162	663.2	NS	---			----
Total Col1Ave (5 peaks):				352.8		Total Col2Ave (4 peaks):			332.4	RPD = 6
Corrected Ave (4 peaks):				275.2		Corrected Ave (3 peaks):			296.5	RPD = 7
Aroclor-1262	1	12.457	-0.001	1186714	231.8	1	12.860	0.000	1572364	241.5
Aroclor-1262	2	12.773	-0.001	994171	240.5	2	13.304	0.000	1571225	244.2
Aroclor-1262	3	13.136	-0.001	2189113	225.3	3	13.540	0.001	2868761	228.4
Aroclor-1262	4	13.606	-0.001	954162	246.5	4	13.983	-0.001	1358314	247.0
Aroclor-1262	5	13.670	-0.001	949624	241.8	5	14.035	0.000	1978804	241.1
Total Col1Ave (5 peaks):				237.2		Total Col2Ave (5 peaks):			240.4	RPD = 1
Corrected Ave (4 peaks):				234.9		Corrected Ave (4 peaks):			238.8	RPD = 2
Aroclor-1268	1	13.606	-0.001	954162	92.3	1	13.983	-0.001	1358314	107.1

Aroclor-1268	2	13.670	0.001	949624	100.4	2	14.035	-0.003	1978804	165.9
Aroclor-1268	3	14.006	0.014	354726	44.8	3	14.350	-0.001	104141	10.9
Aroclor-1268	4	14.592	0.000	268906	11.4	4	14.937	-0.001	359030	12.5

Total Col1Ave (4 peaks): 62.2 Total Col2Ave (4 peaks): 74.1 RPD = 17

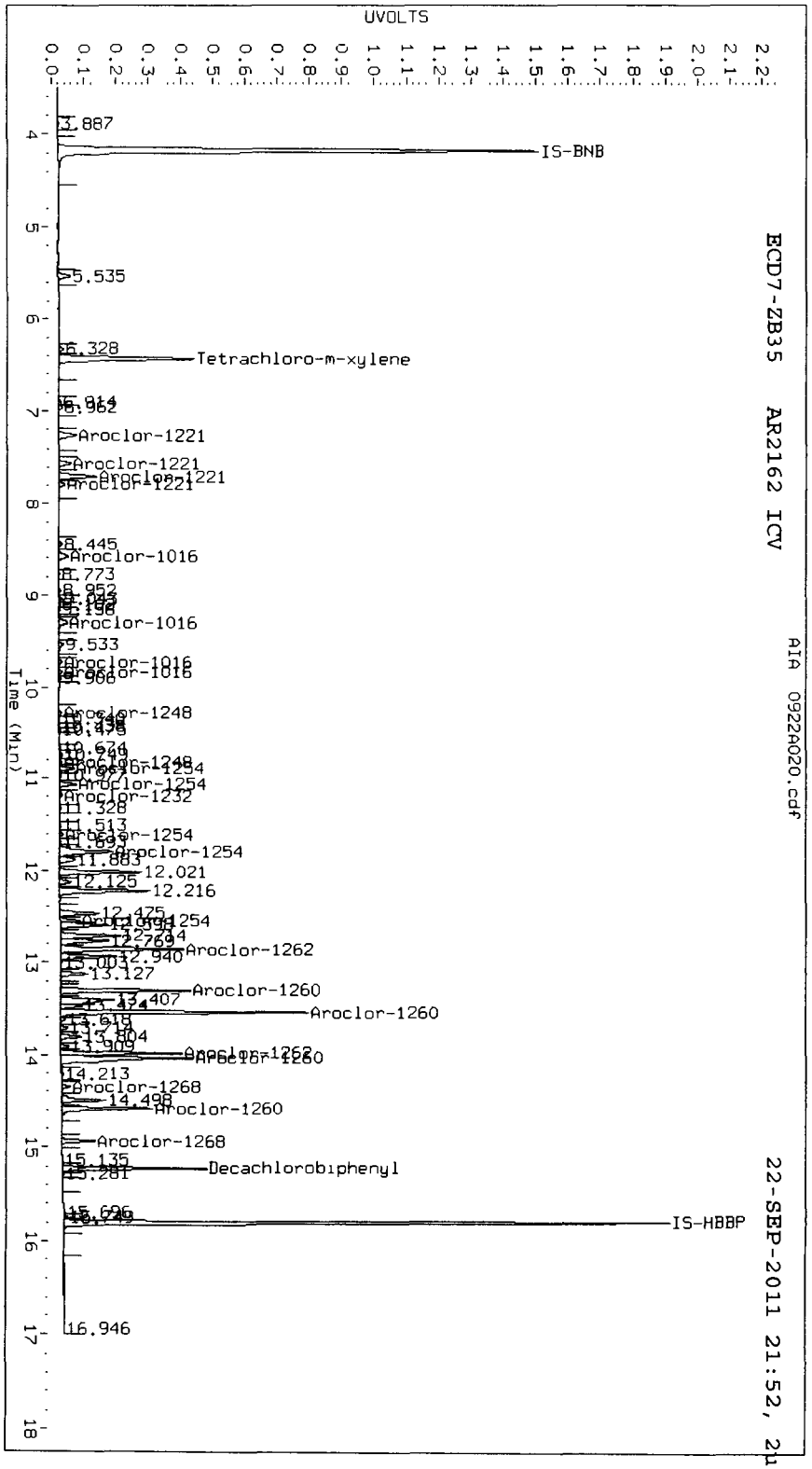
Corrected Ave (3 peaks): 49.5 Corrected Ave (3 peaks): 43.5 RPD = 13

Total PCB Area Col1 (6.392 - 14.784) = 15914485 Col1 Total PCB = 0.4 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 23349355 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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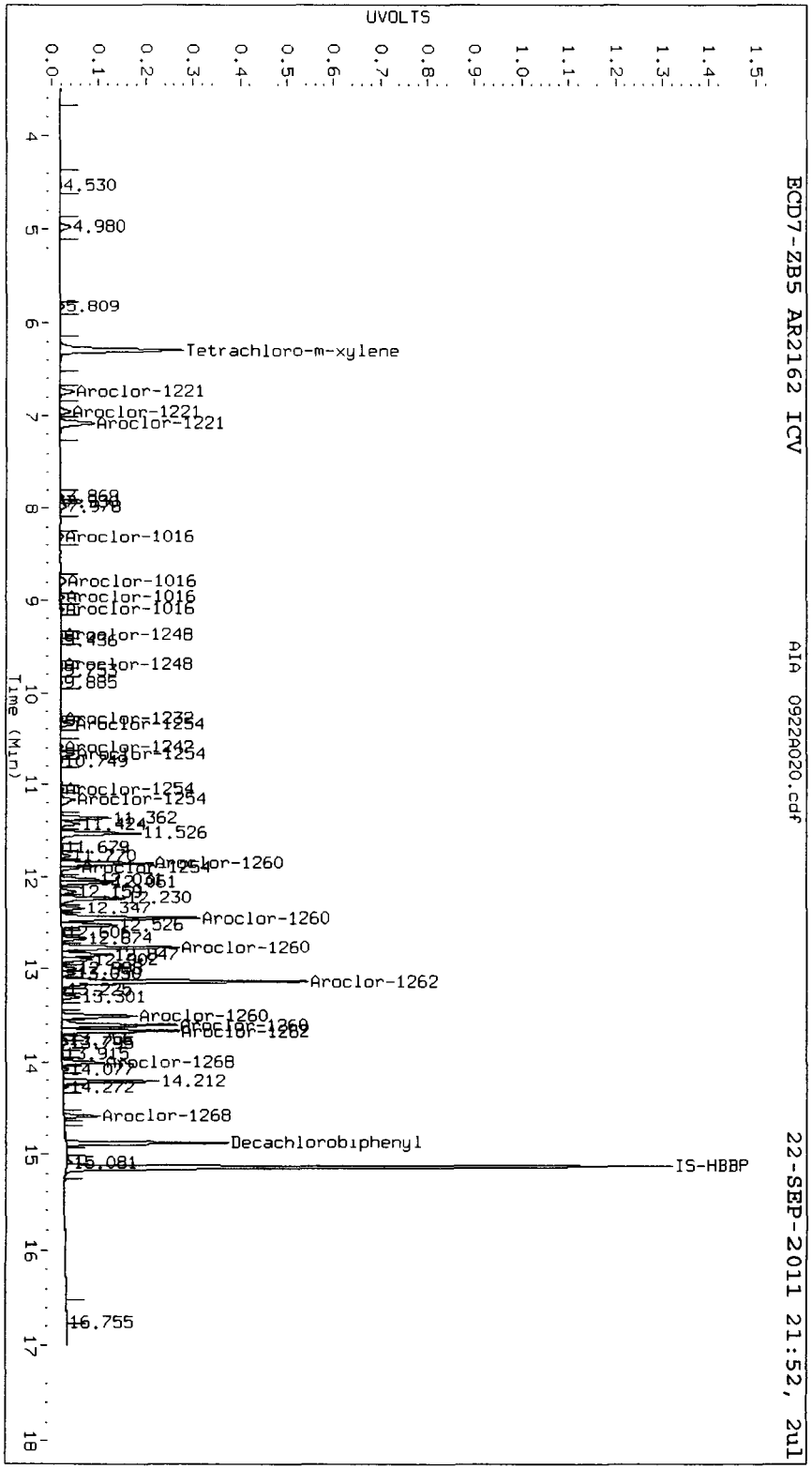
22-SEP-2011 21:52, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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Time (Min)
Tetrachloro-m-xylene
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Aroclor-1016
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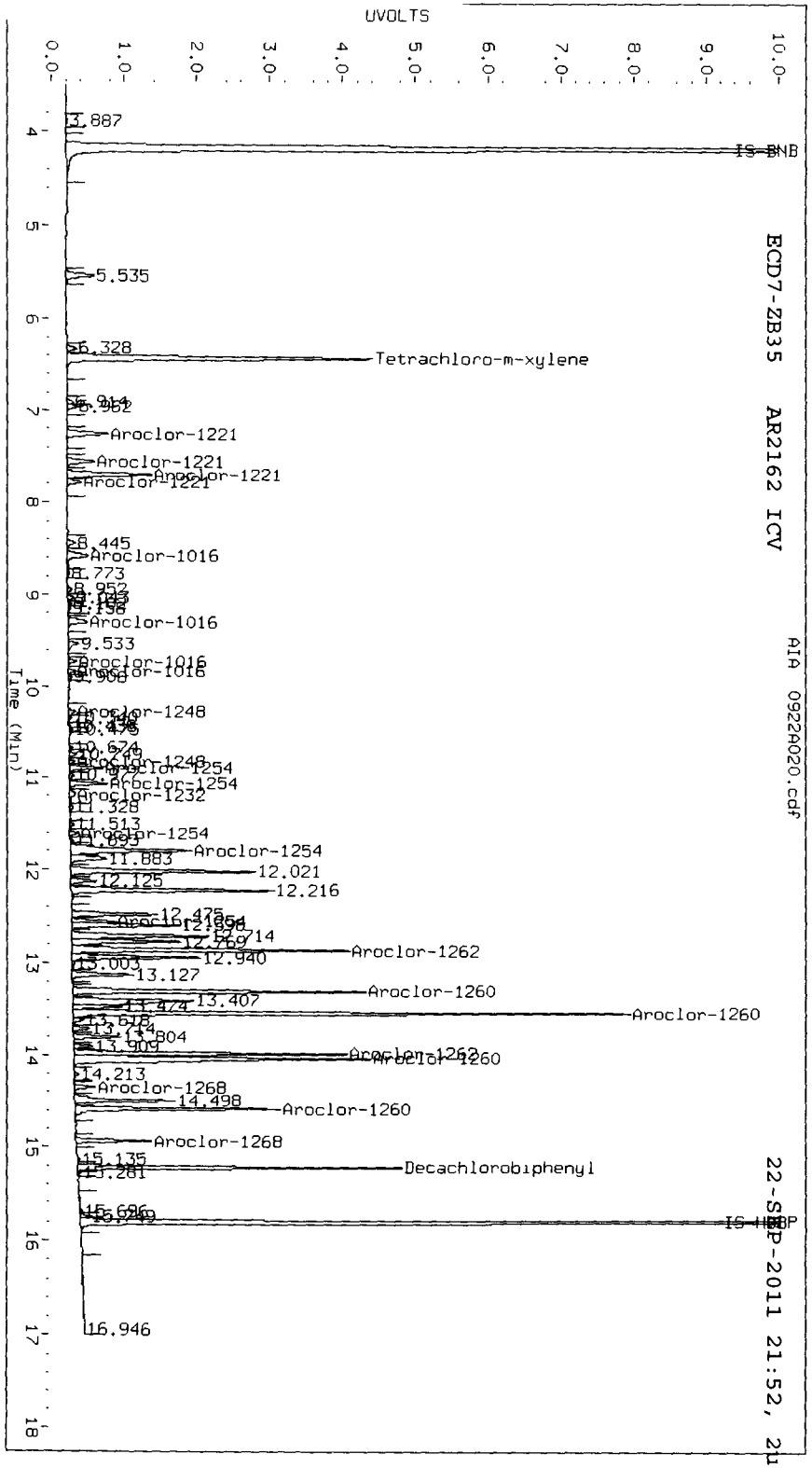
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
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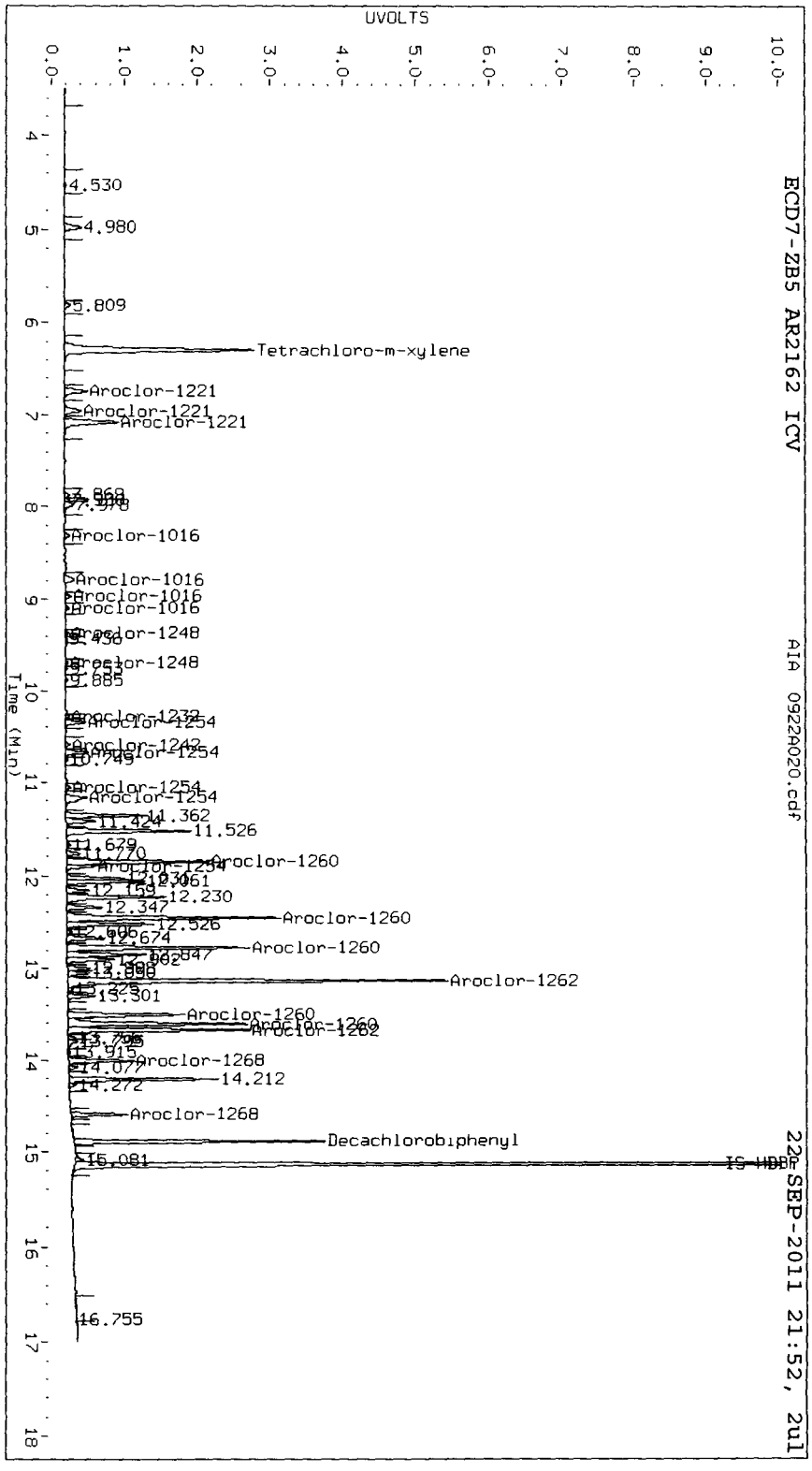
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TS00:00155

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/ical-1.b/0922A021.d
Data file 2: 20110922.B/ical-2.b/0922A021.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268 ICV
Client ID:
Injection Date: 22-SEP-2011 22:15
Report Date: 09/23/2011 12:42
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.292	0.000	1397472	6.430	-0.001	2198197	21.1	20.5	2.7	Tetrachloro-m-xylen
14.884	0.000	2048399	15.224	-0.001	2543255	34.4	31.4	9.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	52.6	51.2
Decachlorobiphenyl	86.1	78.4

09/23/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5234814	3.5
Hexabromobiphenyl	4060201	4410670	8.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8073184	3.4
Hexabromobiphenyl	5725568	6216232	8.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.304	-0.002	183271	112.4	1	8.569	0.000	527939	122.0
Aroclor-1016	2	8.792	0.000	614110	109.0	2	9.298	-0.001	989341	109.4
Aroclor-1016	3	8.965	-0.001	242187	109.7	3	9.725	0.000	267435	115.5
Aroclor-1016	4	9.094	-0.001	168608	107.7	4	9.833	-0.001	271326	101.3
Total Col1Ave (4 peaks):				109.7	Total Col2Ave (4 peaks):				112.0	RPD = 2
Corrected Ave (3 peaks):				108.8	Corrected Ave (3 peaks):				108.7	RPD = 0
Aroclor-1221	1	6.745	-0.002	103647	151.6	1	7.258	-0.001	201083	160.5
Aroclor-1221	2	6.957	-0.001	91658	177.7	2	7.560	-0.001	134508	174.6
Aroclor-1221	3	7.080	-0.002	331286	195.5	3	7.699	-0.001	485452	205.9
Aroclor-1221	NS	---			----	4	7.786	-0.002	63491	165.8
Total Col1Ave (3 peaks):				175.0	Total Col2Ave (4 peaks):				176.7	RPD = 1
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				167.0	
Aroclor-1232	1	8.304	-0.001	183271	282.7	1	8.569	0.000	527939	280.4
Aroclor-1232	2	8.792	0.000	614110	276.5	2	9.298	0.000	989341	274.7
Aroclor-1232	3	8.965	0.000	242187	276.6	3	9.725	-0.001	267435	278.5
Aroclor-1232	4	10.280	0.000	179828	230.9	4	11.191	-0.001	369899	231.5
Total Col1Ave (4 peaks):				266.7	Total Col2Ave (4 peaks):				266.3	RPD = 0
Corrected Ave (3 peaks):				261.3	Corrected Ave (3 peaks):				261.6	RPD = 0
Aroclor-1242	1	8.304	-0.001	183271	143.7	1	8.569	0.001	527939	161.5
Aroclor-1242	2	8.792	0.000	614110	139.0	2	9.298	0.000	989341	144.5
Aroclor-1242	3	8.965	0.000	242187	141.3	3	9.725	-0.001	267435	148.6
Aroclor-1242	4	10.586	0.000	193375	123.2	4	11.191	0.000	369899	129.1
Total Col1Ave (4 peaks):				136.8	Total Col2Ave (4 peaks):				145.9	RPD = 6
Corrected Ave (3 peaks):				134.5	Corrected Ave (3 peaks):				140.7	RPD = 4
Aroclor-1248	1	9.364	-0.001	126008	71.8	1	9.833	-0.001	271326	84.3
Aroclor-1248	2	9.694	-0.001	166157	77.8	2	10.280	-0.001	347242	97.9
Aroclor-1248	3	10.280	0.000	179828	70.6	3	10.830	0.001	320870	90.4
Aroclor-1248	4	10.586	0.000	193375	81.4	4	11.191	0.001	369899	81.1
Total Col1Ave (4 peaks):				75.4	Total Col2Ave (4 peaks):				88.4	RPD = 16
Corrected Ave (3 peaks):				73.4	Corrected Ave (3 peaks):				85.3	RPD = 15
Aroclor-1254	1	10.337	-0.009	226666	80.7	1	10.897	0.000	81457	23.3
Aroclor-1254	2	10.668	-0.001	68109	17.6	2	11.067	0.000	77904	17.2
Aroclor-1254	3	11.054	0.000	36133	14.9	3	11.606	0.000	64983	18.2
Aroclor-1254	4	11.193	0.001	64401	13.8	4	11.757	-0.001	152191	19.9
Aroclor-1254	5	11.916	0.005	35406	11.4	5	12.540	-0.003	69824	15.1
Total Col1Ave (5 peaks):				27.7	Total Col2Ave (5 peaks):				18.8	RPD = 38
Corrected Ave (4 peaks):				14.4	Corrected Ave (4 peaks):				17.6	RPD = 20
Aroclor-1260	1	11.853	0.000	29402	6.6	1	13.303	-0.001	970779	192.3
Aroclor-1260	2	12.458	-0.001	608806	210.3	2	13.540	-0.001	577671	57.8
Aroclor-1260	3	12.774	0.000	53655	18.6	3	14.037	0.002	3512932	537.2
Aroclor-1260	4	13.508	0.001	14944	4.1	4	14.589	0.000	1139169	496.5
Aroclor-1260	5	13.607	0.000	2771466	1963.7	NS	---			----
Total Col1Ave (5 peaks):				440.7	Total Col2Ave (4 peaks):				320.9	RPD = 31
Corrected Ave (4 peaks):				59.9	Corrected Ave (3 peaks):				248.8	RPD = 122*
Aroclor-1262	1	12.458	0.000	608806	121.3	1	12.860	0.000	858010	133.4
Aroclor-1262	2	12.774	0.000	53655	13.2	2	13.303	0.000	970779	152.8
Aroclor-1262	3	13.136	0.000	389825	40.9	3	13.540	0.000	577671	46.6
Aroclor-1262	4	13.607	-0.001	2771466	729.9	4	13.983	-0.001	3382916	622.9
Aroclor-1262	5	13.669	-0.002	2793415	725.2	5	14.037	0.002	3512932	433.5
Total Col1Ave (5 peaks):				326.1	Total Col2Ave (5 peaks):				277.8	RPD = 16
Corrected Ave (4 peaks):				225.1	Corrected Ave (4 peaks):				191.6	RPD = 16
Aroclor-1268	1	13.607	-0.001	2771466	273.4	1	13.983	-0.001	3382916	270.0

Aroclor-1268	2	13.669	0.000	2793415	301.1	2	14.037	-0.001	3512932	298.2
Aroclor-1268	3	13.991	-0.001	1909007	245.8	3	14.350	-0.001	2280531	242.1
Aroclor-1268	4	14.592	-0.001	5270226	227.8	4	14.938	0.000	6440385	226.5

Total Col1Ave (4 peaks): 262.0 Total Col2Ave (4 peaks): 259.2 RPD = 1

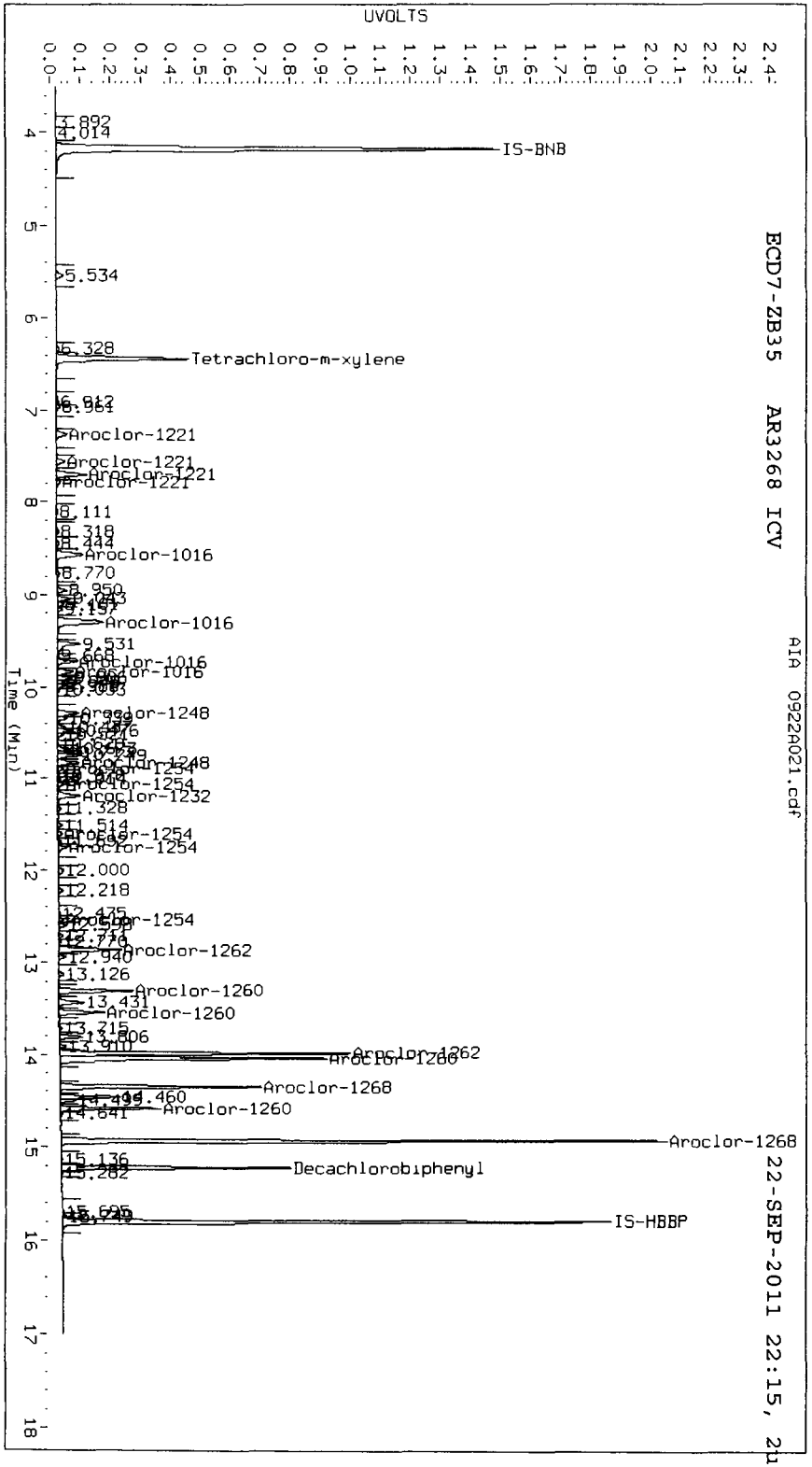
Corrected Ave (3 peaks): 249.0 Corrected Ave (3 peaks): 246.2 RPD = 1

Total PCB Area Col1 (6.392 - 14.784) = 20821832 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.531 - 15.125) = 28725278 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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22-SEP-2011 22:15, 2u
Time (Min)
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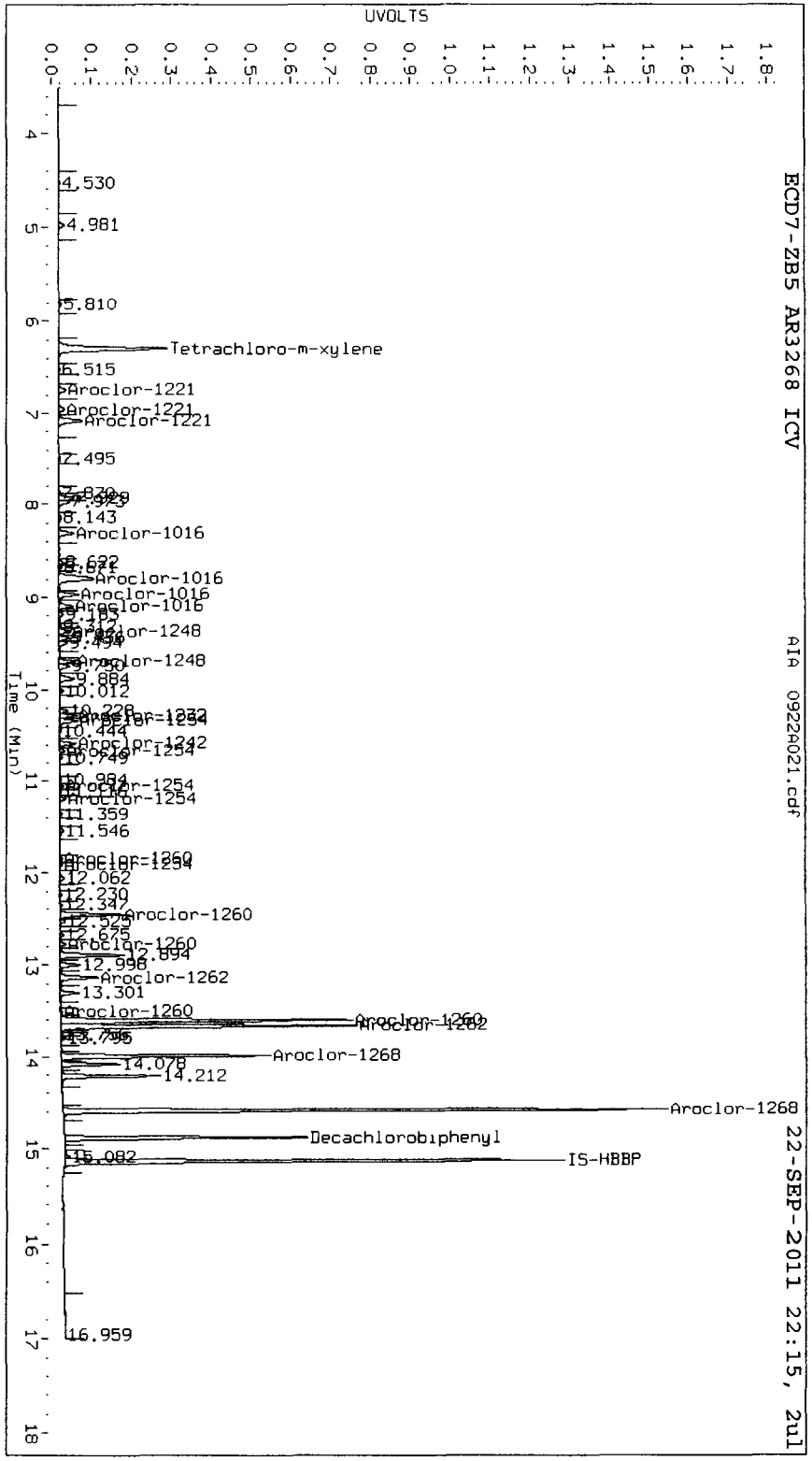
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
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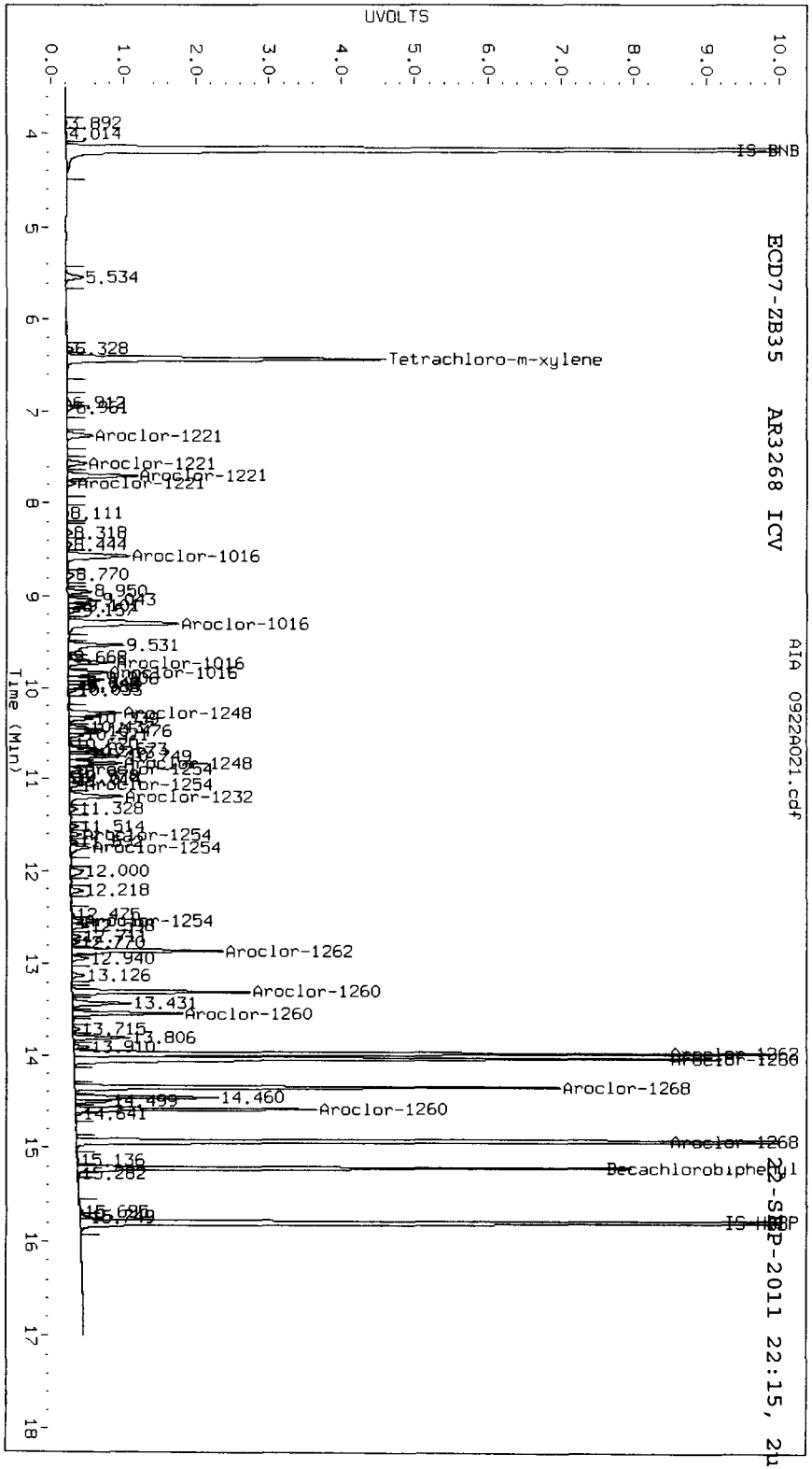
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TS00:00159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ECD7-ZB35 AR3268 ICV
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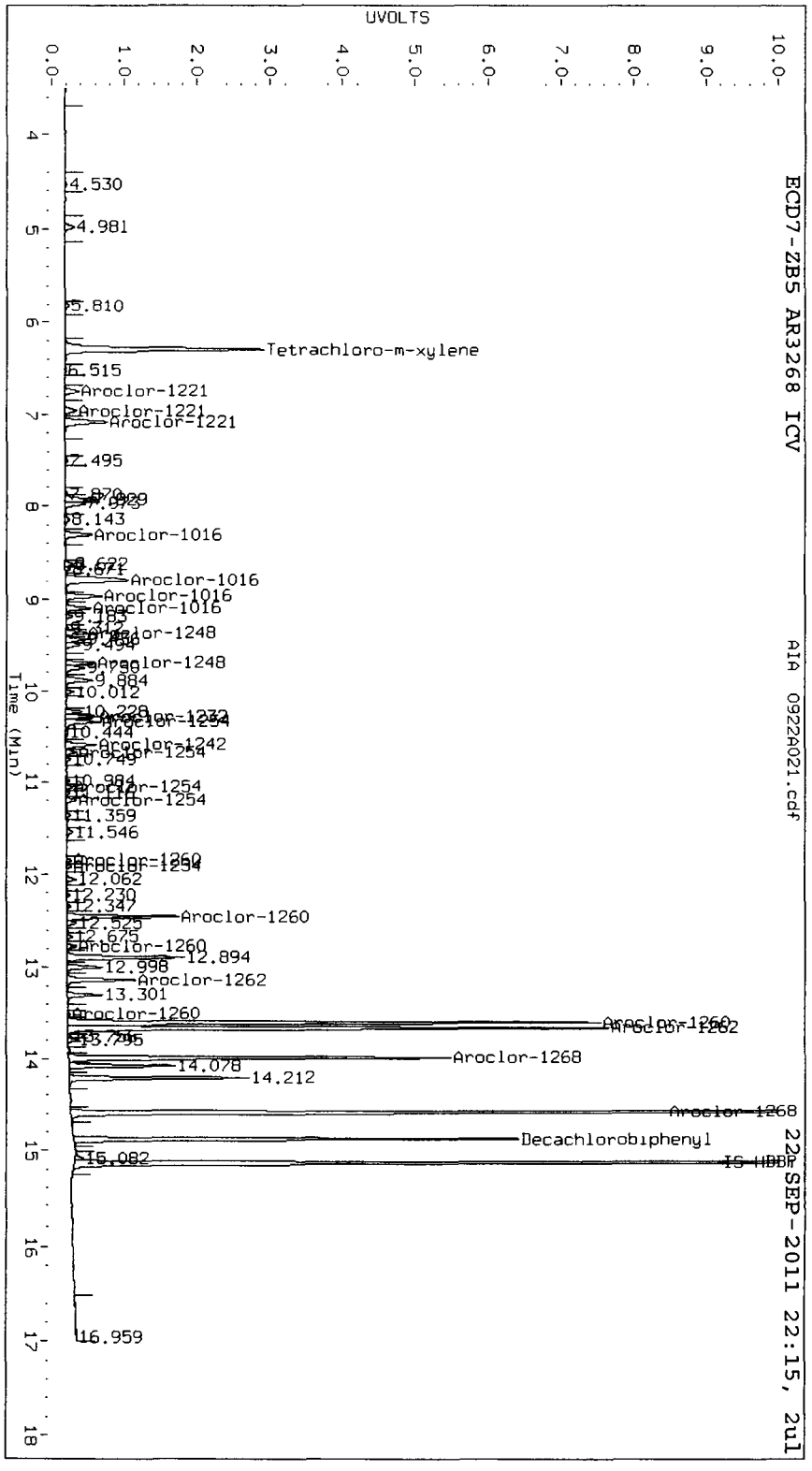
22-SEP-2011 22:15, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBB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ECD7-ZB5 AR3268 ICV
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Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1242
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBB

TS00:00169

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: 20110922.B/ddts-1.b/0922A022.d ARI ID: 0.1 PPM DDTS

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
10.633	0.000	4529883	11.162	0.000	6556416	0.100	0.100	0.0	2,4-DDE
11.198	0.000	3955530	11.853	0.000	5652817	0.100	0.100	0.0	2,4-DDD
11.709	0.000	5236129	12.306	0.000	15844696	0.100	0.200#	66.7*	2,4-DDT
11.072	0.000	7463996	11.546	0.000	10554641	0.100	0.100	0.0	4,4-DDE
11.653	0.000	6008880	12.306	0.000	15844696	0.100	0.200#	66.7*	4,4-DDD
12.168	0.000	6586226	12.748	0.000	9209445	0.100	0.100	0.0	4,4-DDT

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

7E

8082 DDT BREAKDOWN VERIFICATION SUMMARY

Lab ID: DDT BD

Analysis Date: 22-SEP-2011 23:01 Init. Calib. Date: 22-SEP-2011

GC Column: ZB5 ID: 0.53(mm)

COMPOUND	RT	AREA
4,4-DDE	11.073	72022
4,4-DDD	11.656	113166
4,4-DDT	12.167	7094887

Col 1: 4,4-DDT Percent Breakdown = 2.5 %

GC Column: ZB35 ID: 0.53(mm)

COMPOUND	RT	AREA
4,4-DDE	11.546	146056
4,4-DDD/2,4-DDT	12.313	331861
4,4-DDT	12.749	10175625

Col 2: 4,4-DDT Percent Breakdown = 4.5 %

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

PCB Raw Data
Run Logs, Continuing Calibrations, and Raw Data

ARI Job ID: TS00

Analytical Resources, Incorporated
Analytical Chemists and Consultants

GC Analyst Notes / Corrective Action Log

ARI Project ID: TS00 Client ID: Slip 4 EAA

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): PCB's TCMX DCB

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: 09/22/11 Analysis Start: 10/14/11

Endrin/DDT Breakdown <15%? YES / NO / NA

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 / NA

Special Analysis Criteria Met? YES / NO / NA

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

sample A extd below RL requested

Additional Details on Reverse: Yes / No

Analyst: [signature] **Date:** 10/17/11

Reviewer: [signature] **Date:** 10/17/11

Analytical Resources Inc.: Organics Instrument Log

ECD7 Serial No.: US00003975

Date: 10/14/11 Analysis: PCB Analyst: [illegible]

Column 1 Serial No.: 196396 Column Type: ZB5

Column 2 Serial No.: 175398 Column Type: ZB35

GC Method: PCB ICal Date: 09/22/11

IS	Ical/Ccal	ICV
1878-3	1868-4	1803-1,2,3
	1801-1,2,3	1804-1,2,3
	1802-1,2,3	

Document All Maintenance Tasks In StarLIMS

	Inject Date/Time	Filename	DF	LabID
1	14-OCT-2011 12:56	1014A001.d	1	AR1254
2	14-OCT-2011 13:19	1014A002.d	1	AR1660
3	14-OCT-2011 13:41	1014A003.d	1	TS00MBW1
4	14-OCT-2011 14:04	1014A004.d	1	TS00LCSW1
5	14-OCT-2011 14:27	1014A005.d	1	TS00A
6	14-OCT-2011 14:50	1014A006.d	1	TS00AMS
7	14-OCT-2011 15:13	1014A007.d	1	TS00AMSD
8	14-OCT-2011 15:36	1014A008.d	1	TS00B
9	14-OCT-2011 15:59	1014A009.d	1	TS00C
10	14-OCT-2011 16:22	1014A010.d	1	TS00D
11	14-OCT-2011 16:45	1014A011.d	1	AR1242
12	14-OCT-2011 17:08	1014A012.d	1	AR1660
13	14-OCT-2011 17:31	1014A013.d	1	DDT
14	14-OCT-2011 17:54	1014A014.d	1	DDT BD

[illegible] 10/17/11

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 8082 PCB Quantitation Report

Data file 1: 20110922.B/1014-1.b/1014A001.d
Data file 2: 20110922.B/1014-2.b/1014A001.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1254
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254
Client ID:
Injection Date: 14-OCT-2011 12:56
Report Date: 10/17/2011 08:40
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.300	0.005	1963593	6.413	-0.015	3265931	20.5	20.8	1.8	Tetrachloro-m-xylen
14.887	0.004	1491707	15.219	-0.001	2098043	20.0	20.5	2.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.2	52.1
Decachlorobiphenyl	50.1	51.2

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	7566668	49.6
Hexabromobiphenyl	4060201	5522650	36.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	11790182	51.0
Hexabromobiphenyl	5725568	7851003	37.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	10.351	0.000	1007679	248.2	1	10.887	0.000	1274228	249.1
Aroclor-1254	2	10.673	0.000	1395428	249.0	2	11.058	0.000	1653667	250.3
Aroclor-1254	3	11.057	0.000	884475	252.4	3	11.596	0.000	1295416	248.9
Aroclor-1254	4	11.196	0.000	1686772	249.4	4	11.749	0.000	2790875	250.3
Aroclor-1254	5	11.915	0.000	1119145	248.8	5	12.533	0.000	1656136	245.8

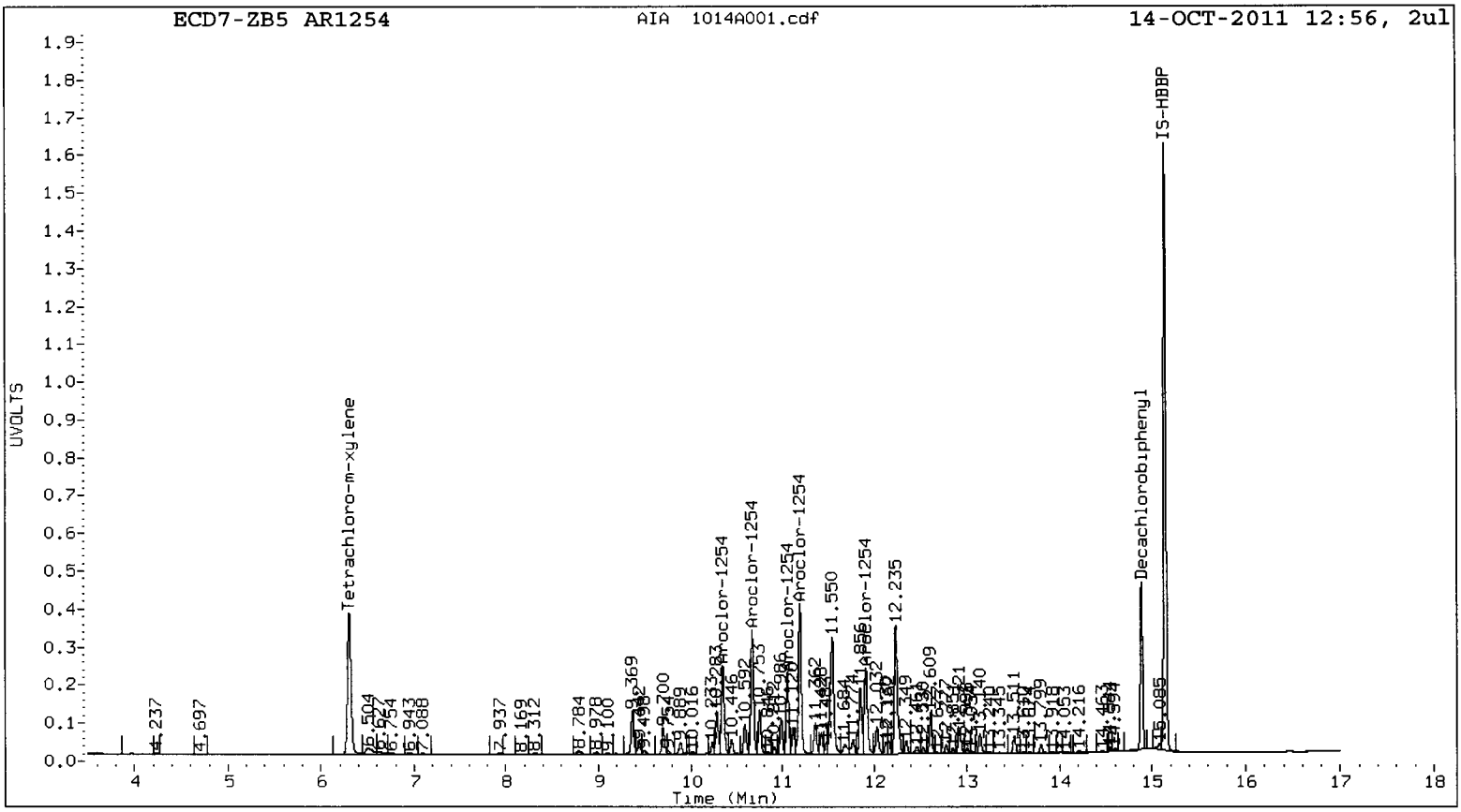
Total Col1Ave (5 peaks): 249.6 Total Col2Ave (5 peaks): 248.9 RPD = 0

Corrected Ave (4 peaks): 248.8 Corrected Ave (4 peaks): 248.6 RPD = 0

Total PCB Area Col1 (6.396 - 14.783) = 17644661 Col1 Total PCB = 0.3 ppm*

Total PCB Area Col2 (6.528 - 15.120) = 27662086 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical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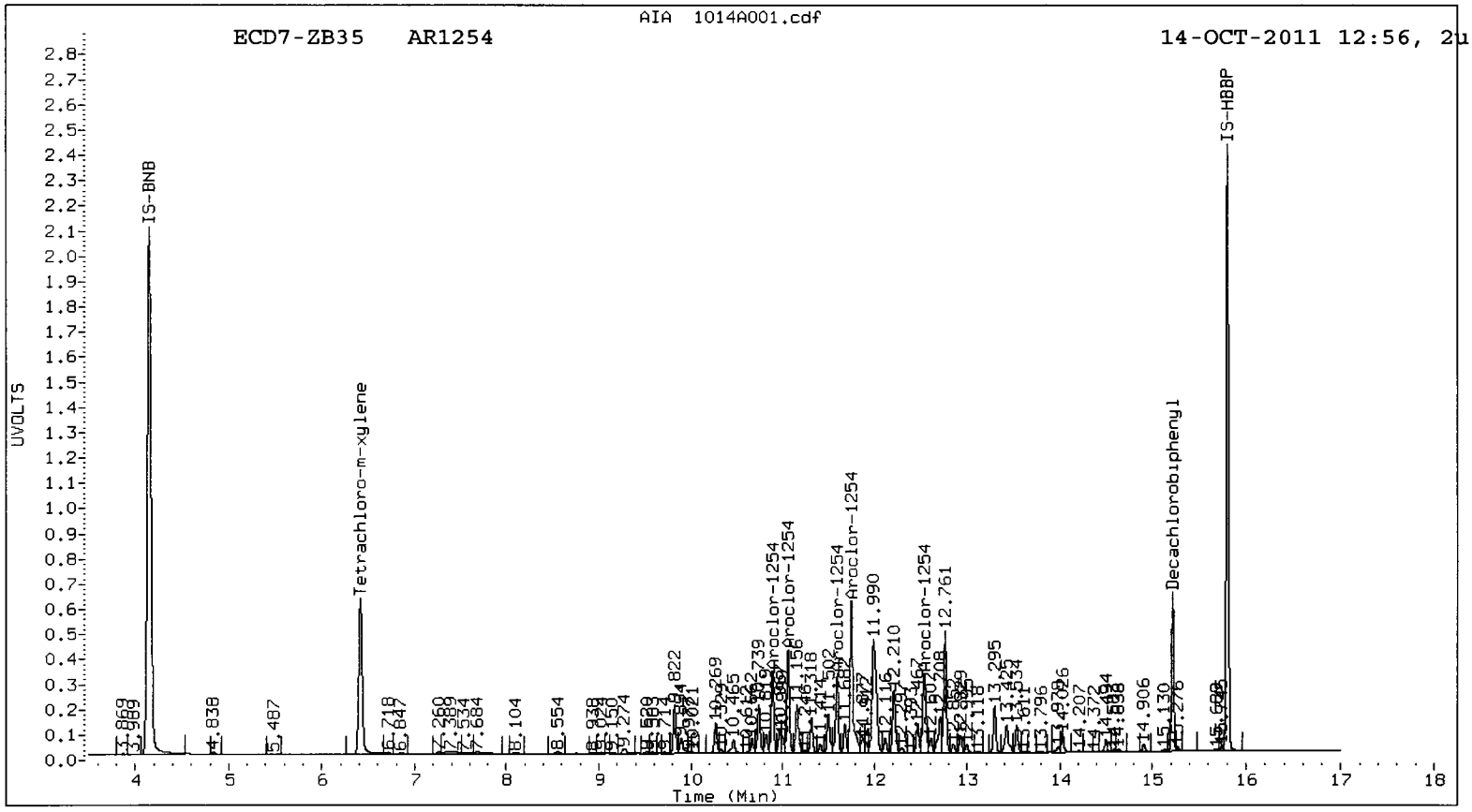
14-OCT-2011 12:56, 2ul
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Aroclor-1254
Decachlorobiphenyl
IS-HBBP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ECD7-ZB35 AR1254
14-OCT-2011 12:56, 2u
UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1254
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1014-1.b/1014A002.d
Data file 2: 20110922.B/1014-2.b/1014A002.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660
Client ID:
Injection Date: 14-OCT-2011 13:19
Report Date: 10/17/2011 08:40
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.290	-0.005	1450363	6.422	-0.006	2347614	20.9	20.5	1.5	Tetrachloro-m-xylen
14.883	0.001	1175137	15.219	-0.001	1686634	21.7	22.3	2.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	52.2	51.4
Decachlorobiphenyl	54.3	55.7

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5482132	8.4
Hexabromobiphenyl	4060201	4014914	-1.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8599061	10.1
Hexabromobiphenyl	5725568	5800545	1.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

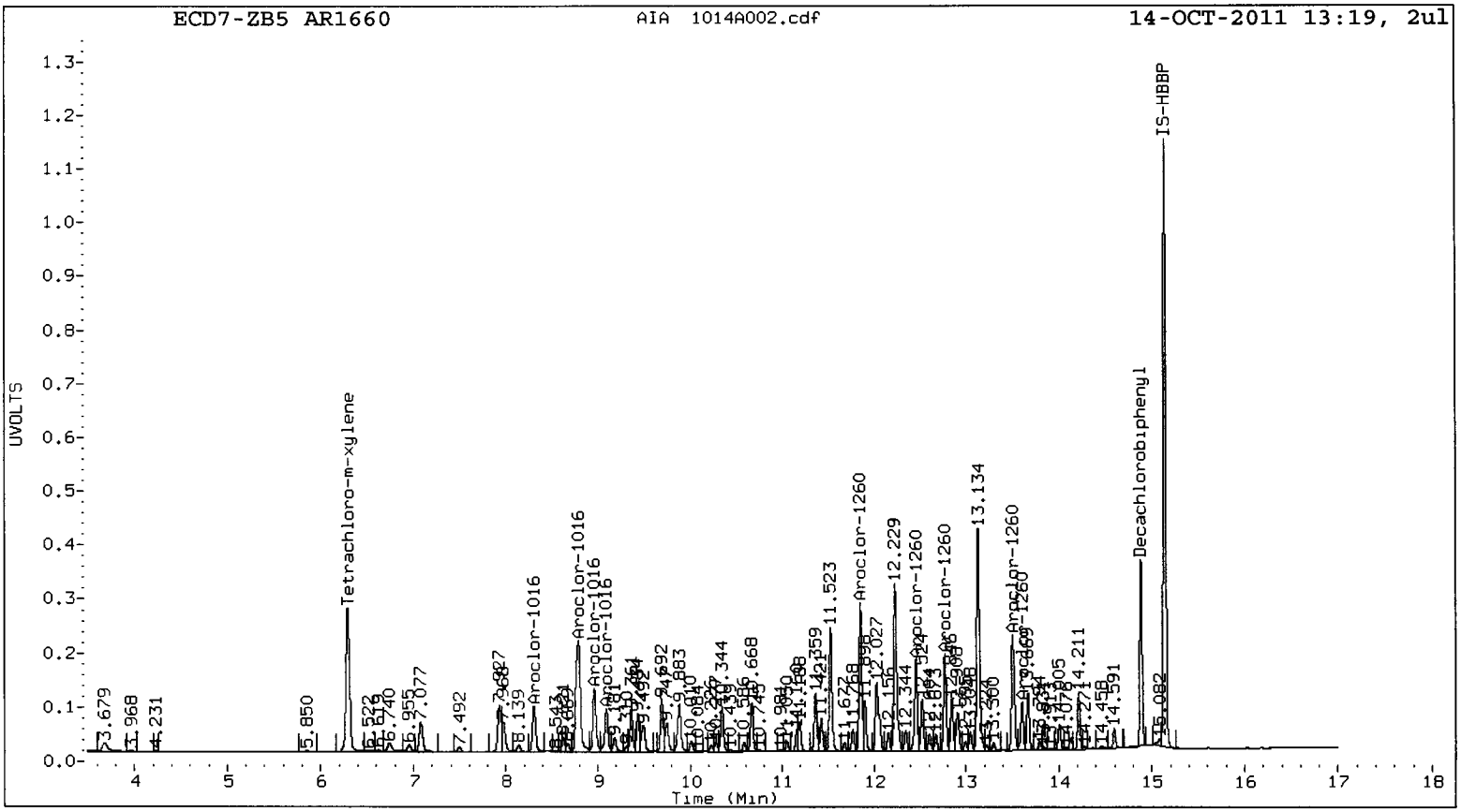
	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.302	-0.005	431052	252.5	1	8.560	-0.005	1155016	250.5
Aroclor-1016	2	8.791	-0.004	1479217	250.7	2	9.290	-0.004	2396673	248.7
Aroclor-1016	3	8.963	-0.004	571595	247.1	3	9.718	-0.005	617380	250.3
Aroclor-1016	4	9.091	-0.004	394878	240.8	4	9.826	-0.005	698291	244.7
Total Col1Ave (4 peaks):				247.8		Total Col2Ave (4 peaks):			248.6	RPD = 0
Corrected Ave (3 peaks):				246.2		Corrected Ave (3 peaks):			247.9	RPD = 1
Aroclor-1260	1	11.850	-0.002	1090338	269.8	1	13.297	-0.002	1238556	262.9
Aroclor-1260	2	12.456	-0.001	707683	268.6	2	13.534	-0.002	2490896	266.9
Aroclor-1260	3	12.772	-0.001	720750	274.4	3	14.028	-0.001	1652058	270.7
Aroclor-1260	4	13.506	0.000	917017	278.1	4	14.583	-0.001	627062	292.9
Aroclor-1260	5	13.605	0.000	352840	274.6	NS	---			----
Total Col1Ave (5 peaks):				273.1		Total Col2Ave (4 peaks):			273.3	RPD = 0
Corrected Ave (4 peaks):				271.9		Corrected Ave (3 peaks):			266.8	RPD = 2

Total PCB Area Col1 (6.396 - 14.783) = 21434545 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.528 - 15.120) = 33604820 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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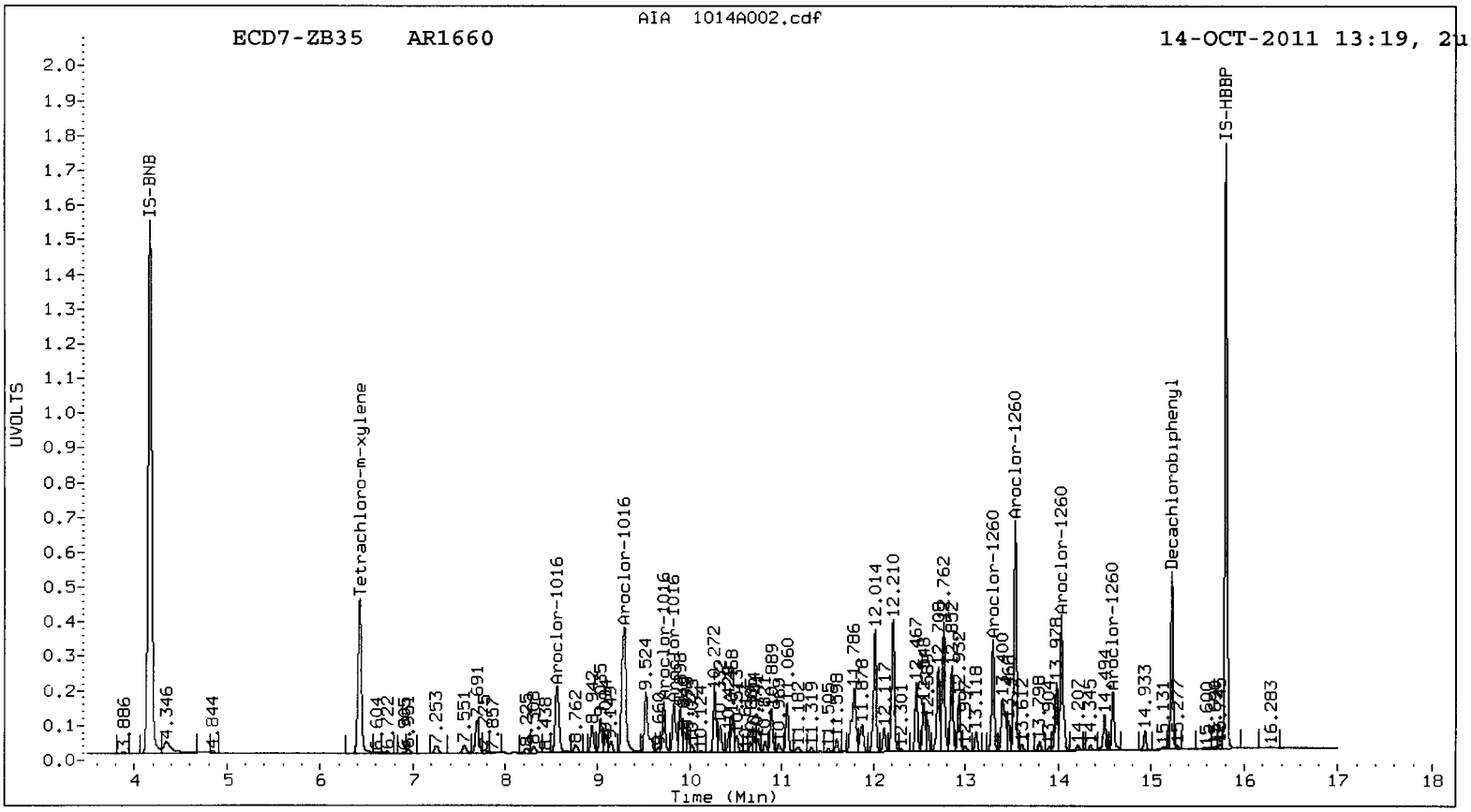
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1014-1.b/1014A003.d
Data file 2: 20110922.B/1014-2.b/1014A003.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: TS00MBW1
Client ID:
Injection Date: 14-OCT-2011 13:41
Report Date: 10/17/2011 08:40
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.293	-0.003	1455583	6.426	-0.002	2399480	23.3	23.1	0.7	Tetrachloro-m-xylen
14.883	0.000	1641432	15.220	0.000	2348385	32.4	33.4	3.2	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	58.2	57.8
Decachlorobiphenyl	80.9	83.5

10/17/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	4933352	-2.4
Hexabromobiphenyl	4060201	3759985	-7.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7814920	0.1
Hexabromobiphenyl	5725568	5389194	-5.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

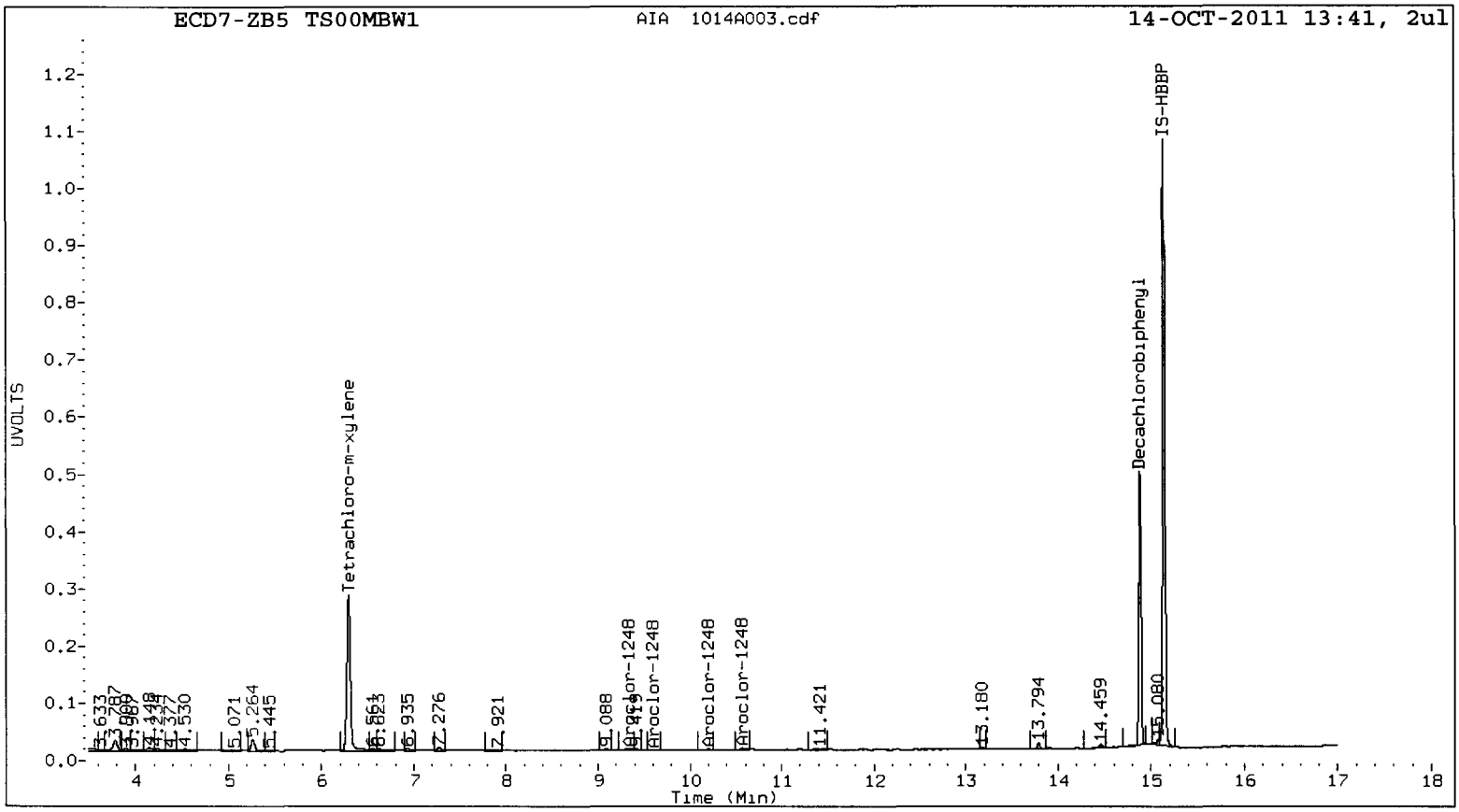
Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	8.597	0.032	12147	2.9
Aroclor-1016	2	---			0.0	2	9.305	0.010	17989	2.1
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	7.273	0.014	48839	40.3
Aroclor-1221	2	---			0.0	2	7.582	0.020	52290	70.1
Aroclor-1221	3	---			0.0	3	7.709	0.009	19558	8.6
Aroclor-1221	NS	---			----	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: 39.7				
Aroclor-1232	1	---			0.0	1	8.597	0.028	12147	6.7
Aroclor-1232	2	---			0.0	2	9.305	0.007	17989	5.2
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	11.147	-0.045	33863	21.9
	Col1Ave: <3 Quant Peaks					Col2Ave: 11.2				
Aroclor-1242	1	---			0.0	1	8.597	0.031	12147	3.8
Aroclor-1242	2	---			0.0	2	9.305	0.008	17989	2.7
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	11.147	-0.041	33863	12.2
	Col1Ave: <3 Quant Peaks					Col2Ave: 6.3				
Aroclor-1248	1	9.340	-0.025	36017	21.8	1	---			0.0
Aroclor-1248	2	9.604	-0.092	14661	7.3	2	10.233	-0.043	48170	14.0
Aroclor-1248	3	10.203	-0.077	11906	5.0	3	---			0.0
Aroclor-1248	4	10.568	-0.017	23851	10.7	4	11.147	-0.040	33863	7.7
	Total Col1Ave (4 peaks): 11.2					Col2Ave: <3 Quant Peaks				
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	11.147	0.089	33863	7.7
Aroclor-1254	3	---			0.0	3	11.696	0.100	32740	9.5
Aroclor-1254	4	---			0.0	4	---			0.0
Aroclor-1254	5	---			0.0	5	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	---			0.0	1	---			0.0
Aroclor-1260	2	---			0.0	2	13.536	0.000	11645	1.3
Aroclor-1260	3	---			0.0	3	14.028	-0.001	10689	1.9
Aroclor-1260	4	---			0.0	4	14.638	0.053	14629	7.4
Aroclor-1260	5	---			0.0	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: 3.5				
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	13.536	-0.004	11645	1.1
Aroclor-1262	4	---			0.0	4	13.950	-0.033	50013	10.6
Aroclor-1262	5	---			0.0	5	14.028	-0.006	10689	1.5
	Col1Ave: <3 Quant Peaks					Col2Ave: 4.4				
Aroclor-1268	1	---			0.0	1	13.950	-0.033	50013	4.6
Aroclor-1268	2	---			0.0	2	14.028	-0.010	10689	1.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	14.905	-0.034	20130	0.8
	Col1Ave: <3 Quant Peaks					Col2Ave: 2.2				

Total PCB Area Col1 (6.396 - 14.783) = 315191 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (6.528 - 15.120) = 743242 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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UVOLTS
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
Aroclor-1248
Aroclor-1248
Aroclor-1248
Aroclor-1248
4.530
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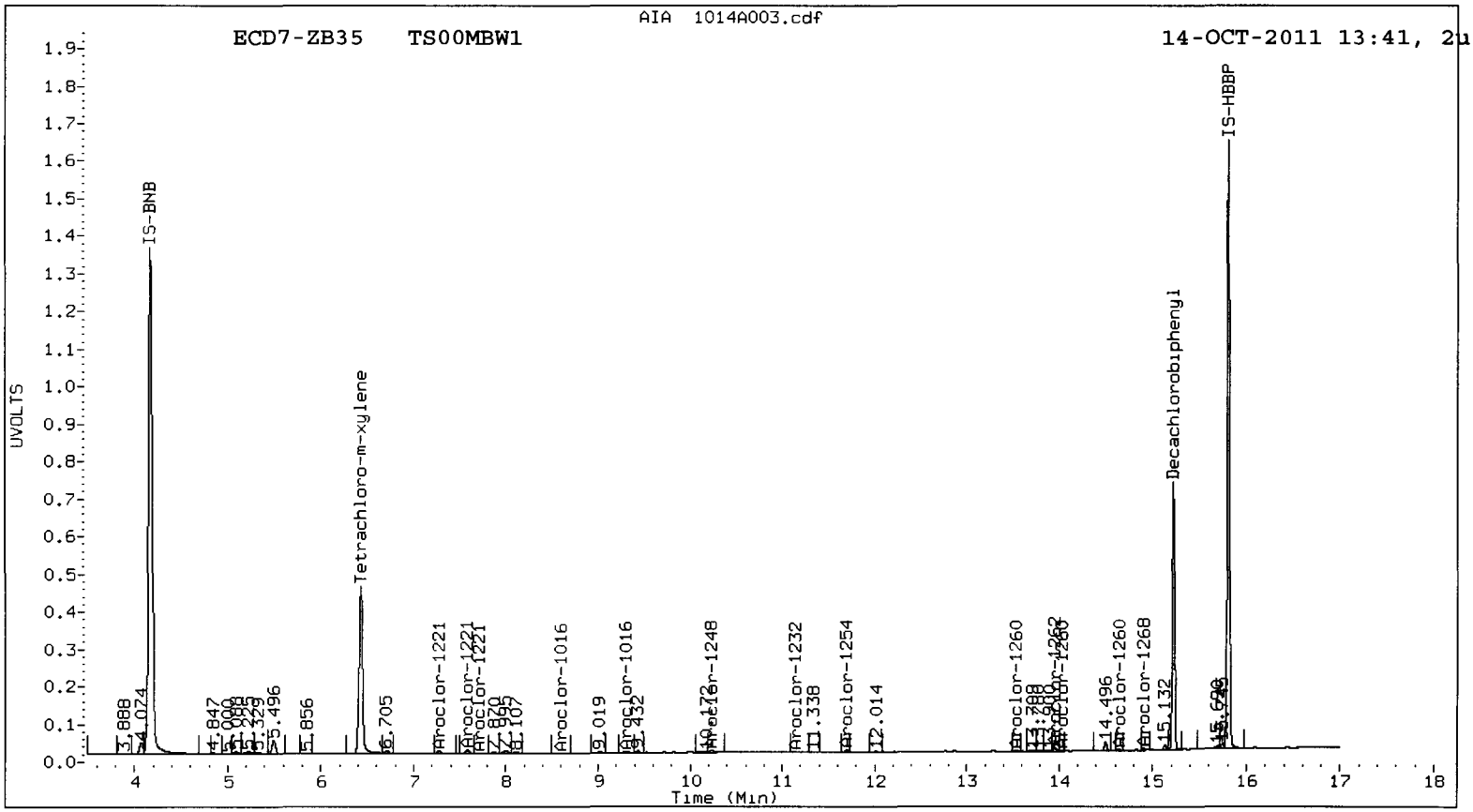
13.794
14.459
15.080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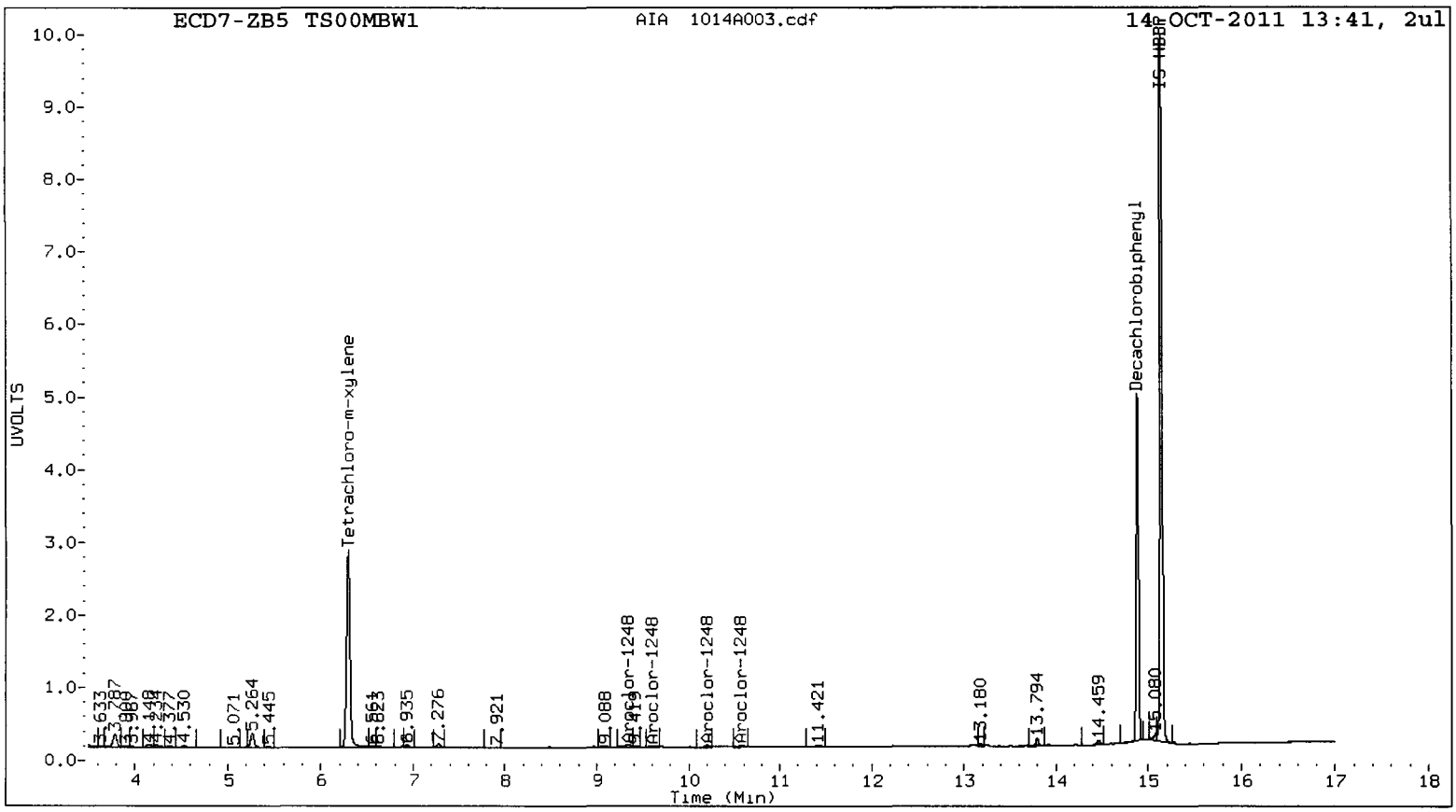
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
Aroclor-1221
Aroclor-1221
Aroclor-1221
Aroclor-1016
Aroclor-1016
Aroclor-1248
Aroclor-1232
Aroclor-1254
Aroclor-1260
Aroclor-1260
Aroclor-1268
3.888
4.024
4.847
5.496
5.856
6.705
7.860
8.107
9.019
9.432
12.014
14.496
15.132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UVOLTS
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor-1248
Aroclor-1248
Aroclor-1248
Aroclor-1248
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7.276
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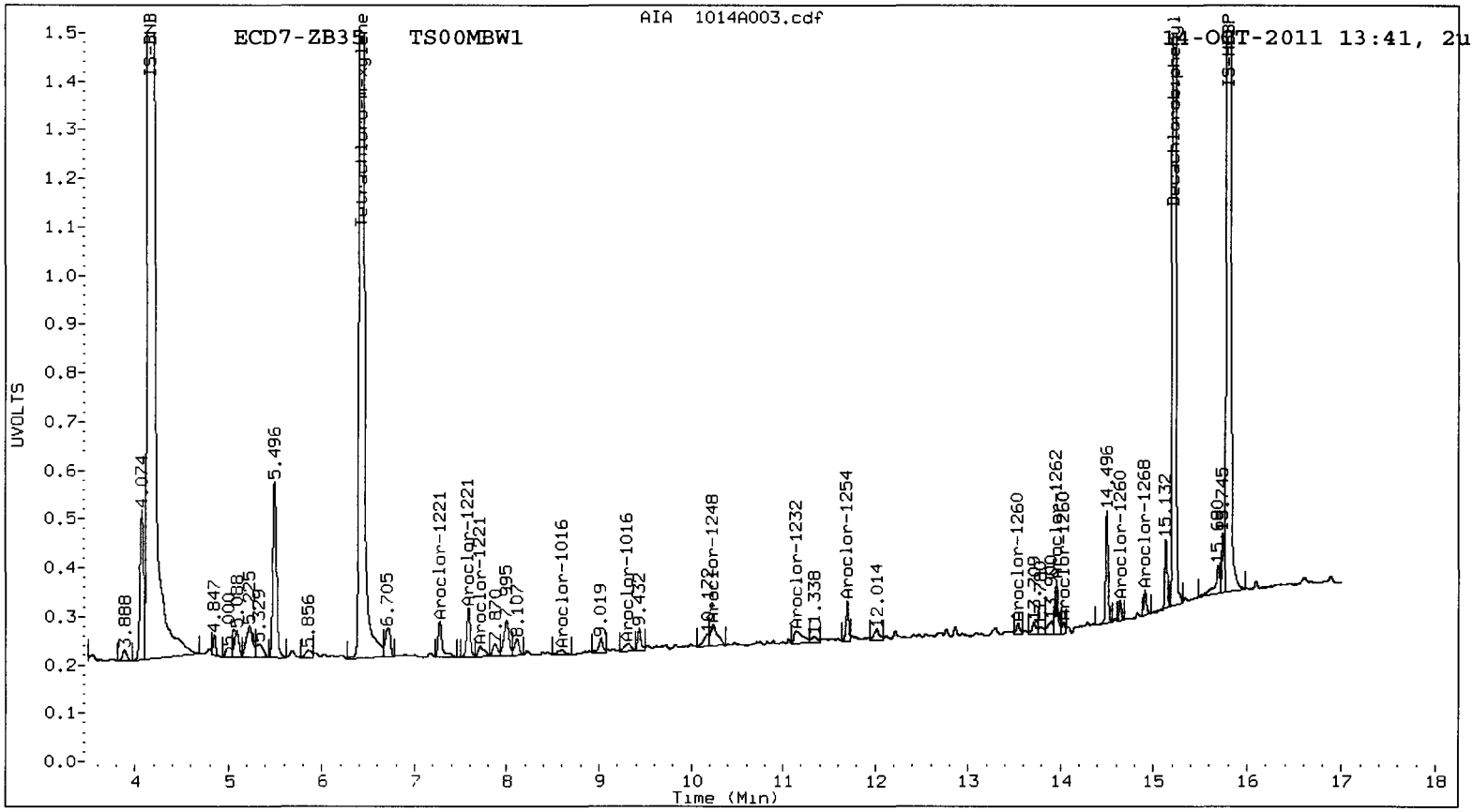
13.180
13.794
14.459
15.080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Decachlorobiphenyl
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Aroclor-1221
Aroclor-1221
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Aroclor-1016
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Aroclor-1232
11.338
Aroclor-1254
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Aroclor-1260
Aroclor-1262
Aroclor-1260
14.496
Aroclor-1260
Aroclor-1268
15.132
15.745

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1014-1.b/1014A004.d
Data file 2: 20110922.B/1014-2.b/1014A004.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: TS00LCSW1
Client ID:
Injection Date: 14-OCT-2011 14:04
Report Date: 10/17/2011 08:40
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.295	-0.001	1577941	6.428	-0.001	2606880	25.4	24.9	1.7	Tetrachloro-m-xylen
14.883	0.001	1734521	15.220	0.000	2478531	32.6	33.8	3.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	63.4	62.4
Decachlorobiphenyl	81.6	84.4

JL 10/17/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	4905357	-3.0
Hexabromobiphenyl	4060201	3940125	-3.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7864902	0.7
Hexabromobiphenyl	5725568	5628680	-1.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.307	0.000	120935	79.2	1	8.563	-0.002	353413	83.8
Aroclor-1016	2	8.793	-0.001	412603	78.2	2	9.294	0.000	717644	81.4
Aroclor-1016	3	8.966	-0.001	164176	79.3	3	9.722	-0.001	195940	86.8
Aroclor-1016	4	9.094	-0.001	110873	81.0	4	9.829	-0.001	228840	87.7
Total Col1Ave (4 peaks):				79.4		Total Col2Ave (4 peaks):			84.9	RPD = 7
Corrected Ave (3 peaks):				78.9		Corrected Ave (3 peaks):			84.0	RPD = 6
Aroclor-1221	1	6.746	-0.001	17978	28.1	1	7.269	0.010	81877	67.1
Aroclor-1221	2	6.947	-0.011	38519	79.7	2	7.581	0.019	111354	148.4
Aroclor-1221	3	7.082	0.000	90658	57.1	3	7.696	-0.004	154502	67.3
Aroclor-1221	NS	---			----	4	7.776	-0.011	14639	39.2
Total Col1Ave (3 peaks):				55.0		Total Col2Ave (4 peaks):			80.5	RPD = 38
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			57.9	
Aroclor-1232	1	8.307	0.001	120935	199.1	1	8.563	-0.006	353413	192.7
Aroclor-1232	2	8.793	0.002	412603	198.3	2	9.294	-0.003	717644	204.5
Aroclor-1232	3	8.966	0.001	164176	200.1	3	9.722	-0.004	195940	209.4
Aroclor-1232	4	10.279	-0.001	22850	31.3	4	11.181	-0.011	61225	39.3
Total Col1Ave (4 peaks):				157.2		Total Col2Ave (4 peaks):			161.5	RPD = 3
Corrected Ave (3 peaks):				142.9		Corrected Ave (3 peaks):			145.5	RPD = 2
Aroclor-1242	1	8.307	-0.002	120935	101.2	1	8.563	-0.003	353413	111.0
Aroclor-1242	2	8.793	-0.002	412603	99.7	2	9.294	-0.003	717644	107.6
Aroclor-1242	3	8.966	-0.003	164176	102.2	3	9.722	-0.002	195940	111.7
Aroclor-1242	4	10.576	-0.010	74346	50.6	4	11.181	-0.007	61225	21.9
Total Col1Ave (4 peaks):				88.4		Total Col2Ave (4 peaks):			88.1	RPD = 0
Corrected Ave (3 peaks):				83.8		Corrected Ave (3 peaks):			80.2	RPD = 4
Aroclor-1248	1	9.364	-0.001	110380	67.1	1	9.829	-0.001	228840	73.0
Aroclor-1248	2	9.695	-0.001	122685	61.3	2	10.276	-0.001	281100	81.3
Aroclor-1248	3	10.279	-0.001	22850	9.6	3	10.824	-0.001	37209	10.8
Aroclor-1248	4	10.576	-0.009	74346	33.4	4	11.181	-0.006	61225	13.8
Total Col1Ave (4 peaks):				42.8		Total Col2Ave (4 peaks):			44.7	RPD = 4
Corrected Ave (3 peaks):				34.8		Corrected Ave (3 peaks):			32.5	RPD = 7
Aroclor-1254	1	10.346	-0.004	109798	41.7	1	10.893	0.005	171048	50.1
Aroclor-1254	2	10.669	-0.004	133314	36.7	2	11.062	0.004	194580	44.2
Aroclor-1254	3	11.052	-0.005	29050	12.8	3	11.601	0.005	55571	16.0
Aroclor-1254	4	11.190	-0.006	73467	16.8	4	11.789	0.040	426016	57.3
Aroclor-1254	5	11.899	-0.015	110019	37.7	5	12.550	0.017	202936	45.2
Total Col1Ave (5 peaks):				29.1		Total Col2Ave (5 peaks):			42.5	RPD = 37
Corrected Ave (4 peaks):				26.0		Corrected Ave (4 peaks):			38.9	RPD = 40
Aroclor-1260	1	11.851	0.000	332113	83.7	1	13.298	0.000	426697	93.3
Aroclor-1260	2	12.457	0.000	217014	83.9	2	13.535	-0.001	830365	91.7
Aroclor-1260	3	12.773	0.000	218005	84.6	3	14.030	0.000	586687	99.1
Aroclor-1260	4	13.505	-0.001	274309	84.8	4	14.585	0.001	205115	98.7
Aroclor-1260	5	13.605	0.000	109117	86.5	NS	---			----
Total Col1Ave (5 peaks):				84.7		Total Col2Ave (4 peaks):			95.7	RPD = 12
Corrected Ave (4 peaks):				84.3		Corrected Ave (3 peaks):			94.6	RPD = 12
Aroclor-1262	1	12.457	-0.002	217014	48.4	1	12.855	-0.005	363525	62.4
Aroclor-1262	2	12.773	-0.001	218005	60.2	2	13.298	-0.005	426697	74.2
Aroclor-1262	3	13.135	-0.002	533090	62.6	3	13.535	-0.005	830365	73.9
Aroclor-1262	4	13.605	-0.002	109117	32.2	4	13.979	-0.004	285929	58.1
Aroclor-1262	5	13.669	-0.001	123597	35.9	5	14.030	-0.005	586687	80.0
Total Col1Ave (5 peaks):				47.9		Total Col2Ave (5 peaks):			69.7	RPD = 37
Corrected Ave (4 peaks):				44.2		Corrected Ave (4 peaks):			67.2	RPD = 41*
Aroclor-1268	1	13.605	-0.002	109117	12.0	1	13.979	-0.004	285929	25.2

Aroclor-1268 2	13.669	0.000	123597	14.9	2	14.030	-0.009	586687	55.0
Aroclor-1268 3	14.005	0.013	56476	8.1	3	14.346	-0.005	13263	1.6
Aroclor-1268 4	14.592	-0.001	26750	1.3	4	14.934	-0.005	74698	2.9

Total Col1Ave (4 peaks): 9.1 Total Col2Ave (4 peaks): 21.2 RPD = 80*

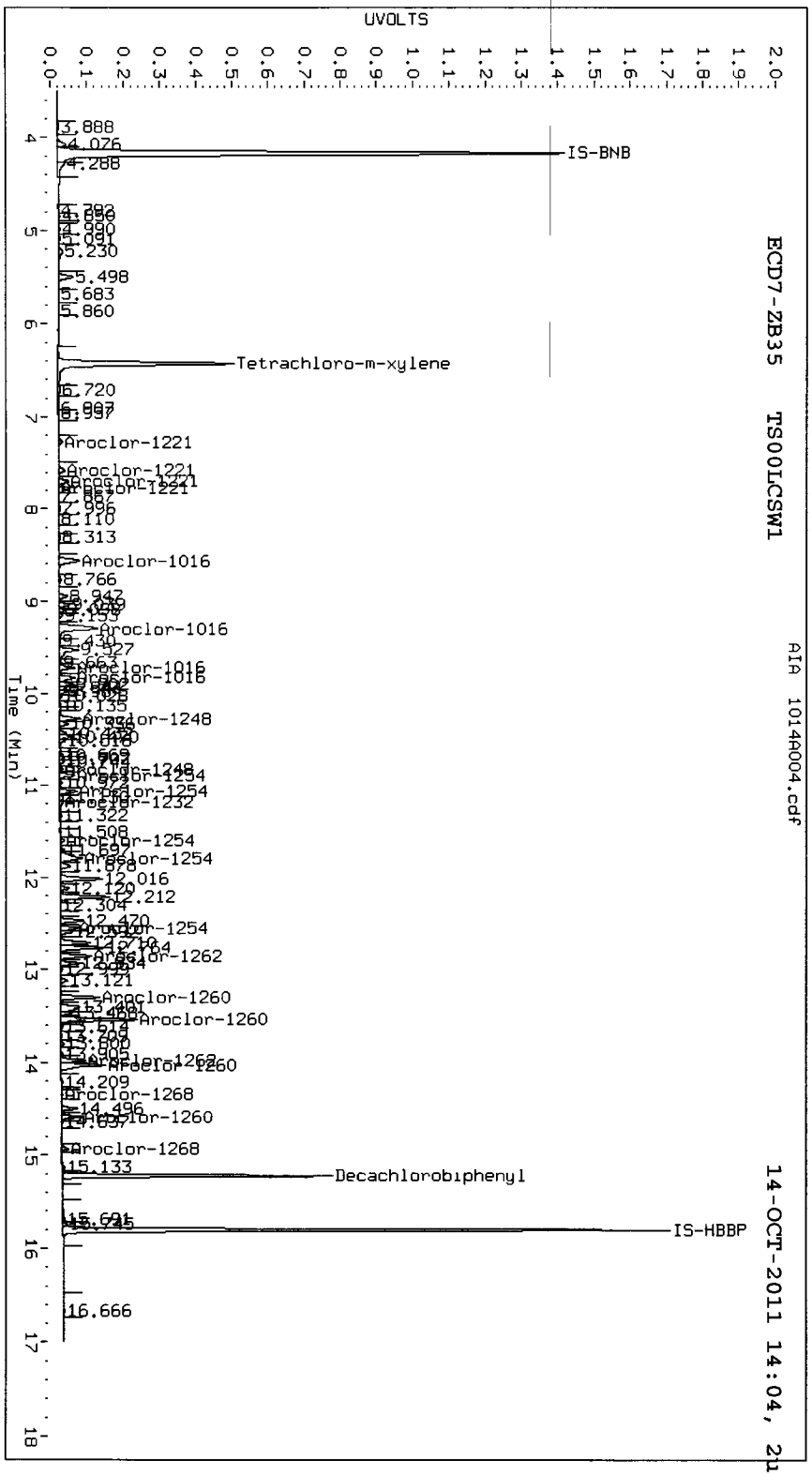
Corrected Ave (3 peaks): 7.2 Corrected Ave (3 peaks): 9.9 RPD = 32

Total PCB Area Col1 (6.396 - 14.783) = 6590272 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.528 - 15.120) = 11907789 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
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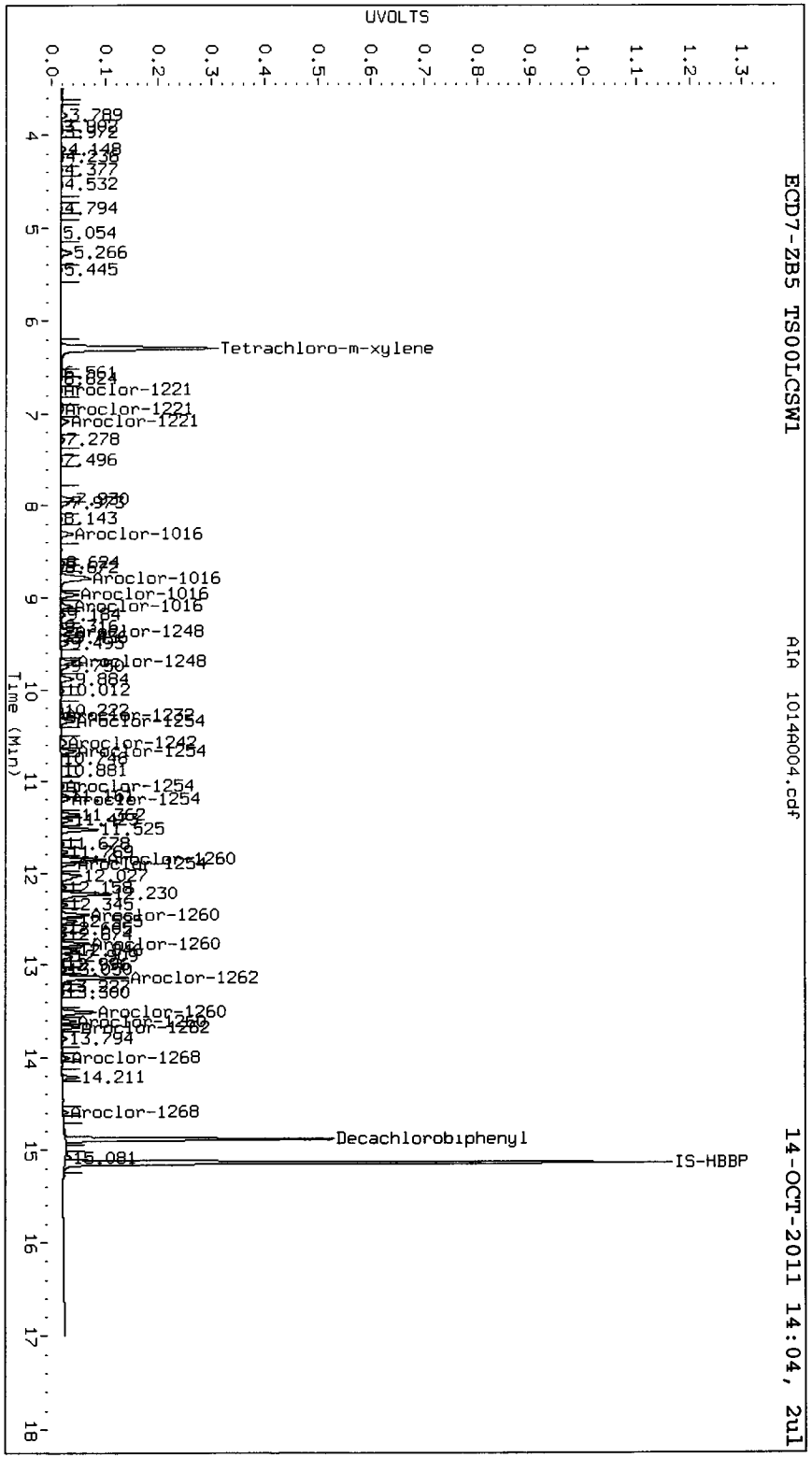
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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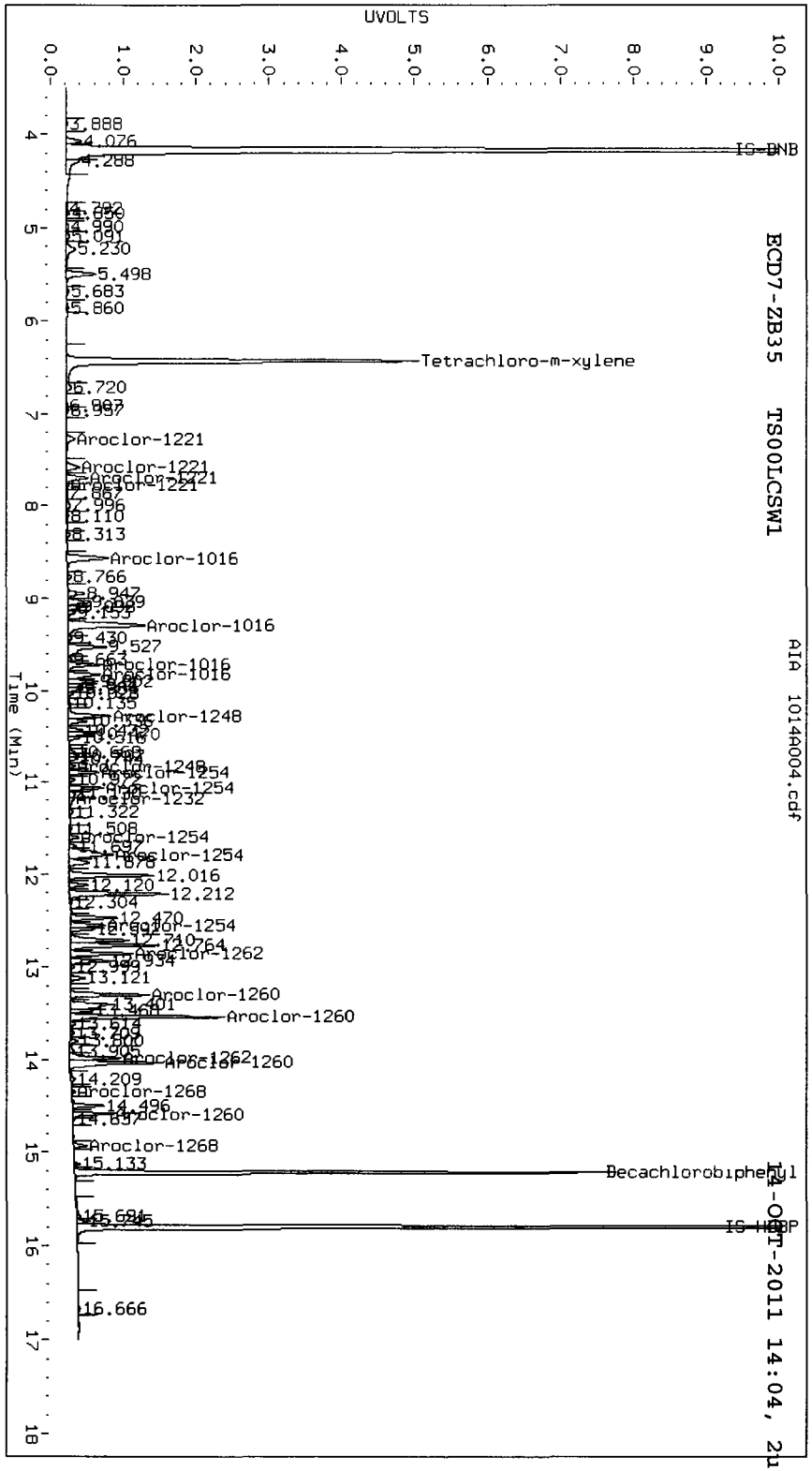
Decachlorobiphenyl
IS-HBBP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UVOLTS
Time (Min)
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Tetrachloro-m-xylene
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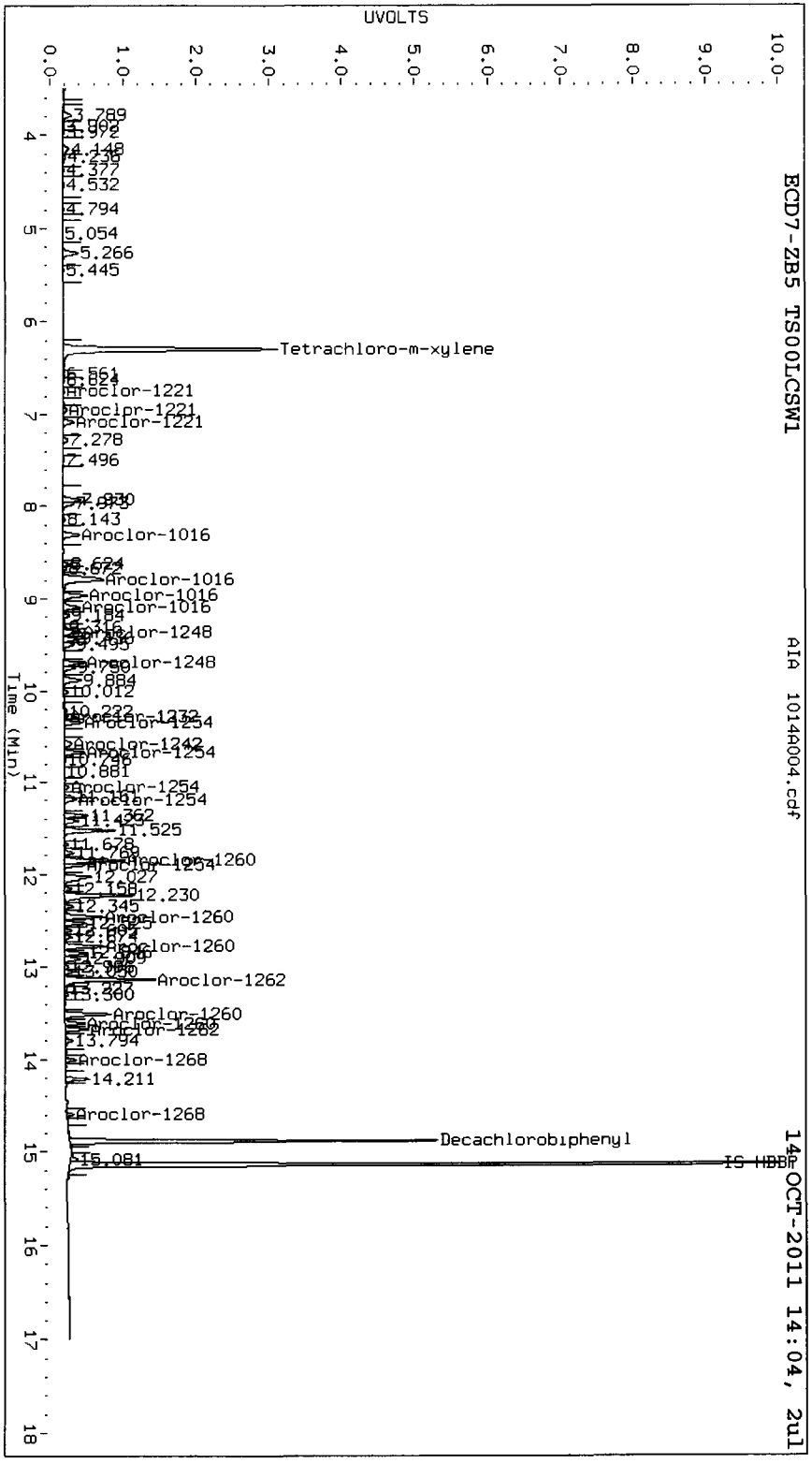
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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UVOLTS
Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1242
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1014-1.b/1014A005.d
Data file 2: 20110922.B/1014-2.b/1014A005.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: TS00A
Client ID:
Injection Date: 14-OCT-2011 14:27
Report Date: 10/17/2011 08:40
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.296	0.000	1740476	6.429	0.000	2875115	27.6	27.6	0.1	Tetrachloro-m-xylen
14.883	0.001	1665446	15.221	0.000	2399924	32.6	34.0	4.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	69.0	69.1
Decachlorobiphenyl	81.6	85.0

JP 10/17/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	4970657	-1.7
Hexabromobiphenyl	4060201	3785361	-6.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7828912	0.2
Hexabromobiphenyl	5725568	5415518	-5.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.305	-0.002	18534	12.0	1	8.562	-0.002	76413	18.2
Aroclor-1016	2	8.777	-0.018	34751	6.5	2	9.283	-0.012	73788	8.4
Aroclor-1016	3	8.980	0.013	40918	19.5	3	9.721	-0.002	13657	6.1
Aroclor-1016	4	9.065	-0.030	25351	17.1	4	9.830	-0.001	249501	96.1
Total Col1Ave (4 peaks):				13.8		Total Col2Ave (4 peaks):			32.2	RPD = 80*
Corrected Ave (3 peaks):				11.8		Corrected Ave (3 peaks):			10.9	RPD = 8
Aroclor-1221	1	---			0.0	1	7.274	0.015	47590	39.2
Aroclor-1221	2	6.938	-0.020	44751	91.4	2	7.584	0.022	130908	175.3
Aroclor-1221	3	7.092	0.011	12858	8.0	3	7.710	0.010	34256	15.0
Aroclor-1221	NS	---			----	4	7.860	0.073	21968	59.2
Col1Ave: <3 Quant Peaks						Col2Ave:			72.1	
Aroclor-1232	1	8.305	-0.001	18534	30.1	1	8.562	-0.007	76413	41.9
Aroclor-1232	2	8.777	-0.015	34751	16.5	2	9.283	-0.015	73788	21.1
Aroclor-1232	3	8.980	0.015	40918	49.2	3	9.721	-0.005	13657	14.7
Aroclor-1232	4	10.280	0.000	13125	17.7	4	11.161	-0.030	66393	42.8
Total Col1Ave (4 peaks):				28.4		Total Col2Ave (4 peaks):			30.1	RPD = 6
Corrected Ave (3 peaks):				21.[illegible] 30		Corrected Ave (3 peaks):			25.9 30	RPD = 19
Aroclor-1242	1	8.305	-0.004	18534	15.3	1	8.562	-0.004	76413	24.1
Aroclor-1242	2	8.777	-0.019	34751	8.3	2	9.283	-0.014	73788	11.1
Aroclor-1242	3	8.980	0.011	40918	25.1	3	9.721	-0.003	13657	7.8
Aroclor-1242	4	10.587	0.001	26957	18.1	4	11.161	-0.027	66393	23.9
Total Col1Ave (4 peaks):				16.7		Total Col2Ave (4 peaks):			16.7	RPD = 0
Corrected Ave (3 peaks):				13.9		Corrected Ave (3 peaks):			14.3	RPD = 3
Aroclor-1248	1	9.365	0.000	155644	93.3	1	9.830	-0.001	249501	80.0
Aroclor-1248	2	9.696	0.000	31481	15.5	2	10.276	-0.001	99335	28.9
Aroclor-1248	3	10.280	0.000	13125	5.4	3	10.824	-0.001	36183	10.5
Aroclor-1248	4	10.587	0.002	26957	11.9	4	11.161	-0.025	66393	15.0
Total Col1Ave (4 peaks):				31.6		Total Col2Ave (4 peaks):			33.6	RPD = 6
Corrected Ave (3 peaks):				11.0		Corrected Ave (3 peaks):			18.1	RPD = 49*
Aroclor-1254	1	10.347	-0.004	70410	26.4	1	10.893	0.006	113839	33.5
Aroclor-1254	2	10.667	-0.006	56455	15.3	2	11.065	0.006	76877	17.5
Aroclor-1254	3	11.055	-0.003	17025	7.4	3	11.601	0.005	26414	7.6
Aroclor-1254	4	11.192	-0.004	77978	17.5	4	11.753	0.004	171558	23.2
Aroclor-1254	5	11.903	-0.012	23568	8.0	5	12.548	0.015	51809	11.6
Total Col1Ave (5 peaks):				14.9		Total Col2Ave (5 peaks):			18.7	RPD = 22
Corrected Ave (4 peaks):				12.1		Corrected Ave (4 peaks):			15.0	RPD = 22
Aroclor-1260	1	11.852	0.001	31765	8.3	1	13.299	0.000	34463	7.8
Aroclor-1260	2	---			0.0	2	13.536	0.000	36648	4.2
Aroclor-1260	3	---			0.0	3	14.029	0.000	36493	6.4
Aroclor-1260	4	13.507	0.000	10937	3.5	4	14.638	0.054	12215	6.1
Aroclor-1260	5	---			0.0	NS	---			----
Col1Ave: <3 Quant Peaks						Col2Ave:			6.1	
Aroclor-1262	1	---			0.0	1	12.862	0.002	46659	8.3
Aroclor-1262	2	---			0.0	2	13.299	-0.004	34463	6.2
Aroclor-1262	3	---			0.0	3	13.536	-0.004	36648	3.4
Aroclor-1262	4	---			0.0	4	13.952	-0.031	49383	10.4
Aroclor-1262	5	---			0.0	5	14.029	-0.006	36493	5.2
Col1Ave: <3 Quant Peaks						Col2Ave:			6.7	
Aroclor-1268	1	---			0.0	1	13.952	-0.031	49383	4.5
Aroclor-1268	2	---			0.0	2	14.029	-0.009	36493	3.6
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	14.906	-0.032	19676	0.8

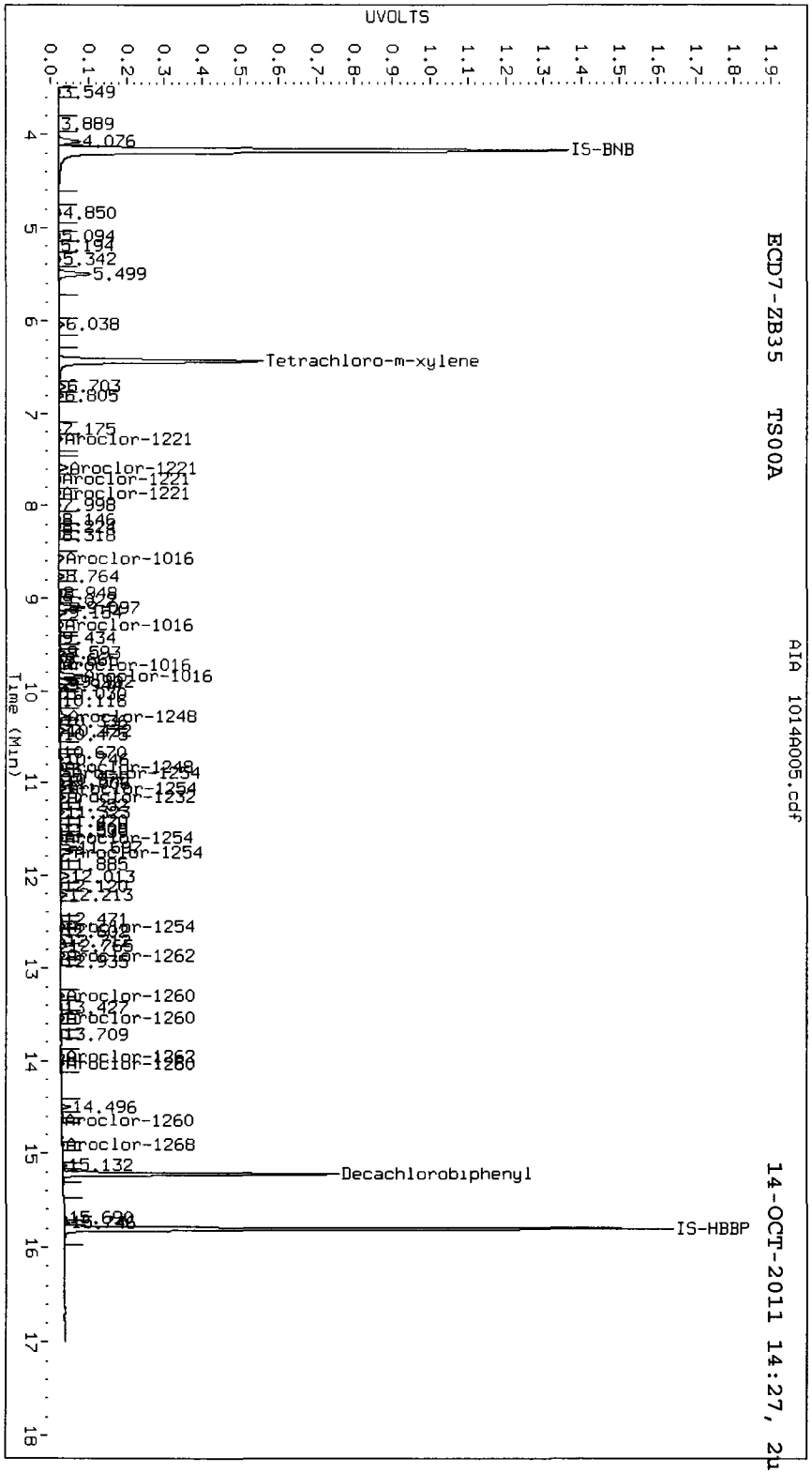
Col1Ave: <3 Quant Peaks Col2Ave: 3.0

Total PCB Area Col1 (6.396 - 14.783) = 1599311 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (6.528 - 15.120) = 3776218 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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Tetrachloro-m-xylene
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Aroclor-1016
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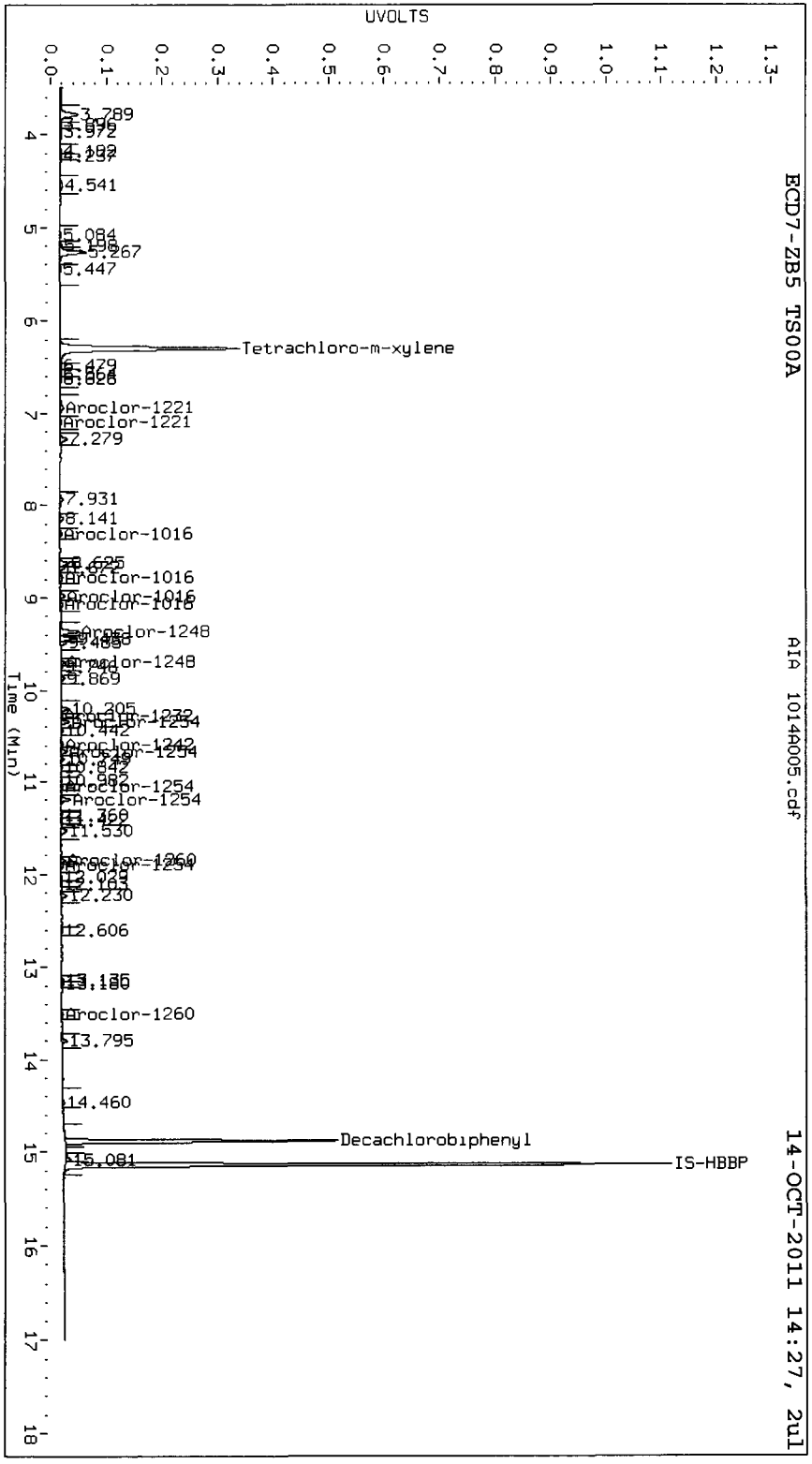
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
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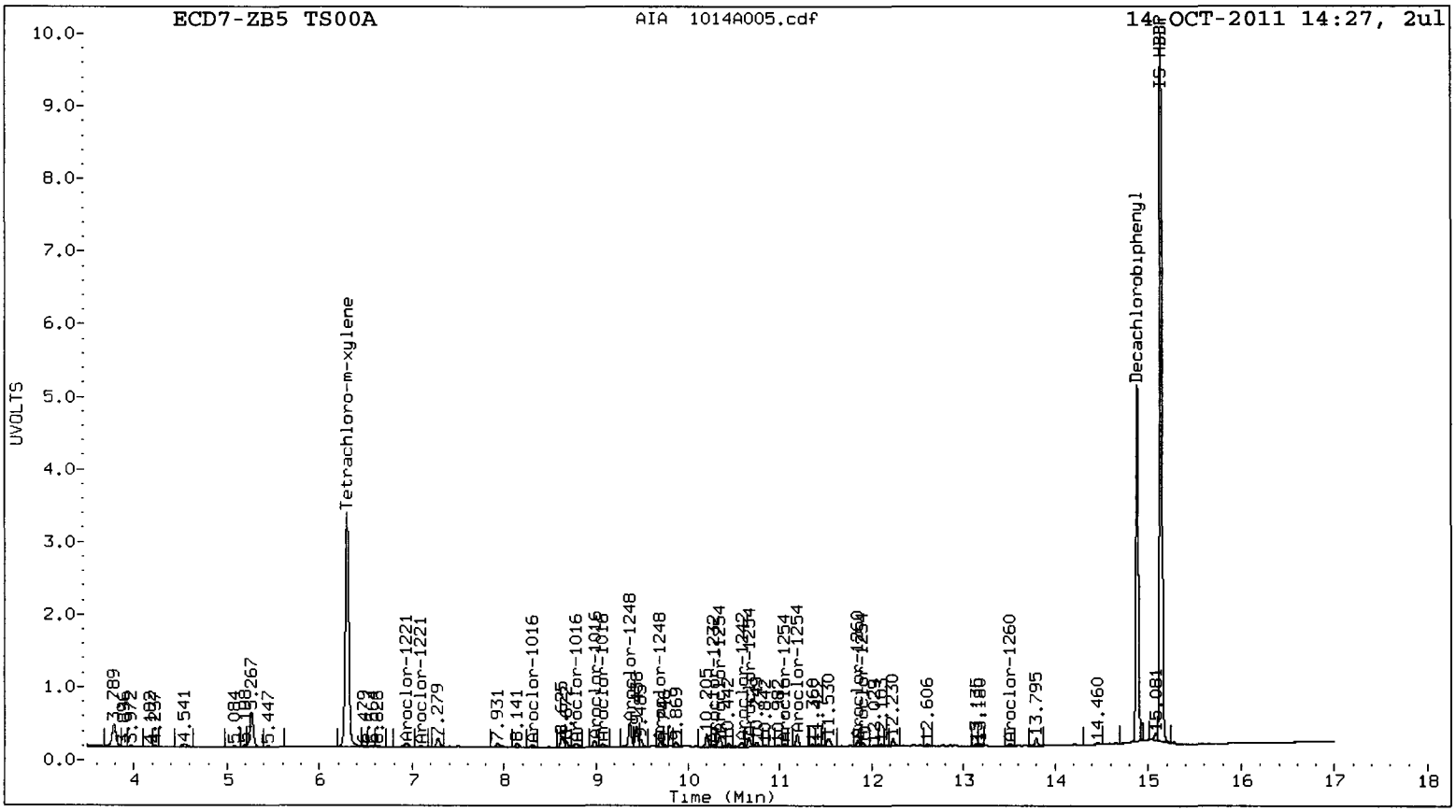
Decachlorobiphenyl
IS-HBBP

TS00:00185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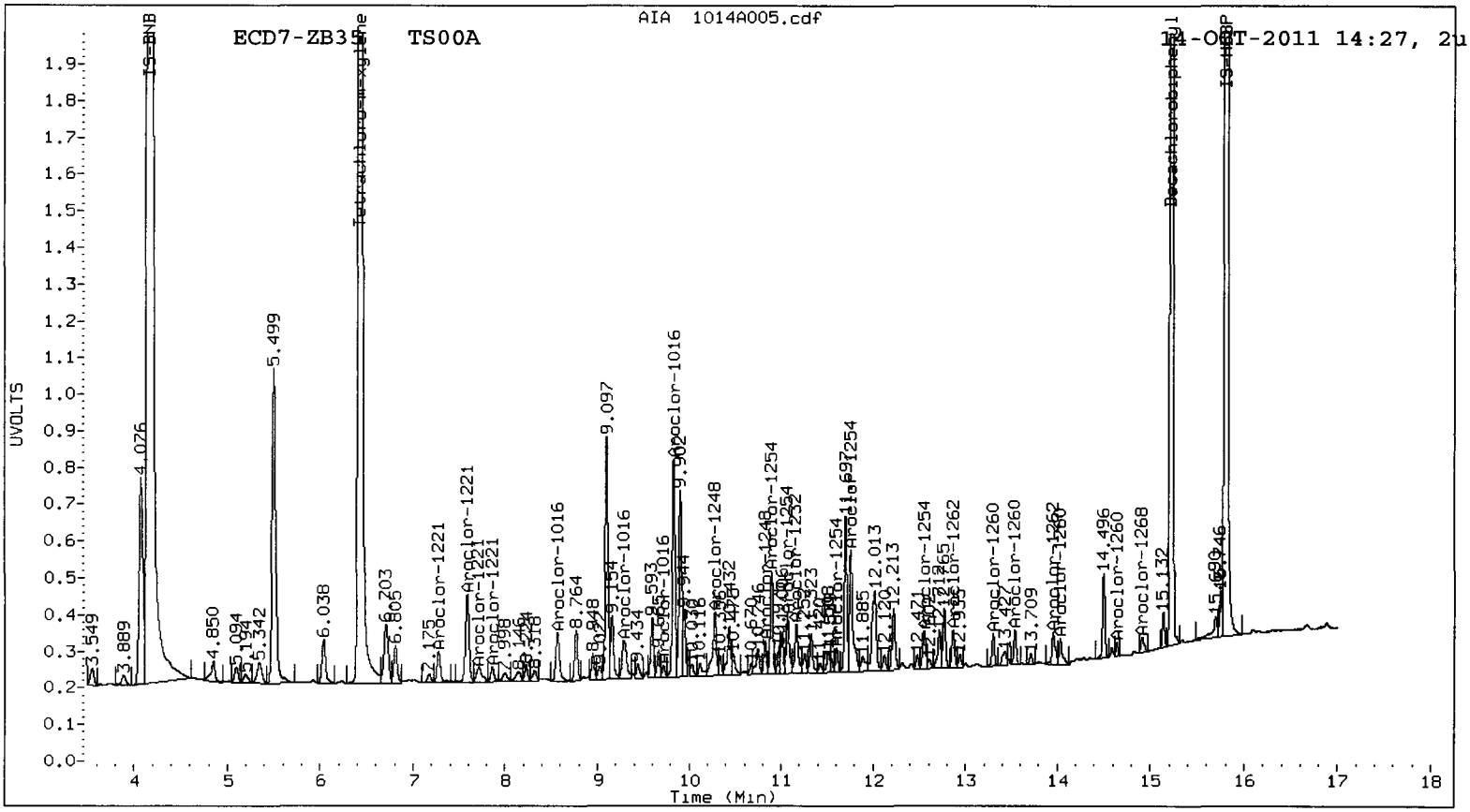
Aroclor-1248
Aroclor-1254
Aroclor-1260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Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1014-1.b/1014A006.d
Data file 2: 20110922.B/1014-2.b/1014A006.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: TS00AMS
Client ID:
Injection Date: 14-OCT-2011 14:50
Report Date: 10/17/2011 08:40
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.296	0.001	1332531	6.430	0.002	2215742	20.8	20.5	1.6	Tetrachloro-m-xylen
14.884	0.001	1472983	15.220	0.000	2116786	27.6	29.0	4.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

10/17/11

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	52.1	51.3
Decachlorobiphenyl	69.1	72.4

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5044611	-0.2
Hexabromobiphenyl	4060201	3950063	-2.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8133082	4.1
Hexabromobiphenyl	5725568	5602341	-2.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.307	0.000	125921	80.2	1	8.565	0.000	363037	83.3
Aroclor-1016	2	8.795	0.001	413458	76.2	2	9.295	0.001	720778	79.1
Aroclor-1016	3	8.970	0.002	180743	84.9	3	9.723	0.000	194472	83.3
Aroclor-1016	4	9.095	0.000	125297	83.0	4	9.831	0.001	363941	134.9
Total Col1Ave (4 peaks):				81.1		Total Col2Ave (4 peaks):			95.1	RPD = 16
Corrected Ave (3 peaks):				79.8		Corrected Ave (3 peaks):			81.9	RPD = 3
Aroclor-1221	1	6.747	0.000	15016	22.8	1	7.268	0.009	59027	46.8
Aroclor-1221	2	6.949	-0.009	38530	77.5	2	7.582	0.020	115360	148.7
Aroclor-1221	3	7.084	0.002	91019	55.7	3	7.698	-0.002	154123	64.9
Aroclor-1221	NS	---			----	4	7.776	-0.011	13719	35.6
Total Col1Ave (3 peaks):				52.0		Total Col2Ave (4 peaks):			74.0	RPD = 35
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			49.1	
Aroclor-1232	1	8.307	0.002	125921	201.6	1	8.565	-0.004	363037	191.4
Aroclor-1232	2	8.795	0.004	413458	193.2	2	9.295	-0.002	720778	198.7
Aroclor-1232	3	8.970	0.004	180743	214.2	3	9.723	-0.003	194472	201.0
Aroclor-1232	4	10.280	0.000	29748	39.6	4	11.163	-0.029	67400	41.9
Total Col1Ave (4 peaks):				162.2		Total Col2Ave (4 peaks):			158.2	RPD = 2
Corrected Ave (3 peaks):				144.8		Corrected Ave (3 peaks):			144.0	RPD = 1
Aroclor-1242	1	8.307	-0.002	125921	102.5	1	8.565	-0.001	363037	110.2
Aroclor-1242	2	8.795	0.000	413458	97.1	2	9.295	-0.001	720778	104.5
Aroclor-1242	3	8.970	0.000	180743	109.4	3	9.723	-0.001	194472	107.2
Aroclor-1242	4	10.588	0.002	37511	24.8	4	11.163	-0.025	67400	23.3
Total Col1Ave (4 peaks):				83.5		Total Col2Ave (4 peaks):			86.3	RPD = 3
Corrected Ave (3 peaks):				74.8		Corrected Ave (3 peaks):			78.4	RPD = 5
Aroclor-1248	1	9.365	0.000	192266	113.6	1	9.831	0.001	363941	112.3
Aroclor-1248	2	9.696	0.001	134984	65.6	2	10.277	0.001	299568	83.8
Aroclor-1248	3	10.280	0.000	29748	12.1	3	10.825	0.000	57999	16.2
Aroclor-1248	4	10.588	0.003	37511	16.4	4	11.163	-0.024	67400	14.7
Total Col1Ave (4 peaks):				51.9		Total Col2Ave (4 peaks):			56.7	RPD = 9
Corrected Ave (3 peaks):				31.4		Corrected Ave (3 peaks):			38.2	RPD = 20
Aroclor-1254	1	10.347	-0.003	150044	55.4	1	10.894	0.006	228841	64.9
Aroclor-1254	2	10.670	-0.003	146484	39.2	2	11.064	0.006	230641	50.6
Aroclor-1254	3	11.053	-0.004	34686	14.8	3	11.602	0.005	64020	17.8
Aroclor-1254	4	11.192	-0.005	167358	37.1	4	11.755	0.006	187044	24.3
Aroclor-1254	5	11.901	-0.014	122337	40.8	5	12.552	0.018	224367	48.3
Total Col1Ave (5 peaks):				37.5		Total Col2Ave (5 peaks):			41.2	RPD = 9
Corrected Ave (4 peaks):				33.0		Corrected Ave (4 peaks):			35.3	RPD = 7
Aroclor-1260	1	11.853	0.001	340240	85.6	1	13.299	0.001	423186	93.0
Aroclor-1260	2	12.457	0.001	213632	82.4	2	13.536	0.000	801091	88.9
Aroclor-1260	3	12.773	0.001	212635	82.3	3	14.030	0.001	552518	93.7
Aroclor-1260	4	13.506	0.000	268548	82.8	4	14.586	0.001	203413	98.4
Aroclor-1260	5	13.606	0.001	106159	84.0	NS	---			----
Total Col1Ave (5 peaks):				83.4		Total Col2Ave (4 peaks):			93.5	RPD = 11
Corrected Ave (4 peaks):				82.9		Corrected Ave (3 peaks):			91.9	RPD = 10
Aroclor-1262	1	12.457	-0.001	213632	47.5	1	12.856	-0.004	356165	61.5
Aroclor-1262	2	12.773	-0.001	212635	58.6	2	13.299	-0.004	423186	73.9
Aroclor-1262	3	13.135	-0.001	521291	61.1	3	13.536	-0.004	801091	71.7
Aroclor-1262	4	13.606	-0.001	106159	31.2	4	13.980	-0.004	269088	55.0
Aroclor-1262	5	13.670	-0.001	120613	35.0	5	14.030	-0.005	552518	75.6
Total Col1Ave (5 peaks):				46.7		Total Col2Ave (5 peaks):			67.5	RPD = 37
Corrected Ave (4 peaks):				43.1		Corrected Ave (4 peaks):			65.5	RPD = 41*
Aroclor-1268	1	13.606	-0.001	106159	11.7	1	13.980	-0.004	269088	23.8

Aroclor-1268 2	13.670	0.001	120613	14.5	2	14.030	-0.008	552518	52.0
Aroclor-1268 3	14.005	0.013	54898	7.9	3	14.347	-0.004	12434	1.5
Aroclor-1268 4	14.592	-0.001	33543	1.6	4	14.934	-0.005	77857	3.0

Total Col1Ave (4 peaks): 8.9 Total Col2Ave (4 peaks): 20.1 RPD = 77*

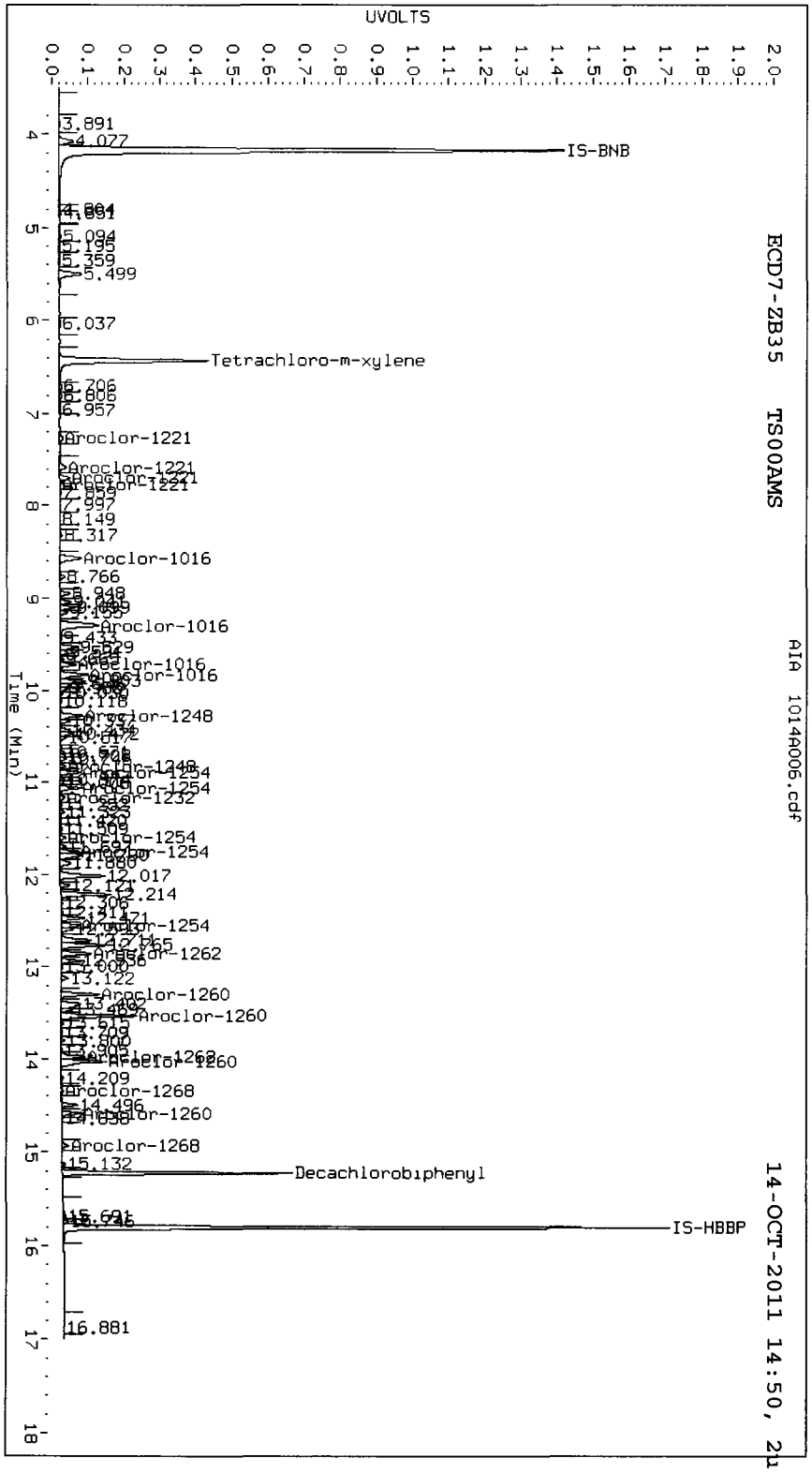
Corrected Ave (3 peaks): 7.1 Corrected Ave (3 peaks): 9.4 RPD = 29

Total PCB Area Col1 (6.396 - 14.783) = 7099988 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.528 - 15.120) = 12798896 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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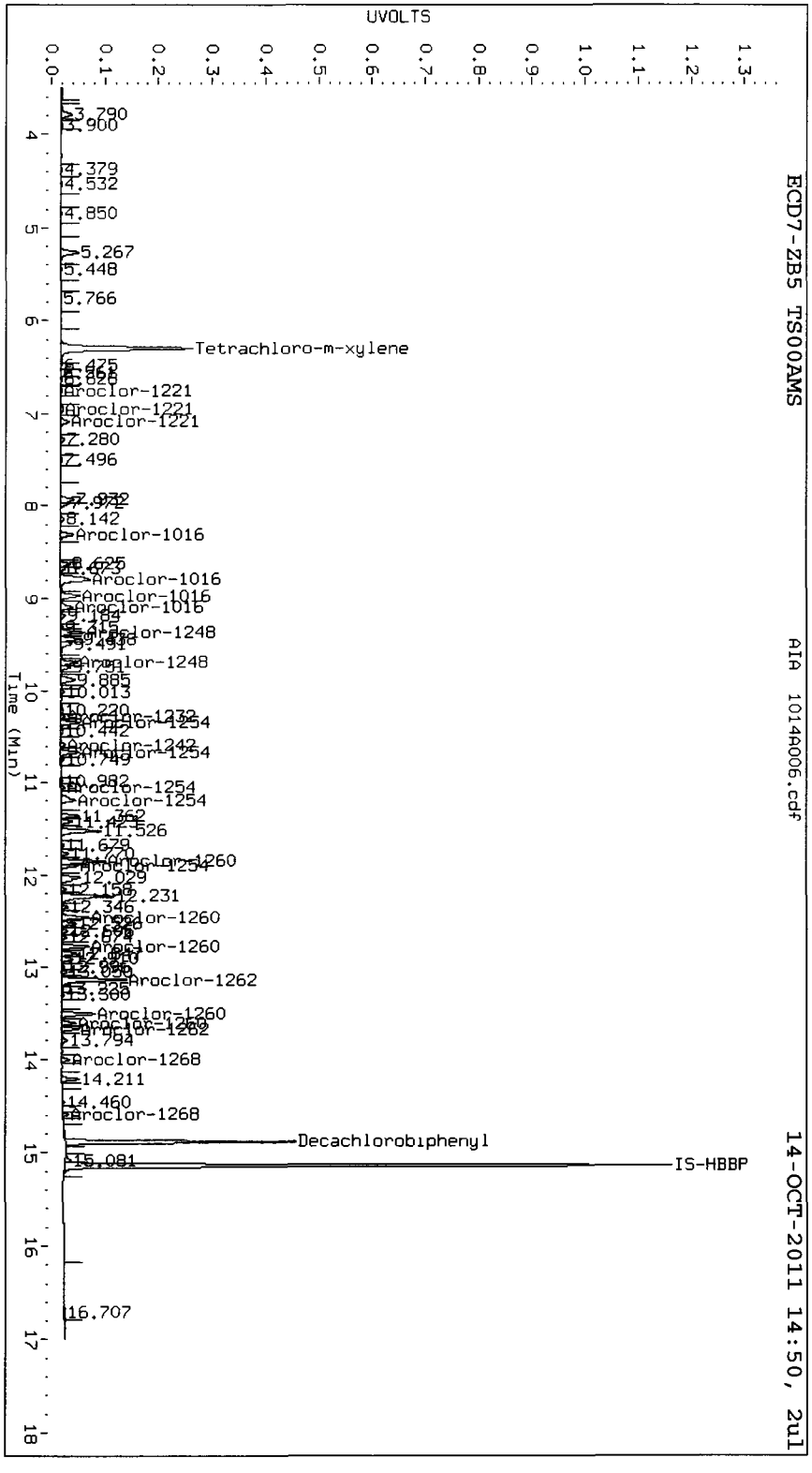
Decachlorobiphenyl
IS-HBBP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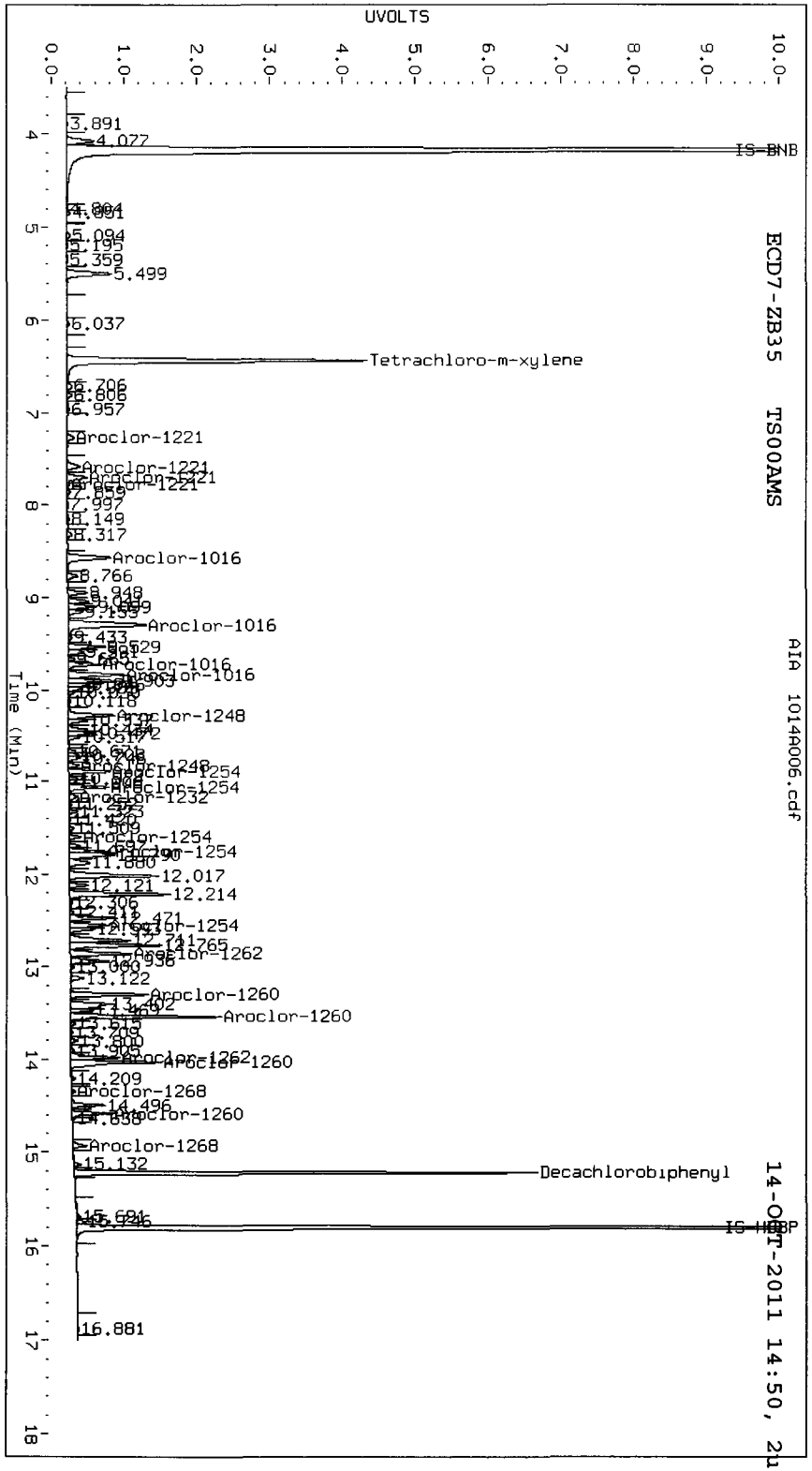
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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Tetrachloro-m-xylene
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Aroclor-1016
Aroclor-1248
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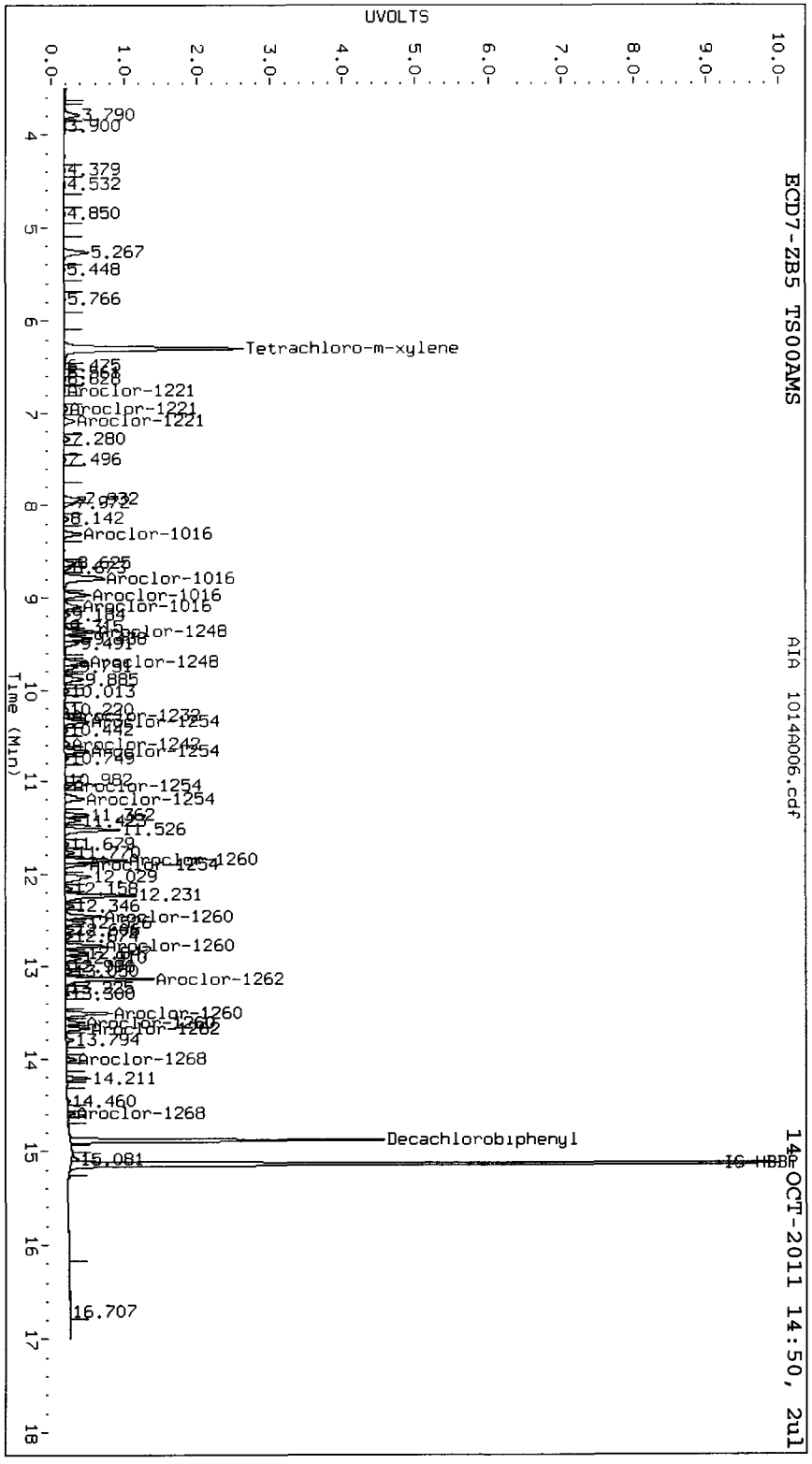
Decachlorobiphenyl
IS-HBBP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14-OCT-2011 14:50, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1242
Aroclor-1260
Aroclor-1262
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

TS00:00182

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1014-1.b/1014A007.d
Data file 2: 20110922.B/1014-2.b/1014A007.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: TS00AMSD
Client ID:
Injection Date: 14-OCT-2011 15:13
Report Date: 10/17/2011 08:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.296	0.001	1586821	6.430	0.001	2625042	25.5	25.2	1.1	Tetrachloro-m-xylen
14.883	0.000	1732311	15.221	0.000	2490691	33.5	34.8	3.8	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	63.8	63.1
Decachlorobiphenyl	83.8	87.1

JK 10/17/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	4907426	-2.9
Hexabromobiphenyl	4060201	3830554	-5.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7832726	0.3
Hexabromobiphenyl	5725568	5484567	-4.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	8.307	0.000	116305	76.1	1	8.565	0.000	341510	81.3
Aroclor-1016	2	8.795	0.001	390392	73.9	2	9.295	0.001	679725	77.4
Aroclor-1016	3	8.970	0.002	172275	83.2	3	9.723	0.001	184647	82.2
Aroclor-1016	4	9.095	0.000	124491	84.8	4	9.830	0.000	346447	133.3
Total Col1Ave (4 peaks):				79.5		Total Col2Ave (4 peaks):			93.6	RPD = 16
Corrected Ave (3 peaks):				77.7		Corrected Ave (3 peaks):			80.3	RPD = 3
Aroclor-1221	1	6.747	0.000	14382	22.4	1	7.271	0.012	63418	52.2
Aroclor-1221	2	6.948	-0.010	43231	89.4	2	7.583	0.021	119987	160.6
Aroclor-1221	3	7.084	0.003	83038	52.3	3	7.699	-0.002	146009	63.8
Aroclor-1221	NS	---			----	4	7.777	-0.010	11326	30.5
Total Col1Ave (3 peaks):				54.7		Total Col2Ave (4 peaks):			76.8	RPD = 34
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			48.8	
Aroclor-1232	1	8.307	0.001	116305	191.4	1	8.565	-0.004	341510	187.0
Aroclor-1232	2	8.795	0.004	390392	187.5	2	9.295	-0.003	679725	194.5
Aroclor-1232	3	8.970	0.004	172275	209.9	3	9.723	-0.003	184647	198.2
Aroclor-1232	4	10.281	0.001	29630	40.6	4	11.163	-0.029	73797	47.6
Total Col1Ave (4 peaks):				157.3		Total Col2Ave (4 peaks):			156.8	RPD = 0
Corrected Ave (3 peaks):				139.8		Corrected Ave (3 peaks):			143.0	RPD = 2
Aroclor-1242	1	8.307	-0.002	116305	97.3	1	8.565	-0.001	341510	107.7
Aroclor-1242	2	8.795	0.000	390392	94.3	2	9.295	-0.002	679725	102.4
Aroclor-1242	3	8.970	0.001	172275	107.2	3	9.723	0.000	184647	105.7
Aroclor-1242	4	10.587	0.001	42236	28.7	4	11.163	-0.026	73797	26.5
Total Col1Ave (4 peaks):				81.9		Total Col2Ave (4 peaks):			85.6	RPD = 4
Corrected Ave (3 peaks):				73.4		Corrected Ave (3 peaks):			78.2	RPD = 6
Aroclor-1248	1	9.364	-0.001	207905	126.3	1	9.830	0.000	346447	111.0
Aroclor-1248	2	9.696	0.001	127779	63.8	2	10.277	0.000	294134	85.4
Aroclor-1248	3	10.281	0.001	29630	12.4	3	10.825	0.000	57795	16.8
Aroclor-1248	4	10.587	0.002	42236	19.0	4	11.163	-0.024	73797	16.7
Total Col1Ave (4 peaks):				55.4		Total Col2Ave (4 peaks):			57.5	RPD = 4
Corrected Ave (3 peaks):				31.7		Corrected Ave (3 peaks):			39.6	RPD = 22
Aroclor-1254	1	10.347	-0.004	145181	55.1	1	10.894	0.007	218985	64.4
Aroclor-1254	2	10.670	-0.003	144317	39.7	2	11.065	0.006	224505	51.2
Aroclor-1254	3	11.053	-0.004	34681	15.3	3	11.602	0.006	61897	17.9
Aroclor-1254	4	11.192	-0.005	164106	37.4	4	11.755	0.006	180880	24.4
Aroclor-1254	5	11.901	-0.014	118782	40.7	5	12.552	0.018	219439	49.0
Total Col1Ave (5 peaks):				37.6		Total Col2Ave (5 peaks):			41.4	RPD = 9
Corrected Ave (4 peaks):				33.3		Corrected Ave (4 peaks):			35.6	RPD = 7
Aroclor-1260	1	11.852	0.000	328005	85.1	1	13.299	0.000	412817	92.7
Aroclor-1260	2	12.457	0.000	207502	82.5	2	13.536	0.000	780806	88.5
Aroclor-1260	3	12.773	0.000	205674	82.1	3	14.029	0.000	540242	93.6
Aroclor-1260	4	13.506	-0.001	260925	82.9	4	14.585	0.000	201228	99.4
Aroclor-1260	5	13.605	0.000	103652	84.6	NS	---			----
Total Col1Ave (5 peaks):				83.4		Total Col2Ave (4 peaks):			93.5	RPD = 11
Corrected Ave (4 peaks):				83.0		Corrected Ave (3 peaks):			91.6	RPD = 10
Aroclor-1262	1	12.457	-0.001	207502	47.6	1	12.856	-0.004	346348	61.0
Aroclor-1262	2	12.773	-0.001	205674	58.4	2	13.299	-0.004	412817	73.6
Aroclor-1262	3	13.135	-0.002	511318	61.8	3	13.536	-0.004	780806	71.3
Aroclor-1262	4	13.605	-0.002	103652	31.4	4	13.980	-0.003	275244	57.4
Aroclor-1262	5	13.669	-0.001	117609	35.2	5	14.029	-0.006	540242	75.6
Total Col1Ave (5 peaks):				46.9		Total Col2Ave (5 peaks):			67.8	RPD = 37
Corrected Ave (4 peaks):				43.1		Corrected Ave (4 peaks):			65.9	RPD = 42*
Aroclor-1268	1	13.605	-0.002	103652	11.8	1	13.980	-0.004	275244	24.9

Aroclor-1268	2	13.669	0.000	117609	14.6	2	14.029	-0.009	540242	52.0
Aroclor-1268	3	14.005	0.013	53803	8.0	3	14.346	-0.005	13491	1.6
Aroclor-1268	4	14.591	-0.002	33634	1.7	4	14.934	-0.005	81323	3.2

Total Col1Ave (4 peaks): 9.0 Total Col2Ave (4 peaks): 20.4 RPD = 78*

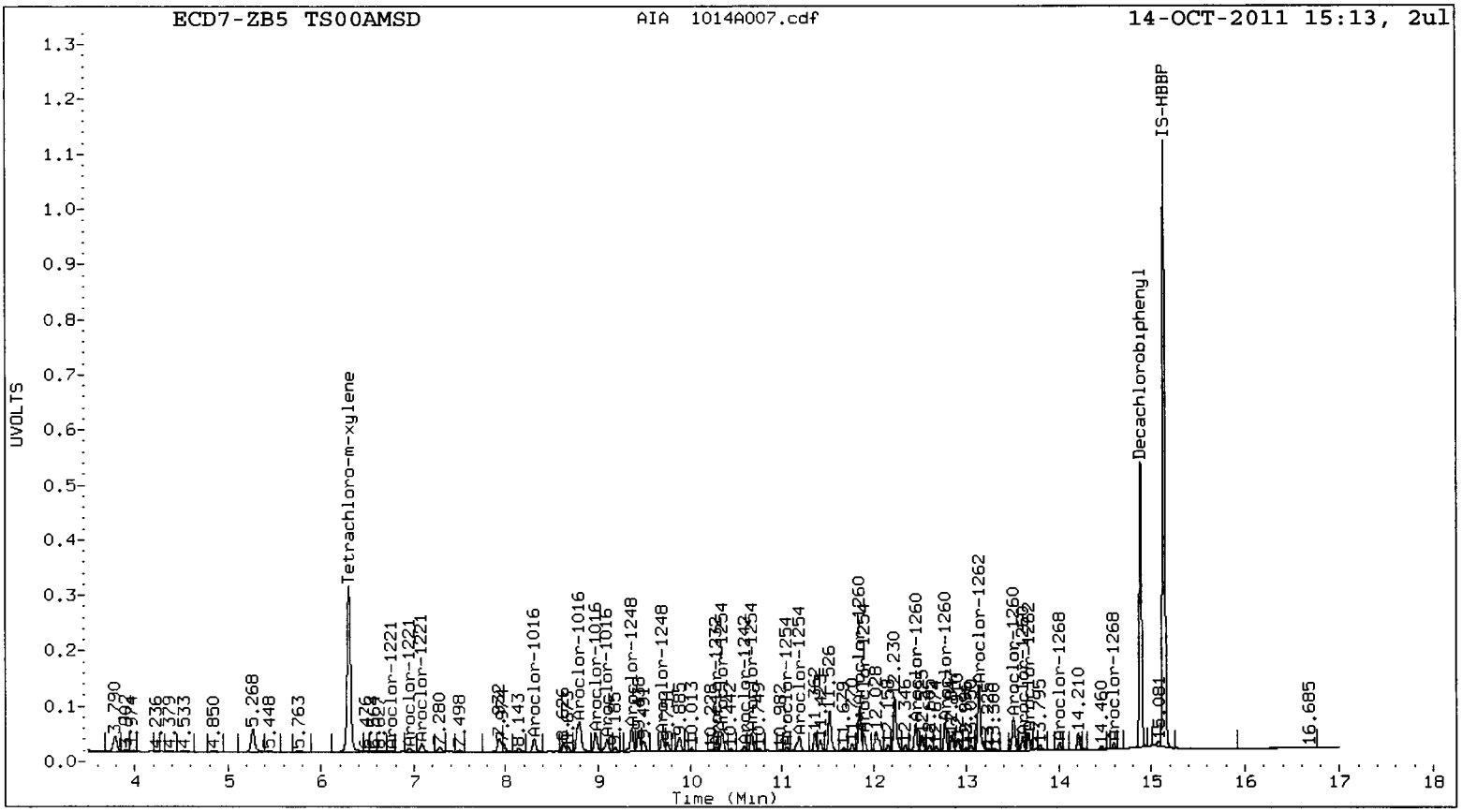
Corrected Ave (3 peaks): 7.1 Corrected Ave (3 peaks): 9.9 RPD = 33

Total PCB Area Col1 (6.396 - 14.783) = 6893704 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.528 - 15.120) = 12403262 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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14-OCT-2011 15:13, 2ul
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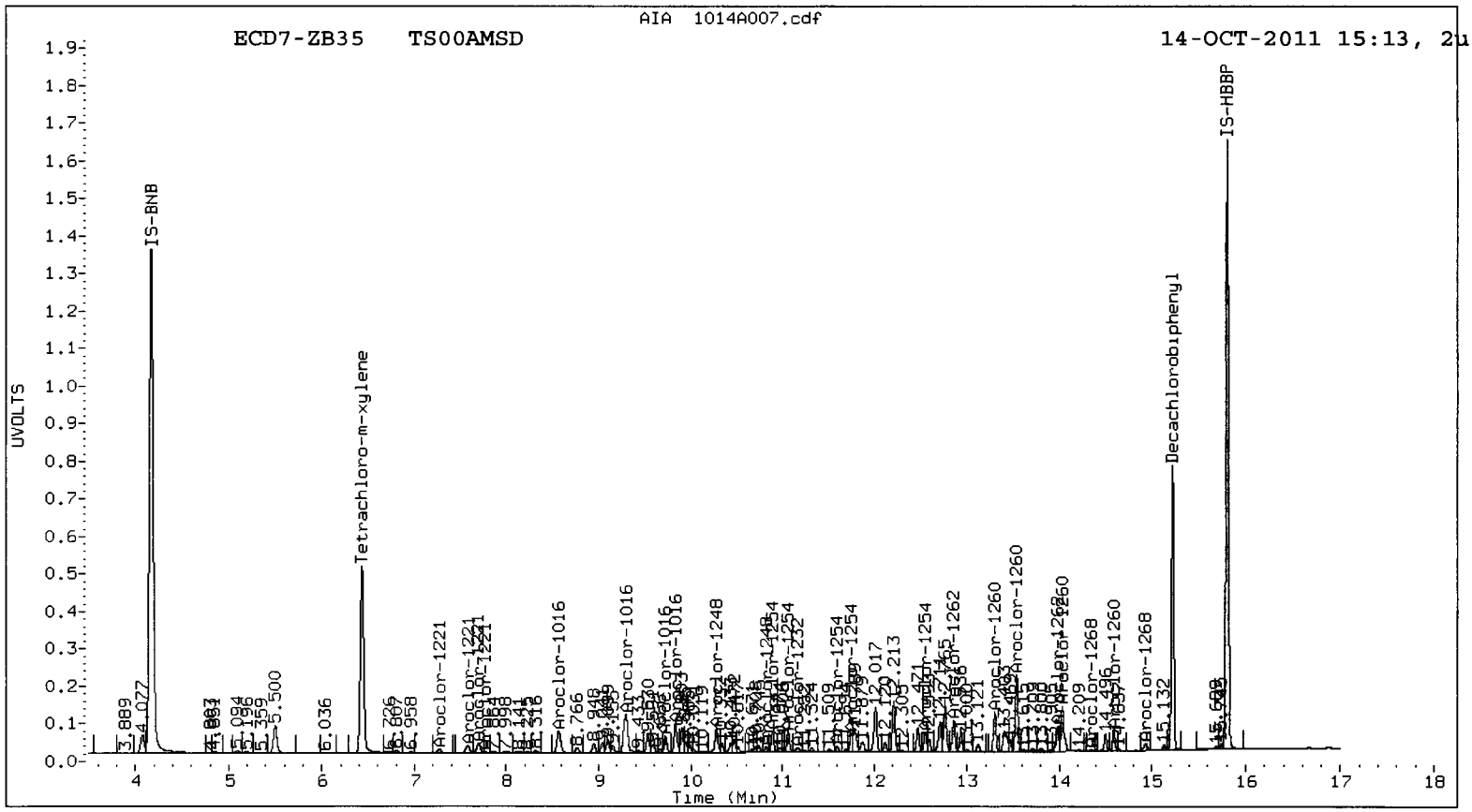
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
Aroclor-1016
Aroclor-1221
Aroclor-1248
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268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Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
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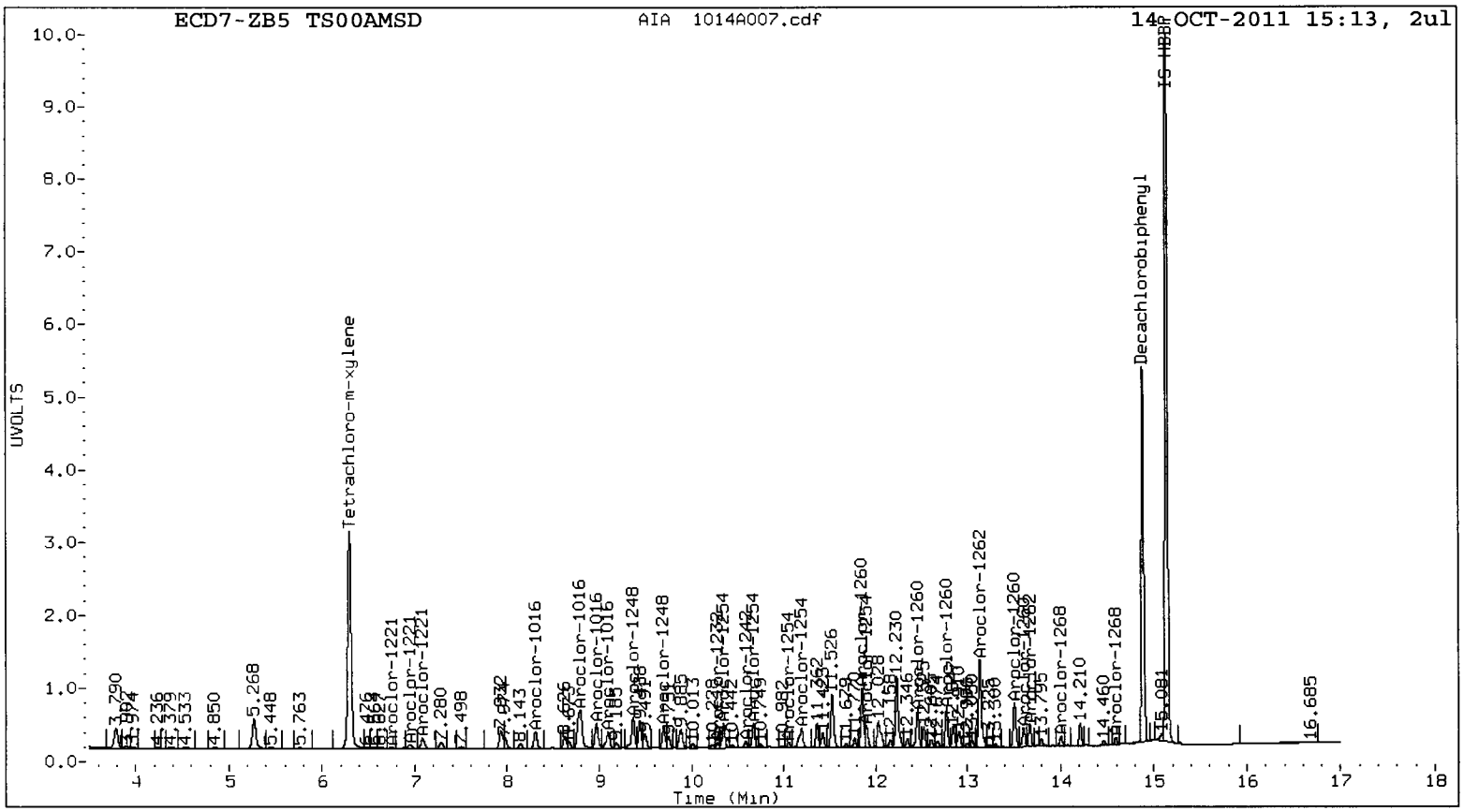
Aroclor-1262
Aroclor-1268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Time (Min)
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Decachlorobiphenyl
IS HBBP
Aroclor-1016
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Aroclor-1260
Aroclor-1262
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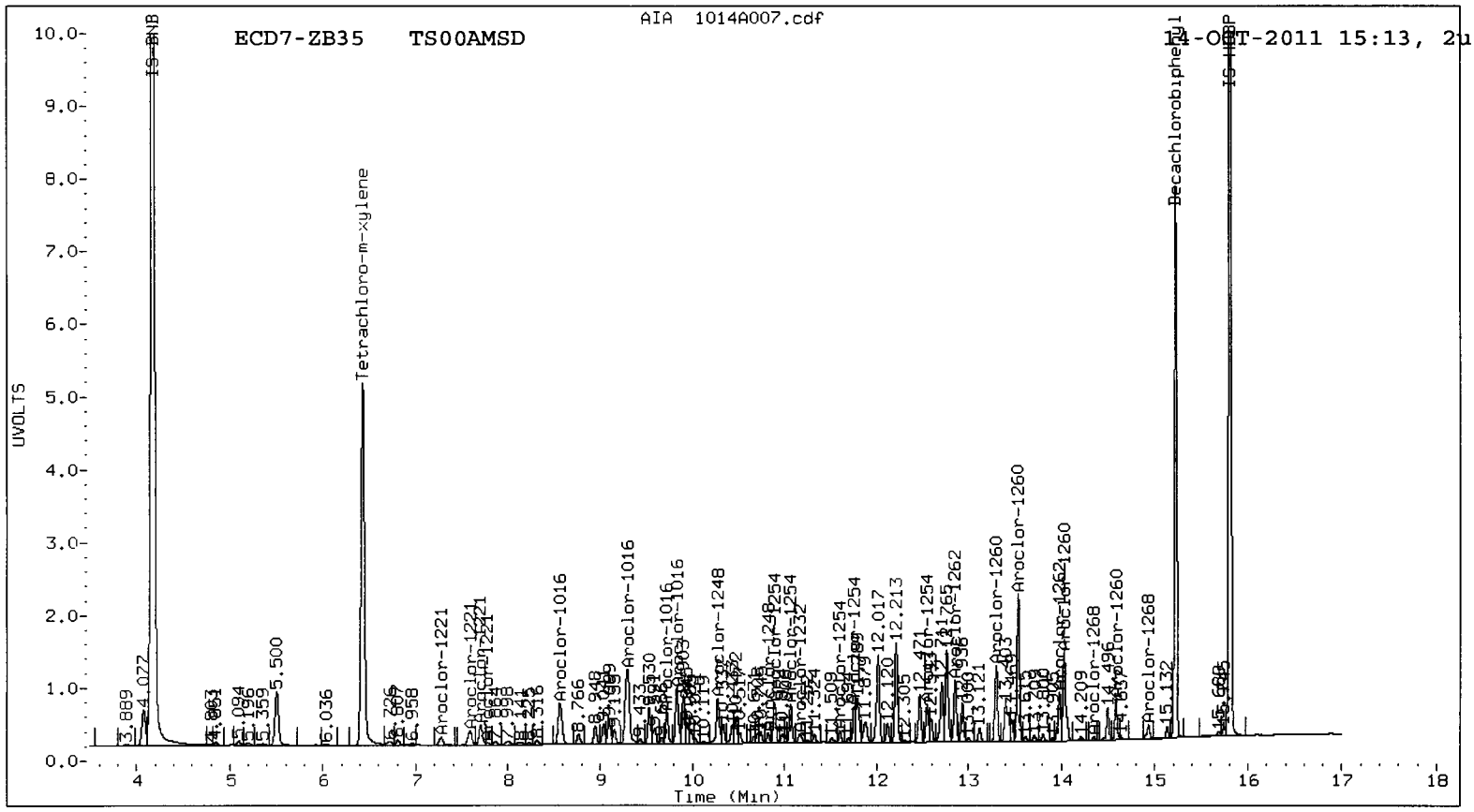
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Tetrachloro-m-xylene
Decachlorobiphenyl
IS HBBP
Aroclor-1016
Aroclor-1221
Aroclor-1248
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1014-1.b/1014A008.d
Data file 2: 20110922.B/1014-2.b/1014A008.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: TS00B
Client ID:
Injection Date: 14-OCT-2011 15:36
Report Date: 10/17/2011 08:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.297	0.002	1425517	6.431	0.002	2376391	23.0	22.3	3.4	Tetrachloro-m-xylen
14.884	0.001	1563081	15.220	0.000	2243285	30.7	31.9	3.9	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	57.5	55.6
Decachlorobiphenyl	76.8	79.9

JK 10/17/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	4884674	-3.4
Hexabromobiphenyl	4060201	3773107	-7.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8035029	2.9
Hexabromobiphenyl	5725568	5384010	-6.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	8.305	-0.002	19866	13.1	1	8.564	-0.001	87554	20.3
Aroclor-1016	2	8.778	-0.016	41531	7.9	2	9.283	-0.011	81767	9.1
Aroclor-1016	3	8.981	-0.014	46949	22.8	3	9.721	-0.002	14097	6.1
Aroclor-1016	4	9.065	-0.030	27574	18.9	4	9.830	0.000	283817	106.5
Total Col1Ave (4 peaks):				15.7		Total Col2Ave (4 peaks):			35.5	RPD = 78*
Corrected Ave (3 peaks):				13.3		Corrected Ave (3 peaks):			11.8	RPD = 11
Aroclor-1221	1	---			0.0	1	7.276	0.017	37553	30.1
Aroclor-1221	2	6.941	-0.017	27475	57.1	2	7.579	0.017	24216	31.6
Aroclor-1221	3	7.091	0.010	11392	7.2	3	7.710	0.009	25455	10.8
Aroclor-1221	NS	---			----	4	7.862	0.074	15058	39.5
Col1Ave: <3 Quant Peaks						Col2Ave:			28.0	
Aroclor-1232	1	8.305	0.000	19866	32.8	1	8.564	-0.005	87554	46.7
Aroclor-1232	2	8.778	-0.014	41531	20.0	2	9.283	-0.014	81767	22.8
Aroclor-1232	3	8.981	0.015	46949	57.5	3	9.721	-0.005	14097	14.7
Aroclor-1232	4	10.282	0.002	12403	17.1	4	11.162	-0.030	71938	45.2
Total Col1Ave (4 peaks):				31.9		Total Col2Ave (4 peaks):			32.4	RPD = 2
Corrected Ave (3 peaks):				23.0		Corrected Ave (3 peaks):			27.6	RPD = 17
Aroclor-1242	1	8.305	-0.004	19866	16.7	1	8.564	-0.002	87554	26.9
Aroclor-1242	2	8.778	-0.018	41531	10.1	2	9.283	-0.013	81767	12.0
Aroclor-1242	3	8.981	0.012	46949	29.4	3	9.721	-0.003	14097	7.9
Aroclor-1242	4	10.588	0.001	29800	20.4	4	11.162	-0.027	71938	25.2
Total Col1Ave (4 peaks):				19.1		Total Col2Ave (4 peaks):			18.0	RPD = 6
Corrected Ave (3 peaks):				15.7		Corrected Ave (3 peaks):			15.0	RPD = 4
Aroclor-1248	1	9.366	0.001	175665	107.2	1	9.830	0.000	283817	88.6
Aroclor-1248	2	9.697	0.001	34647	17.4	2	10.277	0.000	98597	27.9
Aroclor-1248	3	10.282	0.002	12403	5.2	3	10.826	0.000	37069	10.5
Aroclor-1248	4	10.588	0.002	29800	13.4	4	11.162	-0.025	71938	15.9
Total Col1Ave (4 peaks):				35.8		Total Col2Ave (4 peaks):			35.7	RPD = 0
Corrected Ave (3 peaks):				12.0		Corrected Ave (3 peaks):			18.1	RPD = 40*
Aroclor-1254	1	10.348	-0.003	78357	29.9	1	10.894	0.006	120791	34.7
Aroclor-1254	2	10.668	-0.005	61309	16.9	2	11.065	0.007	80018	17.8
Aroclor-1254	3	11.055	-0.003	17879	7.9	3	11.602	0.006	26874	7.6
Aroclor-1254	4	11.193	-0.003	87557	20.1	4	11.754	0.005	184796	24.3
Aroclor-1254	5	11.905	-0.010	24207	8.3	5	12.549	0.016	55110	12.0
Total Col1Ave (5 peaks):				16.6		Total Col2Ave (5 peaks):			19.3	RPD = 15
Corrected Ave (4 peaks):				13.3		Corrected Ave (4 peaks):			15.4	RPD = 15
Aroclor-1260	1	11.853	0.001	33350	8.8	1	13.299	0.000	34986	8.0
Aroclor-1260	2	---			0.0	2	13.536	0.000	34620	4.0
Aroclor-1260	3	---			0.0	3	14.030	0.001	32368	5.7
Aroclor-1260	4	13.506	0.000	11039	3.6	4	14.639	0.054	13922	7.0
Aroclor-1260	5	---			0.0	NS	---			----
Col1Ave: <3 Quant Peaks						Col2Ave:			6.2	
Aroclor-1262	1	---			0.0	1	12.861	0.001	40517	7.3
Aroclor-1262	2	---			0.0	2	13.299	-0.004	34986	6.4
Aroclor-1262	3	---			0.0	3	13.536	-0.004	34620	3.2
Aroclor-1262	4	---			0.0	4	13.951	-0.032	49176	10.5
Aroclor-1262	5	---			0.0	5	14.030	0.005	32368	4.6
Col1Ave: <3 Quant Peaks						Col2Ave:			6.4	
Aroclor-1268	1	---			0.0	1	13.951	-0.032	49176	4.5
Aroclor-1268	2	---			0.0	2	14.030	-0.008	32368	3.2
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	14.907	-0.032	22544	0.9

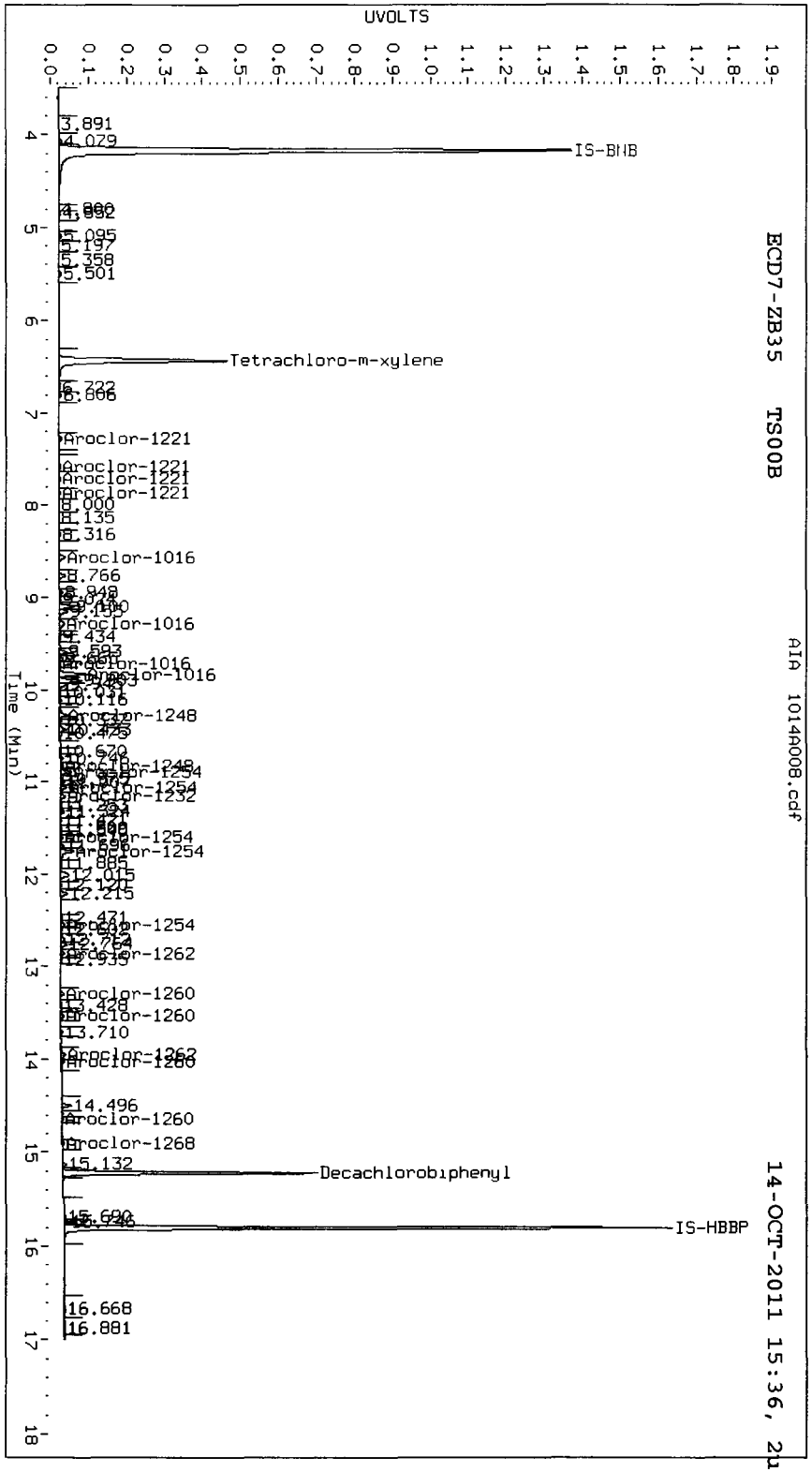
Col1Ave: <3 Quant Peaks Col2Ave: 2.9

Total PCB Area Col1 (6.396 - 14.783) = 1583637 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (6.528 - 15.120) = 3478016 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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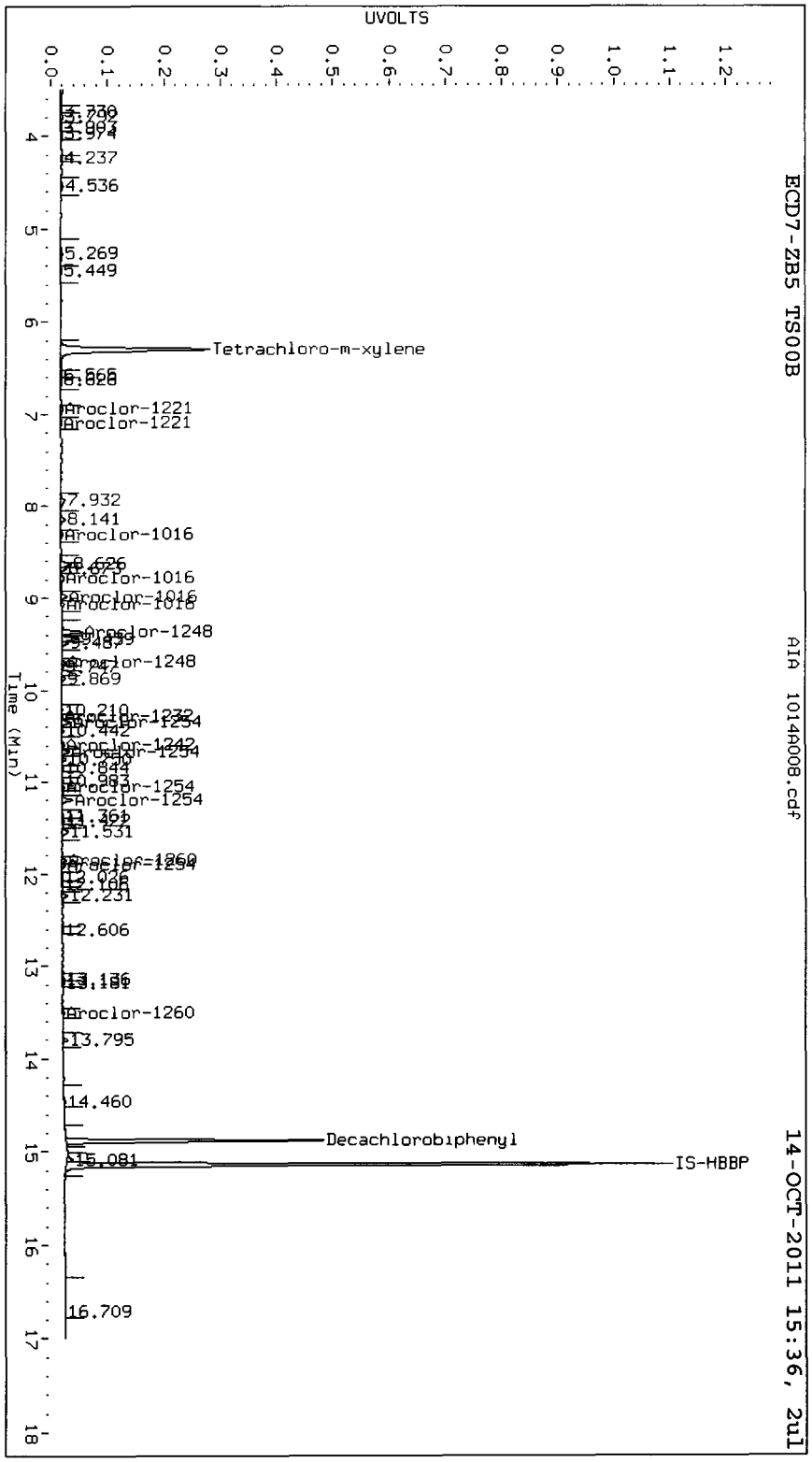
AIA 1014A008.cdf
14-OCT-2011 15:36, 2u
IS-BHB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1232
Aroclor-1262
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP
Time (Min)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Tetrachloro-m-xylene
Aroclor-1221
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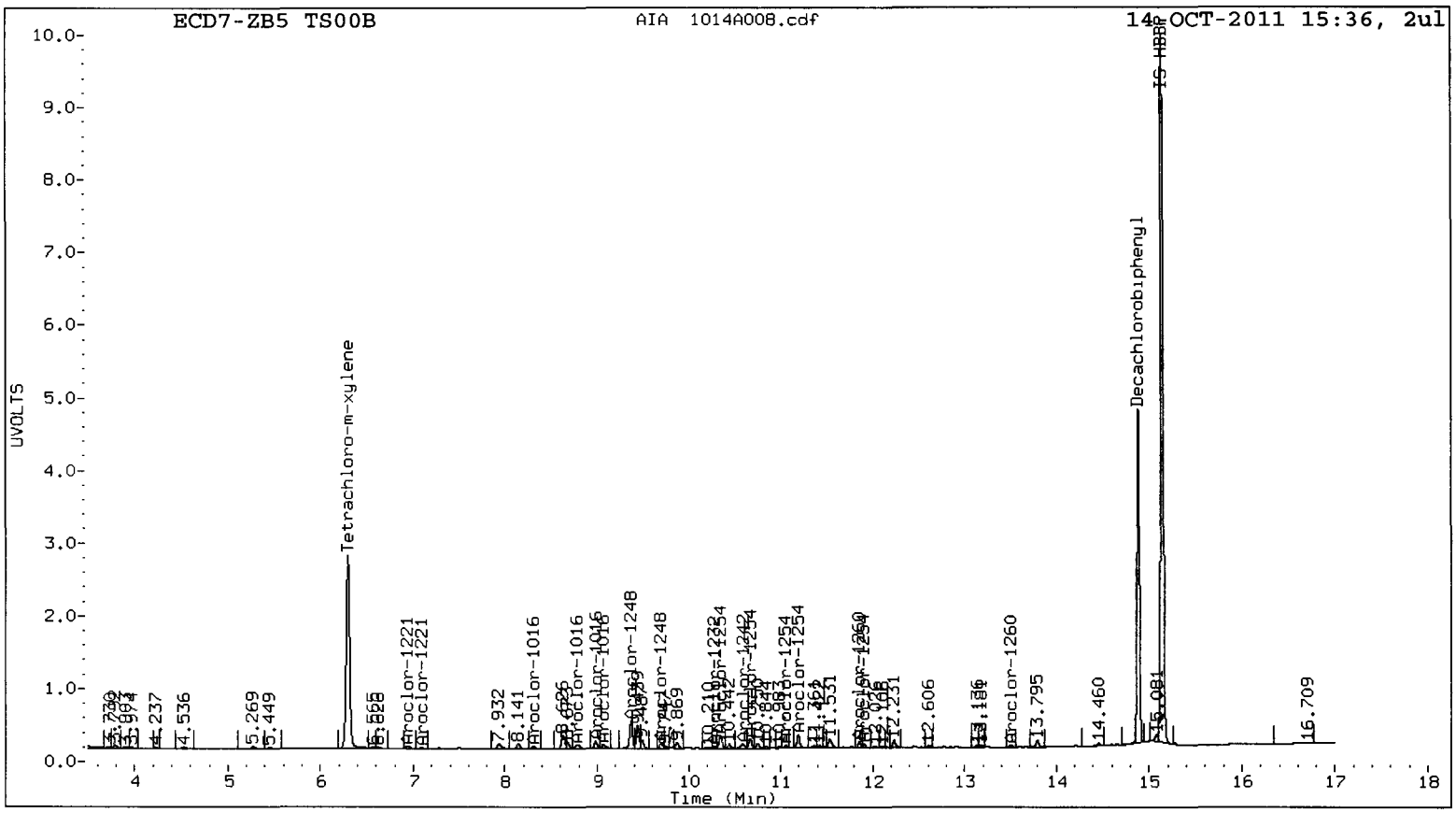
Aroclor-1248
Aroclor-1254
Aroclor-1260
Decachlorobiphenyl
IS-HBBP
Time (Min)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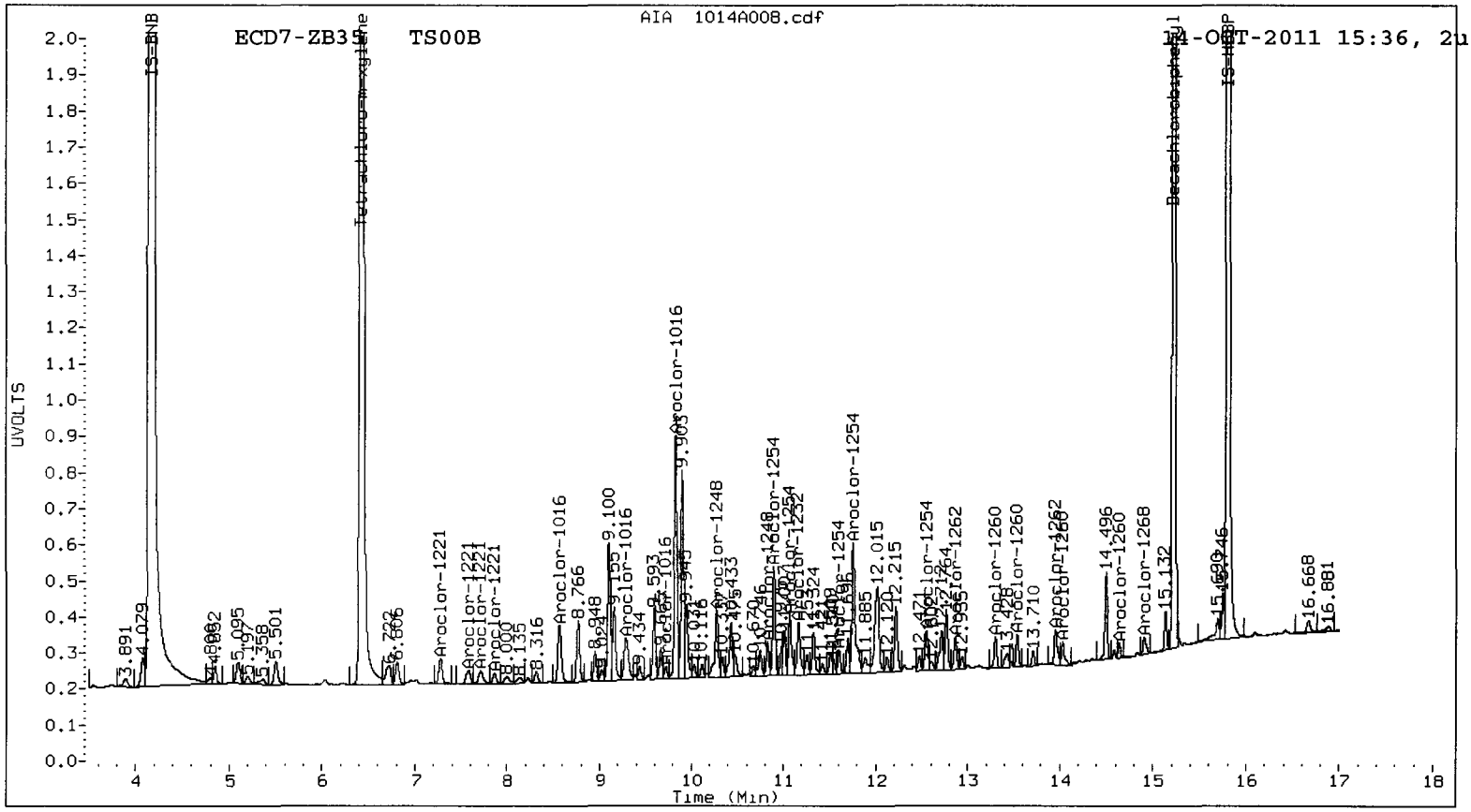
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
IS HBBP
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1260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UVOLTS
Time (Min)
IS DNB
Tetrachloro-m-xylene
Decachlorobiphenyl
IS HBBP
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1014-1.b/1014A009.d
Data file 2: 20110922.B/1014-2.b/1014A009.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: TS00C
Client ID:
Injection Date: 14-OCT-2011 15:59
Report Date: 10/17/2011 08:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.296	0.001	1587530	6.429	0.001	2641835	25.6	25.0	2.1	Tetrachloro-m-xylen
14.883	0.001	1812570	15.221	0.000	2583138	34.3	35.8	4.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	63.9	62.6
Decachlorobiphenyl	85.7	89.5

10/17/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	4894902	-3.2
Hexabromobiphenyl	4060201	3920779	-3.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	7940791	1.7
Hexabromobiphenyl	5725568	5531825	-3.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	8.563	-0.002	28075	6.6
Aroclor-1016	2	8.777	-0.017	15236	2.9	2	9.284	-0.011	36325	4.1
Aroclor-1016	3	8.980	0.013	16257	7.9	3	9.666	-0.057	12273	5.4
Aroclor-1016	4	9.087	-0.008	15682	10.7	4	9.830	0.000	93168	35.4
Total Col1Ave (3 peaks):				7.2	Total Col2Ave (4 peaks):				12.9	RPD = 57*
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				5.4	
Aroclor-1221	1	---			0.0	1	7.275	0.016	37064	30.1
Aroclor-1221	2	---			0.0	2	7.584	0.023	57925	76.5
Aroclor-1221	3	---			0.0	3	7.714	0.014	22624	9.8
Aroclor-1221	NS	---			----	4	---			0.0
Col1Ave: <3 Quant Peaks						Col2Ave:			38.8	
Aroclor-1232	1	---			0.0	1	8.563	-0.006	28075	15.2
Aroclor-1232	2	8.777	-0.015	15236	7.3	2	9.284	-0.014	36325	10.3
Aroclor-1232	3	8.980	0.015	16257	19.9	3	9.666	-0.060	12273	13.0
Aroclor-1232	4	10.347	0.068	31782	43.6	4	11.162	-0.030	37278	23.7
Total Col1Ave (3 peaks):				23.6	Total Col2Ave (4 peaks):				15.5	RPD = 41*
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				12.8	
Aroclor-1242	1	---			0.0	1	8.563	-0.003	28075	8.7
Aroclor-1242	2	8.777	-0.019	15236	3.7	2	9.284	-0.013	36325	5.4
Aroclor-1242	3	8.980	0.011	16257	10.1	3	9.666	-0.058	12273	6.9
Aroclor-1242	4	10.585	-0.002	21016	14.3	4	11.162	-0.026	37278	13.2
Total Col1Ave (3 peaks):				9.4	Total Col2Ave (4 peaks):				8.6	RPD = 9
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				7.0	
Aroclor-1248	1	9.365	0.000	63193	38.5	1	9.830	0.000	93168	29.4
Aroclor-1248	2	9.696	0.000	15351	7.7	2	10.276	0.000	46160	13.2
Aroclor-1248	3	10.347	0.068	31782	13.3	3	10.825	0.000	14249	4.1
Aroclor-1248	4	10.585	-0.001	21016	9.5	4	11.162	-0.025	37278	8.3
Total Col1Ave (4 peaks):				17.2	Total Col2Ave (4 peaks):				13.8	RPD = 22
Corrected Ave (3 peaks):				10.2	Corrected Ave (3 peaks):				8.5	RPD = 17
Aroclor-1254	1	10.347	-0.003	31782	12.1	1	10.894	0.006	48548	14.1
Aroclor-1254	2	10.668	-0.005	31360	8.7	2	11.065	0.007	36957	8.3
Aroclor-1254	3	11.057	-0.001	13289	5.9	3	11.601	0.005	20627	5.9
Aroclor-1254	4	11.193	-0.003	39532	9.0	4	11.754	0.005	81411	10.8
Aroclor-1254	5	11.906	-0.009	14235	4.9	5	12.548	0.015	29519	6.5
Total Col1Ave (5 peaks):				8.1	Total Col2Ave (5 peaks):				9.1	RPD = 12
Corrected Ave (4 peaks):				7.1	Corrected Ave (4 peaks):				7.9	RPD = 10
Aroclor-1260	1	---			0.0	1	13.299	0.000	21650	4.8
Aroclor-1260	2	---			0.0	2	13.537	0.001	26186	2.9
Aroclor-1260	3	---			0.0	3	14.030	0.000	24250	4.2
Aroclor-1260	4	---			0.0	4	14.639	0.054	14198	7.0
Aroclor-1260	5	---			0.0	NS	---			----
Col1Ave: <3 Quant Peaks						Col2Ave:			4.7	
Aroclor-1262	1	---			0.0	1	12.860	0.000	20315	3.6
Aroclor-1262	2	---			0.0	2	13.299	-0.004	21650	3.8
Aroclor-1262	3	---			0.0	3	13.537	-0.003	26186	2.4
Aroclor-1262	4	---			0.0	4	13.951	-0.032	82168	17.0
Aroclor-1262	5	---			0.0	5	14.030	-0.005	24250	3.4
Col1Ave: <3 Quant Peaks						Col2Ave:			6.0	
Aroclor-1268	1	---			0.0	1	13.951	-0.032	82168	7.4
Aroclor-1268	2	---			0.0	2	14.030	-0.008	24250	2.3
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	14.904	-0.035	33422	1.3

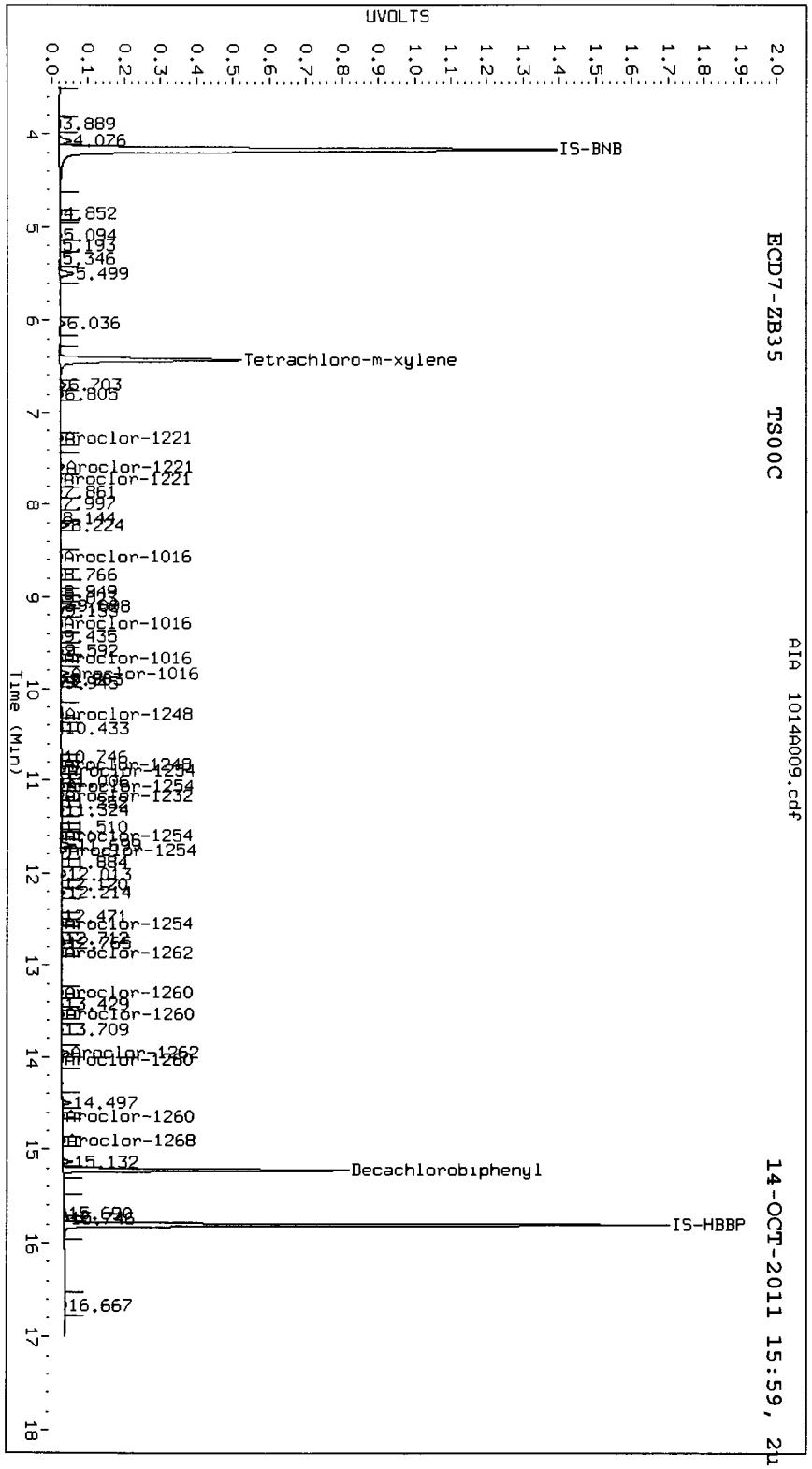
Col1Ave: <3 Quant Peaks Col2Ave: 3.7

Total PCB Area Col1 (6.396 - 14.783) = 831299 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (6.528 - 15.120) = 2071578 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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14-OCT-2011 15:59, 2ul
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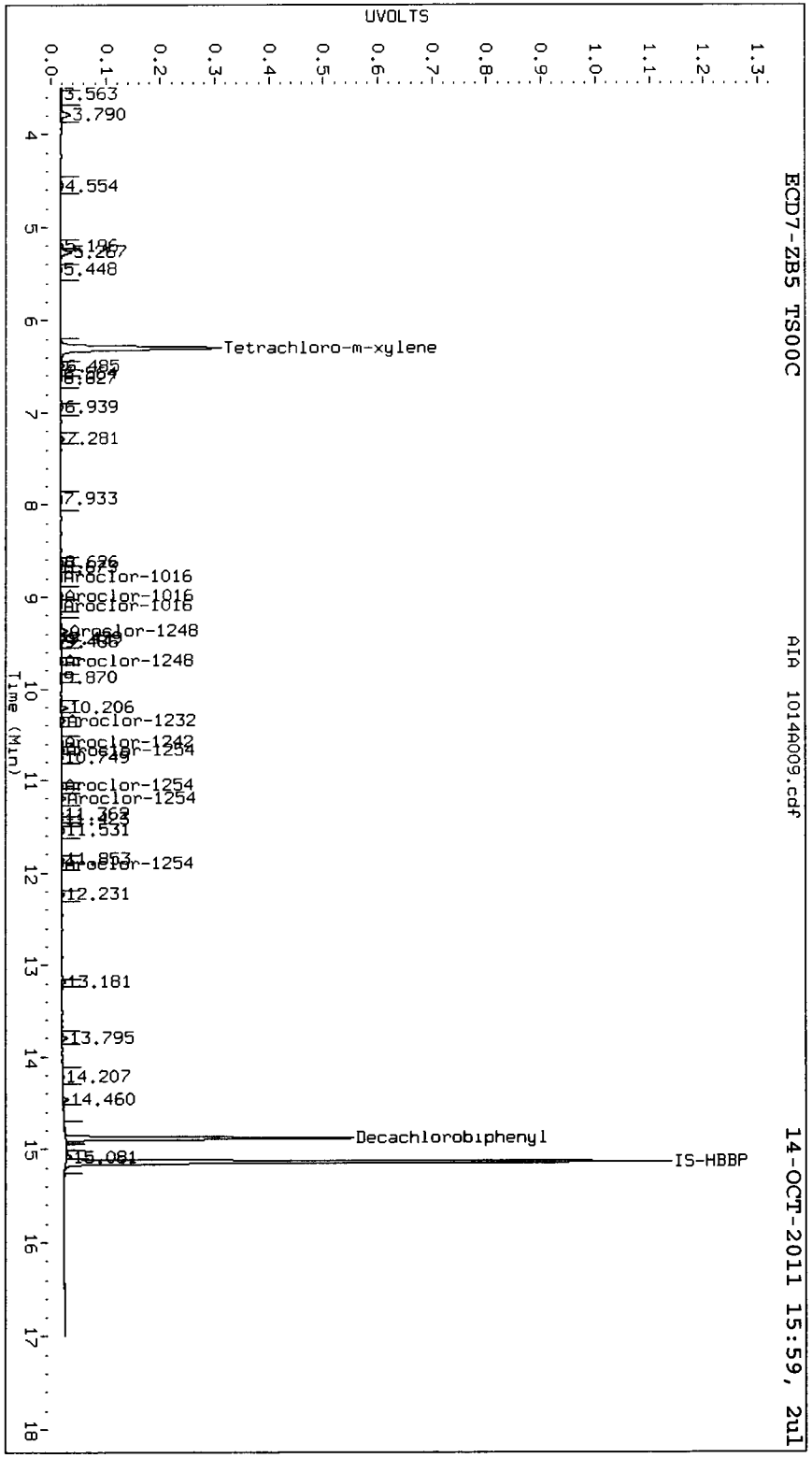
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP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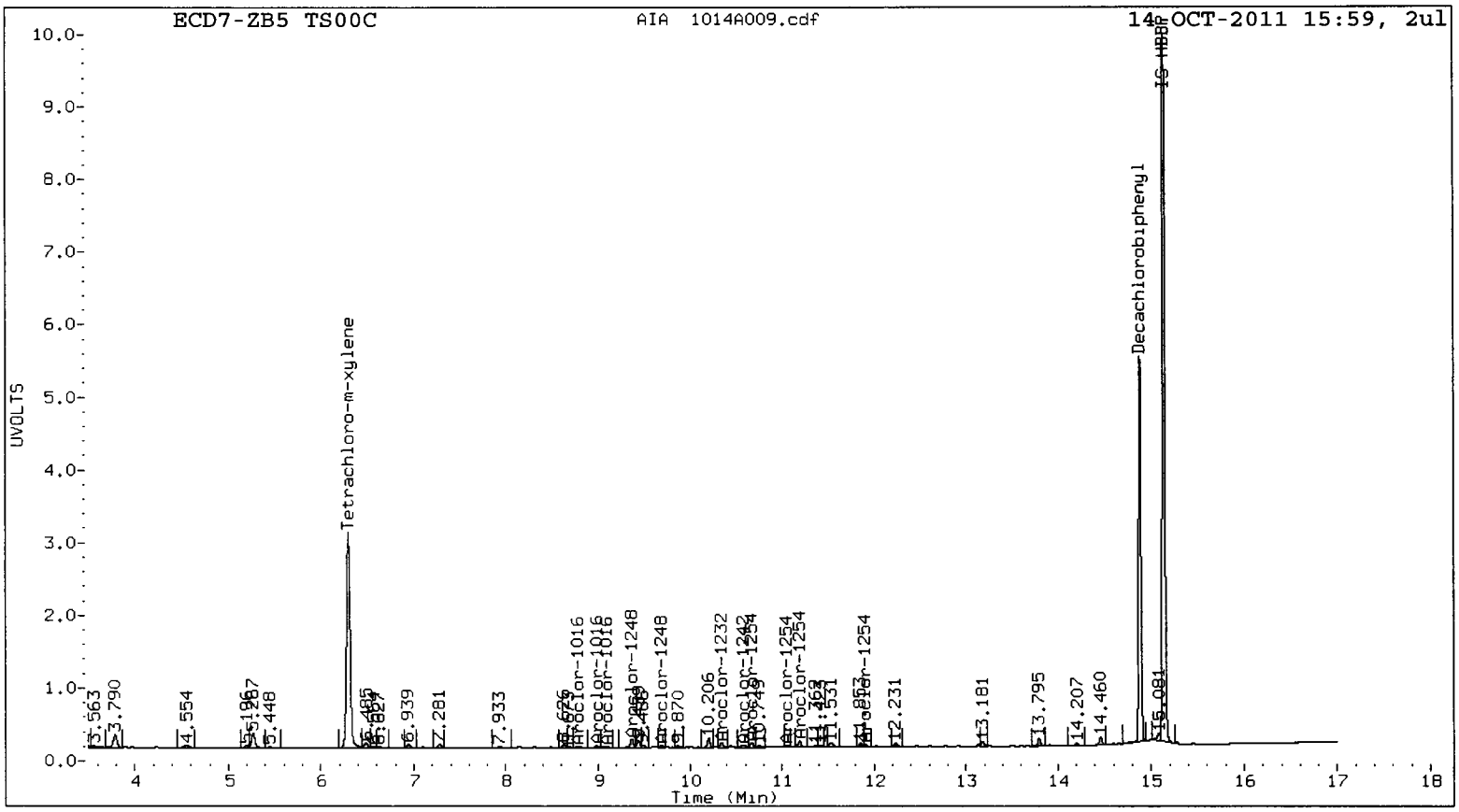
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP

TS00:00206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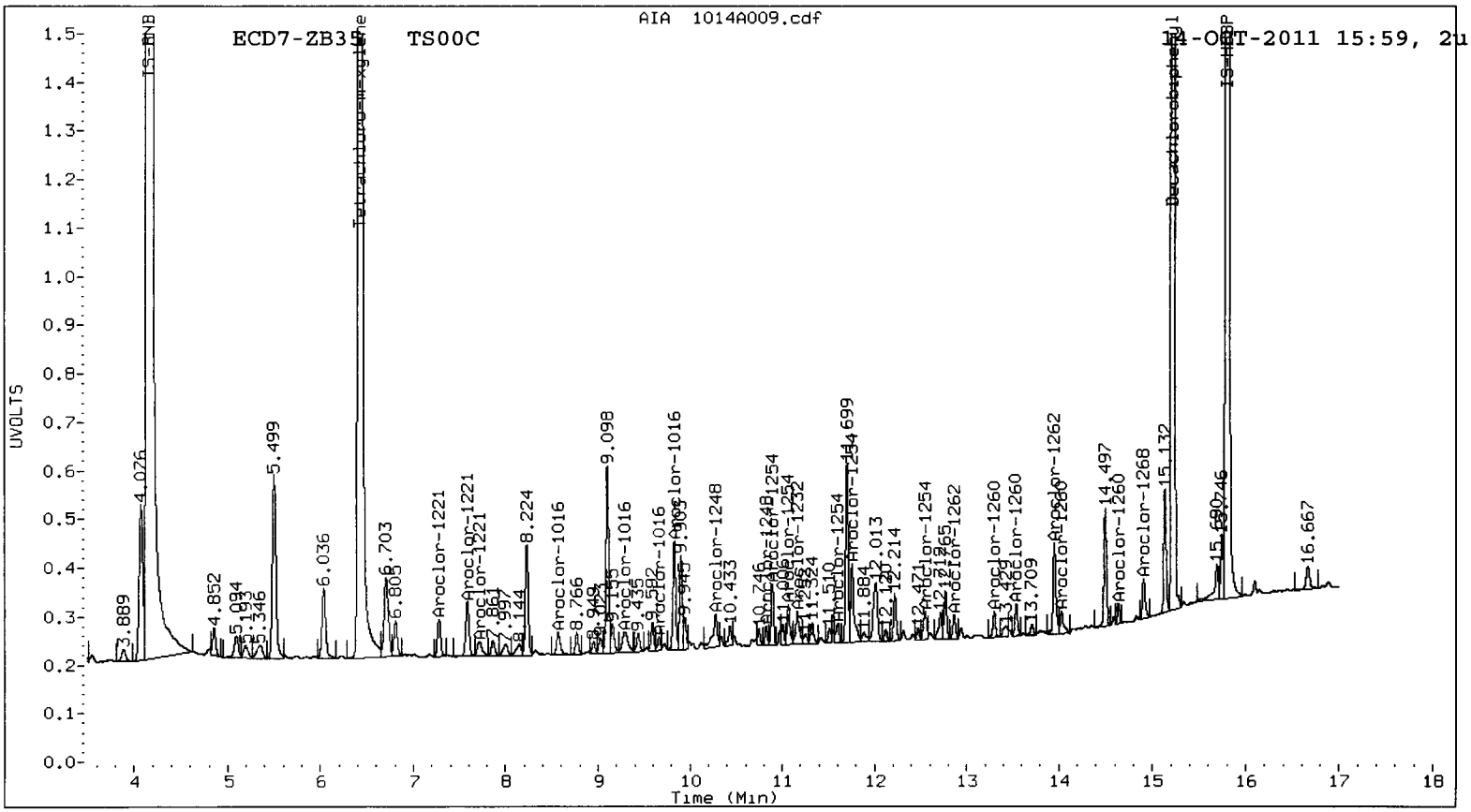
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP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Time (Min)
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Tetrachloro-m-xylene
Decachlorobiphenyl
IS-HBBP
Aroclor-1221
Aroclor-1016
Aroclor-1248
Aroclor-1254
Aroclor-1260
Aroclor-1262
Aroclor-1268

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1014-1.b/1014A010.d
Data file 2: 20110922.B/1014-2.b/1014A010.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: PCB
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: TS00D
Client ID:
Injection Date: 14-OCT-2011 16:22
Report Date: 10/17/2011 08:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.296	0.001	1592628	6.428	0.000	2625283	25.1	24.2	3.8	Tetrachloro-m-xylen
14.883	0.000	1847580	15.221	0.001	2594496	33.6	35.0	3.9	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	62.9	60.5
Decachlorobiphenyl	84.1	87.4

JL 10/17/11

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	4995418	-1.2
Hexabromobiphenyl	4060201	4071153	0.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8162684	4.5
Hexabromobiphenyl	5725568	5688725	-0.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

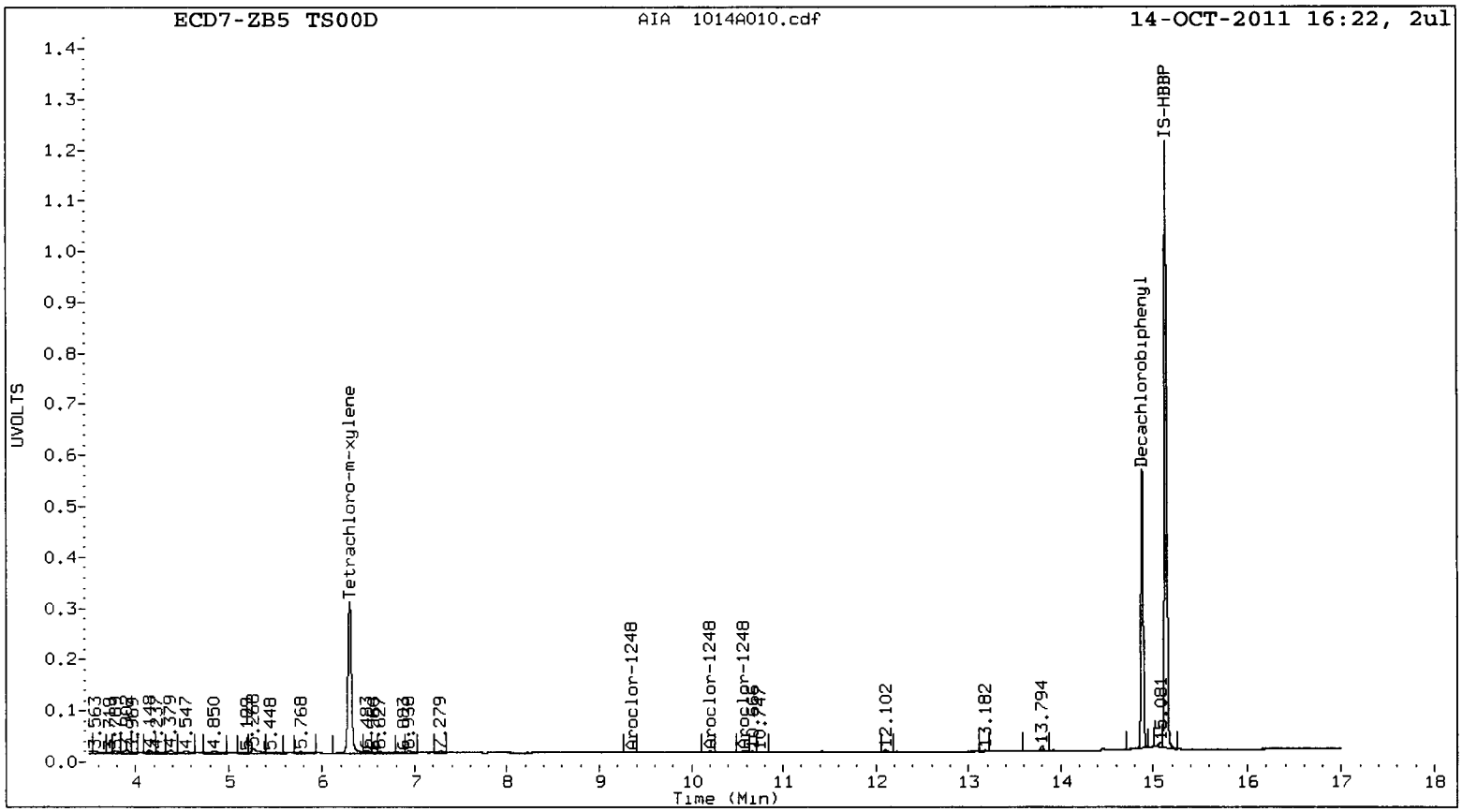
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1221	1	---			0.0	1	7.275	0.016	37617	29.7
Aroclor-1221	2	---			0.0	2	7.583	0.022	47889	61.5
Aroclor-1221	3	---			0.0	3	7.708	0.008	13918	5.8
Aroclor-1221	NS	---			----	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave:	32.3		
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1248	1	9.357	-0.008	12870	7.7	1	---			0.0
Aroclor-1248	2	---			0.0	2	10.235	-0.041	25423	7.1
Aroclor-1248	3	10.205	-0.075	13544	5.6	3	---			0.0
Aroclor-1248	4	10.570	-0.016	22587	10.0	4	11.157	-0.030	27253	5.9
		Total Col1Ave (3 peaks):		7.7			Col2Ave: <3 Quant Peaks			
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	11.157	0.099	27253	6.0
Aroclor-1254	3	---			0.0	3	---			0.0
Aroclor-1254	4	---			0.0	4	11.698	-0.051	50811	6.6
Aroclor-1254	5	---			0.0	5	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1260	1	---			0.0	1	---			0.0
Aroclor-1260	2	---			0.0	2	---			0.0
Aroclor-1260	3	---			0.0	3	13.951	-0.078	27154	4.5
Aroclor-1260	4	---			0.0	4	14.638	0.054	14300	6.8
Aroclor-1260	5	---			0.0	NS	---			----
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1262	1	---			0.0	1	12.867	0.007	35680	6.1
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	13.951	-0.032	27154	5.5
Aroclor-1262	5	---			0.0	5	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1268	1	---			0.0	1	13.951	-0.032	27154	2.4
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	14.907	-0.032	18973	0.7
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			

Total PCB Area Col1 (6.396 - 14.783) = 274997 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (6.528 - 15.120) = 610454 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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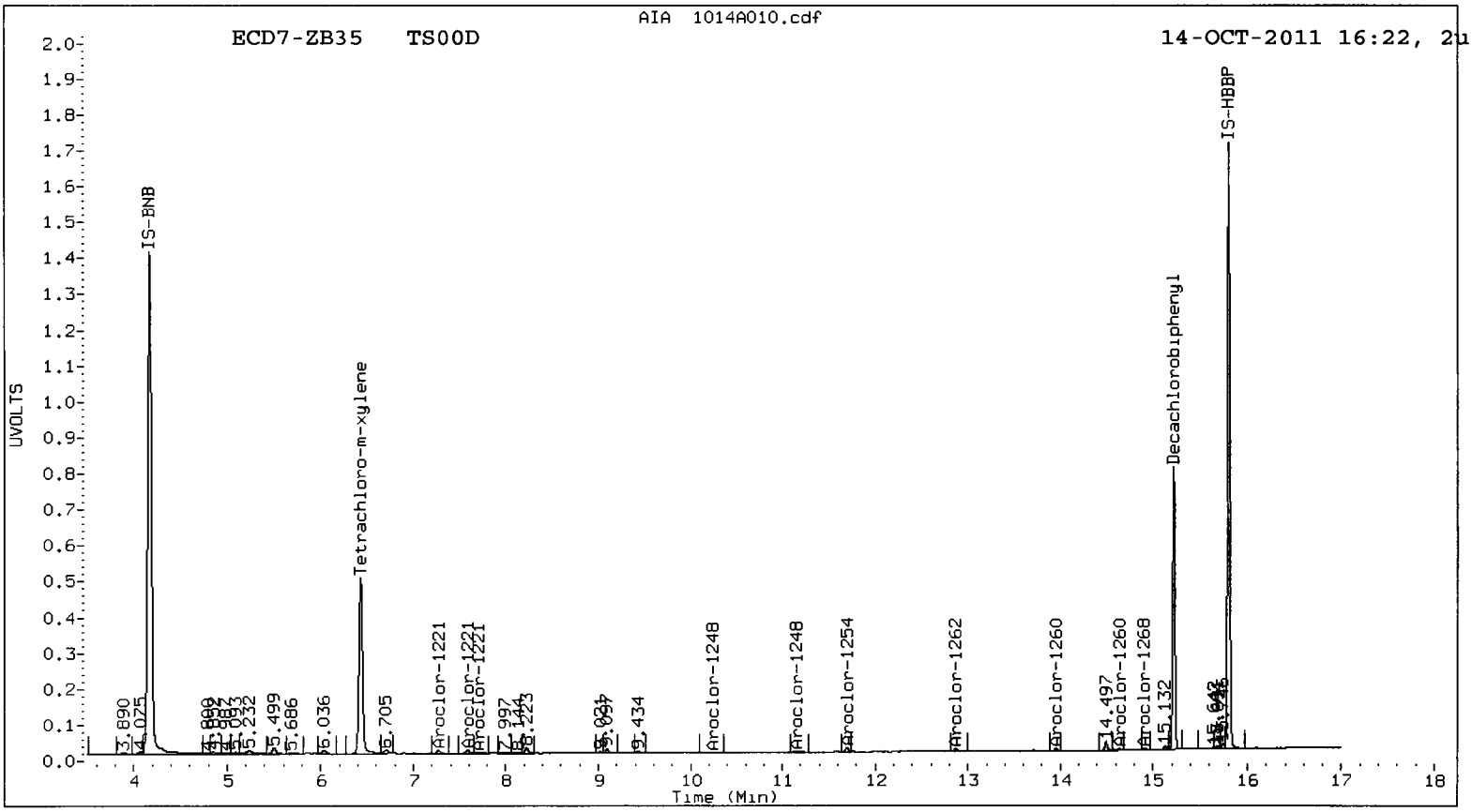
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Aroclor-1248
Decachlorobiphenyl
IS-HBBP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UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1248
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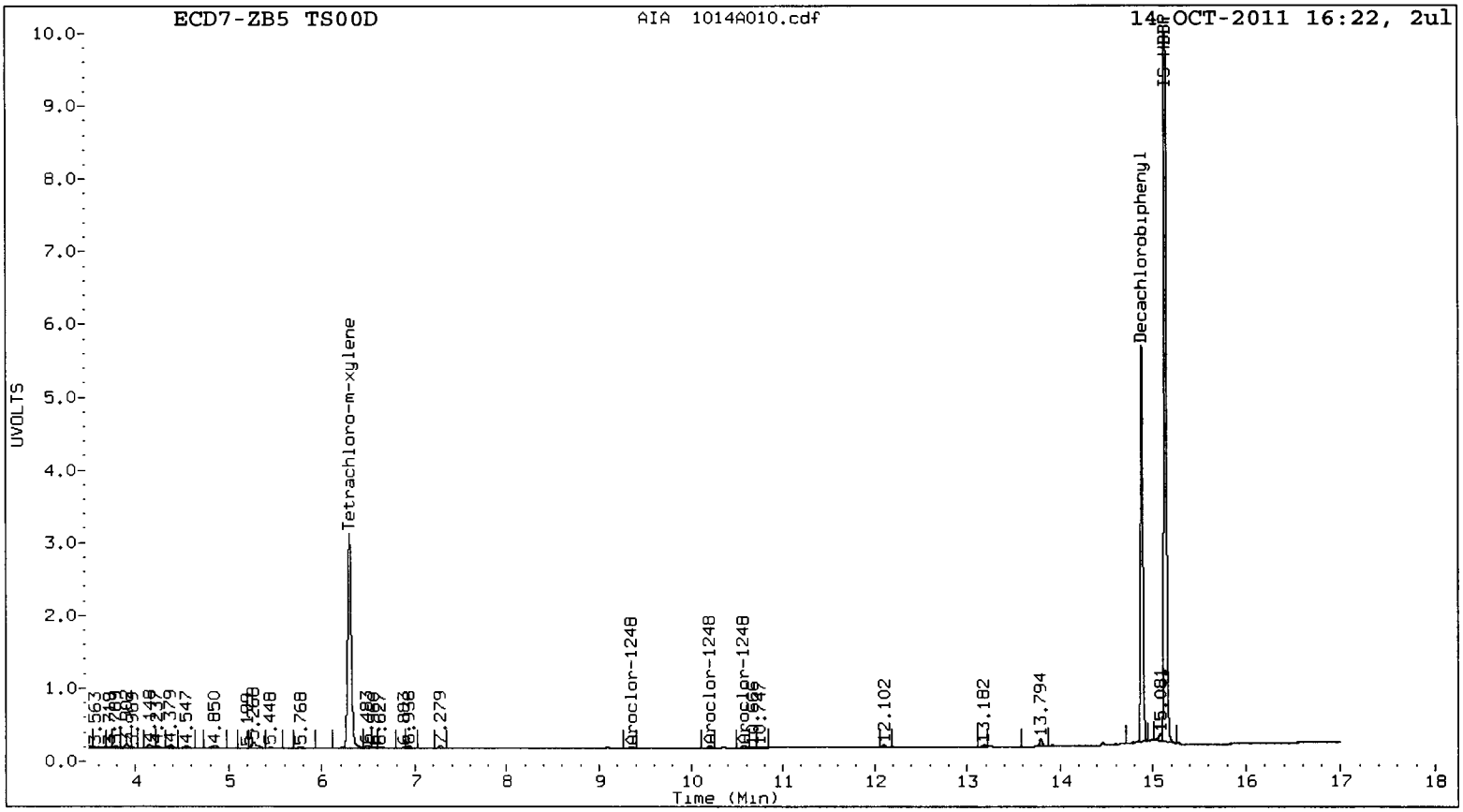
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP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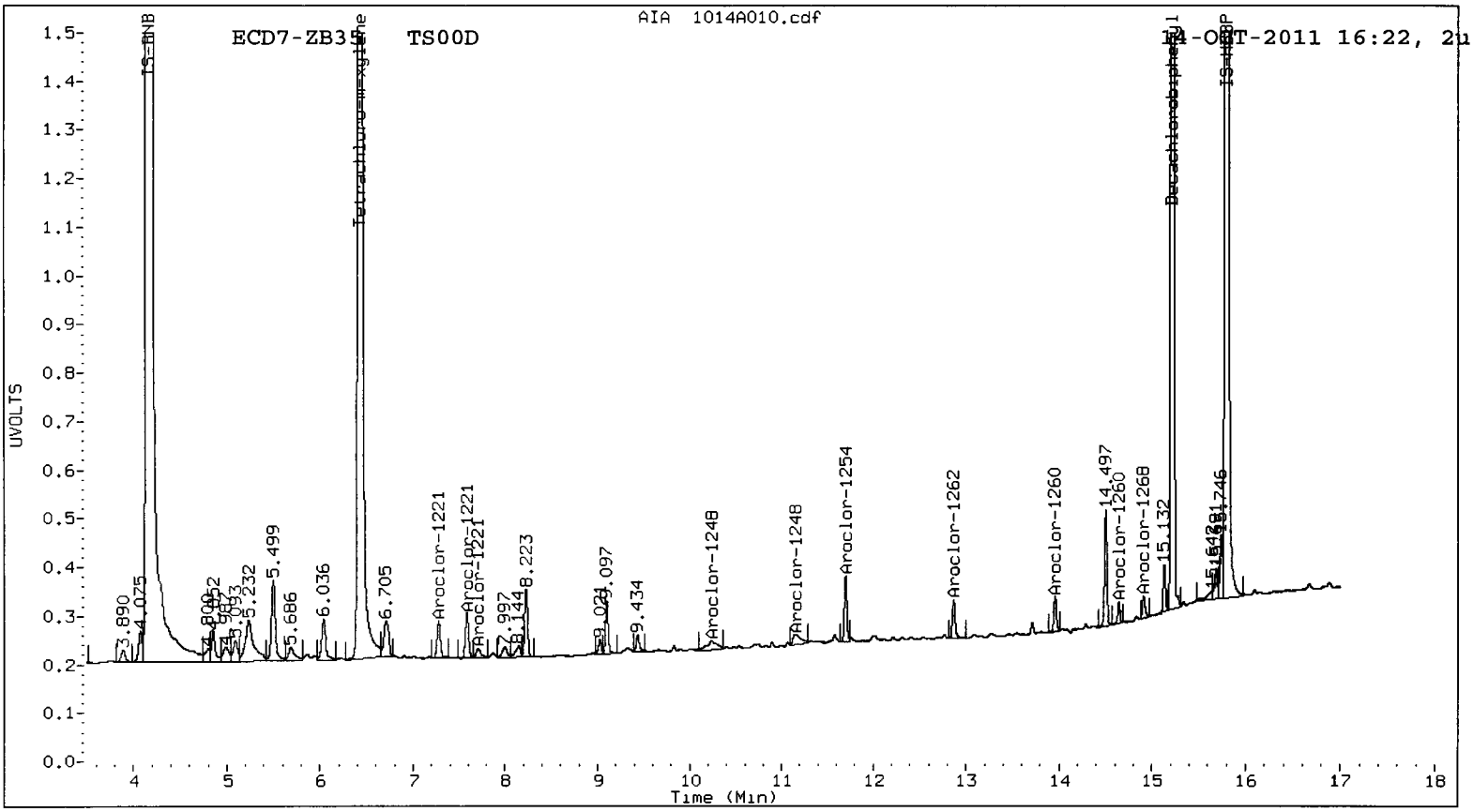
UVOLTS
Time (Min)
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor-1248
Aroclor-1248
Aroclor-1248
IS-HBBP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UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1221
Aroclor-1248
Aroclor-1248
Aroclor-1254
Aroclor-1262
Aroclor-1260
Aroclor-1260
Aroclor-1268
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1014-1.b/1014A011.d
Data file 2: 20110922.B/1014-2.b/1014A011.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1242
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242
Client ID:
Injection Date: 14-OCT-2011 16:45
Report Date: 10/17/2011 08:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.297	0.002	1636583	6.431	0.002	2709973	20.6	20.1	2.3	Tetrachloro-m-xylen
14.883	0.001	1283590	15.221	0.001	1812973	19.8	20.4	3.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

AM/17/11

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	51.5	50.3
Decachlorobiphenyl	49.6	51.1

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	6270847	24.0
Hexabromobiphenyl	4060201	4798970	18.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	10135110	29.8
Hexabromobiphenyl	5725568	6799534	18.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

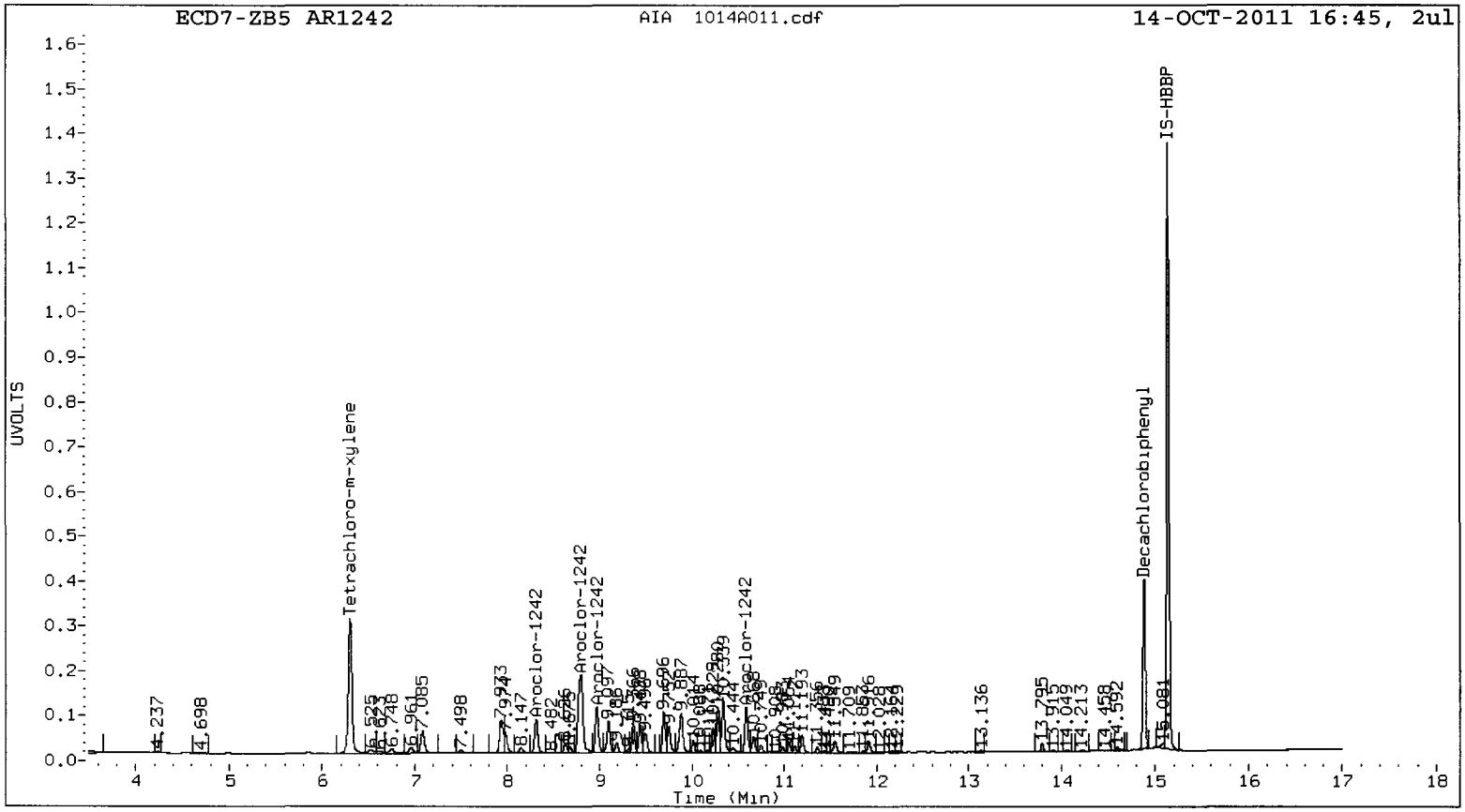
	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1242	1	8.309	0.000	381716	249.9	1	8.566	0.000	1021187	248.8
Aroclor-1242	2	8.796	0.000	1295497	244.9	2	9.297	0.000	2141229	249.2
Aroclor-1242	3	8.969	0.000	503979	245.5	3	9.723	0.000	560456	248.0
Aroclor-1242	4	10.586	0.000	464439	247.1	4	11.188	0.000	891542	247.8

Total Col1Ave (4 peaks): 246.8 Total Col2Ave (4 peaks): 248.4 RPD = 1
Corrected Ave (3 peaks): 245.8 Corrected Ave (3 peaks): 248.2 RPD = 1

Total PCB Area Col1 (6.396 - 14.783) = 9254483 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.528 - 15.120) = 15922528 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical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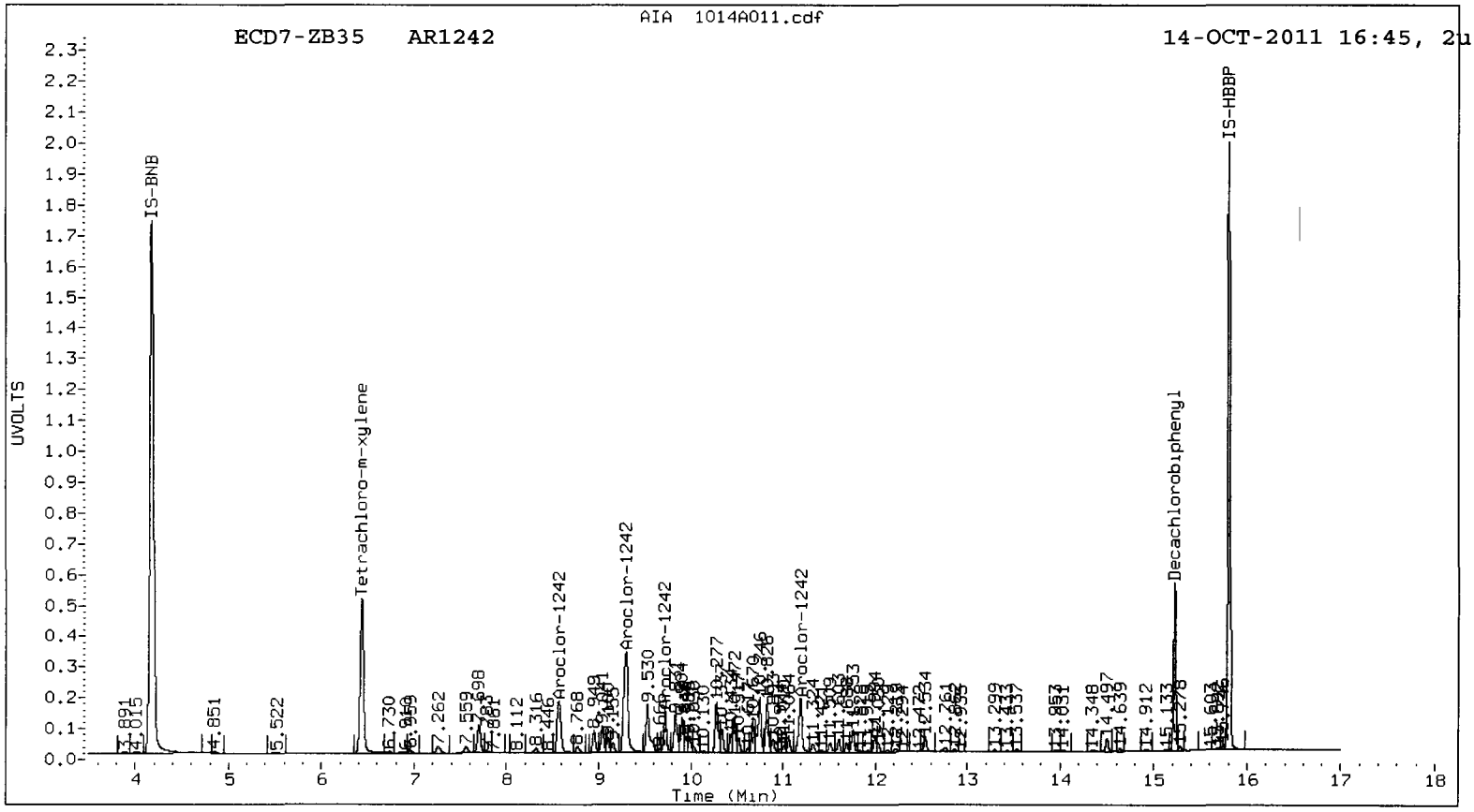
Aroclor-1242
Decachlorobiphenyl
IS-HBBP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UVOLTS
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1242
Decachlorobiphenyl
IS-HBBP

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: 20110922.B/1014-1.b/1014A012.d
Data file 2: 20110922.B/1014-2.b/1014A012.d
Method: /chem2/ecd7.i/20110922.B/PCB1.m
Compound Sublist: AR1660
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660
Client ID:
Injection Date: 14-OCT-2011 17:08
Report Date: 10/17/2011 08:41
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.296	0.000	1436187	6.428	0.000	2365377	20.9	20.6	1.5	Tetrachloro-m-xylen
14.883	0.000	1234767	15.220	0.000	1770573	21.9	22.3	1.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	52.3	51.5
Decachlorobiphenyl	54.8	55.7

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	5056450	5417149	7.1
Hexabromobiphenyl	4060201	4174494	2.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	7809454	8644202	10.7
Hexabromobiphenyl	5725568	6089371	6.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-SEP-2011
<- Indicates standard response outside Limits (-50 to +100%)

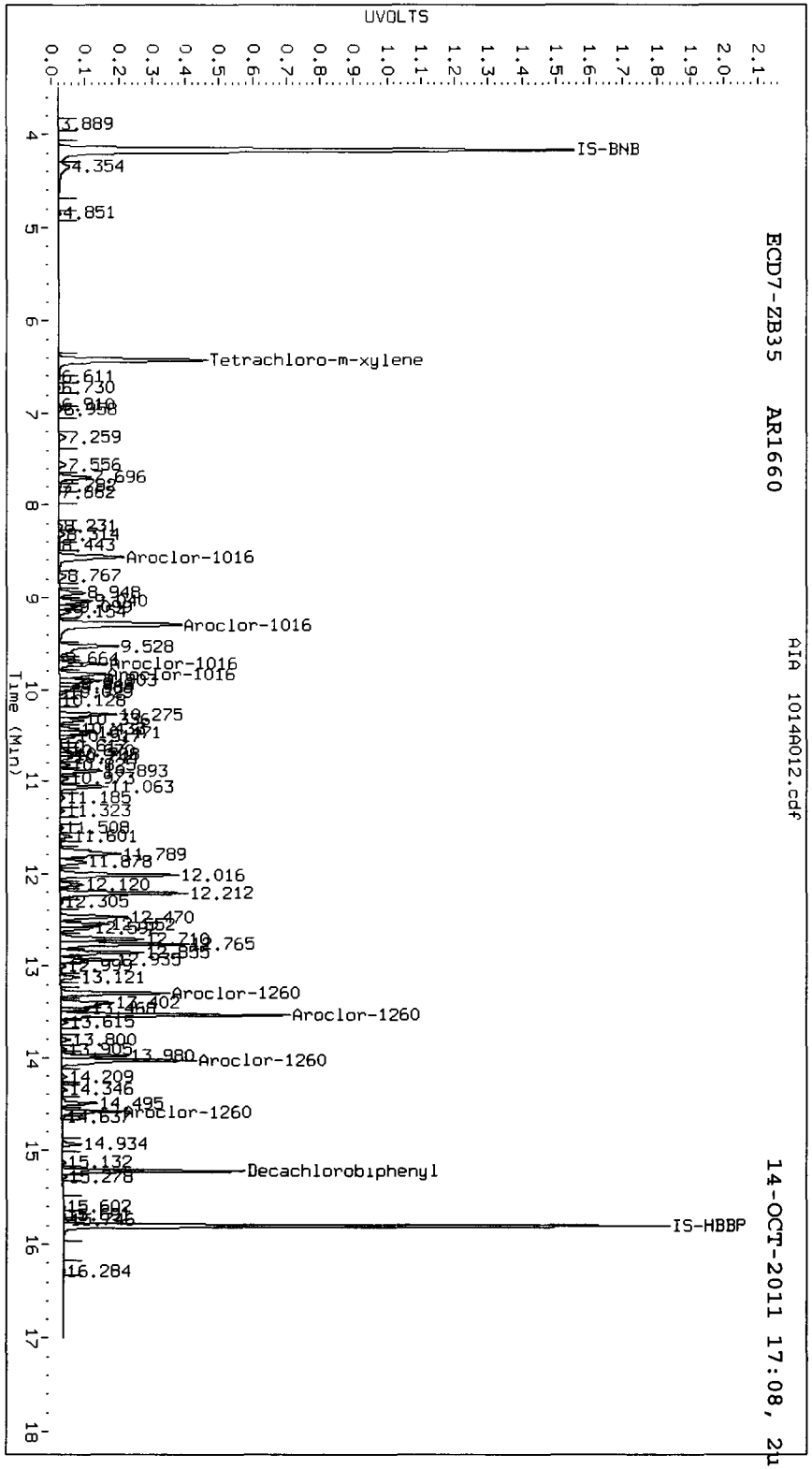
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	8.307	0.000	428118	253.8	1	8.565	0.000	1157455	249.8
Aroclor-1016	2	8.794	0.000	1464679	251.2	2	9.294	0.000	2408830	248.7
Aroclor-1016	3	8.967	0.000	567806	248.4	3	9.722	0.000	619153	249.7
Aroclor-1016	4	9.095	0.000	390886	241.2	4	9.830	0.000	701517	244.6
Total Col1Ave (4 peaks):				248.7		Total Col2Ave (4 peaks):			248.2	RPD = 0
Corrected Ave (3 peaks):				247.0		Corrected Ave (3 peaks):			247.7	RPD = 0
Aroclor-1260	1	11.852	0.000	1095453	260.7	1	13.299	0.000	1278169	258.4
Aroclor-1260	2	12.457	0.000	715580	261.2	2	13.536	0.000	2564393	261.7
Aroclor-1260	3	12.772	0.000	729661	267.1	3	14.030	0.000	1715559	267.8
Aroclor-1260	4	13.506	0.000	937263	273.4	4	14.585	0.000	628048	279.4
Aroclor-1260	5	13.605	0.000	360550	269.9	NS	---			----
Total Col1Ave (5 peaks):				266.5		Total Col2Ave (4 peaks):			266.8	RPD = 0
Corrected Ave (4 peaks):				264.7		Corrected Ave (3 peaks):			262.7	RPD = 1

Total PCB Area Col1 (6.396 - 14.783) = 21451452 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.528 - 15.120) = 34232177 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.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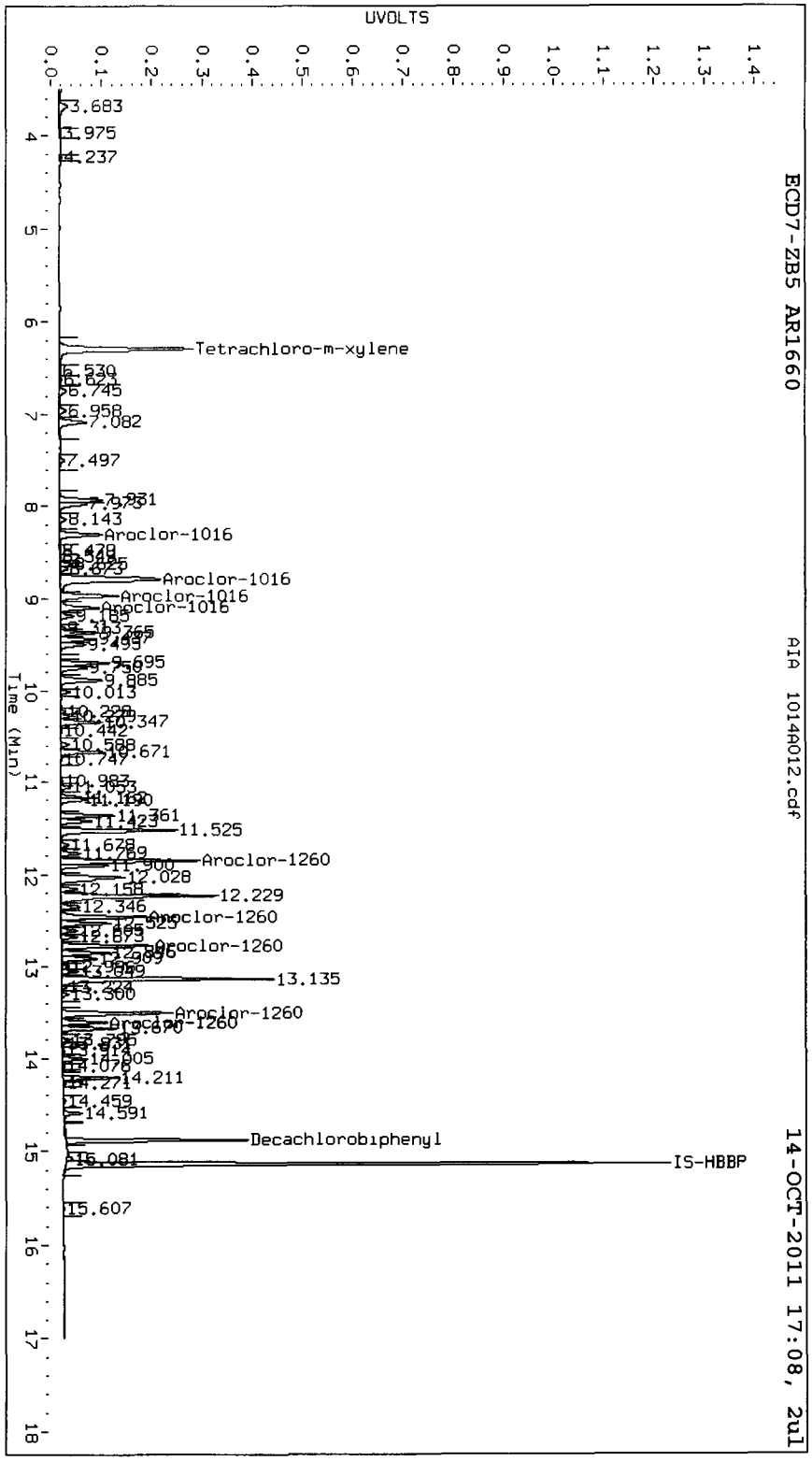
14-OCT-2011 17:08, 2u
Time (Min)
IS-BNB
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP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ECD7-ZB5 AR1660
AIA 1014A012.cdf
14-OCT-2011 17:08, 2ul
Time (Min)
Tetrachloro-m-xylene
Aroclor-1016
Aroclor-1260
Decachlorobiphenyl
IS-HBBP

General Chemistry Raw Data
Analyst Notes and Raw Data

ARI Job ID: TS00

10-14-11

TOTAL SUSPENDED SOLIDS / VOLATILE SUSPENDED SOLIDS (TSS / TVSS)

Methods : SM 2540 D-97, 2540 E-97

DATE: 10/14/2011
ANALYST: CDE 12:11

Instrumentation ***Drying Ovens:*** 12 ***Analytical Balance:*** 1123230597
Muffle Furnace: NA

make no entries to shaded cells
they are calculated !!

TSS (mg/l) calculated as:
Final dry wt (mg) = (minimum Dry Wt - Tare Wt)*1000
TSS = [(Final Dry Wt)/ ml Sample] * 1000
if dy wt < 1mg, TSS = <1mg / mL sample * 1000
with "<" flag

Loss on ignition (LOI) = TVSS (mg/L) calculated as:
LOI (mg) = Dry wt(mg) -((min ash wt - tare wt) * 1000)
TVSS (mg/L) = LOI / mL sample * 1000
if LOI <1mg, TVSS = <1mg / mL sample * 1000
with "<" flag

LCS source: *Cellulose, MP Biomedicals Lot# **6399J*** 0.05 grams to 1000 mL = **50** ***mg/L TSS***

SAMPLE ID	DISH #	filtered (mL)	TARE WT (grams)	DRY WT 104C (grams) 1	2	3	4	DryWT (mg)	TSS (mg/L)	ASH WT 550C (grams) 1	2	3	4	LOI (mg)	TVSS (mg/l)
Cal Weight ID			CV-02	CV-02	CV-02	CV-02	CV-02			CV-02	CV-02	CV-02	CV-02		
Date & Time				10/14/11 13:43	10/14/11 15:09										
Cal Wt (g) 10.0000				10.0000	10.0000										
record weights to 4 places				*Cal OK!*	*Cal OK!*										
BLANK		1000	0.1150	0.1151	0.1151	STOP		0.1	**< 1**						
LCS # 583-9		1000	0.1166	0.1662	0.1662	STOP		49.6	**49.6**	99.2%	% Recovery				
TS00 A1		800	0.1168	0.1226	0.1226	STOP		5.8	**7.3**						
TS00 A2 dup		860	0.1146	0.1195	0.1195	STOP		4.9	**5.7**						
								RPD =	*24.6%*					*RPD =*	*NA*
TS00 B1		810	0.1184	0.1251	0.1248	STOP		6.4	**7.9**						
TS00 C1		880	0.1193	0.1238	0.1238	STOP		4.5	**5.1**						

TS00 : 00221

Analytical Resources, Incorporated
Analytical Chemists and Consultants

TOTAL SUSPENDED (TSS) / TOTAL VOLATILE SUSPENDED SOLID(TVSS) BENCHSHEET

Analyst:	Date/Time:	Oven #:	Muffle Furnance:	Balance:
CVR	10-14-11 12:11	12	N/A	1123230597

Dry at 104 °C (12-24 hrs) then combust at 550 °C for 30 min. Record Weights to 4 places

TSS (mg/L) calculated as:
Final Dry Weight (mg) = (Min Dry Weight – Tare Weight) * 1000
TSS = (Final Dry Weight) / (mL Sample) * 1000
If dry wt < 1 mg / mL sample * 1000 use "<" flag

Loss on Ignition (LOI) = TVSS (mg / L) is calculated as:
LOI (mg / L) = Dry Weight (mg) – [(Minimum Ash Weight – Tare Weight) * 1000]
TVSS (mg / L) = LOI / mL sample * 1,000
If LOI < 1 mg, TVSS = < 1 mg / mL sample * 1000 use "<" flag

LCS (Cellulose from MP Biochemicals) Lott #	6399J	0.0500 Gram to 1000 mL = **50 mg / L TSS**								
Cal Weight ID	CV-02	CV-02	CV-02	CV-02	CV-02			CV-02	CV-02	
Date & Time:			10-14-11 13:43	10-14-11 15:09						
Cal Weight (10.0000g):			10.0000 CVR	10.0000 CVR						

Sample ID	Dish #	Filtered mL	Tare	Dry Weight 104°C (grams) 1	2	3	Dry Wt mg	TSS	Ash Weight 550°C 1	2	LOI - mg	TVSS mg/L
BLANK	P3696	1000	0.1150	0.1151	0.1151							
LCS #583-9	97	↓	0.1166	0.1662	0.1662							
TS00 A'	98	800	0.1168	0.1226	0.1226							
A²dup	99	860	0.1146	0.1195	0.1195							
B'	P3700	810	0.1184	0.1251	0.1248							
C'	1	880	0.1193	0.1238	0.1238							

12-14-11 CVR

TS00 : 00222

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Corrective Actions
Inorganic Analyses

Criteria Flagged:		ARI Job No.:	TSØØ
Unacceptable Blank:	☐	Date of Event:	10-14-11
Unacceptable Duplicate:	☒	Client ID:	Int. Cons. Inc.
Unacceptable Spike:	☐	Method/Element:	TSS
Unacceptable Reference:	☐	Prep Code:	

Details of Problem/Recommended Corrective Action:
Sample has High RPD of ≈25%.

Samples Affected: TSØØ A'

Corrective Action Taken: Test was performed using client supplied duplicate and whole volume was used.

Data entered as-is.

Analyst Initials: CDC **Supervisor:** W

Date: 10-14-11 **Date:** 10-14-11

5049F

Revision 007
6/11/10

TSØØ : ØØ223

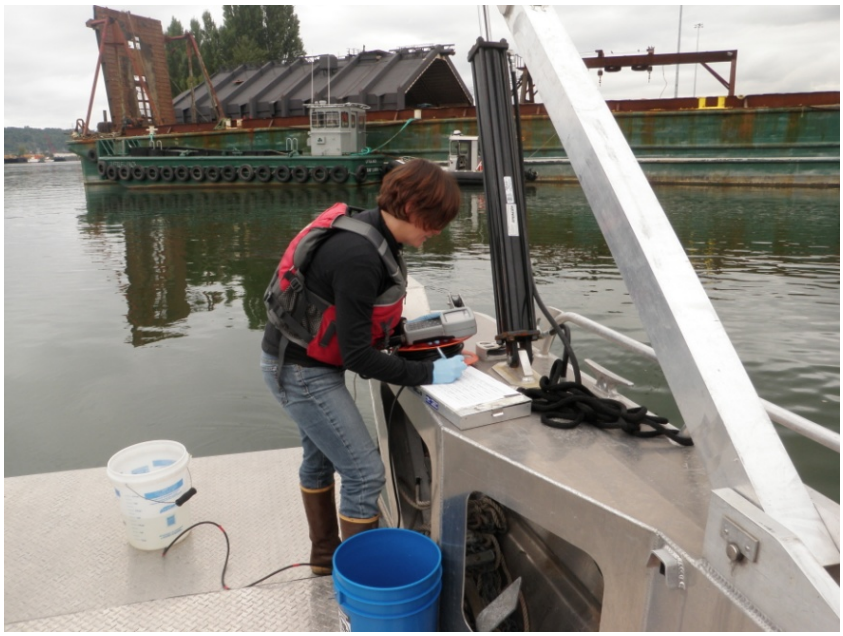
ATTACHMENT E

PHOTOS OF WATER QUALITY MONITORING AND SURFACE WATER SAMPLING

Photograph 1. Slip 4 Ambient Water Quality Monitoring Station, looking north

Photograph 2. Slip 4 Compliance Water Quality Monitoring Station, looking north

Photograph 3. Hydrolab MS5 Water Quality Multiprobe



Photograph 4. Water Quality Monitoring

Photograph 5. Electronic Depth Sounder

Photograph 6. Deployment of Niskin Surface Water Sampler

Photograph 7. Retrieval of Niskin Sampler

Photograph 8. Surface Water Sample Collection

Photograph 9. Lafarge Transloading Operations Observation

Photograph 10. Transloading Excavated Material from Slip 4