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Client: Anchor QEA, LLC

Project: 080224-01.02 OMMP Addendum 2-Jorgensen For

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AV
Signature

March-09-2016
Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

March 10, 2016

Joy Dunay
Anchor QEA
720 Olive Way, Suite 1900
Seattle, WA 98101

RE: OMMP Addendum 2–Jorgensen Forge EAA Removal Action, 080224-01.02
ARI Job No.: AVZ9

Dear Ms. Dunay:

Please find enclosed the Chain of Custody records (COCs), sample receipt documentation, and the final data package for samples from the project referenced above.

Sample receipt and details regarding requested 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.

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile: AVZ9

Enclosures

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Documentation

ARI Job ID: AVZ9

4V29

Chain of Custody Record and Laboratory Analysis Request

COC#

ANCHOR QEA

Date: 2-9-16
Laboratory: Analytical Resources, Inc.
Project Name: OMMP Addendum 2 - Jorgensen Forge EAA Removal Action
Project Number: 080224-01.02
Project Contact: Joy Dunay
Phone Number: (206) 903-3320
Shipment Method: Delivery

Sediment and Field QC

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	TS/TOC	Total Metals	PCBs	Grain Size	~~Moisture Content~~	~~Specific Gravity~~	Duplicate Archive	ARCHIVE	Comments
1	JF-PDS-6-0-1ft-160209	15:14 2/9/16	SE	3	X	X	X	X	X	X	X		
2	JF-PDS-6-1-2ft-160209		SE	3									
3	JF-PDS-6-2-3ft-160209		SE	3								X	THIS IS ARCHIVE ONLY
4	JF-PDS-6-T2-160209		SE	3								X	
5	JF-PDS-6-3-4ft-160209		SE	3								X	
6	JF-PDS-6-4-5ft-160209		SE	3								X	
7			SE										
8			SE										
9			SE										
10			SE										
11			SE										
12			SE										
13			SE										
14			SE										

1 See project SAP/QAPP for analyte lists and test methods

2 Email sample confirmation report to labdata@anchorqea.com

Additional notes/comments:

Relinquished By:	Company:	Received By:	Company:
EVAN MALCZYK	Anchor QEA LLC.	Chris Atwell	ARI
Signature/Printed Name	Date/Time 2/9/16 1750	Signature/Printed Name	Date/Time 2/9/16 1750

Relinquished By:	Company:	Received By:	Company
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

Distribution: A copy will be made for the laboratory and client. The Project file will retain the original.

Page _____ of _____

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Anchor

COC No(s) _____ NA

Assigned ARI Job No: AV29

Project Name: OMMP Addendum 2- Jurgensen Forge EAA Removal Action

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) 3.2
Time: _____

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: D6052726

Cooler Accepted by: CA Date: 2/9/16 Time: 1750

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: _____

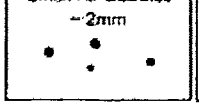
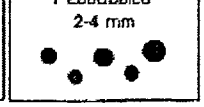
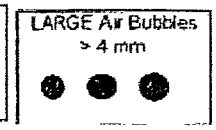
Samples Logged by: TR Date: 2-15-16 Time: 1330

***** 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 Air Bubbles < 2mm	Peabubbles' 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm" (< 2 mm)	
Peabubbles → "pb" (2 to < 4 mm)	
Large → "lg" (4 to < 6 mm)	
Headspace → "hs" (> 6 mm)	

AV29 : 00084

Chain of Custody Record and Laboratory Analysis Request

AV29

COC#

Date: 2-10-16
Laboratory: Analytical Resources, Inc.
Project Name: OMMP Addendum 2 - Jorgensen Forge EAA Removal Action
Project Number: 080224-01.02
Project Contact: Joy Dunay
Phone Number: (206) 903-3320
Shipment Method: Delivery

ANCHOR QEA

Sediment and Field QC

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	TS/TOC	Total Metals	PCBs	Grain Size	Moisture Content	Specific Gravity	Duplicate Archive	ARCHIVE	Comments
1	JF-PDS-4-TZ-160210	9:35 2/10/16	SE	3								X	
2	JF-PDS-4-0-1ft-160210		SE	3	X	X	X	X	X		X		
3	JF-PDS-4-1-2ft-160210		SE	3	X	X	X	X	X		X		
4	JF-PDS-4-2-3ft-160210		SE	3								X	
5	JF-PDS-4-3-4ft-160210		SE	3								X	
6	JF-PDS-4-4-5ft-160210		SE	3								X	
7	JF-PDS-2-0-1ft-160210	12:19	SE	3	X	X	X	X			X		
8	JF-PDS-2-1-2ft-160210	12:19	SE	3	X	X	X	X			X		
9	JF-PDS-2-2-3ft-160210	12:19	SE	3								X	
10	JF-PDS-2-3-4ft-160210	12:19	SE	3								X	
11	JF-PDS-2-4-5ft-160210	12:19	SE	3								X	
12	JF-PDS-1-TZ-160210	15:45	SE	2								X	
13	JF-PDS-1-0-1ft-160210		SE	3	X	X	X	X			X		
14	JF-PDS-1-1-2ft-160210		SE	3	X	X	X	X			X		

1 See project SAP/QAPP for analyte lists and test methods

2 Email sample confirmation report to labdata@anchorqea.com

Additional notes/comments:

Relinquished By:	Company:	Received By:	Company:
EVAN MALCZYK	Anchor QEA LLC.	Chase Atwell	ARI
Signature/Printed Name	Date/Time: 2/10/16 1745	Signature/Printed Name	Date/Time: 2/10/16 1745
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

Distribution: A copy will be made for the laboratory and client. The Project file will retain the original.

Chain of Custody Record and Laboratory Analysis Request

AV29

COC#

Date: 2-10-16
Laboratory: Analytical Resources, Inc.
Project Name: OMMP Addendum 2 - Jorgensen Forge EAA Removal Action
Project Number: 080224-01.02
Project Contact: Joy Dunay
Phone Number: (206) 903-3320
Shipment Method: Delivery

ANCHOR QEA

Sediment and Field QC

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	TS/TOC	Total Metals	PCBs	Grain Size	Moisture Content	Specific Gravity	Duplicate Archive	Archive	Comments
1	JF-PDS-1-2-3ft-160210	15:45 2/10/16	SE	3								X	
2	JF-PDS-1-3-4ft-160210	15:45 ↓	SE	3								X	
3	JF-PDS-1-4-5ft-160210	15:45 ↓	SE	3								X	
4			SE										
5			SE										
6			SE										
7			SE										
8			SE										
9			SE										
10			SE										
11			SE										
12			SE										
13			SE										
14			SE										

1 See project SAP/QAPP for analyte lists and test methods

2 Email sample confirmation report to labdata@anchorqea.com

Additional notes/comments:

Relinquished By:	Company:	Received By:	Company:
Evan Malczyk	Anchor QEA LLC.	Chris Atwell	ARI
Signature/Printed Name	Date/Time: 2/10/16 1745	Signature/Printed Name	Date/Time: 2/10/16 1745
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

Distribution: A copy will be made for the laboratory and client. The Project file will retain the original.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Anchor

COC No(s): _____ NA

Assigned ARI Job No: AV29

Project Name: CMMP Addendum 2-Jorgensen Forge EAA Removal Action

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) 2.1 0.2 1.0 ___ ___ ___

Time: _____

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: D2x0527b

Cooler Accepted by: CA Date: 2/10/16 Time: 1745

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: _____

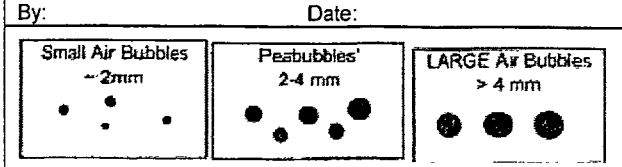
Samples Logged by: TR Date: 2-15-16 Time: 1330

*** 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" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Chain of Custody Record and Laboratory Analysis Request

AV29

COC#

Date: 2-11-16
Laboratory: Analytical Resources, Inc.
Project Name: OMMP Addendum 2 - Jorgensen Forge EAA Removal Action
Project Number: 080224-01.02
Project Contact: Joy Dunay
Phone Number: (206) 903-3320
Shipment Method: Delivery

ANCHOR QEA

Sediment and Field QC

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	TS/TOC	Total Metals	PCBs	Grain Size	~~Moisture Content~~	~~Specific Gravity~~	Duplicate Archive	ARCHIVE	Comments
1	JF-PDS-3-0-1ft-160211	11:06 2/11/16	SE	3	X	X	X	X			X		
2	JF-PDS-3-1-2ft-160211	↓	SE	3	X	X	X	X			X		
3	JF-PDS-3-2-3ft-160211	↓	SE	3								X	
4	JF-PDS-103-1-2ft-160211	↓	SE	2	X	X	X	X					
5	JF-PDS-~~TZ~~ 3-TZ-160211	↓	SE	1								X	
6	JF-PDS-3-3-4ft-160211	↓	SE	3								X	
7	JF-PDS-5-0-1ft-160211	15:56	SE	3	X	X	X	X			X		
8	JF-PDS-5-1-2ft-160211	↓	SE	3	X	X	X	X			X		
9	JF-PDS-105-0-1ft-160211	↓	SE	2	X	X	X	X					
10	~~JF-PDS-TZ-160211~~	↓	SE	~~1~~									
11	JF-PDS-5-TZ-160211	↓	SE	1								X	
12	JF-PDS-5-3-4ft-160211	↓	SE	3								X	
13	JF-PDS-5-4-5ft-160211	↓	SE	3								X	
14			SE										

1 See project SAP/QAPP for analyte lists and test methods

2 Email sample confirmation report to labdata@anchorqea.com

Additional notes/comments:

Relinquished By:	Company:	Received By:	Company:
EVAN MALCZYK	Anchor QEA LLC.		ARI
Signature/Printed Name	Date/Time: 2/11/16 1745	Signature/Printed Name	Date/Time: 2-11-16 @ 1745
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

Distribution: A copy will be made for the laboratory and client. The Project file will retain the original

Page _____ of _____

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Anchor

COC No(s): _____ (NA)

Assigned ARI Job No: AV29

Project Name: OMMP Addendum 2- Jorgensen Forge EAA Removal Action

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 3.4

Time: _____

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: D005276

Cooler Accepted by: TR Date: 2-11-16 Time: 1745

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: TR Date: 2-15-16 Time: 1330

***** 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:

One set of samples arrived not found on COC JF - PDS-5-2-3ft-160211.
1x Poly 16oz WM Jar and 2x Glass 16oz WM Jars

By: Date:

Small Air Bubbles <2mm	Pesbubbles' 2-4 mm	LARGE Air Bubbles > 4 mm	Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)

AV29

Chain of Custody Record and Laboratory Analysis Request

COC#

Date: 2-12-16
Laboratory: Analytical Resources, Inc.
Project Name: OMMP Addendum 2 - Jorgensen Forge EAA Removal Action
Project Number: 080224-01.02
Project Contact: Joy Dunay
Phone Number: (206) 903-3320
Shipment Method: Delivery

ANCHOR QEA

Sediment and Field QC

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	TS/TOC	Total Metals	PCBs	Grain Size	~~Moisture Content~~	~~Specific Gravity~~	Duplicate Archive	ARCHIVE	Comments
1	JF-PDS-7-0-1ft-160212	9:00 2/12/16	SE	3	X	X	X	X			X		
2	JF-PDS-7-1-2ft-160212		SE	3	X	X	X	X			X		
3	JF-PDS-7-TZ-160212		SE	1								X	
4	JF-PDS-7-2-3ft-160212		SE	3								X	
5	JF-PDS-7-3-4ft-160212		SE	3								X	
6	JF-PDS-7-4-5ft-160212		SE	3								X	
7	JF-RB-160212	10:00 2/12/16	WATER ~~SE~~	5		X	X						Metals - NO3 preservative (2 Bottles)
8			SE										
9			SE										
10			SE										
11			SE										
12			SE										
13			SE										
14			SE										

1 See project SAP/QAPP for analyte lists and test methods

2 Email sample confirmation report to labdata@anchorqea.com

Additional notes/comments:

Relinquished By:	Company:	Received By:	Company:
Nik Bacher	Anchor QEA LLC.		ARI
Signature/Printed Name	2/12/16 1240 Date/Time	Signature/Printed Name	2/12/16 1240 Date/Time
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

Distribution: A copy will be made for the laboratory and client. The Project file will retain the original.

Page _____ of _____

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Anchor

COC No(s): _____ NA

Assigned ARI Job No: AV29

Project Name: OMMP Addendum 2- Jorgensen Forge EAA Removal Action

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) 2.4 4.9 ___ ___ ___
Time: _____

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: D205276

Cooler Accepted by: CA Date: 2/12/16 Time: 1240

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: TR Date: 2-15-16 Time: 1330

***** 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:

* Metals bottle passes preservation check.

By: TR Date: 2-15-16

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
• • •	• • • •	• • •

Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: AVZ9

Case Narrative

Client: Anchor QEA
Project: OMMP Addendum 2-Jorgensen Forge Removal Action
Project No.: 080224-01.02
ARI Job No.: AVZ9

Sample Receipt

Forty-three sediment samples were received on February 9, 2016, February 10, 2016, February 11, 2016, and February 12, 2016 under ARI job AVZ9. The cooler temperature measured by IR thermometer following ARI SOP on February 9, 2016 was 3.2°C. The cooler temperatures measured by IR thermometer following ARI SOP on February 10, 2016 were 0.2, 1.0, and 2.1°C. The cooler temperatures measured by IR thermometer following ARI SOP on February 11, 2016 were 3.4 and 5.9°C. The cooler temperatures measured by IR thermometer following ARI SOP on February 12, 2016 were 2.4 and 4.9°C. Select samples were archived without analysis. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

PCB Aroclors by SW8082

The samples and associated laboratory QC were extracted and analyzed within the method recommended holding times.

Initial calibrations, initial calibration verifications, and continuing calibration verifications were within method requirements. The internal standard areas were within control limits.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits. *The PSSRM was analyzed as a reference material.

The matrix spike and matrix spike duplicate percent recoveries were within control limits.

Metals/Mercury by SW6020A/7471A

The samples and associated laboratory QC were digested and analyzed within the method recommended holding times.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits.

* Clients are responsible for reporting Puget Sound Sediment Reference Material (PSSRM) results to EPA.

The matrix spike percent recoveries and duplicate RPDs were within control limits.

General Chemistry Parameters (TOC/TS)

The samples and associated laboratory QC were prepared and analyzed within the method recommended holding times.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits.

The SRM percent recoveries were within control limits.

The matrix spike percent recovery was within control limits.

The replicate RSD of Total Organic Carbon was outside the control limits for sample **JF-PDS-6-0-1ft-160209**. All other quality control parameters were met for this analysis. No corrective action was taken.

Geotechnical Parameters

Select sample volumes were subcontracted to Materials Testing and Consulting (MTC) in Tukwila, WA. All subcontracted data have been included in this data package.

* Clients are responsible for reporting Puget Sound Sediment Reference Material (PSSRM) results to EPA.

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: AVZ9
Client: Anchor QEA, LLC
Project Event: 080224-01.02
Project Name: OMMP Addendum 2-Jorgensen Forge EAA

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	JF-PDS-6-0-1ft-160209	AVZ9A	16-2437	Sediment	02/09/16 15:14	02/12/16 12:40
2.	JF-PDS-6-1-2ft-160209	AVZ9B	16-2438	Sediment	02/09/16 15:14	02/12/16 12:40
3.	JF-PDS-4-0-1ft-160210	AVZ9C	16-2439	Sediment	02/10/16 09:35	02/12/16 12:40
4.	JF-PDS-4-1-2ft-160210	AVZ9D	16-2440	Sediment	02/10/16 09:35	02/12/16 12:40
5.	JF-PDS-2-0-1ft-160210	AVZ9E	16-2441	Sediment	02/10/16 12:19	02/12/16 12:40
6.	JF-PDS-2-1-2ft-160210	AVZ9F	16-2442	Sediment	02/10/16 12:19	02/12/16 12:40
7.	JF-PDS-1-0-1ft-160210	AVZ9G	16-2443	Sediment	02/10/16 15:45	02/12/16 12:40
8.	JF-PDS-1-1-2ft-160210	AVZ9H	16-2444	Sediment	02/10/16 15:45	02/12/16 12:40
9.	JF-PDS-3-0-1ft-160211	AVZ9I	16-2445	Sediment	02/11/16 11:06	02/12/16 12:40
10.	JF-PDS-3-1-2ft-160211	AVZ9J	16-2446	Sediment	02/11/16 11:06	02/12/16 12:40
11.	JF-PDS-103-1-2ft-160211	AVZ9K	16-2447	Sediment	02/11/16 11:06	02/12/16 12:40
12.	JF-PDS-5-0-1ft-160211	AVZ9L	16-2448	Sediment	02/11/16 15:56	02/12/16 12:40
13.	JF-PDS-5-1-2ft-160211	AVZ9M	16-2449	Sediment	02/11/16 15:56	02/12/16 12:40
14.	JF-PDS-105-0-1ft-160211	AVZ9N	16-2450	Sediment	02/11/16 15:56	02/12/16 12:40
15.	JF-PDS-7-0-1ft-160212	AVZ9O	16-2451	Sediment	02/12/16 09:00	02/12/16 12:40
16.	JF-PDS-7-1-2ft-160212	AVZ9P	16-2452	Sediment	02/12/16 09:00	02/12/16 12:40
17.	JF-PDS-6-2-3ft-160209	AVZ9Q	16-2453	Sediment	02/09/16 15:14	02/12/16 12:40
18.	JF-PDS-6-TZ-160209	AVZ9R	16-2454	Sediment	02/09/16 15:14	02/12/16 12:40
19.	JF-PDS-6-3-4ft-160209	AVZ9S	16-2455	Sediment	02/09/16 15:14	02/12/16 12:40
20.	JF-PDS-6-4-5ft-160209	AVZ9T	16-2456	Sediment	02/09/16 15:14	02/12/16 12:40
21.	JF-PDS-4-TZ-160210	AVZ9U	16-2457	Sediment	02/10/16 09:35	02/12/16 12:40
22.	JF-PDS-4-2-3ft-160210	AVZ9V	16-2458	Sediment	02/10/16 09:35	02/12/16 12:40
23.	JF-PDS-4-3-4ft-160210	AVZ9W	16-2459	Sediment	02/10/16 09:35	02/12/16 12:40
24.	JF-PDS-4-4-5ft-160210	AVZ9X	16-2460	Sediment	02/10/16 09:35	02/12/16 12:40
25.	JF-PDS-2-2-3ft-160210	AVZ9Y	16-2461	Sediment	02/10/16 12:19	02/12/16 12:40
26.	JF-PDS-2-3-4ft-160210	AVZ9Z	16-2462	Sediment	02/10/16 12:19	02/12/16 12:40
27.	JF-PDS-2-4-5ft-160210	AVZ9AA	16-2463	Sediment	02/10/16 12:19	02/12/16 12:40
28.	JF-PDS-1-TZ-160210	AVZ9AB	16-2464	Sediment	02/10/16 15:45	02/12/16 12:40
29.	JF-PDS-1-2-3ft-160210	AVZ9AC	16-2465	Sediment	02/10/16 15:45	02/12/16 12:40
30.	JF-PDS-1-3-4ft-160210	AVZ9AD	16-2466	Sediment	02/10/16 15:45	02/12/16 12:40
31.	JF-PDS-1-4-5ft-160210	AVZ9AE	16-2467	Sediment	02/10/16 15:45	02/12/16 12:40
32.	JF-PDS-3-2-3ft-160211	AVZ9AF	16-2468	Sediment	02/11/16 11:06	02/12/16 12:40
33.	JF-PDS-3-TZ-160211	AVZ9AG	16-2469	Sediment	02/11/16 11:06	02/12/16 12:40
34.	JF-PDS-3-3-4ft-160211	AVZ9AH	16-2470	Sediment	02/11/16 11:06	02/12/16 12:40
35.	JF-PDS-5-TZ-160211	AVZ9AI	16-2471	Sediment	02/11/16 15:56	02/12/16 12:40
36.	JF-PDS-5-3-4ft-160211	AVZ9AJ	16-2472	Sediment	02/11/16 15:56	02/12/16 12:40
37.	JF-PDS-5-4-5ft-160211	AVZ9AK	16-2473	Sediment	02/11/16 15:56	02/12/16 12:40
38.	JF-PDS-5-2-3ft-160211	AVZ9AL	16-2474	Sediment	02/11/16 15:56	02/12/16 12:40
39.	JF-PDS-7-TZ-160212	AVZ9AM	16-2475	Sediment	02/12/16 09:00	02/12/16 12:40
40.	JF-PDS-7-2-3ft-160212	AVZ9AN	16-2476	Sediment	02/12/16 09:00	02/12/16 12:40
41.	JF-PDS-7-3-4ft-160212	AVZ9AO	16-2477	Sediment	02/12/16 09:00	02/12/16 12:40
42.	JF-PDS-7-4-5ft-160212	AVZ9AP	16-2478	Sediment	02/12/16 09:00	02/12/16 12:40
43.	JF-RB-160212	AVZ9AQ	16-2479	Water	02/12/16 10:00	02/12/16 12:40

Data Reporting Qualifiers

Effective 12/31/13

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.

AVZ9.00016

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

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)**

AVZ9 : 00017

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

AVZ9.00018

Analytical Method Information

Printed: 03/09/2016 12:41 pm

8082A PCB Solid 4 in Solid (EPA 8082A)

Preservation: Cool <6°C

Container: Glass WM, Clear, 8 oz **Amount Required:** 150 g **Hold Time:** 14 days

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike---- %Rec	RPD	--Blank Spike / LCS-- %Rec	RPD
Aroclor 1016	1.56	4.00 ug/kg		30	56-120	30	56-120	30
Aroclor-1016 (1)				30	56-120	30	56-120	30
Aroclor-1016 (2)				30	56-120	30	56-120	30
Aroclor-1016 (3)				30	56-120	30	56-120	30
Aroclor-1016 (4)				30	56-120	30	56-120	30
Aroclor 1016 [2C]	1.56	4.00 ug/kg		30	56-120	30	56-120	30
Aroclor-1016 (1) [2C]				30	56-120	30	56-120	30
Aroclor-1016 (2) [2C]				30	56-120	30	56-120	30
Aroclor-1016 (3) [2C]				30	56-120	30	56-120	30
Aroclor-1016 (4) [2C]				30	56-120	30	56-120	30
Aroclor 1221	1.56	4.00 ug/kg		30				
Aroclor-1221 (1)				30				
Aroclor-1221 (2)				30				
Aroclor-1221 (3)				30				
Aroclor 1221 [2C]	1.56	4.00 ug/kg		30				
Aroclor-1221 (1) [2C]				30				
Aroclor-1221 (2) [2C]				30				
Aroclor-1221 (3) [2C]				30				
Aroclor-1221 (4) [2C]				30				
Aroclor 1232	1.56	4.00 ug/kg		30				
Aroclor-1232 (1)				30				
Aroclor-1232 (2)				30				
Aroclor-1232 (3)				30				
Aroclor-1232 (4)				30				
Aroclor 1232 [2C]	1.56	4.00 ug/kg		30				
Aroclor-1232 (1) [2C]				30				
Aroclor-1232 (2) [2C]				30				
Aroclor-1232 (3) [2C]				30				
Aroclor-1232 (4) [2C]				30				
Aroclor 1242	1.56	4.00 ug/kg		30				
Aroclor-1242 (1)				30				
Aroclor-1242 (2)				30				
Aroclor-1242 (3)				30				
Aroclor-1242 (4)				30				
Aroclor 1242 [2C]	1.56	4.00 ug/kg		30				
Aroclor-1242 (1) [2C]				30				
Aroclor-1242 (2) [2C]				30				
Aroclor-1242 (3) [2C]				30				
Aroclor-1242 (4) [2C]				30				
Aroclor 1248	1.56	4.00 ug/kg		30				
Aroclor-1248 (1)				30				
Aroclor-1248 (2)				30				
Aroclor-1248 (3)				30				
Aroclor-1248 (4)				30				
Aroclor 1248 [2C]	1.56	4.00 ug/kg		30				
Aroclor-1248 (1) [2C]				30				
Aroclor-1248 (2) [2C]				30				
Aroclor-1248 (3) [2C]				30				
Aroclor-1248 (4) [2C]				30				
Aroclor 1254	1.56	4.00 ug/kg		30				
Aroclor-1254 (1)				30				
Aroclor-1254 (2)				30				
Aroclor-1254 (3)				30				
Aroclor-1254 (4)				30				

AVZ9 : 0001.9

Analytical Method Information
(Continued)

Printed: 03/09/2016 12:41 pm

8082A PCB Solid 4 in Solid (EPA 8082A) (Continued)

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike---- %Rec	RPD	--Blank Spike / LCS-- %Rec	RPD
Aroclor-1254 (5)				30				
Aroclor 1254 [2C]	1.56	4.00 ug/kg		30				
Aroclor-1254 (1) [2C]				30				
Aroclor-1254 (2) [2C]				30				
Aroclor-1254 (3) [2C]				30				
Aroclor-1254 (4) [2C]				30				
Aroclor-1254 (5) [2C]				30				
Aroclor 1260	0.589	4.00 ug/kg		30	58-120	30	58-120	30
Aroclor-1260 (1)				30	58-120	30	58-120	30
Aroclor-1260 (2)				30	58-120	30	58-120	30
Aroclor-1260 (3)				30	58-120	30	58-120	30
Aroclor-1260 (4)				30	58-120	30	58-120	30
Aroclor-1260 (5)				30	58-120	30	58-120	30
Aroclor 1260 [2C]	0.589	4.00 ug/kg		30	58-120	30	58-120	30
Aroclor-1260 (1) [2C]				30	58-120	30	58-120	30
Aroclor-1260 (2) [2C]				30	58-120	30	58-120	30
Aroclor-1260 (3) [2C]				30	58-120	30	58-120	30
Aroclor-1260 (4) [2C]				30	58-120	30	58-120	30
Aroclor 1262	0.589	4.00 ug/kg		30				
Aroclor-1262 (1)				30				
Aroclor-1262 (2)				30				
Aroclor-1262 (3)				30				
Aroclor-1262 (4)				30				
Aroclor-1262 (5)				30				
Aroclor 1262 [2C]	0.589	4.00 ug/kg		30				
Aroclor-1262 (1) [2C]				30				
Aroclor-1262 (2) [2C]				30				
Aroclor-1262 (3) [2C]				30				
Aroclor-1262 (4) [2C]				30				
Aroclor-1262 (5) [2C]				30				
Aroclor 1268	0.589	4.00 ug/kg		30				
Aroclor-1268 (1)				30				
Aroclor-1268 (2)				30				
Aroclor-1268 (3)				30				
Aroclor-1268 (4)				30				
Aroclor 1268 [2C]	0.589	4.00 ug/kg		30				
Aroclor-1268 (1) [2C]				30				
Aroclor-1268 (2) [2C]				30				
Aroclor-1268 (3) [2C]				30				
Aroclor-1268 (4) [2C]				30				
Surr: Decachlorobiphenyl			40-126					
Surr: Tetrachlorometaxylene			44-120					
Surr: Decachlorobiphenyl [2C]			40-126					
Surr: Tetrachlorometaxylene [2C]			44-120					
1-Bromo-2-Nitrobenzene								
Hexabromobiphenyl								
1-Bromo-2-Nitrobenzene [2C]								
Hexabromobiphenyl [2C]								

AVZ5 : 00020

Analytical Method Information

Printed: 03/09/2016 12:41 pm

8082A PCB Water 0.01 in Water (EPA 8082A)

Preservation: Cool <6°C

Container: Glass NM, Amber, 1000 mL **Amount Required:** 2000 mL **Hold Time:** 365 days

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike---- %Rec	RPD	--Blank Spike / LCS-- %Rec	RPD
Aroclor 1016	0.00248	0.0100 ug/L		30	54-120	30	54-120	30
Aroclor-1016 (1)				30	54-120	30	54-120	30
Aroclor-1016 (2)				30	54-120	30	54-120	30
Aroclor-1016 (3)				30	54-120	30	54-120	30
Aroclor-1016 (4)				30	54-120	30	54-120	30
Aroclor 1016 [2C]	0.00248	0.0100 ug/L		30	54-120	30	54-120	30
Aroclor-1016 (1) [2C]				30		30		30
Aroclor-1016 (2) [2C]				30		30		30
Aroclor-1016 (3) [2C]				30		30		30
Aroclor-1016 (4) [2C]				30		30		30
Aroclor 1221	0.00248	0.0100 ug/L		30				
Aroclor-1221 (1)				30				
Aroclor-1221 (2)				30				
Aroclor-1221 (3)				30				
Aroclor 1221 [2C]	0.00248	0.0100 ug/L		30				
Aroclor-1221 (1) [2C]				30				
Aroclor-1221 (2) [2C]				30				
Aroclor-1221 (3) [2C]				30				
Aroclor-1221 (4) [2C]				30				
Aroclor 1232	0.00248	0.0100 ug/L		30				
Aroclor-1232 (1)				30				
Aroclor-1232 (2)				30				
Aroclor-1232 (3)				30				
Aroclor-1232 (4)				30				
Aroclor 1232 [2C]	0.00248	0.0100 ug/L		30				
Aroclor-1232 (1) [2C]				30				
Aroclor-1232 (2) [2C]				30				
Aroclor-1232 (3) [2C]				30				
Aroclor-1232 (4) [2C]				30				
Aroclor 1242	0.00248	0.0100 ug/L		30				
Aroclor-1242 (1)				30				
Aroclor-1242 (2)				30				
Aroclor-1242 (3)				30				
Aroclor-1242 (4)				30				
Aroclor 1242 [2C]	0.00248	0.0100 ug/L		30				
Aroclor-1242 (1) [2C]				30				
Aroclor-1242 (2) [2C]				30				
Aroclor-1242 (3) [2C]				30				
Aroclor-1242 (4) [2C]				30				
Aroclor 1248	0.00248	0.0100 ug/L		30				
Aroclor-1248 (1)				30				
Aroclor-1248 (2)				30				
Aroclor-1248 (3)				30				
Aroclor-1248 (4)				30				
Aroclor 1248 [2C]	0.00248	0.0100 ug/L		30				
Aroclor-1248 (1) [2C]				30				
Aroclor-1248 (2) [2C]				30				
Aroclor-1248 (3) [2C]				30				
Aroclor-1248 (4) [2C]				30				
Aroclor 1254	0.00248	0.0100 ug/L		30				
Aroclor-1254 (1)				30				
Aroclor-1254 (2)				30				
Aroclor-1254 (3)				30				
Aroclor-1254 (4)				30				

AVZ9 . 00021

Analytical Method Information

Printed: 03/09/2016 12:41 pm

(Continued)

8082A PCB Water 0.01 in Water (EPA 8082A) (Continued)

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike---- %Rec	RPD	--Blank Spike / LCS-- %Rec	RPD
Aroclor-1254 (5)				30				
Aroclor 1254 [2C]	0.00248	0.0100 ug/L		30				
Aroclor-1254 (1) [2C]				30				
Aroclor-1254 (2) [2C]				30				
Aroclor-1254 (3) [2C]				30				
Aroclor-1254 (4) [2C]				30				
Aroclor-1254 (5) [2C]				30				
Aroclor 1260	0.00276	0.0100 ug/L		30	51-128	30	51-128	30
Aroclor-1260 (1)				30	51-128	30	51-128	30
Aroclor-1260 (2)				30	51-128	30	51-128	30
Aroclor-1260 (3)				30	51-128	30	51-128	30
Aroclor-1260 (4)				30	51-128	30	51-128	30
Aroclor-1260 (5)				30	51-128	30	51-128	30
Aroclor 1260 [2C]	0.00276	0.0100 ug/L		30	51-128	30	51-128	30
Aroclor-1260 (1) [2C]				30	51-128	30	51-128	30
Aroclor-1260 (2) [2C]				30	51-128	30	51-128	30
Aroclor-1260 (3) [2C]				30	51-128	30	51-128	30
Aroclor-1260 (4) [2C]				30	51-128	30	51-128	30
Aroclor 1262	0.00276	0.0100 ug/L		30				
Aroclor-1262 (1)				30				
Aroclor-1262 (2)				30				
Aroclor-1262 (3)				30				
Aroclor-1262 (4)				30				
Aroclor-1262 (5)				30				
Aroclor 1262 [2C]	0.00276	0.0100 ug/L		30				
Aroclor-1262 (1) [2C]				30				
Aroclor-1262 (2) [2C]				30				
Aroclor-1262 (3) [2C]				30				
Aroclor-1262 (4) [2C]				30				
Aroclor-1262 (5) [2C]				30				
Aroclor 1268	0.00276	0.0100 ug/L		30				
Aroclor-1268 (1)				30				
Aroclor-1268 (2)				30				
Aroclor-1268 (3)				30				
Aroclor-1268 (4)				30				
Aroclor 1268 [2C]	0.00276	0.0100 ug/L		30				
Aroclor-1268 (1) [2C]				30				
Aroclor-1268 (2) [2C]				30				
Aroclor-1268 (3) [2C]				30				
Aroclor-1268 (4) [2C]				30				
Surr: Decachlorobiphenyl			29-120					
Surr: Tetrachlorometaxylene			32-120					
Surr: Decachlorobiphenyl [2C]			29-120					
Surr: Tetrachlorometaxylene [2C]			32-120					
1-Bromo-2-Nitrobenzene								
Hexabromobiphenyl								
1-Bromo-2-Nitrobenzene [2C]								
Hexabromobiphenyl [2C]								

AVZ9 : 00022

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analytical Method Information

Analyte	DL	LOD	LOQ / RL	Surrogate %R	Duplicate RPD	Matr %R
Met 200.8/6020A Master List (EPA 6020A) in Solid						
Preservation: Cool <6°C						
Container: Glass WM, Clear, 4 oz		**Minimum Sample Weight:** 100 g			**Hold Time:** 180 days	
Aluminum-27	0.550 mg/kg	10.0 mg/kg	20.0 mg/kg		20	75 - 1
Antimony-121	0.0199 mg/kg	0.100 mg/kg	0.200 mg/kg		20	75 - 1
Antimony-123	0.0183 mg/kg	0.100 mg/kg	0.200 mg/kg		20	75 - 1
Arsenic-75a	0.0298 mg/kg	0.100 mg/kg	0.200 mg/kg		20	75 - 1
Arsenic-75b	0.120 mg/kg	0.250 mg/kg	0.500 mg/kg		20	75 - 1
Barium-135	0.0314 mg/kg	0.250 mg/kg	0.500 mg/kg		20	75 - 1
Barium-137	0.0336 mg/kg	0.250 mg/kg	0.500 mg/kg		20	75 - 1
Beryllium-9	0.00954 mg/kg	0.100 mg/kg	0.200 mg/kg		20	75 - 1
Cadmium-111	0.00716 mg/kg	0.0500 mg/kg	0.100 mg/kg		20	75 - 1
Cadmium-114	0.00500 mg/kg	0.0500 mg/kg	0.100 mg/kg		20	75 - 1
Calcium-43	3.81 mg/kg	25.0 mg/kg	50.0 mg/kg		20	75 - 1
Chromium-52	0.0685 mg/kg	0.250 mg/kg	0.500 mg/kg		20	75 - 1
Chromium-53	0.0373 mg/kg	0.250 mg/kg	0.500 mg/kg		20	75 - 1
Cobalt-59	0.00572 mg/kg	0.100 mg/kg	0.200 mg/kg		20	75 - 1
Copper-63	0.0372 mg/kg	0.250 mg/kg	0.500 mg/kg		20	75 - 1
Copper-65	0.0259 mg/kg	0.250 mg/kg	0.500 mg/kg		20	75 - 1
Iron-54	4.01 mg/kg	10.0 mg/kg	20.0 mg/kg		20	75 - 1
Iron-57	1.31 mg/kg	10.0 mg/kg	20.0 mg/kg		20	75 - 1
Lead-208	0.00800 mg/kg	0.0500 mg/kg	0.100 mg/kg		20	75 - 1
Magnesium-24	0.614 mg/kg	10.0 mg/kg	20.0 mg/kg		20	75 - 1
Manganese-55	0.0133 mg/kg	0.250 mg/kg	0.500 mg/kg		20	75 - 1
Molybdenum-98	0.0100 mg/kg	0.100 mg/kg	0.200 mg/kg		20	75 - 1
Nickel-60	0.0168 mg/kg	0.250 mg/kg	0.500 mg/kg		20	75 - 1
Nickel-62	0.268 mg/kg	0.500 mg/kg	0.500 mg/kg		20	75 - 1
Potassium-39	2.81 mg/kg	10.0 mg/kg	20.0 mg/kg		20	75 - 1
Selenium-82	0.0322 mg/kg	0.250 mg/kg	0.500 mg/kg		20	75 - 1
Selenium-78	0.391 mg/kg	1.00 mg/kg	2.00 mg/kg		20	75 - 1
Silver-107	0.00310 mg/kg	0.100 mg/kg	0.200 mg/kg		20	75 - 1
Sodium-23	14.4 mg/kg	50.0 mg/kg	100 mg/kg		20	75 - 1
Thallium-205	0.00619 mg/kg	0.100 mg/kg	0.200 mg/kg		20	75 - 1
Vanadium-51a	0.0214 mg/kg	0.100 mg/kg	0.200 mg/kg		20	75 - 1
Vanadium-51b	0.0214 mg/kg	0.100 mg/kg	0.200 mg/kg		20	75 - 1
Zinc-66	0.285 mg/kg	2.00 mg/kg	4.00 mg/kg		20	75 - 1
Zinc-67	0.226 mg/kg	2.00 mg/kg	4.00 mg/kg		20	75 - 1
Zinc-68	0.326 mg/kg	2.00 mg/kg	4.00 mg/kg		20	75 - 1
Lithium						
Scandium						

AV29 : 00023

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analytical Method Information

Analyte	DL	LOD	LOQ / RL	Surrogate %R	Duplicate RPD	Matr %R
Germanium						
Indium						
Terbium						

AVZ9 - 0002H

Analytical Method Information

Printed: 08/18/2015 9:58 am

Met 7471B Hg in Solid (EPA 7471B)

Preservation: Cool <6°C

Container: Glass WM, Clear, 2 oz

Amount Required: 100 g **Hold Time:** 28 days

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike---- %Rec	RPD	--Blank Spike / LCS-- %Rec	RPD
Mercury	0.00210	0.0250 mg/kg		20	75-125	20	80-120	20

AV23 . 00025

Analytical Method Information

Printed: 02/03/2016 10:17 am

Met 200.8/6020A Master List in Water (EPA 6020A)

Preservation: pH<2; HNO3, Cool <6°C

Container: HDPE NM, 500 mL, 1:1 HNO3 **Amount Required:** 500 mL **Hold Time:** 180 days

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike---- %Rec	RPD	--Blank Spike / LCS-- %Rec	RPD
Aluminum-27	0.550	20.0 ug/L		20	75-125	20	80-120	20
Antimony-121	0.0199	0.200 ug/L		20	75-125	20	80-120	20
Antimony-123	0.0183	0.200 ug/L		20	75-125	20	80-120	20
Arsenic-75a	0.0298	0.200 ug/L		20	75-125	20	80-120	20
Arsenic-75b	0.120	0.500 ug/L		20	75-125	20	80-120	20
Barium-135	0.0314	0.500 ug/L		20	75-125	20	80-120	20
Barium-137	0.0336	0.500 ug/L		20	75-125	20	80-120	20
Beryllium-9	0.00954	0.200 ug/L		20	75-125	20	80-120	20
Cadmium-111	0.00716	0.100 ug/L		20	75-125	20	80-120	20
Cadmium-114	0.00500	0.100 ug/L		20	75-125	20	80-120	20
Calcium-43	3.81	50.0 ug/L		20	75-125	20	80-120	20
Chromium-52	0.0685	0.500 ug/L		20	75-125	20	80-120	20
Chromium-53	0.0373	0.500 ug/L		20	75-125	20	80-120	20
Cobalt-59	0.00572	0.200 ug/L		20	75-125	20	80-120	20
Copper-63	0.0372	0.500 ug/L		20	75-125	20	80-120	20
Copper-65	0.0259	0.500 ug/L		20	75-125	20	80-120	20
Iron-54	4.01	20.0 ug/L		20	75-125	20	80-120	20
Iron-57	1.31	20.0 ug/L		20	75-125	20	80-120	20
Lead-208	0.00800	0.100 ug/L		20	75-125	20	80-120	20
Magnesium-24	0.614	20.0 ug/L		20	75-125	20	80-120	20
Manganese-55	0.0133	0.500 ug/L		20	75-125	20	80-120	20
Molybdenum-98	0.0100	0.200 ug/L		20	75-125	20	80-120	20
Nickel-60	0.0168	0.500 ug/L		20	75-125	20	80-120	20
Nickel-62	0.268	0.500 ug/L		20	75-125	20	80-120	20
Potassium-39	2.81	20.0 ug/L		20	75-125	20	80-120	20
Selenium-82	0.0322	0.500 ug/L		20	75-125	20	80-120	20
Selenium-78	0.391	2.00 ug/L		20	75-125	20	80-120	20
Silver-107	0.00310	0.200 ug/L		20	75-125	20	80-120	20
Sodium-23	14.4	100 ug/L		20	75-125	20	80-120	20
Thallium-205	0.00620	0.200 ug/L		20	75-125	20	80-120	20
Vanadium-51a	0.0203	0.200 ug/L		20	75-125	20	80-120	20
Vanadium-51b	0.0203	0.200 ug/L		20	75-125	20	80-120	20
Zinc-66	0.285	4.00 ug/L		20	75-125	20	80-120	20
Zinc-67	0.226	4.00 ug/L		20	75-125	20	80-120	20
Zinc-68	0.326	4.00 ug/L		20	75-125	20	80-120	20
Lithium								
Scandium								
Germanium								
Indium								
Terbium								

AVZ9 . 08026

Analytical Method Information

Printed: 12/10/2015 1:46 pm

Met 7470A Hg in Water (EPA 7470A)

Preservation: pH<2; HNO3, Cool <6°C

Container: HDPE NM, 500 mL, 1:1 HNO3 **Amount Required:** 500 mL **Hold Time:** 28 days

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike---- %Rec	RPD	--Blank Spike / LCS-- %Rec	RPD
Mercury	0.00000700	0.000100 mg/L		20	75-125	20	80-120	20

AVZ3 88627

Analytical Method Information

Printed: 03/09/2016 12:42 pm

Organic Carbon, Total, Plumb in Solid (Plumb 1981, Combustion IR)

Preservation: Cool <6°C

Container: Glass WM, Clear, 4 oz **Amount Required:** 100 g **Hold Time:** 14 days

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike---- %Rec	RPD	--Blank Spike / LCS-- %Rec	RPD
Total Organic Carbon		0.0200 %		20	75-125		75-125	20

AVZ9 : 00028

Analytical Method Information

Printed: 03/09/2016 12:42 pm

Solids, Fixed SM 2540 G-97 Solid in Solid (SM 2540 G-97)

Preservation: Cool <6°C

Container: HDPE NM, 1000 mL **Amount Required:** 1000 mL **Hold Time:** 7 days

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike---- %Rec	RPD	--Blank Spike / LCS-- %Rec	RPD
Fixed Solids		1.00 mg/L		20				

AVZ3 : 00029

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analytical Standard Record
Standard ID: E000126

Printed: 1/12/2016 11:48:55AM

Description:	Puget Sound reference-SRM	Expires:	12-Jan-2017
Standard Type:	Reference Mate	Prepared:	12-Jan-2016
Solvent:	NA	Prepared By:	Amanda Volgardsen
Final Volume (mls):	30	Department:	QC
Vials:	1	Last Edit:	12-Jan-2016 11:47 by AV
Vendor:	QATS Lab	Lot #:	SR0431
Vendor Catalog #:			

Comments

PSRM0059 Jorgensen Forge for Cheronne

Analyte	CAS Number	Concentration	Units	SRM Control Limits
1,2,3,7,8-PeCDF	57117-41-6	0.00000123	mg/Kg	50-150
1,2,3,4,6,7,8-HpCDF	67562-39-4	0.0000187	mg/Kg	50-150
1,2,3,4,7,8,9-HpCDF	58200-70-7	0.00000163	mg/Kg	50-150
1,2,3,4,7,8-HxCDD	39227-28-6	0.00000159	mg/Kg	50-150
1,2,3,4,7,8-HxCDF	70648-26-9	0.00000302	mg/Kg	50-150
1,2,3,6,7,8-HxCDD	57653-85-7	0.00000388	mg/Kg	50-150
1,2,3,6,7,8-HxCDF	57117-44-9	0.00000109	mg/Kg	50-150
1,2,3,7,8,9-HxCDD	19408-74-3	0.00000304	mg/Kg	50-150
1,2,3,4,6,7,8-HpCDD	35822-46-9	0.0000906	mg/Kg	50-150
1,2,3,7,8-PeCDD	40321-76-4	0.00000108	mg/Kg	50-150
OCDF	39001-02-0	0.0000584	mg/Kg	50-150
2,3,4,6,7,8-HxCDF	60851-34-5	0.00000183	mg/Kg	50-150
2,3,4,7,8-PeCDF	57117-31-4	0.00000107	mg/Kg	50-150
2,3,7,8-TCDD	1746-01-6	0.00000105	mg/Kg	50-150
2,3,7,8-TCDF	51207-31-9	0.00000111	mg/Kg	50-150
Aroclor 1260	11096-82-5	0.108	mg/Kg	38-167
Aroclor 1260 [2C]	11096-82-5	0.108	mg/Kg	38-167
OCDD	3268-87-9	0.000811	mg/Kg	50-150
1,2,3,7,8,9-HxCDF	72918-21-9	0.000000511	mg/Kg	50-150

E000126
Puget Sound reference-SRM
Solvent / Lot: NA
Prep. 1/12/2016 by AV
Exp: 1/12/2017
Location:

Reviewed By Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analytical Standard Record
Standard ID: E000127

Printed: 1/12/2016 11:48:48AM

Description:	Puget Sound reference-SRM	Expires:	12-Jan-2017
Standard Type:	Reference Mate	Prepared:	12-Jan-2016
Solvent:	NA	Prepared By:	Amanda Volgardsen
Final Volume (mls):	30	Department:	QC
Vials:	1	Last Edit:	12-Jan-2016 11:48 by AV
Vendor:	QATS Lab	Lot #:	SR0431
Vendor Catalog #:			

Comments

PSRM0060 Jorgensen Forge for Cheronne

Analyte	CAS Number	Concentration	Units	SRM Control Limits
1,2,3,7,8-PeCDF	57117-41-6	0.00000123	mg/Kg	50-150
1,2,3,4,6,7,8-HpCDF	67562-39-4	0.0000187	mg/Kg	50-150
1,2,3,4,7,8,9-HpCDF	58200-70-7	0.00000163	mg/Kg	50-150
1,2,3,4,7,8-HxCDD	39227-28-6	0.00000159	mg/Kg	50-150
1,2,3,4,7,8-HxCDF	70648-26-9	0.00000302	mg/Kg	50-150
1,2,3,6,7,8-HxCDD	57653-85-7	0.00000388	mg/Kg	50-150
1,2,3,6,7,8-HxCDF	57117-44-9	0.00000109	mg/Kg	50-150
1,2,3,7,8,9-HxCDD	19408-74-3	0.00000304	mg/Kg	50-150
1,2,3,4,6,7,8-HpCDD	35822-46-9	0.0000906	mg/Kg	50-150
1,2,3,7,8-PeCDD	40321-76-4	0.00000108	mg/Kg	50-150
OCDF	39001-02-0	0.0000584	mg/Kg	50-150
2,3,4,6,7,8-HxCDF	60851-34-5	0.00000183	mg/Kg	50-150
2,3,4,7,8-PeCDF	57117-31-4	0.00000107	mg/Kg	50-150
2,3,7,8-TCDD	1746-01-6	0.00000105	mg/Kg	50-150
2,3,7,8-TCDF	51207-31-9	0.00000111	mg/Kg	50-150
Aroclor 1260	11096-82-5	0.108	mg/Kg	38-167
Aroclor 1260 [2C]	11096-82-5	0.108	mg/Kg	38-167
OCDD	3268-87-9	0.000811	mg/Kg	50-150
1,2,3,7,8,9-HxCDF	72918-21-9	0.000000511	mg/Kg	50-150

E000127
Puget Sound reference-SRM
Solvent / Lot: NA
Prep: 1/12/2016 by AV
Exp: 1/12/2017
Location:

Reviewed By Date

AVZ3 . 0003A

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analytical Standard Record
Standard ID: E000128

Printed: 1/12/2016 11:48:37AM

Description:	Puget Sound reference-SRM	Expires:	12-Jan-2017
Standard Type:	Reference Mate	Prepared:	12-Jan-2016
Solvent:	NA	Prepared By:	Amanda Volgardsen
Final Volume (mls):	30	Department:	QC
Vials:	1	Last Edit:	12-Jan-2016 11:48 by AV
Vendor:	QATS Lab	Lot #:	SR0431
Vendor Catalog #:			

Comments

PSRM0061 Jorgensen Forge for Cheronne

Analyte	CAS Number	Concentration	Units	SRM Control Limits
1,2,3,7,8-PeCDF	57117-41-6	0.00000123	mg/Kg	50-150
1,2,3,4,6,7,8-HpCDF	67562-39-4	0.0000187	mg/Kg	50-150
1,2,3,4,7,8,9-HpCDF	58200-70-7	0.00000163	mg/Kg	50-150
1,2,3,4,7,8-HxCDD	39227-28-6	0.00000159	mg/Kg	50-150
1,2,3,4,7,8-HxCDF	70648-26-9	0.00000302	mg/Kg	50-150
1,2,3,6,7,8-HxCDD	57653-85-7	0.00000388	mg/Kg	50-150
1,2,3,6,7,8-HxCDF	57117-44-9	0.00000109	mg/Kg	50-150
1,2,3,7,8,9-HxCDD	19408-74-3	0.00000304	mg/Kg	50-150
1,2,3,4,6,7,8-HpCDD	35822-46-9	0.0000906	mg/Kg	50-150
1,2,3,7,8-PeCDD	40321-76-4	0.00000108	mg/Kg	50-150
OCDF	39001-02-0	0.0000584	mg/Kg	50-150
2,3,4,6,7,8-HxCDF	60851-34-5	0.00000183	mg/Kg	50-150
2,3,4,7,8-PeCDF	57117-31-4	0.00000107	mg/Kg	50-150
2,3,7,8-TCDD	1746-01-6	0.00000105	mg/Kg	50-150
2,3,7,8-TCDF	51207-31-9	0.00000111	mg/Kg	50-150
Aroclor 1260	11096-82-5	0.108	mg/Kg	38-167
Aroclor 1260 [2C]	11096-82-5	0.108	mg/Kg	38-167
OCDD	3268-87-9	0.000811	mg/Kg	50-150
1,2,3,7,8,9-HxCDF	72918-21-9	0.000000511	mg/Kg	50-150

E000128
Puget Sound reference-SRM
Solvent / Lot: NA
Prep: 1/12/2016 by AV
Exp: 1/12/2017
Location:

Reviewed By Date

AV13 . 00032

(C) *ANALYSIS REQUIREMENTS*

The SRM is to be analyzed as described in the project-specified methods employed for the analysis of CDD/CDF and/or CB Congener analytes using HRGC/HRMS instrumentation and/or Aroclors using GC/ECD instrumentation. These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the project-specified methods, or your contract, disregard these instructions.

(D) *SAMPLE ANALYSIS*

General Instructions

The SRM contains CDD/CDF, CB Congener, and Aroclor analytes which are known or suspected to have severe health effects. Employing appropriate safety precautions, this SRM is to be handled, prepared, and analyzed exactly as you would process samples received from a known or suspected hazardous waste site. The SRM should be handled only by trained and experienced analysts in facilities expressly designed to handle such materials. When calculating the concentrations of analytes, use 0% as the soil moisture content.

Allow the bottle(s) to reach ambient temperature before opening and removing gravimetric amounts for sample preparation. To begin the extraction and analysis procedure, break the seal and open the bottle carefully. Weigh out the appropriate aliquot for extraction and analysis as prescribed in the project-specified methods (typically 10 grams for HRGC/HRMS methods and 30 grams for GC/ECD methods), or in accordance with your contract.

Proceed immediately with the extraction and analysis as described in the project-specified methods or your contract.

(E) *REPORTING*

Report the results for the prepared SRM as received.

Report the analytical results for the SRM to EPA or other appropriate Agency, using the format and other instructions for submission of data packages as specified in your contract.

AVZ9 00033

Recipient Copy

CHAIN-OF-CUSTODY RECORD

COC No. 13544

Order Number: CB012994

Date Shipped: 1/11/2016

AirBill No(s): 560847656443

From: QATS LABORATORY
2700 CHANDLER AVENUE, BLDG. C
LAS VEGAS, NV 89120
PHONE: 1-702-895-8712
FAX: 1-702-795-8210

To: CHERONNE OREIRO
ANALYTICAL RESOURCES
4611 S. 134TH PLACE, SUITE 100
TUKWILA WA 98168
206-695-6214

Sample ID	Qty	Description/Remarks	→ Catalogue Number
PSRM0059	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0060	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0061	1	PUGET SOUND SEDIMENT RM	PS-SRM
		1/11/16	
		SITE NAME: JORGENSEN FORGE CORPORATION	

Please use the enclosed Sample Preparation Instructions. If catalogue number(s) are listed at the top of the Sample Preparation Instructions use the Sample Preparation Instructions with catalogue number(s) matching the catalogue number(s) of each of the samples listed above.

Relinquished by: (Signature)	Date/Time 1400 1/11/16	Received by: (Signature) Chris Atwell	Date/Time 1/12/16 1110
Custody Seal(s): Present/Absent	Remarks:		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

Report No. 00, 9/11/2014

SMP Version 3.3

AVIS : 00034

PCB Analysis
Report and Summary QC Forms

ARI Job ID: AVZ9

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-6-0-1ft-160209
SAMPLE

Lab Sample ID: AVZ9A
LIMS ID: 16-2437
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/09/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/24/16 20:19
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.0 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 13.5%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.5	3.8	< 3.8 U
53469-21-9	Aroclor 1242	1.5	3.8	< 3.8 U
12672-29-6	**Aroclor 1248**	**1.5**	**3.8**	**22**
11097-69-1	**Aroclor 1254**	**1.5**	**3.8**	**25**
11096-82-5	**Aroclor 1260**	**0.57**	**3.8**	**7.2**
11104-28-2	Aroclor 1221	1.5	3.8	< 3.8 U
11141-16-5	Aroclor 1232	1.5	3.8	< 3.8 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	112%
Tetrachlorometaxylene	85.5%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-6-1-2ft-160209
SAMPLE

Lab Sample ID: AVZ9B
LIMS ID: 16-2438
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/09/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/24/16 20:40
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.8 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 14.7%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.5	3.9	< 3.9 U
53469-21-9	Aroclor 1242	1.5	3.9	< 3.9 U
12672-29-6	Aroclor 1248	1.5	3.9	< 3.9 U
11097-69-1	Aroclor 1254	1.5	3.9	< 3.9 U
11096-82-5	Aroclor 1260	0.58	3.9	< 3.9 U
11104-28-2	Aroclor 1221	1.5	3.9	< 3.9 U
11141-16-5	Aroclor 1232	1.5	3.9	< 3.9 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	114%
Tetrachlorometaxylene	83.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-4-0-1ft-160210
SAMPLE

Lab Sample ID: AVZ9C
LIMS ID: 16-2439
Matrix: Sediment
Data Release Authorized: MW
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/24/16 21:02
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.9 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 24.6%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.5	3.9	< 3.9 U
53469-21-9	Aroclor 1242	1.5	3.9	< 3.9 U
12672-29-6	Aroclor 1248	1.5	3.9	< 3.9 U
11097-69-1	Aroclor 1254	1.5	3.9	< 3.9 U
11096-82-5	Aroclor 1260	0.57	3.9	< 3.9 U
11104-28-2	Aroclor 1221	1.5	3.9	< 3.9 U
11141-16-5	Aroclor 1232	1.5	3.9	< 3.9 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	124%
Tetrachlorometaxylene	74.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-4-1-2ft-160210
SAMPLE

Lab Sample ID: AVZ9D
LIMS ID: 16-2440
Matrix: Sediment
Data Release Authorized: MW
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/24/16 21:24
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.7 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 21.1%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.5	3.9	< 3.9 U
53469-21-9	Aroclor 1242	1.5	3.9	< 3.9 U
12672-29-6	Aroclor 1248	1.5	3.9	< 3.9 U
11097-69-1	Aroclor 1254	1.5	3.9	< 3.9 U
11096-82-5	Aroclor 1260	0.58	3.9	< 3.9 U
11104-28-2	Aroclor 1221	1.5	3.9	< 3.9 U
11141-16-5	Aroclor 1232	1.5	3.9	< 3.9 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	107%
Tetrachlorometaxylene	81.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-2-0-1ft-160210
SAMPLE

Lab Sample ID: AVZ9E
LIMS ID: 16-2441
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/24/16 21:46
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.3 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 17.2%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.5	3.8	< 3.8 U
53469-21-9	Aroclor 1242	1.5	3.8	< 3.8 U
12672-29-6	Aroclor 1248	1.5	9.4	< 9.4 Y
11097-69-1	**Aroclor 1254**	**1.5**	**3.8**	**7.7**
11096-82-5	**Aroclor 1260**	**0.55**	**3.8**	**6.7 P**
11104-28-2	Aroclor 1221	1.5	3.8	< 3.8 U
11141-16-5	Aroclor 1232	1.5	3.8	< 3.8 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	82.2%
Tetrachlorometaxylene	87.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-2-1-2ft-160210
SAMPLE

Lab Sample ID: AVZ9F
LIMS ID: 16-2442
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/24/16 22:08
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.6 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 15.9%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.5	4.0	< 4.0 U
53469-21-9	Aroclor 1242	1.5	4.0	< 4.0 U
12672-29-6	Aroclor 1248	1.5	7.9	< 7.9 Y
11097-69-1	Aroclor 1254	1.5	4.0	< 4.0 U
11096-82-5	**Aroclor 1260**	**0.58**	**4.0**	**2.8 JP**
11104-28-2	Aroclor 1221	1.5	4.0	< 4.0 U
11141-16-5	Aroclor 1232	1.5	4.0	< 4.0 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	86.5%
Tetrachlorometaxylene	93.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-1-0-1ft-160210
SAMPLE

Lab Sample ID: AVZ9G
LIMS ID: 16-2443
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/24/16 23:57
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.0 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 19.0%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.5	3.8	< 3.8 U
53469-21-9	Aroclor 1242	1.5	3.8	< 3.8 U
12672-29-6	Aroclor 1248	1.5	58	< 58 Y
11097-69-1	**Aroclor 1254**	**1.5**	**3.8**	**110**
11096-82-5	**Aroclor 1260**	**0.57**	**3.8**	**89**
11104-28-2	Aroclor 1221	1.5	3.8	< 3.8 U
11141-16-5	Aroclor 1232	1.5	3.8	< 3.8 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	89.2%
Tetrachlorometaxylene	97.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-1-1-2ft-160210
SAMPLE

Lab Sample ID: AVZ9H
LIMS ID: 16-2444
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/25/16 00:19
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.7 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 15.6%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.5	3.9	< 3.9 U
53469-21-9	Aroclor 1242	1.5	3.9	< 3.9 U
12672-29-6	Aroclor 1248	1.5	4.9	< 4.9 Y
11097-69-1	**Aroclor 1254**	**1.5**	**3.9**	**8.0**
11096-82-5	**Aroclor 1260**	**0.58**	**3.9**	**5.9**
11104-28-2	Aroclor 1221	1.5	3.9	< 3.9 U
11141-16-5	Aroclor 1232	1.5	3.9	< 3.9 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	114%
Tetrachlorometaxylene	80.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-3-0-1ft-160211
SAMPLE

Lab Sample ID: AVZ9I
LIMS ID: 16-2445
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/25/16 00:41
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.1 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 18.0%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.5	3.8	< 3.8 U
53469-21-9	Aroclor 1242	1.5	3.8	< 3.8 U
12672-29-6	Aroclor 1248	1.5	9.5	< 9.5 Y
11097-69-1	**Aroclor 1254**	**1.5**	**3.8**	**17**
11096-82-5	**Aroclor 1260**	**0.56**	**3.8**	**5.6**
11104-28-2	Aroclor 1221	1.5	3.8	< 3.8 U
11141-16-5	Aroclor 1232	1.5	3.8	< 3.8 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	107%
Tetrachlorometaxylene	92.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-3-1-2ft-160211
SAMPLE

Lab Sample ID: AVZ9J
LIMS ID: 16-2446
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/25/16 01:03
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.7 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 21.2%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.5	4.0	< 4.0 U
53469-21-9	Aroclor 1242	1.5	4.0	< 4.0 U
12672-29-6	Aroclor 1248	1.5	40	< 40 Y
11097-69-1	Aroclor 1254	1.5	4.0	< 4.0 U
11096-82-5	**Aroclor 1260**	**0.58**	**4.0**	**2.5 JP**
11104-28-2	Aroclor 1221	1.5	4.0	< 4.0 U
11141-16-5	Aroclor 1232	1.5	4.0	< 4.0 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	84.0%
Tetrachlorometaxylene	93.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-103-1-2ft-160211
SAMPLE

Lab Sample ID: AVZ9K
LIMS ID: 16-2447
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/25/16 01:25
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.8 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 20.0%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.5	3.9	< 3.9 U
53469-21-9	Aroclor 1242	1.5	3.9	< 3.9 U
12672-29-6	Aroclor 1248	1.5	9.8	< 9.8 Y
11097-69-1	Aroclor 1254	1.5	3.9	< 3.9 U
11096-82-5	**Aroclor 1260**	**0.57**	**3.9**	**2.9 JP**
11104-28-2	Aroclor 1221	1.5	3.9	< 3.9 U
11141-16-5	Aroclor 1232	1.5	3.9	< 3.9 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	126%
Tetrachlorometaxylene	89.0%

FORM I

AVZ9:00046

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-5-0-1ft-160211
SAMPLE

Lab Sample ID: AVZ9L
LIMS ID: 16-2448
Matrix: Sediment
Data Release Authorized: MW
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/25/16 01:47
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.0 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 27.5%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.5	3.8	< 3.8 U
53469-21-9	Aroclor 1242	1.5	3.8	< 3.8 U
12672-29-6	**Aroclor 1248**	**1.5**	**3.8**	**540 EP**
11097-69-1	**Aroclor 1254**	**1.5**	**3.8**	**1,400 E**
11096-82-5	**Aroclor 1260**	**0.56**	**3.8**	**590 E**
11104-28-2	Aroclor 1221	1.5	3.8	< 3.8 U
11141-16-5	Aroclor 1232	1.5	3.8	< 3.8 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	115%
Tetrachlorometaxylene	84.5%

FORM I

AVZ9.000047

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-5-0-1ft-160211
DILUTION

Lab Sample ID: AVZ9L
LIMS ID: 16-2448
Matrix: Sediment
Data Release Authorized: MW
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/26/16 11:03
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.0 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 10.0
Silica Gel: Yes

Percent Moisture: 27.5%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	15	38	< 38 U
53469-21-9	Aroclor 1242	15	38	< 38 U
12672-29-6	**Aroclor 1248**	**15**	**38**	**700**
11097-69-1	**Aroclor 1254**	**15**	**38**	**1,600**
11096-82-5	**Aroclor 1260**	**5.6**	**38**	**530**
11104-28-2	Aroclor 1221	15	38	< 38 U
11141-16-5	Aroclor 1232	15	38	< 38 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	NR
Tetrachlorometaxylene	110%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-5-1-2ft-160211
SAMPLE

Lab Sample ID: AVZ9M
LIMS ID: 16-2449
Matrix: Sediment
Data Release Authorized: MW
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/25/16 02:09
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.9 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 19.7%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.5	3.9	< 3.9 U
53469-21-9	Aroclor 1242	1.5	3.9	< 3.9 U
12672-29-6	Aroclor 1248	1.5	58	< 58 Y
11097-69-1	**Aroclor 1254**	**1.5**	**3.9**	**150**
11096-82-5	**Aroclor 1260**	**0.57**	**3.9**	**26**
11104-28-2	Aroclor 1221	1.5	3.9	< 3.9 U
11141-16-5	Aroclor 1232	1.5	3.9	< 3.9 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	97.5%
Tetrachlorometaxylene	81.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-105-0-1ft-160211
SAMPLE

Lab Sample ID: AVZ9N
LIMS ID: 16-2450
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/26/16 11:25
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.2 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 20.0
Silica Gel: Yes

Percent Moisture: 26.6%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	29	76	< 76 U
53469-21-9	Aroclor 1242	29	76	< 76 U
12672-29-6	Aroclor 1248	29	570	< 570 Y
11097-69-1	**Aroclor 1254**	**29**	**76**	**2,200**
11096-82-5	**Aroclor 1260**	**11**	**76**	**550**
11104-28-2	Aroclor 1221	29	76	< 76 U
11141-16-5	Aroclor 1232	29	76	< 76 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	139%
Tetrachlorometaxylene	89.5%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-7-0-1ft-160212
SAMPLE

Lab Sample ID: AVZ9O
LIMS ID: 16-2451
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/12/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/25/16 02:52
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.0 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 20.0
Silica Gel: Yes

Percent Moisture: 13.5%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	30	77	< 77 U
53469-21-9	Aroclor 1242	30	77	< 77 U
12672-29-6	**Aroclor 1248**	**30**	**77**	**740**
11097-69-1	**Aroclor 1254**	**30**	**77**	**1,200**
11096-82-5	**Aroclor 1260**	**11**	**77**	**260**
11104-28-2	Aroclor 1221	30	77	< 77 U
11141-16-5	Aroclor 1232	30	77	< 77 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	126%
Tetrachlorometaxylene	97.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-7-1-2ft-160212
SAMPLE

Lab Sample ID: AVZ9P
LIMS ID: 16-2452
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/12/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/25/16 03:14
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.8 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 14.8%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.5	3.9	< 3.9 U
53469-21-9	Aroclor 1242	1.5	3.9	< 3.9 U
12672-29-6	**Aroclor 1248**	**1.5**	**3.9**	**53**
11097-69-1	**Aroclor 1254**	**1.5**	**3.9**	**49**
11096-82-5	**Aroclor 1260**	**0.57**	**3.9**	**8.6**
11104-28-2	Aroclor 1221	1.5	3.9	< 3.9 U
11141-16-5	Aroclor 1232	1.5	3.9	< 3.9 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	92.0%
Tetrachlorometaxylene	71.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: SRM PSR
STANDARD REFERENCE

Lab Sample ID: SRM PSR
LIMS ID: 16-2442
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: NA
Date Received: NA

Date Extracted: 02/17/16
Date Analyzed: 02/24/16 19:13
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 5.00 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 0.0%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	3.9	10	< 10 U
53469-21-9	Aroclor 1242	3.9	10	< 10 U
12672-29-6	Aroclor 1248	3.9	30	< 30 Y
11097-69-1	**Aroclor 1254**	**3.9**	**10**	**74**
11096-82-5	**Aroclor 1260**	**1.5**	**10**	**96**
11104-28-2	Aroclor 1221	3.9	10	< 10 U
11141-16-5	Aroclor 1232	3.9	10	< 10 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	89.2%
Tetrachlorometaxylene	55.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SOLID/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
JF-PDS-6-0-1ft-160209	112%	40-126	85.5%	44-120	0
JF-PDS-6-1-2ft-160209	114%	40-126	83.8%	44-120	0
JF-PDS-4-0-1ft-160210	124%	40-126	74.0%	44-120	0
JF-PDS-4-1-2ft-160210	107%	40-126	81.2%	44-120	0
JF-PDS-2-0-1ft-160210	82.2%	40-126	87.0%	44-120	0
MB-021716	117%	40-126	86.5%	44-120	0
LCS-021716	101%	40-126	71.8%	44-120	0
SRM PSR	89.2%	40-126	55.8%	44-120	0
JF-PDS-2-1-2ft-160210	86.5%	40-126	93.0%	44-120	0
JF-PDS-2-1-2ft-160210 MS	84.0%	40-126	76.2%	44-120	0
JF-PDS-2-1-2ft-160210 MSD	85.8%	40-126	87.5%	44-120	0
JF-PDS-1-0-1ft-160210	89.2%	40-126	97.8%	44-120	0
JF-PDS-1-1-2ft-160210	114%	40-126	80.0%	44-120	0
JF-PDS-3-0-1ft-160211	107%	40-126	92.0%	44-120	0
JF-PDS-3-1-2ft-160211	84.0%	40-126	93.8%	44-120	0
JF-PDS-103-1-2ft-160211	126%	40-126	89.0%	44-120	0
JF-PDS-5-0-1ft-160211	115%	40-126	84.5%	44-120	0
JF-PDS-5-0-1ft-160211 DL	NR	40-126	110%	44-120	0
JF-PDS-5-1-2ft-160211	97.5%	40-126	81.8%	44-120	0
JF-PDS-105-0-1ft-160211	139%*	40-126	89.5%	44-120	1
JF-PDS-7-0-1ft-160212	126%	40-126	97.0%	44-120	0
JF-PDS-7-1-2ft-160212	92.0%	40-126	71.2%	44-120	0

Microwave (MARS) Control Limits PCBSMM
Prep Method: SW3546
Log Number Range: 16-2437 to 16-2452

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: JF-PDS-2-1-2ft-160210
MS/MSD

Lab Sample ID: AVZ9F
LIMS ID: 16-2442
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Date Extracted MS/MSD: 02/17/16

Date Analyzed MS: 02/24/16 22:30
MSD: 02/24/16 22:52
Instrument/Analyst MS: ECD7/JGR
MSD: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount MS: 12.6 g-dry-wt
MSD: 12.6 g-dry-wt
Final Extract Volume MS: 2.5 mL
MSD: 2.5 mL
Dilution Factor MS: 1.00
MSD: 1.00
Silica Gel: Yes

Percent Moisture: 15.9%

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Aroclor 1016	< 4.0 U	74.5	99.7	74.7%	77.7	99.8	77.9%	4.2%
Aroclor 1260	2.8 JP	112 P	99.7	110%	118 P	99.8	115%	5.2%

Results reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

FORM III

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-2-1-2ft-160210
MATRIX SPIKE

Lab Sample ID: AVZ9F
LIMS ID: 16-2442
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/24/16 22:30
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.6 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 15.9%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.5	4.0	---
53469-21-9	Aroclor 1242	1.5	4.0	< 4.0 U
12672-29-6	Aroclor 1248	1.5	30	< 30 Y
11097-69-1	Aroclor 1254	1.5	4.0	< 4.0 U
11096-82-5	Aroclor 1260	0.58	4.0	---
11104-28-2	Aroclor 1221	1.5	4.0	< 4.0 U
11141-16-5	Aroclor 1232	1.5	4.0	< 4.0 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	84.0%
Tetrachlorometaxylene	76.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: JF-PDS-2-1-2ft-160210
MATRIX SPIKE DUP

Lab Sample ID: AVZ9F
LIMS ID: 16-2442
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Date Extracted: 02/17/16
Date Analyzed: 02/24/16 22:52
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.6 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 15.9%

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.5	4.0	---
53469-21-9	Aroclor 1242	1.5	4.0	< 4.0 U
12672-29-6	Aroclor 1248	1.5	30	< 30 Y
11097-69-1	Aroclor 1254	1.5	4.0	< 4.0 U
11096-82-5	Aroclor 1260	0.58	4.0	---
11104-28-2	Aroclor 1221	1.5	4.0	< 4.0 U
11141-16-5	Aroclor 1232	1.5	4.0	< 4.0 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	85.8%
Tetrachlorometaxylene	87.5%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: LCS-021716
LAB CONTROL

Lab Sample ID: LCS-021716
LIMS ID: 16-2442
Matrix: Sediment
Data Release Authorized:
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: NA
Date Received: NA

Date Extracted: 02/17/16
Date Analyzed: 02/24/16 18:51
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.5 g-dry-wt
Final Extract Volume: 2.50 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Aroclor 1016	80.5	101	79.7%
Aroclor 1260	86.6	101	85.7%

PCB Surrogate Recovery

Decachlorobiphenyl	101%
Tetrachlorometaxylene	71.8%

Results reported in µg/kg (ppb)

FORM III

PCB METHOD BLANK SUMMARY

BLANK NO.

AVZ9MBS1

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA, LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2-JORG

Lab Sample ID: AVZ9MBS1

Lab File ID: 02241610

Date Extracted: 02/17/16

Matrix: SOLID

Date Analyzed: 02/24/16

Instrument ID: ECD7

Time Analyzed: 1829

GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	AVZ9LCSS1	AVZ9LCSS1	02/24/16
02	PSR	AVZ9SRM1	02/24/16
03	JF-PDS-6-0-1FT-1602	AVZ9A	02/24/16
04	JF-PDS-6-1-2FT-1602	AVZ9B	02/24/16
05	JF-PDS-4-0-1FT-1602	AVZ9C	02/24/16
06	JF-PDS-4-1-2FT-1602	AVZ9D	02/24/16
07	JF-PDS-2-0-1FT-1602	AVZ9E	02/24/16
08	JF-PDS-2-1-2FT-1602	AVZ9F	02/24/16
09	JF-PDS-2-1-2FT- MS	AVZ9FMS	02/24/16
10	JF-PDS-2-1-2FT- MSD	AVZ9FMSD	02/24/16
11	JF-PDS-1-0-1FT-1602	AVZ9G	02/24/16
12	JF-PDS-1-1-2FT-1602	AVZ9H	02/25/16
13	JF-PDS-3-0-1FT-1602	AVZ9I	02/25/16
14	JF-PDS-3-1-2FT-1602	AVZ9J	02/25/16
15	JF-PDS-103-1-2FT-16	AVZ9K	02/25/16
16	JF-PDS-5-0-1FT-1602	AVZ9L	02/25/16
17	JF-PDS-5-1-2FT-1602	AVZ9M	02/25/16
18	JF-PDS-7-0-1FT-1602	AVZ9O	02/25/16
19	JF-PDS-7-1-2FT-1602	AVZ9P	02/25/16
20	JF-PDS-5-0-1FT-1602	AVZ9L	02/26/16
21	JF-PDS-105-0-1FT-16	AVZ9N	02/26/16

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: MB-021716
METHOD BLANK

Lab Sample ID: MB-021716
LIMS ID: 16-2442
Matrix: Sediment
Data Release Authorized: MW
Reported: 02/29/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: NA
Date Received: NA

Date Extracted: 02/17/16
Date Analyzed: 02/24/16 18:29
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.5 g
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	DL	LOQ	Result
12674-11-2	Aroclor 1016	1.6	4.0	< 4.0 U
53469-21-9	Aroclor 1242	1.6	4.0	< 4.0 U
12672-29-6	Aroclor 1248	1.6	4.0	< 4.0 U
11097-69-1	Aroclor 1254	1.6	4.0	< 4.0 U
11096-82-5	Aroclor 1260	0.59	4.0	< 4.0 U
11104-28-2	Aroclor 1221	1.6	4.0	< 4.0 U
11141-16-5	Aroclor 1232	1.6	4.0	< 4.0 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	117%
Tetrachlorometaxylene	86.5%

FORM I

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2

GC Column: ZB5

Instrument ID: ECD7

Calibration Date: 02/19/16

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	7.94- 8.14	0.0109	0.0108	0.0106	0.0102	0.0097	0.0092	0.0102	6.5
2	8.45- 8.65	0.0324	0.0329	0.0322	0.0314	0.0304	0.0301	0.0316	3.6
3	8.76- 8.96	0.0090	0.0114	0.0113	0.0113	0.0109	0.0108	0.0108	8.3
4	9.57- 9.77	0.0119	0.0126	0.0125	0.0121	0.0117	0.0114	0.0120	4.0

AROCLOR AVERAGE %RSD = 5.6

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	12.16-12.36	0.0215	0.0207	0.0200	0.0189	0.0179	0.0176	0.0194	7.8
2	12.84-13.04	0.0754	0.0890	0.0686	0.0694	0.0689	0.0723	0.0739	10.6
3	13.23-13.43	0.0311	0.0318	0.0316	0.0320	0.0316	0.0325	0.0318	1.5
4	13.33-13.53	0.0197	0.0200	0.0199	0.0199	0.0194	0.0196	0.0197	1.2
5	13.74-13.94	0.0113	0.0118	0.0115	0.0116	0.0114	0.0116	0.0115	1.5

AROCLOR AVERAGE %RSD = 4.5

FORM VI PCB-1

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2

GC Column: ZB35

Instrument ID: ECD7

Calibration Date: 02/19/16

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	8.53- 8.73	0.0444	0.0433	0.0415	0.0398	0.0364	0.0337	0.0399	10.3
2	9.25- 9.45	0.0868	0.0849	0.0852	0.0833	0.0781	0.0742	0.0821	6.0
3	9.49- 9.69	0.0336	0.0330	0.0342	0.0341	0.0317	0.0300	0.0328	4.9
4	10.43-10.63	0.0159	0.0157	0.0156	0.0154	0.0146	0.0141	0.0152	4.7

AROCLOR AVERAGE %RSD = 6.5

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	12.72-12.92	0.0828	0.0772	0.0755	0.0736	0.0681	0.0654	0.0738	8.5
2	13.48-13.68	0.1478	0.1501	0.1465	0.1449	0.1366	0.1324	0.1431	4.9
3	13.98-14.18	0.1012	0.1011	0.0964	0.0934	0.0890	0.0858	0.0945	6.7
4	14.53-14.73	0.0395	0.0369	0.0371	0.0359	0.0345	0.0335	0.0362	5.8

AROCLOR AVERAGE %RSD = 6.5

FORM VI PCB-1

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2

GC Column: ZB5

Instrument ID: ECD7

Calibration Date: 02/19/16

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	4.714	4.61- 4.81	0.00253
2	6.690	6.59- 6.79	0.00407
3	6.815	6.72- 6.92	0.01215

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	4.715	4.61- 4.81	0.00144
2	6.690	6.59- 6.79	0.00273
3	6.815	6.71- 6.91	0.00806
4	8.554	8.45- 8.65	0.01317

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.556	8.46- 8.66	0.02459
2	8.864	8.76- 8.96	0.00903
3	9.671	9.57- 9.77	0.01142
4	10.072	9.97-10.17	0.00825

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	8.552	8.45- 8.65	0.01443
2	9.477	9.38- 9.58	0.01074
3	9.670	9.57- 9.77	0.01613
4	10.072	9.97-10.17	0.01341

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: ANCHOR QEA LLC

ARI Job No.: AVZ9 Project: OMMP ADDENDUM 2

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 02/19/16

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.464	10.36-10.56	0.01771
2	10.545	10.45-10.65	0.00590
3	10.850	10.75-10.95	0.01448
4	10.990	10.89-11.09	0.02841
5	11.345	11.25-11.45	0.02782

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.260	12.16-12.36	0.02589
2	12.940	12.84-13.04	0.07590
3	13.330	13.23-13.43	0.02405
4	13.430	13.33-13.53	0.03625
5	14.055	13.96-14.16	0.04072

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.431	13.33-13.53	0.10548
2	13.495	13.39-13.59	0.13079
3	13.827	13.73-13.93	0.11835
4	14.446	14.35-14.55	0.42847

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: ANCHOR QEA LLC

ARI Job No.: AVZ9 Project: OMMP ADDENDUM 2

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 02/19/16

Aroclor-1221

Peak	RT	RT WIN	Cal Factor
1	5.585	5.49- 5.69	0.00745
2	7.623	7.52- 7.72	0.00694
3	7.763	7.66- 7.86	0.02196
4	8.643	8.54- 8.74	0.00728

Aroclor-1232

Peak	RT	RT WIN	Cal Factor
1	5.586	5.49- 5.69	0.00449
2	7.623	7.52- 7.72	0.00423
3	7.852	7.75- 7.95	0.00239
4	8.628	8.53- 8.73	0.01855

Aroclor-1242

Peak	RT	RT WIN	Cal Factor
1	8.628	8.53- 8.73	0.03098
2	9.354	9.25- 9.45	0.06413
3	9.781	9.68- 9.88	0.01656
4	10.879	10.78-10.98	0.02230

Aroclor-1248

Peak	RT	RT WIN	Cal Factor
1	9.347	9.25- 9.45	0.03827
2	9.882	9.78- 9.98	0.02820
3	10.798	10.70-10.90	0.04309
4	11.243	11.14-11.34	0.04304

AVZ9.000065

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2

GC Column: ZB35

Instrument ID: ECD7

Calibration Date: 02/19/16

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	11.112	11.01-11.21	0.04022
2	11.211	11.11-11.31	0.01884
3	11.654	11.55-11.75	0.03019
4	11.807	11.71-11.91	0.06887
5	12.817	12.72-12.92	0.05075

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.905	12.80-13.00	0.08135
2	13.349	13.25-13.45	0.07518
3	13.581	13.48-13.68	0.15342
4	14.075	13.98-14.18	0.09981
5	14.625	14.53-14.73	0.05116

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	14.021	13.92-14.12	0.15952
2	14.076	13.98-14.18	0.14915
3	14.388	14.29-14.49	0.12004
4	14.973	14.87-15.07	0.34255

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/24/16

Lab Standard ID: AR1254A

Time Analyzed :1555

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.46	10.36	10.56	252.6	250.0	1.0
Aroclor-1254-2	10.54	10.45	10.65	255.6	250.0	2.2
Aroclor-1254-3	10.85	10.75	10.95	233.3	250.0	-6.7
Aroclor-1254-4	10.99	10.89	11.09	250.2	250.0	0.1
Aroclor-1254-5	11.35	11.25	11.45	242.6	250.0	-3.0

AROCLOR AVG: 246.9 CAL %D = -1.3

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/24/16

Lab Standard ID: AR1254A

Time Analyzed :1555

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254 [2C]-1	11.11	11.01	11.21	251.3	250.0	0.5
Aroclor-1254 [2C]-2	11.21	11.11	11.31	252.1	250.0	0.8
Aroclor-1254 [2C]-3	11.65	11.55	11.75	221.0	250.0	-11.6
Aroclor-1254 [2C]-4	11.81	11.71	11.91	250.4	250.0	0.1
Aroclor-1254 [2C]-5	12.82	12.72	12.92	247.3	250.0	-1.1

AROCLOR AVG: 244.4 CAL %D = -2.2

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: ANCHOR QEA LLC

ARI Job No.: AVZ9
Project: OMMP ADDENDUM 2

GC Column: ZB5
Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/24/16

Lab Standard ID: AR1660A
Time Analyzed :1617

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.04	7.94	8.14	253.0	250.0	1.2
Aroclor-1016-2	8.55	8.45	8.65	250.2	250.0	0.1
Aroclor-1016-3	8.86	8.76	8.96	264.3	250.0	5.7
Aroclor-1016-4	9.67	9.57	9.77	255.5	250.0	2.2

AROCLOR AVG: 255.8 CAL %D = 2.3

Date Analyzed :02/24/16

Lab Standard ID: AR1660A
Time Analyzed :1617

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.26	12.16	12.36	267.7	250.0	7.1
Aroclor-1260-2	12.94	12.84	13.04	247.4	250.0	-1.0
Aroclor-1260-3	13.33	13.23	13.43	262.6	250.0	5.0
Aroclor-1260-4	13.43	13.33	13.53	266.2	250.0	6.5
Aroclor-1260-5	13.84	13.74	13.94	260.4	250.0	4.2

AROCLOR AVG: 260.9 CAL %D = 4.3

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: ANCHOR QEA LLC

ARI Job No.: AVZ9
Project: OMMP ADDENDUM 2

GC Column: ZB35
Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/24/16

Lab Standard ID: AR1660A
Time Analyzed :1617

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016 [2C]-1	8.63	8.53	8.73	253.0	250.0	1.2
Aroclor-1016 [2C]-2	9.35	9.25	9.45	251.6	250.0	0.6
Aroclor-1016 [2C]-3	9.59	9.49	9.69	264.6	250.0	5.8
Aroclor-1016 [2C]-4	10.53	10.43	10.63	259.2	250.0	3.7

AROCLOR AVG: 257.1 CAL %D = 2.8

Date Analyzed :02/24/16

Lab Standard ID: AR1660A
Time Analyzed :1617

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260 [2C]-1	12.82	12.72	12.92	205.2	250.0	-17.9
Aroclor-1260 [2C]-2	13.58	13.48	13.68	207.6	250.0	-16.9
Aroclor-1260 [2C]-3	14.08	13.97	14.17	216.1	250.0	-13.6
Aroclor-1260 [2C]-4	14.63	14.53	14.73	239.8	250.0	-4.1

AROCLOR AVG: 217.2 CAL %D = -13.1

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/24/16

Lab Standard ID: AR1242B

Time Analyzed :1935

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	8.56	8.46	8.66	255.6	250.0	2.2
Aroclor-1242-2	8.86	8.76	8.96	262.0	250.0	4.8
Aroclor-1242-3	9.67	9.57	9.77	268.6	250.0	7.4
Aroclor-1242-4	10.07	9.97	10.17	261.7	250.0	4.7

AROCLOR AVG: 262.0 CAL %D = 4.8

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/24/16

Lab Standard ID: AR1242B

Time Analyzed :1935

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242 [2C]-1	8.63	8.53	8.73	250.9	250.0	0.4
Aroclor-1242 [2C]-2	9.35	9.25	9.45	248.0	250.0	-0.8
Aroclor-1242 [2C]-3	9.78	9.68	9.88	248.8	250.0	-0.5
Aroclor-1242 [2C]-4	10.88	10.78	10.98	240.8	250.0	-3.7

AROCLOR AVG: 247.1 CAL %D = -1.1

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: ANCHOR QEA LLC

ARI Job No.: AVZ9
Project: OMMP ADDENDUM 2

GC Column: ZB5
Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/24/16

Lab Standard ID: AR1660B
Time Analyzed :1957

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.05	7.94	8.14	251.5	250.0	0.6
Aroclor-1016-2	8.56	8.45	8.65	249.5	250.0	-0.2
Aroclor-1016-3	8.87	8.76	8.96	263.3	250.0	5.3
Aroclor-1016-4	9.67	9.57	9.77	253.0	250.0	1.2

AROCLOR AVG: 254.3 CAL %D = 1.7

Date Analyzed :02/24/16

Lab Standard ID: AR1660B
Time Analyzed :1957

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.26	12.16	12.36	272.7	250.0	9.1
Aroclor-1260-2	12.94	12.84	13.04	251.8	250.0	0.7
Aroclor-1260-3	13.33	13.23	13.43	268.0	250.0	7.2
Aroclor-1260-4	13.43	13.33	13.53	270.8	250.0	8.3
Aroclor-1260-5	13.84	13.74	13.94	264.3	250.0	5.7

AROCLOR AVG: 265.5 CAL %D = 6.2

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: ANCHOR QEA LLC

ARI Job No.: AVZ9
Project: OMMP ADDENDUM 2

GC Column: ZB35
Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/24/16

Lab Standard ID: AR1660B
Time Analyzed :1957

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016 [2C]-1	8.63	8.53	8.73	249.5	250.0	-0.2
Aroclor-1016 [2C]-2	9.35	9.25	9.45	246.7	250.0	-1.3
Aroclor-1016 [2C]-3	9.59	9.49	9.69	258.7	250.0	3.5
Aroclor-1016 [2C]-4	10.53	10.43	10.63	250.8	250.0	0.3

AROCLOR AVG: 251.4 CAL %D = 0.6

Date Analyzed :02/24/16

Lab Standard ID: AR1660B
Time Analyzed :1957

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260 [2C]-1	12.82	12.72	12.92	207.5	250.0	-17.0
Aroclor-1260 [2C]-2	13.58	13.48	13.68	206.1	250.0	-17.6
Aroclor-1260 [2C]-3	14.08	13.97	14.17	212.9	250.0	-14.8
Aroclor-1260 [2C]-4	14.63	14.53	14.73	235.5	250.0	-5.8

AROCLOR AVG: 215.5 CAL %D = -13.8

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/24/16

Lab Standard ID: AR1248

Time Analyzed :2314

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	8.55	8.45	8.65	252.1	250.0	0.8
Aroclor-1248-2	9.48	9.38	9.58	252.7	250.0	1.1
Aroclor-1248-3	9.67	9.57	9.77	254.0	250.0	1.6
Aroclor-1248-4	10.07	9.97	10.17	252.6	250.0	1.0

AROCLOR AVG: 252.9 CAL %D = 1.1

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/24/16

Lab Standard ID: AR1248

Time Analyzed :2314

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248 [2C]-1	9.35	9.25	9.45	253.9	250.0	1.6
Aroclor-1248 [2C]-2	9.88	9.78	9.98	255.5	250.0	2.2
Aroclor-1248 [2C]-3	10.80	10.70	10.90	252.8	250.0	1.1
Aroclor-1248 [2C]-4	11.24	11.14	11.34	254.2	250.0	1.7

AROCLOR AVG: 254.1 CAL %D = 1.6

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: ANCHOR QEA LLC

ARI Job No.: AVZ9
Project: OMMP ADDENDUM 2

GC Column: ZB5
Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/24/16

Lab Standard ID: AR1660
Time Analyzed :2336

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.04	7.94	8.14	250.8	250.0	0.3
Aroclor-1016-2	8.56	8.45	8.65	249.3	250.0	-0.3
Aroclor-1016-3	8.86	8.76	8.96	264.3	250.0	5.7
Aroclor-1016-4	9.67	9.57	9.77	259.3	250.0	3.7

AROCLOR AVG: 256.0 CAL %D = 2.4

Date Analyzed :02/24/16

Lab Standard ID: AR1660
Time Analyzed :2336

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.26	12.16	12.36	278.1	250.0	11.2
Aroclor-1260-2	12.94	12.84	13.04	257.3	250.0	2.9
Aroclor-1260-3	13.33	13.23	13.43	274.0	250.0	9.6
Aroclor-1260-4	13.43	13.33	13.53	276.4	250.0	10.6
Aroclor-1260-5	13.84	13.74	13.94	268.8	250.0	7.5

AROCLOR AVG: 270.9 CAL %D = 8.4

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: ANCHOR QEA LLC

ARI Job No.: AVZ9
Project: OMMP ADDENDUM 2

GC Column: ZB35
Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/24/16

Lab Standard ID: AR1660
Time Analyzed :2336

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016 [2C]-1	8.63	8.53	8.73	250.6	250.0	0.2
Aroclor-1016 [2C]-2	9.35	9.25	9.45	248.4	250.0	-0.6
Aroclor-1016 [2C]-3	9.59	9.49	9.69	262.4	250.0	5.0
Aroclor-1016 [2C]-4	10.53	10.43	10.63	255.3	250.0	2.1

AROCLOR AVG: 254.2 CAL %D = 1.7

Date Analyzed :02/24/16

Lab Standard ID: AR1660
Time Analyzed :2336

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260 [2C]-1	12.82	12.72	12.92	202.8	250.0	-18.9
Aroclor-1260 [2C]-2	13.58	13.48	13.68	200.7	250.0	-19.7
Aroclor-1260 [2C]-3	14.08	13.97	14.17	208.5	250.0	-16.6
Aroclor-1260 [2C]-4	14.63	14.53	14.73	231.8	250.0	-7.3

AROCLOR AVG: 210.9 CAL %D = -15.6

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/25/16

Lab Standard ID: AR1254

Time Analyzed :0336

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.46	10.36	10.56	254.4	250.0	1.7
Aroclor-1254-2	10.55	10.45	10.65	259.2	250.0	3.7
Aroclor-1254-3	10.85	10.75	10.95	233.2	250.0	-6.7
Aroclor-1254-4	10.99	10.89	11.09	251.4	250.0	0.6
Aroclor-1254-5	11.35	11.25	11.45	244.0	250.0	-2.4

AROCLOR AVG: 248.4 CAL %D = -0.6

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/25/16

Lab Standard ID: AR1254

Time Analyzed :0336

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254 [2C]-1	11.11	11.01	11.21	245.5	250.0	-1.8
Aroclor-1254 [2C]-2	11.21	11.11	11.31	251.0	250.0	0.4
Aroclor-1254 [2C]-3	11.65	11.55	11.75	211.5	250.0	-15.4
Aroclor-1254 [2C]-4	11.81	11.71	11.91	240.9	250.0	-3.6
Aroclor-1254 [2C]-5	12.82	12.72	12.92	239.0	250.0	-4.4

AROCLOR AVG: 237.6 CAL %D = -5.0

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: ANCHOR QEA LLC

ARI Job No.: AVZ9
Project: OMMP ADDENDUM 2

GC Column: ZB5
Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/25/16

Lab Standard ID: AR1660
Time Analyzed :0358

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.04	7.94	8.14	251.0	250.0	0.4
Aroclor-1016-2	8.55	8.45	8.65	248.6	250.0	-0.6
Aroclor-1016-3	8.86	8.76	8.96	263.0	250.0	5.2
Aroclor-1016-4	9.67	9.57	9.77	252.7	250.0	1.1

AROCLOR AVG: 253.8 CAL %D = 1.5

Date Analyzed :02/25/16

Lab Standard ID: AR1660
Time Analyzed :0358

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.26	12.16	12.36	280.6	250.0	12.2
Aroclor-1260-2	12.94	12.84	13.04	260.4	250.0	4.2
Aroclor-1260-3	13.33	13.23	13.43	275.6	250.0	10.2
Aroclor-1260-4	13.43	13.33	13.53	278.8	250.0	11.5
Aroclor-1260-5	13.84	13.74	13.94	268.3	250.0	7.3

AROCLOR AVG: 272.7 CAL %D = 9.1

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: ANCHOR QEA LLC

ARI Job No.: AVZ9
Project: OMMP ADDENDUM 2

GC Column: ZB35
Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/25/16

Lab Standard ID: AR1660
Time Analyzed :0358

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016 [2C]-1	8.63	8.53	8.73	249.8	250.0	-0.1
Aroclor-1016 [2C]-2	9.35	9.25	9.45	247.9	250.0	-0.8
Aroclor-1016 [2C]-3	9.59	9.49	9.69	261.7	250.0	4.7
Aroclor-1016 [2C]-4	10.53	10.43	10.63	254.6	250.0	1.8

AROCLOR AVG: 253.5 CAL %D = 1.4

Date Analyzed :02/25/16

Lab Standard ID: AR1660
Time Analyzed :0358

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260 [2C]-1	12.82	12.72	12.92	212.8	250.0	-14.9
Aroclor-1260 [2C]-2	13.58	13.48	13.68	206.3	250.0	-17.5
Aroclor-1260 [2C]-3	14.07	13.97	14.17	210.8	250.0	-15.7
Aroclor-1260 [2C]-4	14.63	14.53	14.73	229.4	250.0	-8.2

AROCLOR AVG: 214.8 CAL %D = -14.1

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/26/16

Lab Standard ID: AR1254

Time Analyzed :1020

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.46	10.36	10.56	248.7	250.0	-0.5
Aroclor-1254-2	10.54	10.44	10.64	253.8	250.0	1.5
Aroclor-1254-3	10.85	10.75	10.95	225.1	250.0	-10.0
Aroclor-1254-4	10.99	10.89	11.09	248.6	250.0	-0.5
Aroclor-1254-5	11.34	11.24	11.44	242.8	250.0	-2.9

AROCLOR AVG: 243.8 CAL %D = -2.5

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/26/16

Lab Standard ID: AR1254

Time Analyzed :1020

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254 [2C]-1	11.11	11.01	11.21	244.7	250.0	-2.1
Aroclor-1254 [2C]-2	11.21	11.11	11.31	251.0	250.0	0.4
Aroclor-1254 [2C]-3	11.65	11.55	11.75	206.6	250.0	-17.4
Aroclor-1254 [2C]-4	11.81	11.71	11.91	242.4	250.0	-3.0
Aroclor-1254 [2C]-5	12.82	12.72	12.92	240.4	250.0	-3.8

AROCLOR AVG: 237.0 CAL %D = -5.2

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ANCHOR QEA LLC

ARI Job No.: AVZ9 Project: OMMP ADDENDUM 2

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/26/16

Lab Standard ID: AR1660 Time Analyzed :1042

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.04	7.95	8.15	247.1	250.0	-1.2
Aroclor-1016-2	8.55	8.46	8.66	245.1	250.0	-1.9
Aroclor-1016-3	8.86	8.77	8.97	259.1	250.0	3.6
Aroclor-1016-4	9.67	9.57	9.77	249.5	250.0	-0.2

AROCLOR AVG: 250.2 CAL %D = 0.1

Date Analyzed :02/26/16

Lab Standard ID: AR1660 Time Analyzed :1042

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.26	12.16	12.36	266.1	250.0	6.4
Aroclor-1260-2	12.94	12.84	13.04	248.9	250.0	-0.4
Aroclor-1260-3	13.33	13.23	13.43	263.7	250.0	5.5
Aroclor-1260-4	13.43	13.33	13.53	266.2	250.0	6.5
Aroclor-1260-5	13.84	13.74	13.94	257.7	250.0	3.1

AROCLOR AVG: 260.5 CAL %D = 4.2

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ANCHOR QEA LLC

ARI Job No.: AVZ9 Project: OMMP ADDENDUM 2

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/26/16

Lab Standard ID: AR1660 Time Analyzed :1042

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016 [2C]-1	8.63	8.53	8.73	248.9	250.0	-0.4
Aroclor-1016 [2C]-2	9.35	9.25	9.45	246.0	250.0	-1.6
Aroclor-1016 [2C]-3	9.59	9.49	9.69	261.5	250.0	4.6
Aroclor-1016 [2C]-4	10.53	10.43	10.63	256.4	250.0	2.5

AROCLOR AVG: 253.2 CAL %D = 1.3

Date Analyzed :02/26/16

Lab Standard ID: AR1660 Time Analyzed :1042

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260 [2C]-1	12.82	12.72	12.92	211.6	250.0	-15.4
Aroclor-1260 [2C]-2	13.58	13.48	13.68	206.2	250.0	-17.5
Aroclor-1260 [2C]-3	14.07	13.97	14.17	215.0	250.0	-14.0
Aroclor-1260 [2C]-4	14.62	14.52	14.72	241.0	250.0	-3.6

AROCLOR AVG: 218.4 CAL %D = -12.6

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/26/16

Lab Standard ID: AR1248

Time Analyzed :1147

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	8.55	8.45	8.65	253.3	250.0	1.3
Aroclor-1248-2	9.48	9.38	9.58	258.1	250.0	3.2
Aroclor-1248-3	9.67	9.57	9.77	259.6	250.0	3.8
Aroclor-1248-4	10.07	9.97	10.17	254.6	250.0	1.8

AROCLOR AVG: 256.4 CAL %D = 2.6

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/26/16

Lab Standard ID: AR1248

Time Analyzed :1147

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248 [2C]-1	9.35	9.25	9.45	248.9	250.0	-0.4
Aroclor-1248 [2C]-2	9.88	9.78	9.98	250.5	250.0	0.2
Aroclor-1248 [2C]-3	10.80	10.70	10.90	246.6	250.0	-1.4
Aroclor-1248 [2C]-4	11.24	11.14	11.34	247.9	250.0	-0.8

AROCLOR AVG: 248.5 CAL %D = -0.6

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: ANCHOR QEA LLC

ARI Job No.: AVZ9
Project: OMMP ADDENDUM 2

GC Column: ZB5
Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/26/16

Lab Standard ID: AR1660
Time Analyzed :1209

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.05	7.95	8.15	247.0	250.0	-1.2
Aroclor-1016-2	8.56	8.46	8.66	245.9	250.0	-1.6
Aroclor-1016-3	8.87	8.77	8.97	260.5	250.0	4.2
Aroclor-1016-4	9.67	9.57	9.77	254.0	250.0	1.6

AROCLOR AVG: 251.9 CAL %D = 0.7

Date Analyzed :02/26/16

Lab Standard ID: AR1660
Time Analyzed :1209

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.26	12.16	12.36	256.6	250.0	2.6
Aroclor-1260-2	12.94	12.84	13.04	249.3	250.0	-0.3
Aroclor-1260-3	13.33	13.23	13.43	264.6	250.0	5.8
Aroclor-1260-4	13.43	13.33	13.53	267.5	250.0	7.0
Aroclor-1260-5	13.84	13.74	13.94	260.2	250.0	4.1

AROCLOR AVG: 259.6 CAL %D = 3.9

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: ANCHOR QEA LLC

ARI Job No.: AVZ9
Project: OMMP ADDENDUM 2

GC Column: ZB35
Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/26/16

Lab Standard ID: AR1660
Time Analyzed :1209

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016 [2C]-1	8.63	8.53	8.73	250.2	250.0	0.1
Aroclor-1016 [2C]-2	9.35	9.25	9.45	247.3	250.0	-1.1
Aroclor-1016 [2C]-3	9.59	9.49	9.69	263.1	250.0	5.2
Aroclor-1016 [2C]-4	10.53	10.43	10.63	257.7	250.0	3.1

AROCLOR AVG: 254.6 CAL %D = 1.8

Date Analyzed :02/26/16

Lab Standard ID: AR1660
Time Analyzed :1209

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260 [2C]-1	12.82	12.72	12.92	207.8	250.0	-16.9
Aroclor-1260 [2C]-2	13.58	13.48	13.68	202.6	250.0	-18.9
Aroclor-1260 [2C]-3	14.08	13.97	14.17	209.3	250.0	-16.3
Aroclor-1260 [2C]-4	14.63	14.52	14.72	232.1	250.0	-7.2

AROCLOR AVG: 213.0 CAL %D = -14.8

FORM VII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ANCHOR QEA LLC

ARI Job No.: AVZ9 Project: OMMP ADDENDUM 2

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 02/19/16

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	IS1 AREA	RT	IS2 AREA	RT
ICAL MIDPT	10288295	3.051	12470452	15.000
UPPER LIMIT	20576590	3.151	24940904	15.100
LOWER LIMIT	5144148	2.951	6235226	14.900

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	02/19/16	1636	10661131	3.053	12970613	15.000
02		0.25PPMAR166	02/19/16	1658	10288295	3.051	12470452	15.000
03		0.02PPMAR166	02/19/16	1720	10285465	3.053	12728591	15.000
04		0.05PPMAR166	02/19/16	1742	10300735	3.052	12566786	15.000
05		1PPMAR1660	02/19/16	1804	10289010	3.051	12487766	15.000
06		0.1PPMAR1660	02/19/16	1826	10414273	3.050	12696349	15.000
07		0.5PPMAR1660	02/19/16	1848	10603199	3.051	12934017	15.000
08		AR1242	02/19/16	1909	10337924	3.050	12790976	14.999
09		AR1248	02/19/16	1931	10440311	3.049	12823180	15.000
10		AR1254	02/19/16	1953	10412067	3.050	12687497	15.000
11		AR2162	02/19/16	2015	10564168	3.047	12962486	15.000
12		AR3268	02/19/16	2037	10714563	3.048	12920228	15.000
13	ZZZZZ	ZZZZZ	02/19/16	2059	10549054	3.050	13095374	15.000
14	ZZZZZ	ZZZZZ	02/19/16	2121	10275020	3.048	12703587	15.000
15	ZZZZZ	ZZZZZ	02/19/16	2143	10543721	3.049	12966998	15.000
16	ZZZZZ	ZZZZZ	02/19/16	2205	10636230	3.049	13075443	14.999
17	ZZZZZ	ZZZZZ	02/19/16	2227	10606807	3.049	13078185	14.999
18	ZZZZZ	ZZZZZ	02/19/16	2248	10344269	3.047	12738843	15.000
19		DDT	02/19/16	2310	10877871	3.048		
20	ZZZZZ	ZZZZZ	02/19/16	2332	10348457	3.048		
21		AR1254A	02/24/16	1555	10192428	3.046	11835219	15.000
22		AR1660A	02/24/16	1617	10166056	3.047	12061079	15.000
23	AVZ9MBS1	AVZ9MBS1	02/24/16	1829	10259443	3.051	12183344	14.999
24	AVZ9LCSS1	AVZ9LCSS1	02/24/16	1851	10981406	3.049	12914035	14.999
25	PSR	AVZ9SRM1	02/24/16	1913	10930698	3.048	11818128	14.998
26		AR1242B	02/24/16	1935	10442060	3.048	12072066	14.999
27		AR1660B	02/24/16	1957	10399789	3.050	12117734	14.999
28	JF-PDS-6-0-1	AVZ9A	02/24/16	2019	11326062	3.049	12416922	14.998
29	JF-PDS-6-1-2	AVZ9B	02/24/16	2040	11667388	3.047	11175243	14.999
30	JF-PDS-4-0-1	AVZ9C	02/24/16	2102	14411365	3.048	8054496	14.998
31	JF-PDS-4-1-2	AVZ9D	02/24/16	2124	11439063	3.046	11954223	14.998
32	JF-PDS-2-0-1	AVZ9E	02/24/16	2146	13060366	3.047	8640528	14.998

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

AVZ9:00091

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ANCHOR QEA LLC

ARI Job No.: AVZ9 Project: OMMP ADDENDUM 2

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 02/19/16

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	IS1 AREA	RT	IS2 AREA	RT
ICAL MIDPT	10288295	3.051	12470452	15.000
UPPER LIMIT	20576590	3.151	24940904	15.100
LOWER LIMIT	5144148	2.951	6235226	14.900

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
33	JF-PDS-2-1-2	AVZ9F	02/24/16	2208	14250912	3.046	8607148	14.998
34	JF-PDS-2-1-2	AVZ9FMS	02/24/16	2230	13841920	3.046	9247635	14.998
35	JF-PDS-2-1-2	AVZ9FMSD	02/24/16	2252	14418810	3.048	8818258	14.998
36		AR1248	02/24/16	2314	9888568	3.048	11077396	14.999
37		AR1660	02/24/16	2336	10684307	3.046	12130278	14.999
38	JF-PDS-1-0-1	AVZ9G	02/24/16	2357	13036478	3.047	8190226	14.997
39	JF-PDS-1-1-2	AVZ9H	02/25/16	0019	11352281	3.049	10460536	14.998
40	JF-PDS-3-0-1	AVZ9I	02/25/16	0041	11959482	3.047	9994460	14.998
41	JF-PDS-3-1-2	AVZ9J	02/25/16	0103	15684310	3.049	8540435	14.998
42	JF-PDS-103-1	AVZ9K	02/25/16	0125	14851306	3.046	8799485	14.998
43	JF-PDS-5-0-1	AVZ9L	02/25/16	0147	11903511	3.048	8774027	15.000
44	JF-PDS-5-1-2	AVZ9M	02/25/16	0209	12446097	3.046	9617804	14.999
45	JF-PDS-7-0-1	AVZ9O	02/25/16	0252	10611292	3.048	11307030	14.999
46	JF-PDS-7-1-2	AVZ9P	02/25/16	0314	11366988	3.048	11934085	14.998
47		AR1254	02/25/16	0336	10694013	3.046	11705529	14.999
48		AR1660	02/25/16	0358	10900909	3.047	12328343	14.999
49		AR1254	02/26/16	1020	11441174	3.049	13093729	15.000
50		AR1660	02/26/16	1042	11820968	3.049	13788248	15.000
51	JF-PDS-5-0-1	AVZ9L	02/26/16	1103	10461566	3.047	9759891	14.998
52	JF-PDS-105-0	AVZ9N	02/26/16	1125	10051991	3.050	10196627	14.998
53		AR1248	02/26/16	1147	9997665	3.049	11255499	14.999
54		AR1660	02/26/16	1209	11754199	3.051	13474230	15.000

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

AVZ9.00052

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ANCHOR QEA LLC

ARI Job No.: AVZ9 Project: OMMP ADDENDUM 2

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 02/19/16

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	IS1 AREA	RT	IS2 AREA	RT
ICAL MIDPT	15804744	4.218	11807823	15.850
UPPER LIMIT	31609488	4.318	23615646	15.950
LOWER LIMIT	7902372	4.118	5903912	15.750

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	02/19/16	1636	16365254	4.220	12236117	15.850
02		0.25PPMAR166	02/19/16	1658	15804744	4.218	11807823	15.850
03		0.02PPMAR166	02/19/16	1720	15956467	4.221	12010990	15.850
04		0.05PPMAR166	02/19/16	1742	15794112	4.220	11898490	15.850
05		1PPMAR1660	02/19/16	1804	15681274	4.217	12053412	15.850
06		0.1PPMAR1660	02/19/16	1826	15861283	4.218	12076541	15.849
07		0.5PPMAR1660	02/19/16	1848	16055838	4.218	12279136	15.850
08		AR1242	02/19/16	1909	15715878	4.216	12072326	15.850
09		AR1248	02/19/16	1931	15779494	4.216	12170945	15.850
10		AR1254	02/19/16	1953	15601559	4.216	12105453	15.850
11		AR2162	02/19/16	2015	15598166	4.214	12406205	15.850
12		AR3268	02/19/16	2037	15611734	4.215	12383383	15.849
13	ZZZZZ	ZZZZZ	02/19/16	2059	15836921	4.216	12530415	15.850
14	ZZZZZ	ZZZZZ	02/19/16	2121	15382250	4.215	12283948	15.850
15	ZZZZZ	ZZZZZ	02/19/16	2143	15624847	4.216	12579889	15.850
16	ZZZZZ	ZZZZZ	02/19/16	2205	15787121	4.215	12674307	15.850
17	ZZZZZ	ZZZZZ	02/19/16	2227	15534505	4.216	12718711	15.850
18	ZZZZZ	ZZZZZ	02/19/16	2248	15382140	4.214	12461313	15.850
19		DDT	02/19/16	2310				
20	ZZZZZ	ZZZZZ	02/19/16	2332				
21		AR1254A	02/24/16	1555	14010183	4.211	12246364	15.850
22		AR1660A	02/24/16	1617	14254336	4.214	12743031	15.850
23	AVZ9MBS1	AVZ9MBS1	02/24/16	1829	14463912	4.218	12209510	15.850
24	AVZ9LCSS1	AVZ9LCSS1	02/24/16	1851	15320350	4.217	13239492	15.849
25	PSR	AVZ9SRM1	02/24/16	1913	15458717	4.214	13225969	15.849
26		AR1242B	02/24/16	1935	15020195	4.215	13302068	15.850
27		AR1660B	02/24/16	1957	14944611	4.217	13005994	15.850
28	JF-PDS-6-0-1	AVZ9A	02/24/16	2019	15654202	4.215	13690558	15.849
29	JF-PDS-6-1-2	AVZ9B	02/24/16	2040	15287797	4.213	13464972	15.849
30	JF-PDS-4-0-1	AVZ9C	02/24/16	2102	15712152	4.215	12115529	15.849
31	JF-PDS-4-1-2	AVZ9D	02/24/16	2124	15469418	4.213	13174789	15.848
32	JF-PDS-2-0-1	AVZ9E	02/24/16	2146	15201859	4.212	12486701	15.849

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: ANCHOR QEA LLC

ARI Job No.: AVZ9 Project: OMMP ADDENDUM 2

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 02/19/16

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	IS1 AREA	RT	IS2 AREA	RT
ICAL MIDPT	15804744	4.218	11807823	15.850
UPPER LIMIT	31609488	4.318	23615646	15.950
LOWER LIMIT	7902372	4.118	5903912	15.750

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
33	JF-PDS-2-1-2	AVZ9F	02/24/16	2208	15945824	4.213	12786647	15.849
34	JF-PDS-2-1-2	AVZ9FMS	02/24/16	2230	16444592	4.214	13615658	15.848
35	JF-PDS-2-1-2	AVZ9FMSD	02/24/16	2252	16553563	4.214	13219703	15.849
36		AR1248	02/24/16	2314	14250138	4.214	12601012	15.850
37		AR1660	02/24/16	2336	15402774	4.213	13780165	15.851
38	JF-PDS-1-0-1	AVZ9G	02/24/16	2357	15003909	4.215	11981675	15.849
39	JF-PDS-1-1-2	AVZ9H	02/25/16	0019	15314346	4.215	13019686	15.849
40	JF-PDS-3-0-1	AVZ9I	02/25/16	0041	15688984	4.214	12985951	15.849
41	JF-PDS-3-1-2	AVZ9J	02/25/16	0103	16636402	4.215	12784588	15.849
42	JF-PDS-103-1	AVZ9K	02/25/16	0125	16503196	4.213	12980381	15.849
43	JF-PDS-5-0-1	AVZ9L	02/25/16	0147	14227783	4.214	10838098	15.849
44	JF-PDS-5-1-2	AVZ9M	02/25/16	0209	15728991	4.212	12890206	15.850
45	JF-PDS-7-0-1	AVZ9O	02/25/16	0252	14989849	4.216	11953216	15.849
46	JF-PDS-7-1-2	AVZ9P	02/25/16	0314	14818521	4.213	12776821	15.849
47		AR1254	02/25/16	0336	15287474	4.214	12635625	15.850
48		AR1660	02/25/16	0358	15661164	4.214	13164141	15.849
49		AR1254	02/26/16	1020	16335481	4.214	13691433	15.849
50		AR1660	02/26/16	1042	16951127	4.216	14436119	15.849
51	JF-PDS-5-0-1	AVZ9L	02/26/16	1103	14217366	4.214	11300918	15.848
52	JF-PDS-105-0	AVZ9N	02/26/16	1125	14470033	4.218	11447769	15.848
53		AR1248	02/26/16	1147	14792964	4.216	12227380	15.850
54		AR1660	02/26/16	1209	17061448	4.219	14664981	15.850

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

AVZ9:00094

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3510C

Sample ID: JF-RB-160212
SAMPLE

Lab Sample ID: AVZ9AQ
LIMS ID: 16-2479
Matrix: Water
Data Release Authorized:
Reported: 02/26/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: 02/12/16
Date Received: 02/12/16

Date Extracted: 02/19/16
Date Analyzed: 02/22/16 20:59
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	DL	LOQ	Result
12674-11-2	Aroclor 1016	0.0025	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.0025	0.010	< 0.010 U
12672-29-6	**Aroclor 1248**	**0.0025**	**0.010**	**0.014**
11097-69-1	**Aroclor 1254**	**0.0025**	**0.010**	**0.033**
11096-82-5	**Aroclor 1260**	**0.0028**	**0.010**	**0.0070 J**
11104-28-2	Aroclor 1221	0.0025	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.0025	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	48.5%
Tetrachlorometaxylene	57.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-021916	60.8%	29-120	57.5%	32-120	0
LCS-021916	71.5%	29-120	58.5%	32-120	0
JF-RB-160212	48.5%	29-120	57.8%	32-120	0

Prep Method: SW3510C
Log Number Range: 16-2479 to 16-2479

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A

Sample ID: LCS-021916
LAB CONTROL

Lab Sample ID: LCS-021916
LIMS ID: 16-2479
Matrix: Water
Data Release Authorized:
Reported: 02/26/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: NA
Date Received: NA

Date Extracted: 02/19/16
Date Analyzed: 02/22/16 20:15
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	0.044	0.050	88.0%
Aroclor 1260	0.042	0.050	84.0%

PCB Surrogate Recovery

Decachlorobiphenyl	71.5%
Tetrachlorometaxylene	58.5%

Results reported in µg/L

FORM III

PCB METHOD BLANK SUMMARY

BLANK NO.

AVZ9MBW1

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA, LLC

ARI Job No.: AVZ9

Project: OMMP ADDENDUM 2-JORG

Lab Sample ID: AVZ9MBW1

Lab File ID: 02221617

Date Extracted: 02/19/16

Matrix: LIQUID

Date Analyzed: 02/22/16

Instrument ID: ECD7

Time Analyzed: 1953

GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	AVZ9LCSW1	AVZ9LCSW1	02/22/16
02	JF-RB-160212	AVZ9AQ	02/22/16
03	JF-RINSATE-V-160201	AWE4A	02/22/16

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3510C

Sample ID: MB-021916
METHOD BLANK

Lab Sample ID: MB-021916
LIMS ID: 16-2479
Matrix: Water
Data Release Authorized: MW
Reported: 02/26/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: NA
Date Received: NA

Date Extracted: 02/19/16
Date Analyzed: 02/22/16 19:53
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	DL	LOQ	Result
12674-11-2	Aroclor 1016	0.0025	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.0025	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.0025	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.0025	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.0028	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.0025	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.0025	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	60.8%
Tetrachlorometaxylene	57.5%

FORM I

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA

ARI Job No.: AVZ9

Project: OMMP ADDENDUM

GC Column: ZB5

Instrument ID: ECD7

Calibration Date: 02/19/16

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	7.94- 8.14	0.0109	0.0108	0.0106	0.0102	0.0097	0.0092	0.0102	6.5
2	8.45- 8.65	0.0324	0.0329	0.0322	0.0314	0.0304	0.0301	0.0316	3.6
3	8.76- 8.96	0.0090	0.0114	0.0113	0.0113	0.0109	0.0108	0.0108	8.3
4	9.57- 9.77	0.0119	0.0126	0.0125	0.0121	0.0117	0.0114	0.0120	4.0

AROCLOR AVERAGE %RSD = 5.6

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	12.16-12.36	0.0215	0.0207	0.0200	0.0189	0.0179	0.0176	0.0194	7.8
2	12.84-13.04	0.0754	0.0890	0.0686	0.0694	0.0689	0.0723	0.0739	10.6
3	13.23-13.43	0.0311	0.0318	0.0316	0.0320	0.0316	0.0325	0.0318	1.5
4	13.33-13.53	0.0197	0.0200	0.0199	0.0199	0.0194	0.0196	0.0197	1.2
5	13.74-13.94	0.0113	0.0118	0.0115	0.0116	0.0114	0.0116	0.0115	1.5

AROCLOR AVERAGE %RSD = 4.5

FORM VI PCB-1

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA

ARI Job No.: AVZ9

Project: OMMP ADDENDUM

GC Column: ZB35

Instrument ID: ECD7

Calibration Date: 02/19/16

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	8.53- 8.73	0.0444	0.0433	0.0415	0.0398	0.0364	0.0337	0.0399	10.3
2	9.25- 9.45	0.0868	0.0849	0.0852	0.0833	0.0781	0.0742	0.0821	6.0
3	9.49- 9.69	0.0336	0.0330	0.0342	0.0341	0.0317	0.0300	0.0328	4.9
4	10.43-10.63	0.0159	0.0157	0.0156	0.0154	0.0146	0.0141	0.0152	4.7

AROCLOR AVERAGE %RSD = 6.5

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	12.72-12.92	0.0828	0.0772	0.0755	0.0736	0.0681	0.0654	0.0738	8.5
2	13.48-13.68	0.1478	0.1501	0.1465	0.1449	0.1366	0.1324	0.1431	4.9
3	13.98-14.18	0.1012	0.1011	0.0964	0.0934	0.0890	0.0858	0.0945	6.7
4	14.53-14.73	0.0395	0.0369	0.0371	0.0359	0.0345	0.0335	0.0362	5.8

AROCLOR AVERAGE %RSD = 6.5

FORM VI PCB-1

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: ANCHOR QEA

ARI Job No.: AVZ9 Project: OMMP ADDENDUM

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 02/19/16

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	4.714	4.61- 4.81	0.00253
2	6.690	6.59- 6.79	0.00407
3	6.815	6.72- 6.92	0.01215

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	4.715	4.61- 4.81	0.00144
2	6.690	6.59- 6.79	0.00273
3	6.815	6.71- 6.91	0.00806
4	8.554	8.45- 8.65	0.01317

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.556	8.46- 8.66	0.02459
2	8.864	8.76- 8.96	0.00903
3	9.671	9.57- 9.77	0.01142
4	10.072	9.97-10.17	0.00825

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	8.552	8.45- 8.65	0.01443
2	9.477	9.38- 9.58	0.01074
3	9.670	9.57- 9.77	0.01613
4	10.072	9.97-10.17	0.01341

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: ANCHOR QEA

ARI Job No.: AVZ9 Project: OMMP ADDENDUM

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 02/19/16

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.464	10.36-10.56	0.01771
2	10.545	10.45-10.65	0.00590
3	10.850	10.75-10.95	0.01448
4	10.990	10.89-11.09	0.02841
5	11.345	11.25-11.45	0.02782

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.260	12.16-12.36	0.02589
2	12.940	12.84-13.04	0.07590
3	13.330	13.23-13.43	0.02405
4	13.430	13.33-13.53	0.03625
5	14.055	13.96-14.16	0.04072

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.431	13.33-13.53	0.10548
2	13.495	13.39-13.59	0.13079
3	13.827	13.73-13.93	0.11835
4	14.446	14.35-14.55	0.42847

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: ANCHOR QEA

ARI Job No.: AVZ9 Project: OMMP ADDENDUM

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 02/19/16

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	5.585	5.49- 5.69	0.00745
2	7.623	7.52- 7.72	0.00694
3	7.763	7.66- 7.86	0.02196
4	8.643	8.54- 8.74	0.00728

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	5.586	5.49- 5.69	0.00449
2	7.623	7.52- 7.72	0.00423
3	7.852	7.75- 7.95	0.00239
4	8.628	8.53- 8.73	0.01855

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.628	8.53- 8.73	0.03098
2	9.354	9.25- 9.45	0.06413
3	9.781	9.68- 9.88	0.01656
4	10.879	10.78-10.98	0.02230

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.347	9.25- 9.45	0.03827
2	9.882	9.78- 9.98	0.02820
3	10.798	10.70-10.90	0.04309
4	11.243	11.14-11.34	0.04304

AVZ9 00104

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: ANCHOR QEA

ARI Job No.: AVZ9 Project: OMMP ADDENDUM

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 02/19/16

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	11.112	11.01-11.21	0.04022
2	11.211	11.11-11.31	0.01884
3	11.654	11.55-11.75	0.03019
4	11.807	11.71-11.91	0.06887
5	12.817	12.72-12.92	0.05075

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.905	12.80-13.00	0.08135
2	13.349	13.25-13.45	0.07518
3	13.581	13.48-13.68	0.15342
4	14.075	13.98-14.18	0.09981
5	14.625	14.53-14.73	0.05116

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	14.021	13.92-14.12	0.15952
2	14.076	13.98-14.18	0.14915
3	14.388	14.29-14.49	0.12004
4	14.973	14.87-15.07	0.34255

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA

ARI Job No.: AVZ9

Project: OMMP ADDENDUM

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/22/16

Lab Standard ID: AR1242

Time Analyzed :1804

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	8.55	8.45	8.65	246.5	250.0	-1.4
Aroclor-1242-2	8.86	8.76	8.96	248.7	250.0	-0.5
Aroclor-1242-3	9.67	9.57	9.77	252.9	250.0	1.2
Aroclor-1242-4	10.07	9.97	10.17	248.7	250.0	-0.5

AROCLOR AVG: 249.2 CAL %D = -0.3

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA

ARI Job No.: AVZ9

Project: OMMP ADDENDUM

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/22/16

Lab Standard ID: AR1242

Time Analyzed :1804

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242 [2C]-1	8.62	8.52	8.72	253.1	250.0	1.2
Aroclor-1242 [2C]-2	9.35	9.25	9.45	253.0	250.0	1.2
Aroclor-1242 [2C]-3	9.78	9.68	9.88	252.9	250.0	1.2
Aroclor-1242 [2C]-4	10.88	10.78	10.98	248.2	250.0	-0.7

AROCLOR AVG: 251.8 CAL %D = 0.7

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: ANCHOR QEA

ARI Job No.: AVZ9

Project: OMMP ADDENDUM

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/22/16

Lab Standard ID: AR1660

Time Analyzed :1826

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.04	7.94	8.14	246.7	250.0	-1.3
Aroclor-1016-2	8.55	8.45	8.65	244.8	250.0	-2.1
Aroclor-1016-3	8.86	8.76	8.96	259.7	250.0	3.9
Aroclor-1016-4	9.67	9.57	9.77	252.4	250.0	1.0

AROCLOR AVG: 250.9 CAL %D = 0.4

Date Analyzed :02/22/16

Lab Standard ID: AR1660

Time Analyzed :1826

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.26	12.16	12.36	259.8	250.0	3.9
Aroclor-1260-2	12.94	12.84	13.04	248.5	250.0	-0.6
Aroclor-1260-3	13.33	13.23	13.43	265.3	250.0	6.1
Aroclor-1260-4	13.43	13.33	13.53	267.1	250.0	6.8
Aroclor-1260-5	13.84	13.74	13.94	263.1	250.0	5.2

AROCLOR AVG: 260.8 CAL %D = 4.3

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ANCHOR QEA

ARI Job No.: AVZ9 Project: OMMP ADDENDUM

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/22/16

Lab Standard ID: AR1660 Time Analyzed :1826

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016 [2C]-1	8.62	8.53	8.73	251.4	250.0	0.5
Aroclor-1016 [2C]-2	9.35	9.25	9.45	252.1	250.0	0.8
Aroclor-1016 [2C]-3	9.58	9.49	9.69	262.2	250.0	4.9
Aroclor-1016 [2C]-4	10.52	10.43	10.63	253.1	250.0	1.2

AROCLOR AVG: 254.7 CAL %D = 1.9

Date Analyzed :02/22/16

Lab Standard ID: AR1660 Time Analyzed :1826

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260 [2C]-1	12.82	12.72	12.92	217.0	250.0	-13.2
Aroclor-1260 [2C]-2	13.58	13.48	13.68	217.7	250.0	-12.9
Aroclor-1260 [2C]-3	14.08	13.98	14.18	222.7	250.0	-10.9
Aroclor-1260 [2C]-4	14.63	14.53	14.73	238.7	250.0	-4.5

AROCLOR AVG: 224.0 CAL %D = -10.4

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: ANCHOR QEA

ARI Job No.: AVZ9
Project: OMMP ADDENDUM

GC Column: ZB5
Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/22/16

Lab Standard ID: AR1248
Time Analyzed :2142

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	8.55	8.45	8.65	249.8	250.0	-0.1
Aroclor-1248-2	9.48	9.38	9.58	253.3	250.0	1.3
Aroclor-1248-3	9.67	9.57	9.77	253.8	250.0	1.5
Aroclor-1248-4	10.07	9.97	10.17	251.3	250.0	0.5

AROCLOR AVG: 252.0 CAL %D = 0.8

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: ANCHOR QEA

ARI Job No.: AVZ9
Project: OMMP ADDENDUM

GC Column: ZB35
Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/22/16

Lab Standard ID: AR1248
Time Analyzed :2142

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248 [2C]-1	9.35	9.25	9.45	251.7	250.0	0.7
Aroclor-1248 [2C]-2	9.88	9.78	9.98	252.8	250.0	1.1
Aroclor-1248 [2C]-3	10.80	10.70	10.90	251.9	250.0	0.7
Aroclor-1248 [2C]-4	11.24	11.14	11.34	252.8	250.0	1.1

AROCLOR AVG: 252.3 CAL %D = 0.9

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ANCHOR QEA

ARI Job No.: AVZ9 Project: OMMP ADDENDUM

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/22/16

Lab Standard ID: AR1660 Time Analyzed :2204

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.04	7.94	8.14	248.0	250.0	-0.8
Aroclor-1016-2	8.55	8.45	8.65	246.9	250.0	-1.2
Aroclor-1016-3	8.86	8.76	8.96	262.0	250.0	4.8
Aroclor-1016-4	9.67	9.57	9.77	254.6	250.0	1.8

AROCLOR AVG: 252.9 CAL %D = 1.1

Date Analyzed :02/22/16

Lab Standard ID: AR1660 Time Analyzed :2204

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.26	12.16	12.36	255.9	250.0	2.3
Aroclor-1260-2	12.94	12.84	13.04	239.8	250.0	-4.1
Aroclor-1260-3	13.33	13.23	13.43	256.4	250.0	2.5
Aroclor-1260-4	13.43	13.33	13.53	258.1	250.0	3.2
Aroclor-1260-5	13.84	13.74	13.94	253.2	250.0	1.3

AROCLOR AVG: 252.7 CAL %D = 1.1

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: ANCHOR QEA

ARI Job No.: AVZ9
Project: OMMP ADDENDUM

GC Column: ZB35
Intrument: ECD7

Init. Calib. Date: 02/19/16

Date Analyzed :02/22/16

Lab Standard ID: AR1660
Time Analyzed :2204

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016 [2C]-1	8.63	8.53	8.73	250.6	250.0	0.2
Aroclor-1016 [2C]-2	9.35	9.25	9.45	251.8	250.0	0.7
Aroclor-1016 [2C]-3	9.59	9.49	9.69	262.9	250.0	5.2
Aroclor-1016 [2C]-4	10.53	10.43	10.63	255.3	250.0	2.1

AROCLOR AVG: 255.2 CAL %D = 2.1

Date Analyzed :02/22/16

Lab Standard ID: AR1660
Time Analyzed :2204

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260 [2C]-1	12.82	12.72	12.92	209.9	250.0	-16.0
Aroclor-1260 [2C]-2	13.58	13.48	13.68	211.4	250.0	-15.4
Aroclor-1260 [2C]-3	14.08	13.98	14.18	217.3	250.0	-13.1
Aroclor-1260 [2C]-4	14.63	14.53	14.73	238.5	250.0	-4.6

AROCLOR AVG: 219.3 CAL %D = -12.3

FORM VII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ANCHOR QEA

ARI Job No.: AVZ9 Project: OMMP ADDENDUM

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 02/19/16

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	IS1 AREA	RT	IS2 AREA	RT
ICAL MIDPT	10288295	3.051	12470452	15.000
UPPER LIMIT	20576590	3.151	24940904	15.100
LOWER LIMIT	5144148	2.951	6235226	14.900

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	02/19/16	1636	10661131	3.053	12970613	15.000
02		0.25PPMAR166	02/19/16	1658	10288295	3.051	12470452	15.000
03		0.02PPMAR166	02/19/16	1720	10285465	3.053	12728591	15.000
04		0.05PPMAR166	02/19/16	1742	10300735	3.052	12566786	15.000
05		1PPMAR1660	02/19/16	1804	10289010	3.051	12487766	15.000
06		0.1PPMAR1660	02/19/16	1826	10414273	3.050	12696349	15.000
07		0.5PPMAR1660	02/19/16	1848	10603199	3.051	12934017	15.000
08		AR1242	02/19/16	1909	10337924	3.050	12790976	14.999
09		AR1248	02/19/16	1931	10440311	3.049	12823180	15.000
10		AR1254	02/19/16	1953	10412067	3.050	12687497	15.000
11		AR2162	02/19/16	2015	10564168	3.047	12962486	15.000
12		AR3268	02/19/16	2037	10714563	3.048	12920228	15.000
13	ZZZZZ	ZZZZZ	02/19/16	2059	10549054	3.050	13095374	15.000
14	ZZZZZ	ZZZZZ	02/19/16	2121	10275020	3.048	12703587	15.000
15	ZZZZZ	ZZZZZ	02/19/16	2143	10543721	3.049	12966998	15.000
16	ZZZZZ	ZZZZZ	02/19/16	2205	10636230	3.049	13075443	14.999
17	ZZZZZ	ZZZZZ	02/19/16	2227	10606807	3.049	13078185	14.999
18	ZZZZZ	ZZZZZ	02/19/16	2248	10344269	3.047	12738843	15.000
19		DDT	02/19/16	2310	10877871	3.048		
20	ZZZZZ	ZZZZZ	02/19/16	2332	10348457	3.048		
21		AR1242	02/22/16	1804	11314932	3.046	12491680	15.001
22		AR1660	02/22/16	1826	11526882	3.046	12869808	15.001
23	AVZ9MBW1	AVZ9MBW1	02/22/16	1953	11623785	3.048	13650888	14.999
24	AVZ9LCSW1	AVZ9LCSW1	02/22/16	2015	11000219	3.047	13223962	14.999
25	ZZZZZ	ZZZZZ	02/22/16	2037	11125134	3.046	13163420	14.999
26	JF-RB-160212	AVZ9AQ	02/22/16	2059	11620119	3.047	13794582	14.999
27	JF-RINSATE-V	AWE4A	02/22/16	2121	10906169	3.048	12957308	14.999
28		AR1248	02/22/16	2142	10701570	3.047	12691429	15.000
29		AR1660	02/22/16	2204	11673340	3.047	13764480	15.000

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

AVZ9 00114

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ANCHOR QEA

ARI Job No.: AVZ9 Project: OMMP ADDENDUM

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 02/19/16

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	IS1 AREA	RT	IS2 AREA	RT
ICAL MIDPT	15804744	4.218	11807823	15.850
UPPER LIMIT	31609488	4.318	23615646	15.950
LOWER LIMIT	7902372	4.118	5903912	15.750

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	02/19/16	1636	16365254	4.220	12236117	15.850
02		0.25PPMAR166	02/19/16	1658	15804744	4.218	11807823	15.850
03		0.02PPMAR166	02/19/16	1720	15956467	4.221	12010990	15.850
04		0.05PPMAR166	02/19/16	1742	15794112	4.220	11898490	15.850
05		1PPMAR1660	02/19/16	1804	15681274	4.217	12053412	15.850
06		0.1PPMAR1660	02/19/16	1826	15861283	4.218	12076541	15.849
07		0.5PPMAR1660	02/19/16	1848	16055838	4.218	12279136	15.850
08		AR1242	02/19/16	1909	15715878	4.216	12072326	15.850
09		AR1248	02/19/16	1931	15779494	4.216	12170945	15.850
10		AR1254	02/19/16	1953	15601559	4.216	12105453	15.850
11		AR2162	02/19/16	2015	15598166	4.214	12406205	15.850
12		AR3268	02/19/16	2037	15611734	4.215	12383383	15.849
13	ZZZZZ	ZZZZZ	02/19/16	2059	15836921	4.216	12530415	15.850
14	ZZZZZ	ZZZZZ	02/19/16	2121	15382250	4.215	12283948	15.850
15	ZZZZZ	ZZZZZ	02/19/16	2143	15624847	4.216	12579889	15.850
16	ZZZZZ	ZZZZZ	02/19/16	2205	15787121	4.215	12674307	15.850
17	ZZZZZ	ZZZZZ	02/19/16	2227	15534505	4.216	12718711	15.850
18	ZZZZZ	ZZZZZ	02/19/16	2248	15382140	4.214	12461313	15.850
19		DDT	02/19/16	2310				
20	ZZZZZ	ZZZZZ	02/19/16	2332				
21		AR1242	02/22/16	1804	15067607	4.210	12207209	15.851
22		AR1660	02/22/16	1826	15663002	4.211	13026923	15.850
23	AVZ9MBW1	AVZ9MBW1	02/22/16	1953	16185646	4.213	14394308	15.850
24	AVZ9LCSW1	AVZ9LCSW1	02/22/16	2015	15531394	4.213	13468643	15.850
25	ZZZZZ	ZZZZZ	02/22/16	2037	15501143	4.213	13384753	15.849
26	JF-RB-160212	AVZ9AQ	02/22/16	2059	15943859	4.213	13793096	15.849
27	JF-RINSATE-V	AWE4A	02/22/16	2121	15239998	4.214	13191485	15.850
28		AR1248	02/22/16	2142	15110240	4.215	13097234	15.850
29		AR1660	02/22/16	2204	16299208	4.214	14200925	15.850

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

Metals Analysis
Report and Summary QC Forms

ARI Job ID: AVZ9

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg

SDG: AVZ9

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
JF-PDS-6-0-1ft-160	AVZ9A	16-2437	
JF-PDS-6-0-1ft-160D	AVZ9ADUP	16-2437	
JF-PDS-6-0-1ft-160S	AVZ9ASPK	16-2437	
JF-PDS-6-1-2ft-160	AVZ9B	16-2438	
JF-PDS-4-0-1ft-160	AVZ9C	16-2439	
JF-PDS-4-1-2ft-160	AVZ9D	16-2440	
JF-PDS-2-0-1ft-160	AVZ9E	16-2441	
JF-PDS-2-1-2ft-160	AVZ9F	16-2442	
JF-PDS-1-0-1ft-160	AVZ9G	16-2443	
JF-PDS-1-1-2ft-160	AVZ9H	16-2444	
JF-PDS-3-0-1ft-160	AVZ9I	16-2445	
JF-PDS-3-1-2ft-160	AVZ9J	16-2446	
JF-PDS-103-1-2ft-1	AVZ9K	16-2447	
JF-PDS-5-0-1ft-160	AVZ9L	16-2448	
JF-PDS-5-1-2ft-160	AVZ9M	16-2449	
JF-PDS-105-0-1ft-1	AVZ9N	16-2450	
JF-PDS-7-0-1ft-160	AVZ9O	16-2451	
PBS	AVZ9MB1	16-2452	
LCSS	AVZ9MB1SPK	16-2452	
JF-PDS-7-1-2ft-160	AVZ9P	16-2452	
JF-RB-160212	AVZ9AQ	16-2479	

Were ICP interelement corrections applied ?	Yes/No	YES
Were ICP background corrections applied ?	Yes/No	YES
If yes - were raw data generated before application of background corrections ?	Yes/No	NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: Eric Larson Name: Eric Larson

Date: 3-7-16 Title: Inorganics Director

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg

SDG: AVZ9

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
JF-RB-160212D	AVZ9AQDUP	16-2479	
JF-RB-160212S	AVZ9AQSPK	16-2479	
PBW	AVZ9MB2	16-2479	
LCSW	AVZ9MB2SPK	16-2479	

Were ICP interelement corrections applied ?	Yes/No	YES
Were ICP background corrections applied ?	Yes/No	YES
If yes - were raw data generated before application of background corrections ?	Yes/No	NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: Eric Larson Name: Eric Larson

Date: 3-7-16 Title: Inorganics Director

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-6-0-1ft-160209
SAMPLE

Lab Sample ID: AVZ9A
LIMS ID: 16-2437
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/09/16
Date Received: 02/12/16

Percent Total Solids: 87.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.02	0.1	**2.9**	
3050B	03/01/16	6020A	03/04/16	**7440-43-9**	**Cadmium**	0.0039	0.0545	**0.0436**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.04	0.3	**8.8**	
3050B	03/01/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.020	0.3	**12.0**	
3050B	03/01/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.0044	0.05	**3.61**	
CLP	03/01/16	7471A	03/04/16	**7439-97-6**	**Mercury**	0.00044	0.00844	**0.00675**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.002	0.109	**0.060**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.16	2	**26**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-6-1-2ft-160209
SAMPLE

Lab Sample ID: AVZ9B
LIMS ID: 16-2438
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/09/16
Date Received: 02/12/16

Percent Total Solids: 85.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.02	0.1	**2.6**	
3050B	03/01/16	6020A	03/04/16	**7440-43-9**	**Cadmium**	0.0041	0.0575	**0.0230**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.04	0.3	**8.9**	
3050B	03/01/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.021	0.3	**10.4**	
3050B	03/01/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.0046	0.06	**1.32**	
CLP	03/01/16	7471A	03/04/16	**7439-97-6**	**Mercury**	0.00049	0.00944	**0.00472**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.002	0.115	**0.029**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.16	2	**24**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-4-0-1ft-160210
SAMPLE

Lab Sample ID: AVZ9C
LIMS ID: 16-2439
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Percent Total Solids: 75.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.02	0.1	**3.7**	
3050B	03/01/16	6020A	03/04/16	**7440-43-9**	**Cadmium**	0.0046	0.0642	**0.0450**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.04	0.3	**10.9**	
3050B	03/01/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.024	0.3	**13.5**	
3050B	03/01/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.0051	0.06	**2.68**	
CLP	03/01/16	7471A	03/04/16	**7439-97-6**	**Mercury**	0.0005	0.01	**0.02**	
3050B	03/01/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.002	0.128	**0.058**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.18	3	**26**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-4-1-2ft-160210
SAMPLE

Lab Sample ID: AVZ9D
LIMS ID: 16-2440
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Percent Total Solids: 80.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.02	0.1	**2.1**	
3050B	03/01/16	6020A	03/04/16	**7440-43-9**	**Cadmium**	0.0043	0.0602	**0.0301**	J
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.04	0.3	**9.9**	
3050B	03/01/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.022	0.3	**10.5**	
3050B	03/01/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.0048	0.06	**1.78**	
CLP	03/01/16	7471A	03/04/16	**7439-97-6**	**Mercury**	0.0005	0.01	**0.01**	
3050B	03/01/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.002	0.120	**0.036**	J
3050B	03/01/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.17	2	**23**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-2-0-1ft-160210
SAMPLE

Lab Sample ID: AVZ9E
LIMS ID: 16-2441
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Percent Total Solids: 82.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.02	0.1	**1.9**	
3050B	03/01/16	6020A	03/04/16	**7440-43-9**	**Cadmium**	0.0043	0.0601	**0.0421**	J
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.04	0.3	**8.9**	
3050B	03/01/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.022	0.3	**8.6**	
3050B	03/01/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.0048	0.06	**2.19**	
CLP	03/01/16	7471A	03/04/16	**7439-97-6**	**Mercury**	0.0005	0.01	**0.01**	
3050B	03/01/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.002	0.120	**0.036**	J
3050B	03/01/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.17	2	**21**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-2-1-2ft-160210
SAMPLE

Lab Sample ID: AVZ9F
LIMS ID: 16-2442
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Percent Total Solids: 84.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.02	0.1	**1.8**	
3050B	03/01/16	6020A	03/04/16	**7440-43-9**	**Cadmium**	0.0043	0.0594	**0.0297**	J
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.04	0.3	**8.9**	
3050B	03/01/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.022	0.3	**8.0**	
3050B	03/01/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.0048	0.06	**2.06**	
CLP	03/01/16	7471A	03/04/16	**7439-97-6**	**Mercury**	0.0005	0.01	**0.01**	
3050B	03/01/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.002	0.119	**0.024**	J
3050B	03/01/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.17	2	**21**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-1-0-1ft-160210
SAMPLE

Lab Sample ID: AVZ9G
LIMS ID: 16-2443
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Percent Total Solids: 80.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.02	0.1	**2.4**	
3050B	03/01/16	6020A	03/04/16	**7440-43-9**	**Cadmium**	0.0043	0.06	**0.08**	
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.04	0.3	**12.6**	
3050B	03/01/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.023	0.3	**13.5**	
3050B	03/01/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.0049	0.06	**11.4**	
CLP	03/01/16	7471A	03/04/16	**7439-97-6**	**Mercury**	0.00046	0.009	**0.043**	
3050B	03/01/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.002	0.121	**0.073**	J
3050B	03/01/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.17	2	**83**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-1-1-2ft-160210
SAMPLE

Lab Sample ID: AVZ9H
LIMS ID: 16-2444
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Percent Total Solids: 84.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.02	0.1	**1.3**	
3050B	03/01/16	6020A	03/04/16	**7440-43-9**	**Cadmium**	0.0042	0.0580	**0.0232**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.04	0.3	**8.2**	
3050B	03/01/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.022	0.3	**8.5**	
3050B	03/01/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.0046	0.06	**2.30**	
CLP	03/01/16	7471A	03/04/16	**7439-97-6**	**Mercury**	0.0005	0.0097	**0.0058**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.002	0.116	**0.029**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.17	2	**24**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-3-0-1ft-160211
SAMPLE

Lab Sample ID: AVZ9I
LIMS ID: 16-2445
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Percent Total Solids: 82.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.02	0.1	**2.1**	
3050B	03/01/16	6020A	03/04/16	**7440-43-9**	**Cadmium**	0.0043	0.0598	**0.0478**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.04	0.3	**10.3**	
3050B	03/01/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.022	0.3	**10.2**	
3050B	03/01/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.0048	0.06	**3.91**	
CLP	03/01/16	7471A	03/04/16	**7439-97-6**	**Mercury**	0.0005	0.0098	**0.0069**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.002	0.120	**0.048**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.17	2	**24**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-3-1-2ft-160211
SAMPLE

Lab Sample ID: AVZ9J
LIMS ID: 16-2446
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Percent Total Solids: 80.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.02	0.1	**2.6**	
3050B	03/01/16	6020A	03/04/16	**7440-43-9**	**Cadmium**	0.0044	0.0611	**0.0489**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.04	0.3	**11.5**	
3050B	03/01/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.023	0.3	**11.2**	
3050B	03/01/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.0049	0.06	**2.26**	
CLP	03/01/16	7471A	03/04/16	**7439-97-6**	**Mercury**	0.0005	0.01	**0.01**	
3050B	03/01/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.002	0.122	**0.043**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.17	2	**25**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

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ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-103-1-2ft-160211
SAMPLE

Lab Sample ID: AVZ9K
LIMS ID: 16-2447
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Percent Total Solids: 80.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.02	0.1	**2.5**	
3050B	03/01/16	6020A	03/04/16	**7440-43-9**	**Cadmium**	0.0043	0.0601	**0.0361**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.04	0.3	**9.0**	
3050B	03/01/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.022	0.3	**9.9**	
3050B	03/01/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.0048	0.06	**1.86**	
CLP	03/01/16	7471A	03/04/16	**7439-97-6**	**Mercury**	0.0005	0.01	**0.01**	
3050B	03/01/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.002	0.120	**0.036**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.17	2	**24**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-5-0-1ft-160211
SAMPLE

Lab Sample ID: AVZ9L
LIMS ID: 16-2448
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Percent Total Solids: 74.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.02	0.1	**9.3**	
3050B	03/01/16	6020A	03/04/16	**7440-43-9**	**Cadmium**	0.0046	0.06	**0.50**	
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.04	0.3	**34.3**	
3050B	03/01/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.024	0.3	**39.0**	
3050B	03/01/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.013	0.2	**345**	
CLP	03/01/16	7471A	03/04/16	**7439-97-6**	**Mercury**	0.0005	0.01	**0.08**	
3050B	03/01/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.002	0.1	**0.6**	
3050B	03/01/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.18	3	**160**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-5-1-2ft-160211
SAMPLE

Lab Sample ID: AVZ9M
LIMS ID: 16-2449
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Percent Total Solids: 79.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.02	0.1	**1.7**	
3050B	03/01/16	6020A	03/04/16	**7440-43-9**	**Cadmium**	0.0045	0.0624	**0.0312**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.04	0.3	**10.4**	
3050B	03/01/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.023	0.3	**9.8**	
3050B	03/01/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.0050	0.06	**14.9**	
CLP	03/01/16	7471A	03/04/16	**7439-97-6**	**Mercury**	0.0005	0.0102	**0.0061**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.002	0.125	**0.050**	**J**
3050B	03/01/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.18	2	**28**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-105-0-1ft-160211
SAMPLE

Lab Sample ID: AVZ9N
LIMS ID: 16-2450
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Percent Total Solids: 74.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.02	0.1	**10.2**	
3050B	03/01/16	6020A	03/04/16	**7440-43-9**	**Cadmium**	0.0047	0.07	**0.51**	
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.04	0.3	**35.0**	
3050B	03/01/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.024	0.3	**41.5**	
3050B	03/01/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.013	0.2	**323**	
CLP	03/01/16	7471A	03/04/16	**7439-97-6**	**Mercury**	0.0006	0.01	**0.07**	
3050B	03/01/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.002	0.1	**0.6**	
3050B	03/01/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.19	3	**171**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-7-0-1ft-160212
SAMPLE

Lab Sample ID: AVZ9O
LIMS ID: 16-2451
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/12/16
Date Received: 02/12/16

Percent Total Solids: 87.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.02	0.1	**1.8**	
3050B	03/01/16	6020A	03/04/16	**7440-43-9**	**Cadmium**	0.0041	0.06	**0.15**	
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.04	0.3	**10.5**	
3050B	03/01/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.021	0.3	**12.7**	
3050B	03/01/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.0045	0.06	**5.98**	
CLP	03/01/16	7471A	03/04/16	**7439-97-6**	**Mercury**	0.00049	0.009	**0.015**	
3050B	03/01/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.002	0.113	**0.057**	J
3050B	03/01/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.16	2	**65**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-7-1-2ft-160212
SAMPLE

Lab Sample ID: AVZ9P
LIMS ID: 16-2452
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/12/16
Date Received: 02/12/16

Percent Total Solids: 83.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.02	0.1	**1.7**	
3050B	03/01/16	6020A	03/04/16	**7440-43-9**	**Cadmium**	0.0042	0.0591	**0.0355**	J
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.04	0.3	**9.2**	
3050B	03/01/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.022	0.3	**9.1**	
3050B	03/01/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.0047	0.06	**1.37**	
CLP	03/01/16	7471A	03/04/16	**7439-97-6**	**Mercury**	0.00047	0.00903	**0.00452**	J
3050B	03/01/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.002	0.118	**0.030**	J
3050B	03/01/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.17	2	**33**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-6-0-1ft-160209
MATRIX SPIKE

Lab Sample ID: AVZ9A
LIMS ID: 16-2437
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/09/16
Date Received: 02/12/16

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	6020A	2.9	16.3	13.6	98.5%	
Cadmium	6020A	0.05 U	13.9	13.6	102%	
Chromium	6020A	8.8	22.6	13.6	101%	
Copper	6020A	12.0	26.9	13.6	110%	
Lead	6020A	3.61	19.3	13.6	115%	
Mercury	7471A	0.008 U	0.091	0.0837	109%	
Silver	6020A	0.1 U	11.6	13.6	85.3%	
Zinc	6020A	26	71	43.5	103%	

Reported in mg/kg-dry

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-PDS-6-0-1ft-160209
DUPLICATE

Lab Sample ID: AVZ9A
LIMS ID: 16-2437
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/09/16
Date Received: 02/12/16

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	6020A	2.9	2.7	7.1%	+/- 20%	
Cadmium	6020A	0.05 U	0.05 U	0.0%	+/- 0.05	L
Chromium	6020A	8.8	8.0	9.5%	+/- 20%	
Copper	6020A	12.0	10.8	10.5%	+/- 20%	
Lead	6020A	3.61	3.29	9.3%	+/- 20%	
Mercury	7471A	0.008 U	0.009	11.8%	+/- 0.008	L
Silver	6020A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Zinc	6020A	26	25	3.9%	+/- 20%	

Reported in mg/kg-dry

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: AVZ9LCS
LIMS ID: 16-2452
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6020A	12.3	12.5	98.4%	
Cadmium	6020A	12.7	12.5	102%	
Chromium	6020A	13.0	12.5	104%	
Copper	6020A	13.3	12.5	106%	
Lead	6020A	13.7	12.5	110%	
Mercury	7471A	0.161	0.167	96.4%	
Silver	6020A	12.7	12.5	102%	
Zinc	6020A	41	40	102%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: METHOD BLANK

Lab Sample ID: AVZ9MB
LIMS ID: 16-2452
Matrix: Sediment
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/kg	Q
3050B	03/01/16	6020A	03/04/16	7440-38-2	Arsenic	0.01	0.1	0.1	U
3050B	03/01/16	6020A	03/04/16	7440-43-9	Cadmium	0.0036	0.05	0.05	U
3050B	03/01/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.03	0.25	**0.04**	**J**
3050B	03/01/16	6020A	03/04/16	7440-50-8	Copper	0.019	0.2	0.2	U
3050B	03/01/16	6020A	03/04/16	7439-92-1	Lead	0.0040	0.05	0.05	U
CLP	03/01/16	7471A	03/04/16	7439-97-6	Mercury	0.00043	0.008	0.008	U
3050B	03/01/16	6020A	03/04/16	7440-22-4	Silver	0.002	0.1	0.1	U
3050B	03/01/16	6020A	03/04/16	7440-66-6	Zinc	0.14	2	2	U

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-RB-160212
SAMPLE

Lab Sample ID: AVZ9AQ
LIMS ID: 16-2479
Matrix: Water
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/12/16
Date Received: 02/12/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/L	Q
200.8	03/02/16	6020A	03/04/16	**7440-38-2**	**Arsenic**	0.00003	0.00020	**0.00004**	**J**
200.8	03/02/16	6020A	03/04/16	7440-43-9	Cadmium	0.000007	0.0001	0.0001	U
200.8	03/02/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.00007	0.00050	**0.00041**	**J**
200.8	03/02/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.000037	0.0005	**0.0006**	
200.8	03/02/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.000008	0.0001	**0.0001**	
7470A	03/02/16	7470A	03/02/16	7439-97-6	Mercury	0.000007	0.0001	0.0001	U
200.8	03/02/16	6020A	03/04/16	7440-22-4	Silver	0.000003	0.0002	0.0002	U
200.8	03/02/16	6020A	03/04/16	**7440-66-6**	**Zinc**	0.00029	0.004	**0.006**	

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-RB-160212
MATRIX SPIKE

Lab Sample ID: AVZ9AQ
LIMS ID: 16-2479
Matrix: Water
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/12/16
Date Received: 02/12/16

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	6020A	0.0002 U	0.0221	0.0250	88.4%	
Cadmium	6020A	0.0001 U	0.0225	0.0250	90.0%	
Chromium	6020A	0.0005 U	0.0257	0.0250	103%	
Copper	6020A	0.0006	0.0270	0.0250	106%	
Lead	6020A	0.0001	0.0261	0.0250	104%	
Mercury	7470A	0.0001 U	0.0010	0.0010	100%	
Silver	6020A	0.0002 U	0.0258	0.0250	103%	
Zinc	6020A	0.006	0.074	0.080	85.0%	

Reported in mg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked or
LOQ > Spike Concentration

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: JF-RB-160212
DUPLICATE

Lab Sample ID: AVZ9AQ
LIMS ID: 16-2479
Matrix: Water
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA
080224-01.02
Date Sampled: 02/12/16
Date Received: 02/12/16

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	6020A	0.0002 U	0.0002 U	0.0%	+/- 0.0002	L
Cadmium	6020A	0.0001 U	0.0001 U	0.0%	+/- 0.0001	L
Chromium	6020A	0.0005 U	0.0005 U	0.0%	+/- 0.0005	L
Copper	6020A	0.0006	0.0005	18.2%	+/- 0.0005	L
Lead	6020A	0.0001	0.0001	0.0%	+/- 0.0001	L
Mercury	7470A	0.0001 U	0.0001 U	0.0%	+/- 0.0001	L
Silver	6020A	0.0002 U	0.0002 U	0.0%	+/- 0.0002	L
Zinc	6020A	0.006	0.006	0.0%	+/- 0.004	L

Reported in mg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: AVZ9LCS
LIMS ID: 16-2479
Matrix: Water
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6020A	0.0238	0.0250	95.2%	
Cadmium	6020A	0.0236	0.0250	94.4%	
Chromium	6020A	0.0248	0.0250	99.2%	
Copper	6020A	0.0261	0.0250	104%	
Lead	6020A	0.0265	0.0250	106%	
Mercury	7470A	0.0020	0.0020	100%	
Silver	6020A	0.0254	0.0250	102%	
Zinc	6020A	0.0773	0.0800	96.6%	

Reported in mg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: METHOD BLANK

Lab Sample ID: AVZ9MB
LIMS ID: 16-2479
Matrix: Water
Data Release Authorized:
Reported: 03/07/16

QC Report No: AVZ9-Anchor QEA, LLC
Project: OMMP Addendum 2-Jorgensen Forge EAA 080224-01.02
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	mg/L	Q
200.8	03/02/16	6020A	03/04/16	7440-38-2	Arsenic	0.00003	0.0002	0.0002	U
200.8	03/02/16	6020A	03/04/16	7440-43-9	Cadmium	0.000007	0.0001	0.0001	U
200.8	03/02/16	6020A	03/04/16	**7440-47-3**	**Chromium**	0.00007	0.00050	**0.00011**	**J**
200.8	03/02/16	6020A	03/04/16	**7440-50-8**	**Copper**	0.000037	0.000500	**0.000400**	**J**
200.8	03/02/16	6020A	03/04/16	**7439-92-1**	**Lead**	0.000008	0.000100	**0.000010**	**J**
7470A	03/02/16	7470A	03/02/16	**7439-97-6**	**Mercury**	0.000007	0.000100	**0.000010**	**J**
200.8	03/02/16	6020A	03/04/16	**7440-22-4**	**Silver**	0.000003	0.000200	**0.000010**	**J**
200.8	03/02/16	6020A	03/04/16	7440-66-6	Zinc	0.00029	0.004	0.004	U

U-Analyte undetected at given DL
J-Analyte detected between DL and LOQ
DL-Method Detection Limit

Results reported below the LOQ are for statistical purposes only and have not been evaluated by either an analyst or data reviewer.

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg

UNITS:ug/L

SDG: AVZ9

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Arsenic	AS	PMS	MS030411	50.0	52.35	**104.7**	50.0	50.31	**100.6**	49.25	**98.5**	49.48	**99.0**	50.05	**100.1**	50.51	**101.0**
Cadmium	CD	PMS	MS030411	50.0	49.98	**100.0**	50.0	49.81	**99.6**	50.80	**101.6**	49.76	**99.5**	50.33	**100.7**	51.40	**102.8**
Chromium	CR	PMS	MS030411	50.0	53.77	**107.5**	50.0	51.08	**102.2**	51.83	**103.7**	50.05	**100.1**	51.78	**103.6**	51.04	**102.1**
Copper	CU	PMS	MS030411	50.0	52.73	**105.5**	50.0	51.43	**102.9**	50.86	**101.7**	49.96	**99.9**	51.54	**103.1**	52.08	**104.2**
Lead	PB	PMS	MS030411	50.0	51.93	**103.9**	50.0	51.71	**103.4**	52.17	**104.3**	52.17	**104.3**	51.55	**103.1**	50.52	**101.0**
Mercury	HG	CVA	HG030201	8.0	8.07	**100.9**	4.0	3.95	**98.8**	3.97	**99.3**						
Silver	AG	PMS	MS030411	50.0	49.75	**99.5**	50.0	49.90	**99.8**	48.38	**96.8**	49.48	**99.0**	48.52	**97.0**	49.36	**98.7**
Zinc	ZN	PMS	MS030411	50.0	50.19	**100.4**	50.0	51.80	**103.6**	50.24	**100.5**	50.59	**101.2**	50.03	**100.1**	50.82	**101.6**

Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (1)

AVZ9 : 0051 14

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg

UNITS:ug/L

SDG: AVZ9

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Arsenic	AS	PMS	MS030411	50.0	50.27	**100.5**	51.25	**102.5**	49.38	**98.8**						
Cadmium	CD	PMS	MS030411	50.0	50.16	**100.3**	50.36	**100.7**	50.96	**101.9**						
Chromium	CR	PMS	MS030411	50.0	51.86	**103.7**	51.95	**103.9**	53.48	**107.0**						
Copper	CU	PMS	MS030411	50.0	51.21	**102.4**	51.92	**103.8**	50.91	**101.8**						
Lead	PB	PMS	MS030411	50.0	51.85	**103.7**	50.54	**101.1**	50.65	**101.3**						
Mercury	HG	CVA	HG030201	4.0												
Silver	AG	PMS	MS030411	50.0	50.46	**100.9**	52.97	**105.9**	53.29	**106.6**						
Zinc	ZN	PMS	MS030411	50.0	51.00	**102.0**	52.82	**105.6**	49.67	**99.3**						

Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (1)

AVZ9 : 66 : 15

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg

SDG: AVZ9

UNITS:ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Mercury	HG	CVA	HG030402	8.0	8.58	**107.3**	4.0	3.98	**99.5**	3.66	**91.5**	3.81	**95.3**	3.69	**92.3**	3.83	**95.8**

Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (1)

AVZ9 : 001145

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg

UNITS:ug/L

SDG: AVZ9

ANALYTE	EL	M	RUN	CRA/I TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Arsenic	AS	PMS	MS030411	0.2	0.19	**95.0**										
Cadmium	CD	PMS	MS030411	0.1	0.12	**120.0**										
Chromium	CR	PMS	MS030411	0.5	0.63	**126.0**										
Copper	CU	PMS	MS030411	0.5	0.49	**98.0**										
Lead	PB	PMS	MS030411	0.1	0.11	**110.0**										
Mercury	HG	CVA	HG030201	0.1	0.09	**90.0**										
Silver	AG	PMS	MS030411	0.2	0.22	**110.0**										
Zinc	ZN	PMS	MS030411	4.0	3.69	**92.3**										

Control Limits: no control limits have been established by the EPA at this time.

FORM II (2)

AVZ9 : 09/11/2

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg

UNITS:ug/L

SDG: AVZ9

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Mercury	HG	CVA	HG030402		0.1	0.10	**100.0**										

Control Limits: no control limits have been established by the EPA at this time.

FORM II (2)

AVZ9 . 0501 18

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg

UNITS:ug/L

SDG: AVZ9

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Arsenic	AS	PMS	MS030411	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Cadmium	CD	PMS	MS030411	5.0	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Chromium	CR	PMS	MS030411	10.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Copper	CU	PMS	MS030411	25.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Lead	PB	PMS	MS030411	3.0	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Mercury	HG	CVA	HG030201	0.2	0.1	0.1	U	0.1	U	0.1	U						
Silver	AG	PMS	MS030411	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Zinc	ZN	PMS	MS030411	20.0	4.0	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U

AVZ9:SS1145

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg

UNITS:ug/L

SDG: AVZ9

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	C	CCB7	C	CCB8	C	CCB9	C	CCB10	C	CCB11	C
Arsenic	AS	PMS	MS030411	10.0	0.2	0.2	U	0.2	U	0.2	U						
Cadmium	CD	PMS	MS030411	5.0	0.1	0.1	U	0.1	U	0.1	U						
Chromium	CR	PMS	MS030411	10.0	0.5	0.5	U	0.5	U	0.5	U						
Copper	CU	PMS	MS030411	25.0	0.5	0.5	U	0.5	U	0.5	U						
Lead	PB	PMS	MS030411	3.0	0.1	0.1	U	0.1	U	0.1	U						
Mercury	HG	CVA	HG030201	0.2	0.1												
Silver	AG	PMS	MS030411	10.0	0.2	0.2	U	0.2	U	0.2	U						
Zinc	ZN	PMS	MS030411	20.0	4.0	4.0	U	4.0	U	4.0	U						

AVZ9 : 001159

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg

UNITS:ug/L

SDG: AVZ9

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Mercury	HG	CVA	HG030402	0.2	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U

AVZ9 . 001 52

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg

SDG: AVZ9

ICS SOURCE: I.V.

RUNID: MS030411

INSTRUMENT ID: NEXION 300D

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Arsenic		20	0.0	19.8	**99.0**						
Cadmium		20	0.1	19.2	**96.0**						
Chromium		20	0.6	20.5	**102.5**						
Cobalt		20	0.0	20.3	**101.5**						
Copper		20	0.1	20.5	**102.5**						
Lead			0.1	0.1							
Manganese		20	0.1	19.8	**99.0**						
Molybdenum	400	400	394.4	393.5	**98.4**						
Nickel		20	0.1	20.4	**102.0**						
Selenium			0.1	0.1							
Silver		20	0.1	20.2	**101.0**						
Zinc		20	0.0	19.7	**98.5**						

AVZ9.001152

IDLs and ICP Linear Ranges

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg

SDG: AVZ9 UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENTH (nm)	GFA BACK-GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
Arsenic	AS	PMS	NEXION 300D MS	0.00		10	0.2	4/1/2012		
Cadmium	CD	PMS	NEXION 300D MS	0.00		5	0.1	4/1/2012		
Chromium	CR	PMS	NEXION 300D MS	0.00		10	0.5	4/1/2012		
Copper	CU	PMS	NEXION 300D MS	0.00		25	0.5	4/1/2012		
Lead	PB	PMS	NEXION 300D MS	0.00		3	0.1	4/1/2012		
Mercury	HG	CVA	CETAC MERCURY	253.70		0.2	0.1	4/1/2012		
Silver	AG	PMS	NEXION 300D MS	0.00		10	0.2	4/1/2012		
Zinc	ZN	PMS	NEXION 300D MS	0.00		20	4.0	4/1/2012		

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg

SDG: AVZ9

ANALYSIS METHOD: PMS

ARI PREP CODE: SWN

PREPDATE: 3/1/2016

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
JF-PDS-6-0-1ft-160	AVZ9A	2.087	0.0	50.0
JF-PDS-6-0-1ft-160D	AVZ9ADUP	2.092	0.0	50.0
JF-PDS-6-0-1ft-160S	AVZ9ASPK	2.092	0.0	50.0
JF-PDS-6-1-2ft-160	AVZ9B	2.030	0.0	50.0
JF-PDS-4-0-1ft-160	AVZ9C	2.061	0.0	50.0
JF-PDS-4-1-2ft-160	AVZ9D	2.059	0.0	50.0
JF-PDS-2-0-1ft-160	AVZ9E	2.012	0.0	50.0
JF-PDS-2-1-2ft-160	AVZ9F	2.001	0.0	50.0
JF-PDS-1-0-1ft-160	AVZ9G	2.035	0.0	50.0
JF-PDS-1-1-2ft-160	AVZ9H	2.043	0.0	50.0
JF-PDS-3-0-1ft-160	AVZ9I	2.029	0.0	50.0
JF-PDS-3-1-2ft-160	AVZ9J	2.030	0.0	50.0
JF-PDS-103-1-2ft-1	AVZ9K	2.075	0.0	50.0
JF-PDS-5-0-1ft-160	AVZ9L	2.084	0.0	50.0
JF-PDS-5-1-2ft-160	AVZ9M	2.012	0.0	50.0
PBS	AVZ9MB1	2.000	0.0	50.0
LCSS	AVZ9MB1SPK	2.000	0.0	50.0
JF-PDS-105-0-1ft-1	AVZ9N	2.053	0.0	50.0
JF-PDS-7-0-1ft-160	AVZ9O	2.028	0.0	50.0
JF-PDS-7-1-2ft-160	AVZ9P	2.038	0.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg

SDG: AVZ9

ANALYSIS METHOD: PMS

ARI PREP CODE: REN

PREPDATE: 3/2/2016

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
JF-RB-160212	AVZ9AQ	0.000	50.0	25.0
JF-RB-160212D	AVZ9AQDUP	0.000	50.0	25.0
JF-RB-160212S	AVZ9AQSPK	0.000	50.0	25.0
PBW	AVZ9MB2	0.000	50.0	25.0
LCSW	AVZ9MB2SPK	0.000	50.0	25.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg

SDG: AVZ9

ANALYSIS METHOD: CVA

ARI PREP CODE: SMM

PREPDATE: 3/1/2016

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
JF-PDS-6-0-1ft-160	AVZ9A	0.674	0.0	50.0
JF-PDS-6-0-1ft-160D	AVZ9ADUP	0.676	0.0	50.0
JF-PDS-6-0-1ft-160S	AVZ9ASPK	0.679	0.0	50.0
JF-PDS-6-1-2ft-160	AVZ9B	0.618	0.0	50.0
JF-PDS-4-0-1ft-160	AVZ9C	0.678	0.0	50.0
JF-PDS-4-1-2ft-160	AVZ9D	0.641	0.0	50.0
JF-PDS-2-0-1ft-160	AVZ9E	0.615	0.0	50.0
JF-PDS-2-1-2ft-160	AVZ9F	0.608	0.0	50.0
JF-PDS-1-0-1ft-160	AVZ9G	0.692	0.0	50.0
JF-PDS-1-1-2ft-160	AVZ9H	0.612	0.0	50.0
JF-PDS-3-0-1ft-160	AVZ9I	0.616	0.0	50.0
JF-PDS-3-1-2ft-160	AVZ9J	0.607	0.0	50.0
JF-PDS-103-1-2ft-1	AVZ9K	0.650	0.0	50.0
JF-PDS-5-0-1ft-160	AVZ9L	0.638	0.0	50.0
JF-PDS-5-1-2ft-160	AVZ9M	0.617	0.0	50.0
PBS	AVZ9MB1	0.600	0.0	50.0
LCSW	AVZ9MB1SPK	0.600	0.0	50.0
JF-PDS-105-0-1ft-1	AVZ9N	0.608	0.0	50.0
JF-PDS-7-0-1ft-160	AVZ9O	0.615	0.0	50.0
JF-PDS-7-1-2ft-160	AVZ9P	0.667	0.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg

SDG: AVZ9

ANALYSIS METHOD: CVA

ARI PREP CODE: TWM

PREPDATE: 3/2/2016

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
JF-RB-160212	AVZ9AQ	0.000	20.0	20.0
JF-RB-160212D	AVZ9AQDUP	0.000	20.0	20.0
JF-RB-160212S	AVZ9AQSPK	0.000	20.0	20.0
PBW	AVZ9MB2	0.000	20.0	20.0
LCSW	AVZ9MB2SPK	0.000	20.0	20.0

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg | INSTRUMENT ID: NEXION 300D MS | START DATE: 3/4/2016

SDG: AVZ9 | RUNID: MS030411 | METHOD: PMS | END DATE: 3/4/2016

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	11360		X		X					X		X	X									X									X
S1	S1	1.00	11410		X		X					X		X	X									X									X
S2	S2	1.00	11460		X		X					X		X	X									X									X
S3	S3	1.00	11510		X		X					X		X	X									X									X
S4	S4	1.00	11560		X		X					X		X	X									X									X
S5	S5	1.00	12030																														
ZZZZZZ	Rinse sampl	1.00	12110																														
ICV	MICV	1.00	12180		X		X					X		X	X									X									X
ICB	ICB	1.00	12260		X		X					X		X	X									X									X
CCV	MCCV1	1.00	12310		X		X					X		X	X									X									X
CCB	CCB1	1.00	12380		X		X					X		X	X									X									X
CRI	MCRI	1.00	12430		X		X					X		X	X									X									X
ICSA	ICSAI	1.00	12480		X		X					X		X	X									X									X
ICSAB	ICSABI	1.00	12530		X		X					X		X	X									X									X
ZZZZZZ	LR200	1.00	13000																														
ZZZZZZ	LR300	1.00	13050																														
ZZZZZZ	B1	1.00	13130																														
ZZZZZZ	B2	1.00	13200																														
CCV	MCCV2	1.00	13260		X		X					X		X	X									X									X
CCB	CCB2	1.00	13340		X		X					X		X	X									X									X
PBS	AVZ9MB1	20.00	13390		X		X					X		X	X									X									X
PBW	AVZ9MB2	2.00	13440		X		X					X		X	X									X									X
JF-RB-160212D	AVZ9AQDUP	2.00	13490		X		X					X		X	X									X									X
JF-RB-160212	AVZ9AQ	2.00	13530		X		X					X		X	X									X									X
JF-RB-160212S	AVZ9AQSPK	2.00	13580		X		X					X		X	X									X									X
JF-PDS-6-0-1ft-160D	AVZ9ADUP	20.00	14060		X		X					X		X	X									X									X
JF-PDS-6-0-1ft-160	AVZ9A	20.00	14110		X		X					X		X	X									X									X
JF-PDS-6-0-1ft-160S	AVZ9ASPK	20.00	14160		X		X					X		X	X									X									X
LCSS	AVZ9MB1SPK	20.00	14220		X		X					X		X	X									X									X
LCSW	AVZ9MB2SPK	2.00	14260		X		X					X		X	X									X									X
CCV	MCCV3	1.00	14320		X		X					X		X	X									X									X
CCB	CCB3	1.00	14400		X		X					X		X	X									X									X
ZZZZZZ	AWY4MB	2.00	14460																														
ZZZZZZ	AXA1MB	2.00	14510																														
ZZZZZZ	AWY5MB	2.00	14550																														

FORM XIV

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg | INSTRUMENT ID: NEXION 300D MS | START DATE: 3/4/2016

SDG: AVZ9 | RUNID: MS030411 METHOD: PMS | END DATE: 3/4/2016

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
ZZZZZZ	AWY5A	2.00	15000																														
ZZZZZZ	AWZ0A	2.00	15050																														
ZZZZZZ	AXA1A	10.00	15110																														
ZZZZZZ	AWY4A	10.00	15160																														
ZZZZZZ	AWY4MBSPK	2.00	15220																														
ZZZZZZ	AXA1MBSPK	2.00	15270																														
ZZZZZZ	AWY5MBSPK	2.00	15320																														
CCV	MCCV4	1.00	15380		X		X					X		X	X									X									X
CCB	CCB4	1.00	15450		X		X					X		X	X									X									X
S0	S0	1.00	15520		X		X					X		X	X									X									X
CCV	MCCV5	1.00	15570		X		X					X		X	X									X									X
CCB	CCB5	1.00	16040		X		X					X		X	X									X									X
ZZZZZZ	AWY5A	5.00	16090																														
ZZZZZZ	AWY4A	5.00	16140																														
JF-PDS-6-1-2ft-160	AVZ9B	20.00	16220		X		X					X		X	X									X									X
JF-PDS-4-0-1ft-160	AVZ9C	20.00	16270		X		X					X		X	X									X									X
JF-PDS-4-1-2ft-160	AVZ9D	20.00	16320		X		X					X		X	X									X									X
JF-PDS-2-0-1ft-160	AVZ9E	20.00	16360		X		X					X		X	X									X									X
JF-PDS-2-1-2ft-160	AVZ9F	20.00	16410		X		X					X		X	X									X									X
JF-PDS-1-0-1ft-160	AVZ9G	20.00	16460		X		X					X		X	X									X									X
JF-PDS-1-1-2ft-160	AVZ9H	20.00	16510		X		X					X		X	X									X									X
JF-PDS-3-0-1ft-160	AVZ9I	20.00	16560		X		X					X		X	X									X									X
CCV	MCCV6	1.00	17030		X		X					X		X	X									X									X
CCB	CCB6	1.00	17110		X		X					X		X	X									X									X
ZZZZZZ	AWX1MB	2.00	17160																														
JF-PDS-3-1-2ft-160	AVZ9J	20.00	17210		X		X					X		X	X									X									X
JF-PDS-103-1-2ft-1	AVZ9K	20.00	17260		X		X					X		X	X									X									X
JF-PDS-5-0-1ft-160	AVZ9L	20.00	17310		X		X					X		X	X																		X
JF-PDS-5-1-2ft-160	AVZ9M	20.00	17360		X		X					X		X	X									X									X
JF-PDS-105-0-1ft-1	AVZ9N	20.00	17420		X		X					X		X	X																		X
JF-PDS-7-0-1ft-160	AVZ9O	20.00	17480		X		X					X		X	X									X									X
JF-PDS-7-1-2ft-160	AVZ9P	20.00	17520		X		X					X		X	X									X									X
ZZZZZZ	AWX1A	2.00	17580																														
ZZZZZZ	AWX1MBSPK	2.00	18040																														
CCV	MCCV7	1.00	18100		X		X					X		X	X									X									X

FORM XIV

AVZ9 : 00 : 52 : 50

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg | INSTRUMENT ID: NEXION 300D MS | START DATE: 3/4/2016

SDG: AVZ9 | RUNID: MS030411 METHOD: PMS | END DATE: 3/4/2016

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
CCB	CCB7	1.00	18180		X		X					X		X	X									X									X
ZZZZZZ	AWY6MB	2.00	18230																														
ZZZZZZ	AWN2A	10.00	18280																														
ZZZZZZ	AWN2C	5.00	18350																														
ZZZZZZ	AWN7E	5.00	18410																														
ZZZZZZ	AWN7D	5.00	18460																														
ZZZZZZ	AWY6A	2.00	18540																														
ZZZZZZ	AWY6MBSPK	2.00	19010																														
JF-PDS-5-0-1ft-160	AVZ9L	50.00	19070																					X									
JF-PDS-105-0-1ft-1	AVZ9N	50.00	19120																					X									
CCV	MCCV8	1.00	19200		X		X					X		X	X									X									X
CCB	CCB8	1.00	19270		X		X					X		X	X									X									X

AVZ9 . 09159

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg | INSTRUMENT ID: CETAC MERCURY | START DATE: 3/2/2016

SDG: AVZ9 | RUNID: HG030201 | METHOD: CVA | END DATE: 3/2/2016

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	10502														X																
S0.1	S0.1	1.00	10520														X																
S0.5	S0.5	1.00	10533														X																
S1	S1	1.00	10551														X																
S2	S2	1.00	10565														X																
S5	S5	1.00	10582														X																
S10	S10	1.00	11000														X																
ICV	AICV	1.00	11045														X																
ICB	ICB	1.00	11080														X																
CCV	ACCV1	1.00	11100														X																
CCB	CCB1	1.00	11114														X																
CRA	CRA	1.00	11131														X																
PBW	AVZ9MB2	1.00	11145														X																
LCSW	AVZ9MB2SPK	1.00	11162														X																
JF-RB-160212	AVZ9AQ	1.00	11180														X																
JF-RB-160212D	AVZ9AQDUP	1.00	11194														X																
JF-RB-160212S	AVZ9AQSPK	1.00	11211														X																
CCV	ACCV2	1.00	11225														X																
CCB	CCB2	1.00	11243														X																

AVZ9 . 021691

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg | INSTRUMENT ID: CETAC MERCURY | START DATE: 3/4/2016

SDG: AVZ9 | RUNID: HG030402 METHOD: CVA | END DATE: 3/4/2016

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	10191														X																
S0.1	S0.1	1.00	10213														X																
S0.5	S0.5	1.00	10231														X																
S1	S1	1.00	10244														X																
S2	S2	1.00	10262														X																
S5	S5	1.00	10280														X																
S10	S10	1.00	10294														X																
ICV	AICV	1.00	10323														X																
ICB	ICB	1.00	10340														X																
CCV	ACCV1	1.00	10354														X																
CCB	CCB1	1.00	10372														X																
CRA	CRA	1.00	10390														X																
ZZZZZZ	AWM2MB1	1.00	10403																														
ZZZZZZ	AWM2MB1SPK	1.00	10421																														
ZZZZZZ	AWM2A	1.00	10434																														
ZZZZZZ	AWM2ADUP	1.00	10452																														
ZZZZZZ	AWM2ASPK	1.00	10470																														
ZZZZZZ	AWM2B	1.00	10483																														
ZZZZZZ	AWM2C	1.00	10501																														
ZZZZZZ	AWM2D	1.00	10515																														
ZZZZZZ	AWM2E	1.00	10533																														
CCV	ACCV2	1.00	10551														X																
CCB	CCB2	1.00	10565														X																
ZZZZZZ	AWN6A	1.00	10582																														
ZZZZZZ	AWN6B	1.00	11000																														
ZZZZZZ	AWQ4MB1	1.00	11013																														
ZZZZZZ	AWQ4MB1SPK	1.00	11031																														
ZZZZZZ	AWQ4O	1.00	11045																														
ZZZZZZ	AWQ4ODUP	1.00	11062																														
ZZZZZZ	AWQ4OSPK	1.00	11080																														
PBW	AVZ9MB1	1.00	11094														X																
LCSW	AVZ9MB1SPK	1.00	11111														X																
JF-PDS-6-0-1ft-160	AVZ9A	1.00	11125														X																
CCV	ACCV3	1.00	11143														X																
CCB	CCB3	1.00	11161														X																

FORM XIV

AVZ9 001 02

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: OMMP Addendum 2-Jorg | INSTRUMENT ID: CETAC MERCURY | START DATE: 3/4/2016

SDG: AVZ9 | RUNID: HG030402 | METHOD: CVA | END DATE: 3/4/2016

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
JF-PDS-6-0-1ft-160D	AVZ9ADUP	1.00	11175														X																
JF-PDS-6-0-1ft-160S	AVZ9ASPK	1.00	11193														X																
JF-PDS-6-1-2ft-160	AVZ9B	1.00	11211														X																
JF-PDS-4-0-1ft-160	AVZ9C	1.00	11224														X																
JF-PDS-4-1-2ft-160	AVZ9D	1.00	11242														X																
JF-PDS-2-0-1ft-160	AVZ9E	1.00	11255														X																
JF-PDS-2-1-2ft-160	AVZ9F	1.00	11273														X																
JF-PDS-1-0-1ft-160	AVZ9G	1.00	11291														X																
JF-PDS-1-1-2ft-160	AVZ9H	1.00	11304														X																
JF-PDS-3-0-1ft-160	AVZ9I	1.00	11322														X																
CCV	ACCV4	1.00	11340														X																
CCB	CCB4	1.00	11354														X																
JF-PDS-3-1-2ft-160	AVZ9J	1.00	11372														X																
JF-PDS-103-1-2ft-1	AVZ9K	1.00	11390														X																
JF-PDS-5-0-1ft-160	AVZ9L	1.00	11404														X																
JF-PDS-5-1-2ft-160	AVZ9M	1.00	11421														X																
JF-PDS-105-0-1ft-1	AVZ9N	1.00	11440														X																
JF-PDS-7-0-1ft-160	AVZ9O	1.00	11453														X																
JF-PDS-7-1-2ft-160	AVZ9P	1.00	11471														X																
CCV	ACCV5	1.00	11484														X																
CCB	CCB5	1.00	11503														X																

AVZ9 : 001 of 03

General Chemistry Analysis
Report and Summary QC Forms

ARI Job ID: AVZ9

SAMPLE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/09/16
Date Received: 02/12/16

Client ID: JF-PDS-6-0-1ft-160209
ARI ID: 16-2437 AVZ9A

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/15/16 021516#1	SM2540G	Percent	0.01	87.94
Total Organic Carbon	02/23/16 022316#1	Plumb,1981	Percent	0.020	0.092

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/09/16
Date Received: 02/12/16

Client ID: JF-PDS-6-1-2ft-160209
ARI ID: 16-2438 AVZ9B

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/15/16 021516#1	SM2540G	Percent	0.01	85.68
Total Organic Carbon	02/22/16 022216#1	Plumb,1981	Percent	0.020	0.083

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: ✓
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Client ID: JF-PDS-4-0-1ft-160210
ARI ID: 16-2439 AVZ9C

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/15/16 021516#1	SM2540G	Percent	0.01	75.54
Total Organic Carbon	02/22/16 022216#1	Plumb,1981	Percent	0.020	1.20

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Client ID: JF-PDS-4-1-2ft-160210
ARI ID: 16-2440 AVZ9D

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/15/16 021516#1	SM2540G	Percent	0.01	80.63
Total Organic Carbon	02/22/16 022216#1	Plumb,1981	Percent	0.020	0.265

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: ✓
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Client ID: JF-PDS-2-0-1ft-160210
ARI ID: 16-2441 AVZ9E

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/15/16 021516#1	SM2540G	Percent	0.01	82.70
Total Organic Carbon	02/22/16 022216#1	Plumb,1981	Percent	0.020	0.203

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: W
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Client ID: JF-PDS-2-1-2ft-160210
ARI ID: 16-2442 AVZ9F

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/15/16 021516#1	SM2540G	Percent	0.01	84.12
Total Organic Carbon	02/22/16 022216#1	Plumb,1981	Percent	0.020	0.056

RL Analytical reporting limit
U Undetected at reported detection limit

AVZ9:00170

SAMPLE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: ✓
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Client ID: JF-PDS-1-0-1ft-160210
ARI ID: 16-2443 AVZ9G

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/15/16 021516#1	SM2540G	Percent	0.01	80.92
Total Organic Carbon	02/22/16 022216#1	Plumb,1981	Percent	0.020	0.066

RL Analytical reporting limit
U Undetected at reported detection limit

AVZ9:00171

SAMPLE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: ✓
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/10/16
Date Received: 02/12/16

Client ID: JF-PDS-1-1-2ft-160210
ARI ID: 16-2444 AVZ9H

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/15/16 021516#1	SM2540G	Percent	0.01	84.41
Total Organic Carbon	02/24/16 022416#1	Plumb,1981	Percent	0.020	0.054

RL Analytical reporting limit
U Undetected at reported detection limit

AVZ9 : 00172

SAMPLE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: W
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Client ID: JF-PDS-3-0-1ft-160211
ARI ID: 16-2445 AVZ9I

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/15/16 021516#1	SM2540G	Percent	0.01	82.40
Total Organic Carbon	02/23/16 022316#1	Plumb,1981	Percent	0.020	0.098

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: ✓
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Client ID: JF-PDS-3-1-2ft-160211
ARI ID: 16-2446 AVZ9J

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/15/16 021516#1	SM2540G	Percent	0.01	80.66
Total Organic Carbon	02/23/16 022316#1	Plumb,1981	Percent	0.020	0.118

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Client ID: JF-PDS-103-1-2ft-160211
ARI ID: 16-2447 AVZ9K

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/15/16 021516#1	SM2540G	Percent	0.01	80.15
Total Organic Carbon	02/23/16 022316#1	Plumb,1981	Percent	0.020	0.168

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: ✓
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Client ID: JF-PDS-5-0-1ft-160211
ARI ID: 16-2448 AVZ9L

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/15/16 021516#1	SM2540G	Percent	0.01	74.29
Total Organic Carbon	02/23/16 022316#1	Plumb,1981	Percent	0.020	0.818

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: W
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Client ID: JF-PDS-5-1-2ft-160211
ARI ID: 16-2449 AVZ9M

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/15/16 021516#1	SM2540G	Percent	0.01	79.61
Total Organic Carbon	02/23/16 022316#1	Plumb,1981	Percent	0.020	0.103

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/11/16
Date Received: 02/12/16

Client ID: JF-PDS-105-0-1ft-160211
ARI ID: 16-2450 AVZ9N

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/15/16 021516#1	SM2540G	Percent	0.01	74.35
Total Organic Carbon	02/23/16 022316#1	Plumb,1981	Percent	0.020	0.696

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/12/16
Date Received: 02/12/16

Client ID: JF-PDS-7-0-1ft-160212
ARI ID: 16-2451 AVZ9O

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/15/16 021516#1	SM2540G	Percent	0.01	87.14
Total Organic Carbon	02/23/16 022316#1	Plumb,1981	Percent	0.020	0.050

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/12/16
Date Received: 02/12/16

Client ID: JF-PDS-7-1-2ft-160212
ARI ID: 16-2452 AVZ9P

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/15/16 021516#1	SM2540G	Percent	0.01	82.97
Total Organic Carbon	02/23/16 022316#1	Plumb,1981	Percent	0.020	0.047

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: W
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/09/16
Date Received: 02/12/16

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: AVZ9A Client ID: JF-PDS-6-0-1ft-160209						
Total Organic Carbon	02/23/16	Percent	0.092	3.55	2.81	123.1%

REPLICATE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: 02/09/16
Date Received: 02/12/16

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: AVZ9A Client ID: JF-PDS-6-0-1ft-160209					
Total Solids	02/15/16	Percent	87.94	87.05 86.67	0.7%
Total Organic Carbon	02/23/16	Percent	0.092	0.142 0.121	21.2%

LAB CONTROL RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
Total Organic Carbon	ICVL	02/22/16	Percent	0.092	0.100	92.0%
Plumb,1981	ICVL	02/23/16		0.096	0.100	96.0%
	ICVL	02/24/16		0.092	0.100	92.0%

METHOD BLANK RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	Blank	QC ID
Total Solids	02/15/16	Percent	< 0.01 U	ICB
Total Organic Carbon	02/22/16	Percent	< 0.020 U	ICB
	02/23/16		< 0.020 U	ICB
	02/24/16		< 0.020 U	ICB

STANDARD REFERENCE RESULTS-CONVENTIONALS
AVZ9-Anchor QEA, LLC

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 02/25/16

Project: OMMP Addendum 2-Jorgensen Fo
Event: 080224-01.02
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Total Organic Carbon	02/22/16	Percent	3.32	2.99	111.0%
NIST 1941B	02/23/16		3.15	2.99	105.4%
	02/24/16		3.45	2.99	115.4%

Geotechnical Analysis
Report and Summary QC Forms

ARI Job ID: AVZ9

Materials Testing & Consulting, Inc.

Geotechnical Engineering • Special Inspection • Materials Testing • Environmental Consulting

Project: OMMP Addendum 2-Jorgensen Forge EAA
Project #: AVZ9
Client : Analytical Resources, Inc.
Source: Multiple
MTC Sample#: T16-0277 - T16-0292

Date Received: February 16, 2016
Sampled By: Others
Date Tested: February 23, 2016
Tested By: A. Urban, B. Goble, K. O'Connell

CASE NARRATIVE

1. Sixteen samples were submitted for grain size analysis according to Puget Sound Estuary Protocol (PSEP) methodology.
2. The samples were run in a single batch and one sample from this job was chosen for triplicate analysis. The triplicate data is reported on the QA summary.
3. Six samples did not contain the required amount of fines (5-25 grams). A sample could not be resplit to meet the required amount of fines and stay within the capacity of the balance. The samples have been qualified on the QA summary.
4. The data is provided in summary tables and plots.
5. There were no other noted anomalies in this project.

All results apply only to actual locations and materials tested As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval

Reviewed by: E Gabriel Goble

Materials Testing & Consulting, Inc.

Geotechnical Engineering • Special Inspection • Materials Testing • Environmental Consulting

Project: OMMP Addendum 2-Jorgensen Forge EAA
Project #: AVZ9
Date Received: February 16, 2016
Date Tested: February 23, 2016

Client: Analytical Resources, Inc.
Sampled by: Others
Tested by: A. Urban, B. Goble, K. O'Connell

Apparent Grain Size Distribution Summary

Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt				Clay	
Phi Size	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Sieve Size (microns)	3/8"	#4 (4750)	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (63)	31 0	15 6	7 8	3 9	2 0	1 0
JF-PDS-2-0-1ft-160210	100.0	100.0	100.0	99.7	94.7	60.3	17.2	5.1	3.2	2.4	2.0	1.6	1.3	1.1
	100.0	100.0	100.0	99.7	94.7	60.9	17.3	4.9	3.1	2.3	1.9	1.6	1.3	1.0
	100.0	100.0	99.8	99.6	94.6	60.3	17.2	5.1	2.9	2.8	2.0	1.6	1.3	1.0
JF-PDS-6-0-1ft-160209	100.0	98.1	90.5	74.5	32.5	8.5	4.9	4.5	3.4	2.7	2.1	1.5	1.2	0.9
JF-PDS-6-1-2ft-160209	100.0	99.9	97.7	88.9	41.2	9.6	4.7	3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7
JF-PDS-4-0-1ft-160210	100.0	99.8	98.6	97.6	92.9	64.8	32.3	16.2	9.7	6.5	3.9	2.9	2.2	1.6
JF-PDS-4-1-2ft-160210	100.0	100.0	99.4	97.2	84.0	55.5	24.3	10.9	6.5	4.6	3.4	2.5	1.9	1.4
JF-PDS-2-1-2ft-160210	100.0	100.0	100.0	99.8	93.6	45.3	10.7	3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2
JF-PDS-1-0-1ft-160210	100.0	100.0	99.4	98.2	85.1	40.5	16.0	7.5	5.2	3.9	2.9	2.1	1.5	1.0
JF-PDS-1-1-2ft-160210	100.0	100.0	99.8	98.4	82.2	25.4	6.0	2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
JF-PDS-3-0-1ft-160211	100.0	97.5	96.4	91.9	65.4	26.1	8.3	3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5
JF-PDS-3-1-2ft-160211	100.0	99.9	99.7	97.8	79.9	43.0	20.2	9.2	5.0	3.3	2.4	1.8	1.4	1.1
JF-PDS-103-1-2ft-160211	100.0	99.4	99.2	97.5	79.3	41.8	19.5	9.1	4.8	3.3	2.4	1.8	1.4	1.1
JF-PDS-5-0-1ft-160211	100.0	99.6	98.4	96.6	81.6	40.6	25.2	18.9	15.0	10.2	4.5	2.8	2.1	1.4
JF-PDS-5-1-2ft-160211	100.0	100.0	99.9	98.7	73.4	14.2	2.1	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
JF-PDS-105-0-1ft-160211	100.0	95.9	94.7	92.7	78.4	39.0	24.0	17.9	14.6	10.0	5.2	3.0	2.2	1.5
JF-PDS-7-0-1ft-160212	100.0	95.8	84.6	72.4	44.1	14.3	5.5	3.9	3.2	2.9	2.3	1.7	1.3	0.9
JF-PDS-7-1-2ft-160212	100.0	100.0	97.5	91.4	52.2	8.8	3.0	2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2

Notes to the Testing: Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution See narrative for discussion of the testing

Reviewed by: Elizabeth Goble

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Materials Testing & Consulting, Inc.

Geotechnical Engineering • Special Inspection • Materials Testing • Environmental Consulting

Project: OMMP Addendum 2-Jorgensen Forge EAA
Project #: AVZ9
Date Received: February 16, 2016
Date Tested: February 23, 2016

Client: Analytical Resources, Inc.
Sampled by: Others
Tested by: A. Urban, B. Goble, K. O'Connell

Apparent Grain Size Distribution Summary

Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	< -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	> 10	> 4
Sieve Size (microns)	> #10 (2000)	10-18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62 5-31 0	31 0-15 6	15 6-7 8	7 8-3 9	3 9-2 0	2 0-1 0	<1 0	<230 (<62)
JF-PDS-2-0-1ft-160210	0.0	0.2	5.0	34.4	43.1	12.1	1.9	0.7	0.4	0.4	0.3	0.2	1.1	5.1
	0.0	0.3	5.0	33.8	43.6	12.4	1.8	0.8	0.4	0.3	0.3	0.3	1.0	4.9
	0.2	0.2	5.0	34.3	43.1	12.1	2.2	0.1	0.8	0.5	0.3	0.2	1.0	5.1
JF-PDS-6-0-1ft-160209	9.5	16.1	42.0	24.0	3.6	0.3	1.2	0.7	0.6	0.6	0.4	0.3	0.9	4.5
JF-PDS-6-1-2ft-160209	2.3	8.9	47.6	31.6	4.9	1.0	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	3.7
JF-PDS-4-0-1ft-160210	1.4	1.0	4.7	28.1	32.5	16.1	6.6	3.2	2.6	1.1	0.6	0.6	1.6	16.2
JF-PDS-4-1-2ft-160210	0.6	2.2	13.2	28.5	31.3	13.3	4.4	1.9	1.2	0.9	0.6	0.5	1.4	10.9
JF-PDS-2-1-2ft-160210	0.0	0.2	6.2	48.3	34.5	7.5	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	3.2
JF-PDS-1-0-1ft-160210	0.6	1.2	13.1	44.7	24.5	8.5	2.3	1.3	1.0	0.8	0.6	0.5	1.0	7.5
JF-PDS-1-1-2ft-160210	0.2	1.3	16.2	56.9	19.3	3.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	2.5
JF-PDS-3-0-1ft-160211	3.6	4.4	26.5	39.3	17.8	4.8	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	3.5
JF-PDS-3-1-2ft-160211	0.3	1.9	17.9	36.9	22.8	11.0	4.2	1.7	0.9	0.7	0.4	0.3	1.1	9.2
JF-PDS-103-1-2ft-160211	0.8	1.7	18.2	37.5	22.3	10.4	4.3	1.5	0.9	0.6	0.3	0.3	1.1	9.1
JF-PDS-5-0-1ft-160211	1.6	1.8	14.9	41.0	15.4	6.2	3.9	4.8	5.7	1.7	0.8	0.6	1.4	18.9
JF-PDS-5-1-2ft-160211	0.1	1.3	25.3	59.2	12.1	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
JF-PDS-105-0-1ft-160211	5.3	2.0	14.3	39.4	15.0	6.1	3.3	4.6	4.8	2.1	0.9	0.6	1.5	17.9
JF-PDS-7-0-1ft-160212	15.4	12.2	28.2	29.8	8.8	1.6	0.7	0.4	0.6	0.6	0.4	0.4	0.9	3.9
JF-PDS-7-1-2ft-160212	2.5	6.1	39.2	43.5	5.7	0.8	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	2.2

Notes to the Testing: Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution See narrative for discussion of the testing

Reviewed by: E Gabe Hobbs

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Materials Testing & Consulting, Inc.

Geotechnical Engineering • Special Inspection • Materials Testing • Environmental Consulting

Project: OMMP Addendum 2-Jorgensen Forge EAA
Project #: AVZ9
Date Received: February 16, 2016
Date Tested: February 23, 2016

Client: Analytical Resources, Inc.
Sampled by: Others
Tested by: A. Urban, B. Goble, K. O'Connell

Relative Standard Deviation, By Phi Size

Sample ID	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
JF-PDS-2-0-1ft-160210	100 0	100 0	100 0	99 7	94 7	60 3	17 2	5 1	3 2	2 4	2 0	1 6	1 3	1 1
	100 0	100 0	100 0	99 7	94 7	60 9	17 3	4 9	3 1	2 3	1 9	1 6	1 3	1 0
	100 0	100 0	99 8	99 6	94 6	60 3	17 2	5 1	2 9	2 8	2 0	1 6	1 3	1 0
AVE	100 0	100 0	99 9	99 7	94 7	60 5	17 2	5 0	3 1	2 5	2 0	1 6	1 3	1 0
STDEV	0 0	0 0	0 1	0 0	0 0	0 3	0 1	0 1	0 1	0 2	0 0	0 0	0 0	0 1
%RSD	0 0	0 0	0 1	0 0	0 0	0 4	0 3	1 8	3 1	9 2	2 4	1 2	1 2	4 8

The Triplicate Applies To The Following Samples

Client ID	Date Sampled	Date Extracted	Date Complete	QA Ratio (95-105)	Data Qualifiers	Pipette Portion (5 0-25 0g)
JF-PDS-2-0-1ft-160210	2/10/2016	2/18/2016	2/23/2016	100 1		6 2
	2/10/2016	2/18/2016	2/23/2016	100 3		6 0
	2/10/2016	2/18/2016	2/23/2016	100 3		6 3
JF-PDS-6-0-1ft-160209	2/9/2016	2/18/2016	2/23/2016	100 5		5 8
JF-PDS-6-1-2ft-160209	2/9/2016	2/18/2016	2/23/2016	99 5	SS	4 6
JF-PDS-4-0-1ft-160210	2/10/2016	2/18/2016	2/23/2016	100 2		18 4
JF-PDS-4-1-2ft-160210	2/10/2016	2/18/2016	2/23/2016	101 6		13 2
JF-PDS-2-1-2ft-160210	2/10/2016	2/18/2016	2/23/2016	99 5	SS	3 9
JF-PDS-1-0-1ft-160210	2/10/2016	2/18/2016	2/23/2016	100 0		9 1
JF-PDS-1-1-2ft-160210	2/10/2016	2/18/2016	2/23/2016	100 1	SS	3 1
JF-PDS-3-0-1ft-160211	2/11/2016	2/18/2016	2/23/2016	99 3	SS	4 2
JF-PDS-3-1-2ft-160211	2/11/2016	2/18/2016	2/23/2016	100 3		11 3
JF-PDS-103-1-2ft-160211	2/11/2016	2/18/2016	2/23/2016	99 9		11 2
JF-PDS-5-0-1ft-160211	2/11/2016	2/18/2016	2/23/2016	99 6		14 2
JF-PDS-5-1-2ft-160211	2/11/2016	2/18/2016	2/23/2016	99 2	SS	1 2
JF-PDS-105-0-1ft-160211	2/11/2016	2/18/2016	2/23/2016	98 7		11 5
JF-PDS-7-0-1ft-160212	2/12/2016	2/18/2016	2/23/2016	100 1		5 1
JF-PDS-7-1-2ft-160212	2/12/2016	2/18/2016	2/23/2016	99 5	SS	2 6

* MTC Internal QA limits = 95-105%

Notes to the Testing: Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution See narrative for discussion of the testing

Reviewed by _____

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Materials Testing & Consulting, Inc.

Geotechnical Engineering • Special Inspection • Materials Testing • Environmental Consulting

Project:	OMMP Addendum 2-Jorgensen Forge EAA	**Date Received:**	February 16, 2016
Project #:	AVZ9	**Sampled By:**	Others
Client :	Analytical Resources, Inc.	**Date Tested:**	February 23, 2016
Source:	Multiple	**Tested By:**	A. Urban, B. Goble, K. O'Connell
MTC Sample#:	T16-0277 - T16-0292		

Data Qualifiers

PSEP Grain Size Analysis

SM - The 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 - The sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis.

W - The weight of the sample in some pipette aliquots was below the level required for accurate weighing.

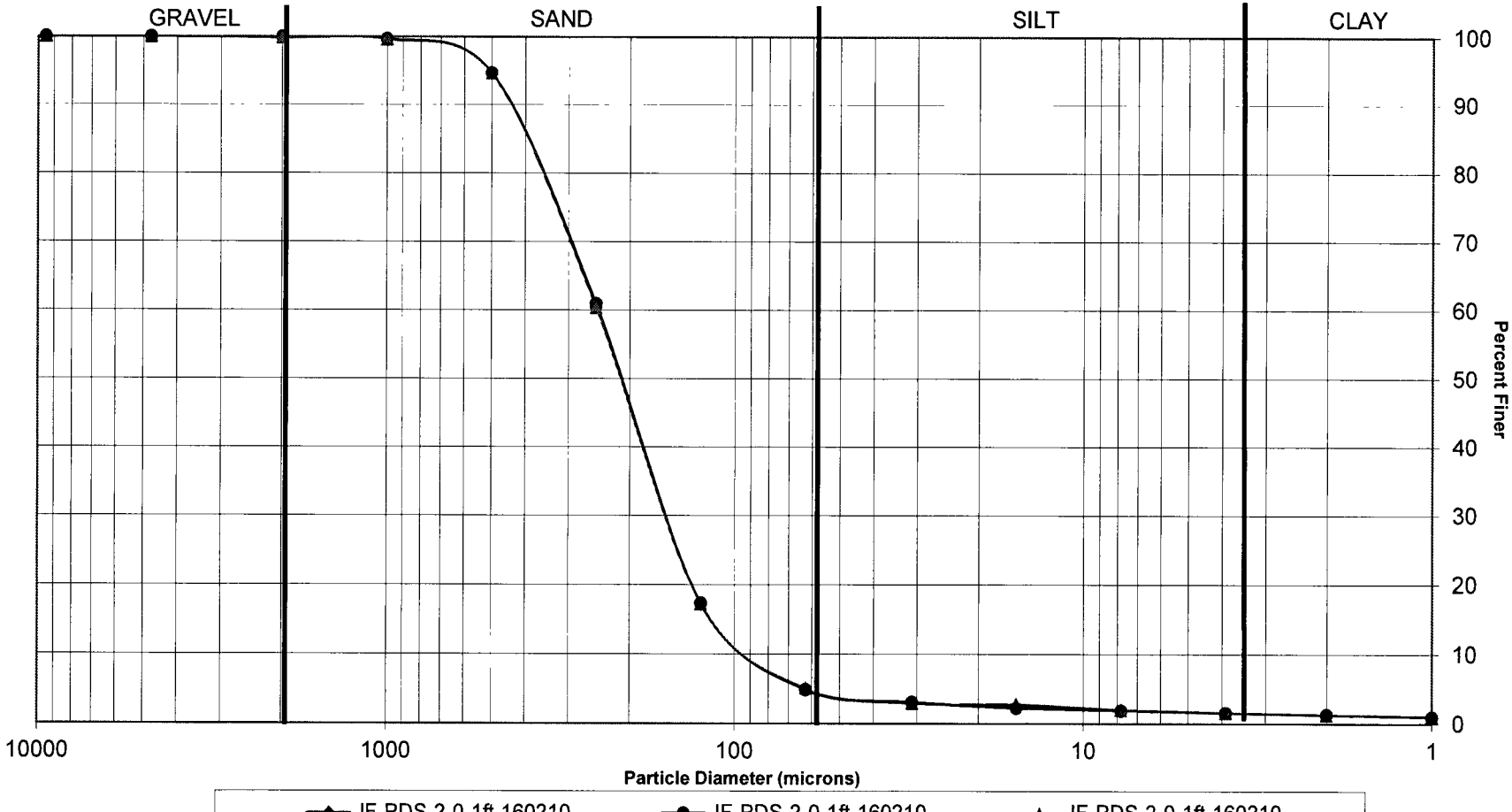
F - The samples were frozen prior to particle size determination.

LV - Due to low sample volume provided, the samples could not be rerun to meet QA requirements.

Reviewed by: _____

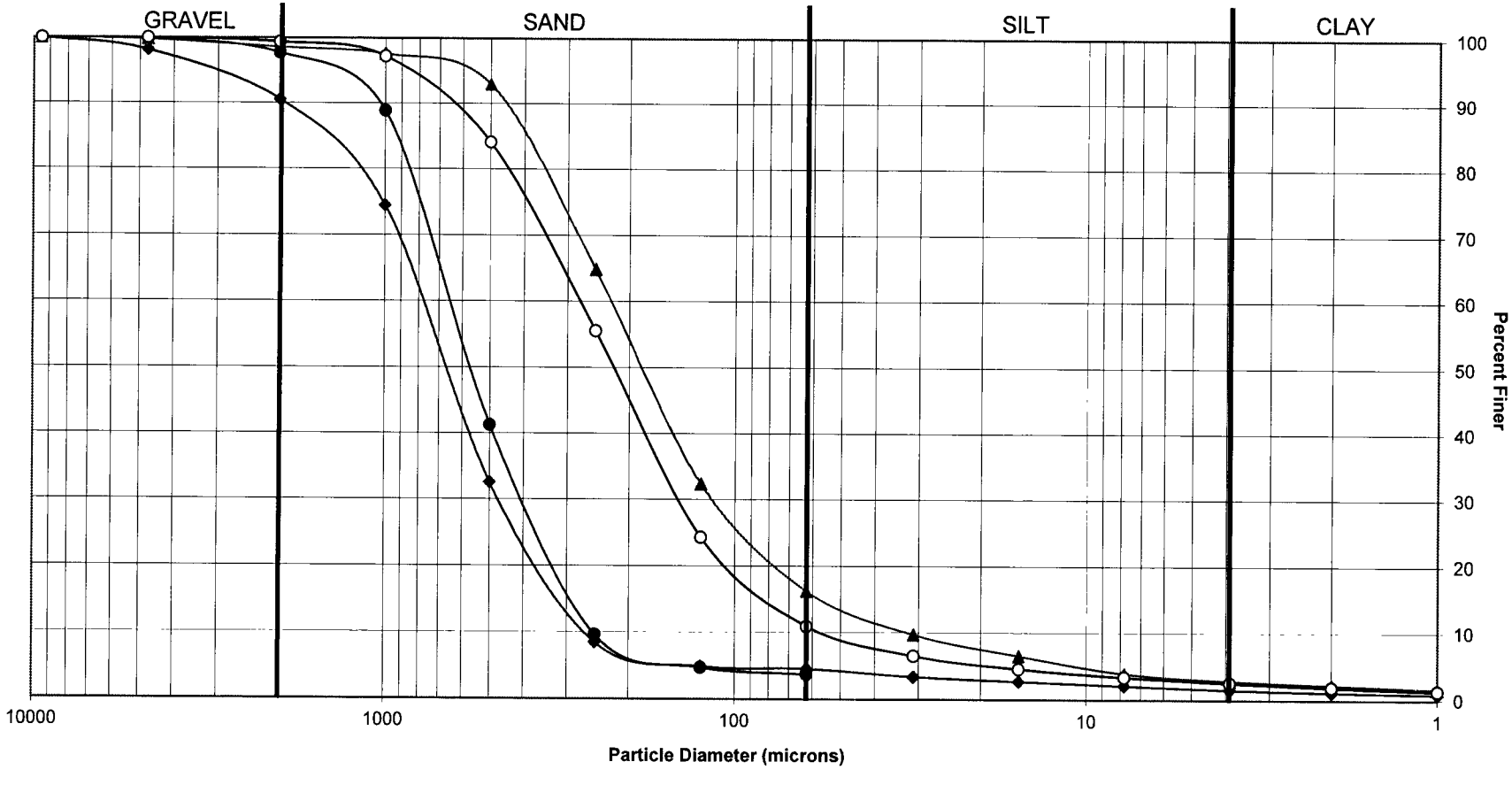
PSEP Grain Size Distribution

Triplicate Sample Plot



A175 : 681 : 02

PSEP Grain Size Distribution



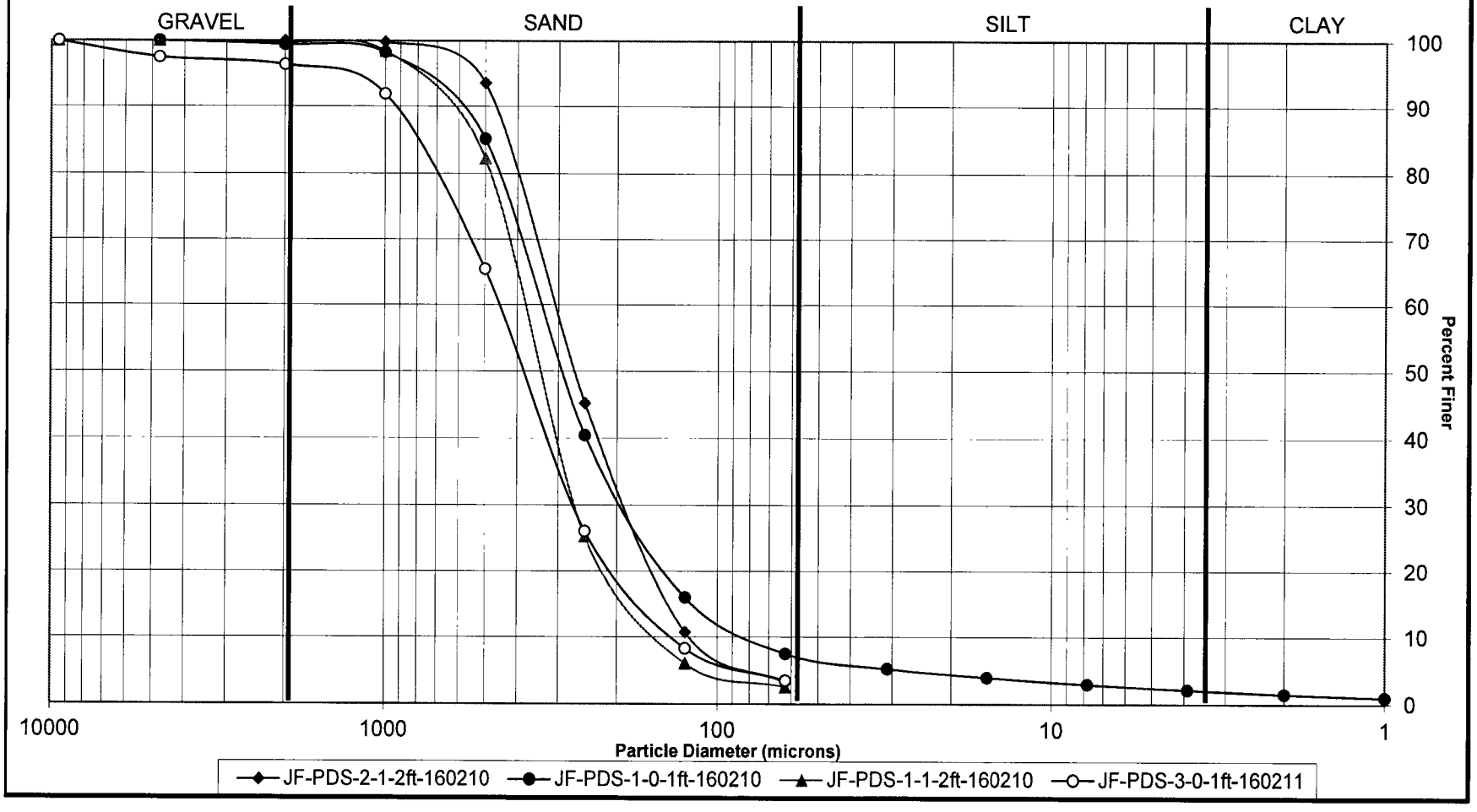
JF-PDS-6-0-1ft-160209 — JF-PDS-6-1-2ft-160209 — JF-PDS-4-0-1ft-160210 — JF-PDS-4-1-2ft-160210

AVIS : 001152

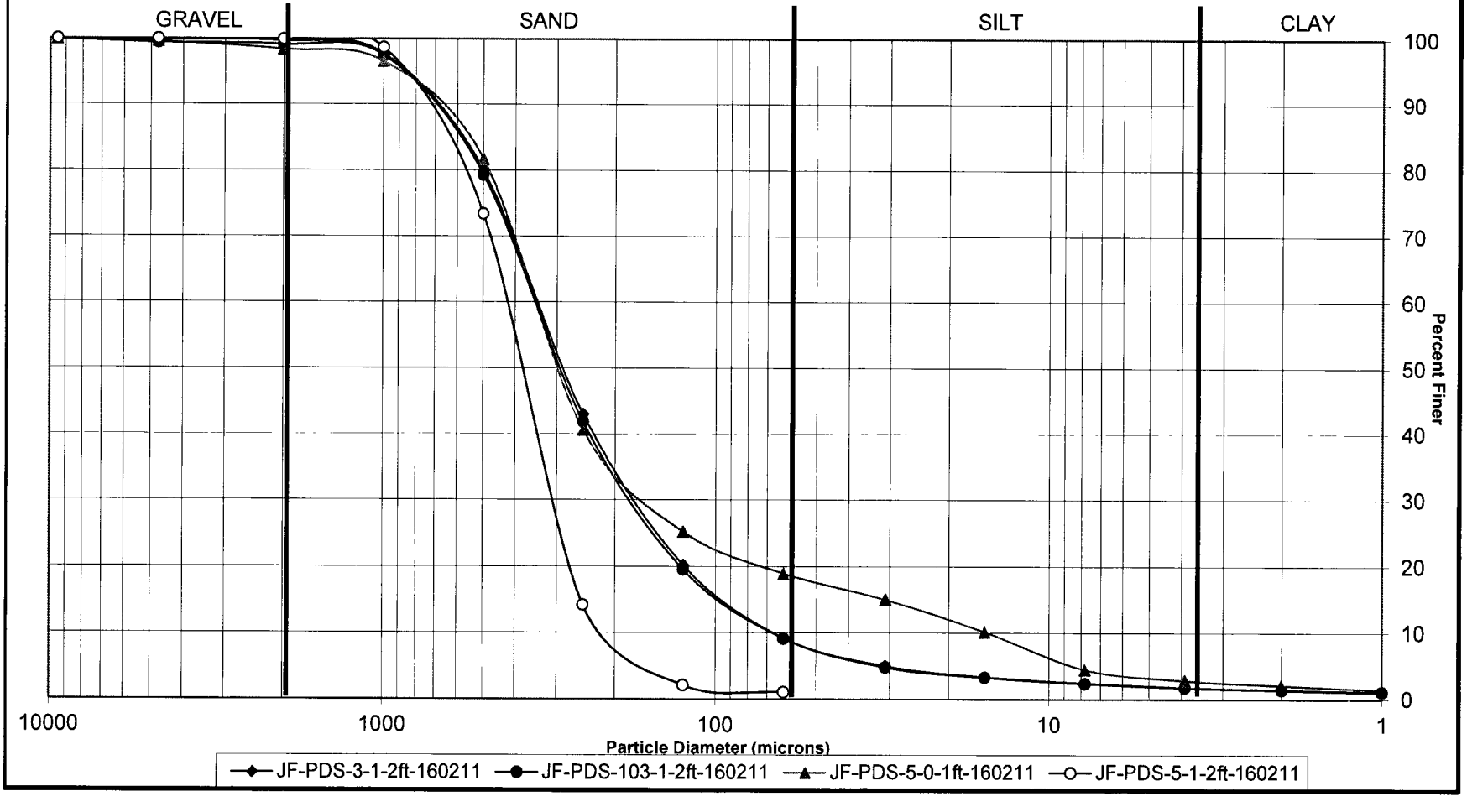
MTC

Materials Testing & Consulting, Inc.

PSEP Grain Size Distribution



PSEP Grain Size Distribution

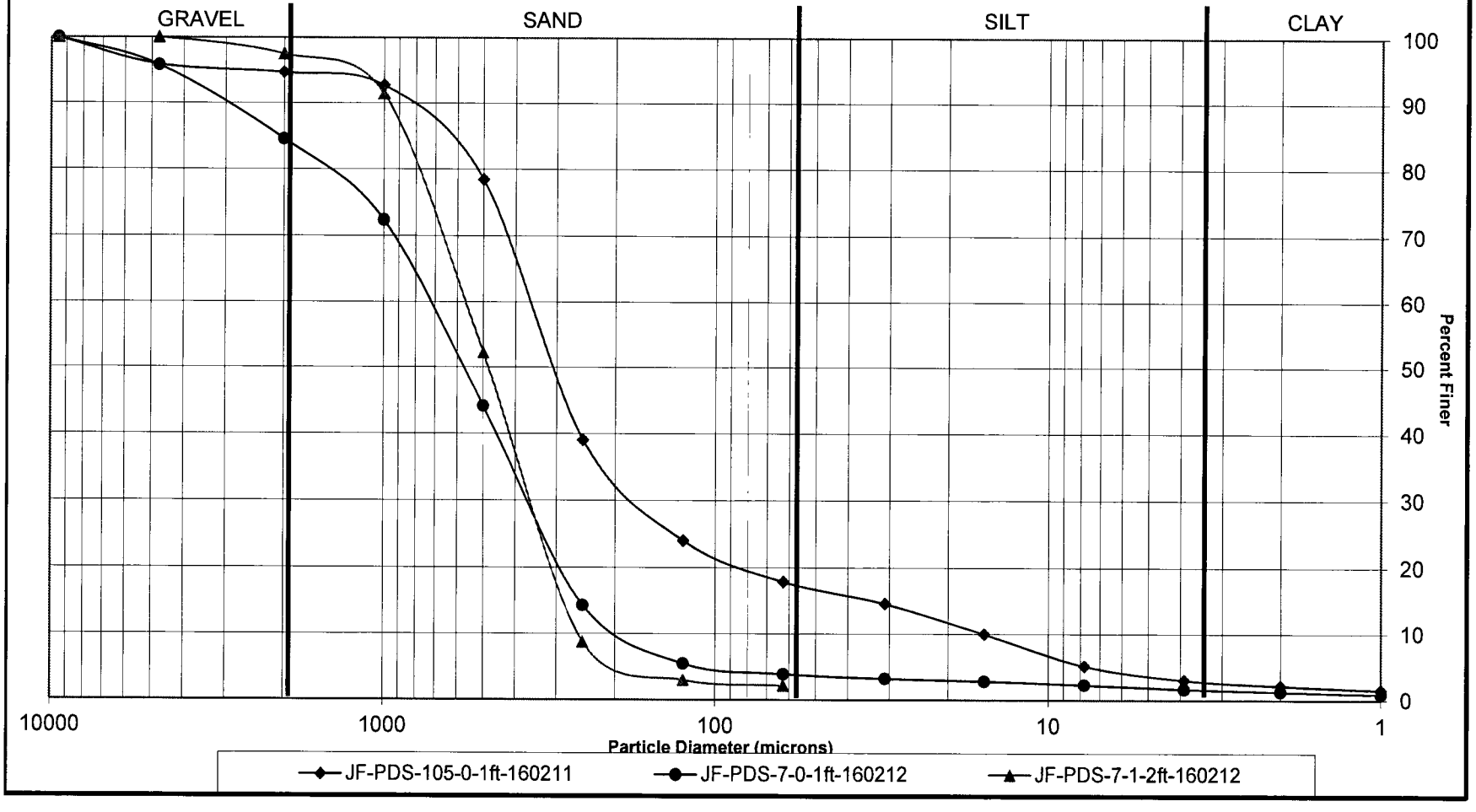


AVZS 68 1 55

MTC

Materials Testing & Consulting, Inc.

PSEP Grain Size Distribution



Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No.: 15T001-120 MTC Sample ID: T16-0281-1 Client Sample No.: JF-PDS-2-0-1ft-160210

Set Up Date: 2-18-16 Sample Description: dark brown silty sand

SOLIDS CONTENT

Moisture Content	Initials: bz
Container No.	102A
Tare Weight	1.53~~5~~49
Wet Weight + Tare	38.9477
Dry Weight + Tare	31.9398

Test Sample	Initials: bz
Container No.	102A
Tare Weight	49.4288
Wet Weight + Tare	200.2372
Dry Weight + Tare	167.9010

Calgon Batch #: 321

SIEVE ANALYSIS

Sieve Date: 2.19.16

Sieve Set #: 2 Initials: [illegible]

Sieve Size	Weight Retained
Tare	49.44~~7~~43
4	49.4443
10	49.4846
18	49.7705
35	55.9518
60	98.0889
120	150.9485
230	165.7711
PAN	2.1364

2/22/2016

Temp:22

PIPETTE ANALYSIS

Initials: [illegible]

TIME	Tare ID	Tare Wt	Dry Wt & Tare
7:30:00	281-1 1	1.5320	1.6622
7:30:20	281-1 2	1.5295	1.6~~1~~452
7:31:49	281-1 3	1.5273	1.5952
7:37:15	281-1 4	1.5309	1.5886
7:58:59	281-1 5	1.5281	1.5754
9:26:00	281-1 6	1.5312	1.5716
13:04:00	281-1 7	1.5243	1.5595
6:38:00			

SALT CORRECTION

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

AVZ9-00157

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No. 15T001-120 MTC Sample ID: T16-0281-2 Client Sample No.: JF-PDS-2-0-1ft-160210

Set Up Date: 2-18-16 Sample Description: dark brown silty sand

SOLIDS CONTENT

Moisture Content	Initials: bz
Container No.	104
Tare Weight	1.5264
Wet Weight + Tare	36.7873
Dry Weight + Tare	30.1233

Test Sample	Initials: bz
Container No.	104
Tare Weight	50.2156
Wet Weight + Tare	201.0982
Dry Weight + Tare	168.2335

Calgon Batch #: 321

SIEVE ANALYSIS

Sieve Date: 2-19-16

Sieve Set #: 1 Initials: AM

Sieve Size	Weight Retained
Tare	50.2233
4	50.2233
10	50.2628
18	50.6174
35	56.7365
60	98.0884
120	151.3923
230	166.5648
PAN	1.4387

2/22/2016

Temp:22

PIPETTE ANALYSIS

Initials: AM

TIME	Tare ID	Tare Wt	Dry Wt & Tare
7:33:00	0281-2 1	1.5252	1.6474
7:33:20	0281-2 2	1.5268	1.6105
7:34:49	0281-2 3	1.5347	1.5985
7:40:15	0281-2 4	1.5299	1.5848
8:01:59	0281-2 5	1.5340	1.5804
9:29:00	0281-2 6	1.5355	1.5757
13:07:00	0281-2 7	1.5260	1.5581
6:41:00			

SALT CORRECTION

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

AVZ9-00198

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No. 15T001-120 MTC Sample ID: 116-0281-3 Client Sample No.: JF-PDS-2-0-HA-160210

Set Up Date: 2.18.16 Sample Description: dark brown silty sand

SOLIDS CONTENT

Moisture Content	Initials: bz
Container No.	106
Tare Weight	1.5335
Wet Weight + Tare	35.6901
Dry Weight + Tare	29.2921

Test Sample	Initials: bz
Container No.	106
Tare Weight	50.2333
Wet Weight + Tare	200.5632
Dry Weight + Tare	167.8737

Calgon Batch #: 321

SIEVE ANALYSIS

Sieve Date: 2.19.16

Sieve Set #: 2 Initials: AU

Sieve Size	Weight Retained
Tare	50.2420
4	50.2420
10	50.4378
18	50.7161
35	56.8167
60	98.7390
120	151.3468
230	166.1370
PAN	1.6372

2/22/2016

Temp.22

PIPETTE ANALYSIS

Initials: AU

TIME	Tare ID	Tare Wt	Dry Wt & Tare
7:36:00	0281-3 1	1.5340	1.6608
7:36:20	0281-3 2	1.5298	1.6096
7:37:49	0281-3 3	1.5425	1.6197
7:43:15	0281-3 4	1.5310	1.5881
8:04:59	0281-3 5	1.5254	1.5714
9:32:00	0281-3 6	1.5326	1.5720
13:10:00	0281-3 7	1.5330	1.5666
6:44:00			

SALT CORRECTION

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No.: 15T001-120 MTC Sample ID: T16-0277 Client Sample No.: JF-PDS-6-0-1ft-160209

Set Up Date: 2-18-16 Sample Description: dark brown sand

SOLIDS CONTENT

Moisture Content	Initials: bz
Container No.	124
Tare Weight	1.5281
Wet Weight + Tare	74.5041
Dry Weight + Tare	63.6245 1

Test Sample	Initials: bz
Container No.	124
Tare Weight	51.1184
Wet Weight + Tare	202.4233
Dry Weight + Tare	175.8175

Calgon Batch #: 321

SIEVE ANALYSIS

Sieve Date: 2-19-16

Sieve Set #: 1 Initials: AM

Sieve Size	Weight Retained
Tare	~~50~~ 51.1384
4	53.5281
10	63.3~~19~~207
18	84.0020
35	138.0505
60	~~168~~ 169.0073
120	173.6189
230	174.0582
PAN	0.7287

2/22/2016

Temp:22

PIPETTE ANALYSIS

Initials: AM

TIME	Tare ID	Tare Wt	Dry Wt & Tare
7:39:00			
7:39:20	0277 1	1.5269	1.6379
7:40:49	0277 2	1.5328	1.6271
7:46:15	0277 3	1.5243	1.6095
8:07:59	0277 4	1.5314	1.5935
9:35:00	0277 5	1.5358	1.5828
13:13:00	0277 6	1.5350	1.5727
6:47:00	0277 7	1.5272	1.5573

SALT CORRECTION

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No.: 15T001-120 MTC Sample ID: T16-0278 Client Sample No.: JF-PDS-6-1-2ft-160209

Set Up Date: 2-19-16 Sample Description: dark brown sand

SOLIDS CONTENT

Moisture Content	Initials: bg
Container No.	157
Tare Weight	15328
Wet Weight + Tare	86.8255
Dry Weight + Tare	72.4018

Test Sample	Initials: bg
Container No.	157
Tare Weight	50.9302
Wet Weight + Tare	201.4035
Dry Weight + Tare	172.0846

Calgon Batch #: 321

SIEVE ANALYSIS

Sieve Date: 2/19/16

Sieve Set #: 2 Initials: KD

Sieve Size	Weight Retained
Tare	50.9476
4	51.1154
10	53.7820
18	64.8743
35	124.4138
60	163.9819
120	~~16~~ 170.0956 KD
230	171.3437
PAN	0.6666

4.6g

PIPETTE ANALYSIS

2/22/2016

Temp:22

Initials CM

TIME	Tare ID	Tare Wt	Dry Wt & Tare
8:06:00	278	1.5309	1.6452
8:06:20			
8:07:49			
8:13:15			
8:34:59			
10:02:00			
13:40:00			
7:14:00			

SALT CORRECTION

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

AVZ9 : 00201

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No.: 15T001-120 MTC Sample ID: T16-0279 Client Sample No.: JF-PDS-4-0-1ft-160210

Set Up Date: 2·18·16 Sample Description: dark brown silty sand w/organic debris & fines

SOLIDS CONTENT

Moisture Content	Initials: BZ
Container No.	160
Tare Weight	1.5347
Wet Weight + Tare	59.4397
Dry Weight + Tare	45.2109

Test Sample	Initials: BZ
Container No.	160
Tare Weight	50.5461
Wet Weight + Tare	200.5941
Dry Weight + Tare	150.3601

Calgon Batch #: 371

SIEVE ANALYSIS

Sieve Date: 2/19/16

Sieve Set #: 1 Initials: KO

Sieve Size	Weight Retained
Tare	56.5644
4	50.8265
10	52.1614
18	53.2787
35	58.5473
60	~~80~~ 90.4049 KO
120	127.1765
230	145.3519
PAN	4.9125

2/22/2016

Temp:22

PIPETTE ANALYSIS

Initials: AM

TIME	Tare ID	Tare Wt	Dry Wt & Tare
7:42:00	0279 1	1.5343	1.9061
7:42:20	0279 2	1.5403	1.7674
7:43:49	0279 3	1.5386	1.6942
7:49:15	0279 4	1.5409	1.6374
8:10:59	0279 5	1.5338	1.6064
9:38:00	0279 6	1.5361	1.5947
13:16:00	0279 7	~~1.5360~~	1.5797
6:50:00		1.5348 KO	

SALT CORRECTION

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No.: 15T001-120 MTC Sample ID: T16-0280 Client Sample No.: JF-PDS-4-1-2ft-160210

Set Up Date: 2-18-16 Sample Description: dark brown silty sand

SOLIDS CONTENT

Moisture Content	Initials: bz
Container No.	165
Tare Weight	1.5275
Wet Weight + Tare	86.9203
Dry Weight + Tare	69.8929

Test Sample	Initials: bz
Container No.	168
Tare Weight	50.6281
Wet Weight + Tare	200.7835
Dry Weight + Tare	162.1135

Calgon Batch #: 321

SIEVE ANALYSIS

Sieve Date: 2/19/16

Sieve Set #: 2 Initials: KO

Sieve Size	Weight Retained
Tare	50.6443 KO
4	50.6443
10	51.3819
18	53.9836
35	69.8719
60	104.1536
120	141.7932
230	157.8309
PAN	✗ 3.9934 KO

2/22/2016

Temp:22

PIPETTE ANALYSIS

Initials: DW

TIME	Tare ID	Tare Wt	Dry Wt & Tare
7:45:00	0280 1	1.5367	1.7700
7:45:20	0280 2	1.5300	1.6919
7:46:49	0280 3	1.5342	1.6525
7:52:15	0280 4	1.5275	1.6159
8:13:59	0280 5	1.5367	1.6048
9:41:00	0280 6	1.5401	1.5931
13:19:00	0280 7	1.5369	1.5774
6:53:00			

SALT CORRECTION

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

AVZ9 : 00293

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No.: 15T001-120 MTC Sample ID: T16-0282 Client Sample No.: JF-PDS-2-1-2ft-160210

Set Up Date: 2.18.16 Sample Description: dark brown silty sand

SOLIDS CONTENT

Moisture Content	Initials: bz
Container No.	169
Tare Weight	1.5290
Wet Weight + Tare	74.5913
Dry Weight + Tare	61.1092

Test Sample	Initials: bz
Container No.	169
Tare Weight	49.9877
Wet Weight + Tare	201.0596
Dry Weight + Tare	170.1322

Calgon Batch #: 321

SIEVE ANALYSIS

Sieve Date: 2/19/16

Sieve Set #: 1 Initials: KD

Sieve Size	Weight Retained
Tare	49.9950
4	49.9950
10	~~50~~ 50.0090 KD
18	50.2325
35	57.9142
60	117.4297
120	159.9740
230	169.2564
PAN	0.9172

PIPETTE ANALYSIS

2/22/2016

Temp:22

Initials: AW

TIME	Tare ID	Tare Wt	Dry Wt & Tare
8:09:00	0282	1.5350	~~1.6034~~ 1.6.337 (AW)
8:09:20			
8:10:49			
8:16:15			
8:37:59			
10:05:00			
13:43:00			
7:17:00			

SALT CORRECTION

3.9g

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

1115F A
PSEP Particle Size Distribution

Rev. 001
9/21/13

AVZ9 : 66204

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No.: 15T001-120 MTC Sample ID: T16-0283 Client Sample No.: JF-PDS-1-0-1ff-160210

Set Up Date: 2-18-16 Sample Description: dark brown silty sand

SOLIDS CONTENT

Moisture Content	Initials: bz
Container No.	173
Tare Weight	1.5299
Wet Weight + Tare	92.2308
Dry Weight + Tare	74.5044

Test Sample	Initials: bz
Container No.	173
Tare Weight	50.0118
Wet Weight + Tare	201.1231
Dry Weight + Tare	164.3199

Calgon Batch #: 321

SIEVE ANALYSIS

Sieve Date: 2/19/16

Sieve Set #: 2 Initials: KD

Sieve Size	Weight Retained
Tare	50.0211
4	~~50.7175~~ 50.0211 KD
10	50.7175
18	52.1662
35	68.0891
60	122.4169
120	152.1662
230	162.4853
PAN	1.9969

2/22/2016

Temp:22

PIPETTE ANALYSIS

Initials: QW

TIME	Tare ID	Tare Wt	Dry Wt & Tare
7:48:00	0283 1	1.5270	1.7173
7:48:20	0283 2	1.5321	1.6676 QW
7:49:49	0283 3	1.5338	1.6376
7:55:15	0283 4	1.5374	1.6163
8:16:59	0283 5	1.5379	1.5976
9:44:00	0283 6	1.5340	1.5782
13:22:00	0283 7	1.5359	1.5677
6:56:00			

SALT CORRECTION

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

1115F A
PSEP Particle Size Distribution

Rev. 001
9/21/13

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No.: 15T001-120 MTC Sample ID: T16-0284 Client Sample No.: JF-PDS-1-1-2ft-160210

Set Up Date: 2-18-16 Sample Description: dark brown silty sand

SOLIDS CONTENT

Moisture Content	Initials: bz
Container No.	184
Tare Weight	1.5231
Wet Weight + Tare	71.5495
Dry Weight + Tare	59.1657

Test Sample	Initials: bz
Container No.	184
Tare Weight	50.6427
Wet Weight + Tare	200.3601
Dry Weight + Tare	171.1436

Calgon Batch #: 321

SIEVE ANALYSIS

Sieve Date: 2/19/16

Sieve Set #: 1 Initials: KO

Sieve Size	Weight Retained	
Tare	50.6507	
4	~~50.9528~~	50.6507 KO
10	~~52.5983~~	50.9528 KO
18	~~72.5432~~	52.5983 KO
35	~~142.6363~~	72.5432 KO
60	~~166.4497~~	142.6363 KO
120	~~170.7753~~	166.4497 KO
230	170.7753	
PAN	0.3509	

3.1g

2/22/2016

Temp:22

PIPETTE ANALYSIS

Initials: CLL

TIME	Tare ID	Tare Wt	Dry Wt & Tare
8:12:00	0284	1.5272	1.5944
8:12:20			
8.13:49			
8:19:15			
8:40:59			
10:08:00			
13:46:00			
7:20:00			

SALT CORRECTION

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

AVZ8 : 00286

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No.: 15T001-120 MTC Sample ID: TT6-0285 Client Sample No.: JF-PDS-3-@-1ft-160211

Set Up Date: 2-18-16 Sample Description: dark brown silty sand

SOLIDS CONTENT

Moisture Content	Initials: bz
Container No.	195
Tare Weight	1.5250
Wet Weight + Tare	77.0697
Dry Weight + Tare	63.0016

Test Sample	Initials: bz
Container No.	195
Tare Weight	49.8636
Wet Weight + Tare	199.7713
Dry Weight + Tare	168.4380

Calgon Batch #: 371

SIEVE ANALYSIS

Sieve Date: 2/19/16

Sieve Set #: 2 Initials: KO

Sieve Size	Weight Retained
Tare	49.8653
4	52.9106
10	54.2980
18	59.7129
35	92.0467
60	140.0174
120	~~160~~ 161.7328 KO
230	167.6142
PAN	0.9000

4.2g

PIPETTE ANALYSIS

2/22/2016

Temp:22

Initials: DU

TIME	Tare ID	Tare Wt	Dry Wt & Tare
8:15:00	0285 1	1.5323	1.6435
8:15:20	0285 2	~~1.5294~~ (W)	
8:16:49	0285 3	~~1.5281~~ (W)	
8:22:15	0285 4	~~1.5324~~ (W)	
8.43:59	0285 5	~~1.5322~~ (W)	
10:11:00	~~0285~~ 6 (W)		
13:49:00	~~0285~~ 7 (W)		
7:23:00			

SALT CORRECTION

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

1115F A
PSEP Particle Size Distribution

Rev. 001
9/21/13

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No.: 15T001-120 MTC Sample ID: T16-0286 Client Sample No.: JF-PDS-3-1-2ft-160211

Set Up Date: 2·18·16 Sample Description: dark brown silty sand

SOLIDS CONTENT

Moisture Content	Initials: bg
Container No.	199
Tare Weight	1.5335
Wet Weight + Tare	65.0611
Dry Weight + Tare	52.5147

Test Sample	Initials: bg
Container No.	199
Tare Weight	49.9979
Wet Weight + Tare	203.2155
Dry Weight + Tare	164.7451

Calgon Batch #: 321

SIEVE ANALYSIS

Sieve Date: 2/19/16

Sieve Set #: 1 Initials: RO

Sieve Size	Weight Retained
Tare	50.0050
4	50.1448
10	50.3661
18	52.7496
35	74.7039
60	120.0989
120	148.1574
230	161.6674
PAN	3.0310

2/22/2016

Temp:22

PIPETTE ANALYSIS

Initials: AU

TIME	Tare ID	Tare Wt	Dry Wt & Tare
7:51:00	0286 1	1.5294	1.7554
7:51:20	0286 2	1.5261	1.6588
7:52:49	0286 3	1.5324	1.6222
7:58:15	0286 4	1.5322	1.5999
8:19:59	0286 5	1.5337	1.5952
9:47:00	0286 6	1.5336	1.5755
13:25:00	0286 7	1.5278	1.5603
6:59:00			

SALT CORRECTION

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No.: 15T001-120 MTC Sample ID: T16-0287 Client Sample No.: JF-PDS-103-1-2ft-160211

Set Up Date: 2·18·16 Sample Description: dark brown silty sand

SOLIDS CONTENT

Moisture Content	Initials: bg
Container No.	202
Tare Weight	1.5303
Wet Weight + Tare	81.8583
Dry Weight + Tare	66.0092

Test Sample	Initials: bg
Container No.	202
Tare Weight	49.8253
Wet Weight + Tare	202.3577
Dry Weight + Tare	164.2296

Calgon Batch #: 321

SIEVE ANALYSIS

Sieve Date: 2/19/16

Sieve Set #: 2 Initials: KD

Sieve Size	Weight Retained
Tare	49.8355
4	50.5406
10	50.8647
18	52.9135
35	75.1835
60	121.0371
120	148.3700
230	161.0697
PAN	~~1.51~~ 3.0388

2/22/2016

Temp:22

PIPETTE ANALYSIS

Initials: AM

TIME	Tare ID	Tare Wt	Dry Wt & Tare
7:54:00	0287 1	1.5388	1.7745
7:54:20	0287 2	1.5324	1.6586
7:55:49	0287 3	1.5248	1.6135
8:01:15	0287 4	~~1.5281~~	1.6043
8:22:59	0287 5	1.5330	1.5841
9:50:00	0287 6	1.5359	1.5785
13:28:00	0287 7	1.5366	1.5725
7:02:00			

KD 1.5381

KD

SALT CORRECTION

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

AV29-00289

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No.: 15T001-120 MTC Sample ID: T16-0288 Client Sample No.: JF-PDS-5-Q-1f7-160211

Set Up Date: 2-18-16 Sample Description: dark brown silty sand, organic debris

SOLIDS CONTENT

Moisture Content	Initials: bg
Container No.	205
Tare Weight	1.5344
Wet Weight + Tare	86.1952
Dry Weight + Tare	64.1884

Test Sample	Initials: bg
Container No.	205
Tare Weight	50.1458
Wet Weight + Tare	151.2093
Dry Weight + Tare	111.8708

Calgon Batch #: 321

SIEVE ANALYSIS

Sieve Date: 2/16 2/19/16 KD

Sieve Set #: 1 Initials: KD

Sieve Size	Weight Retained
Tare	50.1599
4	50.4619
10	51.3424
18	52.7253
35	63.9037 KD
60	94.5934
120	106.1118
230	110.7821
PAN	1.3383

PIPETTE ANALYSIS

2/22/2016

Temp 22

Initials: DM

TIME	Tare ID	Tare Wt	Dry Wt & Tare
7:57:00	0288 1	1.5392	1.8361
7:57:20	0288 2	1.5304	1.7638
7:58:49	0288 3	1.5343	1.6950
8:04:15	0288 4	1.5355	1.6110
8:25:59	0288 5	1.5331	1.5838
9:53:00	0288 6	1.5343	~~1.5722~~ 1.5737
13:31:00	0288 7	1.5378	1.5675
7:05:00			

KD

SALT CORRECTION

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

1115F A
PSEP Particle Size Distribution

Rev. 001
9/21/13

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No.: 15T001-120 MTC Sample ID: T16-0289 Client Sample No.: JF-PDS-5-1-247-160211

Set Up Date: 2-18-16 Sample Description: brown mud

SOLIDS CONTENT

Moisture Content	Initials: bz
Container No.	210
Tare Weight	1.5298
Wet Weight + Tare	79.4658
Dry Weight + Tare	62.9456

Test Sample	Initials: bz
Container No.	210
Tare Weight	49.7586
Wet Weight + Tare	203.5313
Dry Weight + Tare	~~169~~ 170.1051

Calgon Batch #: 321

SIEVE ANALYSIS

Sieve Date: 2/19/16

Sieve Set #: 2 Initials: KO

Sieve Size	Weight Retained
Tare	49.7647
4	49.7647
10	49.8540
18	51.3~~6~~704 KO
35	82.0056
60	153.7815
120	168.4155
230	169.6887
PAN	0.3713

PIPETTE ANALYSIS

2/22/2016

Temp:22

Initials: AU

TIME	Tare ID	Tare Wt	Dry Wt & Tare
8:18:00	0289	1.5339	1.5854
8:18:20			
8:19:49			
8:25:15			
8:46:59			
10:14:00			
13:52:00			
7:26:00			

SALT CORRECTION 1.2g

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

AVZ3-00211

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No.: 15T001-120 MTC Sample ID: T16-0290 Client Sample No.: JF-PDS-105-0-1f7-160211

Set Up Date: 2-18-16 Sample Description: dark brown silty sand

SOLIDS CONTENT

Moisture Content	Initials: lg
Container No.	215
Tare Weight	1.5220
Wet Weight + Tare	86.8503
Dry Weight + Tare	64.5484

Test Sample	Initials: lg
Container No.	215
Tare Weight	50.1842
Wet Weight + Tare	137.0555
Dry Weight + Tare	104.2318

Calgon Batch #: 371

SIEVE ANALYSIS

Sieve Date: 2/19/16

Sieve Set #: 1 Initials: KD

Sieve Size	Weight Retained
Tare	50.2010
4	52.8373
10	53.6158
18	54.8738
35	64.0579
60	89.3433
120	98.9684
230	102.8889
PAN	1.3597

PIPETTE ANALYSIS

2/22/2016

Temp 22

Initials: CW

TIME	Tare ID	Tare Wt	Dry Wt & Tare
8:00:00	0290 1	1.5271	1.7912
8:00:20	0290 2	1.5298	1.7272
8:01:49	0290 3	1.5312	1.6689
8:07:15	0290 4	1.5325	~~1.6877~~ 1.6077
8:28:59	0290 5	1.5395	1.5870
9:56:00	0290 6	1.5374	1.5738
13:34:00	0290 7	1.5~~3~~293	1.5573
7:08:00			

KD

SALT CORRECTION

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No.: 15T001-120 MTC Sample ID: T16-0291 Client Sample No.: JF-PDS-7-0-1F1-160212

Set Up Date: 2.18.16 Sample Description: Sand

SOLIDS CONTENT

Moisture Content	Initials: bz
Container No.	221
Tare Weight	1.5340
Wet Weight + Tare	106.1476
Dry Weight + Tare	91.2349

Test Sample	Initials: bz
Container No.	221
Tare Weight	49.2447
Wet Weight + Tare	201.3601
Dry Weight + Tare	175.1028

Calgon Batch #: 321

SIEVE ANALYSIS

Sieve Date: 2/16 2/19/16

Sieve Set #: 2 Initials: KS

Sieve Size	Weight Retained
Tare	49.2560
4	54.7345
10	69.3649
18	85.3137
35	122.1527
60	161.0248
120	172.5199
230	174.5728
PAN	0.4693

PIPETTE ANALYSIS

2/22/2016

Temp 22

Initials: CM

TIME	Tare ID	Tare Wt	Dry Wt & Tare
8:03:00	0291 1	1.5249	1.6339
8:03:20	0291 2	1.5394	1.6314
8:04:49	0291 3	1.5299	1.6124
8:10:15	0291 4	1.5305	1.5986
8:31:59	0291 5	1.5424	1.5943
9:59:00	0291 6	1.5422	1.5833
13:37:00	0291 7	1.5310	1.5624
7:11:00			

SALT CORRECTION

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

AVZ9 00213

Materials Testing & Consulting, Inc.

PSEP GRAIN SIZE ANALYSIS

MTC Job No.: 15T001-120 MTC Sample ID: T16-0292 Client Sample No.: TF-PDS-7-1-2ft-160212

Set Up Date: 2-18-16 Sample Description: dark brown silty sand

SOLIDS CONTENT

Moisture Content	Initials: bz
Container No.	229
Tare Weight	1.5308
Wet Weight + Tare	77.7974
Dry Weight + Tare	63.8725

Test Sample	Initials: bz
Container No.	229
Tare Weight	49.4717
Wet Weight + Tare	199.8685
Dry Weight + Tare	170.1869

Calgon Batch #: 321

SIEVE ANALYSIS

Sieve Date: 2/19/16

Sieve Set #: 1 Initials: KD

Sieve Size	Weight Retained
Tare	~~52.5484~~
4	~~52.5484~~
10	~~50~~ ~~60.0180~~
18	~~108.2064~~
35	~~161.6614~~
60	161.6614
120	168.7291
230	169.7655
PAN	0.1502

KD
~~49.4869~~
49.4869 KD
52.5484*
60.0180 KD
108.2064 KD
~~161.6614~~

2.6g

2/22/2016

Temp:22

PIPETTE ANALYSIS

Initials: aw

TIME	Tare ID	Tare Wt	Dry Wt & Tare
8:21:00	0292	1.5420	1.6147
8:21:20			aw
8:22:49			
8:28:15			
8:49:59			
10:17:00			
13:55:00			
7:29:00			

SALT CORRECTION

Date: _____ Initials: ____

Tare Weight	
Dry Weight + Tare	

2.1.16 au

Calgon Batch #321

	Tare wt (g)	Dry Calgon+tare wt (g)	Calgon wt (g)
1	1.5349	1.9395	0.4046
2	1.5328	1.9384	0.4056
3	1.5352	1.9417	0.4065
4	1.52879 @	1.9355	0.4076
5	1.54391 @	1.9434	0.4043

Average = 0.40572

SUBCONTRACTOR ANALYSIS REQUEST
CUSTODY TRANSFER 02/15/16

ANALYTICAL RESOURCES INCORPORATED

ARI Project: AVZ9
MTL Job #: 15T001-120

Laboratory: Materials Testing & Consulting, In
Lab Contact: Harold Benny
Lab Address: 4611 S. 134th Pl
Tukwila, WA 98168
Phone: 360-255-9802
Fax:

ARI Client: Anchor QEA, LLC
Project ID: OMMP Addendum 2-Jorgensen Forge EAA
ARI PM: Cheronne Oreiro
Phone: 206-695-6214
Fax: 206-695-6201
Email: subdata@arilabs.com

Analytical Protocol: PSDDA
Special Instructions: LV4 plug

Requested Turn Around: **03/08/16**
Email Results (Y/N): **Yes**

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

ARI ID	Client ID/ Add'l ID	Sampled	Matrix	Bottles	Analyses
16-2437-AVZ9A T16-0277	JF-PDS-6-0-1ft-160209	02/09/16 15:14	Sediment	1	PSEP, 1986 Sub GSPSEP
Special Instructions: None					
16-2438-AVZ9B T16-0278	JF-PDS-6-1-2ft-160209	02/09/16 15:14	Sediment	1	PSEP, 1986 Sub GSPSEP
Special Instructions: None					
16-2439-AVZ9C T16-0279	JF-PDS-4-0-1ft-160210	02/10/16 09:35	Sediment	1	PSEP, 1986 Sub GSPSEP
Special Instructions: None					
16-2440-AVZ9D T16-0280	JF-PDS-4-1-2ft-160210	02/10/16 09:35	Sediment	1	PSEP, 1986 Sub GSPSEP
Special Instructions: None					
16-2441-AVZ9E T16-0281	JF-PDS-2-0-1ft-160210	02/10/16 12:19	Sediment	1	PSEP, 1986 Sub GSPSEP
Special Instructions: None					
16-2442-AVZ9F T16-0282	JF-PDS-2-1-2ft-160210	02/10/16 12:19	Sediment	1	PSEP, 1986 Sub GSPSEP
Special Instructions: None					
16-2443-AVZ9G T16-0283	JF-PDS-1-0-1ft-160210	02/10/16 15:45	Sediment	1	PSEP, 1986 Sub GSPSEP
Special Instructions: None					

4.6°C

Carrier	Airbill		Date	
Relinquished by	Company ARI		Date 2-16-16	Time 1137
Received by AM	Company MTL		Date 2.16.16	Time 1137

AVZ9:08216

SUBCONTRACTOR ANALYSIS REQUEST
CUSTODY TRANSFER 02/15/16

ANALYTICAL RESOURCES INCORPORATED

ARI Project: AVZ9

Laboratory: Materials Testing & Consulting, In
Lab Contact: Harold Benny

ARI Client: Anchor QEA, LLC
Project ID: 080224-01.02

ARI Sample ID	Client Sample ID/ Add'l Sample ID	Sampled	Matrix	Bottles	Analyses
16-2444-AVZ9H T16-0284 Special Instructions: None	JF-PDS-1-1-2ft-160210	02/10/16 15:45	Sediment	1	PSEP, 1986 Sub GSPSEP
16-2445-AVZ9I T16-0285 Special Instructions: None	JF-PDS-3-0-1ft-160211	02/11/16 11:06	Sediment	1	PSEP, 1986 Sub GSPSEP
16-2446-AVZ9J T16-0286 Special Instructions: None	JF-PDS-3-1-2ft-160211	02/11/16 11:06	Sediment	1	PSEP, 1986 Sub GSPSEP
16-2447-AVZ9K T16-0287 Special Instructions: None	JF-PDS-103-1-2ft-16021	102/11/16 11:06	Sediment	1	PSEP, 1986 Sub GSPSEP
16-2448-AVZ9L T16-0288 Special Instructions: None	JF-PDS-5-0-1ft-160211	02/11/16 15:56	Sediment	1	PSEP, 1986 Sub GSPSEP
16-2449-AVZ9M T16-0289 Special Instructions: None	JF-PDS-5-1-2ft-160211	02/11/16 15:56	Sediment	1	PSEP, 1986 Sub GSPSEP
16-2450-AVZ9N T16-0290 Special Instructions: None	JF-PDS-105-0-1ft-16021	102/11/16 15:56	Sediment	1	PSEP, 1986 Sub GSPSEP
16-2451-AVZ9O T16-0291 Special Instructions: None	JF-PDS-7-0-1ft-160212	02/12/16 09:00	Sediment	1	PSEP, 1986 Sub GSPSEP
16-2452-AVZ9P T16-0292 Special Instructions: None	JF-PDS-7-1-2ft-160212	02/12/16 09:00	Sediment	1	PSEP, 1986 Sub GSPSEP

* 100 per sample

Need triplicate - N/C

Need LV1 pkg - N/C

Carrier		Airbill		Date	
Relinquished by		Company ARI	Date 2-16-16	Time 1137	
Received by		Company MTC	Date 2.16.16	Time 1137	

AVZ9:08217

Total Solids

ARI Job ID: AVZ9

Extractions Total Solids-extts
Data By: Yen Luu
Created: 2/15/16

Worklist: 948
Analyst: YL
Comments:

Oven ID:_____ Balance ID:_____

Samples In: Date:_____ Time:_____ Temp:_____ Analyst:_____

Samples Out: Date:_____ Time:_____ Temp:_____ Analyst:_____

	ARI ID CLIENT ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	TS	Dcnt	5g	10g	12.5g
1.	AVZ9A 16-2437 JF-PDS-6-0-1ft-160209	1.15	13.61	11.93	86.5	No	5.78	11.56	14.45
2.	AVZ9B 16-2438 JF-PDS-6-1-2ft-160209	1.17	12.69	11.00	85.3	No	5.86	11.72	14.65
3.	AVZ9C 16-2439 JF-PDS-4-0-1ft-160210	1.18	12.64	9.82	75.4	No	6.63	13.26	16.58
4.	AVZ9D 16-2440 JF-PDS-4-1-2ft-160210	1.16	13.06	10.55	78.9	No	6.34	12.67	15.84
5.	AVZ9E 16-2441 JF-PDS-2-0-1ft-160210	1.17	12.42	10.48	82.8	No	6.04	12.08	15.10
6.	AVZ9F 16-2442 JF-PDS-2-1-2ft-160210	1.17	12.48	10.68	84.1	No	5.95	11.89	14.86
7.	AVZ9G 16-2443 JF-PDS-1-0-1ft-160210	1.19	13.01	10.76	81.0	No	6.17	12.35	15.43
8.	AVZ9H 16-2444 JF-PDS-1-1-2ft-160210	1.15	12.31	10.57	84.4	No	5.92	11.85	14.81
9.	AVZ9I 16-2445 JF-PDS-3-0-1ft-160211	1.16	12.16	10.18	82.0	No	6.10	12.20	15.24
10.	AVZ9J 16-2446 JF-PDS-3-1-2ft-160211	1.16	12.98	10.48	78.8	No	6.35	12.69	15.86
11.	AVZ9K 16-2447 JF-PDS-103-1-2ft-160211	1.15	12.73	10.41	80.0	No	6.25	12.50	15.62
12.	AVZ9L 16-2448 JF-PDS-5-0-1ft-160211	1.18	12.02	9.04	72.5	No	6.90	13.79	17.24
13.	AVZ9M 16-2449 JF-PDS-5-1-2ft-160211	1.17	12.77	10.49	80.3	No	6.23	12.45	15.57

AVZ9:00219

Extractions Total Solids-extts
Data By: Yen Luu
Created: 2/15/16

Worklist: 948
Analyst: YL
Comments:

Oven ID:_____

Balance ID:_____

Samples In: Date:_____ Time:_____ Temp:_____ Analyst:_____

Samples Out: Date:_____ Time:_____ Temp:_____ Analyst:_____

	ARI ID CLIENT ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	TS	Dcnt	5g	10g	12.5g
14.	AVZ9N 16-2450 JF-PDS-105-0-1ft-160211	1.18	12.06	9.17	73.4	No	6.81	13.62	17.03
15.	AVZ9O 16-2451 JF-PDS-7-0-1ft-160212	1.15	12.75	11.18	86.5	No	5.78	11.56	14.45
16.	AVZ9P 16-2452 JF-PDS-7-1-2ft-160212	1.17	12.65	10.95	85.2	No	5.87	11.74	14.67

AVZ9:00220

Extractions Total Solids-extts
Data By: Yen Luu
Created: 2/15/16

Worklist: 948
Analyst: YL
Comments:

Oven ID: 015

Balance ID: B139298002

Samples In: Date: 02/15/16 Time: 16:35 Temp: 100 Analyst: YL

Samples Out: Date: 2/16/16 Time: 0725 Temp: 103 Analyst: SP

	ARI ID CLIENT ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	TS	Dcnt	5g	10g	12.5g
1.	AVZ9A 16-2437 JF-PDS-6-0-1ft-160209	1.15	13.61	11.93		No			
2.	AVZ9B 16-2438 JF-PDS-6-1-2ft-160209	1.17	12.69	11.04		No			
3.	AVZ9C 16-2439 JF-PDS-4-0-1ft-160210	1.18	12.64	9.82		No			
4.	AVZ9D 16-2440 JF-PDS-4-1-2ft-160210	1.16	13.06	10.55		No			
5.	AVZ9E 16-2441 JF-PDS-2-0-1ft-160210	1.17	12.42	10.48		No			
6.	AVZ9F 16-2442 JF-PDS-2-1-2ft-160210	1.17	12.48	10.68		No			
7.	AVZ9G 16-2443 JF-PDS-1-0-1ft-160210	1.19	13.01	10.76		No			
8.	AVZ9H 16-2444 JF-PDS-1-1-2ft-160210	1.15	12.31	10.57		No			
9.	AVZ9I 16-2445 JF-PDS-3-0-1ft-160211	1.196	12.16	10.18		No			
10.	AVZ9J 16-2446 JF-PDS-3-1-2ft-160211	1.16	12.98	10.48		No			
11.	AVZ9K 16-2447 JF-PDS-103-1-2ft-160211	1.15	12.73	10.41		No			
12.	AVZ9L 16-2448 JF-PDS-5-0-1ft-160211	1.18	12.02	9.04		No			
13.	AVZ9M 16-2449 JF-PDS-5-1-2ft-160211	1.17	12.77	10.49		No			

AVZ9 00221

Extractions Total Solids-extts
Data By: Yen Luu
Created: 2/15/16

Worklist: 948
Analyst: YL
Comments:

Oven ID: 015

Balance ID: B13929300 2

Samples In: Date: 02/15/16 Time: 16:35 Temp: 100 Analyst: YL

Samples Out: Date: 2/16/16 Time: 0725 Temp: 103 Analyst: SP

	ARI ID CLIENT ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	TS	Dcnt	5g	10g	12.5g
14.	AVZ9N 16-2450 JF-PDS-105-0-1ft-160211	1.18	12.06	9.17		No			
15.	AVZ9O 16-2451 JF-PDS-7-0-1ft-160212	1.185 (2/15/16)	12.75	11.18		No			
16.	AVZ9P 16-2452 JF-PDS-7-1-2ft-160212	1.17	12.65	10.95		No			

Solids Data Entry Report Checked by: MA Date: 3/2/16
Date: 03/01/16 Data Analyst: MB

Solids Determination performed on 02/15/16 by UW

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
AVZ9	A	JF-PDS-6-0-1ft-1602	1.113	7.125	6.400	87.94
AVZ9	B	JF-PDS-6-1-2ft-1602	1.107	8.136	7.129	85.67
AVZ9	C	JF-PDS-4-0-1ft-1602	1.108	7.690	6.080	75.54
AVZ9	D	JF-PDS-4-1-2ft-1602	1.103	8.991	7.463	80.63
AVZ9	E	JF-PDS-2-0-1ft-1602	1.113	8.451	7.182	82.71
AVZ9	F	JF-PDS-2-1-2ft-1602	1.063	9.752	8.373	84.13
AVZ9	G	JF-PDS-1-0-1ft-1602	1.087	9.177	7.634	80.93
AVZ9	H	JF-PDS-1-1-2ft-1602	1.078	8.495	7.338	84.40
AVZ9	I	JF-PDS-3-0-1ft-1602	1.084	8.969	7.582	82.41
AVZ9	J	JF-PDS-3-1-2ft-1602	1.107	8.356	6.954	80.66
AVZ9	K	JF-PDS-103-1-2ft-16	1.111	8.755	7.238	80.15
AVZ9	L	JF-PDS-5-0-1ft-1602	1.092	8.488	6.586	74.28
AVZ9	M	JF-PDS-5-1-2ft-1602	1.087	9.414	7.716	79.61
AVZ9	N	JF-PDS-105-0-1ft-16	1.094	9.748	7.529	74.36
AVZ9	O	JF-PDS-7-0-1ft-1602	1.062	9.143	8.104	87.14
AVZ9	P	JF-PDS-7-1-2ft-1602	1.089	7.744	6.611	82.98

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET DATE: 2/15/2016

SOLIDS *(dry at 104 (12-24 hr) then combust at 550 (30 min))* ANALYST: UW

Instrumentation ***Drying Ovens:*** 12 ***Analytical Balance:*** 1123230597

Muffle Furnace:

Batch drying time		*TS (%) calculated as:*	*TVS (mg/kg dry wt) calculated as:*
record times as mm/dd/yy hh:mm		*Final dry wt (g) = (Dry Wt - Tare Wt)*	*Final ash wt (g) = (min ash wt - tare wt)*
2/15/2016 17:50	date/time in oven	*TS = (Final Dry Wt)/ (grams Sample-Tare)*	*TVS (mg/kg) = [(Dry wt-Ash wt)/ (dry weight)] *1,000,000*
2/16/2016 9:50	date/time out		*if ash wt > dry wt, "Chk for Err"*
elapsed hrs =	16.0		*if dry wt-ash wt < 0.001 g, "< (1/dry wt)*1,000,000*

Cal Weight ID		CV-02	CV-02	CV-02	CV-02				CV-02	CV-02			
Date & Time		2/15/16 17 00	2/15/16 16 45	2/16/16 10:20									
Cal Wt (g)	10.0000	10 0000	9 9999	9 9999									
	record weights to 4 places	*Cal OK!*	*Cal OK!*	*Cal OK!*									

SAMPLE ID	DISH #	SAMPLE (grams)	TARE WT (grams)	DRY WT 104C (grams) 1			dry Wt (g)	TS (%)	ASH WT 550C (grams) 1	2		Ash Wt (g)	TVS (mg/kg)	(%)
Blank			1.0813	1.0812			0.00							
AVZ9 A1		7.1251	1.1127	6.4001			5.29	**87.94%**						
AVZ9 A1 dup		9.4663	1.1155	8.3845			7.27	**87.05%**						
							RPD =	1.02%				RPD =	NA	
AVZ9 A1 trp		9.6926	1.1088	8.5487			7.44	**86.67%**						
							RSD =	0.75%				RSD =	NA	
AVZ9 B1		8.1358	1.1070	7.1292			6.02	**85.68%**						
AVZ9 C1		7.6898	1.1080	6.0802			4.97	**75.54%**						
AVZ9 D1		8.9906	1.1031	7.4631			6.36	**80.63%**						
AVZ9 E1		8.4507	1.1134	7 1817			6.07	**82.70%**						
AVZ9 F1		9.7520	1 0629	8.3725			7.31	**84.12%**						
AVZ9 G1		9 1774	1.0869	7.6335			6.55	**80.92%**						
AVZ9 H1		8.4949	1.0778	7.3383			6.26	**84.41%**						
AVZ9 I1		8.9692	1.0839	7.5815			6.50	**82.40%**						
AVZ9 J1		8.3561	1.1068	6.9538			5.85	**80.66%**						
AVZ9 K1		8.7547	1.1111	7.2377			6.13	**80.15%**						
AVZ9 L1		8.4876	1.0918	6.5858			5.49	**74.29%**						
AVZ9 M1		9.4138	1.0868	7.7161			6.63	**79.61%**						
AVZ9 N1		9.7483	1.0942	7.5286			6.43	**74.35%**						
AVZ9 O1		9.1431	1.0622	8.1037			7.04	**87.14%**						
AVZ9 P1		7.7440	1.0894	6.6106			5.52	**82.97%**						

PCB Raw Data
Extraction Bench Sheets and Notes

ARI Job ID: AVZ9

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Benchsheet

(8082A) PCB – Soil / Sediment
Microwave (3546) (SOP # 3304S)

Preparation Test PCB PSDDA # 19

Lab Number(s) AVZ9
Batch ID

Page 1 of 2

PSDDA (4ppb)
Batch set up by: JH

JAR ID	Extraction Requirements	Weight Extracted (eq. to 12.5g dry wt)	(REQ) Acid Clean (2.5mL)	(REQ) Sulfur Clean very High (2.5mL) sulfur 1 2 3	(REQ) Silica Gel Clean (1:2.5)	Final Effective Volume	Volume to Lab	Comments	Verify Client ID
									02/17/16 Analyst/Date
	AVZ9 BLK	12.50g	2.5mL	2.5mL	1mL	2.5mL	1mL	(10g Actual Wt)	Microwave 1 2 3
	BS	12.50g	2.5mL	2.5mL	1mL	2.5mL	1mL	(10g Actual Wt)	02/17/16
	~~BSDup~~	~~12.50g~~	~~2.5mL~~	~~2.5mL~~	~~1mL~~	~~2.5mL~~	~~1mL~~	~~(10g Actual Wt)~~	Analyst/Date
	~~MRL Check~~	~~12.50g~~	~~2.5mL~~	~~2.5mL~~	~~1mL~~	~~2.5mL~~	~~1mL~~	~~(10g Actual Wt)~~	KD 100°C
PSRM	AVZ9 SRM	5.00	2.5mL	2.5mL	1mL	2.5mL	1mL	SRM E000127	Hexane Exchange (2 X 20mL) 1 2 3 4 5 6
1	A	15.05	2.5mL	2.5mL	1mL	2.5mL	1mL		RH 2/18/16
1	B	15.08	2.5mL	2.5mL	1mL	2.5mL	1mL		
1	C	17.06	2.5mL	2.5mL	1mL	2.5mL	1mL		Analyst/Date
1	D	16.07	2.5mL	2.5mL	1mL	2.5mL	1mL		TurboVap 1 2 3 4 5
1	E	16.08	2.5mL	2.5mL	1mL	2.5mL	1mL		Pre-Cleanups
1	F	15.04	2.5mL	2.5mL	1mL	2.5mL	1mL		2/19/16
1	FMS	15.03	2.5mL	2.5mL	1mL	2.5mL	1mL		Analyst/Date
1	FMSd	15.00	2.5mL	2.5mL	1mL	2.5mL	1mL		TurboVap 1 2 3 4 5
1	G	16.00	2.5mL	2.5mL	1mL	2.5mL	1mL		Post Cleanups
1	H	15.08	2.5mL	2.5mL	1mL	2.5mL	1mL		GM 2/23/16
Analyst/Date	02/17/16		2/19/16	2/19/16	GM 2/23/16	2/19/16	GM 2/23/16	Reviewed by/Date GM 2/23/16	Analyst/Date

Standard	Standard ID	Concentration	Volume	Expiration Date	Analyst	Witness
Surrogate	N(D004542)	2µg/mL	50µL	9/17/16		
Spike	1 (D045236)	20µg/mL	63µL	8/31/16		
~~MRL Spike~~	~~5 ( )~~	~~2µg/mL~~	~~25µL~~			
Extraction Time: 14:10			Balance ID: BH0462614			

SPECIAL INSTRUCTIONS: 1. Weigh and lightly dry with sodium sulfate. 2. Transfer to microwave vessel(s). 3. Add 1:1 Hexane/Acetone to the vessels (until the solvent layer is 3" inches above the soil layer after homogenization). 4. Add surr/spike. 5. Microwave on appropriate power setting determined by # of samples. 6. After microwave-Re-homogenize while hot then cool vessels in cold in Ref 5. Re-homogenize while cool (12°C). 7. Decant 1:1 Hex/Ace into E. flask with funnel containing neutral glasswool. 8. Rinse with Hexane. 9. Microwave a 2nd time using 8:2 Hexane/Acetone. 10. Let cool and decant solvent then empty the soil into the funnel and rinse with Hexane. 11. KD at 100°C. 12. Exchange (2 X with 20mL) Hexane. 13. TurboVap. 14. Vial 2.5mL into labeled scintillation vials using Hexane. 15. Acid/Sulfur/Silica SPE Clean-ups REQ. 16. TurboVap. 17. Vial 1mL in Hexane.

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

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Benchsheet

(8082A) PCB – Soil / Sediment
Microwave (3546) (SOP # 3304S)

Preparation Test PCB PSDDA # 19

Lab Number(s) AVZ9 Page 2 of 2 PSDDA (4ppb)
Batch ID _____ Batch set up by: ~~JH~~

JAR ID	Extraction Requirements	Weight Extracted (eq. to 12.5g dry wt)	(REQ) Acid Clean (2.5mL)	(REQ) Sulfur Clean (2.5mL) 1 2 3	(REQ) Silica Gel Clean (1:2.5)	Final Effective Volume	Volume to Lab	Comments	Verify Client ID
									02/17/16 Analyst/Date
	~~BLK~~	~~12.50g~~	~~2.5mL~~	~~2.5mL~~	~~1mL~~	~~2.5mL~~	~~1mL~~	~~(10g Actual Wt)~~	Microwave 1 2 3
	~~BS~~	~~12.50g~~	~~2.5mL~~	~~2.5mL~~	~~1mL~~	~~2.5mL~~	~~1mL~~	~~(10g Actual Wt)~~	02/17/16
	~~BSDup~~	~~12.50g~~	~~2.5mL~~	~~2.5mL~~	~~1mL~~	~~2.5mL~~	~~1mL~~	~~(10g Actual Wt)~~	Analyst/Date
	~~MRL Check~~	~~12.50g~~	~~2.5mL~~	~~2.5mL~~	~~1mL~~	~~2.5mL~~	~~1mL~~	~~(10g Actual Wt)~~	KD 100°C
1	AVZ9 I	16.00	2.5mL	2.5mL	1mL	2.5mL	1mL		Hexane Exchange (2 X 20mL) 1 2 3 4 5 6
1	J	16.02	2.5mL	2.5mL	1mL	2.5mL	1mL		
1	K	16.02	2.5mL	2.5mL	1mL	2.5mL	1mL		RH 2/18/16
1	L	18.00	2.5mL	2.5mL	1mL	2.5mL	1mL		Analyst/Date
1	M	16.06	2.5mL	2.5mL	1mL	2.5mL	1mL		TurboVap 1 2 3 4 5
1	N	18.05	2.5mL	2.5mL	1mL	2.5mL	1mL		Pre-Cleanups
1	O	15.04	2.5mL	2.5mL	1mL	2.5mL	1mL		2/19/16
1	P	15.03	2.5mL	2.5mL	1mL	2.5mL	1mL		Analyst/Date
1			2.5mL	2.5mL	1mL	2.5mL	1mL		TurboVap 1 2 3 4 5
			2.5mL	2.5mL	1mL	2.5mL	1mL		Post Cleanups
			2.5mL	2.5mL	1mL	2.5mL	1mL		GM 2/23/16
Analyst/Date	02/17/16		2/18/16	2/19/16	GM 2/23/16	2/19/16	GM 2/23/16	Reviewed by/Date GM 2/23/16	Analyst/Date

Standard	Standard ID	Concentration	Volume	Expiration Date	Analyst	Witness
Surrogate	N(D##4542)	2µg/mL	50µL	9/17/16		
~~Spike~~	~~1 ( )~~	~~20µg/mL~~	~~63µL~~			
~~MRL Spike~~	~~5 ( )~~	~~2µg/mL~~	~~25µL~~			
Extraction Time: 14:10			Balance ID: B1646026014			

SPECIAL INSTRUCTIONS: 1. Weigh and lightly dry with sodium sulfate. 2. Transfer to microwave vessel(s). 3. Add 1:1 Hexane/Acetone to the vessels (until the solvent layer is 3" inches above the soil layer after homogenization). 4. Add surr/spike. 5. Microwave on appropriate power setting determined by # of samples. 6. After microwave-Re-homogenize while hot then cool vessels in cold in Ref 5. Re-homogenize while cool (12°C). 7. Decant 1:1 Hex/Ace into E. flask with funnel containing neutral glasswool. 8. Rinse with Hexane. 9. Microwave a 2nd time using 8:2 Hexane/Acetone. 10. Let cool and decant solvent then empty the soil into the funnel and rinse with Hexane. 11. KD at 100°C. 12. Exchange (2 X with 20mL) Hexane. 13. TurboVap. 14. Vial 2.5mL into labeled scintillation vials using Hexane. 15. Acid/Sulfur/Silica SPE Clean-ups REQ. 16. TurboVap. 17. Vial 1mL in Hexane.

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

Organic Extractions
Reagent and Solutions Identification

(8082A) PCB – Soil / Sediment
Microwave (3546) (SOP # 3304S)

Lab Number(s) AVZ9

(8082A) PCB PSDDA (4ppb) Soil/Sediment/Solid/Other:	Analyst/Date
Microwave Station:	Microwave
Anhydrous Sodium Sulfate: (E000302)	[illegible] 02/17/16
Neutral Glasswool: (D004620 & D005377)	
1:1 Hexane/Acetone: (E000303)	
80:20 Hexane/Acetone: (E000324)	
Hexane: (E000249)	
KD Station:	KD
Hexane: (E000402)	RH
Anhydrous Sodium Sulfate: (NA)	2/18/16
Neutral Glasswool: (NA)	
Vialing Station:	Vialing
Hexane: (E000402)	W 2/19/16
Concentrated Sulfuric Acid: (D004363)	
Tetrabutylammonium hydrogensulfate (TBAS): (E000356)	GM 2/23/16
Sodium Sulfite: (D004557)	
Silica Gel (SPE) Darts: (D004029)	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

ARI Job No.: AVZ9

Client ID: Anchor QEA, LLC

Batch ID:

Parameter: PCB PSDDA (4ppb)

Client Project: OMMP Addendum 2 - Jorgensen Forge EAA

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☒ No Anomalies (standard soil/wet sediment/sand/gravel)= A, E, F, G, H, I, J, K, M, P	[illegible] 02/15/16
☐ Standing Water Decanted (Not shared)=	
☒ Standing Water Homogenized (Shared samples)= D, J, K, L, N	[illegible] 02/15/16
☐ Clay/Clumps (Difficult to homogenize)=	
☒ Rocks (%+size)? 5% B, C,	[illegible] 02/15/16
☒ Organics (Leaves/sticks/grass)= 5% N, O,	[illegible] 02/15/16
☒ Oily, obvious fuel/sulfur odors= fuel odor L	[illegible] 02/15/16
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☒ Share Samples Y / N	[illegible] 02/15/16
☒ Multiple Jars Y / N	[illegible] 02/15/16
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Benchsheet

(8082A) PCB – Water
Separatory Funnel (3510C) (SOP # 3311S)

Preparation Test PCB Low Level # 3 Low Level (0.01ppb)
Lab Number(s) AVZ9/AWE4 Page 1 of 1 Batch set up by: ~~JH~~
Batch ID

Bottle ID	Extraction Requirements	Volume Extracted	(REQ) Acid Clean (1:1) (~4mL) Transer Rinse	(REQ) Sulfur Clean (1:1) Transfer Rinse 1 2 3	(REQ) Silica Gel Clean (1:1) Transfer Rinse	Final Effective Volume	Volume to Lab	Comments	Verify Client ID AR 02/19/16 Analyst/Date
	AVZ9 BLK	1000mL	(1:1) (~4mL)	(1:1)	(1:1)	0.5mL	0.5mL		Verifty pH is 5-9
	↓ BS	1000mL	(1:1) (~4mL)	(1:1)	(1:1)	0.5mL	0.5mL		AR 02/19/16
	~~BSDup~~	~~1000mL~~	~~(1:1) (~4mL)~~	~~(1:1)~~	~~(1:1)~~	~~0.5mL~~	~~0.5mL~~		
	AVZ9 MRL Check	1000mL	(1:1) (~4mL)	(1:1)	(1:1)	0.5mL	0.5mL		
1,2	↓ AQ	1000mL	(1:1) (~4mL)	(1:1)	(1:1)	0.5mL	0.5mL		Analyst/Date
1	AWE4 A	1000mL	(1:1) (~4mL)	(1:1)	(1:1)	0.5mL	0.5mL		KD (Hexane only) 100°C 1 2 3 4 5 6
		~~1000mL~~	~~(1:1) (~4mL)~~	~~(1:1)~~	~~(1:1)~~	~~0.5mL~~	~~0.5mL~~		
		1000mL	(1:1) (~4mL)	(1:1)	(1:1)	0.5mL	0.5mL		
		1000mL	(1:1) (~4mL)	(1:1)	(1:1)	0.5mL	0.5mL		RMH 2/19/16
		1000mL	(1:1) (~4mL)	(1:1)	(1:1)	0.5mL	0.5mL		Analyst/Date
		1000mL	(1:1) (~4mL)	(1:1)	(1:1)	0.5mL	0.5mL		TurboVap 1 2 3 4 5 Pre-Cleanups
		1000mL	(1:1) (~4mL)	(1:1)	(1:1)	0.5mL	0.5mL		
		1000mL	(1:1) (~4mL)	(1:1)	(1:1)	0.5mL	0.5mL		02/22/16
		1000mL	(1:1) (~4mL)	(1:1)	(1:1)	0.5mL	0.5mL		Analyst/Date
		1000mL	(1:1) (~4mL)	(1:1)	(1:1)	0.5mL	0.5mL		TurboVap 1 2 3 4 5 Post Cleanups
		1000mL	(1:1) (~4mL)	(1:1)	(1:1)	0.5mL	0.5mL		
		~~1000mL~~	~~(1:1) (~4mL)~~	~~(1:1)~~	~~(1:1)~~	~~0.5mL~~	~~0.5mL~~		02/22/16
Analyst/Date	AR 02/19/16		2/22/16	2/22/16	2/22/16	2/22/16	2/22/16	Reviewed by/Date 2/22/16	Analyst/Date

Standard	Standard ID	Concentration	Volume	Expiration Date	Analyst	Witness
Surrogate	D (E000242)	0.2µg/mL	100µL	9/17/16	AR	CT
Spike	13 (E000478)	2µg/mL	25µL	5/31/16	AR	CT
MRL Spike	23 (D030449)	0.2µg/mL	50µL	6/04/16	AR	CT
Extraction Time: 11:40						

SPECIAL INSTRUCTIONS: 1. Rinse all Non-scratched glassware with Hexane only. (NO DCM)! 2. Verify pH is 5-9. 3. Adjust pH (if necessary=Analyst Notes). 4. Add Surr/Spike. 5. Add 60mL Hexane to 1.0L sample bottle and perform a bottle rinse. 6. Extract 3X with 60mL Hexane. 7. Non-scratched KD at 100°C. RINSE SNYDER COLUMNS WITH HEXANE only! 8. TurboVap to ~4mL. 9. Transfer to labeled scintillation vial using Hexane via pipet. 10. Clean-ups=Transfer Rinse. 11. TurboVap. 12. Vial with Hexane. (Rinse syringe 3 X with DCM followed by 3X Hexane).

A. Archive Y / N
both jobs

AVZ9 : 00000

Organic Extractions
Reagent and Solutions Identification

(8082A) PCB – Water
Separatory Funnel (3510C) (SOP # 3311S)

Lab Number(s) AV29

(8082A) Low Level PCB Aqueous:	Analyst/Date
Separatory Funnel Station: Hexane: (E044442) Anhydrous Sodium Sulfate: (E044396)	Sep. Funnel CT 2/19/16
KD Station: Hexane: (E040442)	KD RMH 2/19/~~15~~ 16
Vialing Station: Hexane: (E000248) Concentrated Sulfuric Acid: (D004363) Tetrabutylammonium hydrogensulfate (TBAS): (E000356) Sodium Sulfite: (D005307) Silica Gel (SPE) Darts: (D004029)	Vialing 02/22/16

AV29 : 002231

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

ARI Job No.: AVZ9/AWE4

Client ID: Anchor QEA, LLC

Batch ID:

Parameter: PCB Low Lvl

Client Project: OMMP Addendum 2 - Jurgensen Forge EAA

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☐ Standing Water Decanted (Not shared)=	
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Other (Details)=	
Aqueous:	
☑ No Anomalies AWE4 Sample A	AR 02/19/16
☑ Turbid/Color= AVZ9 sample AQ, tan, turbid	AR 02/19/16
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☑ Other (Details)= AVZ9 sample AQ, received in 500mL amber bottles	AR 02/19/16
☐ Received in 1.0L Bottle(s)=No Bottle Rinse= Combined (2) 500mL bottles	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☐ Share Samples Y / N	
☐ Multiple Jars Y / N	
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

3056F

Revision 12
08/11/15

AVZ9:06232

PCB Raw Data
Initial Calibration

ARI Job ID: AVZ9

Checklist for SEQUENCE SEB0053

2/23/2016

Analysis	Matrix	Method
8082A PCB	Water	EPA 8082A
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)	Water	EPA 8082A
8082A PCB Solid 4	Water	EPA 8082A
8082A PCB Water 0.01	Water	EPA 8082A

Checklist: Initial Calibration Checklist-ECD

#	Checklist Item	Response	Analyst Initials	Date
1	Element Calibration Code	YES	JGR	02/23/2016
	Comments: *ZB00017 and ZB00018*			
2	ICal meets 20 %RSD, LR COD, and QR COD limits	YES	JGR	02/23/2016
3	Manual integrations include before/after pictures	NA	JGR	02/23/2016
4	Internal Standard areas within 50-200% from reference	YES	JGR	02/23/2016
5	All SCV within +/- 20% (DOD)	NO	JGR	02/23/2016
	Comments: *AR1262 high at128%*			
6	All SCV within +/- 30%	YES	JGR	02/23/2016
7	NO Linear or Quadratic Fits Used	YES	JGR	02/23/2016
8	NO Calibration points dropped	YES	JGR	02/23/2016
9	Additional Notes	NA	VTS	02/23/2016
10	Reviewer Approval (Reviewer)	YES	VTS	02/23/2016

* = Indicates Automated Response from Element DataSyst

Checklist for SEQUENCE SEB0054

2/23/2016

Analysis	Matrix	Method
8082A PCB Medium Level Oils	Oil	EPA 8082A

Checklist: Initial Calibration Checklist-ECD

#	Checklist Item	Response	Analyst Initials	Date
1	Element Calibration Code Comments: *ZB00017 and ZB00018*	YES	JGR	02/23/2016
2	ICal meets 20 %RSD, LR COD, and QR COD limits	YES	JGR	02/23/2016
3	Manual integrations include before/after pictures	NA	JGR	02/23/2016
4	Internal Standard areas within 50-200% from reference	YES	JGR	02/23/2016
5	All SCV within +/- 20% (DOD) Comments: *AR1268 high at 128%*	NO	JGR	02/23/2016
6	All SCV within +/- 30%	YES	JGR	02/23/2016
7	NO Linear or Quadratic Fits Used	YES	JGR	02/23/2016
8	NO Calibration points dropped	YES	JGR	02/23/2016
9	Additional Notes	NA	VTS	02/23/2016
10	Reviewer Approval (Reviewer)	YES	VTS	02/23/2016

* = Indicates Automated Response from Element DataSyst

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SEB0053

ZB17

Instrument: ECD7
Calibnration ID: ZB00017

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client
SEB0053-CAL1	QC		1		D003965	D001415	
SEB0053-CAL2	QC		2		D003960	D001415	
SEB0053-CAL3	QC		3		D003959	D001415	
SEB0053-CAL4	QC		4		D003916	D001415	
SEB0053-CAL5	QC		5		D003957	D001415	
SEB0053-CAL6	QC		6		D003961	D001415	
SEB0053-CAL7	QC		7		D003917	D001415	
SEB0053-CAL8	QC		8		D003918	D001415	
SEB0053-CAL9	QC		9		D003919	D001415	
SEB0053-CALA	QC		10		D003920	D001415	
SEB0053-CALB	QC		11		D003921	D001415	
SEB0053-SCV1	QC		12		D003925	D001415	
SEB0053-SCV2	QC		13		D003917	D001415	
SEB0053-SCV3	QC		14		D003918	D001415	
SEB0053-SCV4	QC		15		D003919	D001415	
SEB0053-SCV5	QC		16		D003920	D001415	
SEB0053-SCV6	QC		17		D003921	D001415	

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SEB0054

ZB18

Instrument: ECD7
Calibnration ID: ZB00018

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client
SEB0054-CAL1	QC		1		D003965	D001415	
SEB0054-CAL2	QC		2		D003960	D001415	
SEB0054-CAL3	QC		3		D003959	D001415	
SEB0054-CAL4	QC		4		D003916	D001415	
SEB0054-CAL5	QC		5		D003957	D001415	
SEB0054-CAL6	QC		6		D003961	D001415	
SEB0054-CAL7	QC		7		D003917	D001415	
SEB0054-CAL8	QC		8		D003918	D001415	
SEB0054-CAL9	QC		9		D003919	D001415	
SEB0054-CALA	QC		10		D003920	D001415	
SEB0054-CALB	QC		11		D003921	D001415	
SEB0054-SCV1	QC		12		D003925	D001415	
SEB0054-SCV2	QC		13		D003917	D001415	
SEB0054-SCV3	QC		14		D003918	D001415	
SEB0054-SCV4	QC		15		D003919	D001415	
SEB0054-SCV5	QC		16		D003920	D001415	
SEB0054-SCV6	QC		17		D003921	D001415	

Samples Loaded By Date Data Processed By Date

Analytical Resources Inc.: Organics Instrument Log

ECD-7 Serial No.: US00003975

Date: 02/19/16 Analysis: PCB Analyst: M

Column 1 Serial No.: 311350 Column Type: ZB5

Column 2 Serial No.: 330557 Column Type: ZB35

GC Method: PCB ICal Date: 02/19/16 Injection Volume: 2µL

IS	Ical/Ccal	ICV
	D3916	
D4740		
	D3917 - D3921	
	D3925	

Document All Maintenance Tasks In Element

	Inject Date/Time	Filename	DF	LabID
1	19-FEB-2016 14:24	02191616.D	1	RINSE
2	19-FEB-2016 14:46	02191617.D	1	RINSE
3	19-FEB-2016 15:08	02191618.D	1	RINSE
4	19-FEB-2016 15:30	02191619.D	1	RINSE
5	19-FEB-2016 15:52	02191620.D	1	RINSE
6	19-FEB-2016 16:14	02191621.D	1	RINSE
7	19-FEB-2016 16:36	02191622.D	1	IB
8	19-FEB-2016 16:58	02191623.D	1	0.25PPMAR1660
9	19-FEB-2016 17:20	02191624.D	1	0.02PPMAR1660
10	19-FEB-2016 17:42	02191625.D	1	0.05PPMAR1660
11	19-FEB-2016 18:04	02191626.D	1	1PPMAR1660
12	19-FEB-2016 18:26	02191627.D	1	0.1PPMAR1660
13	19-FEB-2016 18:48	02191628.D	1	0.5PPMAR1660
14	19-FEB-2016 19:09	02191629.D	1	AR1242
15	19-FEB-2016 19:31	02191630.D	1	AR1248
16	19-FEB-2016 19:53	02191631.D	1	AR1254
17	19-FEB-2016 20:15	02191632.D	1	AR2162
18	19-FEB-2016 20:37	02191633.D	1	AR3268
19	19-FEB-2016 20:59	02191634.D	1	AR1660ICV
20	19-FEB-2016 21:21	02191635.D	1	AR1242ICV
21	19-FEB-2016 21:43	02191636.D	1	AR1248ICV
22	19-FEB-2016 22:05	02191637.D	1	AR1254ICV
23	19-FEB-2016 22:27	02191638.D	1	AR2162ICV
24	19-FEB-2016 22:48	02191639.D	1	AR3268ICV
25	19-FEB-2016 23:10	02191640.D	1	DDT
26	19-FEB-2016 23:32	02191641.D	1	DDT BD
27	19-FEB-2016 23:54	02191642.D	1	AR1242
28	20-FEB-2016 00:16	02191643.D	1	AR1660
29	20-FEB-2016 00:38	02191644.D	1	AVW0MBW1
30	20-FEB-2016 01:00	02191645.D	1	AVW0LCSW1
31	20-FEB-2016 01:22	02191646.D	1	AVW0A
32	20-FEB-2016 01:44	02191647.D	1	AVW0B
33	20-FEB-2016 02:05	02191648.D	1	AVW0C
34	20-FEB-2016 02:27	02191649.D	1	AVW0D
35	20-FEB-2016 02:49	02191650.D	1	AVW0E
36	20-FEB-2016 03:11	02191651.D	1	AWD3MBW1
37	20-FEB-2016 03:33	02191652.D	1	AWD3LCSW1
38	20-FEB-2016 03:55	02191653.D	1	AWD3A
39	20-FEB-2016 04:17	02191654.D	1	AR1248
40	20-FEB-2016 04:38	02191655.D	1	AR1660

02/23/16

Every line must contain information or be lined out. Make all entries legible.
Start a new 00874ch QC period. Document All Maintenance Tasks In Element

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160219b.b\20160219.b

ARI Job No.: IB Method: b\PCB.m\PCB2.m Instrument: ecd7.i Date: 19-FEB-2016

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1636	02191622.D	IB		1	NO MANUAL INTEGRATION
1658	02191623.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
1720	02191624.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
1742	02191625.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
1804	02191626.D	1PPMAR1660		1	NO MANUAL INTEGRATION
1826	02191627.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
1848	02191628.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
1909	02191629.D	AR1242		1	NO MANUAL INTEGRATION
1931	02191630.D	AR1248		1	NO MANUAL INTEGRATION
1953	02191631.D	AR1254		1	NO MANUAL INTEGRATION
2015	02191632.D	AR2162		1	NO MANUAL INTEGRATION
2037	02191633.D	AR3268		1	NO MANUAL INTEGRATION
2059	02191634.D	AR1660ICV		1	NO MANUAL INTEGRATION
2121	02191635.D	AR1242ICV		1	NO MANUAL INTEGRATION
2143	02191636.D	AR1248ICV		1	NO MANUAL INTEGRATION
2205	02191637.D	AR1254ICV		1	NO MANUAL INTEGRATION
2227	02191638.D	AR2162ICV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160219b.b\20160219.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2248	02191639.D	AR3268ICV		1	NO MANUAL INTEGRATION
2310	02191640.D	DDT		1	NO MANUAL INTEGRATION
2332	02191641.D	DDT BD		1	NO MANUAL INTEGRATION
2354	02191642.D	AR1242		1	NO MANUAL INTEGRATION
0016	02191643.D	AR1660		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160219b.b

ARI Job No.: IB Method: b\PCB.m Instrument: ecd7.i Date: 19-FEB-2016

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1636	02191622.D	IB		1	NO MANUAL INTEGRATION
1658	02191623.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
1720	02191624.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
1742	02191625.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
1804	02191626.D	1PPMAR1660		1	NO MANUAL INTEGRATION
1826	02191627.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
1848	02191628.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
1909	02191629.D	AR1242		1	NO MANUAL INTEGRATION
1931	02191630.D	AR1248		1	NO MANUAL INTEGRATION
1953	02191631.D	AR1254		1	NO MANUAL INTEGRATION
2015	02191632.D	AR2162		1	NO MANUAL INTEGRATION
2037	02191633.D	AR3268		1	NO MANUAL INTEGRATION
2059	02191634.D	AR1660ICV		1	NO MANUAL INTEGRATION
2121	02191635.D	AR1242ICV		1	NO MANUAL INTEGRATION
2143	02191636.D	AR1248ICV		1	NO MANUAL INTEGRATION
2205	02191637.D	AR1254ICV		1	NO MANUAL INTEGRATION
2227	02191638.D	AR2162ICV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160219b.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2248	02191639.D	AR3268ICV		1	NO MANUAL INTEGRATION
2310	02191640.D	DDT		1	NO MANUAL INTEGRATION
2332	02191641.D	DDT BD		1	NO MANUAL INTEGRATION
2354	02191642.D	AR1242		1	NO MANUAL INTEGRATION
0016	02191643.D	AR1660		1	NO MANUAL INTEGRATION

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2016 16:58
End Cal Date : 19-FEB-2016 23:54
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Last Edit : 23-Feb-2016 06:25 jrains
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd7.i\20160219b.b\02191624.D
Level 2: \\target\share\chem4\ecd7.i\20160219b.b\02191625.D
Level 3: \\target\share\chem4\ecd7.i\20160219b.b\02191627.D
Level 4: \\target\share\chem4\ecd7.i\20160219b.b\02191623.D
Level 5: \\target\share\chem4\ecd7.i\20160219b.b\02191628.D
Level 6: \\target\share\chem4\ecd7.i\20160219b.b\02191626.D
Level 7: \\target\share\chem4\ecd7.i\20160219b.b\02191633.D
Level 8: \\target\share\chem4\ecd7.i\20160219b.b\02191640.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)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00253	+++++					0.00253	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00407	+++++					0.00407	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01215	+++++					0.01215	0.000
3 Aroclor-1242(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02459	+++++					0.02459	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00903	+++++					0.00903	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01142	+++++					0.01142	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00825	+++++					0.00825	0.000
4 Aroclor-1232(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00144	+++++					0.00144	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2016 16:58
End Cal Date : 19-FEB-2016 23:54
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Last Edit : 23-Feb-2016 06:25 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						
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00273	+++++					0.00273	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00806	+++++					0.00806	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01317	+++++					0.01317	0.000
7 Aroclor-1016(1)	0.01089	0.01082	0.01058	0.01024	0.00967	0.00924		
	+++++	+++++					0.01024	6.469
(2)	0.03238	0.03293	0.03219	0.03140	0.03042	0.03011		
	+++++	+++++					0.03157	3.572
(3)	0.00902	0.01138	0.01135	0.01125	0.01089	0.01078		
	+++++	+++++					0.01078	8.325
(4)	0.01193	0.01263	0.01247	0.01208	0.01166	0.01135		
	+++++	+++++					0.01202	3.991
6 Aroclor-1248(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01443	+++++					0.01443	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01074	+++++					0.01074	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01613	+++++					0.01613	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01341	+++++					0.01341	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2016 16:58
End Cal Date : 19-FEB-2016 23:54
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Last Edit : 23-Feb-2016 06:25 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						
8 Aroclor-1254(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01771	+++++					0.01771	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00590	+++++					0.00590	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01448	+++++					0.01448	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02841	+++++					0.02841	0.000
(5)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02782	+++++					0.02782	0.000
9 Aroclor-1260(1)	0.02145	0.02066	0.01997	0.01893	0.01794	0.01764		
	+++++	+++++					0.01943	7.822
(2)	0.07542	0.08899	0.06856	0.06944	0.06893	0.07230		
	+++++	+++++					0.07394	10.574
(3)	0.03107	0.03176	0.03156	0.03203	0.03158	0.03250		
	+++++	+++++					0.03175	1.520
(4)	0.01966	0.01997	0.01992	0.01988	0.01938	0.01956		
	+++++	+++++					0.01973	1.176
(5)	0.01133	0.01178	0.01146	0.01155	0.01138	0.01164		
	+++++	+++++					0.01152	1.465
10 Aroclor-1262(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02589	+++++					0.02589	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2016 16:58
End Cal Date : 19-FEB-2016 23:54
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Last Edit : 23-Feb-2016 06:25 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						
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.07590	+++++					0.07590	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02405	+++++					0.02405	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03625	+++++					0.03625	0.000
(5)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04072	+++++					0.04072	0.000
11 Aroclor-1268(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.10548	+++++					0.10548	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.13079	+++++					0.13079	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.11835	+++++					0.11835	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.42847	+++++					0.42847	0.000
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	702					702	0.000
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	622					622	0.000
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	781					781	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2016 16:58
End Cal Date : 19-FEB-2016 23:54
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Last Edit : 23-Feb-2016 06:25 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-DDE	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	1360					1360	0.000
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	994					994	0.000
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	872					872	0.000
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
$ 1 Tetrachloro-m-xylene	0.42226	0.42231	0.42641	0.43629	0.44100	0.45193		
	+++++	+++++					0.43337	2.741
$ 13 Decachlorobiphenyl	1.04323	1.04486	1.04137	1.05878	1.08269	1.13616		
	+++++	+++++					1.06785	3.455

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2016 16:58
End Cal Date : 19-FEB-2016 23:10
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20160219b.b\PCB.m\PCB2.m
Last Edit : 22-Feb-2016 16:49 ecd7.i
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd7.i\20160219b.b\20160219.b\02191624.D
Level 2: \\target\share\chem4\ecd7.i\20160219b.b\20160219.b\02191625.D
Level 3: \\target\share\chem4\ecd7.i\20160219b.b\20160219.b\02191627.D
Level 4: \\target\share\chem4\ecd7.i\20160219b.b\20160219.b\02191623.D
Level 5: \\target\share\chem4\ecd7.i\20160219b.b\20160219.b\02191628.D
Level 6: \\target\share\chem4\ecd7.i\20160219b.b\20160219.b\02191626.D
Level 7: \\target\share\chem4\ecd7.i\20160219b.b\20160219.b\02191633.D
Level 8: \\target\share\chem4\ecd7.i\20160219b.b\20160219.b\02191640.D

Compound	20.000 Level 1 / 250.000 Level 7	50.000 Level 2 / 0.000e+00 Level 8	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
1 Aroclor-1221 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00745	+++++					0.00745	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00694	+++++					0.00694	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02196	+++++					0.02196	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00728	+++++					0.00728	0.000
4 Aroclor-1232 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00449	+++++					0.00449	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00423	+++++					0.00423	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00239	+++++					0.00239	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01855	+++++					0.01855	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2016 16:58
End Cal Date : 19-FEB-2016 23:10
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20160219b.b\PCB.m\PCB2.m
Last Edit : 22-Feb-2016 16:49 ecd7.i
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 Aroclor-1242 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03098	+++++					0.03098	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06413	+++++					0.06413	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01656	+++++					0.01656	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02230	+++++					0.02230	0.000
6 Aroclor-1248 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03827	+++++					0.03827	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02820	+++++					0.02820	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04309	+++++					0.04309	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04304	+++++					0.04304	0.000
7 Aroclor-1016 [2C] (1)	0.04442	0.04332	0.04147	0.03982	0.03641	0.03375		
	+++++	+++++					0.03986	10.320
(2)	0.08676	0.08494	0.08520	0.08327	0.07808	0.07420		
	+++++	+++++					0.08207	5.952
(3)	0.03356	0.03299	0.03422	0.03407	0.03166	0.03005		
	+++++	+++++					0.03276	4.938

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2016 16:58
End Cal Date : 19-FEB-2016 23:10
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20160219b.b\PCB.m\PCB2.m
Last Edit : 22-Feb-2016 16:49 ecd7.i
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)	0.01590	0.01569	0.01559	0.01544	0.01458	0.01409	0.01522	4.704
	+++++	+++++						
8 Aroclor-1254 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	0.04022	0.000
	0.04022	+++++						
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.01884	0.000
	0.01884	+++++						
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.03019	0.000
	0.03019	+++++						
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.06887	0.000
	0.06887	+++++						
(5)	+++++	+++++	+++++	+++++	+++++	+++++	0.05075	0.000
	0.05075	+++++						
10 Aroclor-1262 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	0.08135	0.000
	0.08135	+++++						
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.07518	0.000
	0.07518	+++++						
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.15342	0.000
	0.15342	+++++						
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.09981	0.000
	0.09981	+++++						
(5)	+++++	+++++	+++++	+++++	+++++	+++++	0.05116	0.000
	0.05116	+++++						

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2016 16:58
End Cal Date : 19-FEB-2016 23:10
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20160219b.b\PCB.m\PCB2.m
Last Edit : 22-Feb-2016 16:49 ecd7.i
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 [2C] (1)	0.08279	0.07724	0.07549	0.07359	0.06807	0.06541		
	+++++	+++++					0.07376	8.548
(2)	0.14784	0.15010	0.14652	0.14488	0.13657	0.13240		
	+++++	+++++					0.14305	4.879
(3)	0.10124	0.10108	0.09642	0.09336	0.08896	0.08576		
	+++++	+++++					0.09447	6.711
(4)	0.03946	0.03694	0.03708	0.03586	0.03446	0.03354		
	+++++	+++++					0.03622	5.812
11 Aroclor-1268 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.15952	+++++					0.15952	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.14915	+++++					0.14915	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.12004	+++++					0.12004	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.34255	+++++					0.34255	0.000
41 2,4-DDE [2C]	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
42 2,4-DDD [2C]	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
44 4,4-DDE [2C]	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2016 16:58
End Cal Date : 19-FEB-2016 23:10
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20160219b.b\PCB.m\PCB2.m
Last Edit : 22-Feb-2016 16:49 ecd7.i
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						
45 4,4-DDD/2,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
46 4,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
$ 2 Tetrachloro-m-xylene [2C]	0.89070	0.91043	0.92972	0.96434	0.94189	0.92633		
	+++++	+++++					0.92723	2.735
$ 13 Decachlorobiphenyl [2C]	1.11573	1.12711	1.02315	0.98748	0.95150	0.93610		
	+++++	+++++					1.02351	7.981

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160219b.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	19-FEB-2016 14:24	02191616.D	1	RINSE	
2	19-FEB-2016 14:46	02191617.D	1	RINSE	
3	19-FEB-2016 15:08	02191618.D	1	RINSE	
4	19-FEB-2016 15:30	02191619.D	1	RINSE	
5	19-FEB-2016 15:52	02191620.D	1	RINSE	
6	19-FEB-2016 16:14	02191621.D	1	RINSE	
7	19-FEB-2016 16:36	02191622.D	1	IB	
8	19-FEB-2016 16:58	02191623.D	1	0.25PPMAR1660	
9	19-FEB-2016 17:20	02191624.D	1	0.02PPMAR1660	
10	19-FEB-2016 17:42	02191625.D	1	0.05PPMAR1660	
11	19-FEB-2016 18:04	02191626.D	1	1PPMAR1660	
12	19-FEB-2016 18:26	02191627.D	1	0.1PPMAR1660	
13	19-FEB-2016 18:48	02191628.D	1	0.5PPMAR1660	
14	19-FEB-2016 19:09	02191629.D	1	AR1242	
15	19-FEB-2016 19:31	02191630.D	1	AR1248	
16	19-FEB-2016 19:53	02191631.D	1	AR1254	
17	19-FEB-2016 20:15	02191632.D	1	AR2162	
18	19-FEB-2016 20:37	02191633.D	1	AR3268	
19	19-FEB-2016 20:59	02191634.D	1	AR1660ICV	
20	19-FEB-2016 21:21	02191635.D	1	AR1242ICV	
21	19-FEB-2016 21:43	02191636.D	1	AR1248ICV	
22	19-FEB-2016 22:05	02191637.D	1	AR1254ICV	
23	19-FEB-2016 22:27	02191638.D	1	AR2162ICV	
24	19-FEB-2016 22:48	02191639.D	1	AR3268ICV	
25	19-FEB-2016 23:10	02191640.D	1	DDT	
26	19-FEB-2016 23:32	02191641.D	1	DDT BD	
27	19-FEB-2016 23:54	02191642.D	1	AR1242	
28	20-FEB-2016 00:16	02191643.D	1	AR1660	
29	20-FEB-2016 00:38	02191644.D	1	AVW0MBW1	
30	20-FEB-2016 01:00	02191645.D	1	AVW0LCSW1	
31	20-FEB-2016 01:22	02191646.D	1	AVW0A	
32	20-FEB-2016 01:44	02191647.D	1	AVW0B	
33	20-FEB-2016 02:05	02191648.D	1	AVW0C	
34	20-FEB-2016 02:27	02191649.D	1	AVW0D	
35	20-FEB-2016 02:49	02191650.D	1	AVW0E	
36	20-FEB-2016 03:11	02191651.D	1	AWD3MBW1	
37	20-FEB-2016 03:33	02191652.D	1	AWD3LCSW1	
38	20-FEB-2016 03:55	02191653.D	1	AWD3A	
39	20-FEB-2016 04:17	02191654.D	1	AR1248	
40	20-FEB-2016 04:38	02191655.D	1	AR1660	

Report Date : 23-Feb-2016 06:57

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\20160219b.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	02191623	02191624	02191625	02191626	02191627	02191628
INJ.DATE:	19-FEB-2016	19-FEB-2016	19-FEB-2016	19-FEB-2016	19-FEB-2016	19-FEB-2016
INJ.TIME:	16:58	17:20	17:42	18:04	18:26	18:48

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	3.051	3.053	3.052	3.051	3.050	3.051	3.050	2.950-3.150	3.051	0.001
$ 1 Tetrachloro-m-xylene	6.028	6.030	6.030	6.027	6.028	6.027	6.025	5.925-6.125	6.028	0.001
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	4.714	4.614-4.814	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	8.555	8.455-8.655	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	4.715	4.615-4.815	+++++	+++++
7 Aroclor-1016	8.049	8.051	8.051	8.046	8.050	8.048	8.048	7.948-8.148	8.049	0.002
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	8.553	8.453-8.653	+++++	+++++
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	10.464	10.364-10.564	+++++	+++++
9 Aroclor-1260	12.261	12.262	12.262	12.260	12.260	12.260	12.260	12.160-12.360	12.261	0.001
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	12.260	12.160-12.360	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	13.431	13.331-13.531	+++++	+++++
$ 13 Decachlorobiphenyl	14.743	14.743	14.744	14.744	14.743	14.743	14.743	14.643-14.843	14.743	0.000
* 12 IS-HBBP	15.000	15.000	15.000	15.000	15.000	15.000	14.999	14.899-15.099	15.000	0.000
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	10.428	10.378-10.478	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	10.996	10.946-11.046	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	11.508	11.458-11.558	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	10.872	10.772-10.972	+++++	+++++

Reviewer 1 _____ Date: 02/23/16
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\20160219b.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	11.454	11.354-11.554	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	11.969	11.869-12.069	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m\PCB2.m
Batch File: \\target\share\chem4\ecd7.i\20160219b.b\20160219.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	02191623	02191624	02191625	02191626	02191627	02191628
INJ.DATE:	19-FEB-2016	19-FEB-2016	19-FEB-2016	19-FEB-2016	19-FEB-2016	19-FEB-2016
INJ.TIME:	16:58	17:20	17:42	18:04	18:26	18:48

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 40 IS-BNB [2C]	4.218	4.221	4.220	4.217	4.218	4.218	4.218	4.118-4.318	4.219	0.001
$ 2 Tetrachloro-m-xylene [	6.486	6.488	6.489	6.484	6.487	6.485	6.486	6.386-6.586	6.487	0.002
1 Aroclor-1221 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	5.585	5.485-5.685	+++++	+++++
4 Aroclor-1232 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	5.586	5.486-5.686	+++++	+++++
3 Aroclor-1242 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	8.628	8.528-8.728	+++++	+++++
6 Aroclor-1248 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	9.348	9.248-9.447	+++++	+++++
7 Aroclor-1016 [2C]	8.631	8.633	8.633	8.629	8.631	8.629	8.631	8.531-8.731	8.631	0.002
8 Aroclor-1254 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	11.112	11.012-11.212	+++++	+++++
10 Aroclor-1262 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	12.905	12.805-13.005	+++++	+++++
9 Aroclor-1260 [2C]	12.818	12.819	12.819	12.817	12.817	12.816	12.818	12.718-12.918	12.818	0.001
11 Aroclor-1268 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	14.021	13.921-14.121	+++++	+++++
$ 13 Decachlorobiphenyl [2C	15.261	15.261	15.261	15.260	15.260	15.261	15.261	15.161-15.361	15.261	0.000
* 12 IS-HBBP [2C]	15.850	15.850	15.850	15.850	15.849	15.850	15.850	15.750-15.950	15.850	0.000
41 2,4-DDE [2C]	+++++	+++++	+++++	+++++	+++++	+++++	11.209	11.159-11.259	+++++	+++++
42 2,4-DDD [2C]	+++++	+++++	+++++	+++++	+++++	+++++	11.591	11.541-11.641	+++++	+++++
44 4,4-DDE [2C]	+++++	+++++	+++++	+++++	+++++	+++++	11.902	11.802-12.002	+++++	+++++
45 4,4-DDD/2,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++	12.355	12.255-12.455	+++++	+++++

Reviewer 1 _____ Date: 02/23/16
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m\PCB2.m
Batch File: \\target\share\chem4\ecd7.i\20160219b.b\20160219.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
46 4,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++	12.796	12.696-12.896	+++++	+++++
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.703	1.603-1.803	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	7.178	7.078-7.278	+++++	+++++

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191622.D
Data file 2: /20160219b.b/20160219.b/02191622.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: IB
Client ID:
Injection Date: 19-FEB-2016 16:36
Report Date: 02/23/2016 07:04
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
6.030	0.005	1138879	6.488	0.006	3960549	19.7	20.9	5.7	Tetrachloro-m-xyle
14.744	0.000	6785499	15.260	-0.000	5617697	39.2	35.9	8.8	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	49.3	52.2
Decachlorobiphenyl	98.0	89.7

4 02/23/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10661131	3.6
Hexabromobiphenyl	12470452	12970613	4.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	16365254	3.5
Hexabromobiphenyl	11807823	12236117	3.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
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	10.430	-0.034	38968	16.5	1	11.211	0.099	77687	9.4
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	---			0.0	3	---			0.0
Aroclor-1254	4	10.997	0.007	71023	18.8	4	11.904	0.097	159748	11.3
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	12.987	0.046	73366	6.1	2	---			0.0
Aroclor-1260	3	---			0.0	3	14.003	-0.072	170913	11.8
Aroclor-1260	4	---			0.0	4	14.626	0.001	8003	1.4
Aroclor-1260	5	13.837	-0.006	12642	6.8	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	12.987	0.047	73366	6.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	14.003	-0.072	170913	11.2
Aroclor-1262	5	14.050	-0.005	38105	5.8	5	14.626	0.001	8003	1.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	14.003	-0.018	170913	7.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	13.837	0.009	12642	0.7	3	---			0.0
Aroclor-1268	4	14.444	-0.002	16851	0.2	4	14.949	-0.024	56005	1.1
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

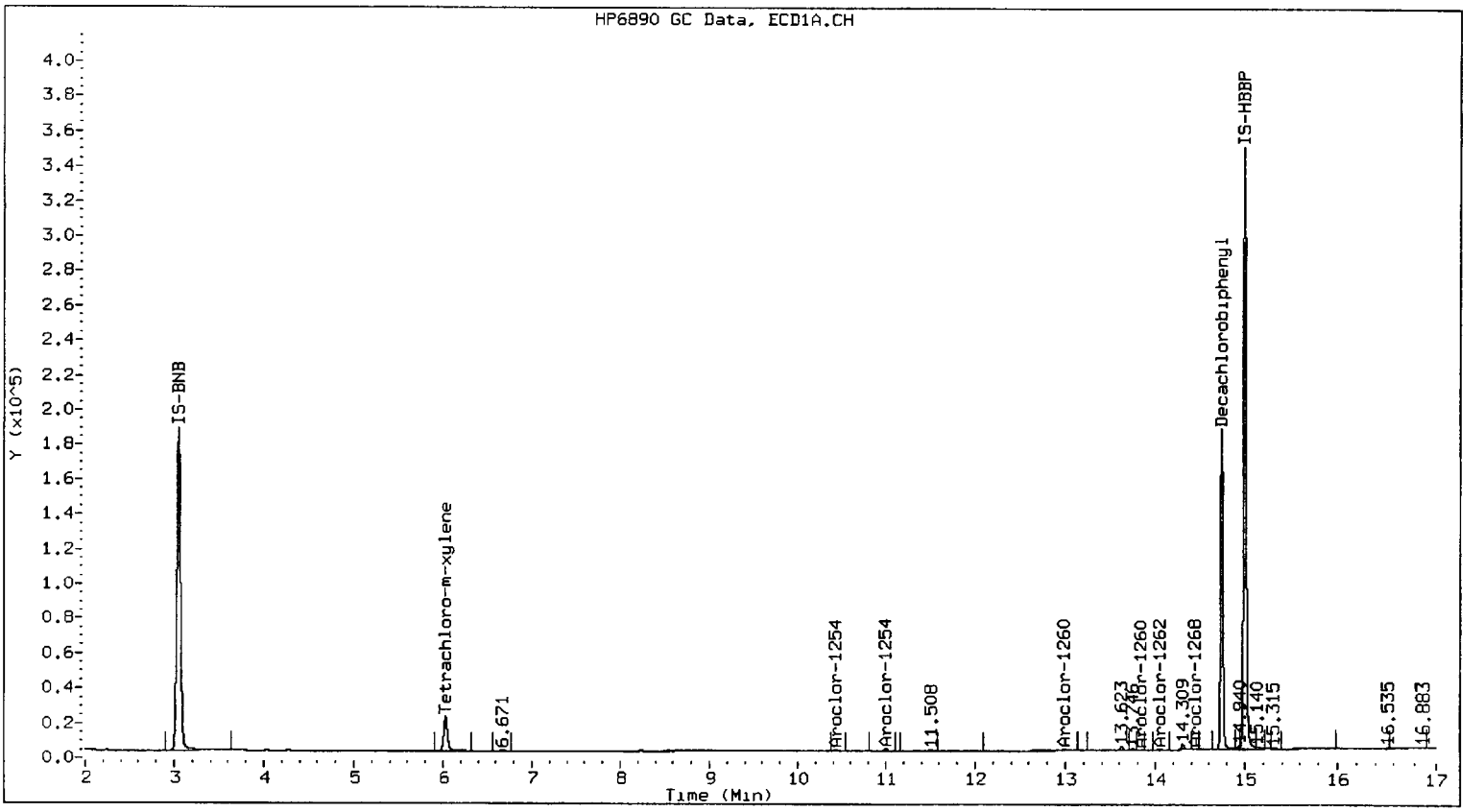
Total PCB Area Col1 (6.125 - 14.643) = 544074 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (6.125 - 14.643) = 4667873 Col2 Total PCB = 0.0 ppm*

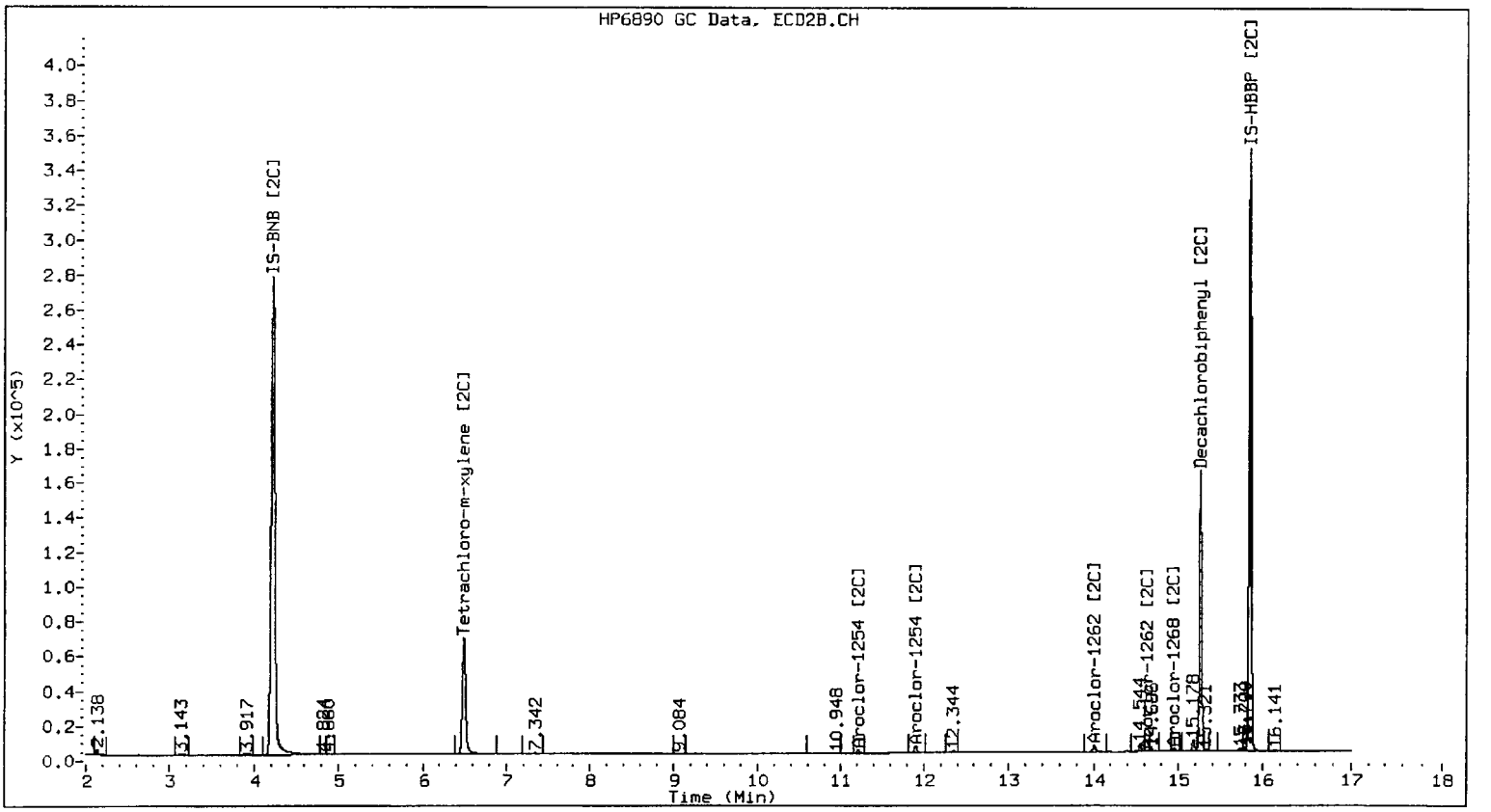
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 IB 19-FEB-2016 16:36, 2ul



ECD7-ZB35 IB 19-FEB-2016 16:36, 2ul



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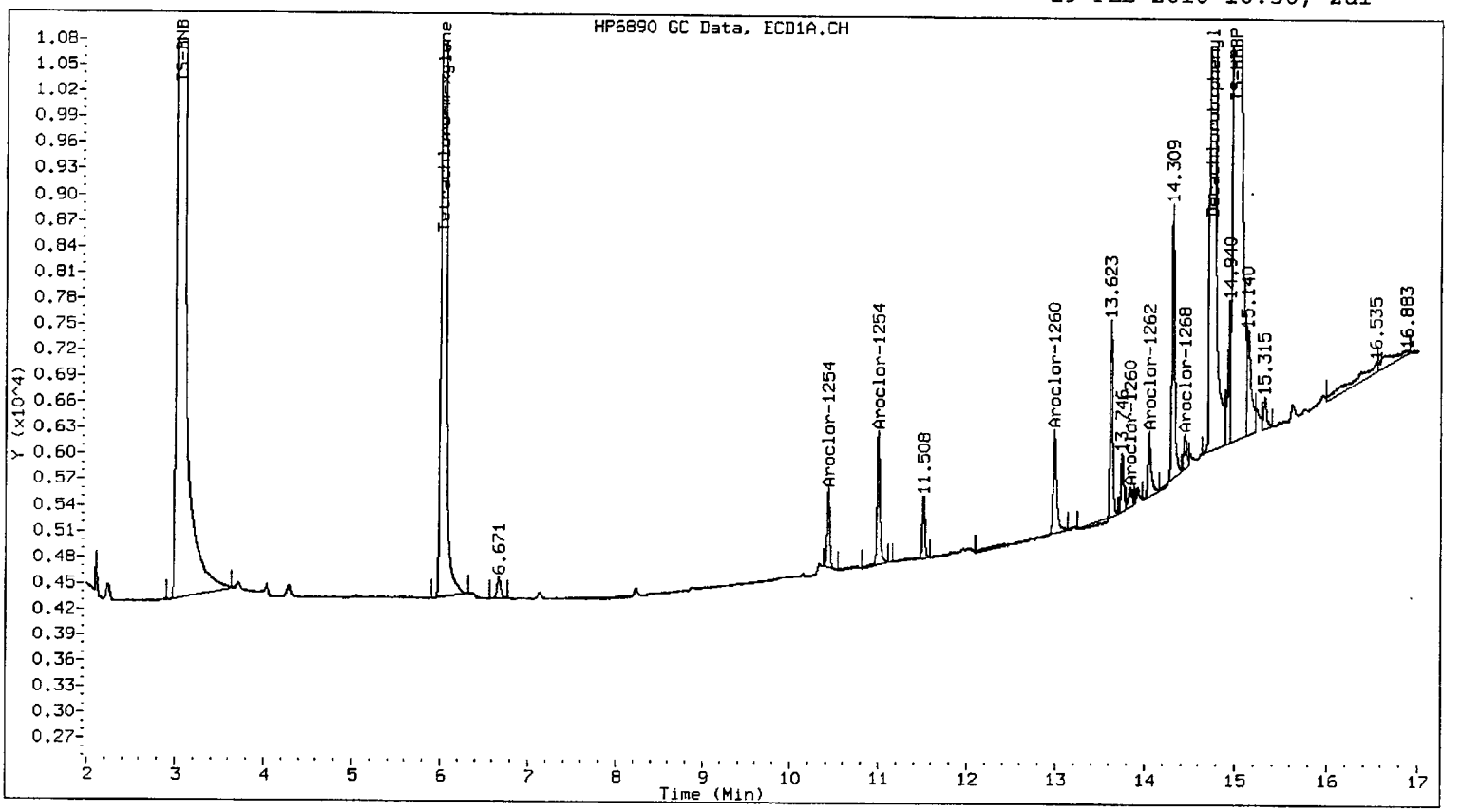
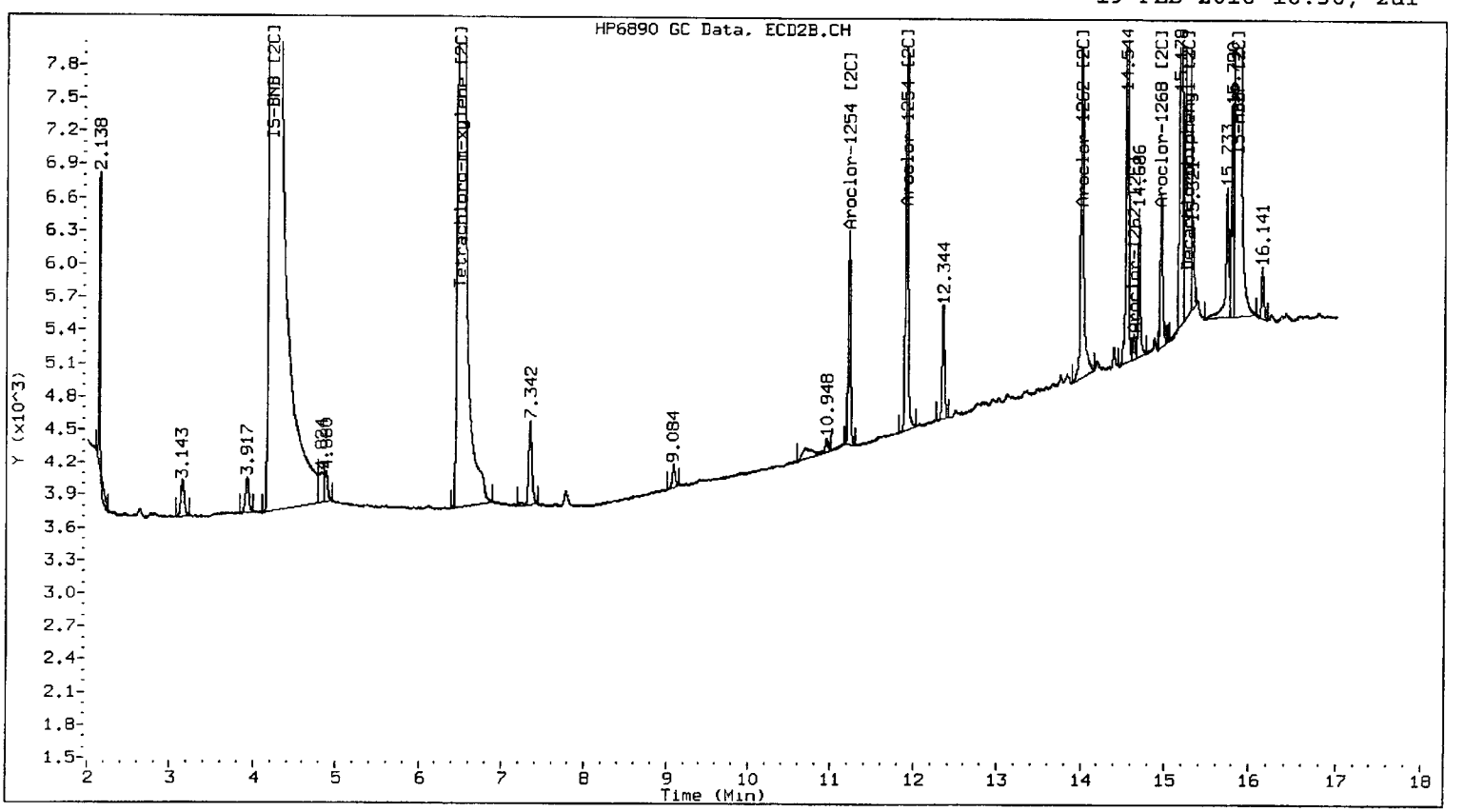


ECD7-ZB35 IB

19-FEB-2016 16:36, 2ul



Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191623.D
Data file 2: /20160219b.b/20160219.b/02191623.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1660
Client ID:
Injection Date: 19-FEB-2016 16:58
Report Date: 02/23/2016 07:04
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
6.028	0.003	1122176	6.486	0.004	3810285	20.1	20.8	3.3	Tetrachloro-m-xyle
14.743	0.000	3300870	15.261	0.000	2914997	19.8	19.3	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	50.3	52.0
Decachlorobiphenyl	49.6	48.2

02/23/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10288295	0.0
Hexabromobiphenyl	12470452	12470452	0.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15804744	0.0
Hexabromobiphenyl	11807823	11807823	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

//target/share/chem4/ecd7.i/20160219b.b/02191623.D 0.25PPMAR1660 pa

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	8.049	0.001	329231	250.0	1	8.631	0.001	1966704	249.7
Aroclor-1016	2	8.558	0.001	1009426	248.6	2	9.355	0.003	4112558	253.6
Aroclor-1016	3	8.866	0.002	361833	261.0	3	9.587	0.001	1682561	260.0
Aroclor-1016	4	9.673	0.002	388299	251.2	4	10.528	0.002	762379	253.6

Total Col1Ave (4 peaks): 252.7 Total Col2Ave (4 peaks): 254.2 RPD = 1
Corrected Ave (3 peaks): 249.9 Corrected Ave (3 peaks): 252.3 RPD = 1

CalAmt %D: 1.1 CalAmt %D: 1.7

Aroclor-1260	1	12.261	0.001	737771	243.6	1	12.818	0.002	2715569	249.4
Aroclor-1260	2	12.942	0.001	2706223	234.8	2	13.582	0.001	5345845	253.2
Aroclor-1260	3	13.329	0.001	1248130	252.2	3	14.076	0.001	3444801	247.1
Aroclor-1260	4	13.431	0.001	774725	251.9	4	14.626	0.001	1323137	247.5
Aroclor-1260	5	13.843	0.001	450106	250.6	NS	---			----

Total Col1Ave (5 peaks): 246.6 Total Col2Ave (4 peaks): 249.3 RPD = 1
Corrected Ave (4 peaks): 245.2 Corrected Ave (3 peaks): 248.0 RPD = 1

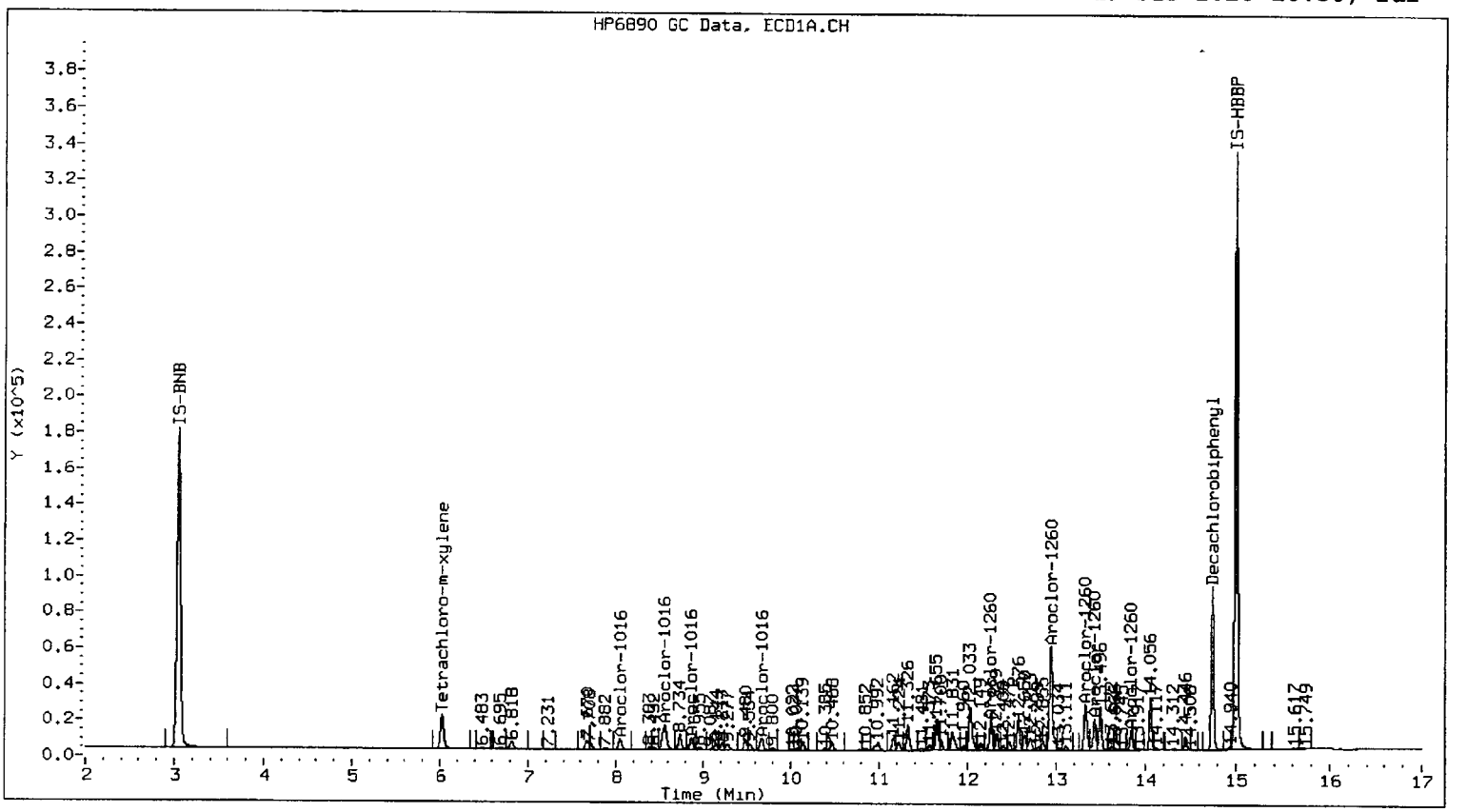
CalAmt %D: -1.4 CalAmt %D: -0.3

Total PCB Area Col1 (6.125 - 14.643) = 21309438 Col1 Total PCB = 0.5 ppm*

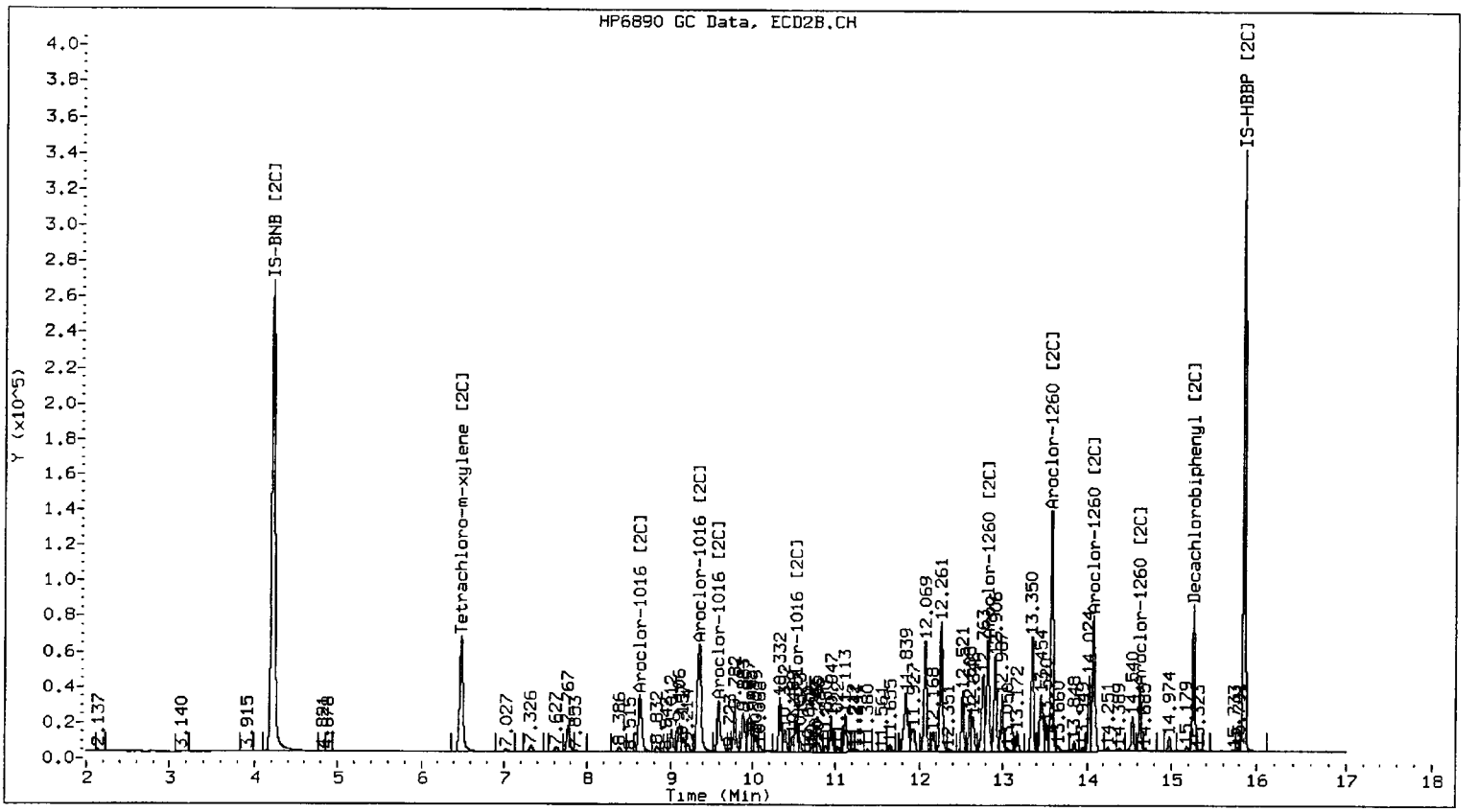
Total PCB Area Col2 (6.125 - 14.643) = 65025767 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

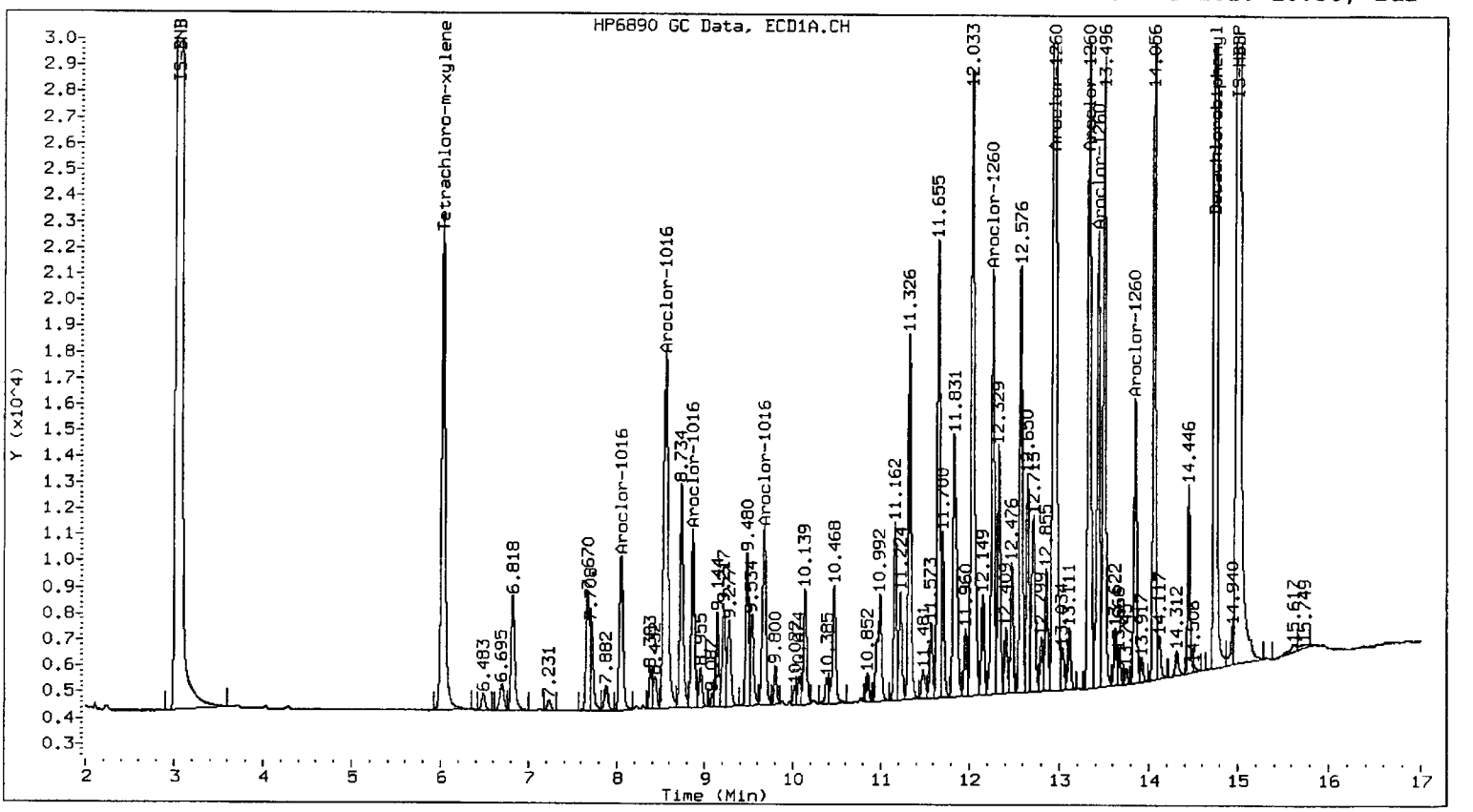
ECD7-ZB5 0.25PPMAR1660 19-FEB-2016 16:58, 2ul



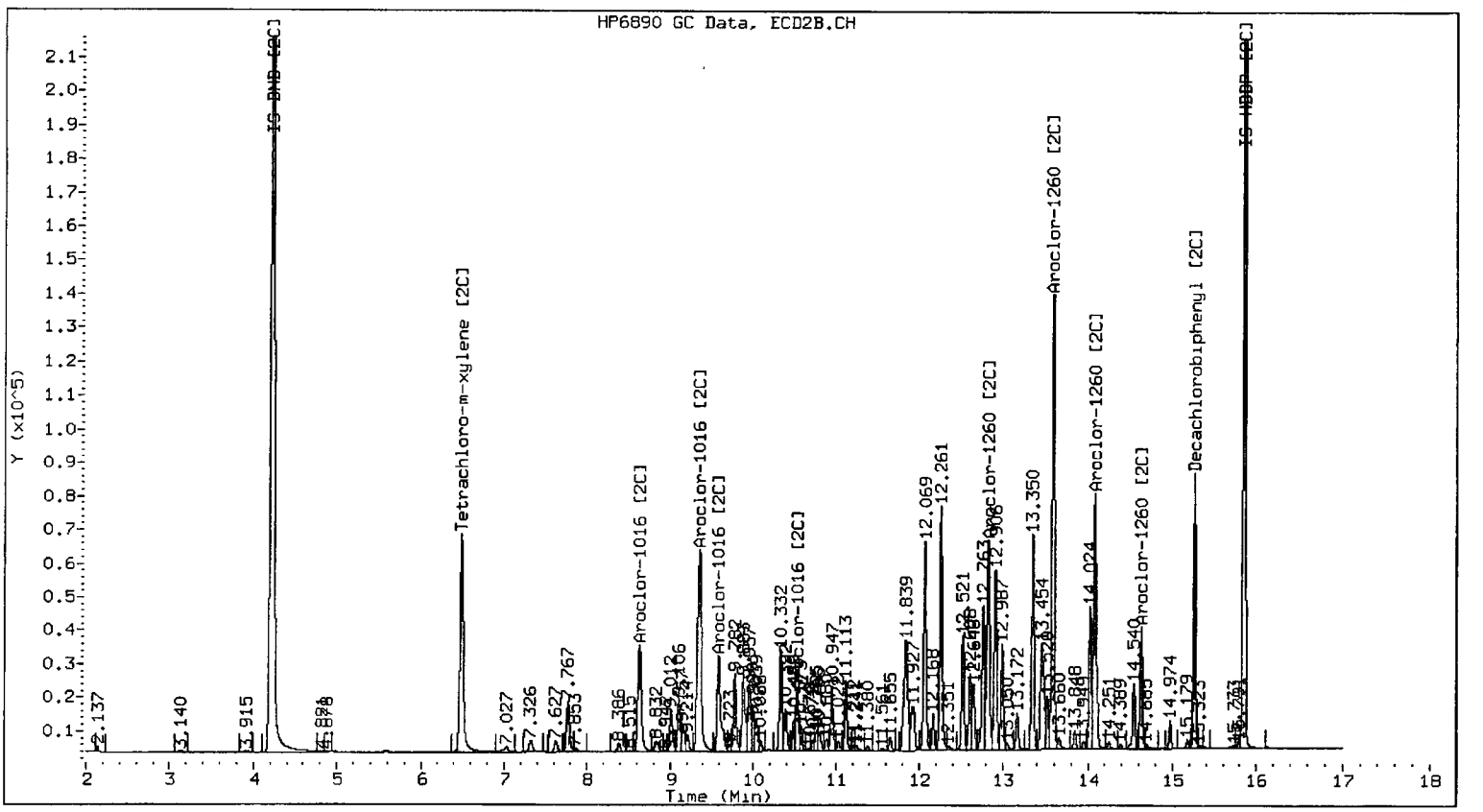
ECD7-ZB35 0.25PPMAR1660 19-FEB-2016 16:58, 2u



ECD7-ZB5 0.25PPMAR1660 19-FEB-2016 16:58, 2ul



ECD7-ZB35 0.25PPMAR1660 19-FEB-2016 16:58, 2u



Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191624.D
Data file 2: /20160219b.b/20160219.b/02191624.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.02PPMAR1660
Client ID:
Injection Date: 19-FEB-2016 17:20
Report Date: 02/23/2016 07:04
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
6.030	0.005	86862	6.488	0.005	284248	1.6	1.5	1.4	Tetrachloro-m-xyle
14.743	0.000	265576	15.261	-0.000	268021	1.6	1.7	10.9	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	3.9	3.8
Decachlorobiphenyl	3.9	4.4

A 02/23/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10285465	-0.0
Hexabromobiphenyl	12470452	12728591	2.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15956467	1.0
Hexabromobiphenyl	11807823	12010990	1.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

//target/share/chem4/ecd7.i/20160219b.b/02191624.D 0.02PPMAR1660 pa

Aroclor	Peak#	RT	ZB5 Col Shift	Area	Amount	Peak#	RT	ZB35 Col Shift	Area	Amount
Aroclor-1016	1	8.051	0.004	28012	21.3	1	8.633	0.003	177178	22.3
Aroclor-1016	2	8.561	0.003	83258	20.5	2	9.357	0.005	346076	21.1
Aroclor-1016	3	8.869	0.005	23187	16.7	3	9.590	0.004	133890	20.5
Aroclor-1016	4	9.674	0.004	30686	19.9	4	10.529	0.003	63439	20.9

Total Col1Ave (4 peaks): 19.6 Total Col2Ave (4 peaks): 21.2 RPD = 8
Corrected Ave (3 peaks): 19.0 Corrected Ave (3 peaks): 20.8 RPD = 9

CalAmt %D: -2.0 CalAmt %D: 6.0

Aroclor-1260	1	12.262	0.002	68259	22.1	1	12.819	0.002	248590	22.4
Aroclor-1260	2	12.942	0.001	239993	20.4	2	13.582	0.001	443938	20.7
Aroclor-1260	3	13.329	0.002	98876	19.6	3	14.075	0.000	304010	21.4
Aroclor-1260	4	13.432	0.002	62546	19.9	4	14.626	0.001	118494	21.8
Aroclor-1260	5	13.843	0.001	36056	19.7	NS	---			----

Total Col1Ave (5 peaks): 20.3 Total Col2Ave (4 peaks): 21.6 RPD = 6
Corrected Ave (4 peaks): 19.9 Corrected Ave (3 peaks): 21.3 RPD = 7

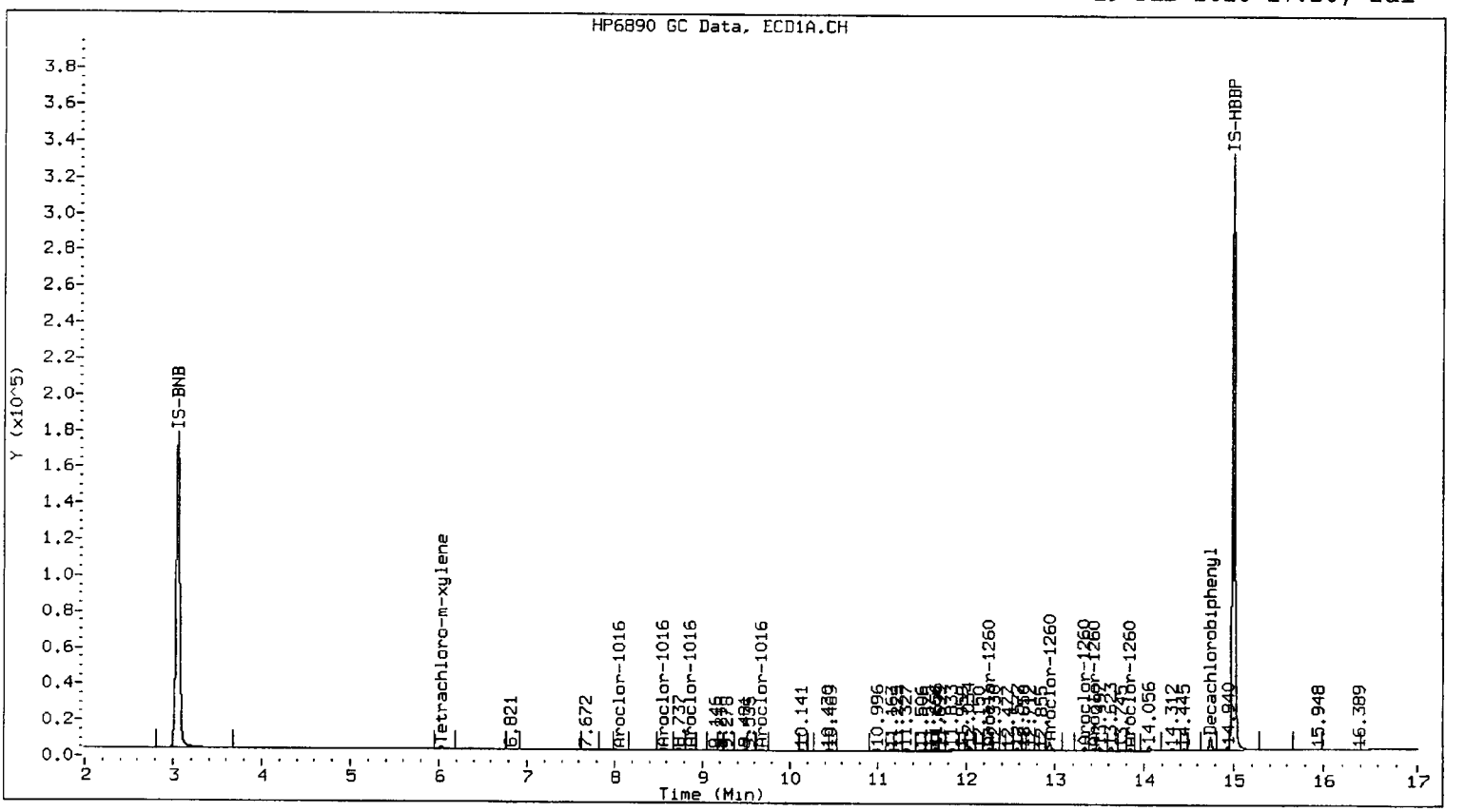
CalAmt %D: 1.6 CalAmt %D: 7.9

Total PCB Area Col1 (6.125 - 14.643) = 1946152 Col1 Total PCB = 0.0 ppm*

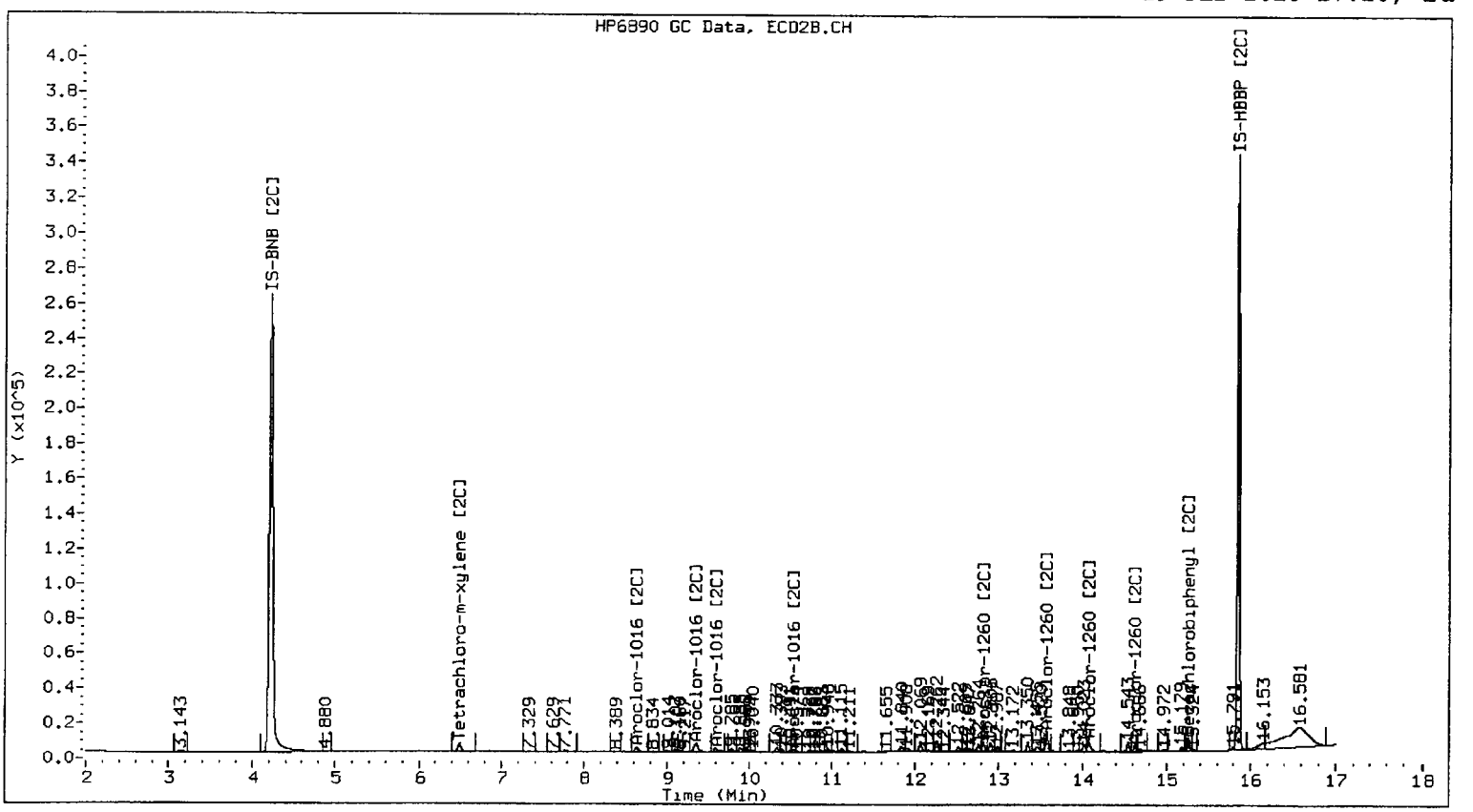
Total PCB Area Col2 (6.125 - 14.643) = 5721353 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

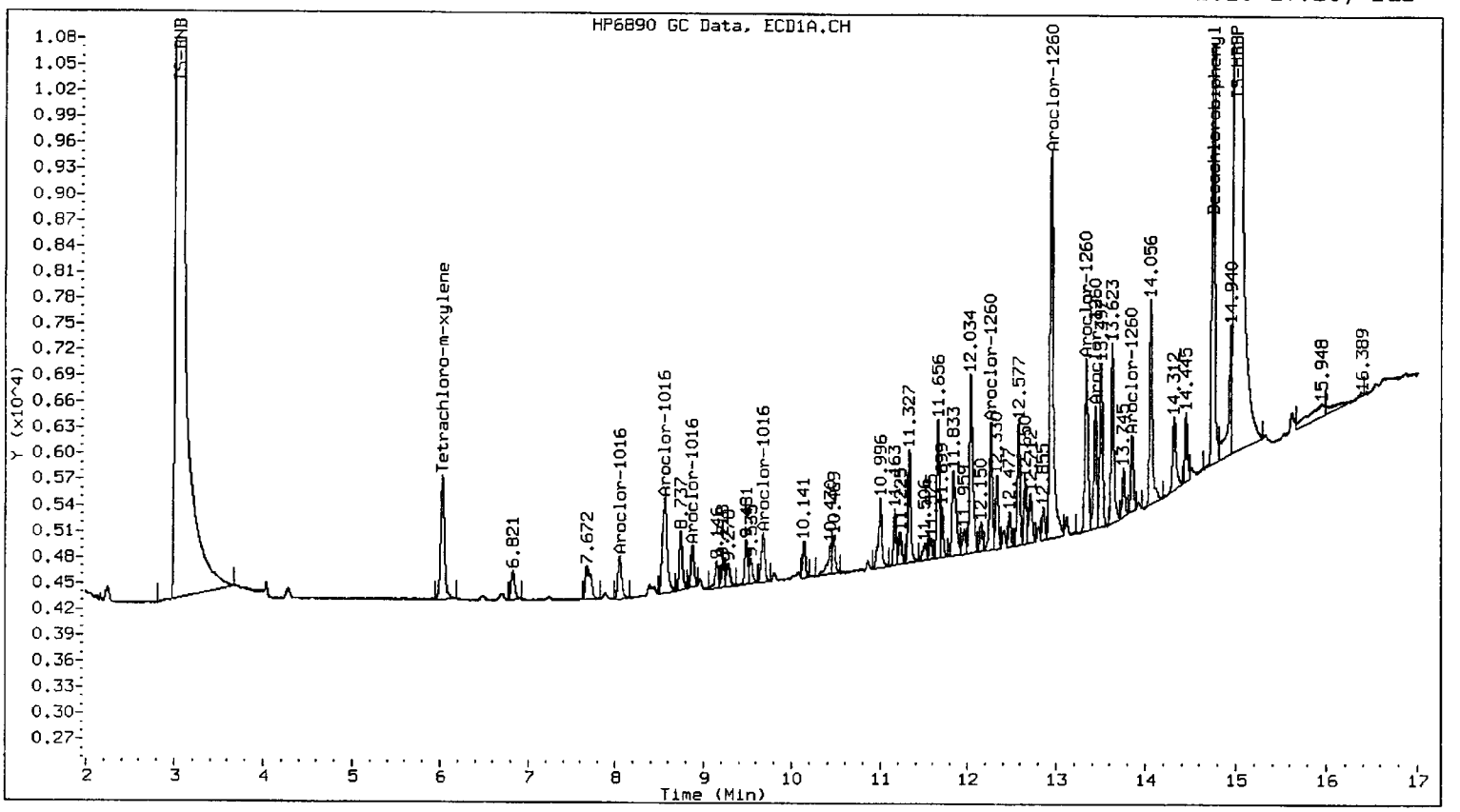
ECD7-ZB5 0.02PPMAR1660 19-FEB-2016 17:20, 2ul



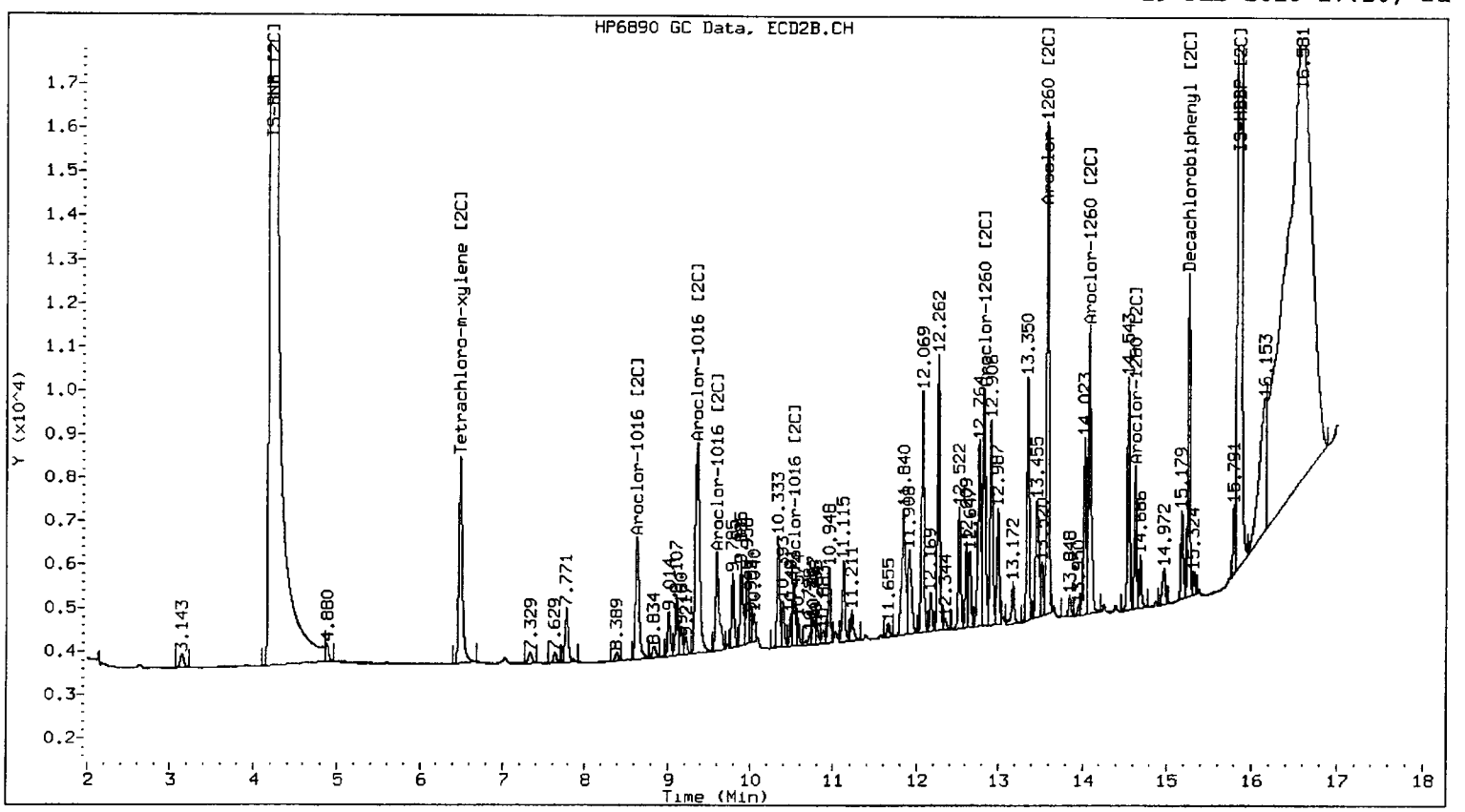
ECD7-ZB35 0.02PPMAR1660 19-FEB-2016 17:20, 2u



ECD7-ZB5 0.02PPMAR1660 19-FEB-2016 17:20, 2ul



ECD7-ZB35 0.02PPMAR1660 19-FEB-2016 17:20, 2u



Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191625.D
Data file 2: /20160219b.b/20160219.b/02191625.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.05PPMAR1660
Client ID:
Injection Date: 19-FEB-2016 17:42
Report Date: 02/23/2016 07:04
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
6.030	0.005	217506	6.489	0.006	718970	3.9	3.9	0.8	Tetrachloro-m-xyle
14.744	0.000	656524	15.261	0.000	670547	3.9	4.4	11.8	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	9.7	9.8
Decachlorobiphenyl	9.8	11.0

kc 02/23/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10300735	0.1
Hexabromobiphenyl	12470452	12566786	0.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15794112	-0.1
Hexabromobiphenyl	11807823	11898490	0.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

//target/share/chem4/ecd7.i/20160219b.b/02191625.D 0.05PPMAR1660 pa

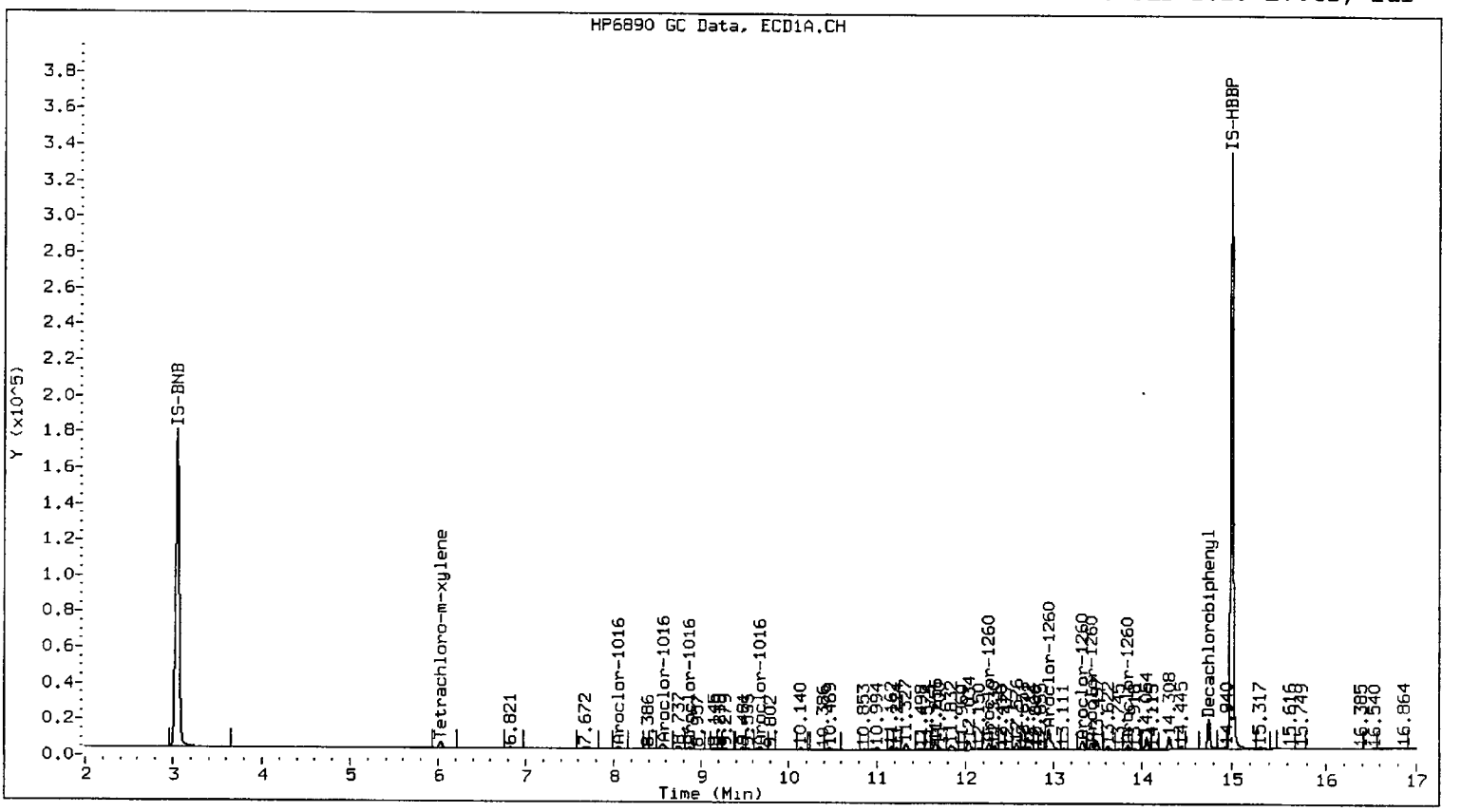
Aroclor	Peak#	RT	ZB5 Col Shift	Area	Amount	Peak#	RT	ZB35 Col Shift	Area	Amount
Aroclor-1016	1	8.051	0.003	69629	52.8	1	8.633	0.004	427669	54.3
Aroclor-1016	2	8.561	0.004	212023	52.2	2	9.357	0.005	838448	51.7
Aroclor-1016	3	8.868	0.004	73263	52.8	3	9.591	0.004	325698	50.4
Aroclor-1016	4	9.674	0.003	81294	52.5	4	10.528	0.002	154898	51.6
Total Col1Ave (4 peaks):				52.6		Total Col2Ave (4 peaks):			52.0	RPD = 1
Corrected Ave (3 peaks):				52.5		Corrected Ave (3 peaks):			51.2	RPD = 2
CalAmt %D:				5.1		CalAmt %D:			4.0	
Aroclor-1260	1	12.262	0.002	162256	53.2	1	12.819	0.002	574398	52.4
Aroclor-1260	2	12.943	0.002	698950	60.2	2	13.582	0.001	1116240	52.5
Aroclor-1260	3	13.329	0.001	249449	50.0	3	14.075	0.000	751699	53.5
Aroclor-1260	4	13.432	0.001	156857	50.6	4	14.626	0.001	274689	51.0
Aroclor-1260	5	13.843	0.001	92524	51.1	NS	---			----
Total Col1Ave (5 peaks):				53.0		Total Col2Ave (4 peaks):			52.3	RPD = 1
Corrected Ave (4 peaks):				51.2		Corrected Ave (3 peaks):			51.9	RPD = 1
CalAmt %D:				6.0		CalAmt %D:			4.7	

Total PCB Area Col1 (6.125 - 14.643) = 4991121 Col1 Total PCB = 0.1 ppm*

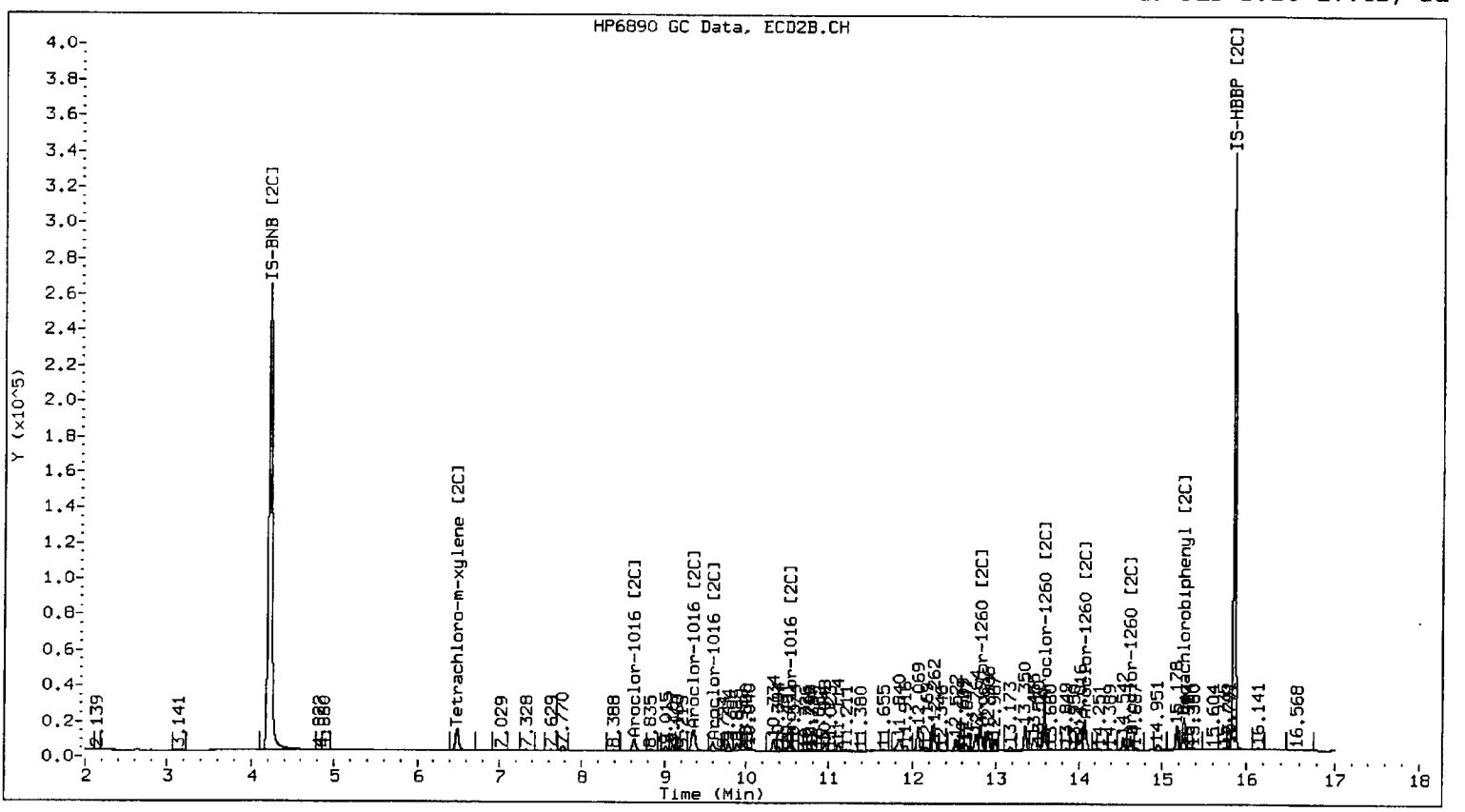
Total PCB Area Col2 (6.125 - 14.643) = 13847786 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

ECD7-ZB5 0.05PPMAR1660 19-FEB-2016 17:42, 2ul

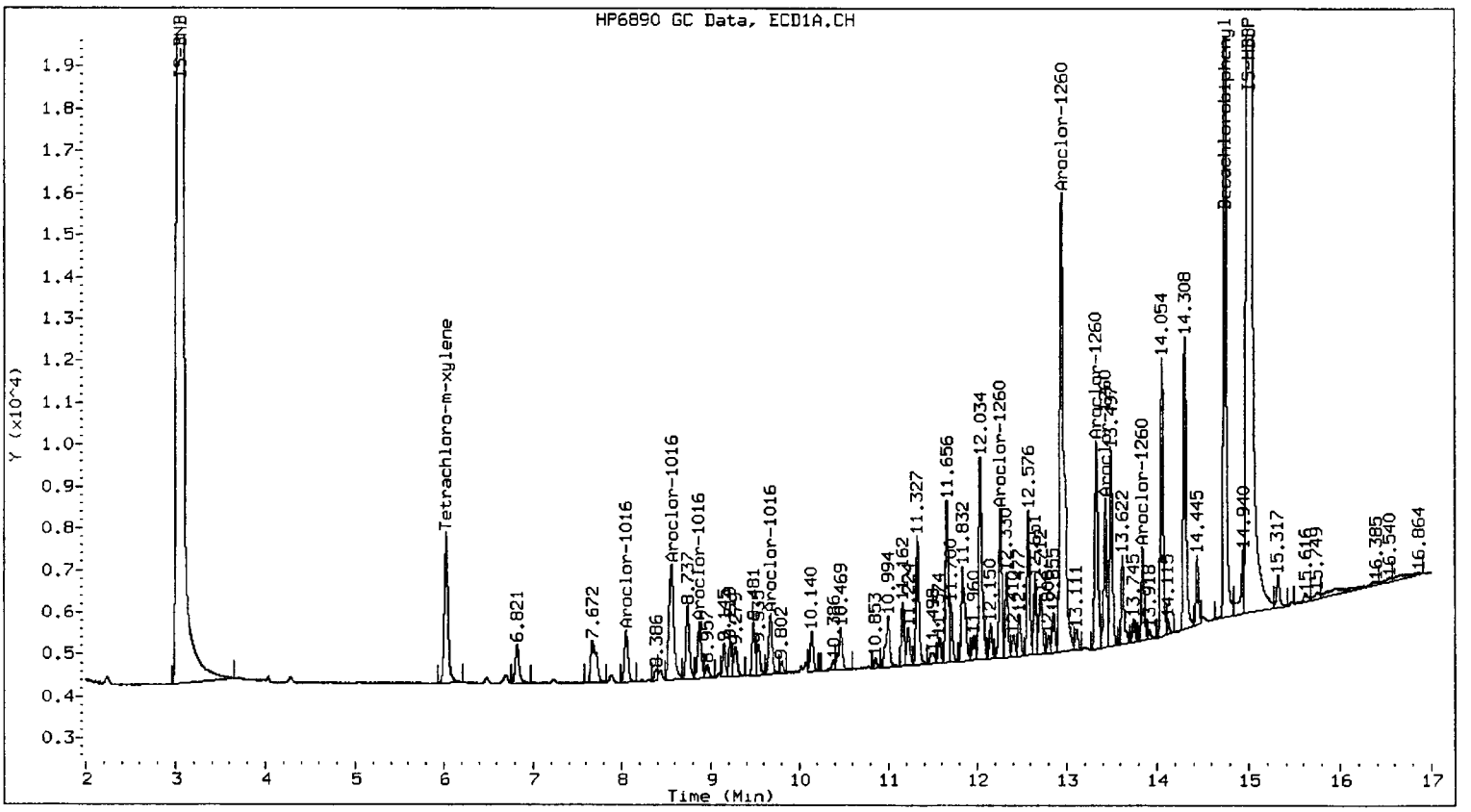


ECD7-ZB35 0.05PPMAR1660 19-FEB-2016 17:42, 2u

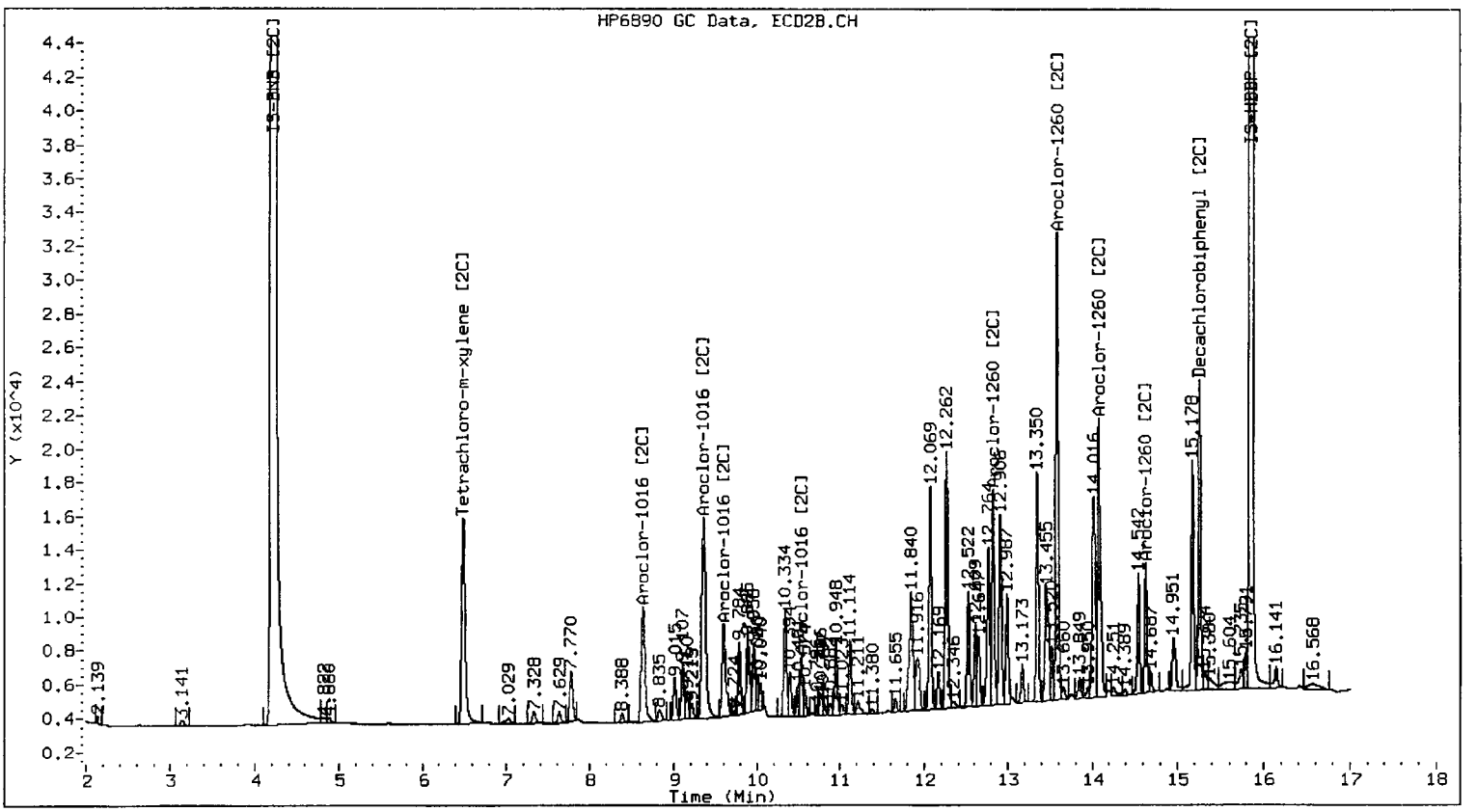


AV23 06273

ECD7-ZB5 0.05PPMAR1660 19-FEB-2016 17:42, 2ul



ECD7-ZB35 0.05PPMAR1660 19-FEB-2016 17:42, 2u



Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191626.D
Data file 2: /20160219b.b/20160219.b/02191626.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 1PPMAR1660
Client ID:
Injection Date: 19-FEB-2016 18:04
Report Date: 02/23/2016 07:04
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
6.027	0.003	4649901	6.484	0.002	14526013	83.4	79.9	4.3	Tetrachloro-m-xyle
14.744	0.000	14188106	15.260	-0.000	11283195	85.1	73.2	15.1	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	208.6	199.8
Decachlorobiphenyl	212.8	182.9

k 02/23/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10289010	0.0
Hexabromobiphenyl	12470452	12487766	0.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15681274	-0.8
Hexabromobiphenyl	11807823	12053412	2.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

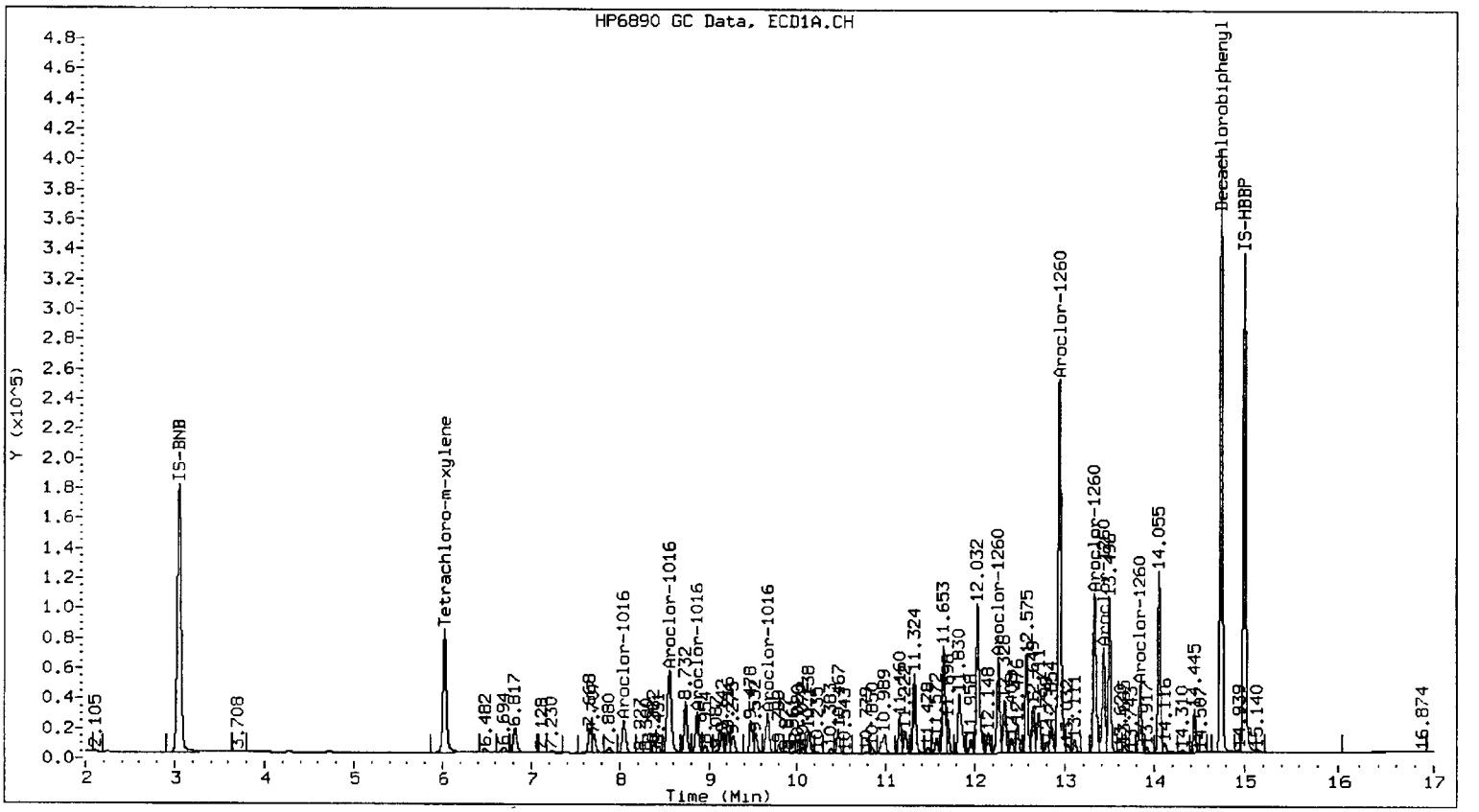
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	8.046	-0.001	1188792	902.6	1	8.629	-0.001	6615159	846.6
Aroclor-1016	2	8.557	-0.001	3872908	953.8	2	9.353	0.001	14543536	904.0
Aroclor-1016	3	8.864	-0.000	1386555	1000.2	3	9.586	-0.000	5890070	917.3
Aroclor-1016	4	9.671	0.000	1460012	944.4	4	10.526	0.000	2761461	925.9
Total Col1Ave (4 peaks):				950.3		Total Col2Ave (4 peaks):			898.4	RPD = 6
Corrected Ave (3 peaks):				933.6		Corrected Ave (3 peaks):			889.3	RPD = 5
CalAmt %D:				-5.0		CalAmt %D:			-10.2	
Aroclor-1260	1	12.260	-0.000	2753351	907.7	1	12.817	0.000	9854878	886.7
Aroclor-1260	2	12.941	-0.000	11285931	977.8	2	13.581	0.000	19947742	925.5
Aroclor-1260	3	13.329	0.001	5073336	1023.6	3	14.074	-0.001	12920507	907.7
Aroclor-1260	4	13.430	-0.000	3053920	991.7	4	14.625	-0.000	5053821	926.0
Aroclor-1260	5	13.843	0.001	1816668	1010.1	NS	---			----
Total Col1Ave (5 peaks):				982.2		Total Col2Ave (4 peaks):			911.5	RPD = 7
Corrected Ave (4 peaks):				971.8		Corrected Ave (3 peaks):			906.7	RPD = 7
CalAmt %D:				-1.8		CalAmt %D:			-8.9	

Total PCB Area Col1 (6.125 - 14.643) = 81561327 Col1 Total PCB = 1.9 ppm*

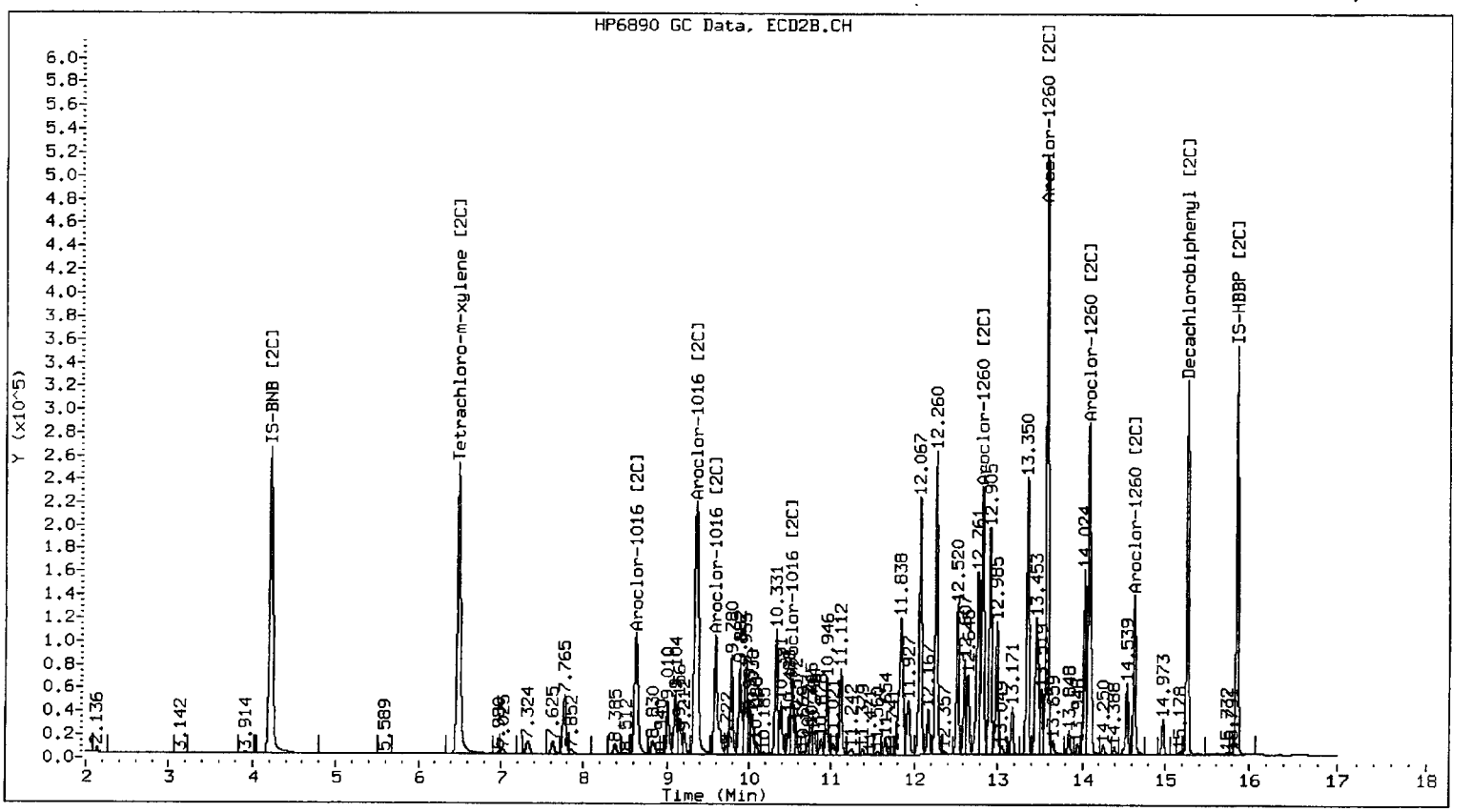
Total PCB Area Col2 (6.125 - 14.643) = 234252963 Col2 Total PCB = 1.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

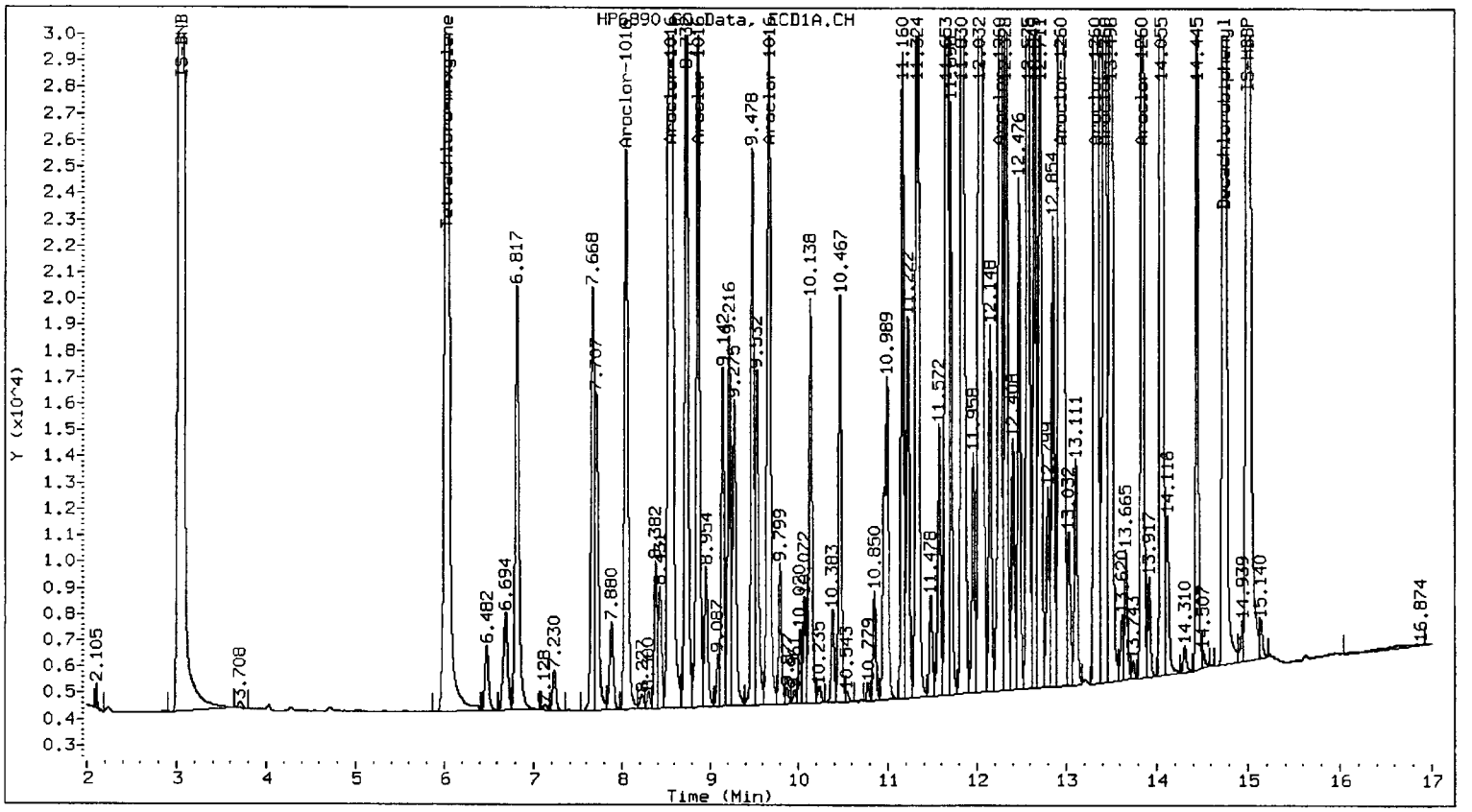
ECD7-ZB5 1PPMAR1660 19-FEB-2016 18:04, 2ul



ECD7-ZB35 1PPMAR1660 19-FEB-2016 18:04, 2ul



ECD7-ZB5 1PPMAR1660 19-FEB-2016 18:04, 2ul



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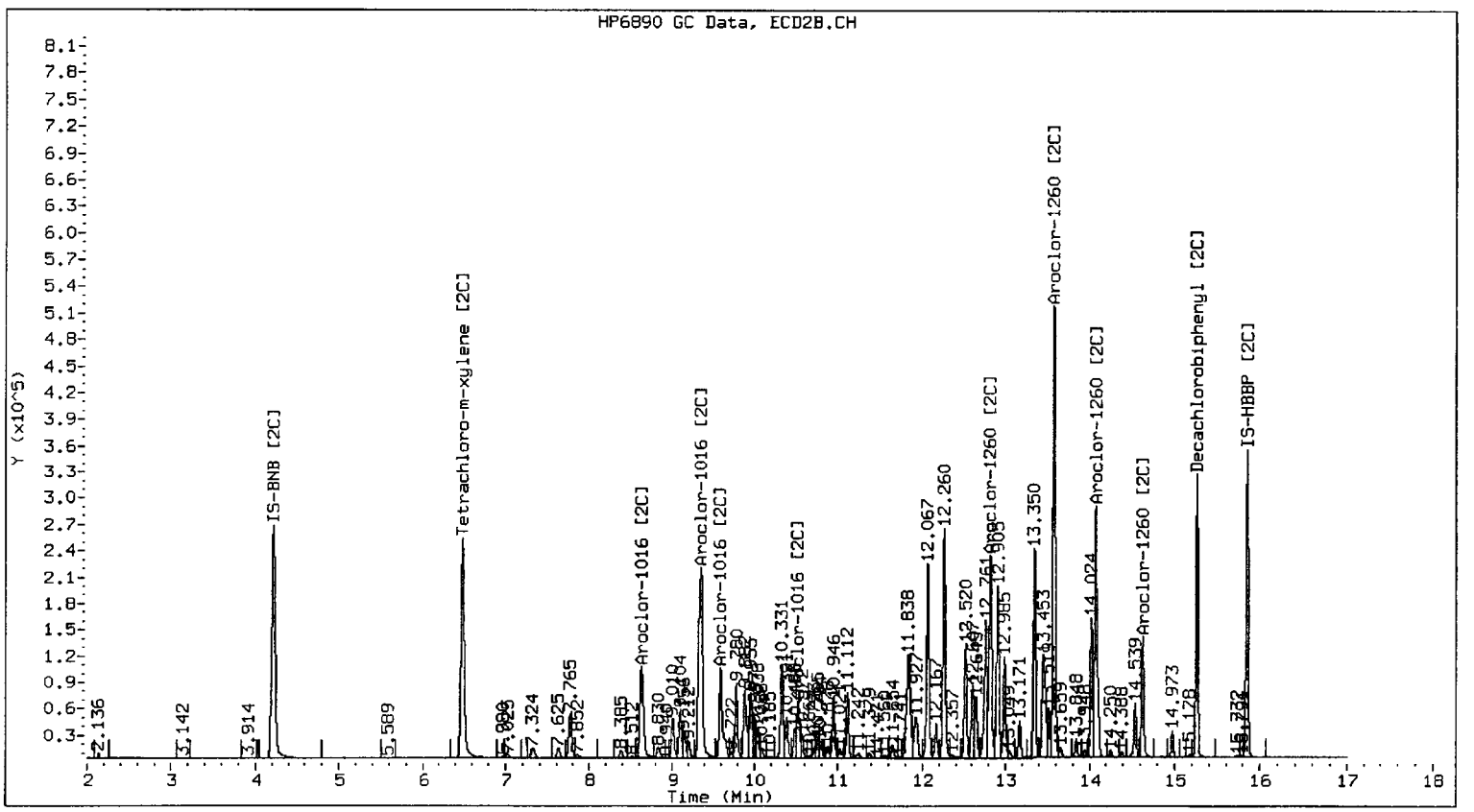


Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191627.D
Data file 2: /20160219b.b/20160219.b/02191627.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.1PPMAR1660
Client ID:
Injection Date: 19-FEB-2016 18:26
Report Date: 02/23/2016 07:04
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
6.028	0.003	444076	6.487	0.004	1474652	7.9	8.0	1.9	Tetrachloro-m-xyle
14.743	0.000	1322157	15.260	-0.000	1235615	7.8	8.0	2.5	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	19.7	20.1
Decachlorobiphenyl	19.5	20.0

02/23/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10414273	1.2
Hexabromobiphenyl	12470452	12696349	1.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15861283	0.4
Hexabromobiphenyl	11807823	12076541	2.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

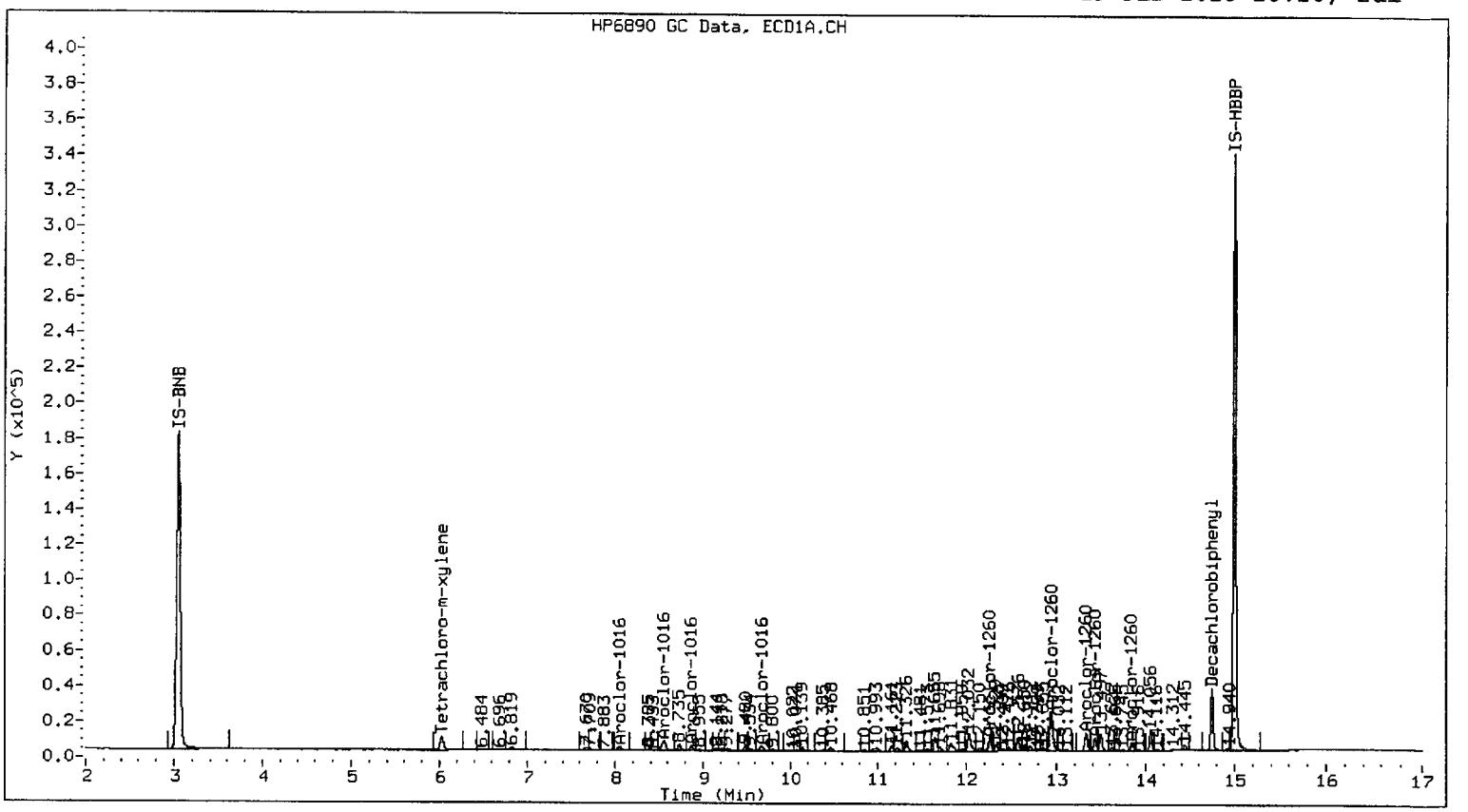
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
			ZB5 Col					ZB35 Col		
Aroclor-1016	1	8.050	0.002	137747	103.3	1	8.631	0.001	822266	104.0
Aroclor-1016	2	8.559	0.002	418990	101.9	2	9.355	0.004	1689243	103.8
Aroclor-1016	3	8.866	0.002	147713	105.3	3	9.588	0.001	678409	104.5
Aroclor-1016	4	9.673	0.002	162268	103.7	4	10.527	0.001	309121	102.5
Total Col1Ave (4 peaks):				103.6		Total Col2Ave (4 peaks):			103.7	RPD = 0
Corrected Ave (3 peaks):				103.0		Corrected Ave (3 peaks):			103.4	RPD = 0
CalAmt %D:				3.6		CalAmt %D:			3.7	
Aroclor-1260	1	12.260	0.000	316901	102.8	1	12.817	0.001	1139590	102.3
Aroclor-1260	2	12.942	0.001	1088125	92.7	2	13.581	0.000	2211798	102.4
Aroclor-1260	3	13.329	0.001	500899	99.4	3	14.076	0.001	1455571	102.1
Aroclor-1260	4	13.431	0.000	316098	101.0	4	14.626	0.001	559712	102.4
Aroclor-1260	5	13.844	0.001	181806	99.4	NS	---			----
Total Col1Ave (5 peaks):				99.1		Total Col2Ave (4 peaks):			102.3	RPD = 3
Corrected Ave (4 peaks):				98.1		Corrected Ave (3 peaks):			102.3	RPD = 4
CalAmt %D:				-0.9		CalAmt %D:			2.3	

Total PCB Area Col1 (6.125 - 14.643) = 8901404 Col1 Total PCB = 0.2 ppm*

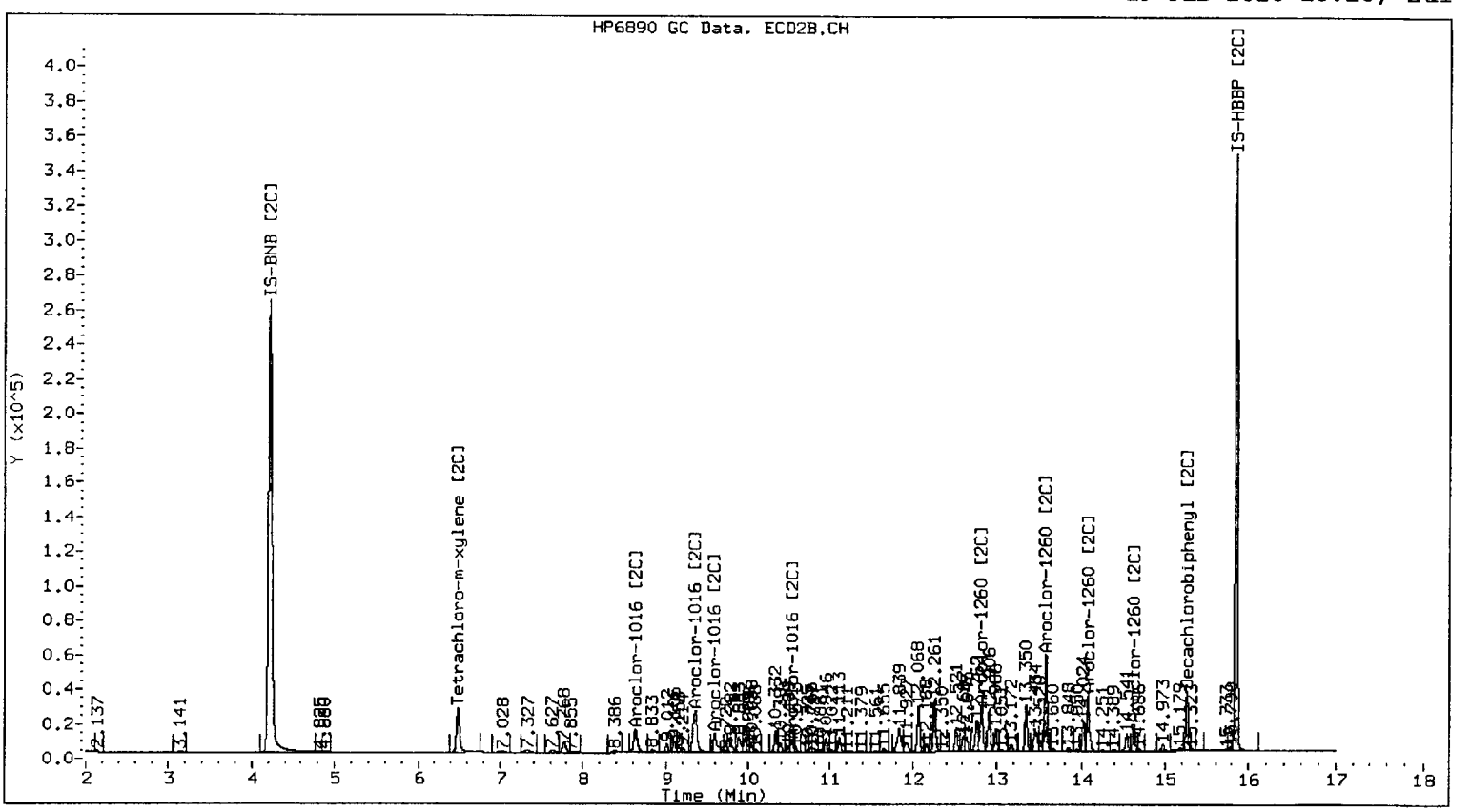
Total PCB Area Col2 (6.125 - 14.643) = 26875489 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

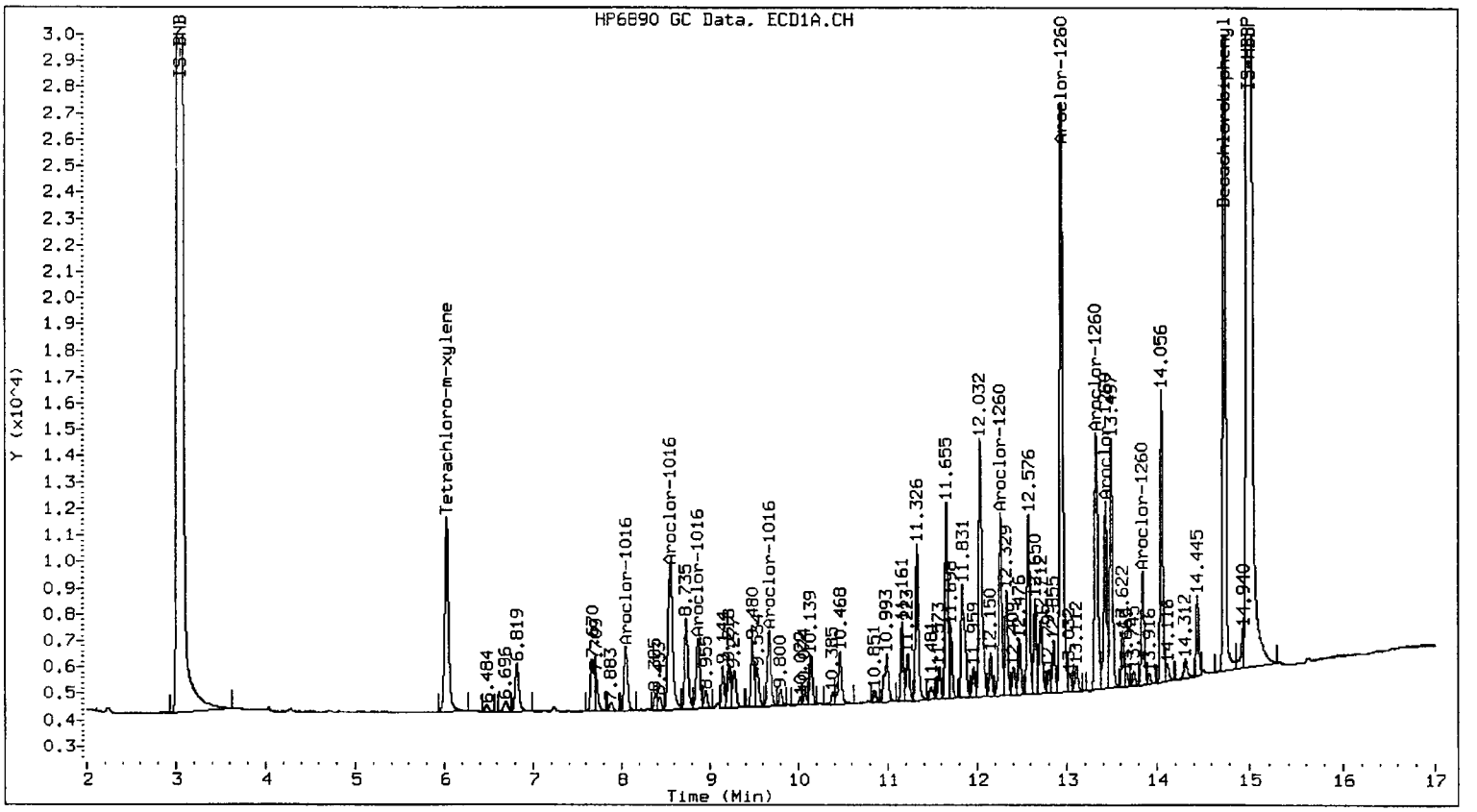
ECD7-ZB5 0.1PPMAR1660 19-FEB-2016 18:26, 2ul



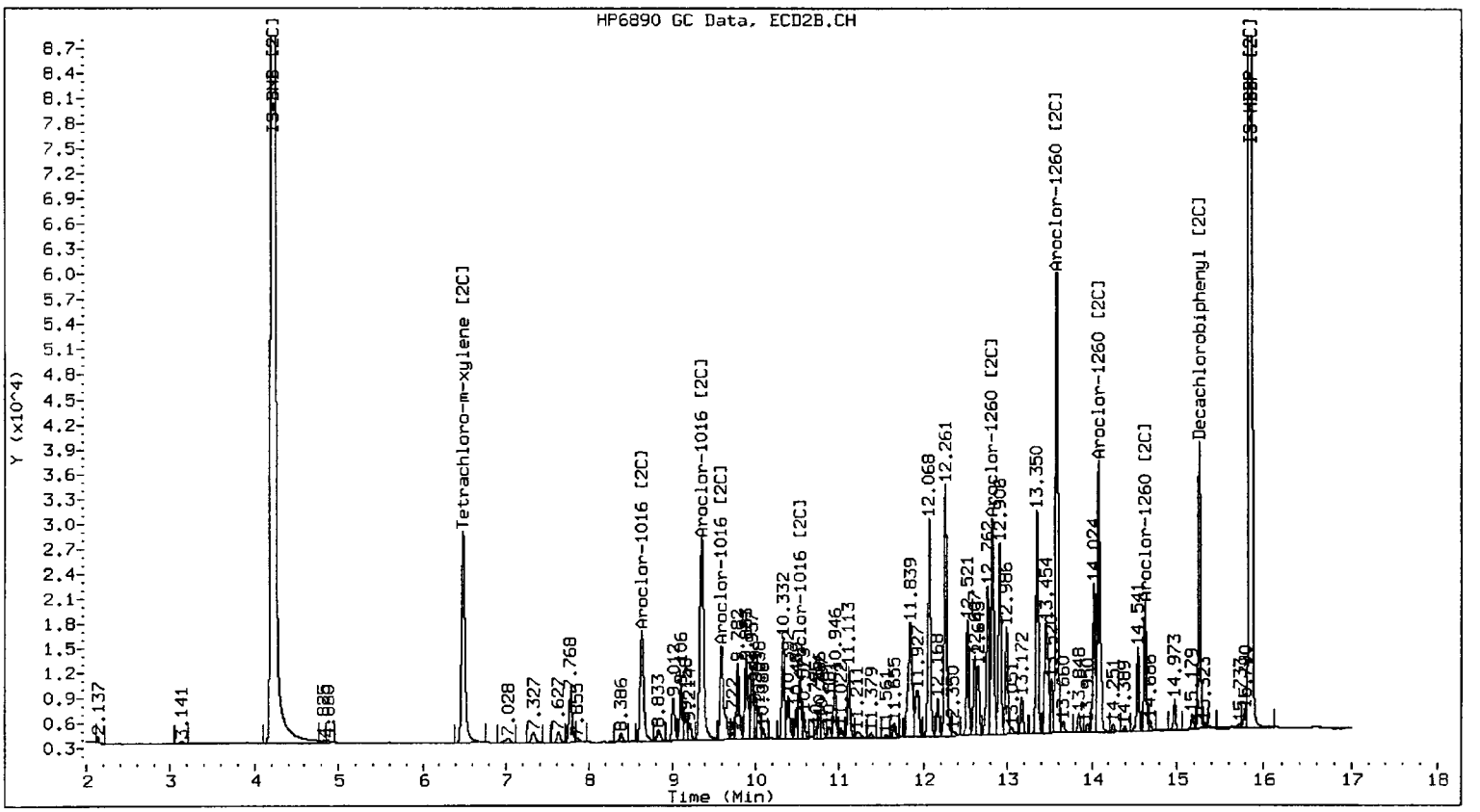
ECD7-ZB35 0.1PPMAR1660 19-FEB-2016 18:26, 2ul



ECD7-ZB5 0.1PPMAR1660 19-FEB-2016 18:26, 2ul



ECD7-ZB35 0.1PPMAR1660 19-FEB-2016 18:26, 2ul



Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191628.D
Data file 2: /20160219b.b/20160219.b/02191628.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.5PPMAR1660
Client ID:
Injection Date: 19-FEB-2016 18:48
Report Date: 02/23/2016 07:04
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
6.027	0.002	2338010	6.485	0.003	7561405	40.7	40.6	0.2	Tetrachloro-m-xyle
14.743	-0.000	7001773	15.261	-0.000	5841791	40.6	37.2	8.7	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	101.8	101.6
Decachlorobiphenyl	101.4	93.0

A 02/23/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10603199	3.1
Hexabromobiphenyl	12470452	12934017	3.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	16055838	1.6
Hexabromobiphenyl	11807823	12279136	4.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

//target/share/chem4/ecd7.i/20160219b.b/02191628.D 0.5PPMAR1660 pag

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	8.048	0.000	640809	472.1	1	8.629	0.000	3653461	456.6
Aroclor-1016	2	8.557	0.000	2016188	481.8	2	9.352	0.000	7835559	475.7
Aroclor-1016	3	8.864	0.000	721926	505.3	3	9.587	0.000	3177376	483.3
Aroclor-1016	4	9.671	0.000	772987	485.2	4	10.526	0.000	1463360	479.2

Total Col1Ave (4 peaks): 486.1 Total Col2Ave (4 peaks): 473.7 RPD = 3

Corrected Ave (3 peaks): 479.7 Corrected Ave (3 peaks): 470.5 RPD = 2

CalAmt %D: -2.8 CalAmt %D: -5.3

Aroclor-1260	1	12.260	0.000	1450387	461.7	1	12.816	0.000	5223929	461.4
Aroclor-1260	2	12.941	0.000	5571755	466.1	2	13.581	0.000	10480990	477.3
Aroclor-1260	3	13.328	0.000	2552878	497.3	3	14.075	0.000	6827235	470.8
Aroclor-1260	4	13.431	0.000	1566866	491.2	4	14.625	0.000	2644458	475.6
Aroclor-1260	5	13.842	0.000	919836	493.8	NS	---			----

Total Col1Ave (5 peaks): 482.0 Total Col2Ave (4 peaks): 471.3 RPD = 2

Corrected Ave (4 peaks): 478.2 Corrected Ave (3 peaks): 469.3 RPD = 2

CalAmt %D: -3.6 CalAmt %D: -5.7

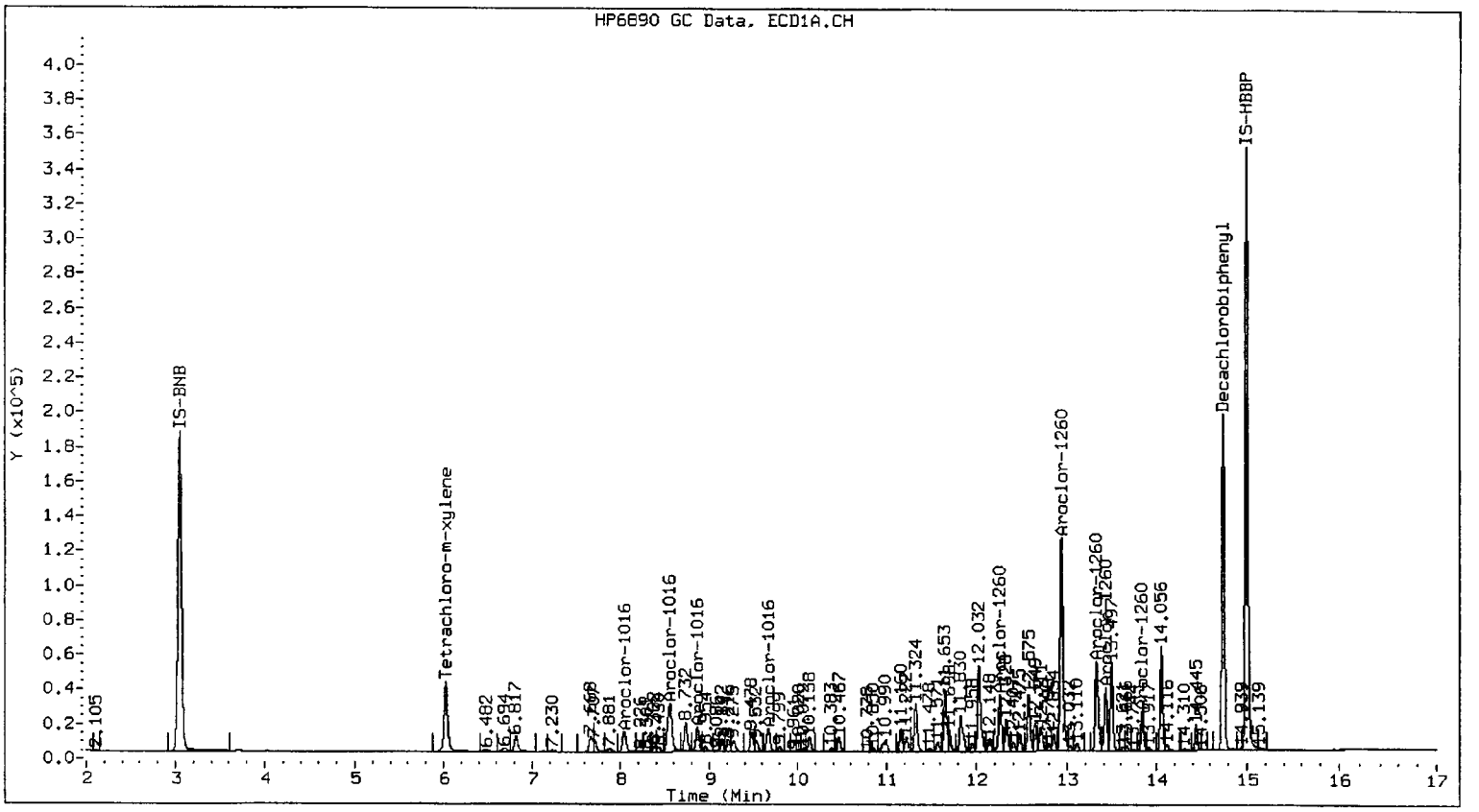
Total PCB Area Col1 (6.125 - 14.643) = 42340328 Col1 Total PCB = 1.0 ppm*

Total PCB Area Col2 (6.125 - 14.643) = 124843505 Col2 Total PCB = 0.9 ppm*

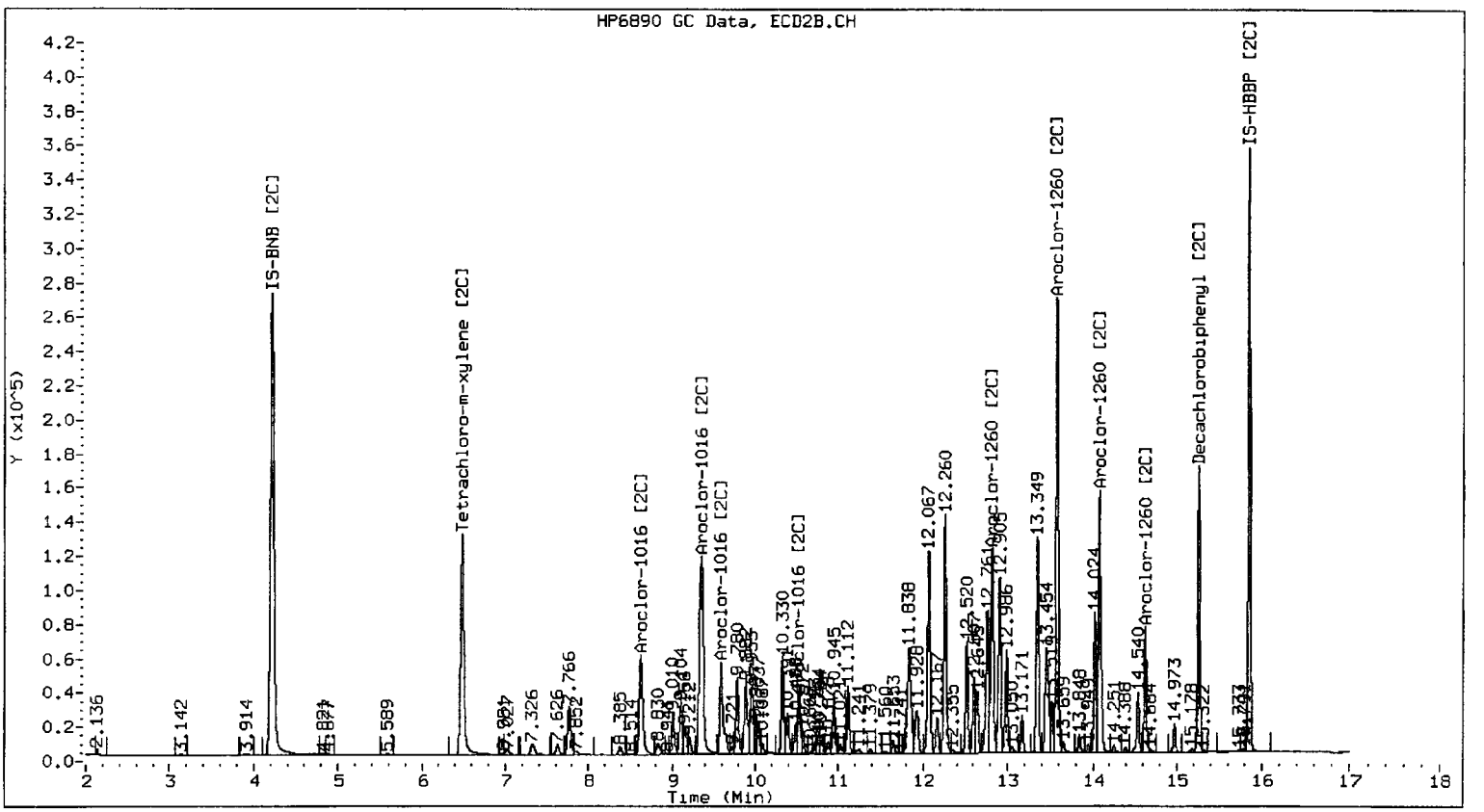
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

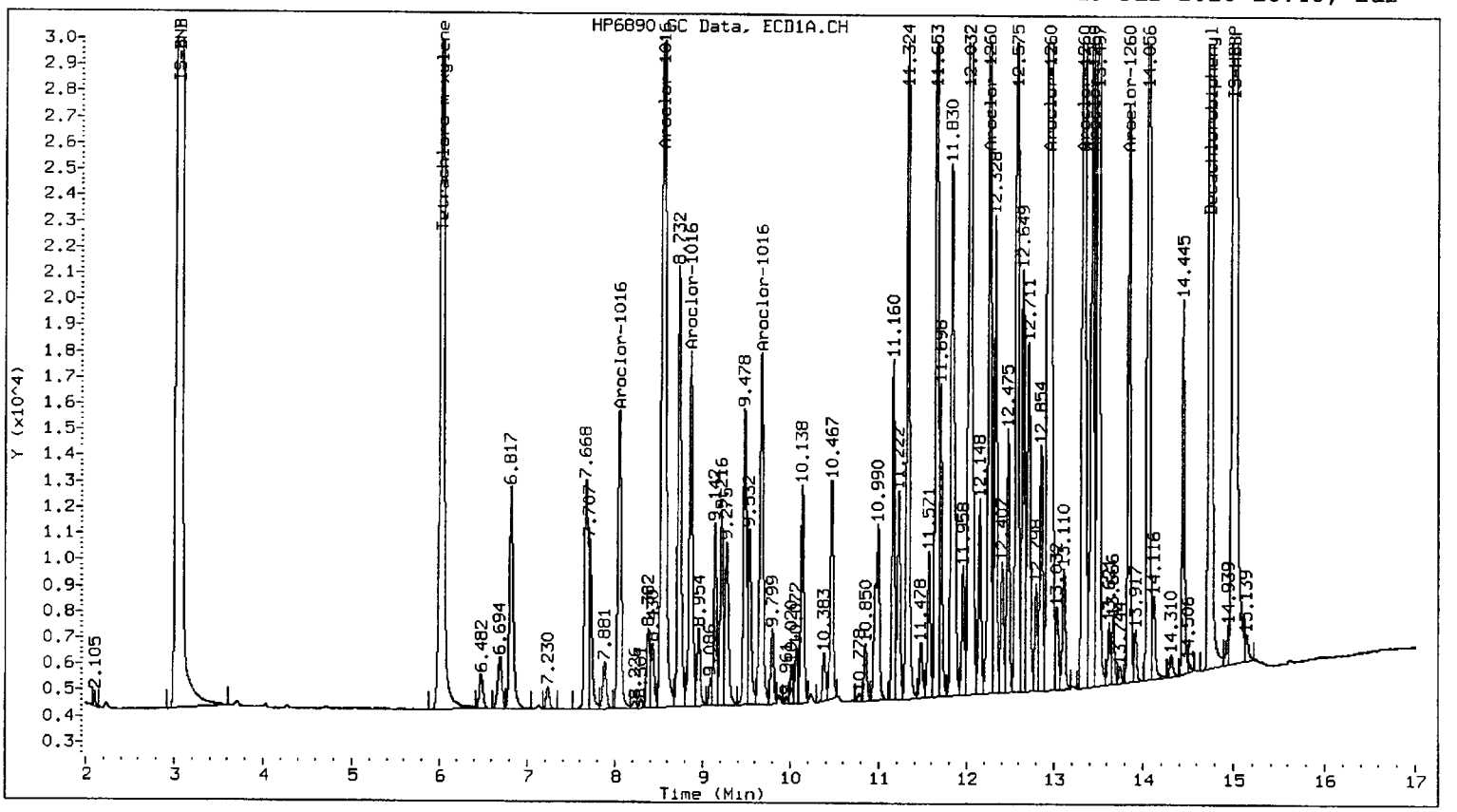
ECD7-ZB5 0.5PPMAR1660 19-FEB-2016 18:48, 2ul



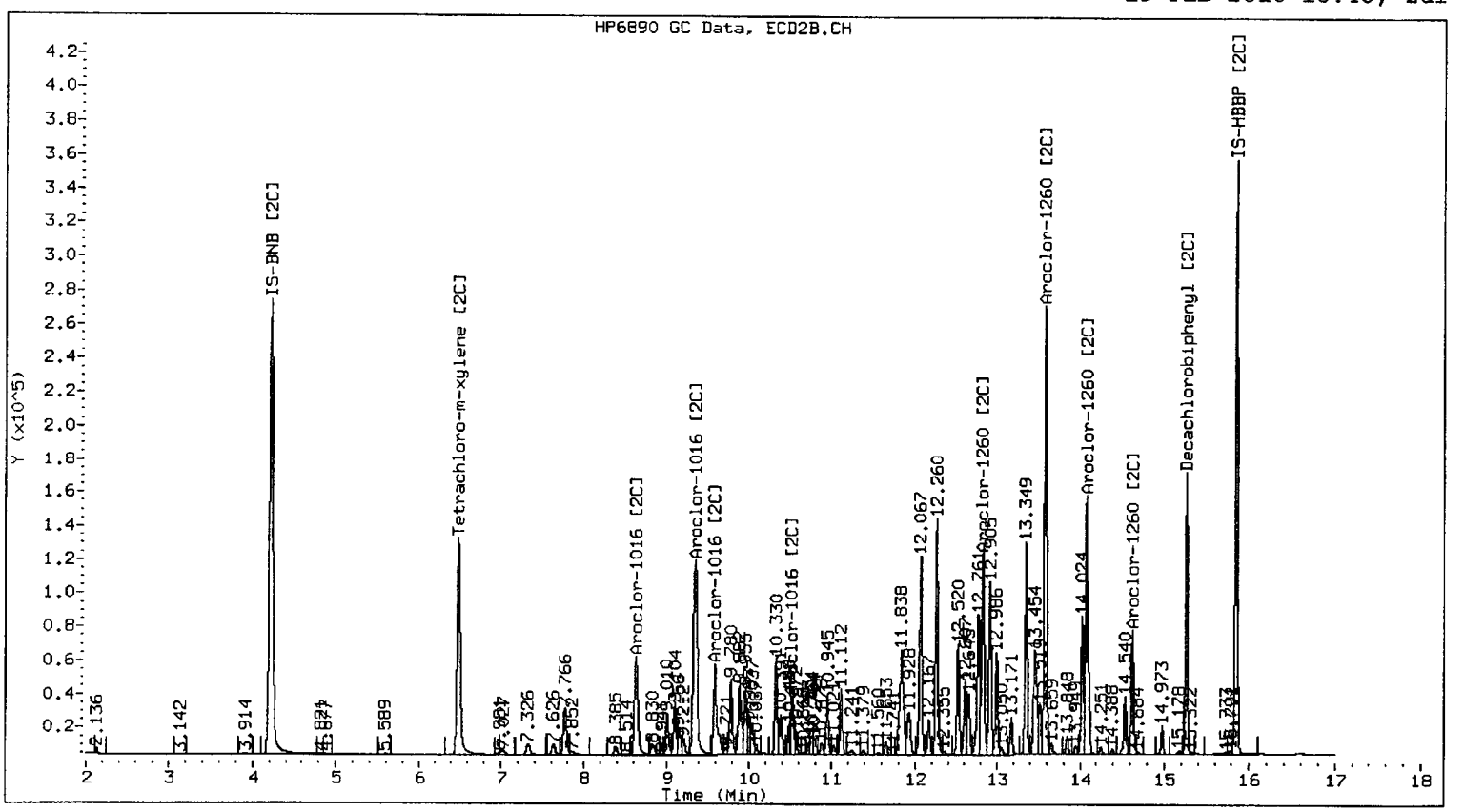
ECD7-ZB35 0.5PPMAR1660 19-FEB-2016 18:48, 2ul



ECD7-ZB5 0.5PPMAR1660 19-FEB-2016 18:48, 2ul



ECD7-ZB35 0.5PPMAR1660 19-FEB-2016 18:48, 2ul



Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191629.D
Data file 2: /20160219b.b/20160219.b/02191629.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242
Client ID:
Injection Date: 19-FEB-2016 19:09
Report Date: 02/23/2016 07:04
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
6.025	0.000	2218924	6.484	0.001	7200540	39.6	39.5	0.2	Tetrachloro-m-xyle
14.743	0.000	6467027	15.261	-0.000	5407354	37.9	35.0	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	99.1	98.8
Decachlorobiphenyl	94.7	87.5

02/23/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10337924	0.5
Hexabromobiphenyl	12470452	12790976	2.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15715878	-0.6
Hexabromobiphenyl	11807823	12072326	2.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

//target/share/chem4/ecd7.i/20160219b.b/02191629.D AR1242 page

Aroclor	Peak#	RT	ZB5 Col Shift	Area	Amount	Peak#	RT	ZB35 Col Shift	Area	Amount
Aroclor-1242	1	8.555	0.000	794517	250.0	1	8.628	-0.000	1521322	250.0
Aroclor-1242	2	8.863	0.000	291674	250.0	2	9.353	-0.000	3149801	250.0
Aroclor-1242	3	9.670	0.000	368778	250.0	3	9.780	-0.001	813103	250.0
Aroclor-1242	4	10.071	0.000	266510	250.0	4	10.878	-0.001	1095130	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

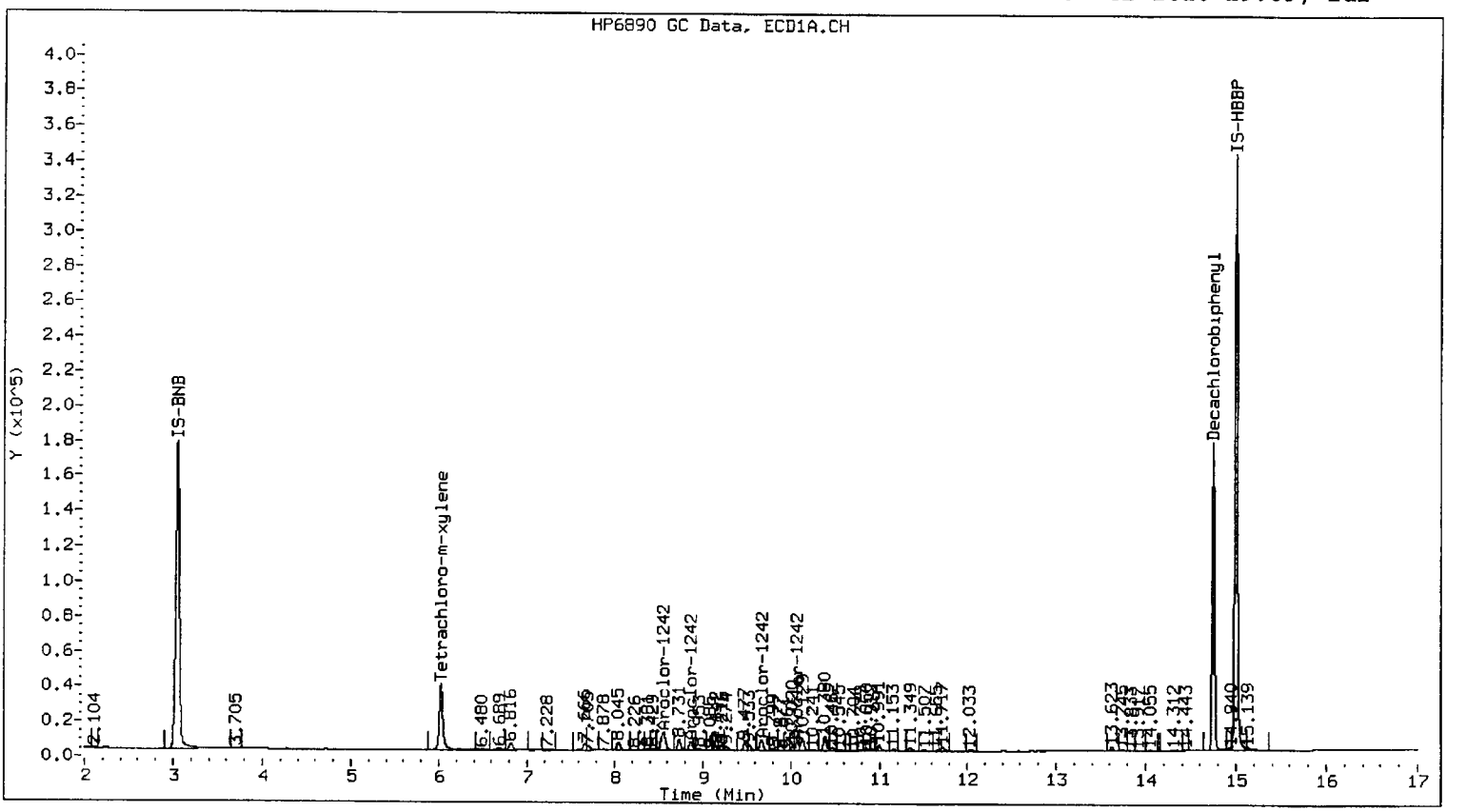
Total PCB Area Col1 (6.125 - 14.643) = 6400576 Col1 Total PCB = 0.1 ppm*

Total PCB Area Col2 (6.125 - 14.643) = 30044201 Col2 Total PCB = 0.2 ppm*

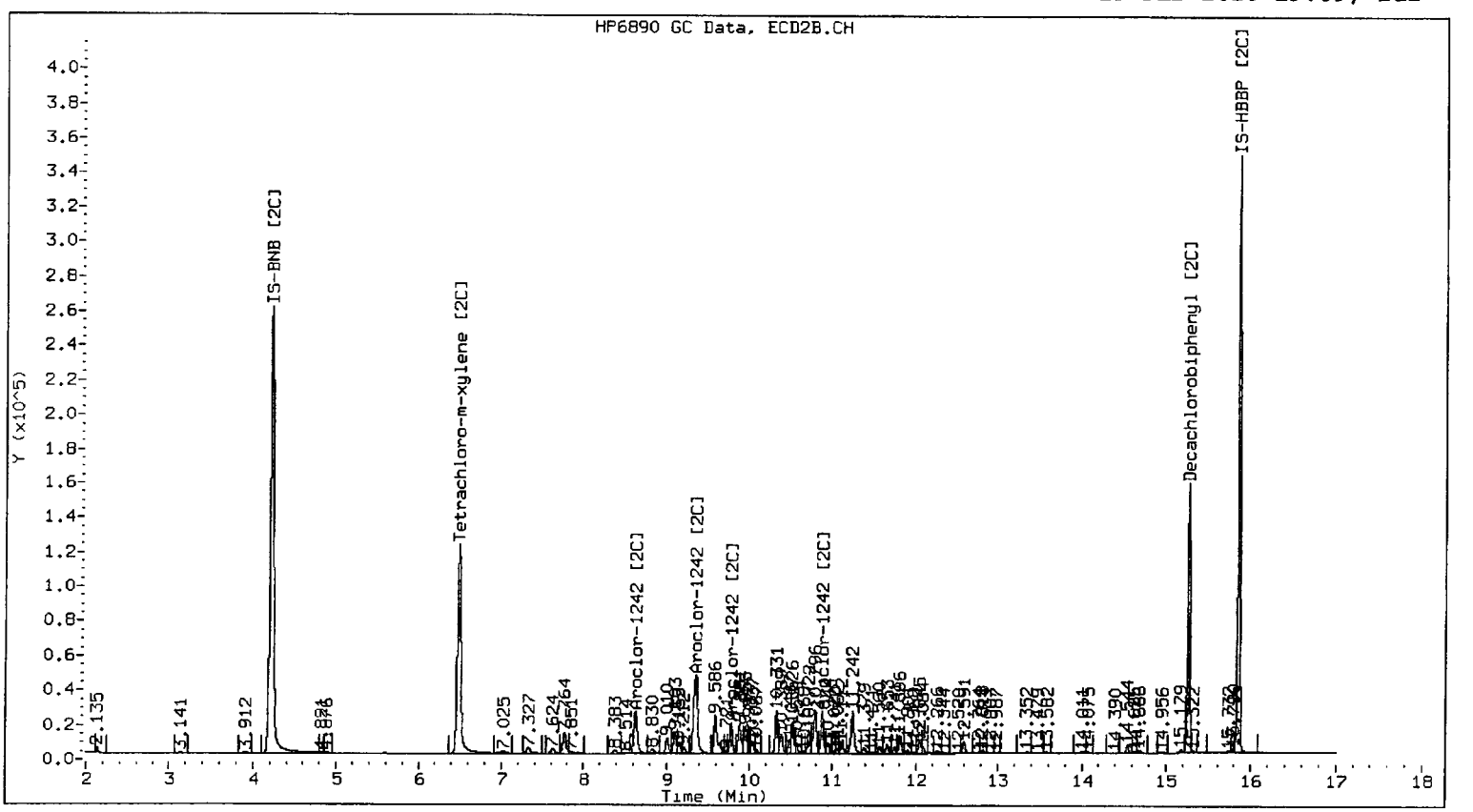
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

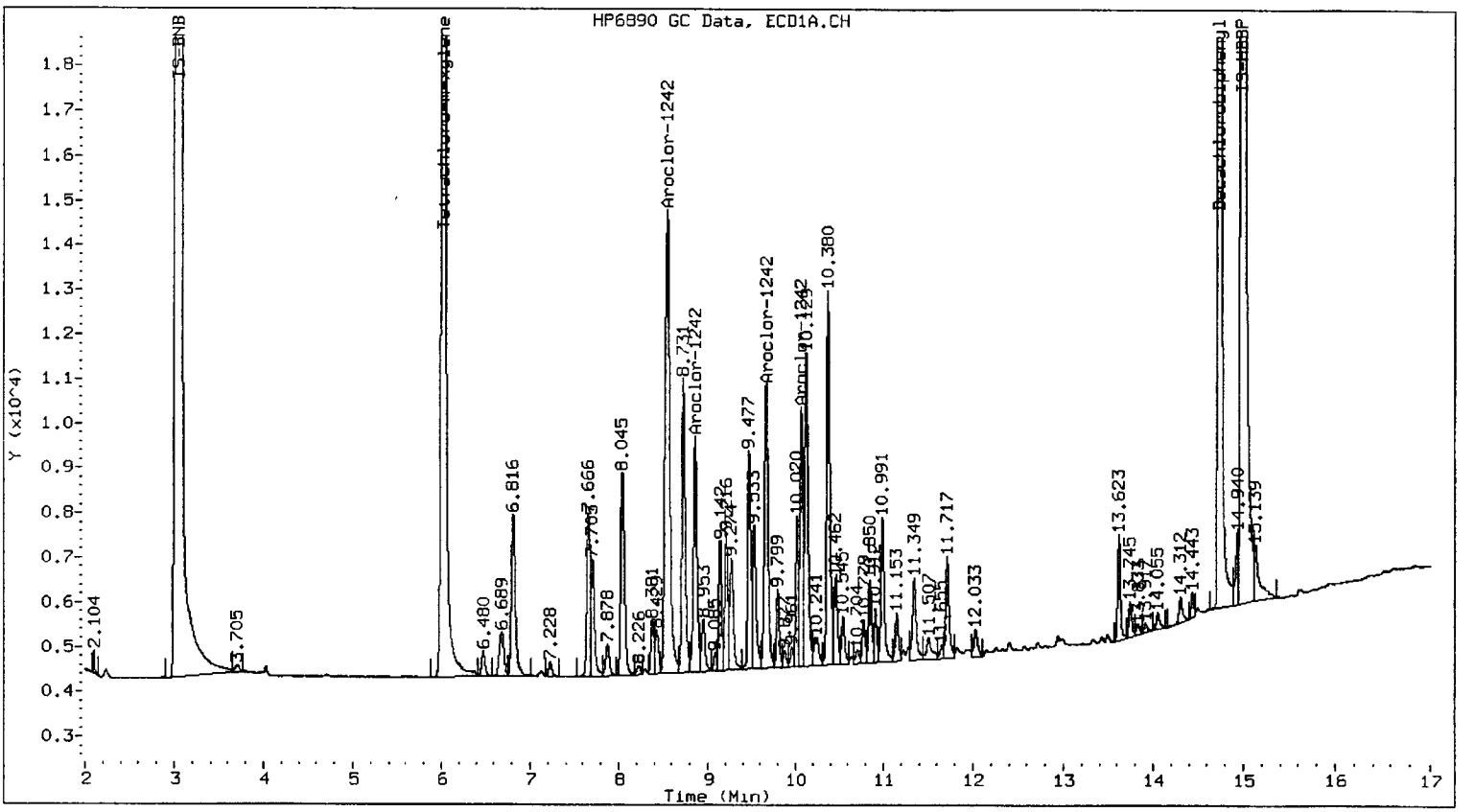
ECD7-ZB5 AR1242 19-FEB-2016 19:09, 2ul



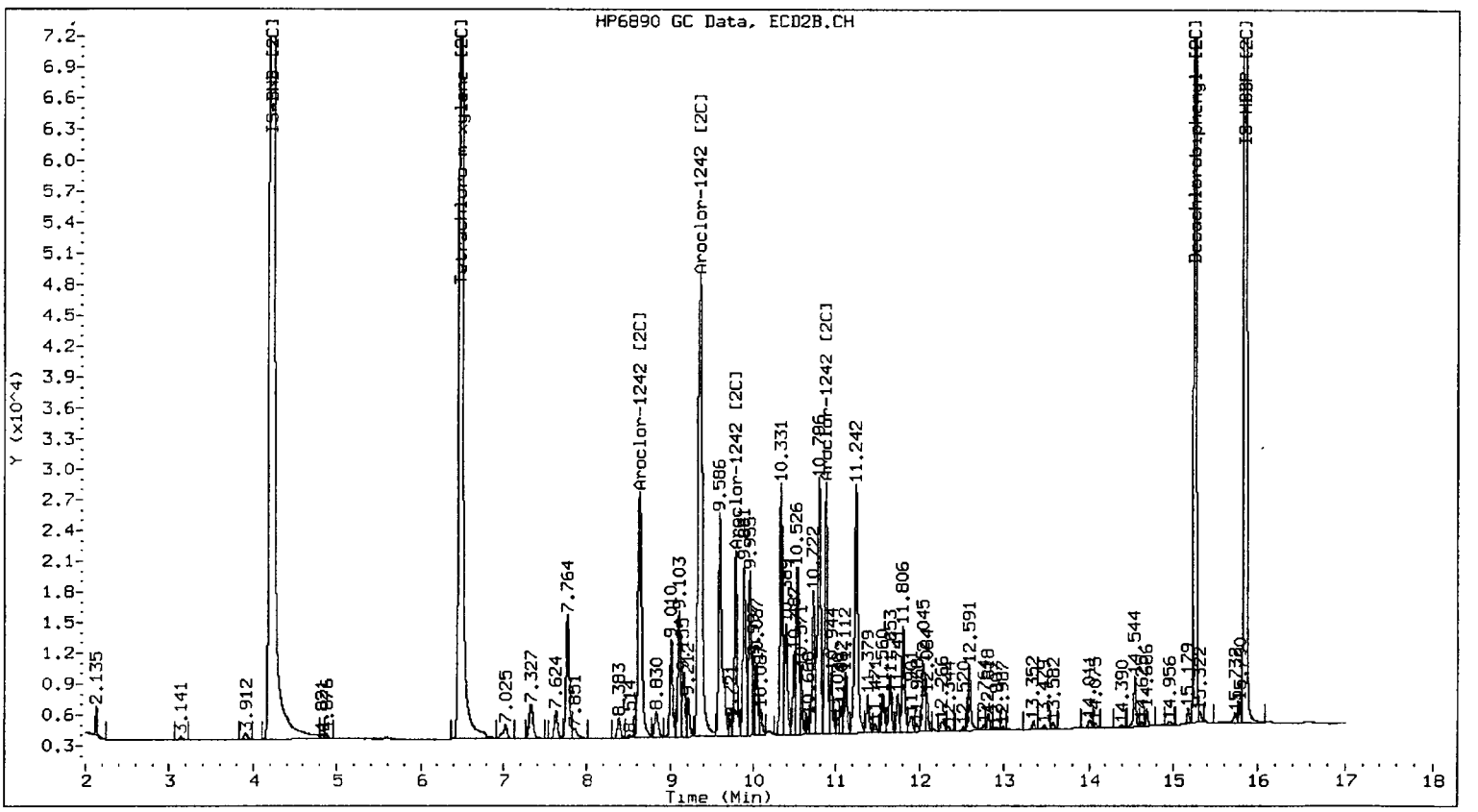
ECD7-ZB35 AR1242 19-FEB-2016 19:09, 2ul



ECD7-ZB5 AR1242 19-FEB-2016 19:09, 2ul



ECD7-ZB35 AR1242 19-FEB-2016 19:09, 2ul



Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191630.D
Data file 2: /20160219b.b/20160219.b/02191630.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248
Client ID:
Injection Date: 19-FEB-2016 19:31
Report Date: 02/23/2016 07:04
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
6.025	-0.000	2309439	6.483	0.001	7599381	40.8	41.6	1.7	Tetrachloro-m-xyle
14.743	0.000	6724748	15.261	-0.000	5654163	39.3	36.3	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	102.1	103.9
Decachlorobiphenyl	98.2	90.8

A 02/23/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10440311	1.5
Hexabromobiphenyl	12470452	12823180	2.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15779494	-0.2
Hexabromobiphenyl	11807823	12170945	3.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

//target/share/chem4/ecd7.i/20160219b.b/02191630.D AR1248 page

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1248	1	8.553	0.000	470710	250.0	1	9.348	0.000	1887001	250.0
Aroclor-1248	2	9.477	0.000	350530	250.0	2	9.881	0.000	1390709	250.0
Aroclor-1248	3	9.670	0.000	526186	250.0	3	10.796	0.000	2124762	250.0
Aroclor-1248	4	10.070	0.000	437578	250.0	4	11.241	0.000	2122447	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

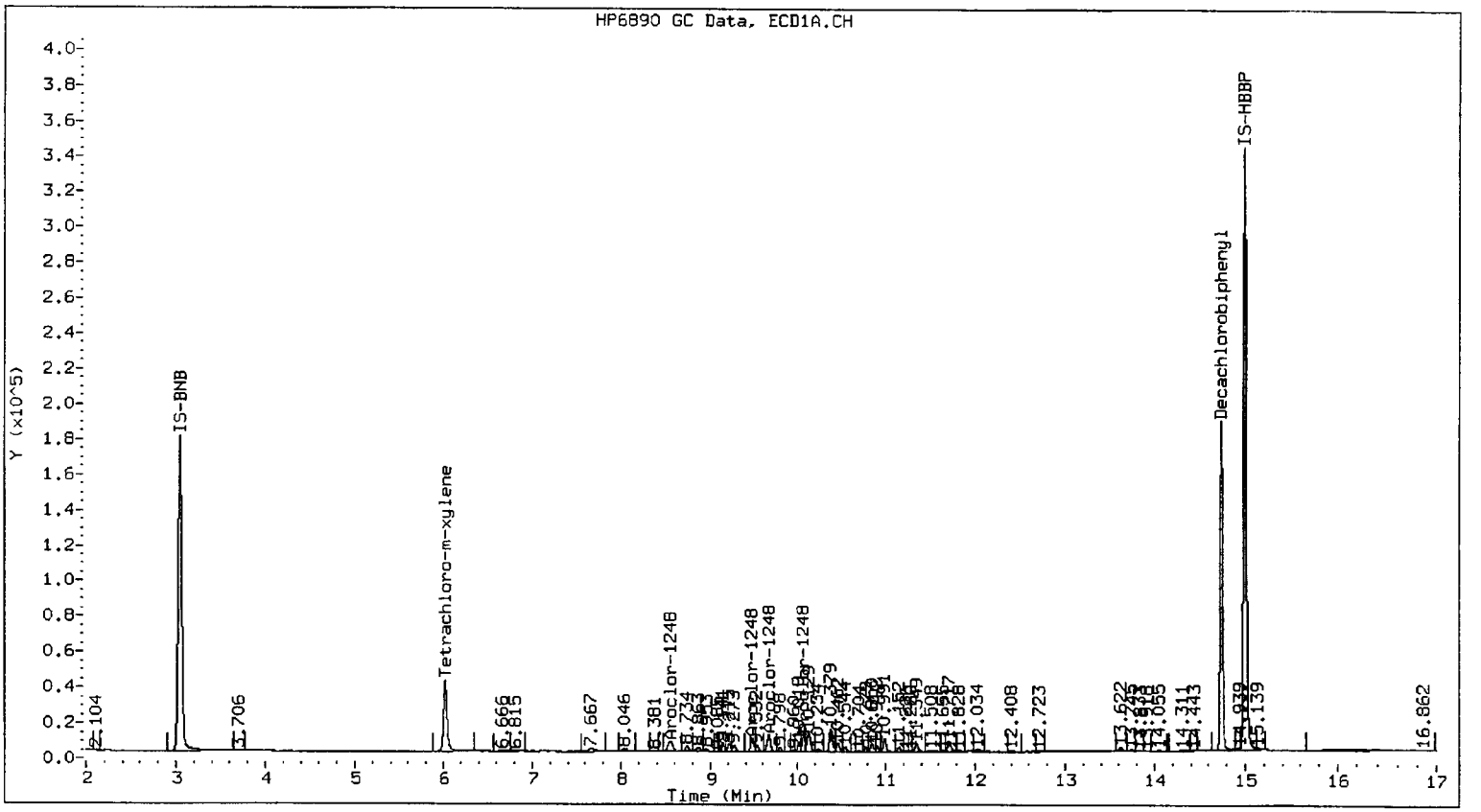
Total PCB Area Col1 (6.125 - 14.643) = 7416692 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.125 - 14.643) = 34251274 Col2 Total PCB = 0.3 ppm*

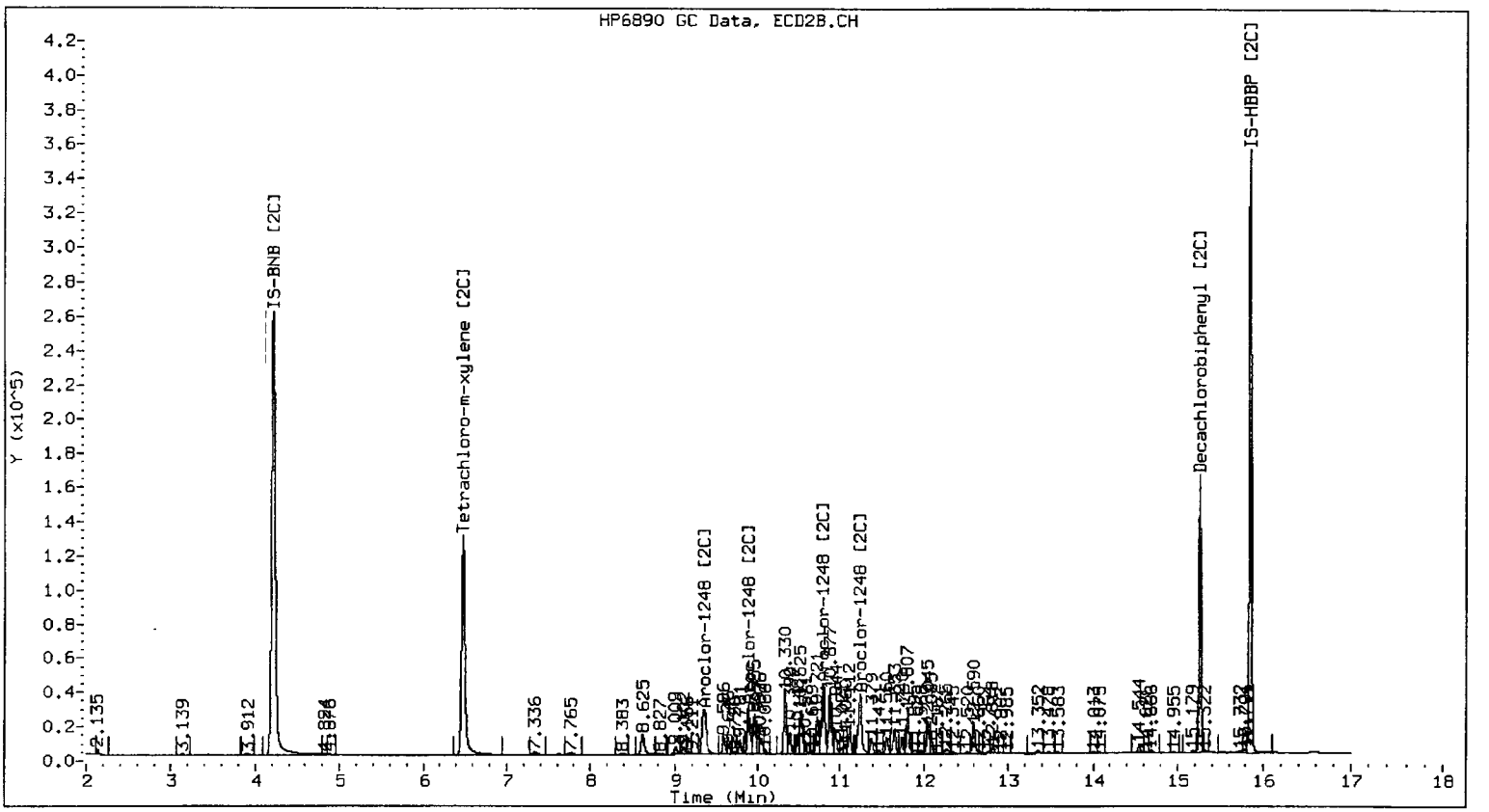
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

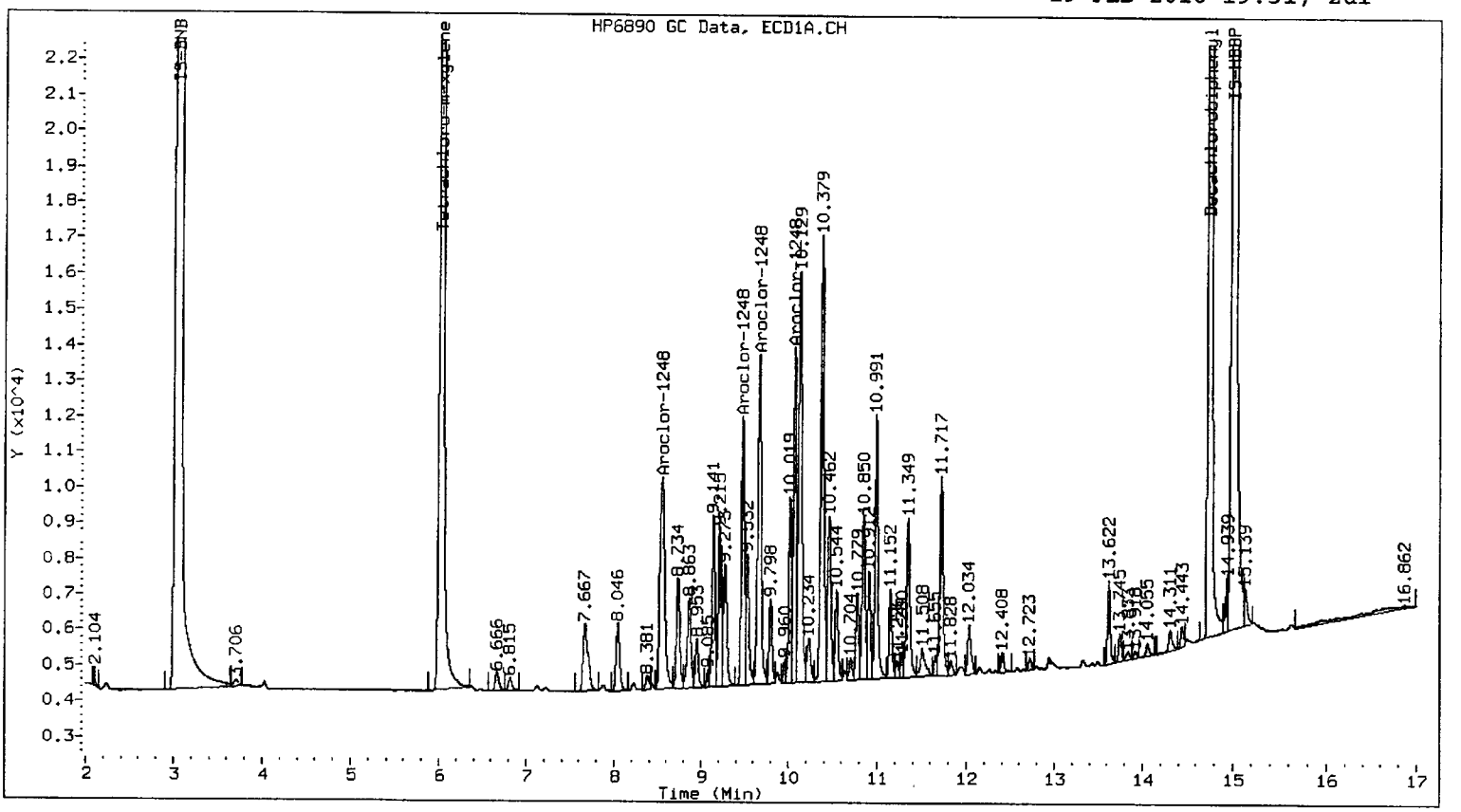
ECD7-ZB5 AR1248 19-FEB-2016 19:31, 2ul



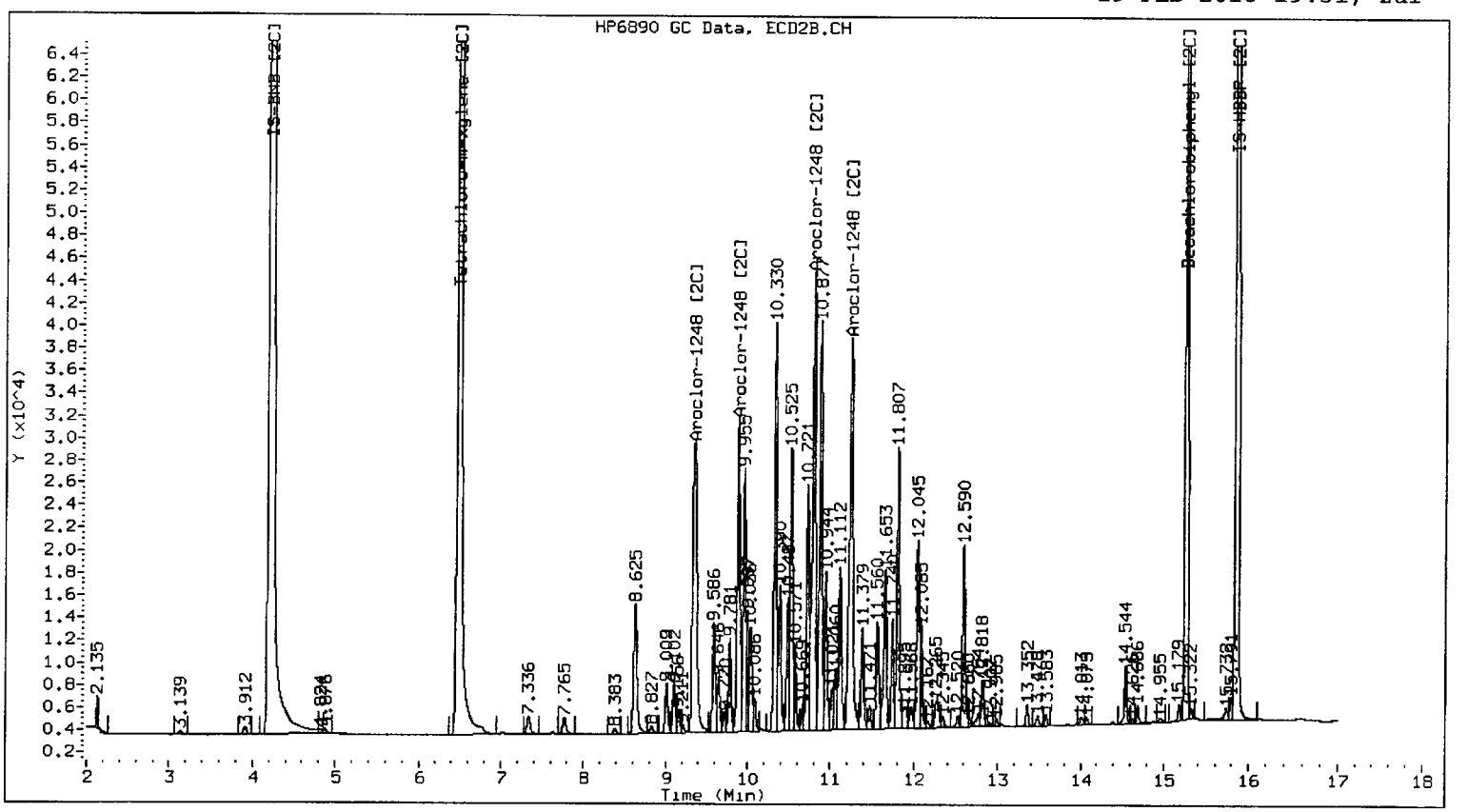
ECD7-ZB35 AR1248 19-FEB-2016 19:31, 2ul



ECD7-ZB5 AR1248 19-FEB-2016 19:31, 2ul



ECD7-ZB35 AR1248 19-FEB-2016 19:31, 2ul



Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191631.D
Data file 2: /20160219b.b/20160219.b/02191631.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254
Client ID:
Injection Date: 19-FEB-2016 19:53
Report Date: 02/23/2016 07:04
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
6.026	0.001	2295175	6.484	0.001	7507970	40.7	41.5	2.0	Tetrachloro-m-xyle
14.743	0.000	6923681	15.261	-0.000	5812385	40.9	37.5	8.6	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	101.7	103.8
Decachlorobiphenyl	102.2	93.8

JK 02/23/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10412067	1.2
Hexabromobiphenyl	12470452	12687497	1.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15601559	-1.3
Hexabromobiphenyl	11807823	12105453	2.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	10.464	0.000	576185	250.0	1	11.112	0.000	1961040	250.0
Aroclor-1254	2	10.545	0.000	192071	250.0	2	11.211	0.000	918783	250.0
Aroclor-1254	3	10.850	0.000	471076	250.0	3	11.654	0.000	1471980	250.0
Aroclor-1254	4	10.990	0.000	924391	250.0	4	11.807	0.000	3357537	250.0
Aroclor-1254	5	11.345	0.000	905062	250.0	5	12.817	0.000	2474123	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

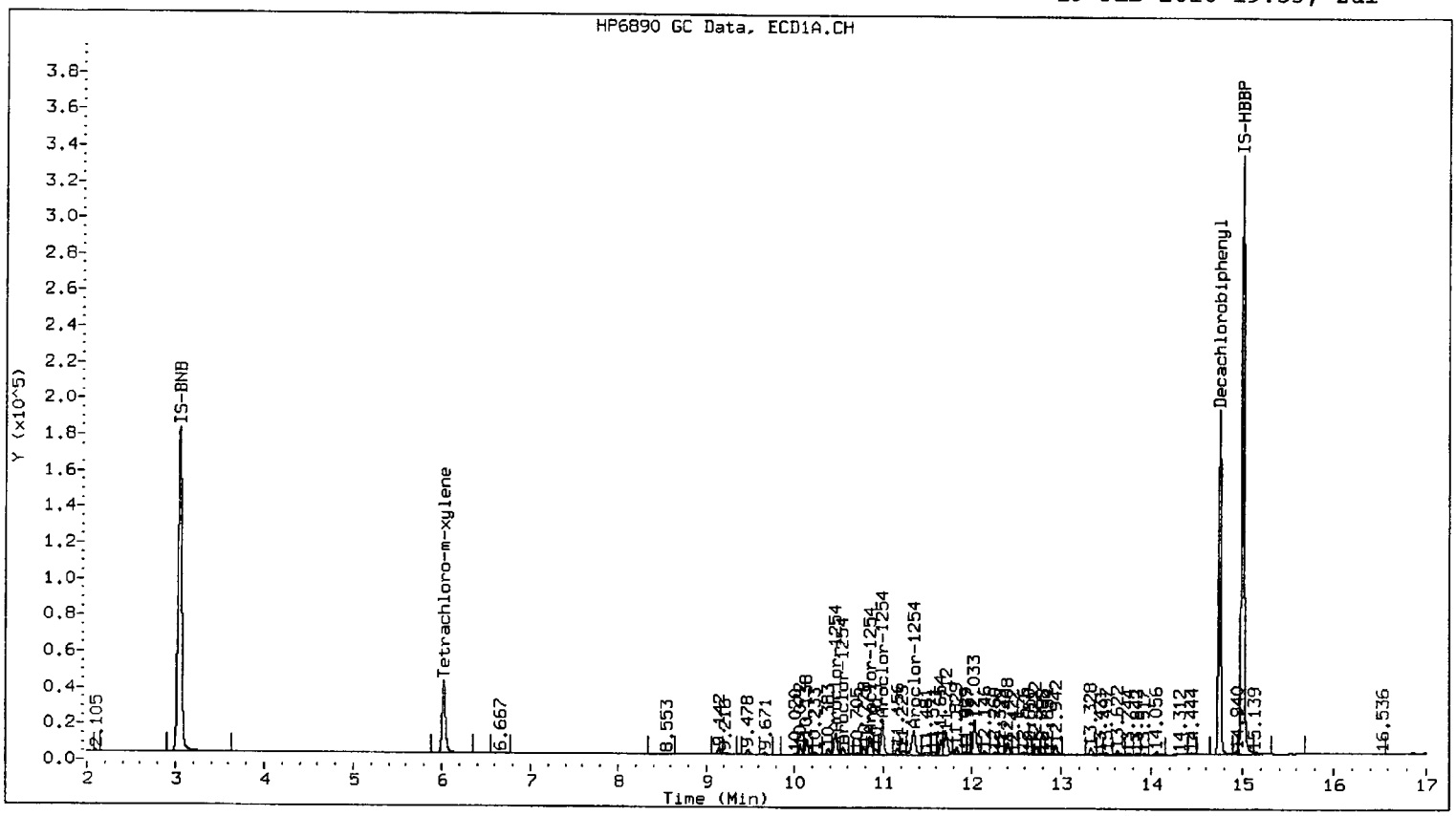
Total PCB Area Col1 (6.125 - 14.643) = 9323931 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.125 - 14.643) = 38585458 Col2 Total PCB = 0.3 ppm*

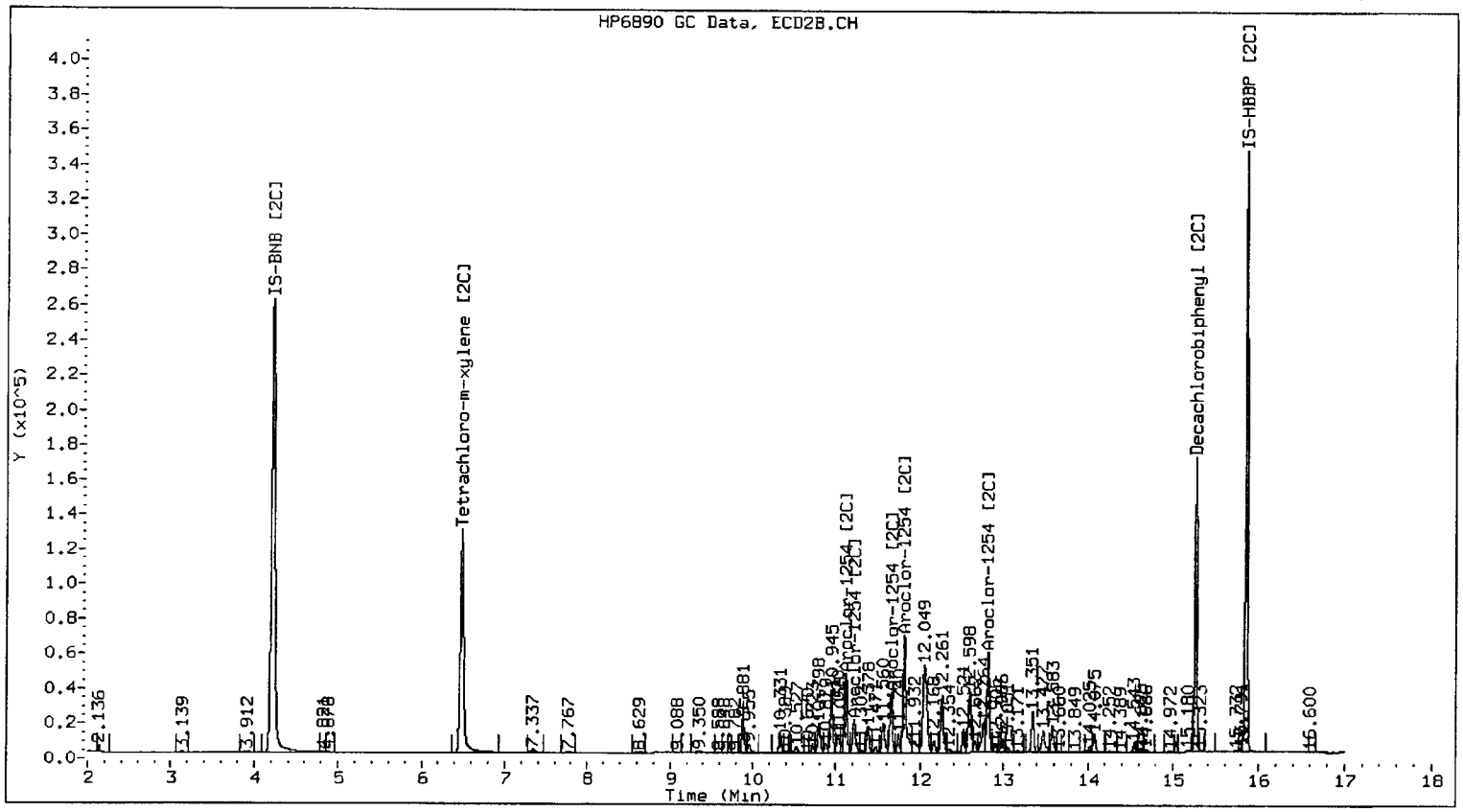
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

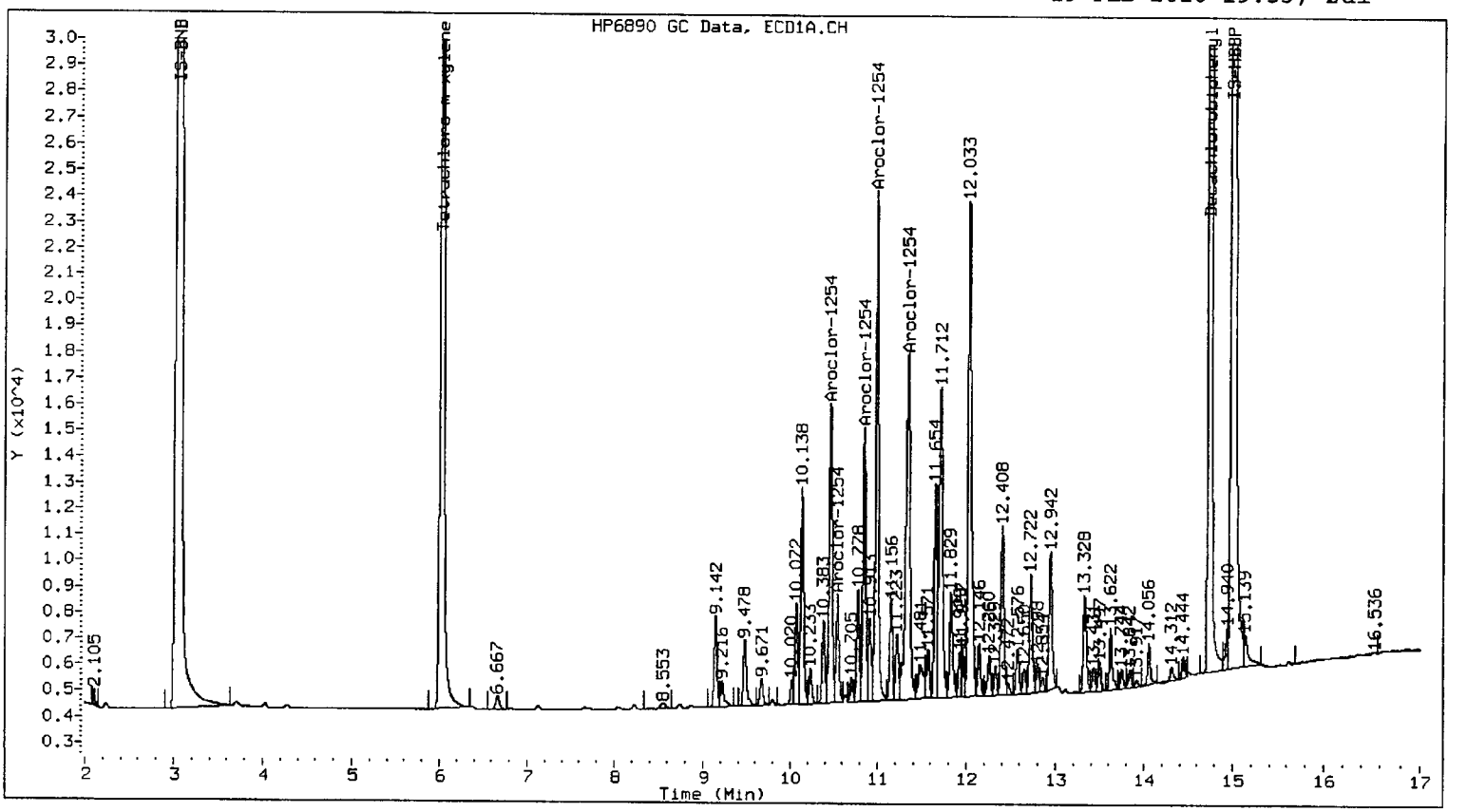
ECD7-ZB5 AR1254 19-FEB-2016 19:53, 2ul



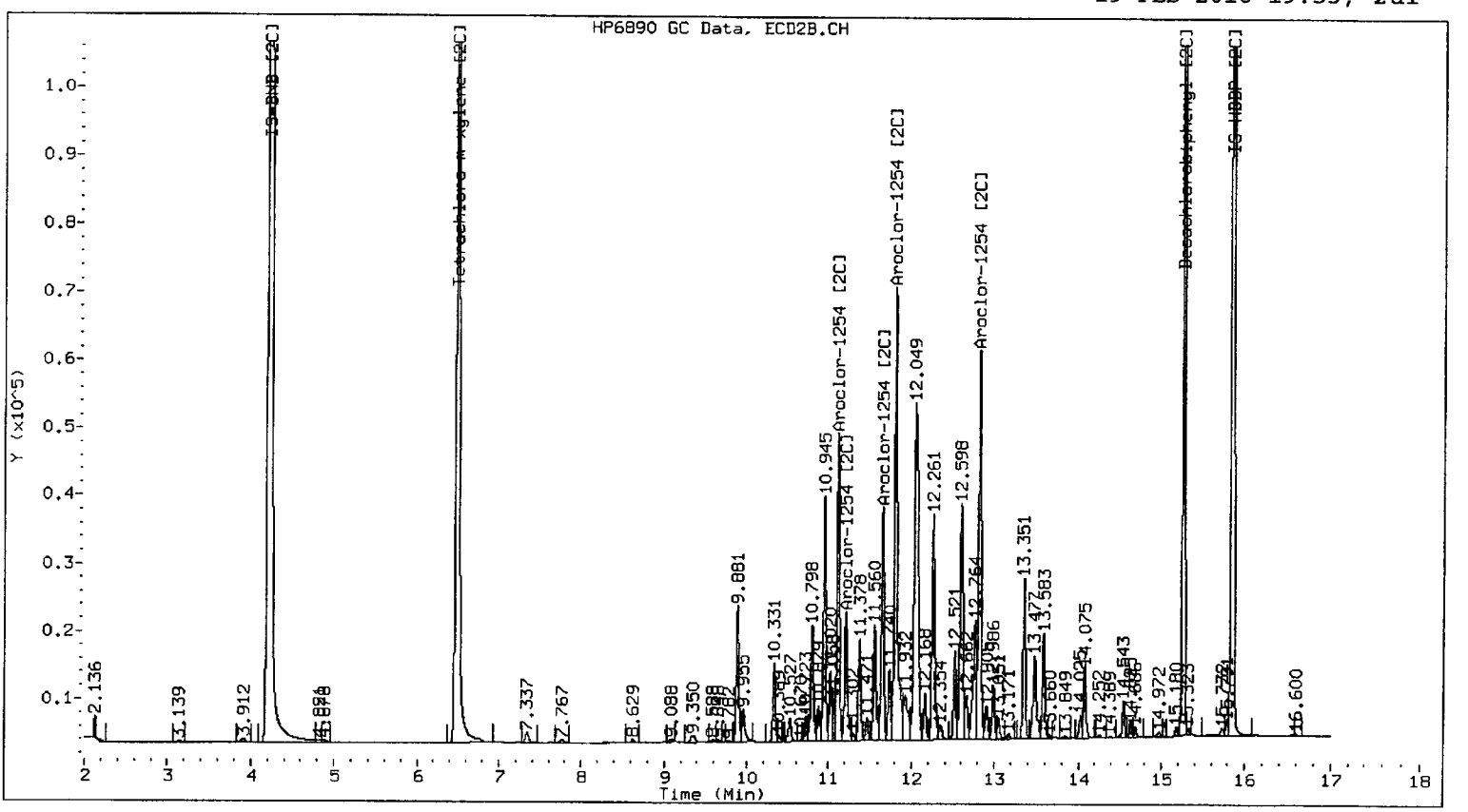
ECD7-ZB35 AR1254 19-FEB-2016 19:53, 2ul



ECD7-ZB5 AR1254 19-FEB-2016 19:53, 2ul



ECD7-ZB35 AR1254 19-FEB-2016 19:53, 2ul



Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191632.D
Data file 2: /20160219b.b/20160219.b/02191632.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162
Client ID:
Injection Date: 19-FEB-2016 20:15
Report Date: 02/23/2016 07:04
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
6.025	-0.000	2361576	6.482	-0.001	7495312	41.3	41.5	0.5	Tetrachloro-m-xyle
14.743	-0.001	7235647	15.260	-0.001	6071578	41.8	38.3	8.9	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

A 02/23/16

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	103.2	103.6
Decachlorobiphenyl	104.5	95.6

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10564168	2.7
Hexabromobiphenyl	12470452	12962486	3.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15598166	-1.3
Hexabromobiphenyl	11807823	12406205	5.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	4.714	0.000	83535	250.0	1	5.585	0.000	363105	250.0
Aroclor-1221	2	6.690	0.000	134278	250.0	2	7.623	0.000	338291	250.0
Aroclor-1221	3	6.815	0.000	401058	250.0	3	7.763	0.000	1070305	250.0
Aroclor-1221	NS	---			----	4	8.643	0.000	354744	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	12.260	0.000	1048643	250.0	1	12.905	0.000	3153820	250.0
Aroclor-1262	2	12.940	0.000	3074656	250.0	2	13.349	0.000	2914740	250.0
Aroclor-1262	3	13.330	0.000	974283	250.0	3	13.581	0.000	5947812	250.0
Aroclor-1262	4	13.430	0.000	1468394	250.0	4	14.075	0.000	3869520	250.0
Aroclor-1262	5	14.055	0.000	1649528	250.0	5	14.625	0.000	1983421	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

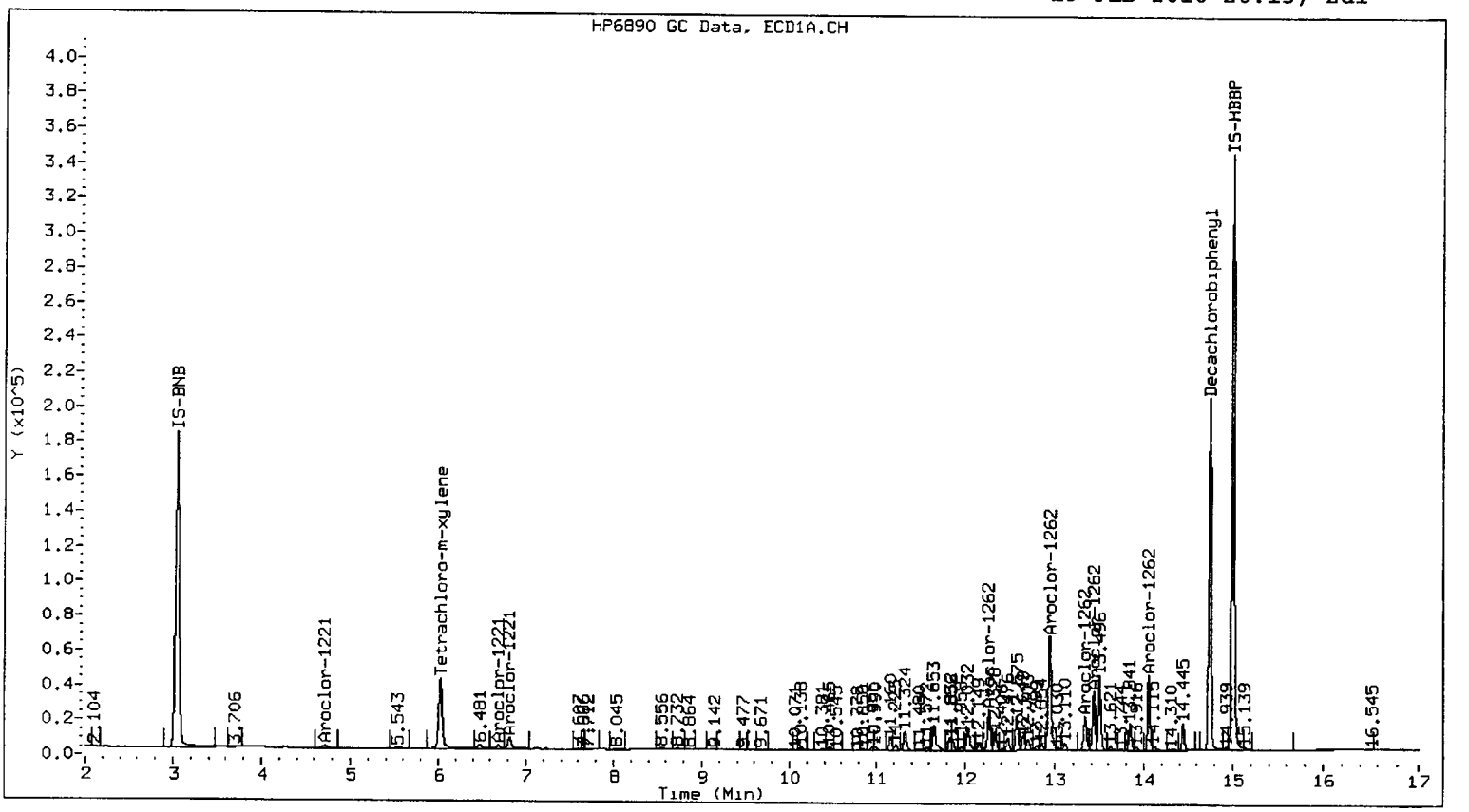
Total PCB Area Col1 (6.125 - 14.643) = 19297372 Col1 Total PCB = 0.4 ppm*

Total PCB Area Col2 (6.125 - 14.643) = 51912208 Col2 Total PCB = 0.4 ppm*

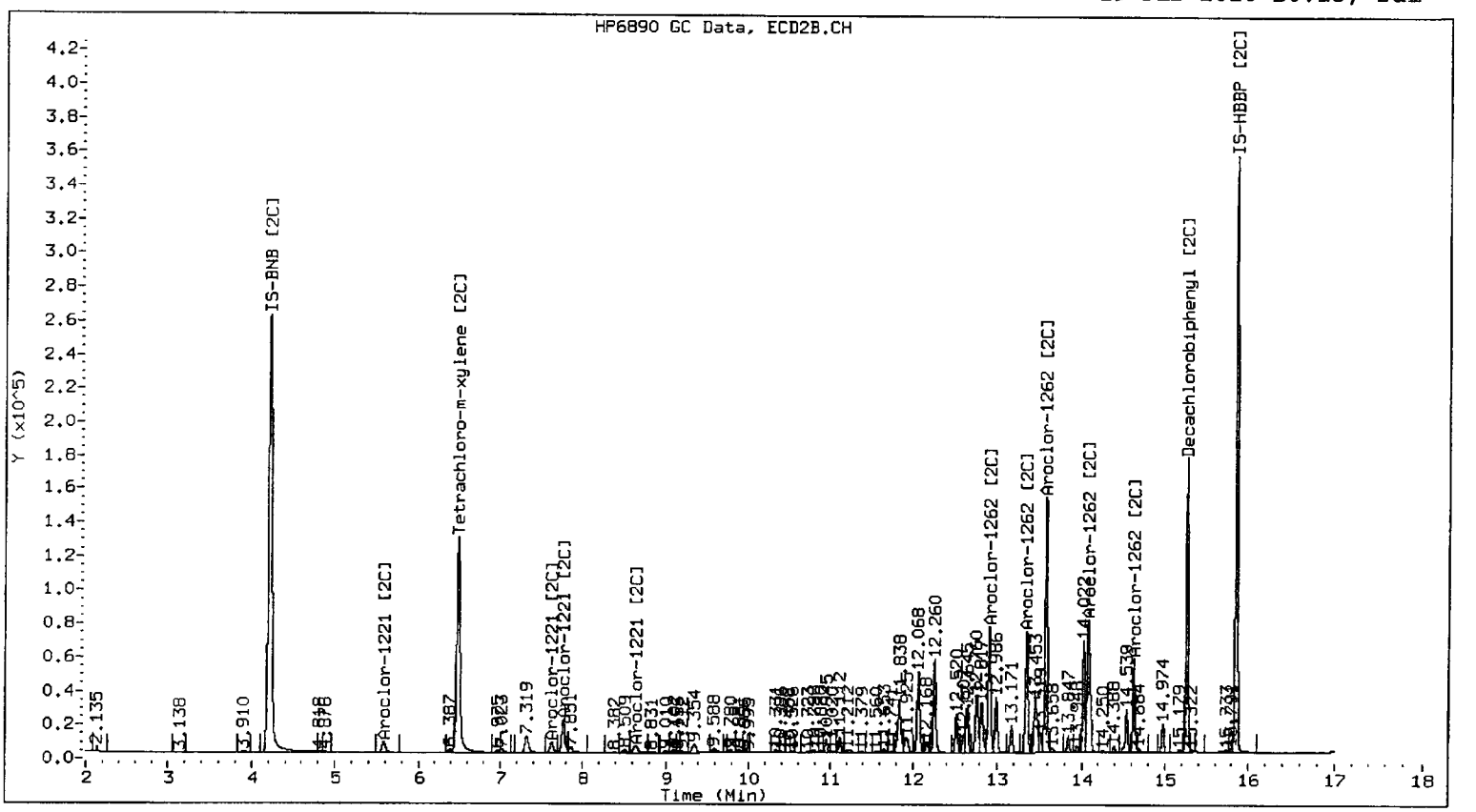
* Quantitated against AR1660 0.25ppm in Ical

8473:00390

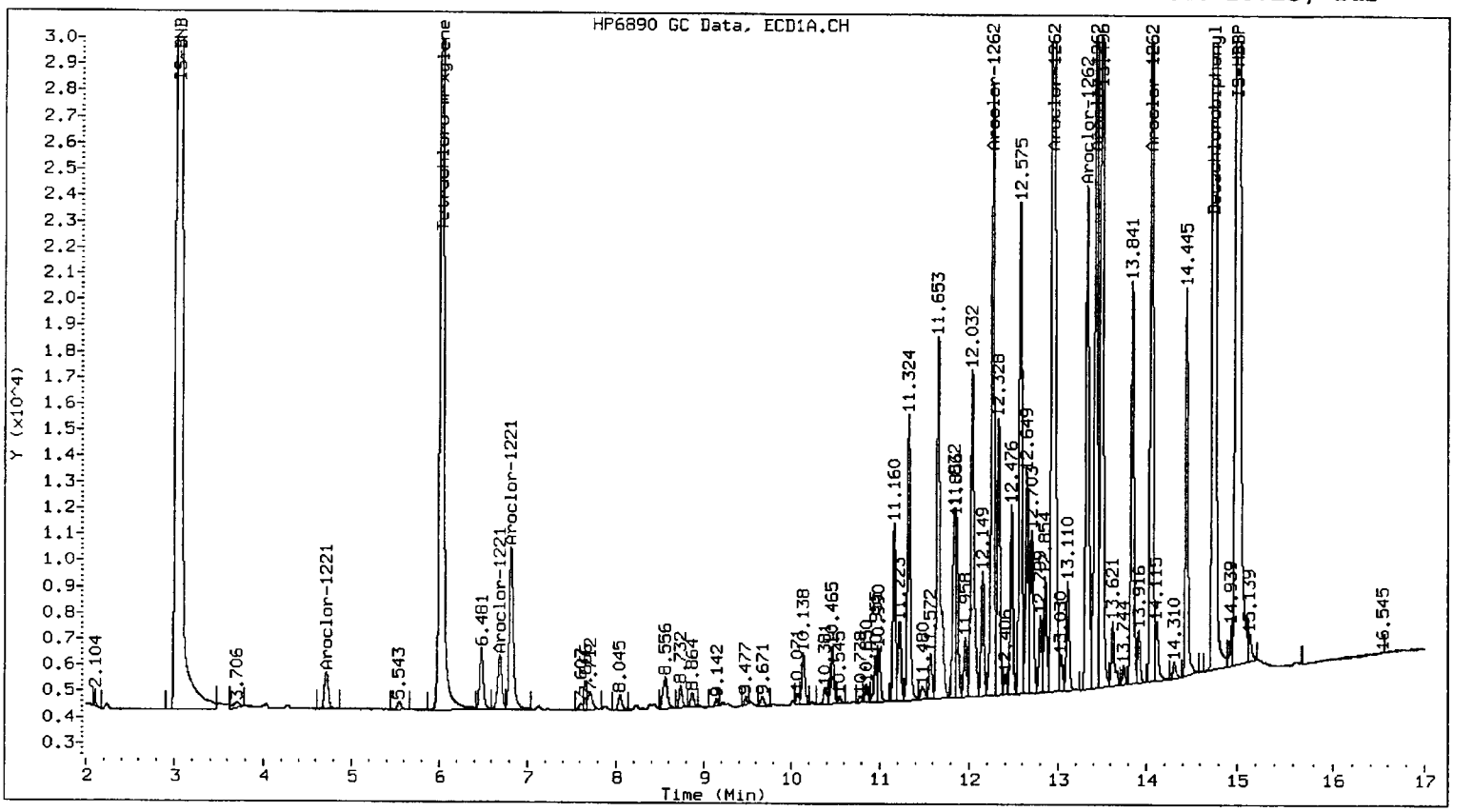
ECD7-ZB5 AR2162 19-FEB-2016 20:15, 2ul



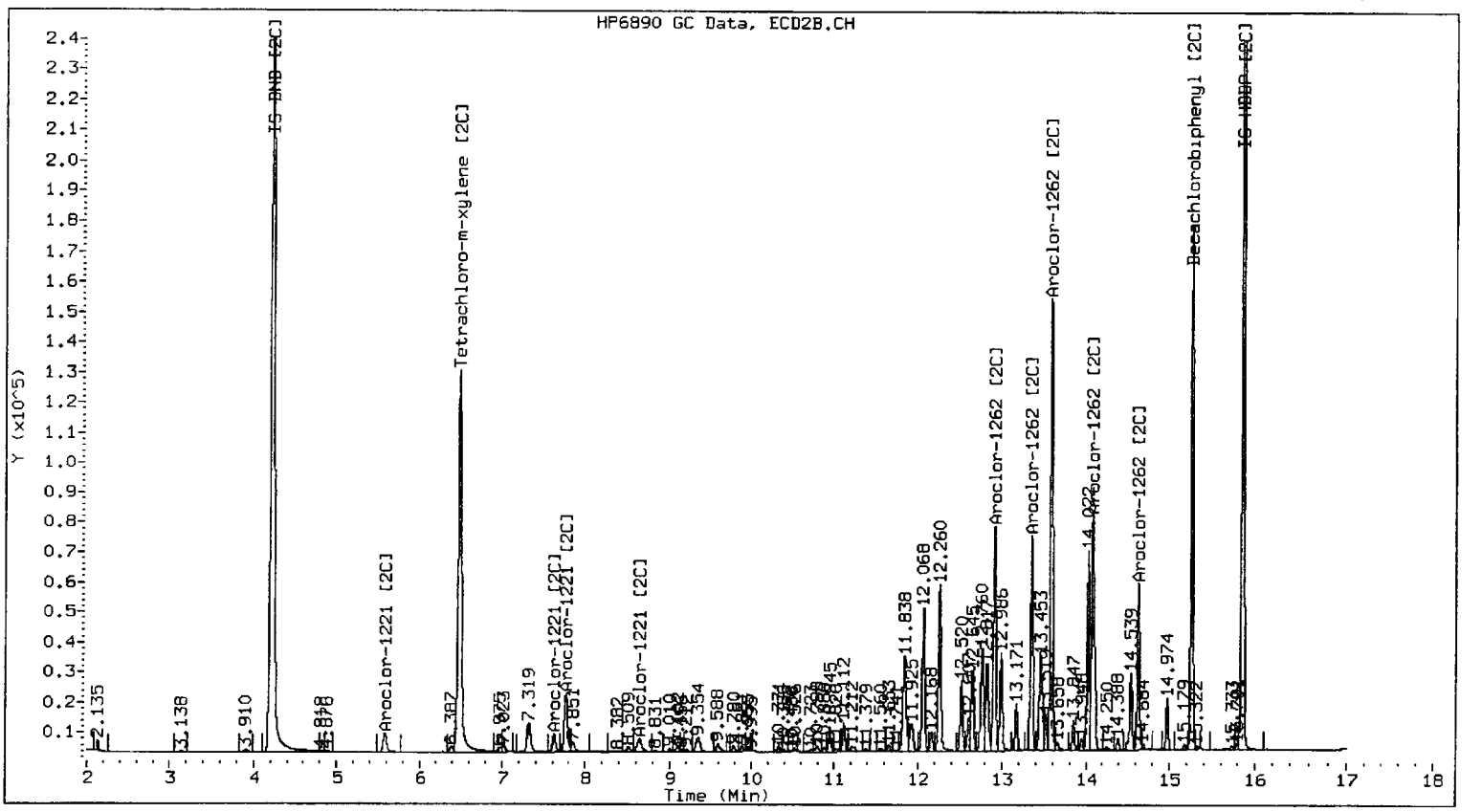
ECD7-ZB35 AR2162 19-FEB-2016 20:15, 2ul



ECD7-ZB5 AR2162 19-FEB-2016 20:15, 2ul



ECD7-ZB35 AR2162 19-FEB-2016 20:15, 2ul



Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191633.D
Data file 2: /20160219b.b/20160219.b/02191633.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268
Client ID:
Injection Date: 19-FEB-2016 20:37
Report Date: 02/23/2016 07:04
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
6.024	-0.001	2317164	6.482	-0.001	7368079	39.9	40.7	2.0	Tetrachloro-m-xyle
14.743	0.000	10263210	15.260	-0.001	8359639	59.5	52.8	12.0	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	99.8	101.8
Decachlorobiphenyl	148.8	131.9

A 02/23/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10714563	4.1
Hexabromobiphenyl	12470452	12920228	3.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15611734	-1.2
Hexabromobiphenyl	11807823	12383383	4.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

//target/share/chem4/ecd7.i/20160219b.b/02191633.D AR3268 page

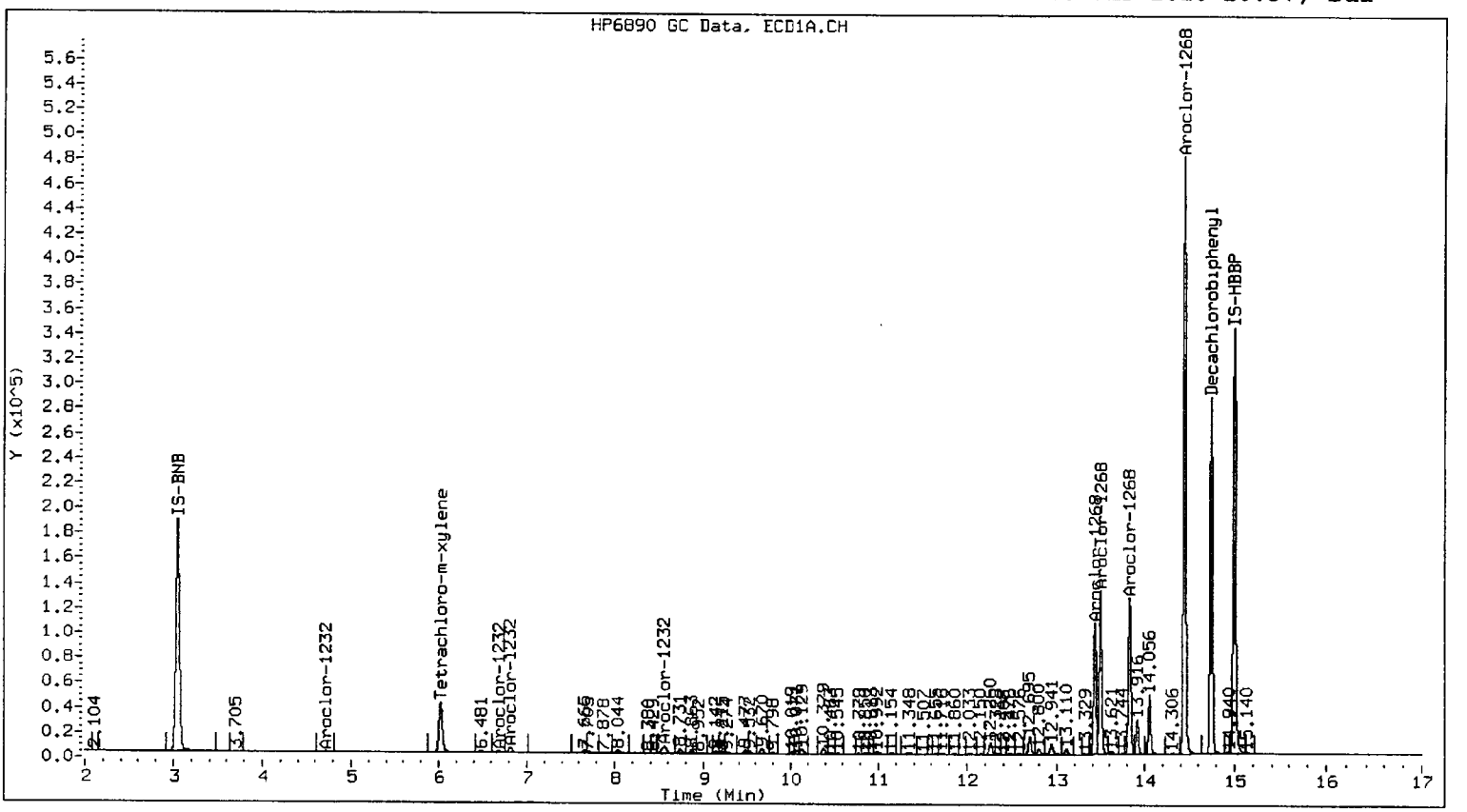
Aroclor	Peak#	RT	ZB5 Col Shift	Area	Amount	Peak#	RT	ZB35 Col Shift	Area	Amount
Aroclor-1232	1	4.715	0.000	48053	250.0	1	5.586	0.000	219240	250.0
Aroclor-1232	2	6.690	0.000	91513	250.0	2	7.623	0.000	206439	250.0
Aroclor-1232	3	6.815	0.000	269723	250.0	3	7.852	0.000	116443	250.0
Aroclor-1232	4	8.554	0.000	440950	250.0	4	8.628	0.000	905083	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	13.431	0.000	4258728	250.0	1	14.021	0.000	6173057	250.0
Aroclor-1268	2	13.495	0.000	5280897	250.0	2	14.076	0.000	5771965	250.0
Aroclor-1268	3	13.827	0.000	4778388	250.0	3	14.388	0.000	4645388	250.0
Aroclor-1268	4	14.446	0.000	17299628	250.0	4	14.973	0.000	13255966	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 (6.125 - 14.643) = 40572946 Col1 Total PCB = 0.9 ppm*

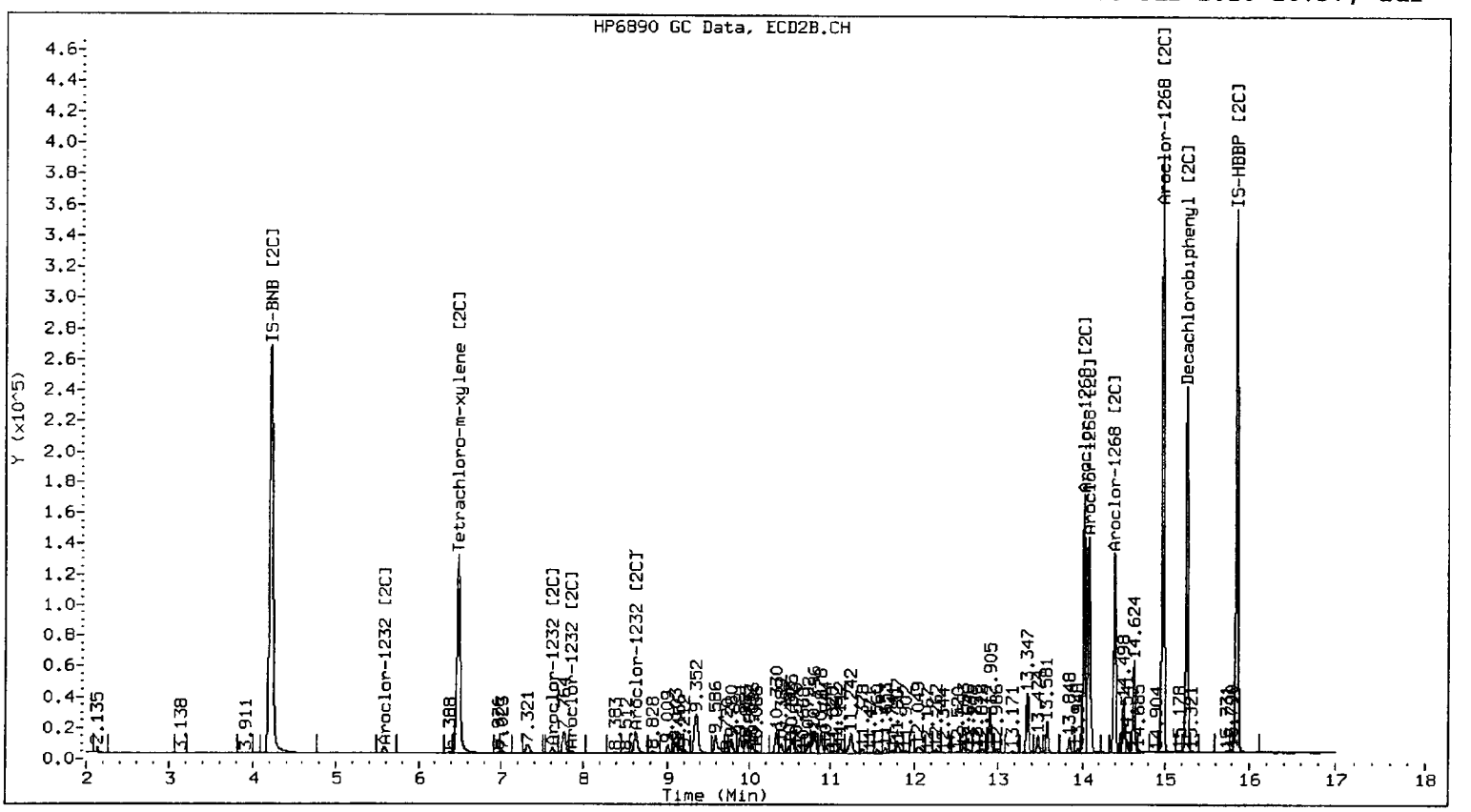
Total PCB Area Col2 (6.125 - 14.643) = 46642978 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

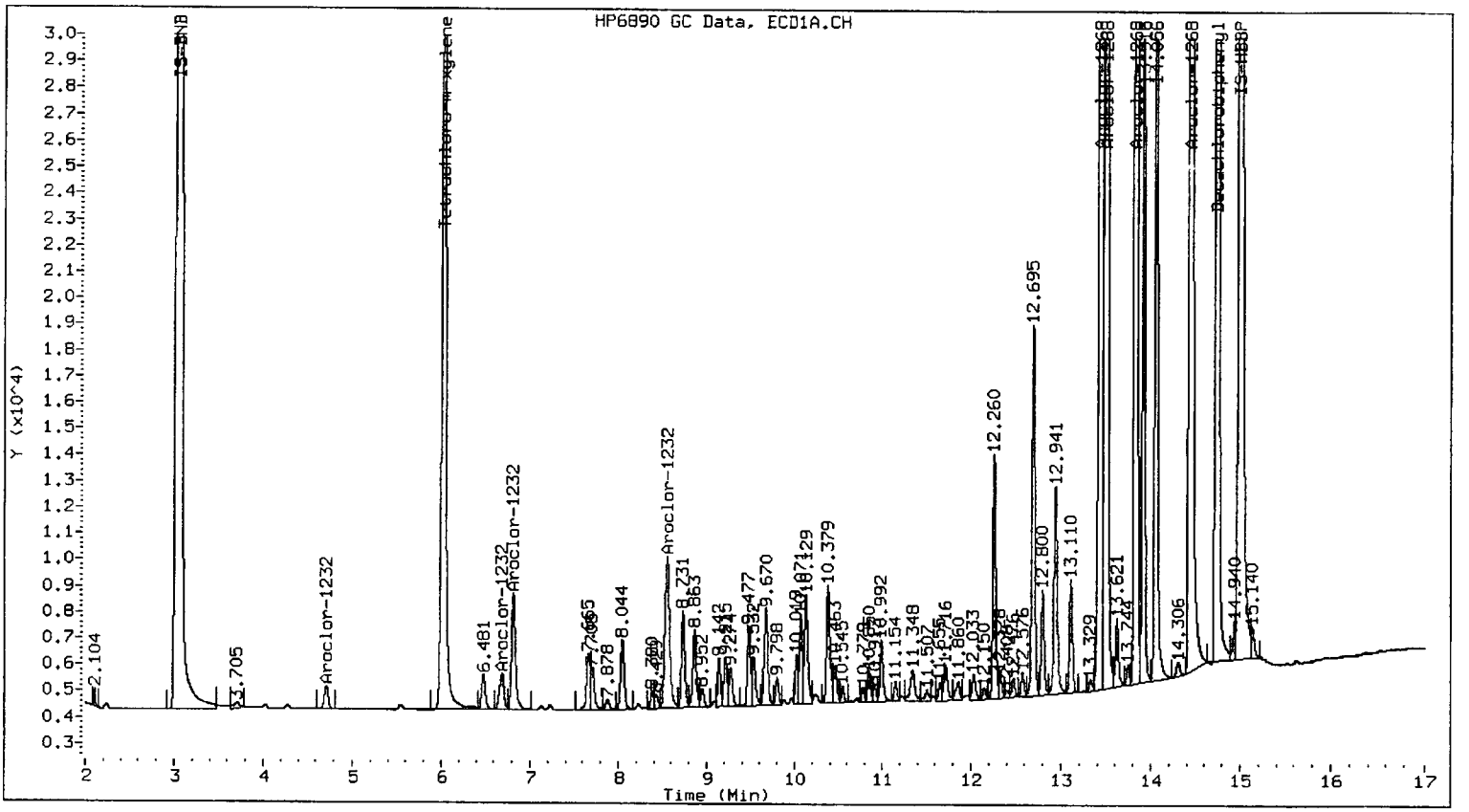
ECD7-ZB5 AR3268 19-FEB-2016 20:37, 2ul



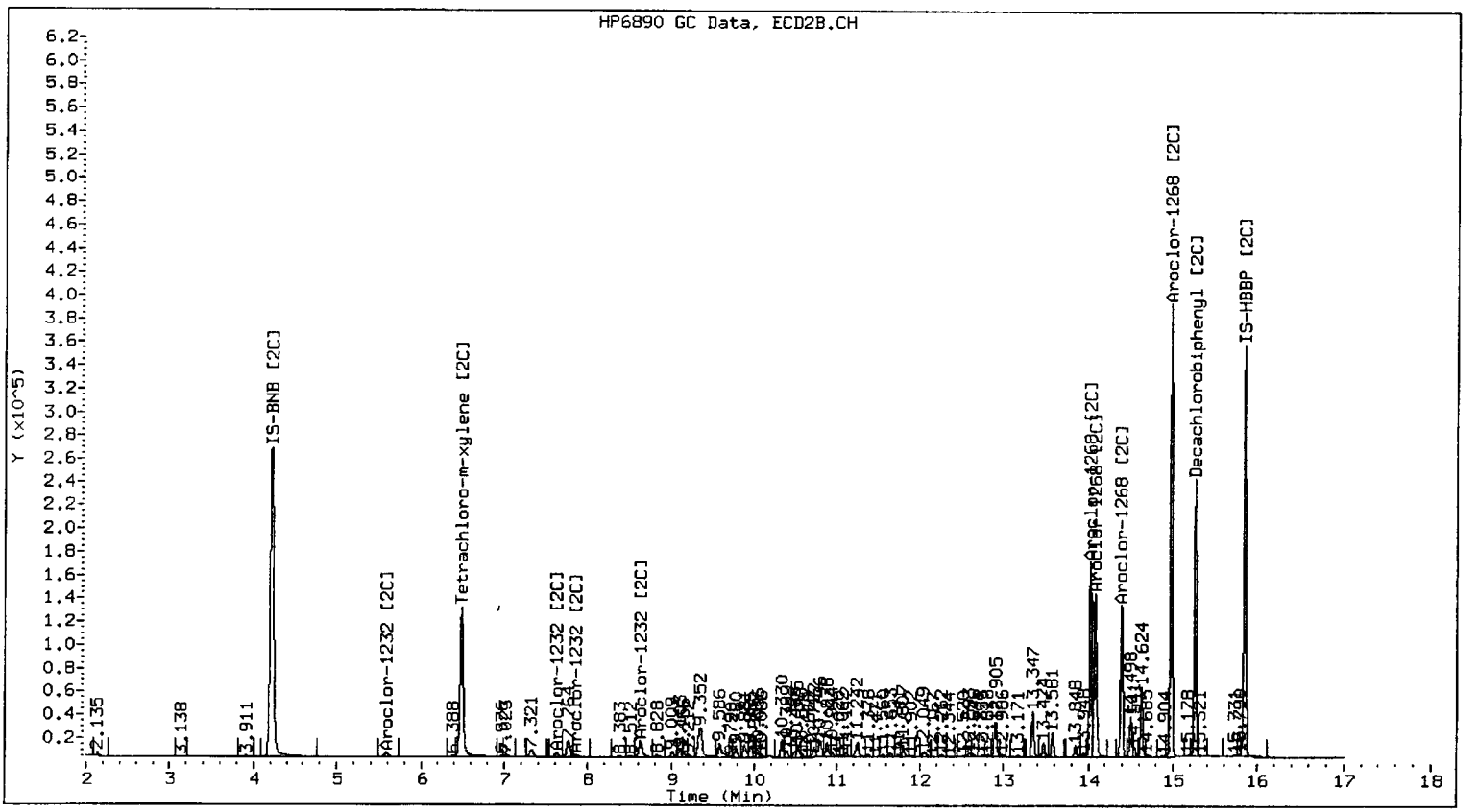
ECD7-ZB35 AR3268 19-FEB-2016 20:37, 2ul



ECD7-ZB5 AR3268 19-FEB-2016 20:37, 2ul



ECD7-ZB35 AR3268 19-FEB-2016 20:37, 2ul



Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191634.D
Data file 2: /20160219b.b/20160219.b/02191634.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660ICV
Client ID:
Injection Date: 19-FEB-2016 20:59
Report Date: 02/23/2016 07:04
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
6.025	0.000	2531596	6.483	0.000	8050926	44.3	43.9	1.0	Tetrachloro-m-xyle
14.743	-0.000	6421455	15.261	0.000	5417571	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	110.8	109.7
Decachlorobiphenyl	91.8	84.5

02/23/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10549054	2.5
Hexabromobiphenyl	12470452	13095374	5.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15836921	0.2
Hexabromobiphenyl	11807823	12530415	6.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.046	-0.002	380066	281.5	1	8.629	-0.001	2178143	276.0
Aroclor-1016	2	8.556	-0.001	1155062	277.4	2	9.353	0.001	4476238	275.5
Aroclor-1016	3	8.864	-0.000	421566	296.6	3	9.586	-0.001	1844419	284.4
Aroclor-1016	4	9.671	-0.000	509784	321.6	4	10.526	0.000	963448	319.9
Total Col1Ave (4 peaks):				294.3		Total Col2Ave (4 peaks):			288.9	RPD = 2
Corrected Ave (3 peaks):				285.2		Corrected Ave (3 peaks):			278.6	RPD = 2
Aroclor-1221	1	---			0.0	1	5.587	0.002	12344	8.4
Aroclor-1221	2	6.691	0.001	94725	176.6	2	7.624	0.001	206113	150.0
Aroclor-1221	3	6.816	0.001	325914	203.4	3	7.765	0.002	952960	219.2
Aroclor-1221	NS	---			----	4	8.629	-0.015	2178143	1511.9
Col1Ave: <3 Quant Peaks						Col2Ave: 472.4				
Aroclor-1232	1	---			0.0	1	5.587	0.001	12344	13.9
Aroclor-1232	2	6.691	0.001	94725	262.8	2	7.624	0.001	206113	246.1
Aroclor-1232	3	6.816	0.001	325914	306.8	3	7.851	-0.001	93866	198.7
Aroclor-1232	4	8.556	0.002	1155062	665.1	4	8.629	0.001	2178143	593.1
Total Col1Ave (3 peaks):				411.6		Total Col2Ave (4 peaks):			262.9	RPD = 44*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			152.9	
Aroclor-1242	1	8.556	0.001	1155062	356.2	1	8.629	0.000	2178143	355.2
Aroclor-1242	2	8.864	0.001	421566	354.1	2	9.353	-0.001	4476238	352.6
Aroclor-1242	3	9.671	0.000	509784	338.7	3	9.781	-0.001	1152009	351.5
Aroclor-1242	4	10.072	0.001	69039	63.5	4	10.878	-0.001	196284	44.5
Total Col1Ave (4 peaks):				278.1		Total Col2Ave (4 peaks):			275.9	RPD = 1
Corrected Ave (3 peaks):				252.1		Corrected Ave (3 peaks):			249.5	RPD = 1
Aroclor-1248	1	8.556	0.004	1155062	607.1	1	9.353	0.005	4476238	590.9
Aroclor-1248	2	9.478	0.001	320853	226.5	2	9.882	0.001	1279216	229.1
Aroclor-1248	3	9.671	0.001	509784	239.7	3	10.765	-0.031	630169	73.9
Aroclor-1248	4	10.072	0.002	69039	39.0	4	11.240	-0.001	64586	7.6
Total Col1Ave (4 peaks):				278.1		Total Col2Ave (4 peaks):			225.4	RPD = 21
Corrected Ave (3 peaks):				168.4		Corrected Ave (3 peaks):			103.5	RPD = 48*
Aroclor-1254	1	10.467	0.002	235327	100.8	1	11.113	0.001	902565	113.4
Aroclor-1254	2	---			0.0	2	11.212	0.001	44782	12.0
Aroclor-1254	3	10.850	0.001	42997	22.5	3	11.654	0.000	131361	22.0
Aroclor-1254	4	10.990	0.000	175562	46.9	4	11.838	0.032	2326628	170.7
Aroclor-1254	5	11.325	-0.021	744415	203.0	5	12.817	0.000	3038351	302.5
Total Col1Ave (4 peaks):				93.3		Total Col2Ave (5 peaks):			124.1	RPD = 28
Corrected Ave (3 peaks):				56.7		Corrected Ave (4 peaks):			79.5	RPD = 33
Aroclor-1260	1	12.260	0.000	908666	285.7	1	12.817	0.001	3038351	263.0
Aroclor-1260	2	12.941	0.000	3397623	280.7	2	13.581	0.000	6468199	288.7
Aroclor-1260	3	13.329	0.001	1591143	306.1	3	14.075	0.000	4200298	283.9
Aroclor-1260	4	13.431	-0.000	898329	278.2	4	14.626	0.001	1581573	278.8
Aroclor-1260	5	13.843	0.001	551127	292.2	NS	---			----
Total Col1Ave (5 peaks):				288.6		Total Col2Ave (4 peaks):			278.6	RPD = 4
Corrected Ave (4 peaks):				284.2		Corrected Ave (3 peaks):			275.2	RPD = 3
Aroclor-1262	1	12.260	0.001	908666	214.4	1	12.905	0.001	2672899	209.8
Aroclor-1262	2	12.941	0.001	3397623	273.5	2	13.349	0.001	3056302	259.5
Aroclor-1262	3	13.329	-0.001	1591143	404.1	3	13.581	0.001	6468199	269.2
Aroclor-1262	4	13.431	0.000	898329	151.4	4	14.075	-0.000	4200298	268.7
Aroclor-1262	5	14.056	0.000	1288871	193.4	5	14.626	0.000	1581573	197.4
Total Col1Ave (5 peaks):				247.4		Total Col2Ave (5 peaks):			240.9	RPD = 3
Corrected Ave (4 peaks):				208.2		Corrected Ave (4 peaks):			233.8	RPD = 12
Aroclor-1268	1	13.431	0.000	898329	52.0	1	14.024	0.003	1839291	73.6
Aroclor-1268	2	13.496	0.002	1216948	56.8	2	14.075	-0.001	4200298	179.8
Aroclor-1268	3	13.843	0.016	551127	28.4	3	14.389	0.001	59991	3.2
Aroclor-1268	4	14.444	-0.002	299100	4.3	4	14.973	-0.000	300298	5.6

Total Col1Ave (4 peaks):	35.4	Total Col2Ave (4 peaks):	65.5	RPD = 60*
Corrected Ave (3 peaks):	28.2	Corrected Ave (3 peaks):	27.5	RPD = 3

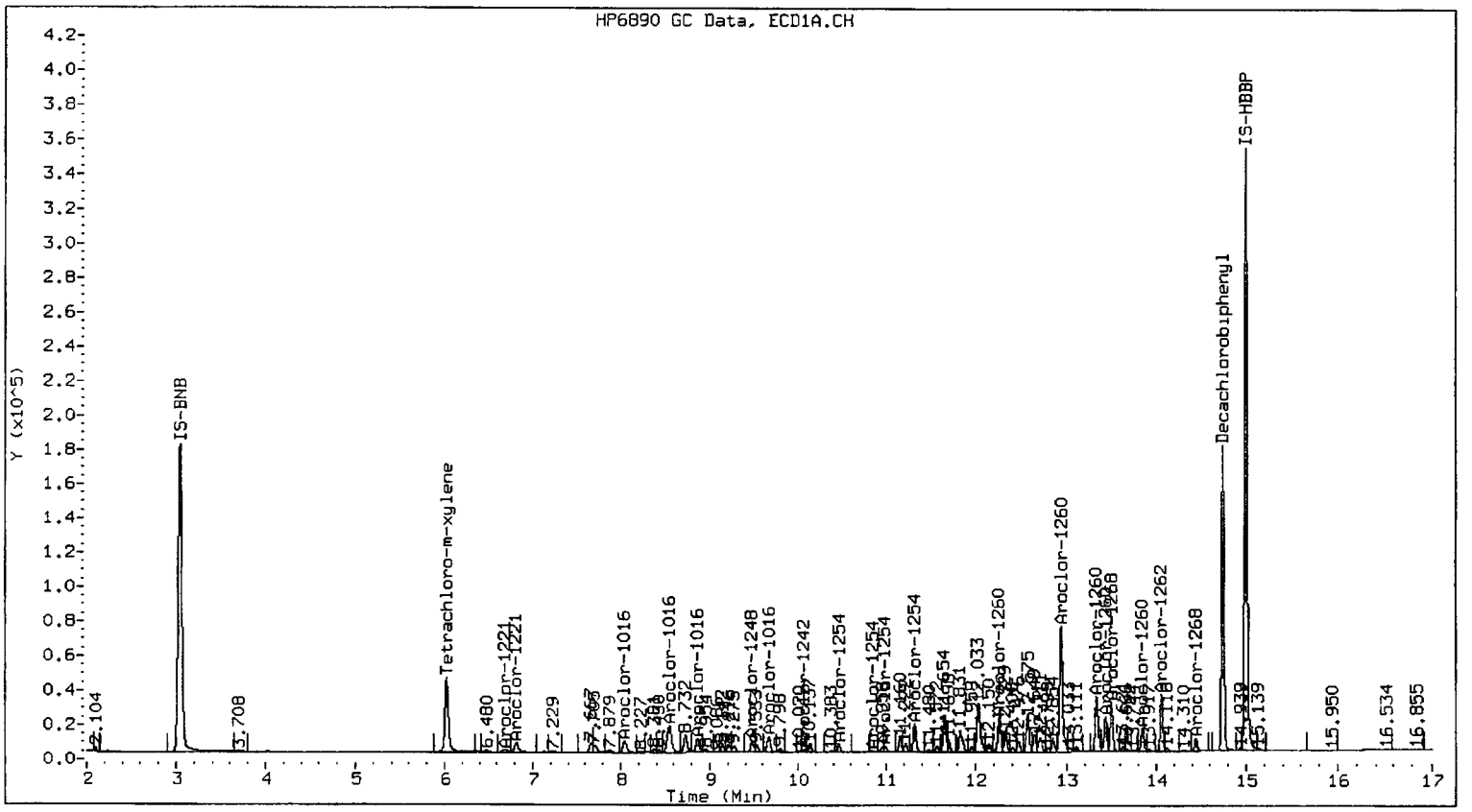
Total PCB Area Col1 (6.125 - 14.643) = 25675615 Col1 Total PCB = 0.6 ppm*

Total PCB Area Col2 (6.125 - 14.643) = 78403934 Col2 Total PCB = 0.6 ppm*

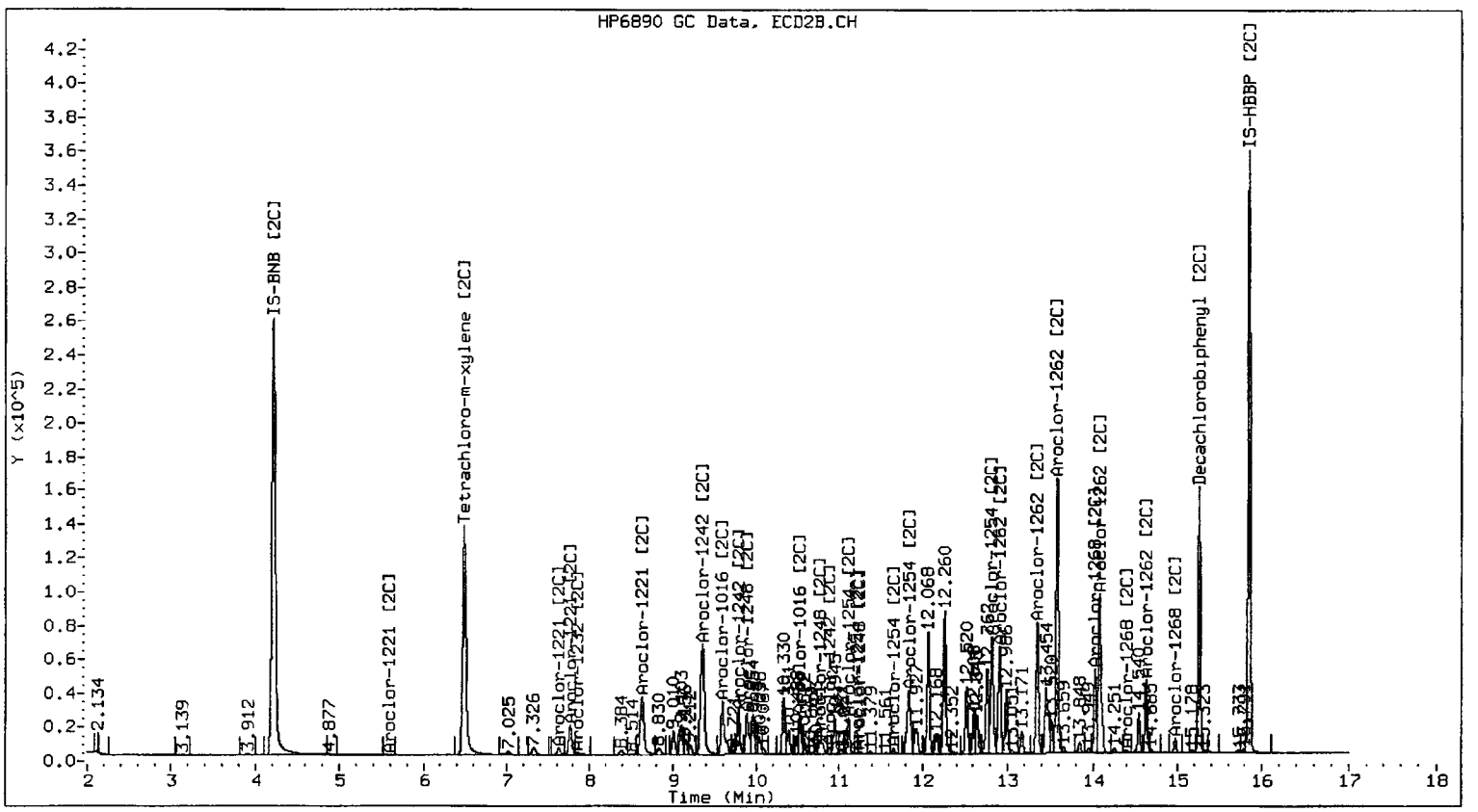
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AR1660ICV 19-FEB-2016 20:59, 2ul



ECD7-ZB35 AR1660ICV 19-FEB-2016 20:59, 2ul



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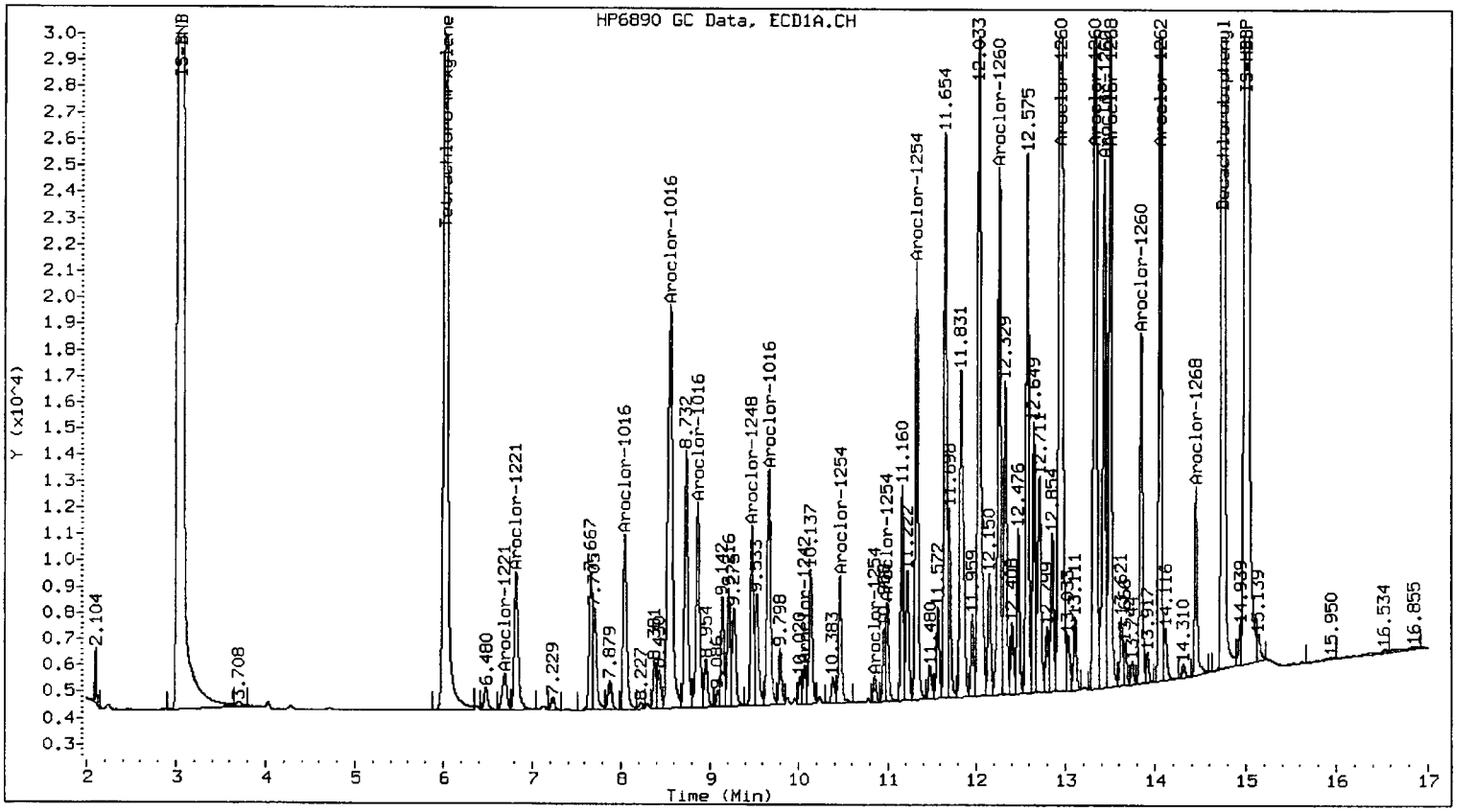

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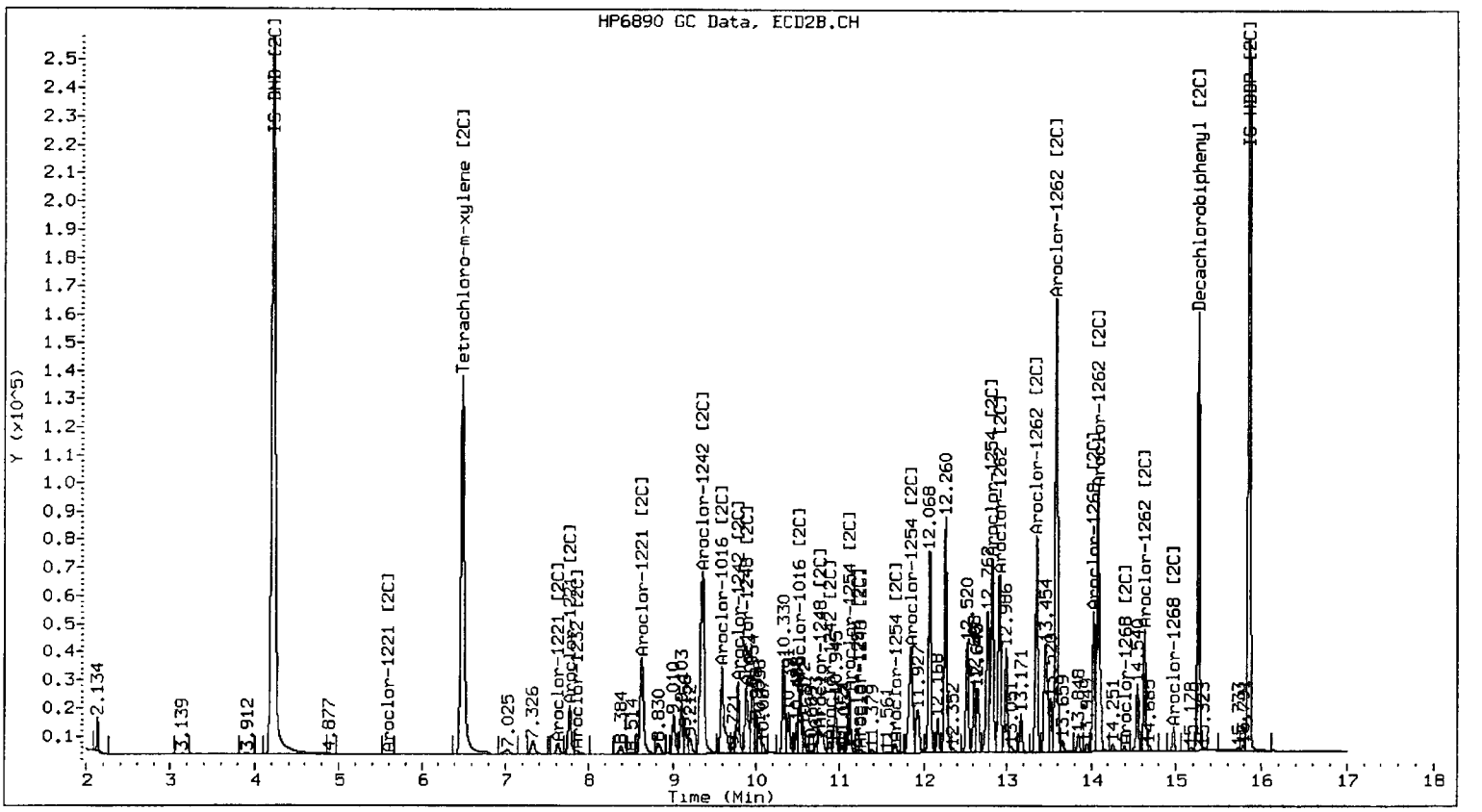


Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191635.D
Data file 2: /20160219b.b/20160219.b/02191635.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242ICV
Client ID:
Injection Date: 19-FEB-2016 21:21
Report Date: 02/23/2016 07:05
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
6.024	-0.000	2459567	6.482	-0.001	7811472	44.2	43.8	0.9	Tetrachloro-m-xyle
14.743	0.000	6250744	15.261	-0.000	5339848	36.9	34.0	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	110.5	109.5
Decachlorobiphenyl	92.2	84.9

A 02/23/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10275020	-0.1
Hexabromobiphenyl	12470452	12703587	1.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15382250	-2.7
Hexabromobiphenyl	11807823	12283948	4.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.045	-0.003	274743	208.9	1	8.627	-0.002	1588058	207.2
Aroclor-1016	2	8.555	-0.003	827918	204.2	2	9.352	-0.000	3224591	204.3
Aroclor-1016	3	8.863	-0.001	300457	217.0	3	9.586	-0.001	1329919	211.1
Aroclor-1016	4	9.670	-0.001	387256	250.8	4	10.526	-0.000	760457	259.9
Total Col1Ave (4 peaks):				220.2		Total Col2Ave (4 peaks):			220.6	RPD = 0
Corrected Ave (3 peaks):				210.0		Corrected Ave (3 peaks):			207.6	RPD = 1
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.687	-0.003	75588	144.7	2	7.623	-0.000	147762	110.7
Aroclor-1221	3	6.814	-0.001	231358	148.3	3	7.764	0.001	684093	162.0
Aroclor-1221	NS	---			----	4	8.627	-0.016	1588058	1134.9
Col1Ave: <3 Quant Peaks						Col2Ave:			469.2	
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.687	-0.003	75588	215.3	2	7.623	0.000	147762	181.6
Aroclor-1232	3	6.814	-0.001	231358	223.6	3	7.849	-0.003	67202	146.4
Aroclor-1232	4	8.555	0.000	827918	489.5	4	8.627	-0.000	1588058	445.2
Total Col1Ave (3 peaks):				309.5		Total Col2Ave (3 peaks):			257.7	RPD = 18
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.555	-0.001	827918	262.1	1	8.627	-0.001	1588058	266.6
Aroclor-1242	2	8.863	-0.000	300457	259.1	2	9.352	-0.002	3224591	261.5
Aroclor-1242	3	9.670	-0.000	387256	264.1	3	9.780	-0.001	823182	258.6
Aroclor-1242	4	10.071	-0.000	268064	253.0	4	10.878	-0.001	1055595	246.2
Total Col1Ave (4 peaks):				259.6		Total Col2Ave (4 peaks):			258.2	RPD = 1
Corrected Ave (3 peaks):				258.1		Corrected Ave (3 peaks):			255.4	RPD = 1
Aroclor-1248	1	8.555	0.002	827918	446.8	1	9.352	0.004	3224591	438.2
Aroclor-1248	2	9.477	-0.000	239670	173.7	2	9.881	0.000	963652	177.7
Aroclor-1248	3	9.670	0.000	387256	187.0	3	10.796	0.001	1335893	161.2
Aroclor-1248	4	10.071	0.001	268064	155.6	4	11.243	0.002	1344792	162.5
Total Col1Ave (4 peaks):				240.8		Total Col2Ave (4 peaks):			234.9	RPD = 2
Corrected Ave (3 peaks):				172.1		Corrected Ave (3 peaks):			167.1	RPD = 3
Aroclor-1254	1	10.462	-0.002	151728	66.7	1	11.112	0.001	392720	50.8
Aroclor-1254	2	10.545	-0.000	64076	84.5	2	11.243	0.032	1344792	371.1
Aroclor-1254	3	10.850	0.001	116522	62.7	3	11.654	0.000	345185	59.5
Aroclor-1254	4	10.991	0.001	211259	57.9	4	11.807	0.001	610624	46.1
Aroclor-1254	5	11.349	0.004	154646	43.3	5	12.818	0.001	219112	22.5
Total Col1Ave (5 peaks):				63.0		Total Col2Ave (5 peaks):			110.0	RPD = 54*
Corrected Ave (4 peaks):				57.6		Corrected Ave (4 peaks):			44.7	RPD = 25
Aroclor-1260	1	---			0.0	1	12.818	0.002	219112	19.3
Aroclor-1260	2	---			0.0	2	13.584	0.003	37744	1.7
Aroclor-1260	3	13.329	0.001	11010	2.2	3	14.075	-0.000	29916	2.1
Aroclor-1260	4	---			0.0	4	14.626	0.001	10533	1.9
Aroclor-1260	5	13.831	-0.011	12344	6.7	NS	---			----
Col1Ave: <3 Quant Peaks						Col2Ave:			6.3	
Aroclor-1262	1	---			0.0	1	12.987	0.082	29957	2.4
Aroclor-1262	2	---			0.0	2	13.352	0.003	80458	7.0
Aroclor-1262	3	13.329	-0.001	11010	2.9	3	13.584	0.003	37744	1.6
Aroclor-1262	4	---			0.0	4	14.075	-0.001	29916	2.0
Aroclor-1262	5	14.055	0.000	21485	3.3	5	14.626	0.000	10533	1.3
Col1Ave: <3 Quant Peaks						Col2Ave:			2.9	
Aroclor-1268	1	---			0.0	1	14.006	-0.015	40311	1.6
Aroclor-1268	2	---			0.0	2	14.075	-0.001	29916	1.3
Aroclor-1268	3	13.831	0.004	12344	0.7	3	14.390	0.001	8237	0.4
Aroclor-1268	4	14.443	-0.003	26705	0.4	4	14.954	-0.019	20331	0.4
Col1Ave: <3 Quant Peaks						Col2Ave:			0.9	

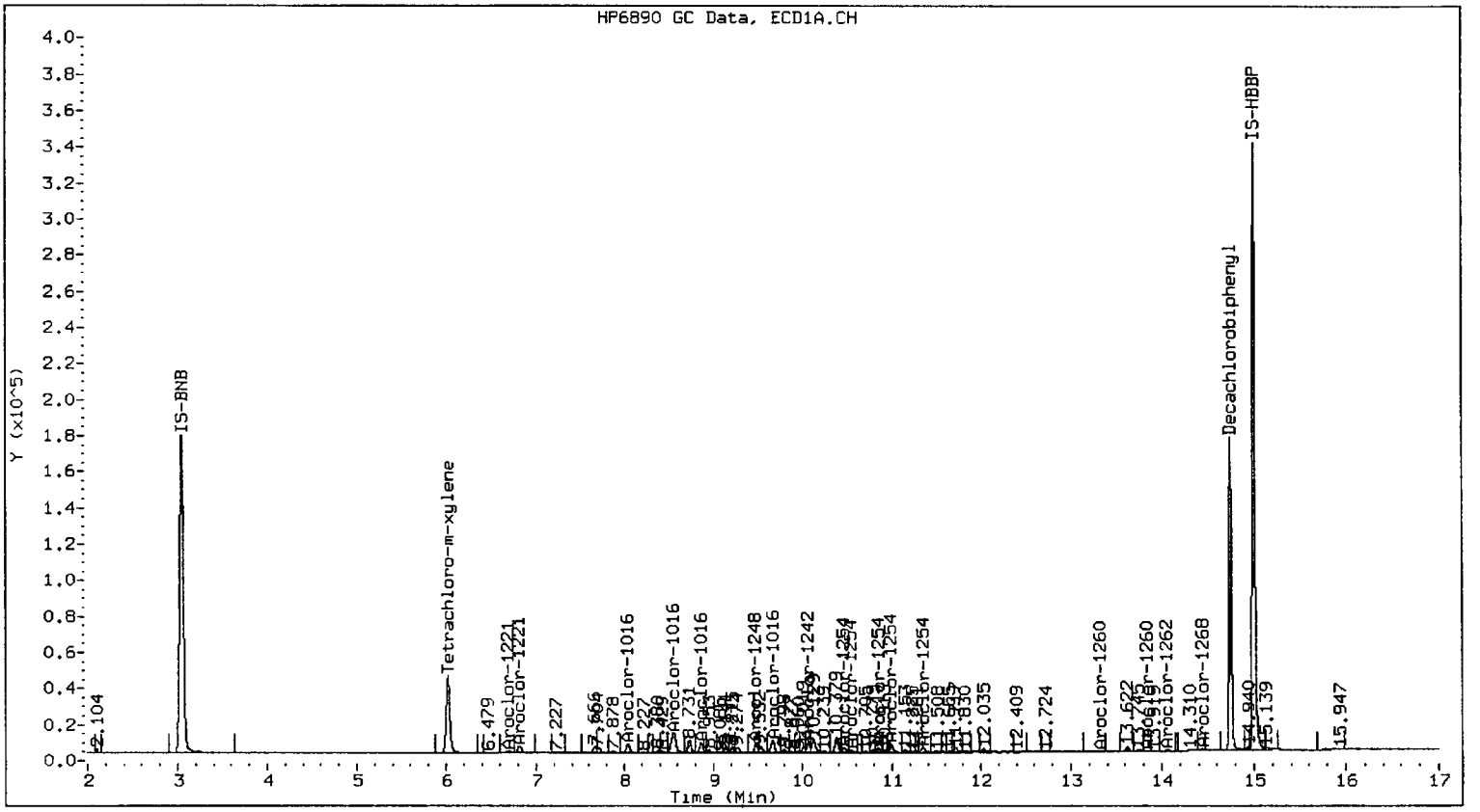
Total PCB Area Col1 (6.125 - 14.643) = 6994538 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.125 - 14.643) = 32682215 Col2 Total PCB = 0.3 ppm*

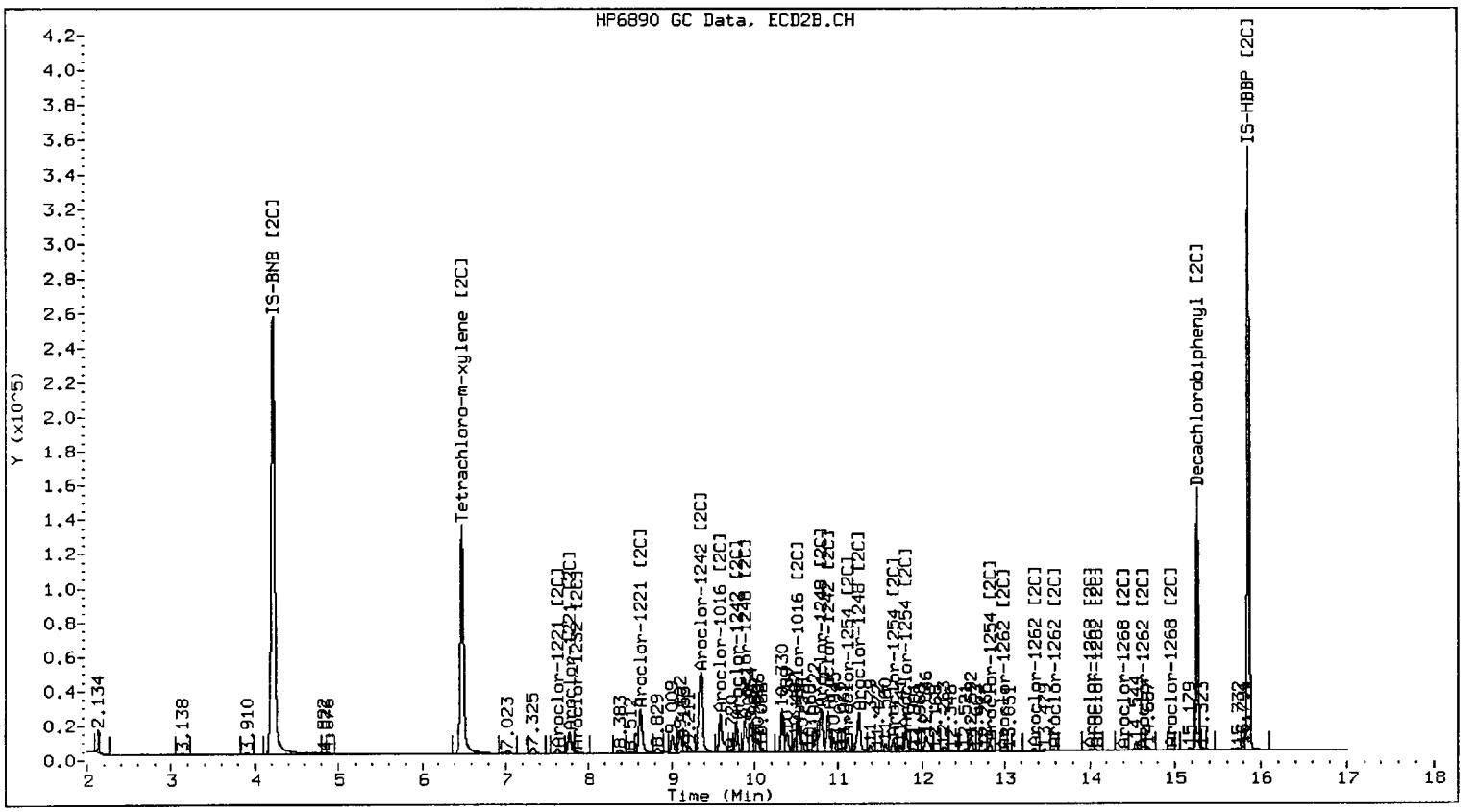
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AR1242ICV 19-FEB-2016 21:21, 2ul



ECD7-ZB35 AR1242ICV 19-FEB-2016 21:21, 2ul



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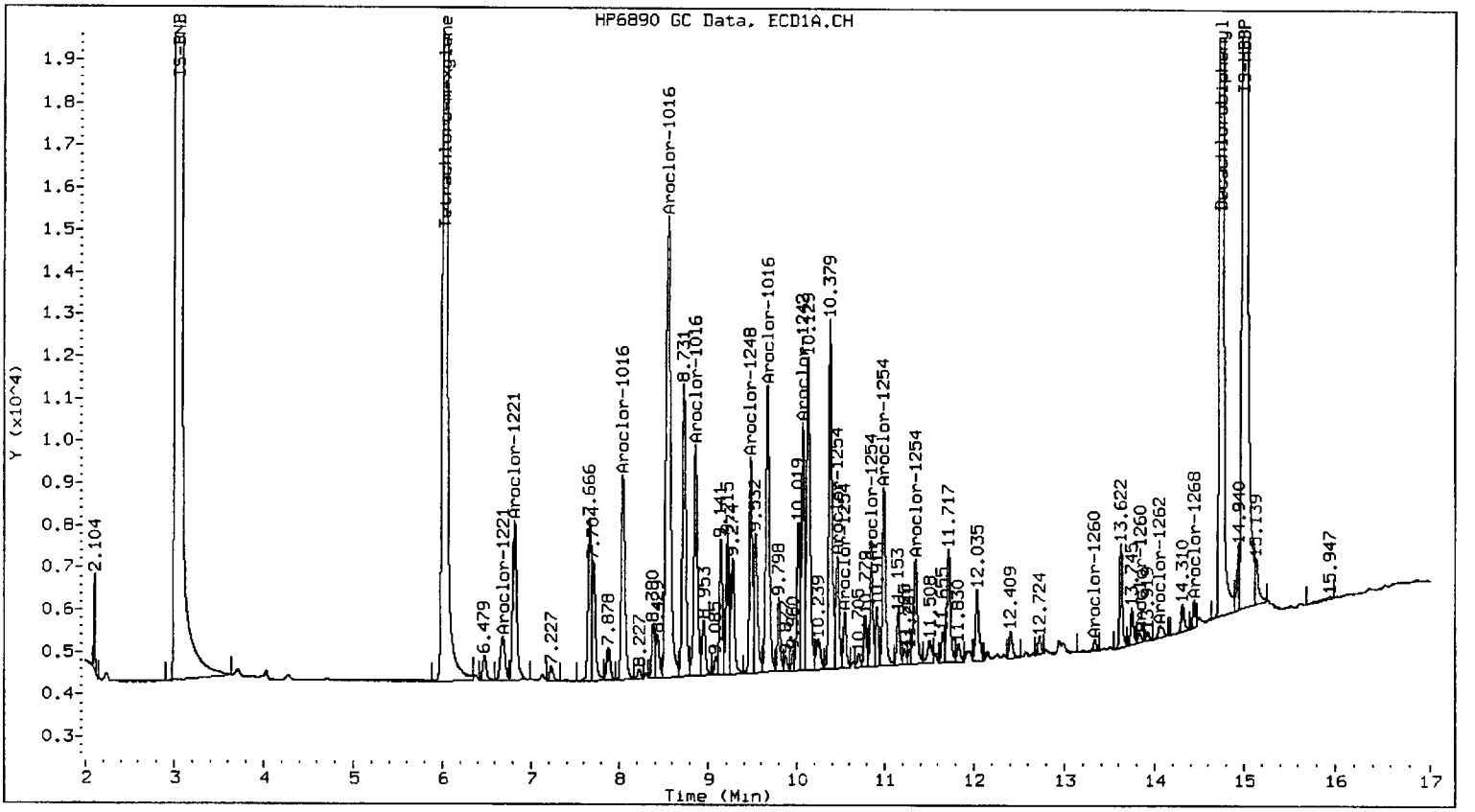

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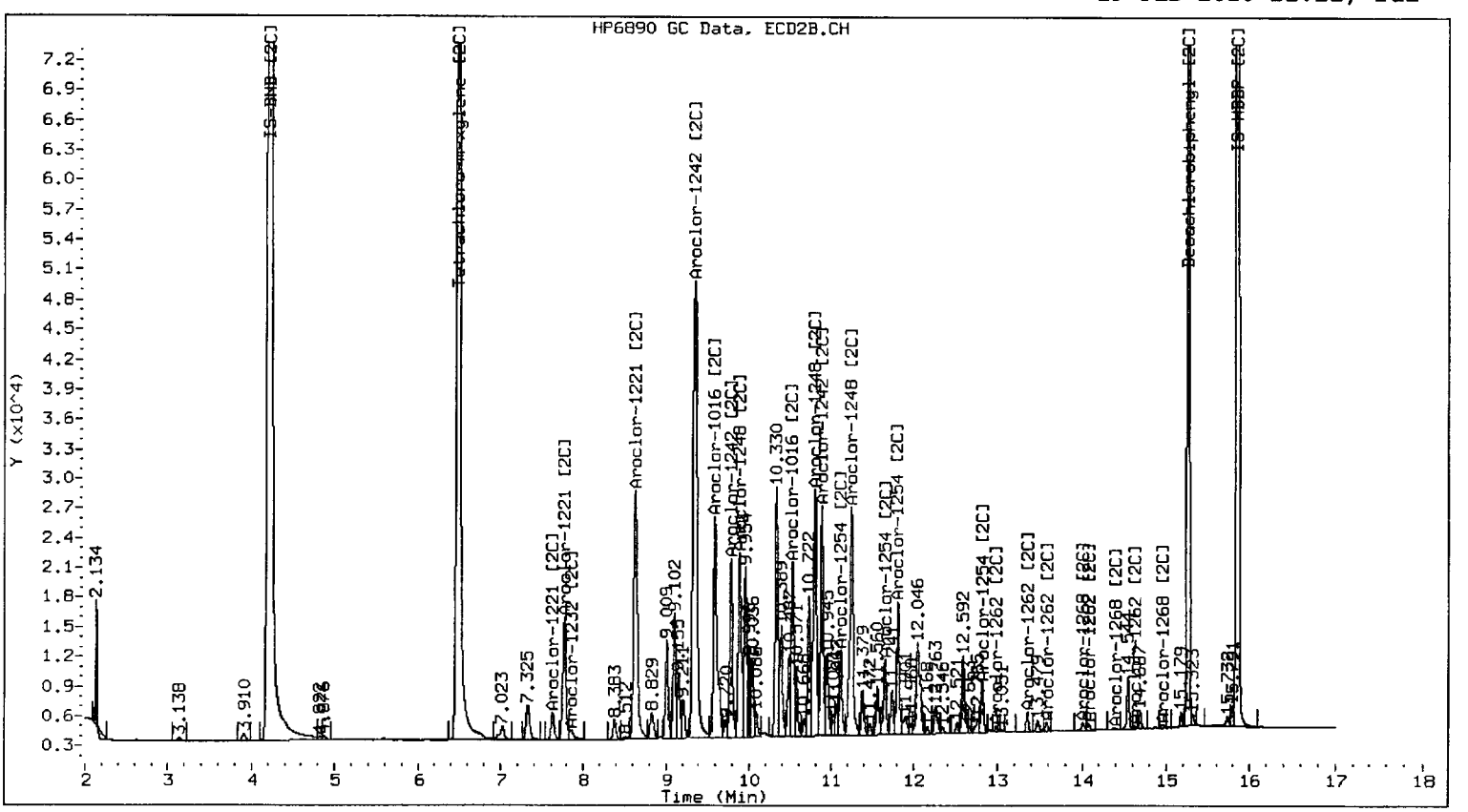


Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191636.D
Data file 2: /20160219b.b/20160219.b/02191636.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248ICV
Client ID:
Injection Date: 19-FEB-2016 21:43
Report Date: 02/23/2016 07:05
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
6.026	0.001	2428847	6.484	0.001	7820516	42.5	43.2	1.5	Tetrachloro-m-xyle
14.744	0.000	6186834	15.260	-0.001	5303571	35.7	33.0	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	106.3	108.0
Decachlorobiphenyl	89.4	82.4

A 02/23/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10543721	2.5
Hexabromobiphenyl	12470452	12966998	4.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15624847	-1.1
Hexabromobiphenyl	11807823	12579889	6.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

//target/share/chem4/ecd7.i/20160219b.b/02191636.D AR1248ICV page

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	8.046	-0.001	138874	102.9	1	8.626	-0.003	850160	109.2
Aroclor-1016	2	8.554	-0.003	557791	134.1	2	9.349	-0.003	2206508	137.7
Aroclor-1016	3	8.864	-0.001	179490	126.3	3	9.586	-0.000	552205	86.3
Aroclor-1016	4	9.670	-0.001	573998	362.3	4	10.526	0.000	1196628	402.7
Total Col1Ave (4 peaks):				181.4		Total Col2Ave (4 peaks):			184.0	RPD = 1
Corrected Ave (3 peaks):				121.1		Corrected Ave (3 peaks):			111.0	RPD = 9
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.669	-0.021	37515	70.0	2	7.625	0.002	26717	19.7
Aroclor-1221	3	6.816	0.001	47613	29.7	3	7.766	0.003	169556	39.5
Aroclor-1221	NS	---			----	4	8.626	-0.017	850160	598.1
Col1Ave: <3 Quant Peaks						Col2Ave: 219.1				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.669	-0.021	37515	104.1	2	7.625	0.002	26717	32.3
Aroclor-1232	3	6.816	0.001	47613	44.8	3	7.766	-0.085	169556	363.7
Aroclor-1232	4	8.554	-0.000	557791	321.4	4	8.626	-0.002	850160	234.6
Total Col1Ave (3 peaks):				156.8		Total Col2Ave (3 peaks):			210.2	RPD = 29
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.554	-0.001	557791	172.1	1	8.626	-0.002	850160	140.5
Aroclor-1242	2	8.864	0.000	179490	150.8	2	9.349	-0.005	2206508	176.2
Aroclor-1242	3	9.670	-0.000	573998	381.5	3	9.781	-0.000	465908	144.1
Aroclor-1242	4	10.071	-0.000	477259	439.0	4	10.878	-0.001	1729515	397.1
Total Col1Ave (4 peaks):				285.9		Total Col2Ave (4 peaks):			214.5	RPD = 29
Corrected Ave (3 peaks):				234.8		Corrected Ave (3 peaks):			153.6	RPD = 42*
Aroclor-1248	1	8.554	0.001	557791	293.3	1	9.349	0.002	2206508	295.2
Aroclor-1248	2	9.478	0.000	392254	277.0	2	9.882	0.001	1531998	278.1
Aroclor-1248	3	9.670	0.000	573998	270.0	3	10.797	0.001	2291483	272.3
Aroclor-1248	4	10.071	0.001	477259	270.0	4	11.242	0.001	2255471	268.3
Total Col1Ave (4 peaks):				277.6		Total Col2Ave (4 peaks):			278.5	RPD = 0
Corrected Ave (3 peaks):				272.4		Corrected Ave (3 peaks):			272.9	RPD = 0
Aroclor-1254	1	10.463	-0.002	290678	124.5	1	11.112	0.000	728283	92.7
Aroclor-1254	2	10.545	-0.000	132903	170.8	2	11.242	0.031	2255471	612.8
Aroclor-1254	3	10.850	0.001	235726	123.5	3	11.653	-0.000	711713	120.7
Aroclor-1254	4	10.991	0.001	399929	106.8	4	11.806	-0.001	1215906	90.4
Aroclor-1254	5	11.349	0.003	277360	75.7	5	12.818	0.001	205058	20.7
Total Col1Ave (5 peaks):				120.3		Total Col2Ave (5 peaks):			187.5	RPD = 44*
Corrected Ave (4 peaks):				107.6		Corrected Ave (4 peaks):			81.1	RPD = 28
Aroclor-1260	1	12.260	0.001	13185	4.2	1	12.818	0.002	205058	17.7
Aroclor-1260	2	12.942	0.001	41250	3.4	2	13.583	0.002	77403	3.4
Aroclor-1260	3	13.330	0.002	14728	2.9	3	14.076	0.001	54018	3.6
Aroclor-1260	4	13.431	0.001	15186	4.7	4	14.626	0.001	30381	5.3
Aroclor-1260	5	13.838	-0.005	19058	10.2	NS	---			----
Total Col1Ave (5 peaks):				5.1		Total Col2Ave (4 peaks):			7.5	RPD = 39
Corrected Ave (4 peaks):				3.8		Corrected Ave (3 peaks):			4.1	RPD = 8
Aroclor-1262	1	12.260	0.001	13185	3.1	1	12.907	0.002	35430	2.8
Aroclor-1262	2	12.942	0.001	41250	3.4	2	13.351	0.003	101490	8.6
Aroclor-1262	3	13.330	0.000	14728	3.8	3	13.583	0.003	77403	3.2
Aroclor-1262	4	13.431	0.001	15186	2.6	4	14.076	0.000	54018	3.4
Aroclor-1262	5	14.056	0.000	28463	4.3	5	14.626	0.001	30381	3.8
Total Col1Ave (5 peaks):				3.4		Total Col2Ave (5 peaks):			4.4	RPD = 24
Corrected Ave (4 peaks):				3.2		Corrected Ave (4 peaks):			3.3	RPD = 3
Aroclor-1268	1	13.431	0.001	15186	0.9	1	14.020	-0.001	53222	2.1
Aroclor-1268	2	13.496	0.002	18303	0.9	2	14.076	-0.000	54018	2.3
Aroclor-1268	3	13.838	0.010	19058	1.0	3	14.389	0.001	8690	0.5
Aroclor-1268	4	14.444	-0.002	34405	0.5	4	14.971	-0.002	25005	0.5

Total Col1Ave (4 peaks):	0.8	Total Col2Ave (4 peaks):	1.3	RPD = 49*
Corrected Ave (3 peaks):	0.7	Corrected Ave (3 peaks):	1.0	RPD = 30

Total PCB Area Col1 (6.125 - 14.643) = 8452706 Col1 Total PCB = 0.2 ppm*

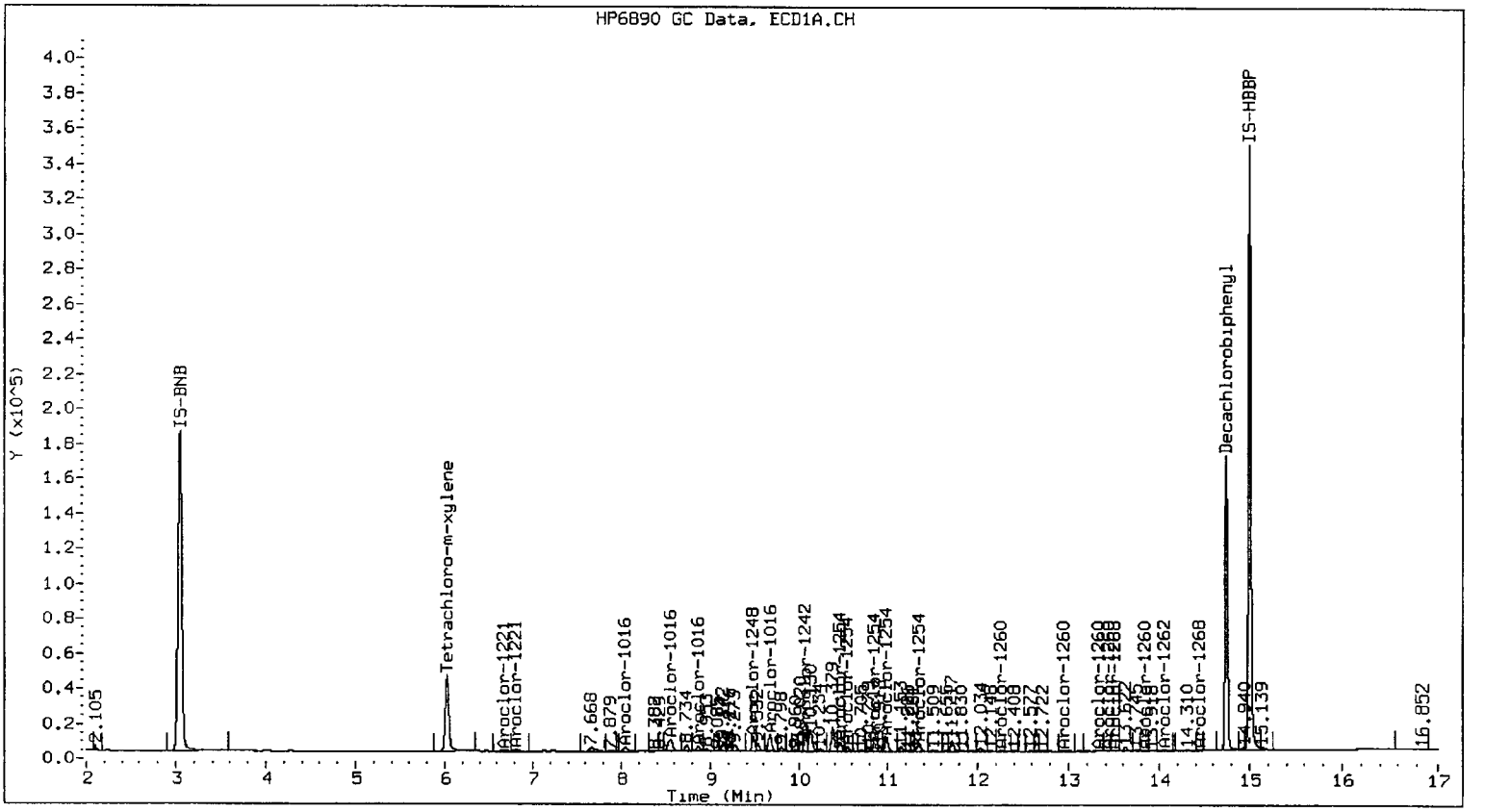
Total PCB Area Col2 (6.125 - 14.643) = 37564394 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

AVZ91.00319

ECD7-ZB5 AR1248ICV 19-FEB-2016 21:43, 2ul



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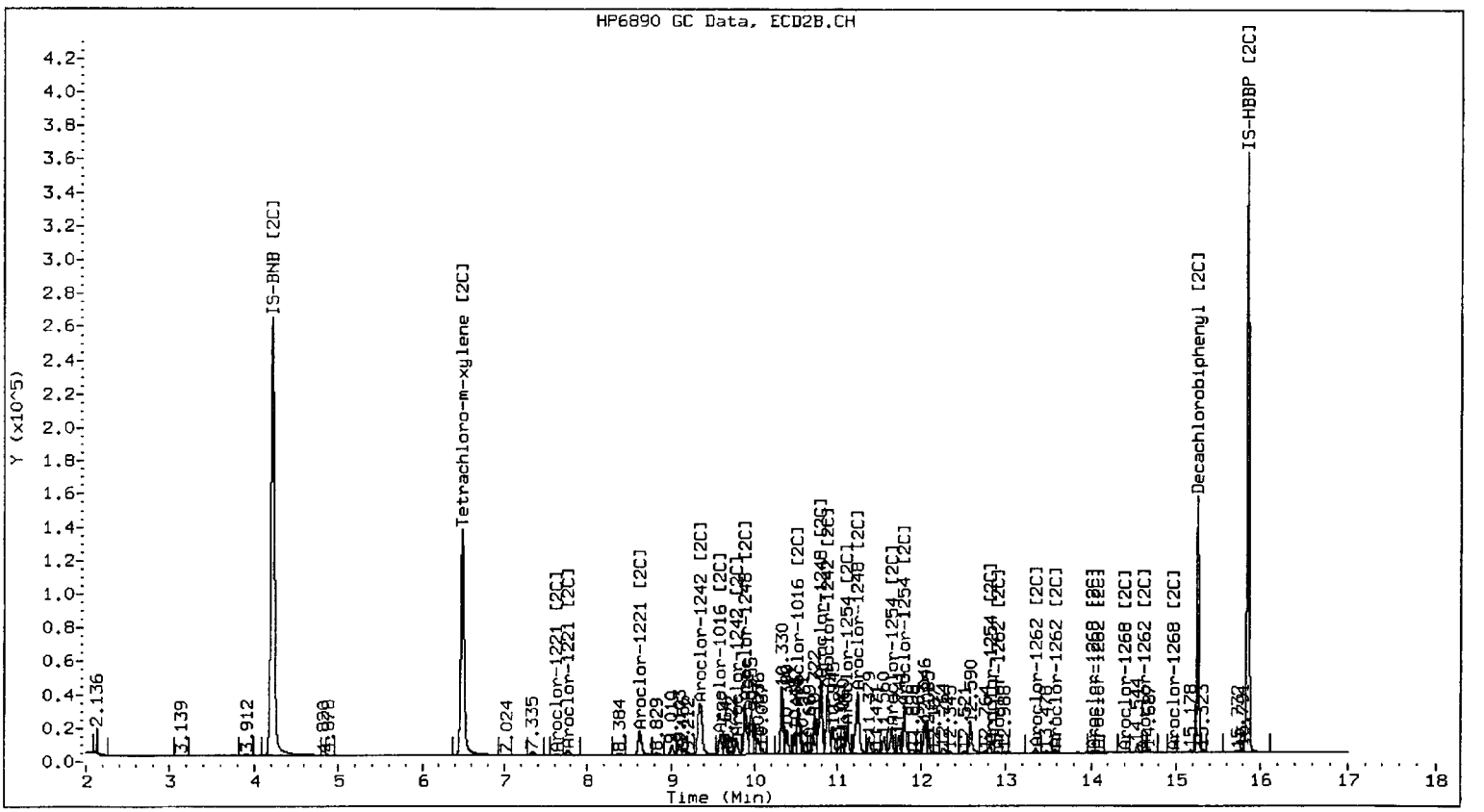

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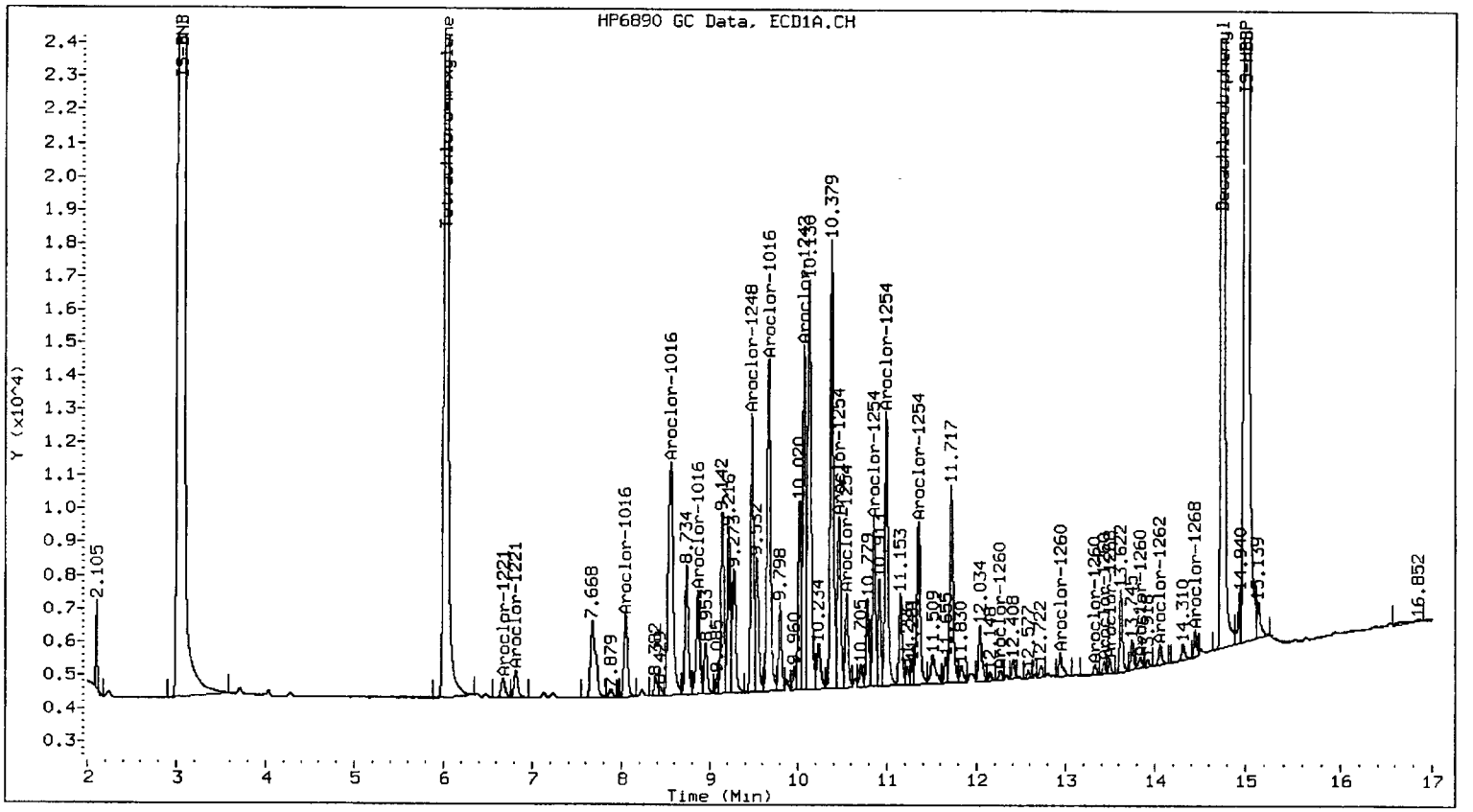

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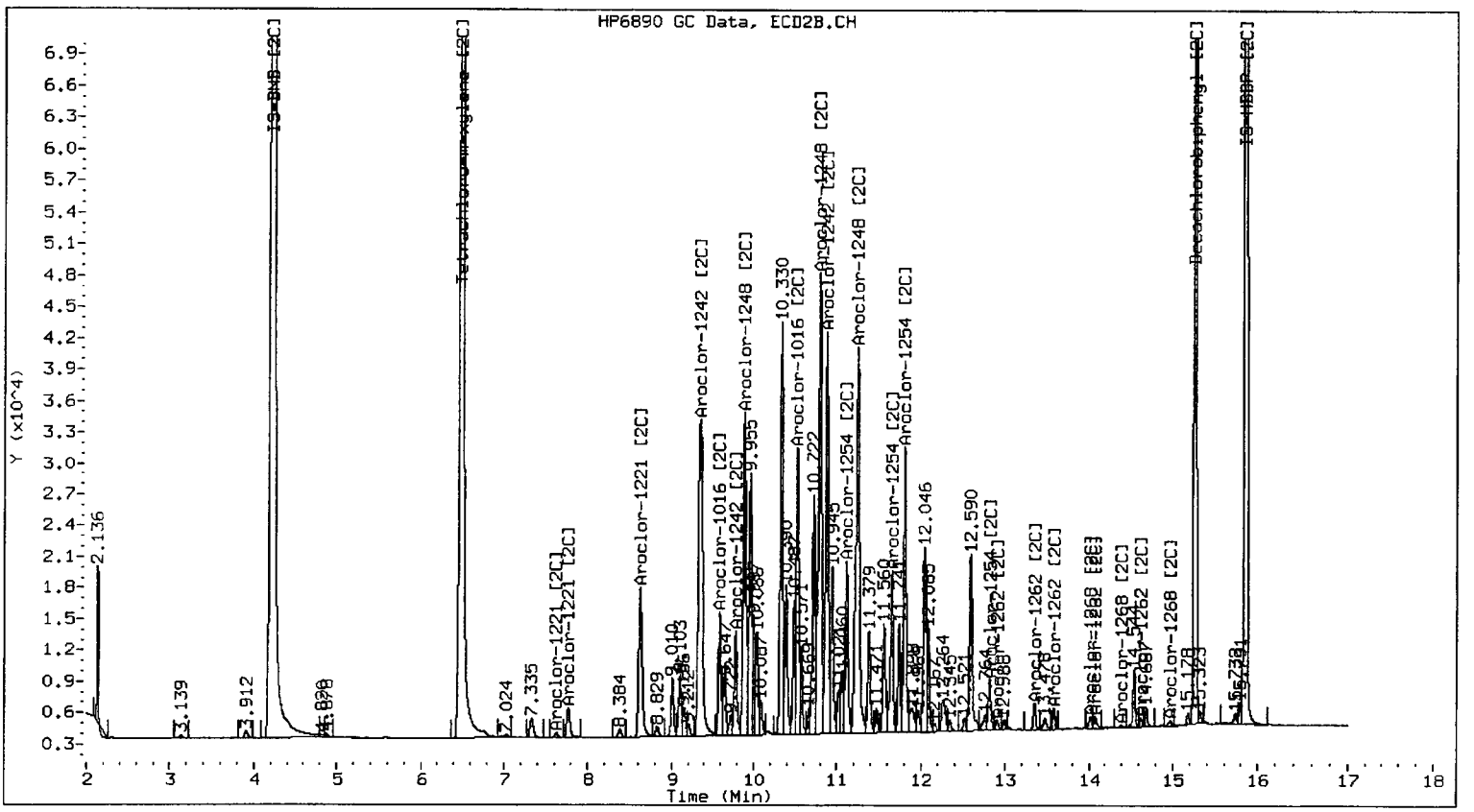


Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191637.D
Data file 2: /20160219b.b/20160219.b/02191637.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254ICV
Client ID:
Injection Date: 19-FEB-2016 22:05
Report Date: 02/23/2016 07:05
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
6.024	-0.001	2204246	6.483	-0.000	7141115	38.3	39.0	2.0	Tetrachloro-m-xyle
14.743	-0.000	5660549	15.260	-0.000	4890307	32.4	30.2	7.3	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	95.6	97.6
Decachlorobiphenyl	81.1	75.4

A 02/23/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10636230	3.4
Hexabromobiphenyl	12470452	13075443	4.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15787121	-0.1
Hexabromobiphenyl	11807823	12674307	7.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

//target/share/chem4/ecd7.i/20160219b.b/02191637.D AR1254ICV page

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	8.627	-0.002	22089	2.8
Aroclor-1016	2	8.548	-0.009	16151	3.8	2	9.343	-0.009	62146	3.8
Aroclor-1016	3	---			0.0	3	9.588	0.001	11329	1.8
Aroclor-1016	4	9.671	-0.000	76608	47.9	4	10.526	0.000	258779	86.2
	Col1Ave: <3 Quant Peaks					Col2Ave:		23.6		
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	7.765	0.002	21467	5.0
Aroclor-1221	NS	---			----	4	8.627	-0.016	22089	15.4
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.665	-0.025	27308	75.2	2	---			0.0
Aroclor-1232	3	---			0.0	3	7.765	-0.087	21467	45.6
Aroclor-1232	4	8.548	-0.006	16151	9.2	4	8.627	-0.001	22089	6.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	8.548	-0.007	16151	4.9	1	8.627	-0.001	22089	3.6
Aroclor-1242	2	---			0.0	2	9.343	-0.010	62146	4.9
Aroclor-1242	3	9.671	0.000	76608	50.5	3	9.782	0.000	8196	2.5
Aroclor-1242	4	10.072	0.000	217135	198.0	4	10.878	-0.001	296674	67.4
	Total Col1Ave (3 peaks):			84.5		Total Col2Ave (4 peaks):			19.6	RPD = 125*
	Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):			3.7	
Aroclor-1248	1	8.548	-0.004	16151	8.4	1	9.343	-0.004	62146	8.2
Aroclor-1248	2	9.477	-0.000	147703	103.4	2	9.881	-0.000	939017	168.7
Aroclor-1248	3	9.671	0.001	76608	35.7	3	10.797	0.002	901145	106.0
Aroclor-1248	4	10.072	0.001	217135	121.8	4	11.211	-0.031	1140502	134.3
	Total Col1Ave (4 peaks):			67.3		Total Col2Ave (4 peaks):			104.3	RPD = 43*
	Corrected Ave (3 peaks):			49.2		Corrected Ave (3 peaks):			82.8	RPD = 51*
Aroclor-1254	1	10.464	-0.001	652954	277.3	1	11.112	0.000	2177941	274.4
Aroclor-1254	2	10.545	-0.001	239562	305.2	2	11.211	-0.000	1140502	306.7
Aroclor-1254	3	10.850	0.001	550258	285.9	3	11.653	-0.001	1663428	279.2
Aroclor-1254	4	10.990	0.000	1032676	273.4	4	11.807	0.000	3681572	270.9
Aroclor-1254	5	11.346	0.001	981043	265.3	5	12.817	-0.000	2750768	274.7
	Total Col1Ave (5 peaks):			281.4		Total Col2Ave (5 peaks):			281.2	RPD = 0
	Corrected Ave (4 peaks):			275.5		Corrected Ave (4 peaks):			274.8	RPD = 0
Aroclor-1260	1	12.258	-0.002	60773	19.1	1	12.817	0.001	2750768	235.4
Aroclor-1260	2	12.942	0.001	192845	16.0	2	13.583	0.002	523077	23.1
Aroclor-1260	3	13.328	0.001	182687	35.2	3	14.074	-0.001	358002	23.9
Aroclor-1260	4	13.498	0.067	12224	3.8	4	14.626	0.001	24594	4.3
Aroclor-1260	5	13.839	-0.003	17702	9.4	NS	---			----
	Total Col1Ave (5 peaks):			16.7		Total Col2Ave (4 peaks):			71.7	RPD = 124*
	Corrected Ave (4 peaks):			12.1		Corrected Ave (3 peaks):			17.1	RPD = 34
Aroclor-1262	1	12.258	-0.002	60773	14.4	1	12.905	0.000	156791	12.2
Aroclor-1262	2	12.942	0.002	192845	15.5	2	13.352	0.003	988120	83.0
Aroclor-1262	3	13.328	-0.001	182687	46.5	3	13.583	0.003	523077	21.5
Aroclor-1262	4	13.498	0.068	12224	2.1	4	14.074	-0.001	358002	22.6
Aroclor-1262	5	14.054	-0.001	26461	4.0	5	14.626	0.001	24594	3.0
	Total Col1Ave (5 peaks):			16.5		Total Col2Ave (5 peaks):			28.5	RPD = 53*
	Corrected Ave (4 peaks):			9.0		Corrected Ave (4 peaks):			14.8	RPD = 49*
Aroclor-1268	1	13.498	0.067	12224	0.7	1	14.026	0.005	109703	4.3
Aroclor-1268	2	---			0.0	2	14.074	-0.001	358002	15.2
Aroclor-1268	3	13.839	0.012	17702	0.9	3	---			0.0
Aroclor-1268	4	14.443	-0.003	27194	0.4	4	14.952	-0.021	20937	0.4
	Total Col1Ave (3 peaks):			0.7		Total Col2Ave (3 peaks):			6.6	RPD = 163*
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				

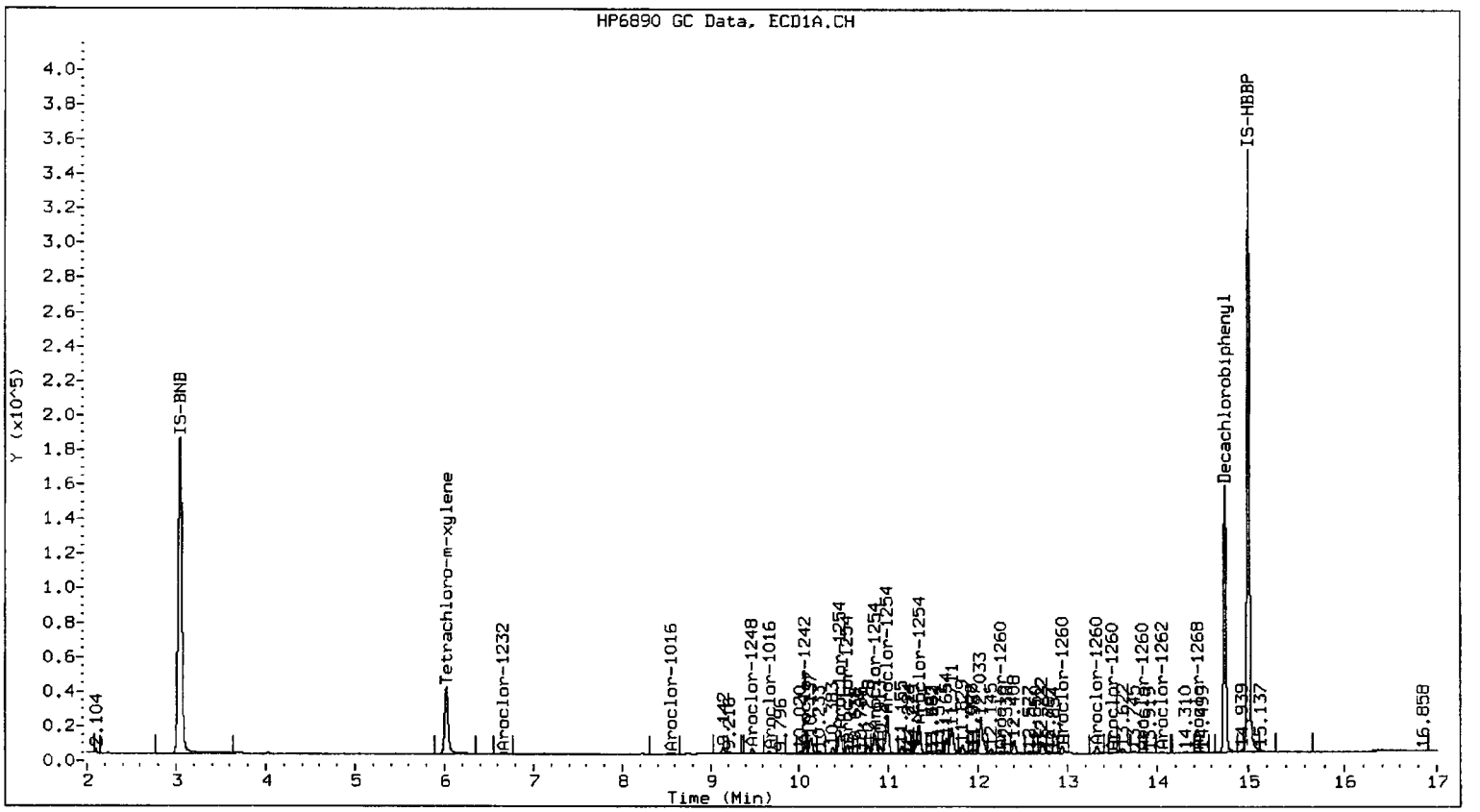
Total PCB Area Col1 (6.125 - 14.643) = 10494964 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.125 - 14.643) = 41761990 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AR1254ICV 19-FEB-2016 22:05, 2ul



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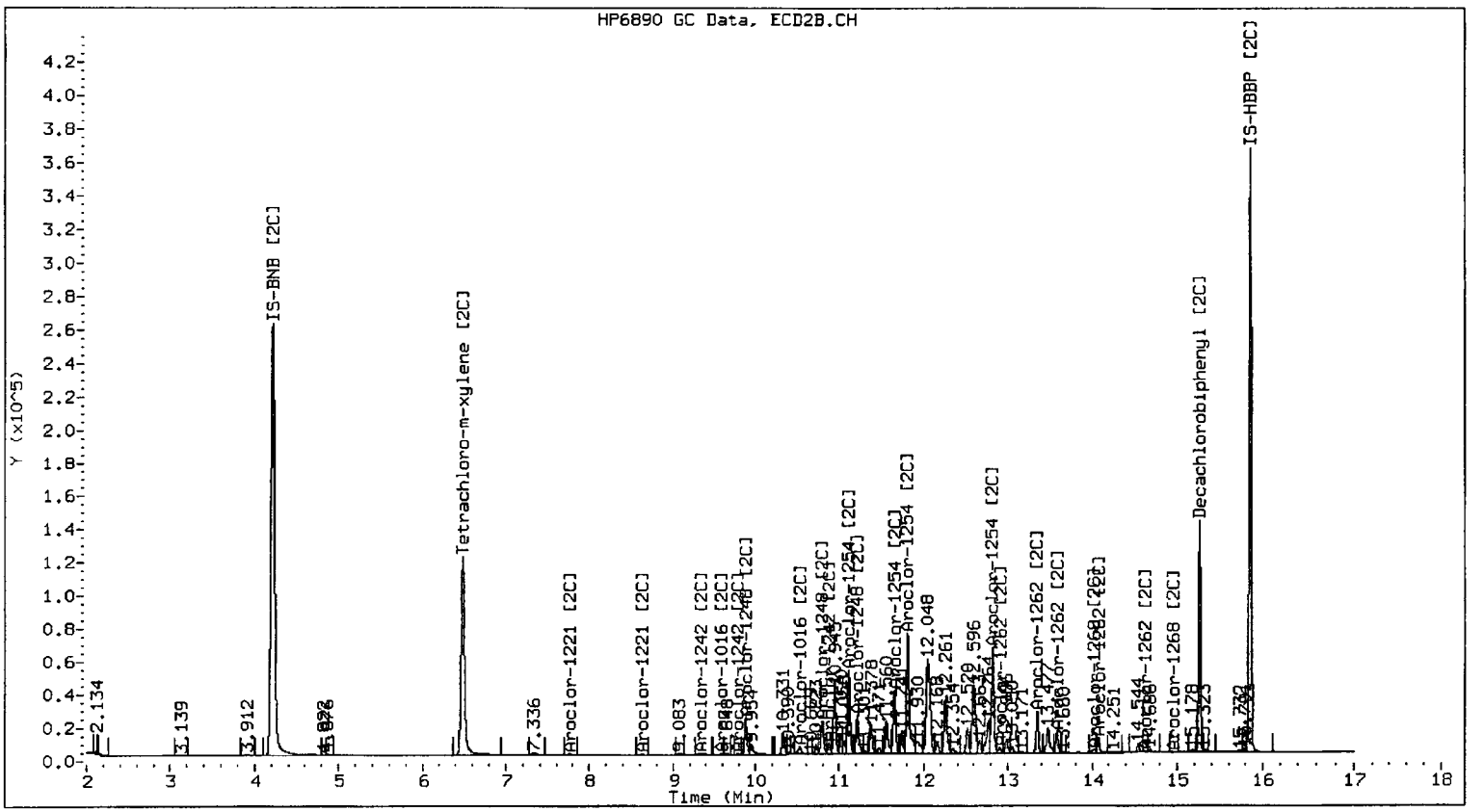

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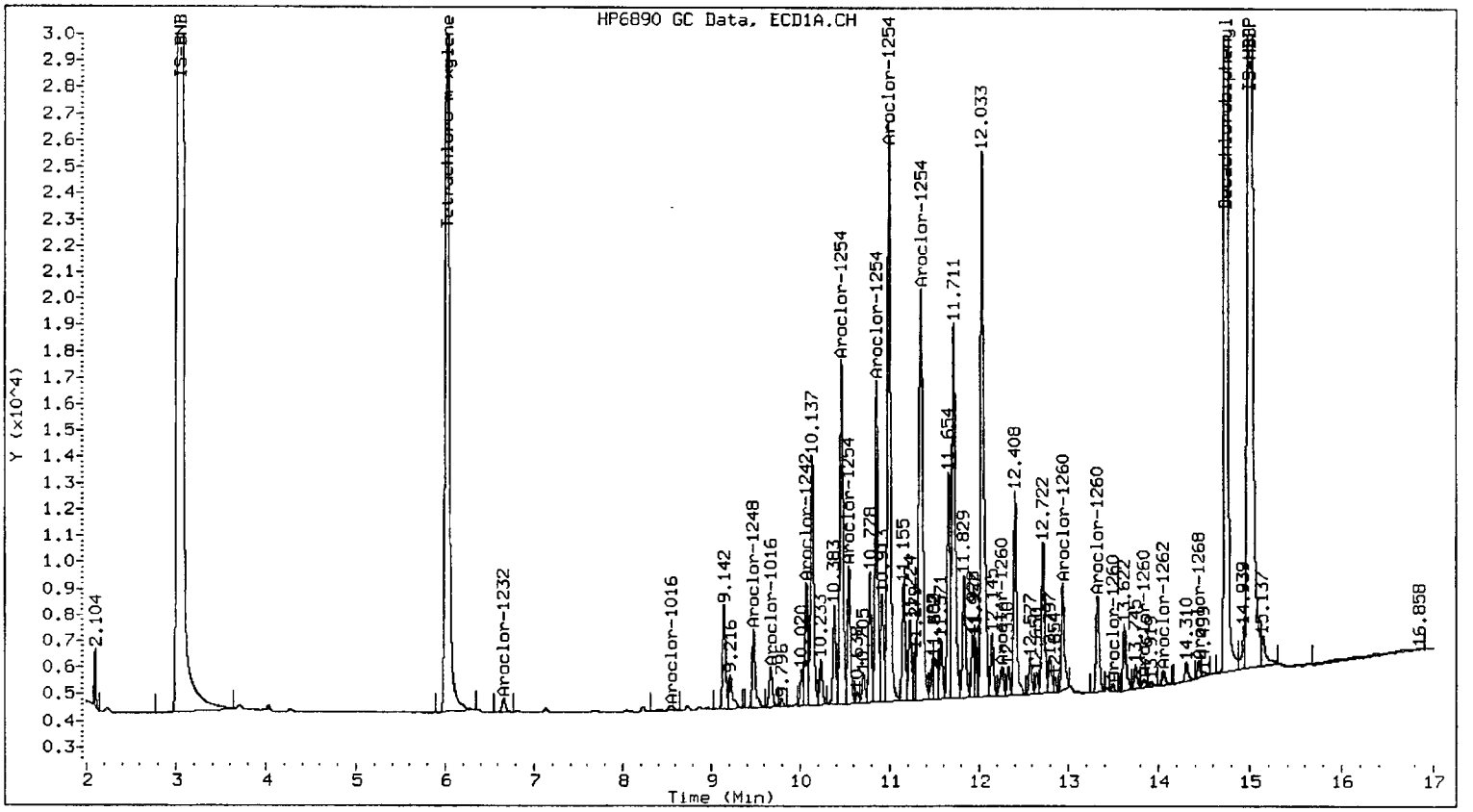

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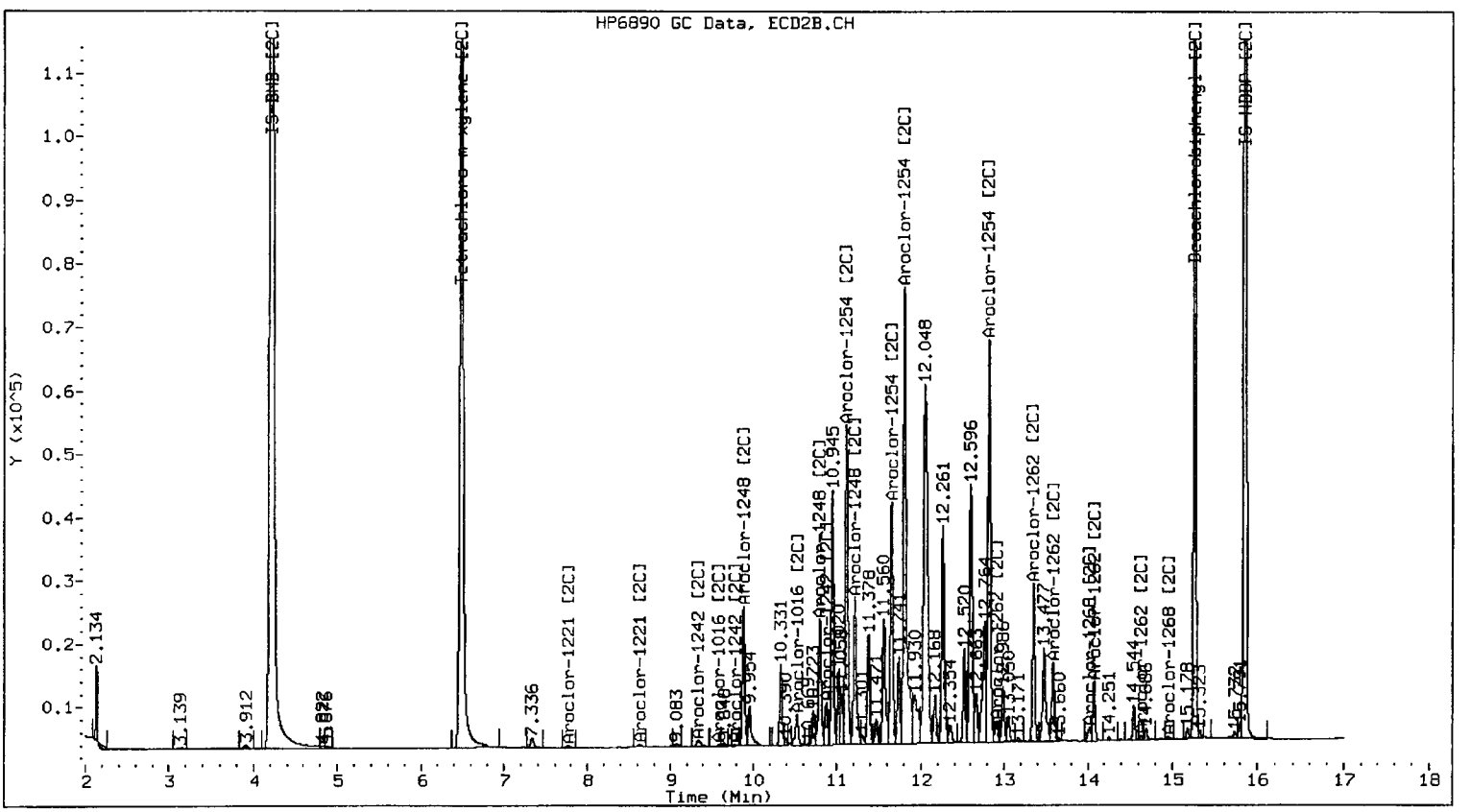


Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191638.D
Data file 2: /20160219b.b/20160219.b/02191638.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162ICV
Client ID:
Injection Date: 19-FEB-2016 22:27
Report Date: 02/23/2016 07:05
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
6.025	0.000	2524206	6.483	0.000	7926657	43.9	44.0	0.2	Tetrachloro-m-xyle
14.743	-0.000	6355972	15.261	-0.000	5449734	36.4	33.5	8.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

02/23/16

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	109.8	110.1
Decachlorobiphenyl	91.0	83.7

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10606807	3.1
Hexabromobiphenyl	12470452	13078185	4.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15534505	-1.7
Hexabromobiphenyl	11807823	12718711	7.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.046	-0.001	34021	25.1	1	8.644	0.014	378463	48.9
Aroclor-1016	2	8.558	0.001	94261	22.5	2	9.355	0.003	371867	23.3
Aroclor-1016	3	8.865	0.001	31569	22.1	3	9.588	0.002	166805	26.2
Aroclor-1016	4	9.671	0.000	20375	12.8	4	10.527	0.001	48777	16.5
Total Col1Ave (4 peaks):				20.6		Total Col2Ave (4 peaks):			28.7	RPD = 33
Corrected Ave (3 peaks):				19.1		Corrected Ave (3 peaks):			22.0	RPD = 14
Aroclor-1221	1	4.715	0.001	87340	260.3	1	5.587	0.002	375072	259.3
Aroclor-1221	2	6.692	0.002	140906	261.3	2	7.625	0.001	351132	260.6
Aroclor-1221	3	6.816	0.001	419082	260.2	3	7.764	0.001	1110487	260.4
Aroclor-1221	NS	---			----	4	8.644	0.000	378463	267.8
Total Col1Ave (3 peaks):				260.6		Total Col2Ave (4 peaks):			262.0	RPD = 1
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			260.1	
Aroclor-1232	1	4.715	0.001	87340	459.0	1	5.587	0.001	375072	429.8
Aroclor-1232	2	6.692	0.002	140906	388.8	2	7.625	0.002	351132	427.3
Aroclor-1232	3	6.816	0.002	419082	392.4	3	7.853	0.001	226434	488.6
Aroclor-1232	4	8.558	0.004	94261	54.0	4	8.644	0.016	378463	105.1
Total Col1Ave (4 peaks):				323.6		Total Col2Ave (4 peaks):			362.7	RPD = 11
Corrected Ave (3 peaks):				278.4		Corrected Ave (3 peaks):			320.7	RPD = 14
Aroclor-1242	1	8.558	0.003	94261	28.9	1	8.644	0.016	378463	62.9
Aroclor-1242	2	8.865	0.002	31569	26.4	2	9.355	0.001	371867	29.9
Aroclor-1242	3	9.671	0.001	20375	13.5	3	9.782	0.000	94251	29.3
Aroclor-1242	4	10.072	0.001	23021	21.0	4	10.881	0.002	68708	15.9
Total Col1Ave (4 peaks):				22.4		Total Col2Ave (4 peaks):			34.5	RPD = 42*
Corrected Ave (3 peaks):				20.3		Corrected Ave (3 peaks):			25.0	RPD = 21
Aroclor-1248	1	8.558	0.005	94261	49.3	1	9.355	0.007	371867	50.0
Aroclor-1248	2	9.478	0.001	17756	12.5	2	9.881	0.000	96316	17.6
Aroclor-1248	3	9.671	0.002	20375	9.5	3	10.799	0.003	116343	13.9
Aroclor-1248	4	10.072	0.002	23021	12.9	4	11.212	-0.029	156958	18.8
Total Col1Ave (4 peaks):				21.1		Total Col2Ave (4 peaks):			25.1	RPD = 17
Corrected Ave (3 peaks):				11.6		Corrected Ave (3 peaks):			16.8	RPD = 36
Aroclor-1254	1	10.466	0.002	134637	57.3	1	11.112	0.001	479819	61.4
Aroclor-1254	2	10.545	0.000	14953	19.1	2	11.212	0.001	156958	42.9
Aroclor-1254	3	10.850	0.001	35955	18.7	3	11.654	0.000	115241	19.7
Aroclor-1254	4	10.990	-0.000	111583	29.6	4	11.838	0.032	2093179	156.5
Aroclor-1254	5	11.324	-0.021	621669	168.6	5	12.817	0.000	1591053	161.5
Total Col1Ave (5 peaks):				58.7		Total Col2Ave (5 peaks):			88.4	RPD = 40*
Corrected Ave (4 peaks):				31.2		Corrected Ave (4 peaks):			70.1	RPD = 77*
Aroclor-1260	1	12.260	-0.000	1310738	412.6	1	12.817	0.001	1591053	135.7
Aroclor-1260	2	12.941	-0.000	4167473	344.8	2	13.581	0.000	7187242	316.0
Aroclor-1260	3	13.329	0.002	1212245	233.6	3	14.075	0.000	4866543	324.0
Aroclor-1260	4	13.431	-0.000	1940784	601.8	4	14.625	-0.000	2492099	432.7
Aroclor-1260	5	13.842	-0.001	897195	476.3	NS	---			----
Total Col1Ave (5 peaks):				413.8		Total Col2Ave (4 peaks):			302.1	RPD = 31
Corrected Ave (4 peaks):				366.8		Corrected Ave (3 peaks):			258.6	RPD = 35
Aroclor-1262	1	12.260	0.000	1310738	309.7	1	12.906	0.001	3865087	298.9
Aroclor-1262	2	12.941	0.001	4167473	335.9	2	13.349	0.000	3721427	311.3
Aroclor-1262	3	13.329	-0.000	1212245	308.3	3	13.581	0.000	7187242	294.7
Aroclor-1262	4	13.431	0.000	1940784	327.5	4	14.075	-0.000	4866543	306.7
Aroclor-1262	5	14.056	0.000	2191930	329.3	5	14.625	-0.000	2492099	306.4
Total Col1Ave (5 peaks):				322.1		Total Col2Ave (5 peaks):			303.6	RPD = 6
Corrected Ave (4 peaks):				318.7		Corrected Ave (4 peaks):			301.7	RPD = 5
Aroclor-1268	1	13.431	0.000	1940784	112.6	1	14.022	0.001	3754721	148.1
Aroclor-1268	2	13.496	0.002	2312907	108.2	2	14.075	-0.001	4866543	205.2
Aroclor-1268	3	13.842	0.015	897195	46.4	3	14.388	0.000	198142	10.4

Aroclor-1268	4	14.445	-0.001	801745	11.4	4	14.973	-0.000	974242	17.9

Total Col1Ave (4 peaks): 69.6 Total Col2Ave (4 peaks): 95.4 RPD = 31

Corrected Ave (3 peaks): 55.3 Corrected Ave (3 peaks): 58.8 RPD = 6

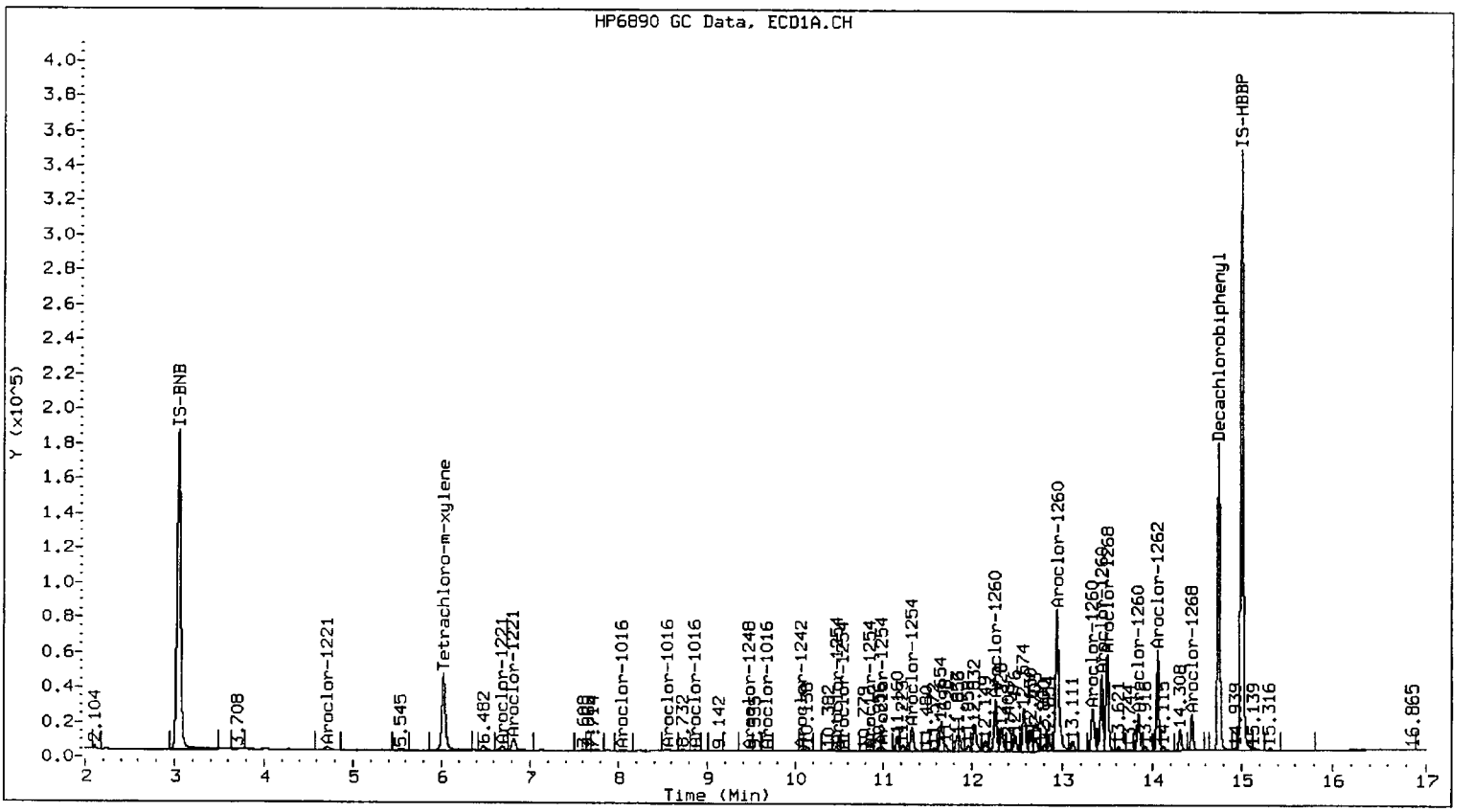
Total PCB Area Col1 (6.125 - 14.643) = 25117746 Col1 Total PCB = 0.6 ppm*

Total PCB Area Col2 (6.125 - 14.643) = 62587219 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AR2162ICV 19-FEB-2016 22:27, 2ul



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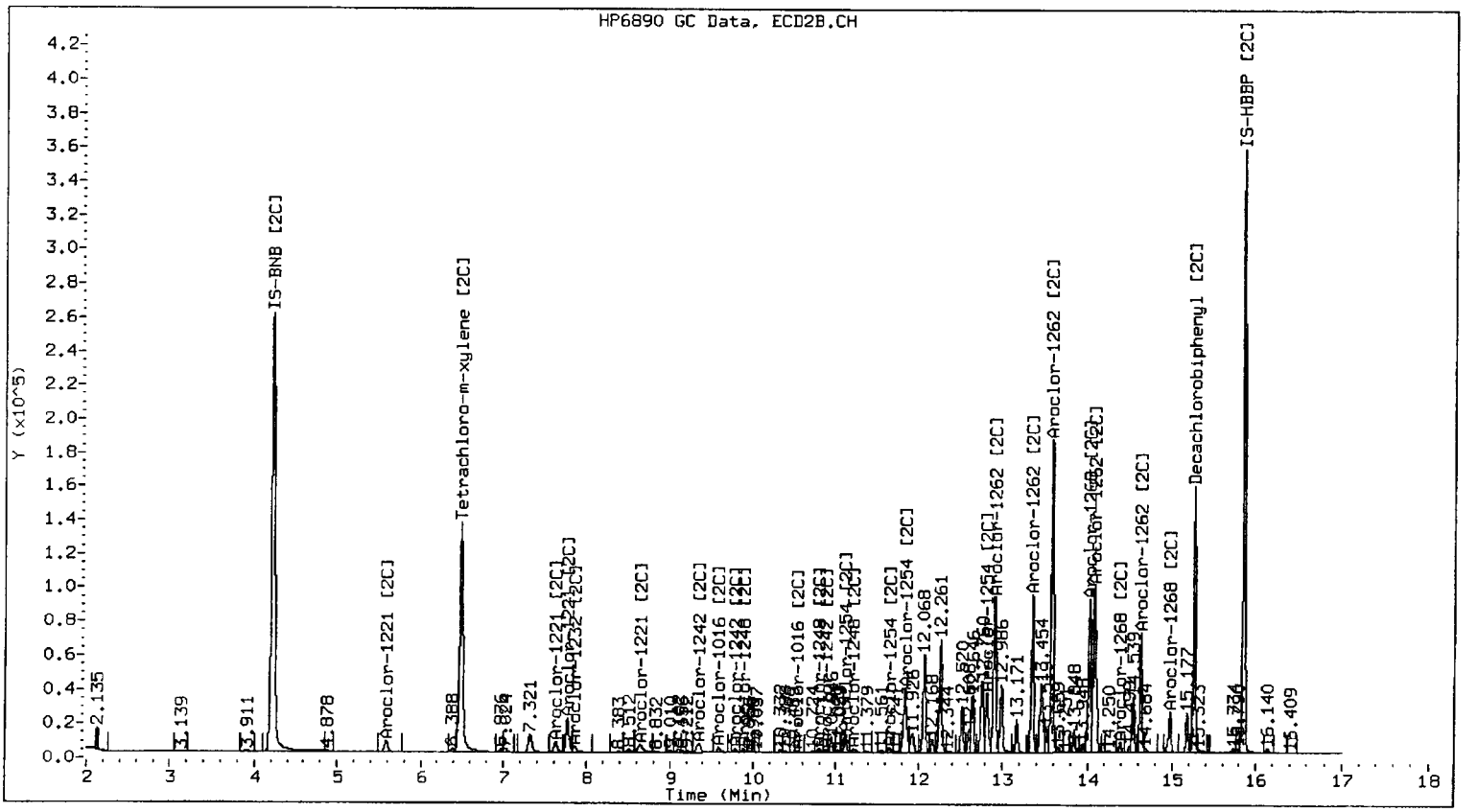

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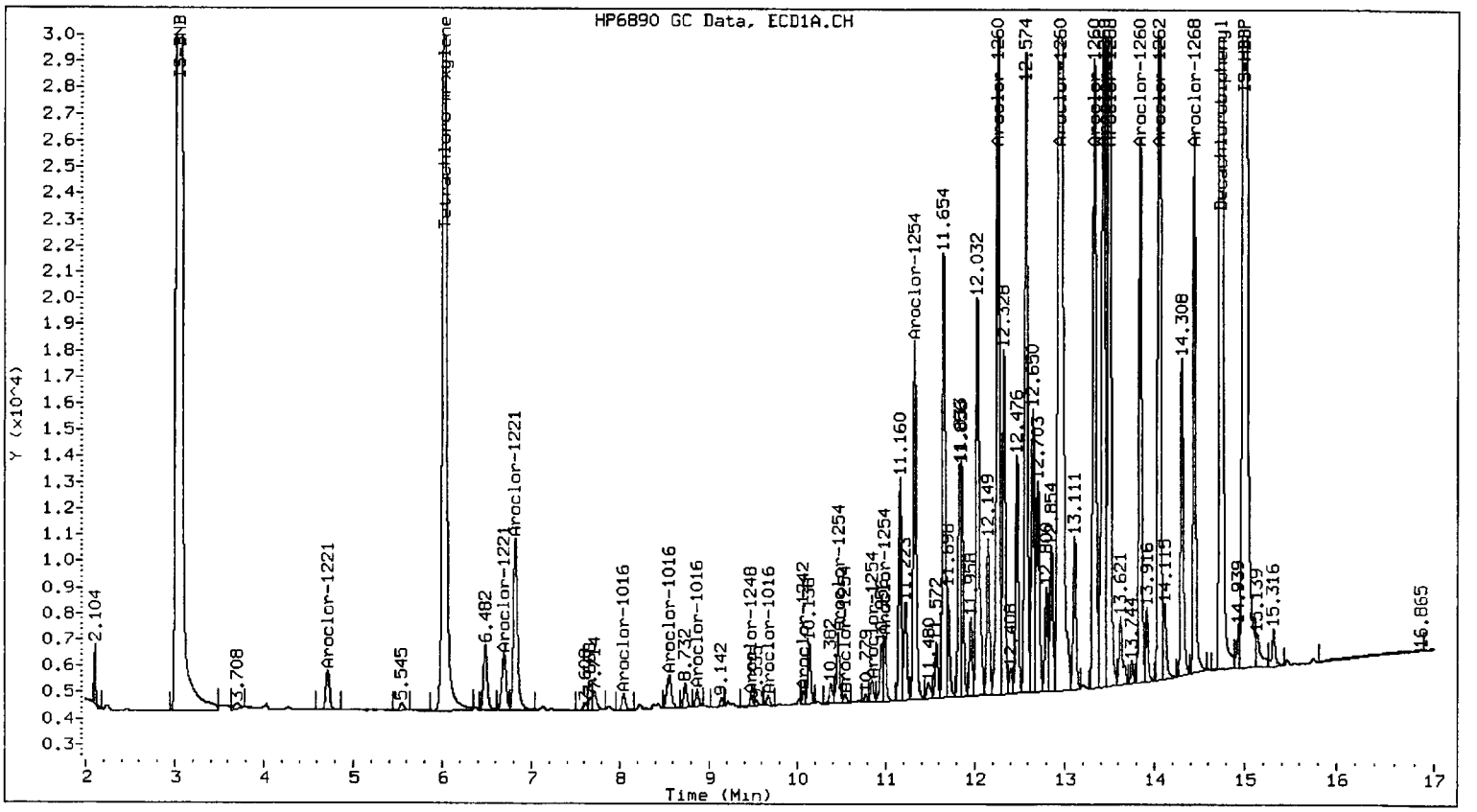

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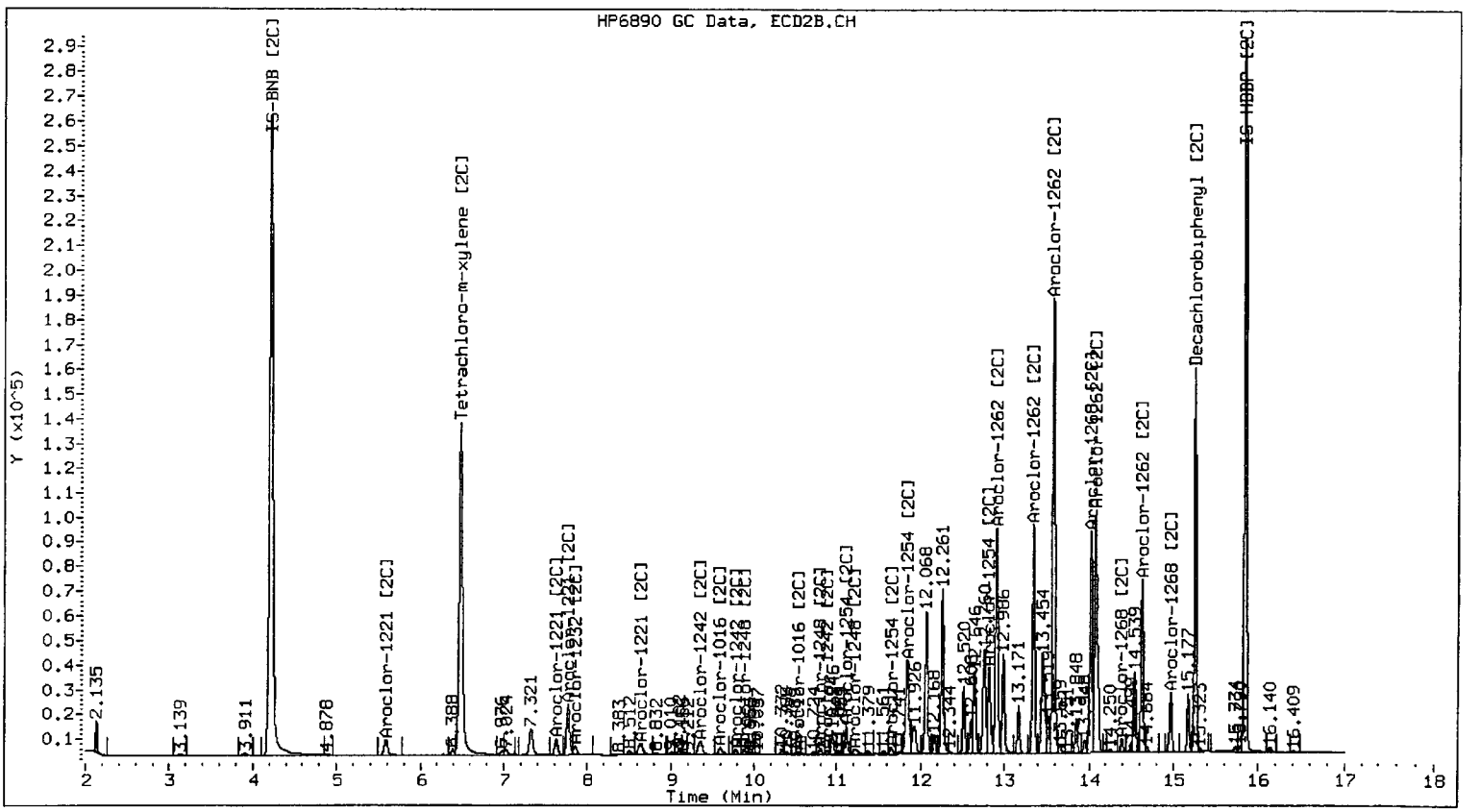


Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160219b.b/02191639.D
Data file 2: /20160219b.b/20160219.b/02191639.D
Method: \\target\share\chem4\ecd7.i\20160219b.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268ICV
Client ID:
Injection Date: 19-FEB-2016 22:48
Report Date: 02/23/2016 07:05
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
6.024	-0.001	2446477	6.482	-0.001	7736679	43.7	43.4	0.6	Tetrachloro-m-xyle
14.743	-0.000	8853670	15.260	-0.001	7448106	52.1	46.7	10.8	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	109.1	108.5
Decachlorobiphenyl	130.2	116.8

02/23/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10344269	0.5
Hexabromobiphenyl	12470452	12738843	2.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15382140	-2.7
Hexabromobiphenyl	11807823	12461313	5.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.045	-0.002	163792	123.7	1	8.628	-0.001	1007089	131.4
Aroclor-1016	2	8.555	-0.002	484966	118.8	2	9.353	0.001	1895753	120.1
Aroclor-1016	3	8.864	-0.000	177425	127.3	3	9.587	0.000	774771	123.0
Aroclor-1016	4	9.671	0.000	203187	130.7	4	10.526	0.000	388219	132.7
Total Col1Ave (4 peaks):				125.1		Total Col2Ave (4 peaks):			126.8	RPD = 1
Corrected Ave (3 peaks):				123.3		Corrected Ave (3 peaks):			124.8	RPD = 1
Aroclor-1221	1	4.714	-0.000	47171	144.2	1	5.586	0.000	221815	154.9
Aroclor-1221	2	6.690	0.000	103670	197.1	2	7.624	0.000	238293	178.6
Aroclor-1221	3	6.816	0.000	324143	206.4	3	7.764	0.001	900498	213.3
Aroclor-1221	NS	---			----	4	8.628	-0.015	1007089	719.7
Total Col1Ave (3 peaks):				182.5		Total Col2Ave (4 peaks):			316.6	RPD = 54*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			182.2	
Aroclor-1232	1	4.714	-0.001	47171	254.2	1	5.586	-0.000	221815	256.7
Aroclor-1232	2	6.690	-0.000	103670	293.3	2	7.624	0.001	238293	292.9
Aroclor-1232	3	6.816	0.001	324143	311.2	3	7.852	0.001	142079	309.6
Aroclor-1232	4	8.555	0.001	484966	284.8	4	8.628	0.001	1007089	282.3
Total Col1Ave (4 peaks):				285.9		Total Col2Ave (4 peaks):			285.4	RPD = 0
Corrected Ave (3 peaks):				277.4		Corrected Ave (3 peaks):			277.3	RPD = 0
Aroclor-1242	1	8.555	-0.000	484966	152.5	1	8.628	0.000	1007089	169.1
Aroclor-1242	2	8.864	0.001	177425	152.0	2	9.353	-0.001	1895753	153.7
Aroclor-1242	3	9.671	0.001	203187	137.7	3	9.781	-0.000	486717	152.9
Aroclor-1242	4	10.072	0.001	143926	134.9	4	10.879	0.000	571451	133.3
Total Col1Ave (4 peaks):				144.3		Total Col2Ave (4 peaks):			152.2	RPD = 5
Corrected Ave (3 peaks):				141.5		Corrected Ave (3 peaks):			146.6	RPD = 4
Aroclor-1248	1	8.555	0.003	484966	260.0	1	9.353	0.005	1895753	257.6
Aroclor-1248	2	9.478	0.000	131069	94.3	2	9.882	0.001	493924	91.1
Aroclor-1248	3	9.671	0.002	203187	97.4	3	10.798	0.002	719013	86.8
Aroclor-1248	4	10.072	0.002	143926	83.0	4	11.244	0.002	679193	82.1
Total Col1Ave (4 peaks):				133.7		Total Col2Ave (4 peaks):			129.4	RPD = 3
Corrected Ave (3 peaks):				91.6		Corrected Ave (3 peaks):			86.6	RPD = 6
Aroclor-1254	1	10.462	-0.002	56396	24.6	1	11.112	0.001	137502	17.8
Aroclor-1254	2	10.546	0.000	20644	27.0	2	11.244	0.033	679193	187.4
Aroclor-1254	3	10.851	0.002	36044	19.3	3	11.654	0.000	104050	17.9
Aroclor-1254	4	10.993	0.003	78442	21.4	4	11.808	0.001	239429	18.1
Aroclor-1254	5	11.348	0.003	58469	16.3	5	12.818	0.001	60739	6.2
Total Col1Ave (5 peaks):				21.7		Total Col2Ave (5 peaks):			49.5	RPD = 78*
Corrected Ave (4 peaks):				20.4		Corrected Ave (4 peaks):			15.0	RPD = 30
Aroclor-1260	1	12.261	0.001	617450	199.6	1	12.818	0.002	60739	5.3
Aroclor-1260	2	12.941	-0.000	584689	49.7	2	13.580	-0.001	1168967	52.5
Aroclor-1260	3	13.332	0.004	18593	3.7	3	14.075	0.000	7559405	513.7
Aroclor-1260	4	13.431	-0.000	5095452	1622.0	4	14.625	-0.000	2467485	437.3
Aroclor-1260	5	13.827	-0.015	5048875	2751.8	NS	---			----
Total Col1Ave (5 peaks):				925.3		Total Col2Ave (4 peaks):			252.2	RPD = 114*
Corrected Ave (4 peaks):				468.7		Corrected Ave (3 peaks):			165.0	RPD = 96*
Aroclor-1262	1	12.261	0.001	617450	149.8	1	12.906	0.001	1808460	142.7
Aroclor-1262	2	12.941	0.001	584689	48.4	2	13.347	-0.002	2031377	173.5
Aroclor-1262	3	13.332	0.002	18593	4.9	3	13.580	-0.000	1168967	48.9
Aroclor-1262	4	13.431	0.001	5095452	882.8	4	14.075	0.000	7559405	486.2
Aroclor-1262	5	14.055	-0.000	2206518	340.3	5	14.625	-0.000	2467485	309.6
Total Col1Ave (5 peaks):				285.2		Total Col2Ave (5 peaks):			232.2	RPD = 20
Corrected Ave (4 peaks):				135.8		Corrected Ave (4 peaks):			168.7	RPD = 22
Aroclor-1268	1	13.431	0.000	5095452	303.4	1	14.021	-0.000	7283844	293.1
Aroclor-1268	2	13.494	-0.000	7036742	337.9	2	14.075	-0.000	7559405	325.4
Aroclor-1268	3	13.827	0.000	5048875	267.9	3	14.388	0.000	4906414	262.4

Aroclor-1268	4	14.445	-0.001	16959093	248.6	4	14.974	0.000	13268075	248.7

Total Col1Ave (4 peaks): 289.4 Total Col2Ave (4 peaks): 282.4 RPD = 2

Corrected Ave (3 peaks): 273.3 Corrected Ave (3 peaks): 268.1 RPD = 2

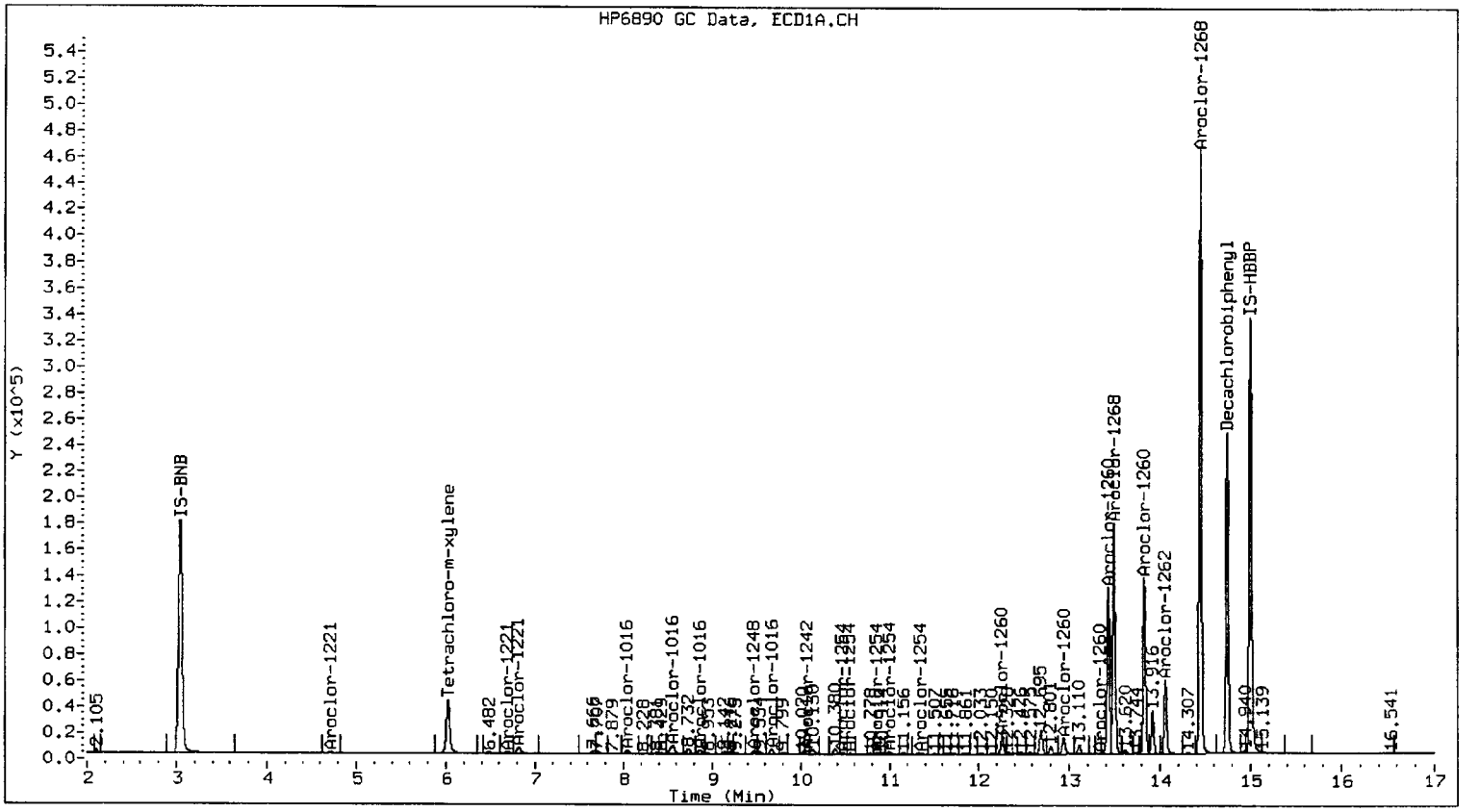
Total PCB Area Col1 (6.125 - 14.643) = 44493394 Col1 Total PCB = 1.0 ppm*

Total PCB Area Col2 (6.125 - 14.643) = 52701741 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AR3268ICV 19-FEB-2016 22:48, 2ul



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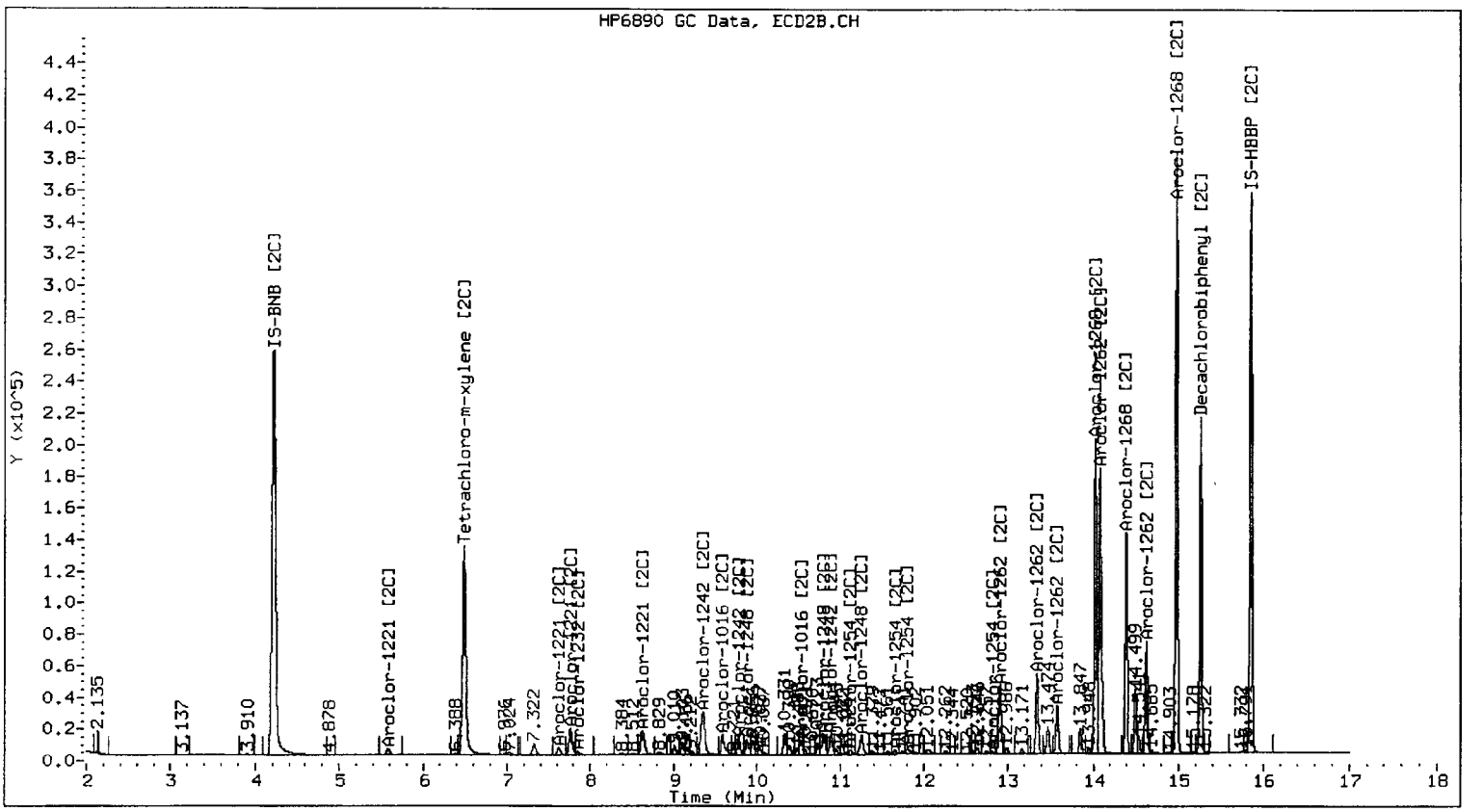

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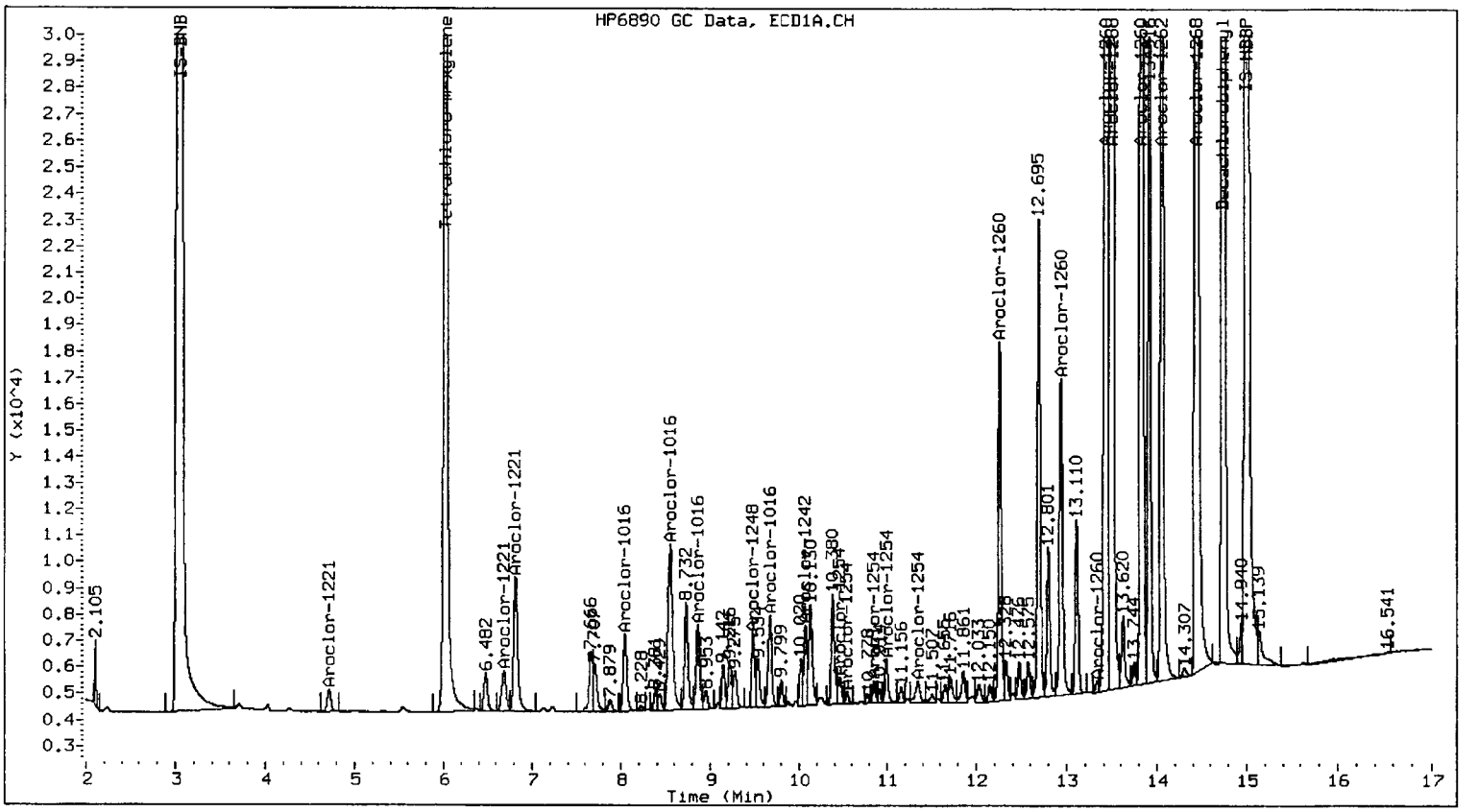

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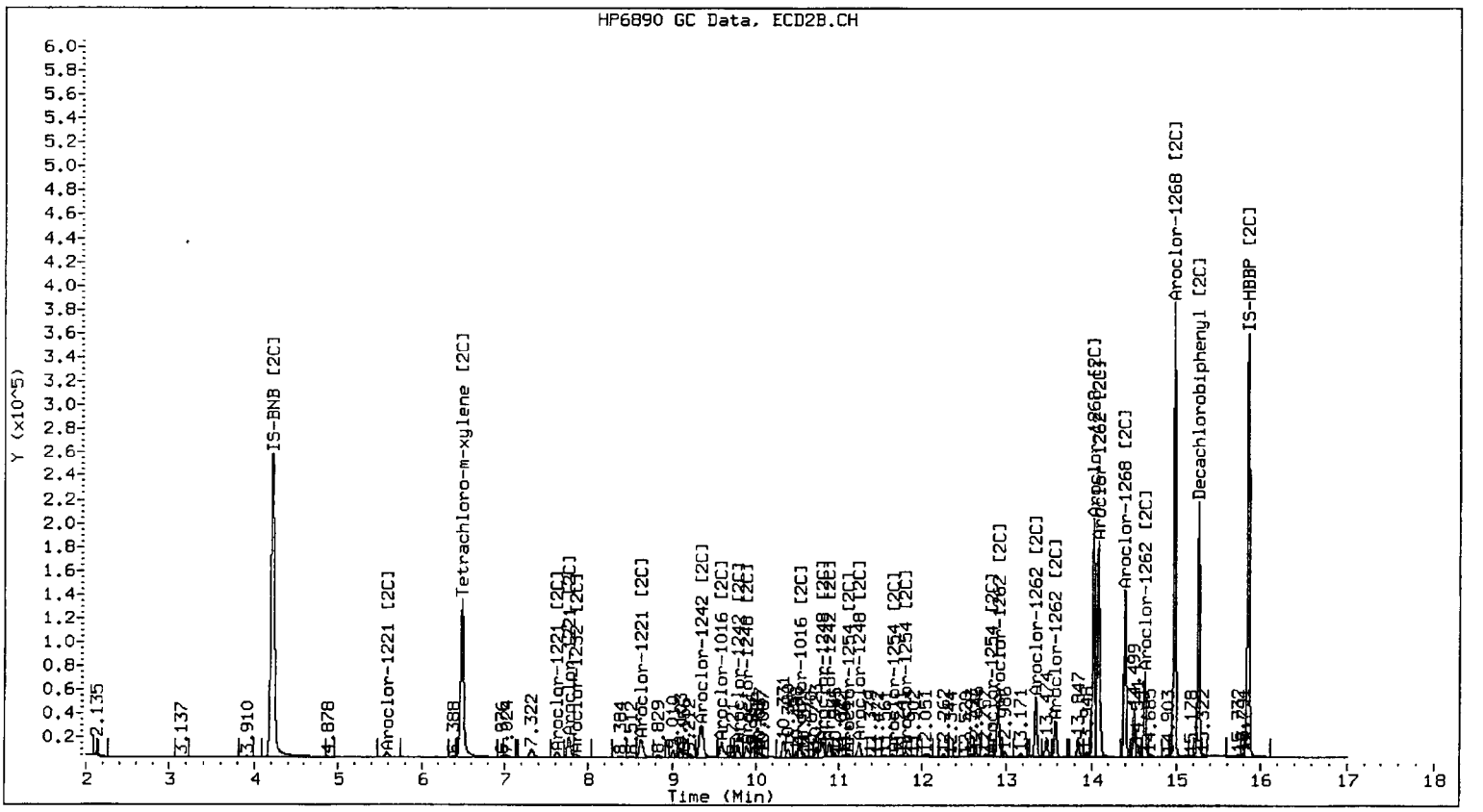


PCB Raw Data
Run Logs, Continuing Calibrations, and Raw Data

ARI Job ID: AVZ9

Analytical Resources, Incorporated
Analytical Chemists and
Consultants

GC Analyst Notes / Data Review Checklist

ELEMENT/NWA: AVZ9 Client: Anchor

METHOD: **8082A**(PCB) **8151A**(Herb) **NW-TPH**(TPH-D) **NW-TPH**(HCID) **8041A**(PCP)
8081B(PEST) **8015B**(Dir Inj) **NW-EPH**(EPH) **8082A**(Congeners) **Other**

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 ECD-8 ECD-9

Calibration Code: ZB00017 Analysis Start Date: 02/22/16

	REVIEW 1/REVIEW 2		REVIEW 1/REVIEW 2
Endrin/DDT B.D. ≤15%?	NA / Y / N / ____	Method Blank in Control?	Y / N / ✓
Retention times within Windows?	Y / N / ✓	BS/BSD Recovery in Control?	Y / N / ✓
ICV/CCV met %D Criteria?	Y / N / ✓	MS / MSD Recovery in Control?	NA / Y / N / ____
Surrogate Recovery in Control?	Y / N / ✓	Samples Diluted?	Y / N / ____
Internal STD. within 50-200%?	NA / Y / N / ✓	Special Analysis Request?	Y / N / ____
Manual Integrations?	Y / N / ✓	VDP Completed?	NA / Y / N / ____
Integration Summary?	Y / N / ____	Technical Review?	____ / ____

Detail problems, corrective actions and/or other pertinent information below

uncut w/ best fit, skimmed oily baseline rise. misc. peaks throughout sample

(Review 1) Analyst: [signature] **Date:** 02/26/16

(Review 2) Peer: [signature] **Date:** ____

(Final Review) Reviewer: [signature] **Date:** 2/26

AVZ9 : 00338

Analytical Resources Inc.: Organics Instrument Log

ECD-7 Serial No.: US00003975

Date: 02/24/16 Analysis: PCB Analyst: K

Column 1 Serial No.: 311350 Column Type: ZB5

Column 2 Serial No.: 330557 Column Type: ZB35

GC Method: PCB ICal Date: 02/19/16 Injection Volume: 2µL

IS	Ical/Ccal	ICV
	D3916	
D4740	D3917-D3921	
	D3925	

Document All Maintenance Tasks In Element

	Inject Date/Time	Filename	DF	LabID	C
1	24-FEB-2016 15:12	02241601.D	1	DDT	
2	24-FEB-2016 15:34	02241602.D	1	BD	
3	24-FEB-2016 15:55	02241603.D	1	AR1254	
4	24-FEB-2016 16:17	02241604.D	1	AR1660	
5	24-FEB-2016 16:39	02241605.D	1	BEB0063-BLK1	
6	24-FEB-2016 17:01	02241606.D	1	BEB0063-BS1	
7	24-FEB-2016 17:23	02241607.D	1	16B0043-01	
8	24-FEB-2016 17:45	02241608.D	1	16B0043-02	
9	24-FEB-2016 18:07	02241609.D	1	16B0043-03	
10	24-FEB-2016 18:29	02241610.D	1	AVZ9MBS1	
11	24-FEB-2016 18:51	02241611.D	1	AVZ9LCSS1	
12	24-FEB-2016 19:13	02241612.D	1	AVZ9SRM1	
13	24-FEB-2016 19:35	02241613.D	1	AR1242	
14	24-FEB-2016 19:57	02241614.D	1	AR1660	
15	24-FEB-2016 20:19	02241615.D	1	AVZ9A	
16	24-FEB-2016 20:40	02241616.D	1	AVZ9B	
17	24-FEB-2016 21:02	02241617.D	1	AVZ9C	
18	24-FEB-2016 21:24	02241618.D	1	AVZ9D	
19	24-FEB-2016 21:46	02241619.D	1	AVZ9E	
20	24-FEB-2016 22:08	02241620.D	1	AVZ9F	
21	24-FEB-2016 22:30	02241621.D	1	AVZ9FMS	
22	24-FEB-2016 22:52	02241622.D	1	AVZ9FMSD	
23	24-FEB-2016 23:14	02241623.D	1	AR1248	
24	24-FEB-2016 23:36	02241624.D	1	AR1660	
25	24-FEB-2016 23:57	02241625.D	1	AVZ9G	
26	25-FEB-2016 00:19	02241626.D	1	AVZ9H	
27	25-FEB-2016 00:41	02241627.D	1	AVZ9I	
28	25-FEB-2016 01:03	02241628.D	1	AVZ9J	
29	25-FEB-2016 01:25	02241629.D	1	AVZ9K	
30	25-FEB-2016 01:47	02241630.D	1	AVZ9L	
31	25-FEB-2016 02:09	02241631.D	1	AVZ9M	
32	25-FEB-2016 02:31	02241632.D	20	AVZ9N	
33	25-FEB-2016 02:52	02241633.D	20	AVZ9O	
34	25-FEB-2016 03:14	02241634.D	1	AVZ9P	
35	25-FEB-2016 03:36	02241635.D	1	AR1254	02/25/16
36	25-FEB-2016 03:58	02241636.D	1	AR1660	

Start a new 00876ch QC period. Document All Maintenance Tasks In Element

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160224.b

ARI Job No.: DDT Method: PCB.m Instrument: ecd7.i Date: 24-FEB-2016

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1512	02241601.D	DDT		1	NO MANUAL INTEGRATION
1534	02241602.D	BD		1	NO MANUAL INTEGRATION
1555	02241603.D	AR1254A		1	NO MANUAL INTEGRATION
1617	02241604.D	AR1660A		1	NO MANUAL INTEGRATION
1639	02241605.D	BEB0063-BLK1		1	NO MANUAL INTEGRATION
1701	02241606.D	BEB0063-BS1		1	NO MANUAL INTEGRATION
1723	02241607.D	16B0043-01		1	Decachlorobiphenyl,
1745	02241608.D	16B0043-02		1	Aroclor-1254, IS-HBBP, Decachlorobiphenyl,
1807	02241609.D	16B0043-03		1	IS-HBBP, Decachlorobiphenyl,
1829	02241610.D	AVZ9MBS1	AVZ9MBS1	1	NO MANUAL INTEGRATION
1851	02241611.D	AVZ9LCSS1	AVZ9LCSS1	1	NO MANUAL INTEGRATION
1913	02241612.D	AVZ9SRM1	PSR	1	NO MANUAL INTEGRATION
1935	02241613.D	AR1242B		1	NO MANUAL INTEGRATION
1957	02241614.D	AR1660B		1	NO MANUAL INTEGRATION
2019	02241615.D	AVZ9A	JF-PDS-6-0	1	NO MANUAL INTEGRATION
2040	02241616.D	AVZ9B	JF-PDS-6-1	1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, IS-BNB, Tetrachloro-m-xylene,
2102	02241617.D	AVZ9C	JF-PDS-4-0	1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, IS-BNB, Tetrachloro-m-xylene,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2124	02241618.D	AVZ9D	JF-PDS-4-1	1	NO MANUAL INTEGRATION
2146	02241619.D	AVZ9E	JF-PDS-2-0	1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Tetrachloro-m-xylene,
2208	02241620.D	AVZ9F	JF-PDS-2-1	1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268, Tetrachloro-m-xylene,
2230	02241621.D	AVZ9FMS	JF-PDS-2-1	1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, IS-BNB, Tetrachloro-m-xylene,
2252	02241622.D	AVZ9FMSD	JF-PDS-2-1	1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Tetrachloro-m-xylene,
2314	02241623.D	AR1248		1	NO MANUAL INTEGRATION
2336	02241624.D	AR1660		1	NO MANUAL INTEGRATION
2357	02241625.D	AVZ9G	JF-PDS-1-0	1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, IS-BNB, Tetrachloro-m-xylene,
0019	02241626.D	AVZ9H	JF-PDS-1-1	1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, IS-BNB, Tetrachloro-m-xylene,
0041	02241627.D	AVZ9I	JF-PDS-3-0	1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, IS-BNB, Tetrachloro-m-xylene,
0103	02241628.D	AVZ9J	JF-PDS-3-1	1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268, Tetrachloro-m-xylene,
0125	02241629.D	AVZ9K	JF-PDS-103	1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Tetrachloro-m-xylene,
0147	02241630.D	AVZ9L	JF-PDS-5-0	1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, IS-BNB, Tetrachloro-m-xylene,
0209	02241631.D	AVZ9M	JF-PDS-5-1	1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, IS-BNB, Tetrachloro-m-xylene,
0231	02241632.D	AVZ9N	JF-PDS-105	20	NO MANUAL INTEGRATION

0252	02241633.D AVZ9O	JF-PDS-7-0	20	NO MANUAL INTEGRATION
0314	02241634.D AVZ9P	JF-PDS-7-1	1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, IS-BNB, Tetrachloro-m-xylene,
0336	02241635.D AR1254		1	NO MANUAL INTEGRATION

AVZ9 . 0621 22

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0358	02241636.D	AR1660		1	NO MANUAL INTEGRATION
1512	02241601.D	DDT		1	NO MANUAL INTEGRATION
1534	02241602.D	BD		1	NO MANUAL INTEGRATION
1555	02241603.D	AR1254A		1	NO MANUAL INTEGRATION
1617	02241604.D	AR1660A		1	NO MANUAL INTEGRATION
1639	02241605.D	BEB0063-BLK1		1	NO MANUAL INTEGRATION
1701	02241606.D	BEB0063-BS1		1	NO MANUAL INTEGRATION
1723	02241607.D	16B0043-01		1	IS-HBBP [2C],
1745	02241608.D	16B0043-02		1	Aroclor-1254 [2C], IS-HBBP [2C],
1807	02241609.D	16B0043-03		1	IS-HBBP [2C],
1829	02241610.D	AVZ9MBS1	AVZ9MBS1	1	Aroclor-1242 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], Aroclor-1268 [2C], IS-HBBP [2C], Decachlorobiphenyl [2C],
1851	02241611.D	AVZ9LCSS1	AVZ9LCSS1	1	NO MANUAL INTEGRATION
1913	02241612.D	AVZ9SRM1	PSR	1	NO MANUAL INTEGRATION
1935	02241613.D	AR1242B		1	NO MANUAL INTEGRATION
1957	02241614.D	AR1660B		1	NO MANUAL INTEGRATION
2019	02241615.D	AVZ9A	JF-PDS-6-0	1	NO MANUAL INTEGRATION
2040	02241616.D	AVZ9B	JF-PDS-6-1	1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], IS-BNB [2C], Tetrachloro-m-xylene [2C],
2102	02241617.D	AVZ9C	JF-PDS-4-0	1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], Aroclor-1268 [2C], IS-BNB [2C], IS-HBBP [2C], Tetrachloro-m-xylene [2C], Decachlorobiphenyl [2C],

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160224.b\20160224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2124	02241618.D	AVZ9D	JF-PDS-4-1	1	NO MANUAL INTEGRATION
2146	02241619.D	AVZ9E	JF-PDS-2-0	1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], IS-BNB [2C], Tetrachloro-m-xylene [2C],
2208	02241620.D	AVZ9F	JF-PDS-2-1	1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], IS-BNB [2C], Tetrachloro-m-xylene [2C],
2230	02241621.D	AVZ9FMS	JF-PDS-2-1	1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], IS-BNB [2C], Tetrachloro-m-xylene [2C],
2252	02241622.D	AVZ9FMSD	JF-PDS-2-1	1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], IS-BNB [2C], Tetrachloro-m-xylene [2C],
2314	02241623.D	AR1248		1	NO MANUAL INTEGRATION
2336	02241624.D	AR1660		1	NO MANUAL INTEGRATION
2357	02241625.D	AVZ9G	JF-PDS-1-0	1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], IS-BNB [2C], Tetrachloro-m-xylene [2C],
0019	02241626.D	AVZ9H	JF-PDS-1-1	1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], IS-BNB [2C], Tetrachloro-m-xylene [2C],
0041	02241627.D	AVZ9I	JF-PDS-3-0	1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], IS-BNB [2C], Tetrachloro-m-xylene [2C],
0103	02241628.D	AVZ9J	JF-PDS-3-1	1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], IS-BNB [2C], Tetrachloro-m-xylene [2C],
0125	02241629.D	AVZ9K	JF-PDS-103	1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], IS-BNB [2C], Tetrachloro-m-xylene [2C],
0147	02241630.D	AVZ9L	JF-PDS-5-0	1	NO MANUAL INTEGRATION
0209	02241631.D	AVZ9M	JF-PDS-5-1	1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], IS-BNB [2C], Tetrachloro-m-xylene [2C],
0231	02241632.D	AVZ9N	JF-PDS-105	20	NO MANUAL INTEGRATION

0252	02241633.D AVZ9O	JF-PDS-7-0	20	NO MANUAL INTEGRATION
0314	02241634.D AVZ9P	JF-PDS-7-1	1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], IS-BNB [2C], Tetrachloro-m-xylene [2C],
0336	02241635.D AR1254		1	NO MANUAL INTEGRATION

AVZ9 : 09C140

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160224.b\20160224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0358	02241636.D	AR1660		1	NO MANUAL INTEGRATION

AR1660 : 00017

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241603.D
Data file 2: /20160224.b/20160224.b/02241603.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254A
Client ID:
Injection Date: 24-FEB-2016 15:55
Report Date: 02/26/2016 09:00
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
6.021	-0.005	2245297	6.478	-0.003	6773098	40.7	41.7	2.5	Tetrachloro-m-xyle
14.744	0.000	6813351	15.261	0.000	5988742	43.1	38.2	12.1	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	101.7	104.3
Decachlorobiphenyl	107.8	95.6

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10192428	-0.9
Hexabromobiphenyl	12470452	11835219	-5.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	14010183	-11.4
Hexabromobiphenyl	11807823	12246364	3.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

AVZ9:8004

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1254	1	10.463	0.000	569950	252.6	1	11.110	-0.002	1769865	251.3
Aroclor-1254	2	10.544	0.000	192227	255.6	2	11.209	-0.002	831942	252.1
Aroclor-1254	3	10.850	0.000	430394	233.3	3	11.653	-0.001	1168537	221.0
Aroclor-1254	4	10.990	0.000	905647	250.2	4	11.805	-0.002	3019514	250.4
Aroclor-1254	5	11.345	0.000	859740	242.6	5	12.816	-0.001	2197407	247.3

Total Col1Ave (5 peaks): 246.9 Total Col2Ave (5 peaks): 244.4 RPD = 1

Corrected Ave (4 peaks): 244.7 Corrected Ave (4 peaks): 242.5 RPD = 1

CalAmt %D: -1.3 CalAmt %D: -2.2

Total PCB Area Col1 (6.126 - 14.643) = 9304724 Col1 Total PCB = 0.2 ppm*

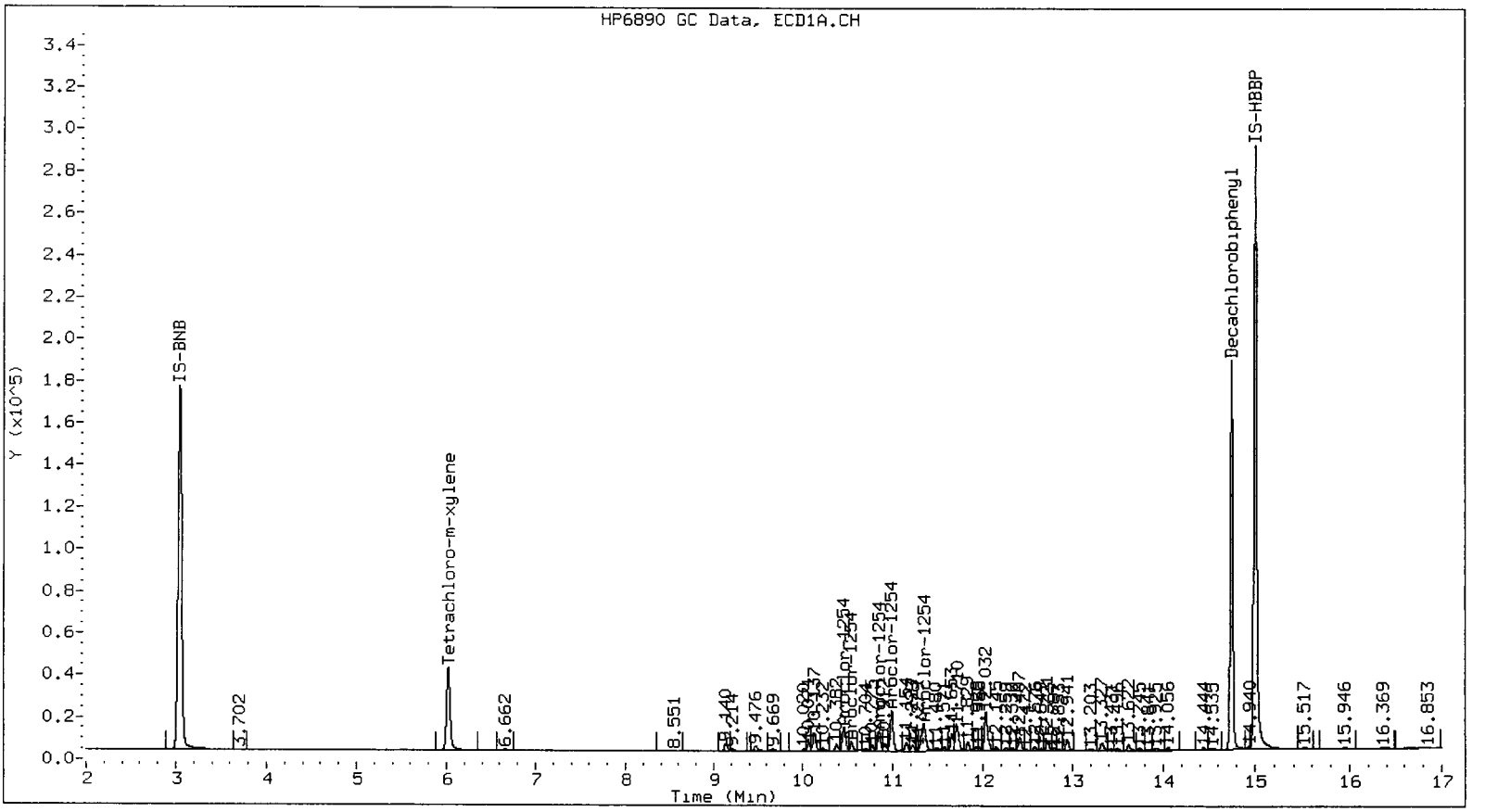
Total PCB Area Col2 (6.126 - 14.643) = 34425588 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

AV29:00319

ECD7-ZB5 AR1254A 24-FEB-2016 15:55, 2ul



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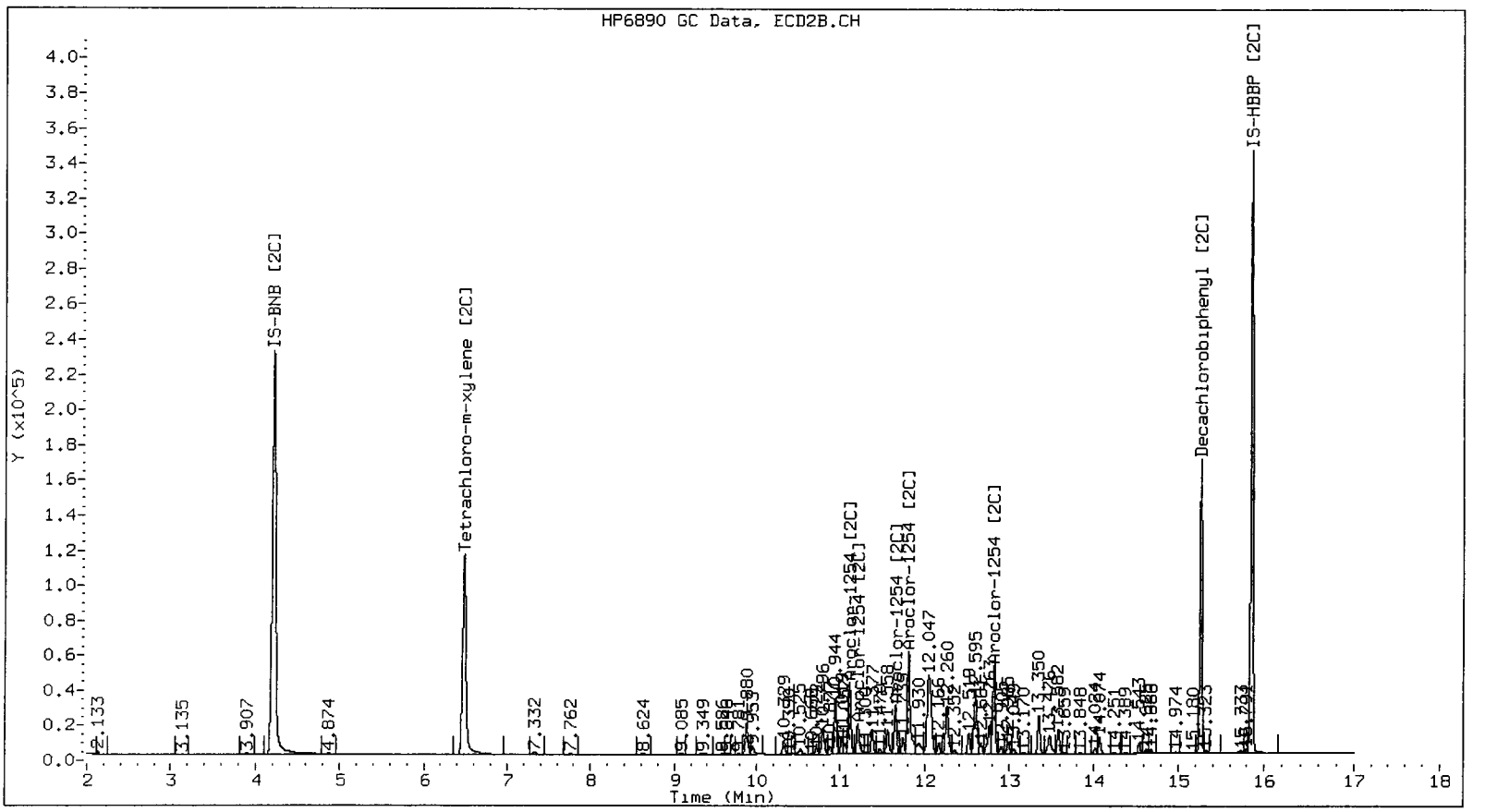
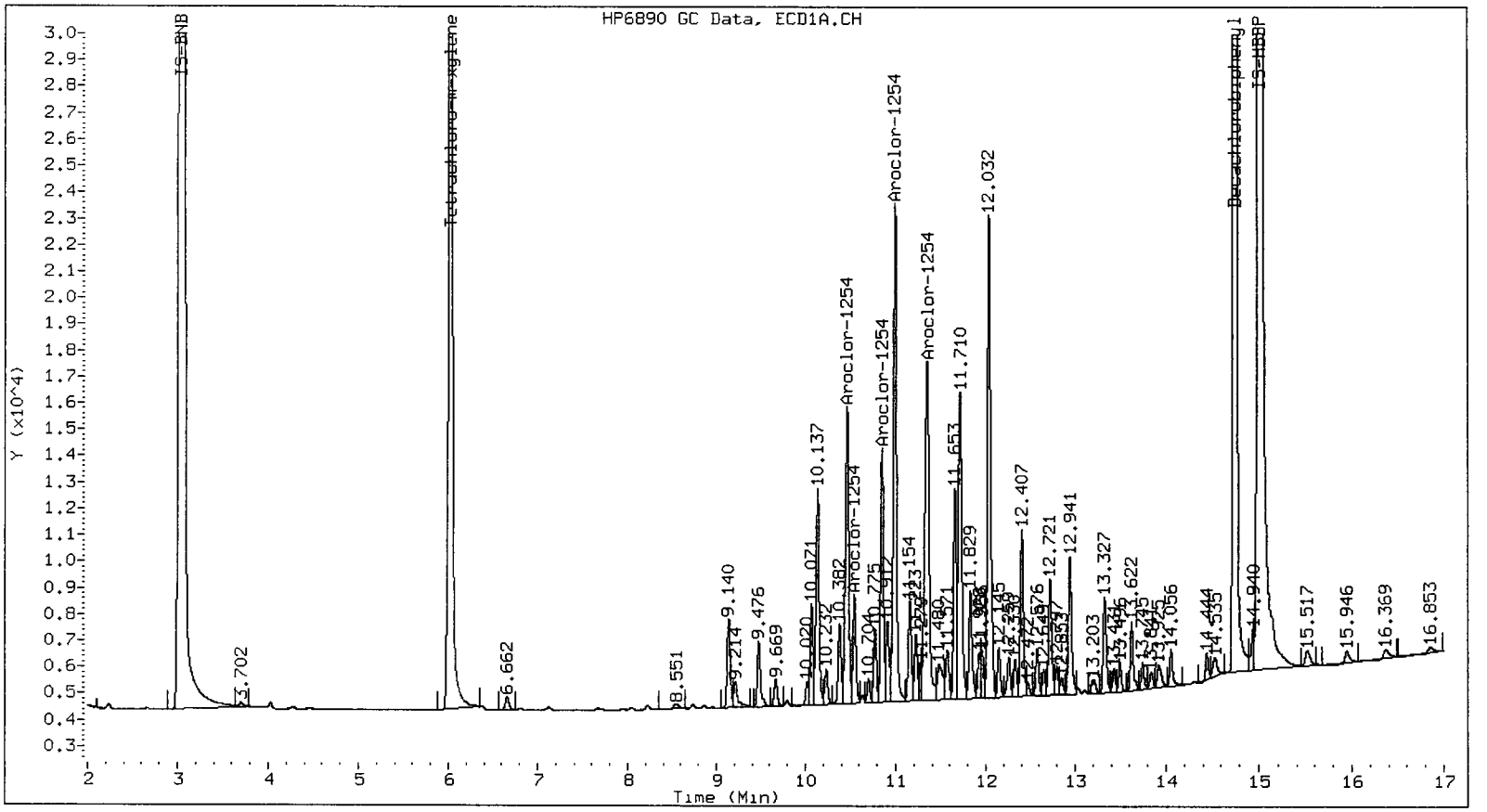


AVZ9.66056

ECD7-ZB5 AR1254A 24-FEB-2016 15:55, 2ul



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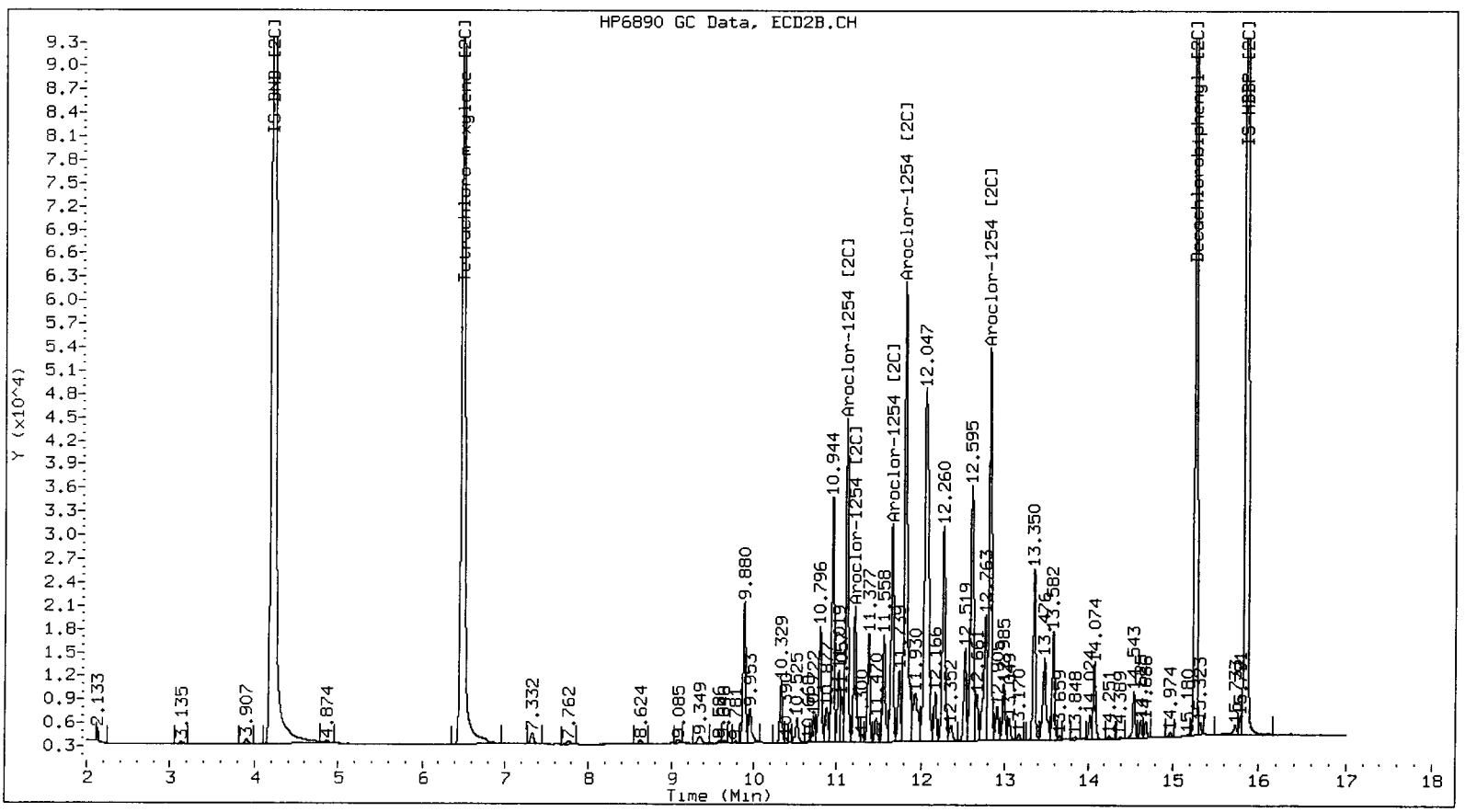


AVZ9 : 99351

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241604.D
Data file 2: /20160224.b/20160224.b/02241604.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660A
Client ID:
Injection Date: 24-FEB-2016 16:17
Report Date: 02/26/2016 09:00
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
6.023	-0.002	2263824	6.481	0.000	6812918	41.1	41.2	0.3	Tetrachloro-m-xyle
14.744	0.000	7002227	15.261	0.001	6227058	43.5	38.2	13.0	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	102.8	103.1
Decachlorobiphenyl	108.7	95.5

K 02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10166056	-1.2
Hexabromobiphenyl	12470452	12061079	-3.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	14254336	-9.8
Hexabromobiphenyl	11807823	12743031	7.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.043	-0.004	329247	253.0	1	8.626	-0.001	1797332	253.0
Aroclor-1016	2	8.554	-0.003	1003668	250.2	2	9.353	-0.001	3679138	251.6
Aroclor-1016	3	8.863	-0.003	362085	264.3	3	9.587	0.000	1544181	264.6
Aroclor-1016	4	9.671	-0.001	390255	255.5	4	10.526	-0.000	702805	259.2

Total Col1Ave (4 peaks): 255.8 Total Col2Ave (4 peaks): 257.1 RPD = 1
Corrected Ave (3 peaks): 252.9 Corrected Ave (3 peaks): 254.6 RPD = 1

CalAmt %D: 2.3 CalAmt %D: 2.8

Aroclor-1260	1	12.260	0.000	784155	267.7	1	12.817	-0.000	2410714	205.2
Aroclor-1260	2	12.942	0.001	2758018	247.4	2	13.582	0.000	4731407	207.6
Aroclor-1260	3	13.330	0.001	1257148	262.6	3	14.075	0.001	3251351	216.1
Aroclor-1260	4	13.431	0.000	791795	266.2	4	14.626	0.000	1383546	239.8
Aroclor-1260	5	13.843	0.000	452410	260.4	NS	---			----

Total Col1Ave (5 peaks): 260.9 Total Col2Ave (4 peaks): 217.2 RPD = 18
Corrected Ave (4 peaks): 259.2 Corrected Ave (3 peaks): 209.6 RPD = 21

CalAmt %D: 4.3 CalAmt %D: -13.1

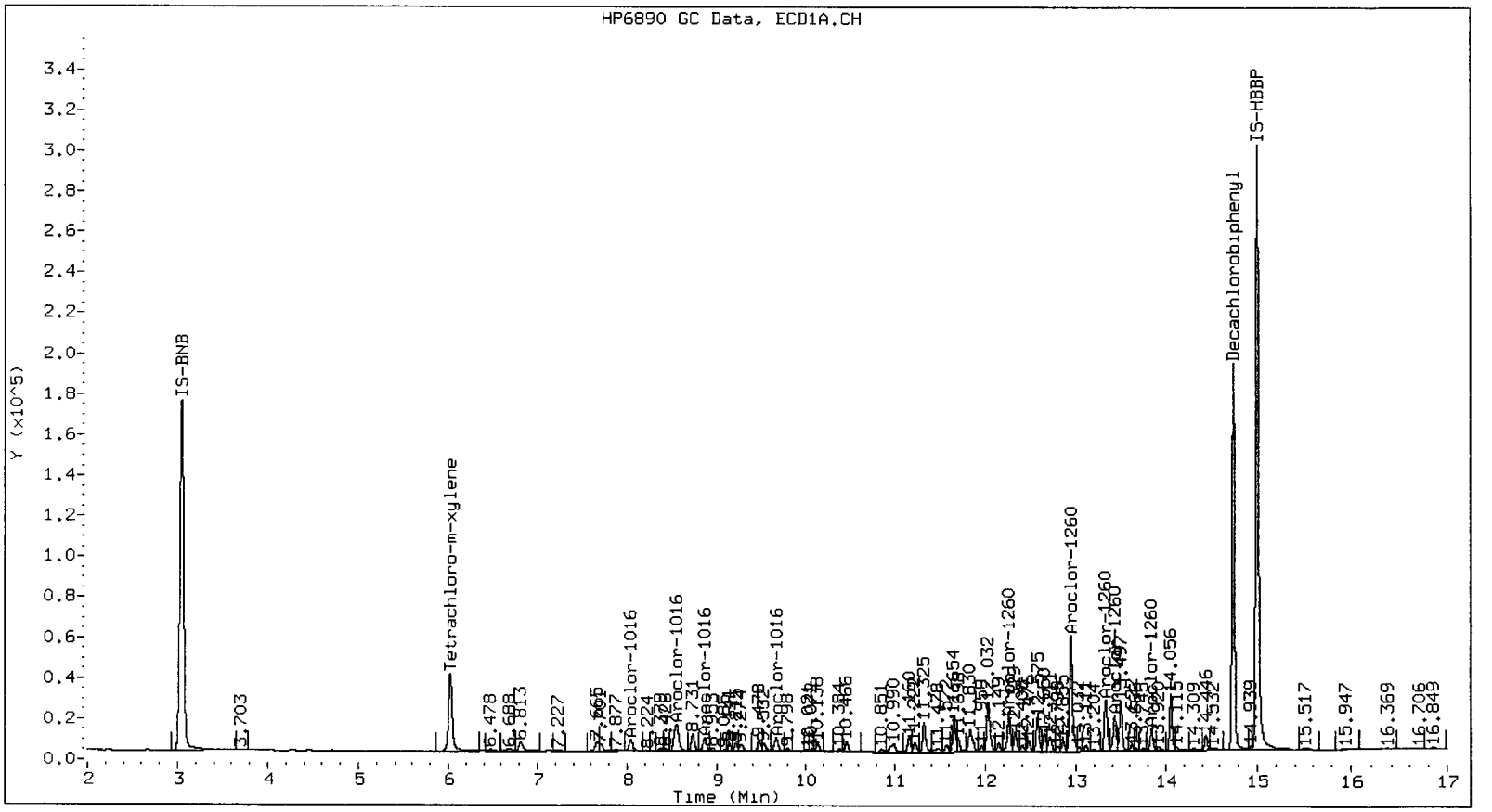
Total PCB Area Col1 (6.126 - 14.643) = 22684713 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.126 - 14.643) = 62425237 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AR1660A 24-FEB-2016 16:17, 2ul



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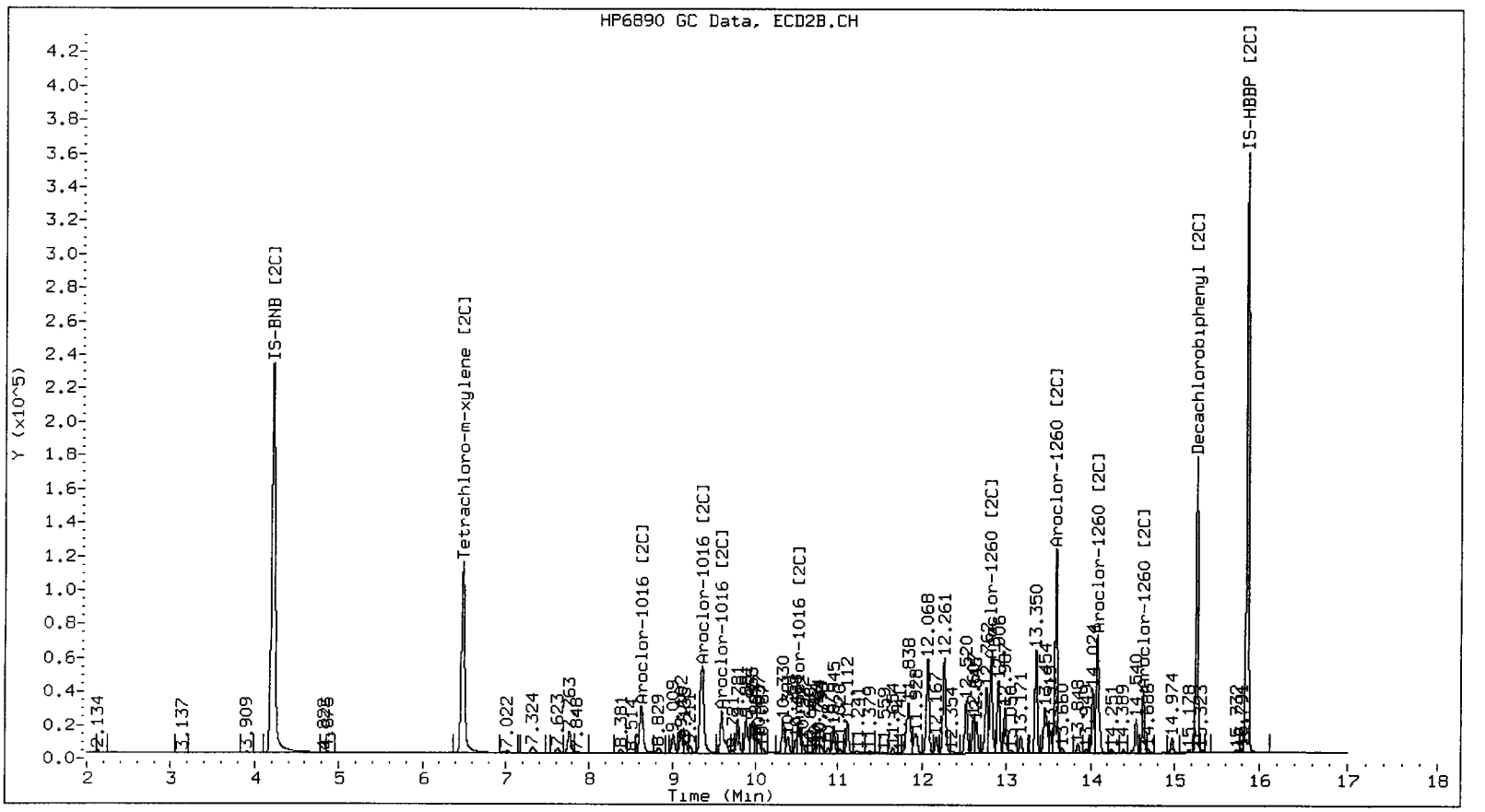

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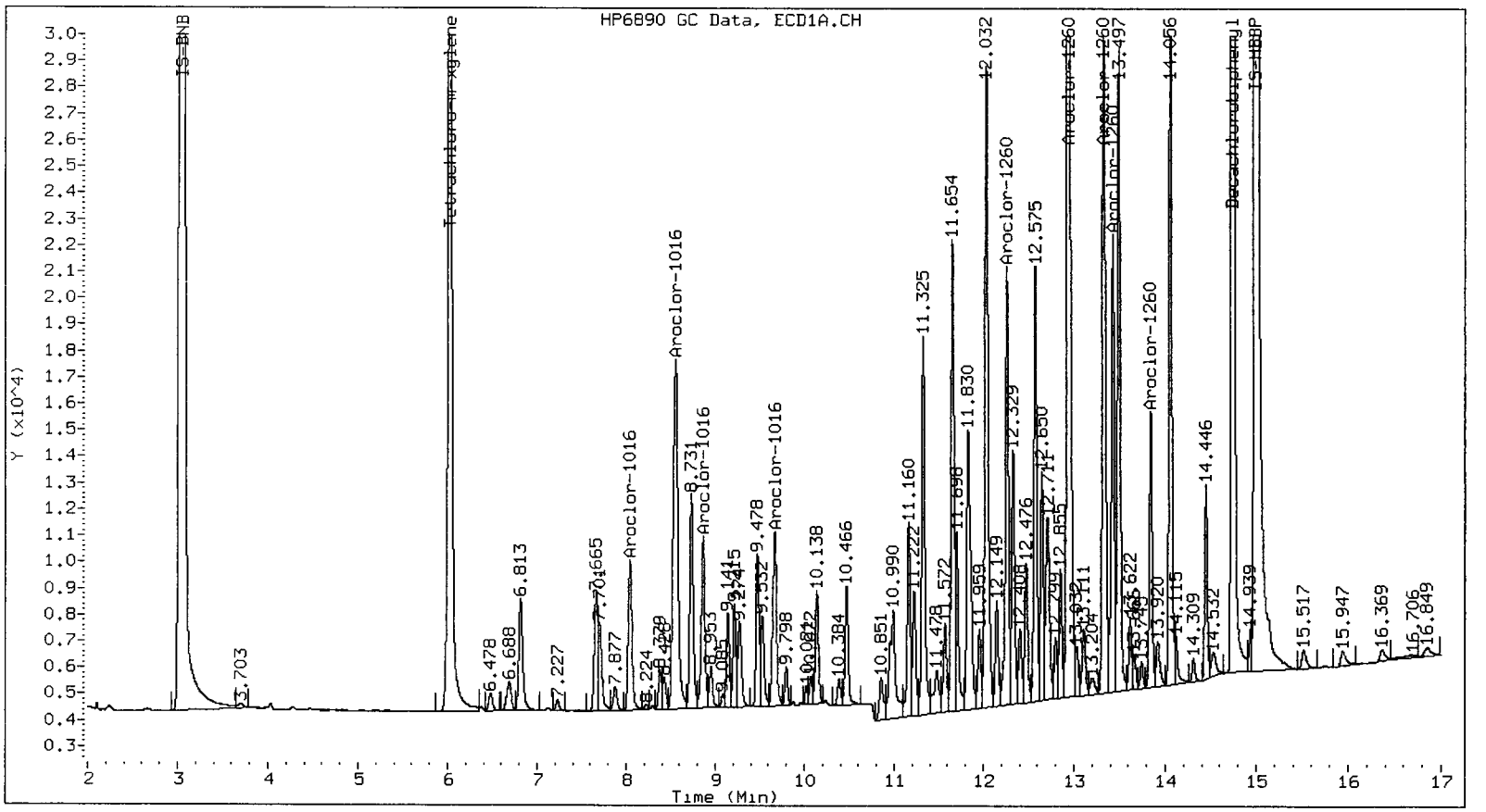

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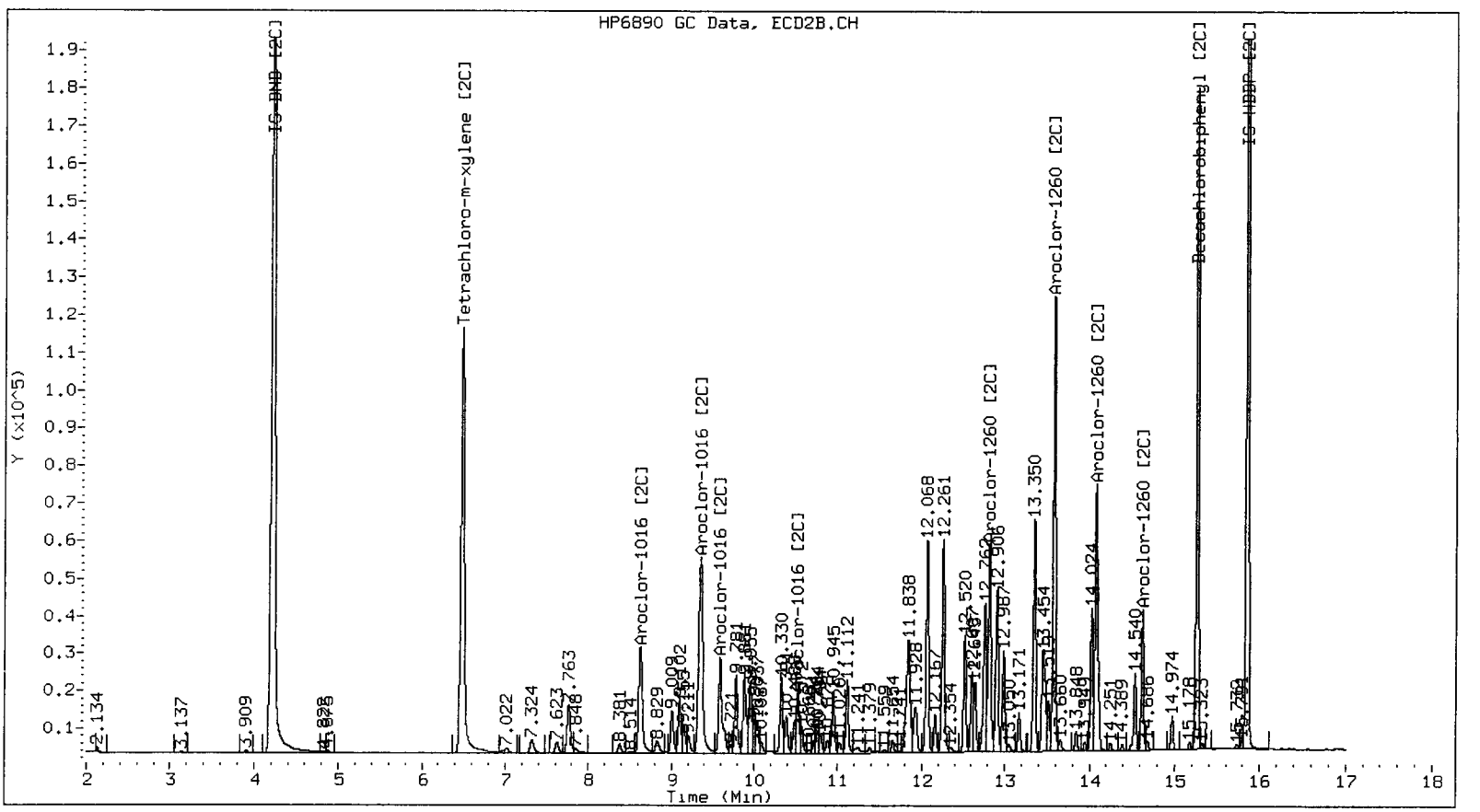


AVZ9.0035

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241610.D
Data file 2: /20160224.b/20160224.b/02241610.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9MBS1
Client ID: AVZ9MBS1
Injection Date: 24-FEB-2016 18:29
Report Date: 02/26/2016 09:00
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
6.027	0.002	1923050	6.484	0.002	5465291	34.6	32.6	6.0	Tetrachloro-m-xyle
14.743	-0.000	7598597	15.260	-0.000	6538606	46.7	41.9	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	86.5	81.5
Decachlorobiphenyl	116.8	104.6

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10259443	-0.3
Hexabromobiphenyl	12470452	12183344	-2.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	14463912	-8.5
Hexabromobiphenyl	11807823	12209510	3.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	7.967	-0.080	88764	67.6	1	---			0.0
Aroclor-1016	2	---			0.0	2	9.409	0.055	16478	1.1
Aroclor-1016	3	8.874	0.009	110753	80.1	3	9.591	0.004	24561	4.1
Aroclor-1016	4	9.725	0.054	49755	32.3	4	10.526	0.000	26706	9.7
Total Col1Ave (3 peaks):				60.0		Total Col2Ave (3 peaks):			5.0	RPD = 169*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1221	1	4.674	-0.041	78512	241.9	1	5.550	-0.035	14222	10.6
Aroclor-1221	2	6.670	-0.021	49337	94.6	2	7.648	0.025	311528	248.3
Aroclor-1221	3	6.754	-0.061	53748	34.5	3	7.773	0.010	29418	7.4
Aroclor-1221	NS	---			----	4	---			0.0
Total Col1Ave (3 peaks):				123.7		Total Col2Ave (3 peaks):			88.7	RPD = 33
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.674	-0.041	78512	426.6	1	5.550	-0.036	14222	17.5
Aroclor-1232	2	6.670	-0.021	49337	140.8	2	7.648	0.025	311528	407.2
Aroclor-1232	3	6.754	-0.061	53748	52.0	3	7.773	-0.079	29418	68.2
Aroclor-1232	4	---			0.0	4	---			0.0
Total Col1Ave (3 peaks):				206.5		Total Col2Ave (3 peaks):			164.3	RPD = 23
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	8.874	0.010	110753	95.7	2	9.409	0.055	16478	1.4
Aroclor-1242	3	9.725	0.054	49755	34.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	10.954	0.074	214812	53.3
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	9.501	0.023	122346	88.8	2	---			0.0
Aroclor-1248	3	9.725	0.055	49755	24.1	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1254	1	10.446	-0.017	42321	18.6	1	11.129	0.017	194792	26.8
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	---			0.0	3	---			0.0
Aroclor-1254	4	10.995	0.005	100954	27.7	4	11.800	-0.007	265021	21.3
Aroclor-1254	5	11.444	0.099	209920	58.8	5	12.858	0.041	251432	27.4
Total Col1Ave (3 peaks):				35.1		Total Col2Ave (3 peaks):			25.2	RPD = 33
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1260	1	12.299	0.039	103344	34.9	1	12.858	0.041	251432	22.3
Aroclor-1260	2	---			0.0	2	13.557	-0.024	201634	9.2
Aroclor-1260	3	---			0.0	3	14.102	0.027	30113	2.1
Aroclor-1260	4	13.486	0.055	54399	18.1	4	14.646	0.021	86889	15.7
Aroclor-1260	5	13.830	-0.013	32562	18.6	NS	---			----
Total Col1Ave (3 peaks):				23.9		Total Col2Ave (4 peaks):			12.3	RPD = 64*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			9.0	
Aroclor-1262	1	12.299	0.039	103344	26.2	1	12.858	-0.047	251432	20.3
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	13.557	-0.024	201634	8.6
Aroclor-1262	4	13.486	0.056	54399	9.9	4	14.102	0.026	30113	2.0
Aroclor-1262	5	14.081	0.025	182134	29.4	5	14.646	0.021	86889	11.1
Total Col1Ave (3 peaks):				21.8		Total Col2Ave (4 peaks):			10.5	RPD = 70*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			7.2	
Aroclor-1268	1	13.486	0.055	54399	3.4	1	13.992	-0.029	38442	1.6
Aroclor-1268	2	---			0.0	2	14.102	0.026	30113	1.3
Aroclor-1268	3	13.830	0.003	32562	1.8	3	14.337	-0.051	128465	7.0
Aroclor-1268	4	14.510	0.064	40577	0.6	4	14.924	-0.050	75760	1.4
Total Col1Ave (3 peaks):				1.9		Total Col2Ave (4 peaks):			2.8	RPD = 38

Corrected Ave: < 3 Peaks Corrected Ave (3 peaks): 1.5

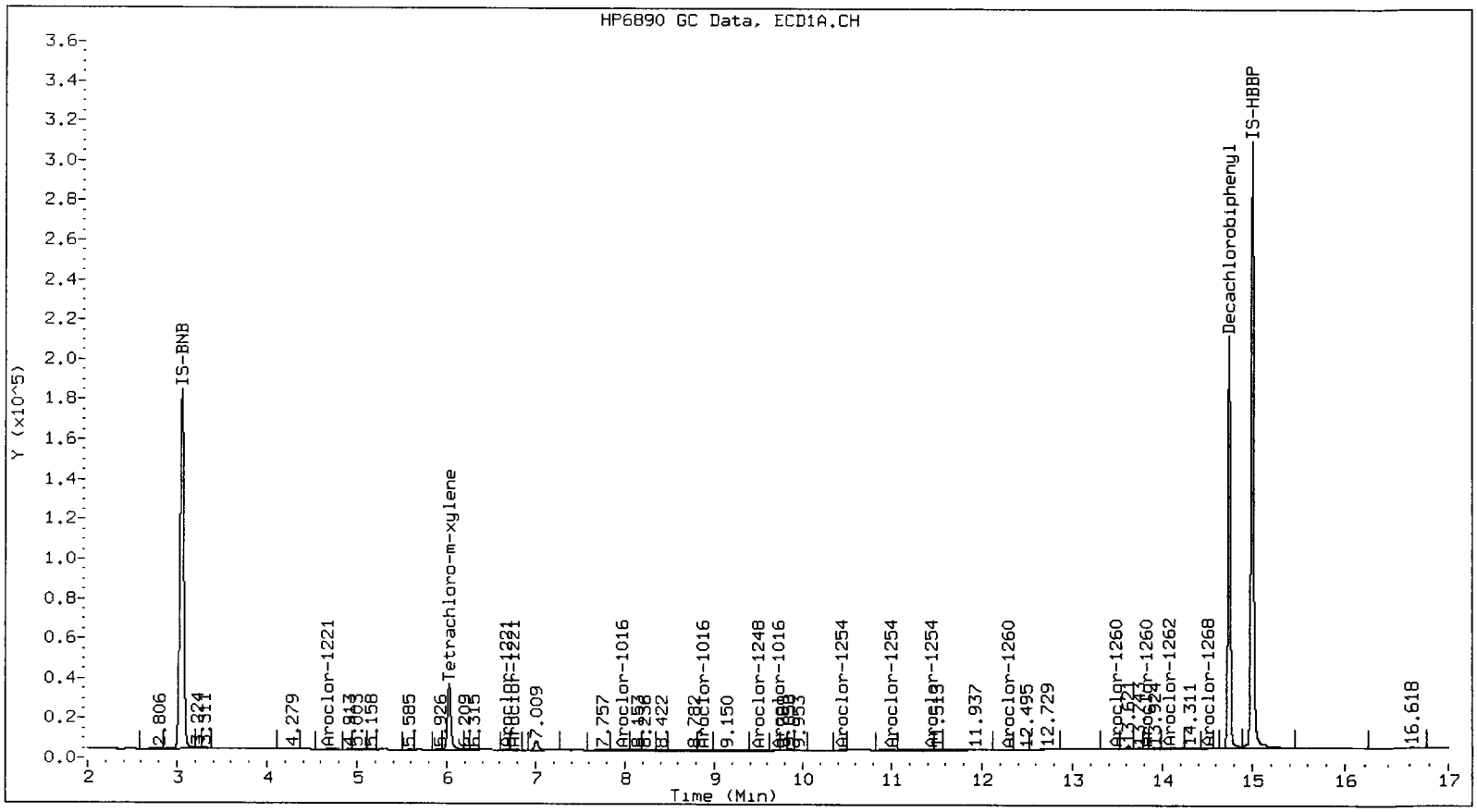
Total PCB Area Col1 (6.126 - 14.643) = 3308700 Col1 Total PCB = 0.1 ppm*

Total PCB Area Col2 (6.126 - 14.643) = 8823622 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9MBS1 24-FEB-2016 18:29, 2ul



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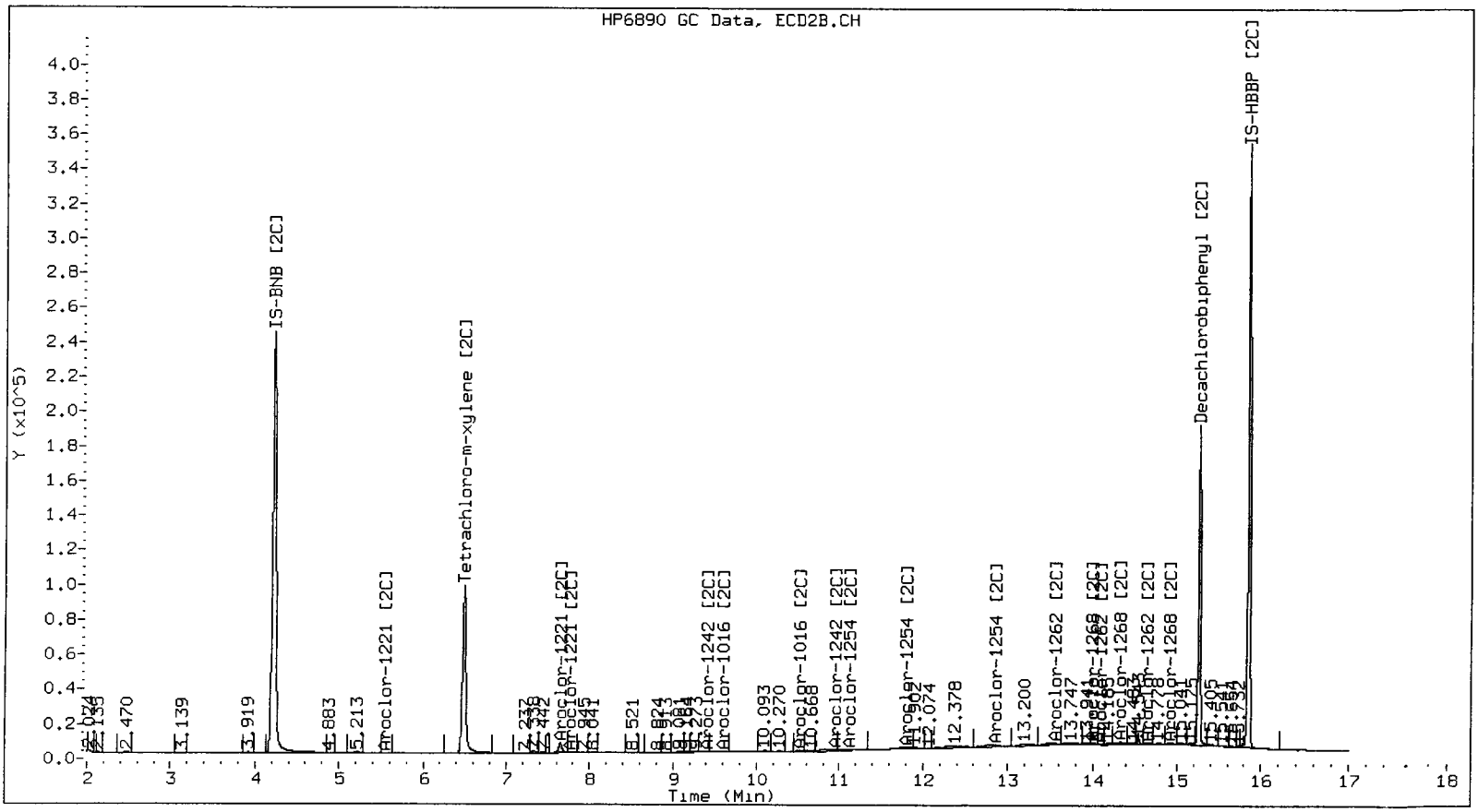

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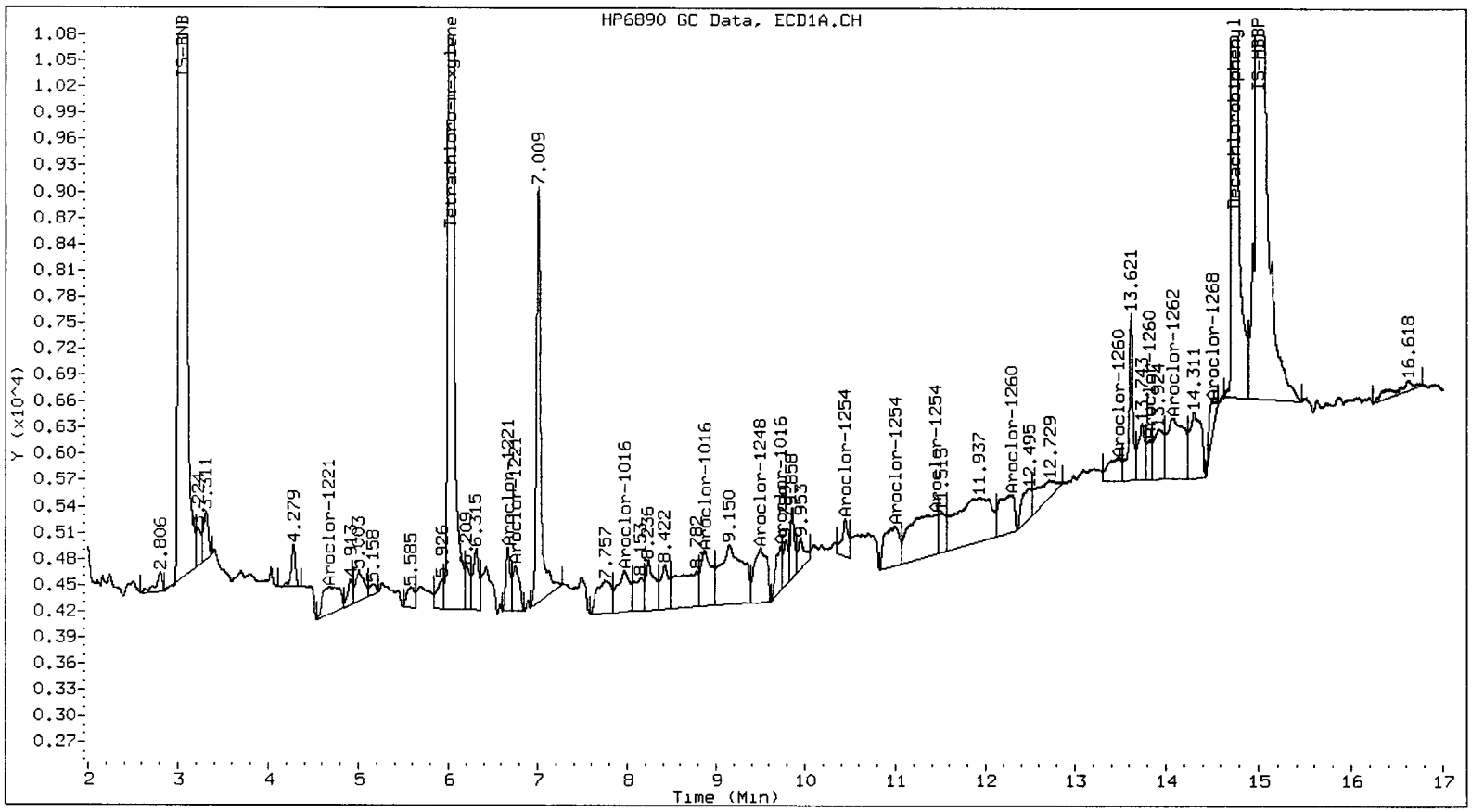

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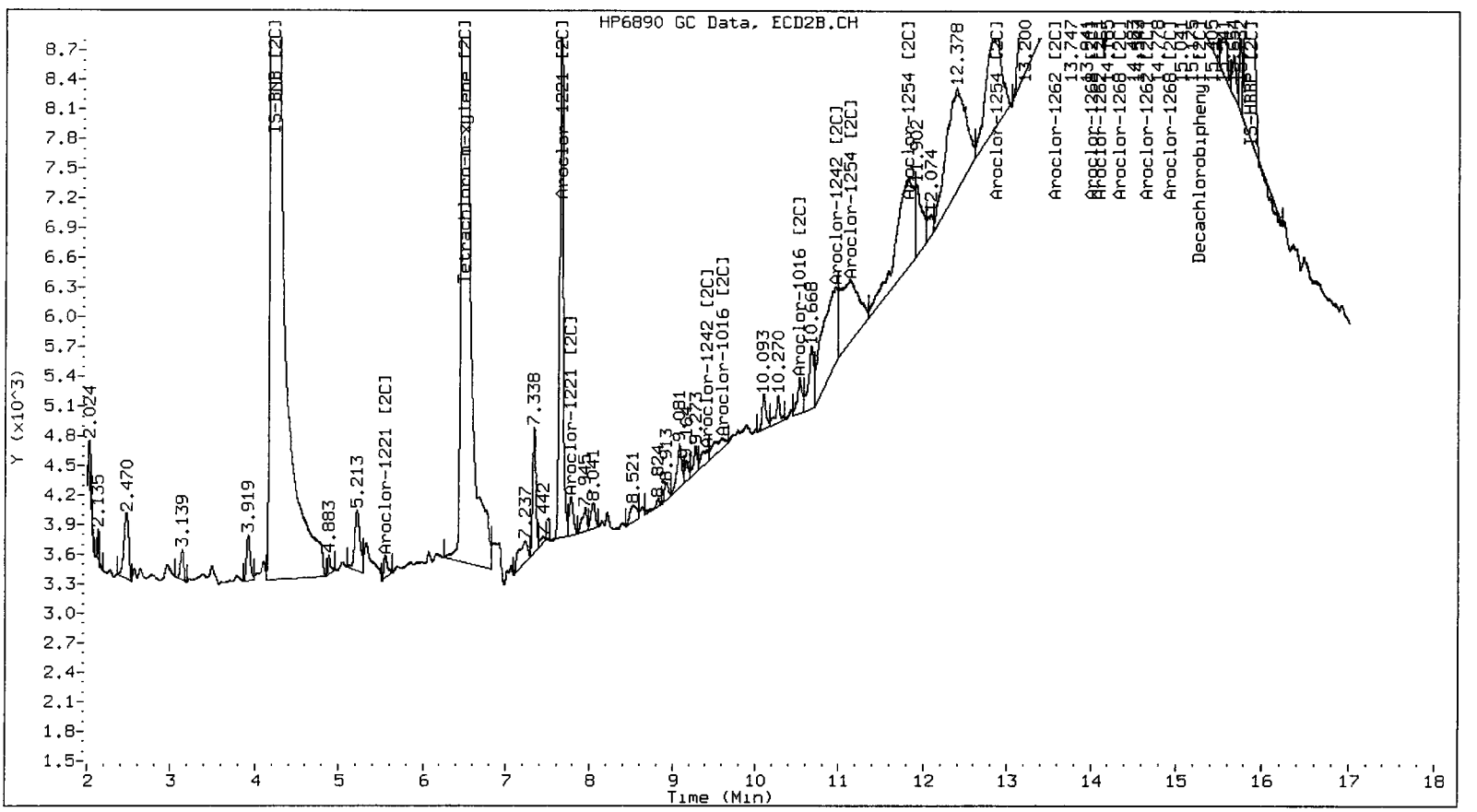


AVZ9:00068

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241611.D
Data file 2: /20160224.b/20160224.b/02241611.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9LCSS1
Client ID: AVZ9LCSS1
Injection Date: 24-FEB-2016 18:51
Report Date: 02/26/2016 09:00
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
6.027	0.001	1708692	6.484	0.003	4960884	28.7	27.9	2.8	Tetrachloro-m-xyle
14.743	-0.001	6939591	15.260	-0.000	6153870	40.3	36.3	10.3	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	71.8	69.8
Decachlorobiphenyl	100.6	90.8

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10981406	6.7
Hexabromobiphenyl	12470452	12914035	3.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15320350	-3.1
Hexabromobiphenyl	11807823	13239492	12.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.046	-0.001	613092	436.1	1	8.629	0.001	2684323	351.6
Aroclor-1016	2	8.556	-0.000	1673542	386.2	2	9.353	-0.000	5859212	372.8
Aroclor-1016	3	8.864	-0.001	640819	433.1	3	9.587	0.000	2419924	385.7
Aroclor-1016	4	9.672	0.000	585079	354.6	4	10.526	0.000	1150119	394.7
Total Col1Ave (4 peaks):				402.5		Total Col2Ave (4 peaks):			376.2	RPD = 7
Corrected Ave (3 peaks):				391.3		Corrected Ave (3 peaks):			370.0	RPD = 6
Aroclor-1221	1	4.718	0.004	20740	59.7	1	5.588	0.003	21580	15.1
Aroclor-1221	2	6.694	0.004	118297	211.9	2	7.629	0.005	312314	235.0
Aroclor-1221	3	6.815	-0.000	424127	254.3	3	7.766	0.002	1102426	262.2
Aroclor-1221	NS	---			----	4	8.629	-0.015	2684323	1926.0
Total Col1Ave (3 peaks):				175.3		Total Col2Ave (4 peaks):			609.6	RPD = 111*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			170.8	
Aroclor-1232	1	4.718	0.004	20740	105.3	1	5.588	0.002	21580	25.1
Aroclor-1232	2	6.694	0.003	118297	315.3	2	7.629	0.006	312314	385.4
Aroclor-1232	3	6.815	0.000	424127	383.6	3	7.852	0.001	92089	201.5
Aroclor-1232	4	8.556	0.002	1673542	925.8	4	8.629	0.001	2684323	755.6
Total Col1Ave (4 peaks):				432.5		Total Col2Ave (4 peaks):			341.9	RPD = 23
Corrected Ave (3 peaks):				268.1		Corrected Ave (3 peaks):			204.0	RPD = 27
Aroclor-1242	1	8.556	0.000	1673542	495.7	1	8.629	0.001	2684323	452.5
Aroclor-1242	2	8.864	0.000	640819	517.1	2	9.353	0.000	5859212	477.1
Aroclor-1242	3	9.672	0.001	585079	373.4	3	9.781	-0.001	1535731	484.4
Aroclor-1242	4	10.072	-0.000	103702	91.6	4	10.877	-0.002	252436	59.1
Total Col1Ave (4 peaks):				369.4		Total Col2Ave (4 peaks):			368.3	RPD = 0
Corrected Ave (3 peaks):				320.2		Corrected Ave (3 peaks):			329.6	RPD = 3
Aroclor-1248	1	8.556	0.003	1673542	845.0	1	9.353	0.003	5859212	799.5
Aroclor-1248	2	9.478	0.001	484474	328.5	2	9.882	0.000	1685054	312.0
Aroclor-1248	3	9.672	0.002	585079	264.3	3	10.794	-0.003	320328	38.8
Aroclor-1248	4	10.072	0.001	103702	56.3	4	11.241	-0.001	144495	17.5
Total Col1Ave (4 peaks):				373.5		Total Col2Ave (4 peaks):			292.0	RPD = 25
Corrected Ave (3 peaks):				216.4		Corrected Ave (3 peaks):			122.8	RPD = 55*
Aroclor-1254	1	10.467	0.003	378059	155.5	1	11.112	-0.000	1340603	174.0
Aroclor-1254	2	---			0.0	2	11.241	0.030	144495	40.0
Aroclor-1254	3	10.852	0.002	86909	43.7	3	11.653	-0.001	249284	43.1
Aroclor-1254	4	10.989	-0.001	442596	113.5	4	11.838	0.031	3276451	248.4
Aroclor-1254	5	11.324	-0.022	1117177	292.6	5	12.817	0.000	4282484	440.7
Total Col1Ave (4 peaks):				151.3		Total Col2Ave (5 peaks):			189.3	RPD = 22
Corrected Ave (3 peaks):				104.3		Corrected Ave (4 peaks):			126.4	RPD = 19
Aroclor-1260	1	12.259	-0.001	1321278	421.2	1	12.817	0.000	4282484	350.8
Aroclor-1260	2	12.940	-0.001	4978201	417.1	2	13.581	-0.000	8888167	375.4
Aroclor-1260	3	13.327	-0.001	2260570	441.1	3	14.075	-0.000	5700633	364.6
Aroclor-1260	4	13.431	0.000	1422490	446.7	4	14.625	-0.000	2425710	404.6
Aroclor-1260	5	13.842	-0.001	817758	439.7	NS	---			----
Total Col1Ave (5 peaks):				433.1		Total Col2Ave (4 peaks):			373.9	RPD = 15
Corrected Ave (4 peaks):				429.8		Corrected Ave (3 peaks):			363.6	RPD = 17
Aroclor-1262	1	12.259	-0.000	1321278	316.2	1	12.905	0.000	3614868	268.5
Aroclor-1262	2	12.940	-0.000	4978201	406.3	2	13.350	0.001	4221219	339.3
Aroclor-1262	3	13.327	-0.002	2260570	582.2	3	13.581	0.000	8888167	350.1
Aroclor-1262	4	13.431	0.001	1422490	243.1	4	14.075	-0.001	5700633	345.1
Aroclor-1262	5	14.055	-0.000	2008091	305.5	5	14.625	-0.000	2425710	286.5
Total Col1Ave (5 peaks):				370.7		Total Col2Ave (5 peaks):			317.9	RPD = 15
Corrected Ave (4 peaks):				317.8		Corrected Ave (4 peaks):			309.9	RPD = 3
Aroclor-1268	1	13.431	0.000	1422490	83.5	1	14.023	0.002	2619579	99.2
Aroclor-1268	2	13.495	0.001	1898119	89.9	2	14.075	-0.001	5700633	230.9
Aroclor-1268	3	13.842	0.015	817758	42.8	3	14.388	0.000	110232	5.5

Aroclor-1268	4	14.445	-0.001	364355	5.3	4	14.972	-0.001	532647	9.4

Total Col1Ave (4 peaks): 55.4 Total Col2Ave (4 peaks): 86.3 RPD = 44*

Corrected Ave (3 peaks): 43.9 Corrected Ave (3 peaks): 38.1 RPD = 14

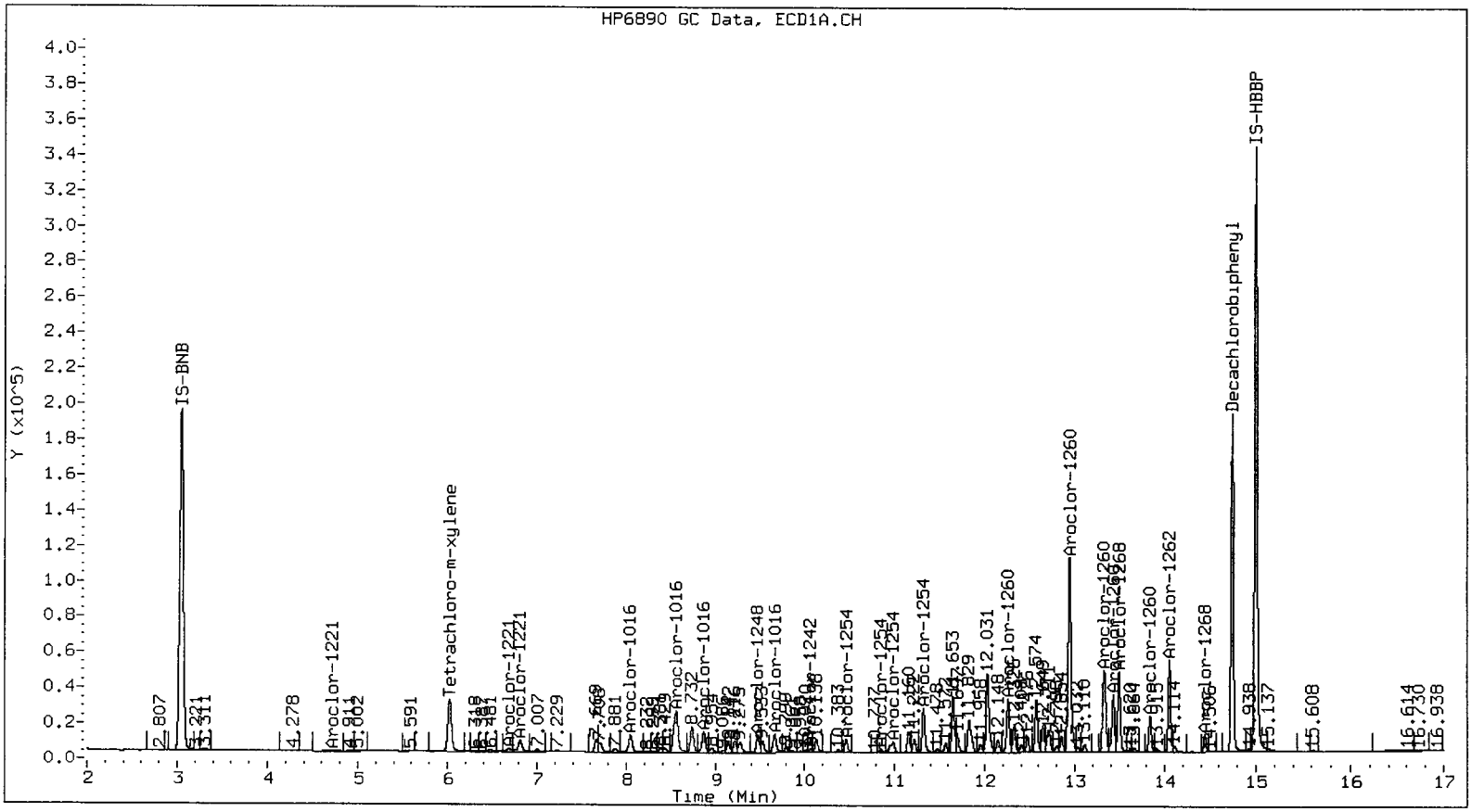
Total PCB Area Col1 (6.126 - 14.643) = 38243654 Col1 Total PCB = 0.8 ppm*

Total PCB Area Col2 (6.126 - 14.643) = 100124214 Col2 Total PCB = 0.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9LCSS1 24-FEB-2016 18:51, 2ul



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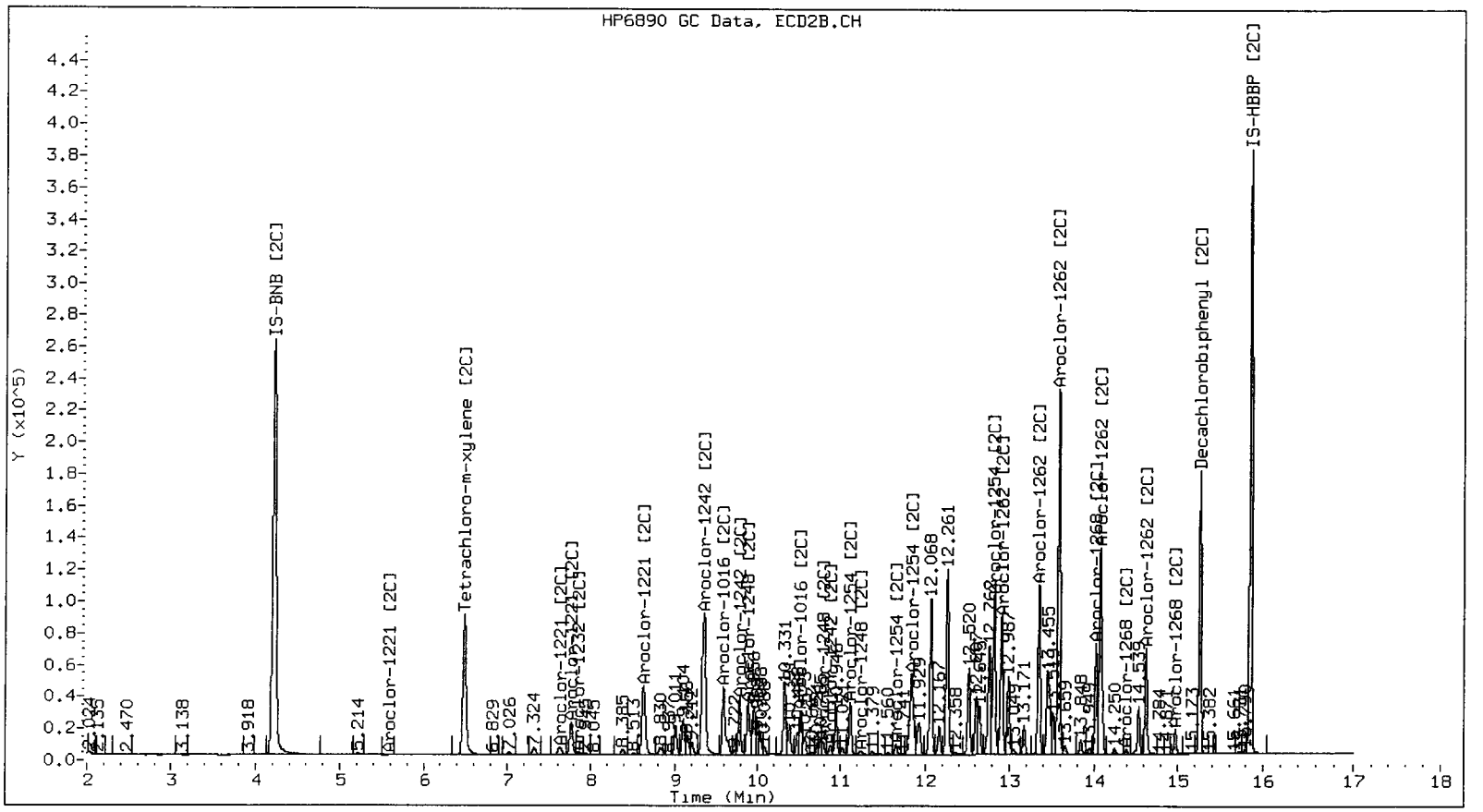

AVZ9 00354

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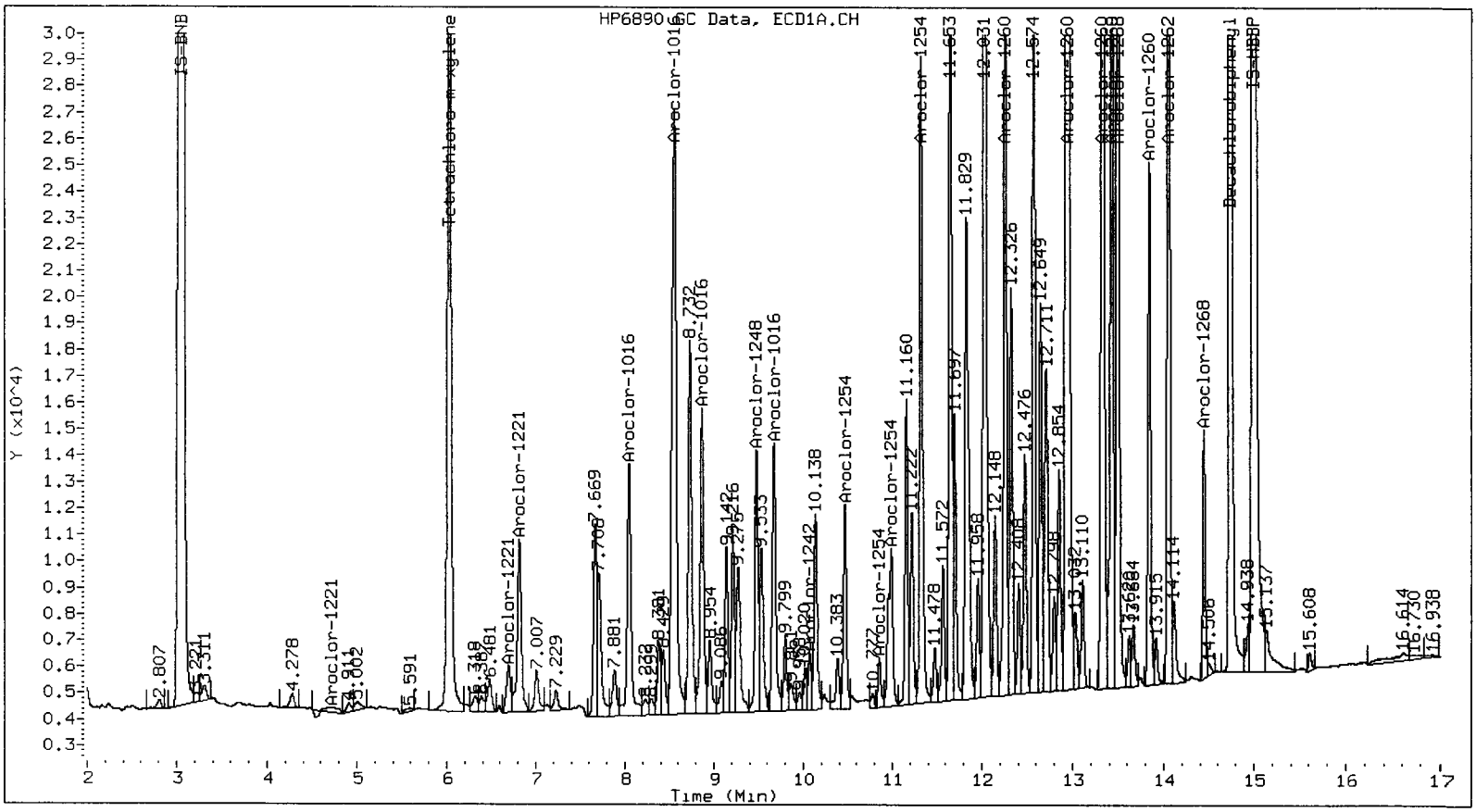

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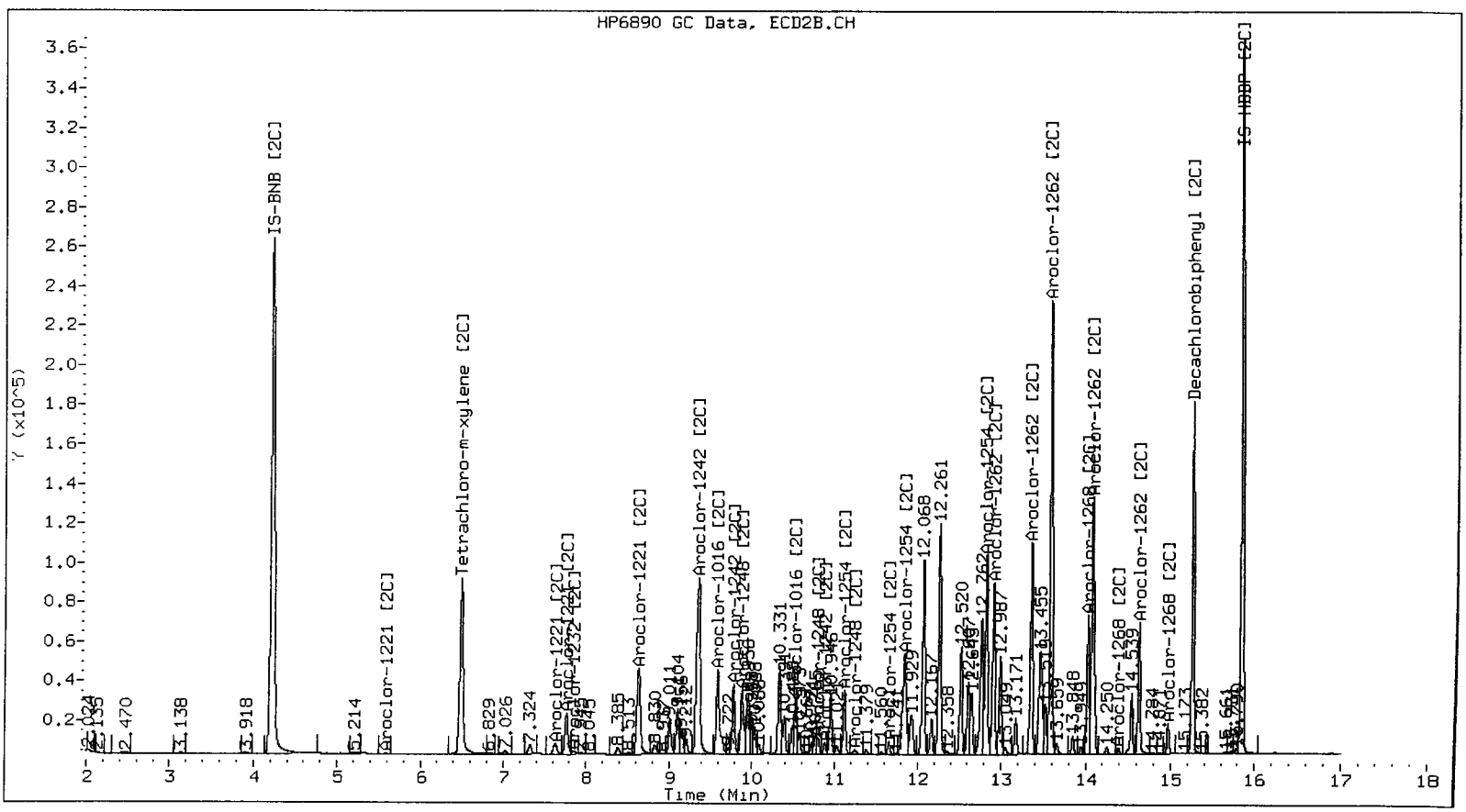


AVZ9:60355

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241612.D
Data file 2: /20160224.b/20160224.b/02241612.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9SRM1
Client ID: PSR
Injection Date: 24-FEB-2016 19:13
Report Date: 02/26/2016 09:00
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
6.025	-0.001	1319137	6.481	0.000	3914321	22.3	21.8	2.0	Tetrachloro-m-xyle
14.742	-0.001	5626548	15.259	-0.001	5198511	35.7	30.7	14.9	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	55.7	54.6
Decachlorobiphenyl	89.2	76.8

A 02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10930698	6.2
Hexabromobiphenyl	12470452	11818128	-5.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15458717	-2.2
Hexabromobiphenyl	11807823	13225969	12.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.044	-0.003	27762	19.8	1	8.627	-0.000	138553	18.0
Aroclor-1016	2	8.555	-0.002	133941	31.0	2	9.352	-0.001	350068	22.1
Aroclor-1016	3	8.864	-0.001	94076	63.9	3	9.586	-0.001	87049	13.8
Aroclor-1016	4	9.671	-0.000	88859	54.1	4	10.525	-0.001	198146	67.4
Total Col1Ave (4 peaks):				42.2		Total Col2Ave (4 peaks):			30.3	RPD = 33
Corrected Ave (3 peaks):				35.0		Corrected Ave (3 peaks):			17.9	RPD = 64*
Aroclor-1221	1	---			0.0	1	5.546	-0.039	39343	27.3
Aroclor-1221	2	6.670	-0.021	41452	74.6	2	7.644	0.021	190306	141.9
Aroclor-1221	3	6.751	-0.064	60234	36.3	3	7.771	0.008	98693	23.3
Aroclor-1221	NS	---			----	4	8.627	-0.016	138553	98.5
Col1Ave: <3 Quant Peaks						Col2Ave:			72.8	
Aroclor-1232	1	---			0.0	1	5.546	-0.040	39343	45.3
Aroclor-1232	2	6.670	-0.021	41452	111.0	2	7.644	0.021	190306	232.7
Aroclor-1232	3	6.751	-0.064	60234	54.7	3	7.771	-0.081	98693	214.0
Aroclor-1232	4	8.555	0.000	133941	74.4	4	8.627	-0.001	138553	38.6
Total Col1Ave (3 peaks):				80.1		Total Col2Ave (4 peaks):			132.7	RPD = 49*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			99.3	
Aroclor-1242	1	8.555	-0.001	133941	39.9	1	8.627	-0.001	138553	23.1
Aroclor-1242	2	8.864	0.001	94076	76.3	2	9.352	-0.001	350068	28.2
Aroclor-1242	3	9.671	0.001	88859	57.0	3	9.777	-0.004	84398	26.4
Aroclor-1242	4	10.071	-0.001	113125	100.4	4	10.875	-0.004	270772	62.8
Total Col1Ave (4 peaks):				68.4		Total Col2Ave (4 peaks):			35.2	RPD = 64*
Corrected Ave (3 peaks):				57.7		Corrected Ave (3 peaks):			25.9	RPD = 76*
Aroclor-1248	1	8.555	0.002	133941	67.9	1	9.352	0.002	350068	47.3
Aroclor-1248	2	9.478	0.001	122641	83.5	2	9.880	-0.001	398981	73.2
Aroclor-1248	3	9.671	0.001	88859	40.3	3	10.794	-0.003	377936	45.4
Aroclor-1248	4	10.071	-0.000	113125	61.7	4	11.209	-0.033	614301	73.9
Total Col1Ave (4 peaks):				63.4		Total Col2Ave (4 peaks):			60.0	RPD = 6
Corrected Ave (3 peaks):				56.7		Corrected Ave (3 peaks):			55.3	RPD = 2
Aroclor-1254	1	10.464	0.000	340389	140.7	1	11.111	-0.002	1053260	135.5
Aroclor-1254	2	10.544	0.000	121128	150.2	2	11.209	-0.002	614301	168.7
Aroclor-1254	3	10.857	0.008	268415	135.7	3	11.651	-0.002	437478	75.0
Aroclor-1254	4	10.989	-0.001	495485	127.6	4	11.805	-0.002	1129150	84.9
Aroclor-1254	5	11.326	-0.020	724206	190.6	5	12.815	-0.002	2330436	237.7
Total Col1Ave (5 peaks):				148.9		Total Col2Ave (5 peaks):			140.3	RPD = 6
Corrected Ave (4 peaks):				138.5		Corrected Ave (4 peaks):			116.0	RPD = 18
Aroclor-1260	1	12.259	-0.001	558858	194.7	1	12.815	-0.002	2330436	191.1
Aroclor-1260	2	12.940	-0.001	2065189	189.1	2	13.579	-0.002	3608897	152.6
Aroclor-1260	3	13.326	-0.003	957032	204.0	3	14.074	-0.001	2389951	153.0
Aroclor-1260	4	13.429	-0.001	548816	188.3	4	14.624	-0.001	1010420	168.7
Aroclor-1260	5	13.841	-0.001	320550	188.3	NS	---			----
Total Col1Ave (5 peaks):				192.9		Total Col2Ave (4 peaks):			166.4	RPD = 15
Corrected Ave (4 peaks):				190.1		Corrected Ave (3 peaks):			158.1	RPD = 18
Aroclor-1262	1	12.259	-0.001	558858	146.1	1	12.904	-0.001	1449435	107.8
Aroclor-1262	2	12.940	-0.001	2065189	184.2	2	13.348	-0.001	1768303	142.3
Aroclor-1262	3	13.326	-0.004	957032	269.4	3	13.579	-0.001	3608897	142.3
Aroclor-1262	4	13.429	-0.001	548816	102.5	4	14.074	-0.002	2389951	144.8
Aroclor-1262	5	14.054	-0.001	834058	138.6	5	14.624	-0.001	1010420	119.5
Total Col1Ave (5 peaks):				168.2		Total Col2Ave (5 peaks):			131.3	RPD = 25
Corrected Ave (4 peaks):				142.9		Corrected Ave (4 peaks):			127.9	RPD = 11
Aroclor-1268	1	13.429	-0.001	548816	35.2	1	14.022	0.000	1111073	42.1
Aroclor-1268	2	13.495	0.000	727901	37.7	2	14.074	-0.002	2389951	96.9
Aroclor-1268	3	13.841	0.014	320550	18.3	3	14.388	-0.001	44060	2.2
Aroclor-1268	4	14.443	-0.003	210903	3.3	4	14.972	-0.001	257201	4.5

Total Col1Ave (4 peaks):	23.6	Total Col2Ave (4 peaks):	36.5	RPD = 43*
Corrected Ave (3 peaks):	19.0	Corrected Ave (3 peaks):	16.3	RPD = 15

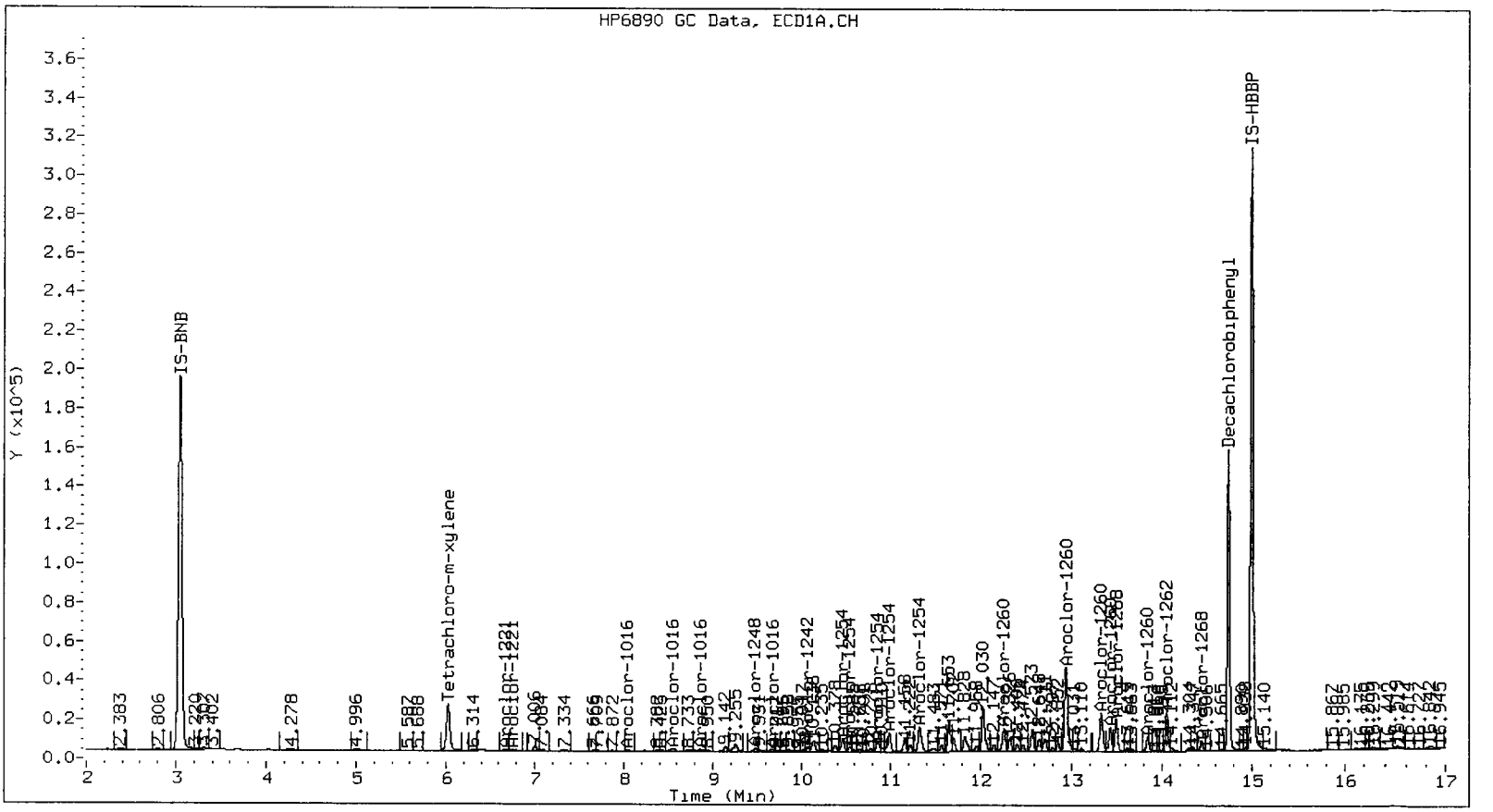
Total PCB Area Col1 (6.126 - 14.643) = 17183880 Col1 Total PCB = 0.4 ppm*

Total PCB Area Col2 (6.126 - 14.643) = 42040226 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9SRM1 24-FEB-2016 19:13, 2ul



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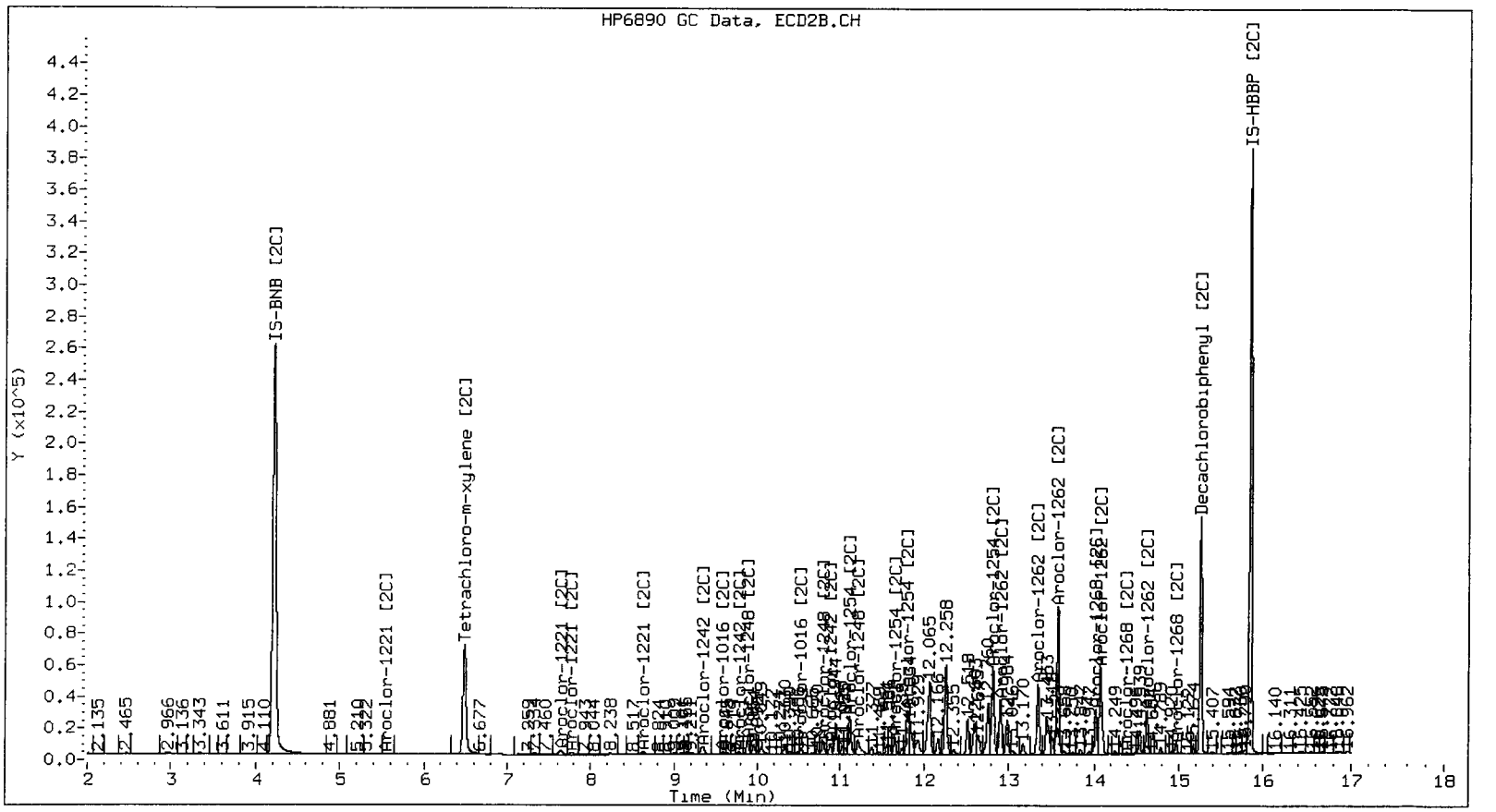
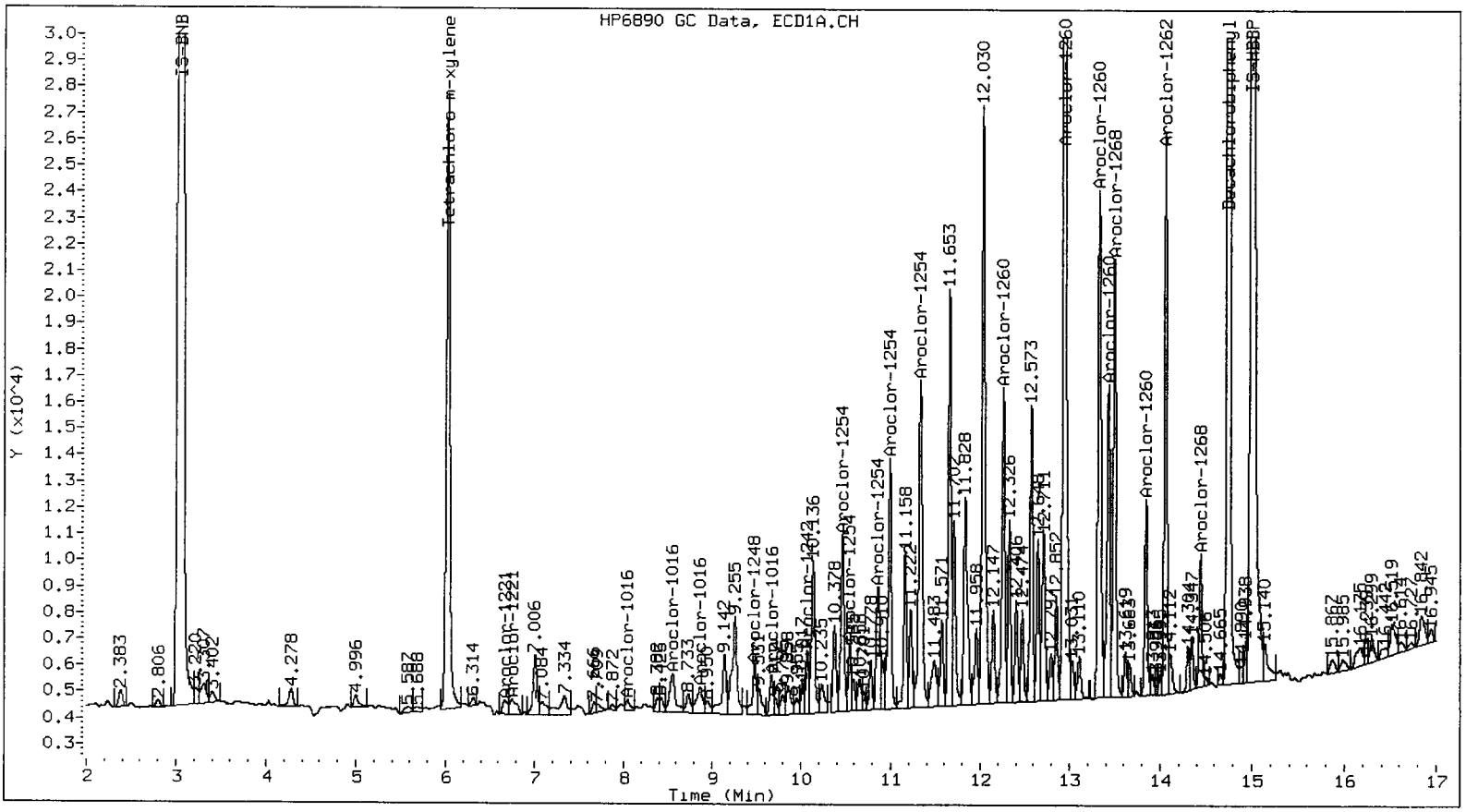
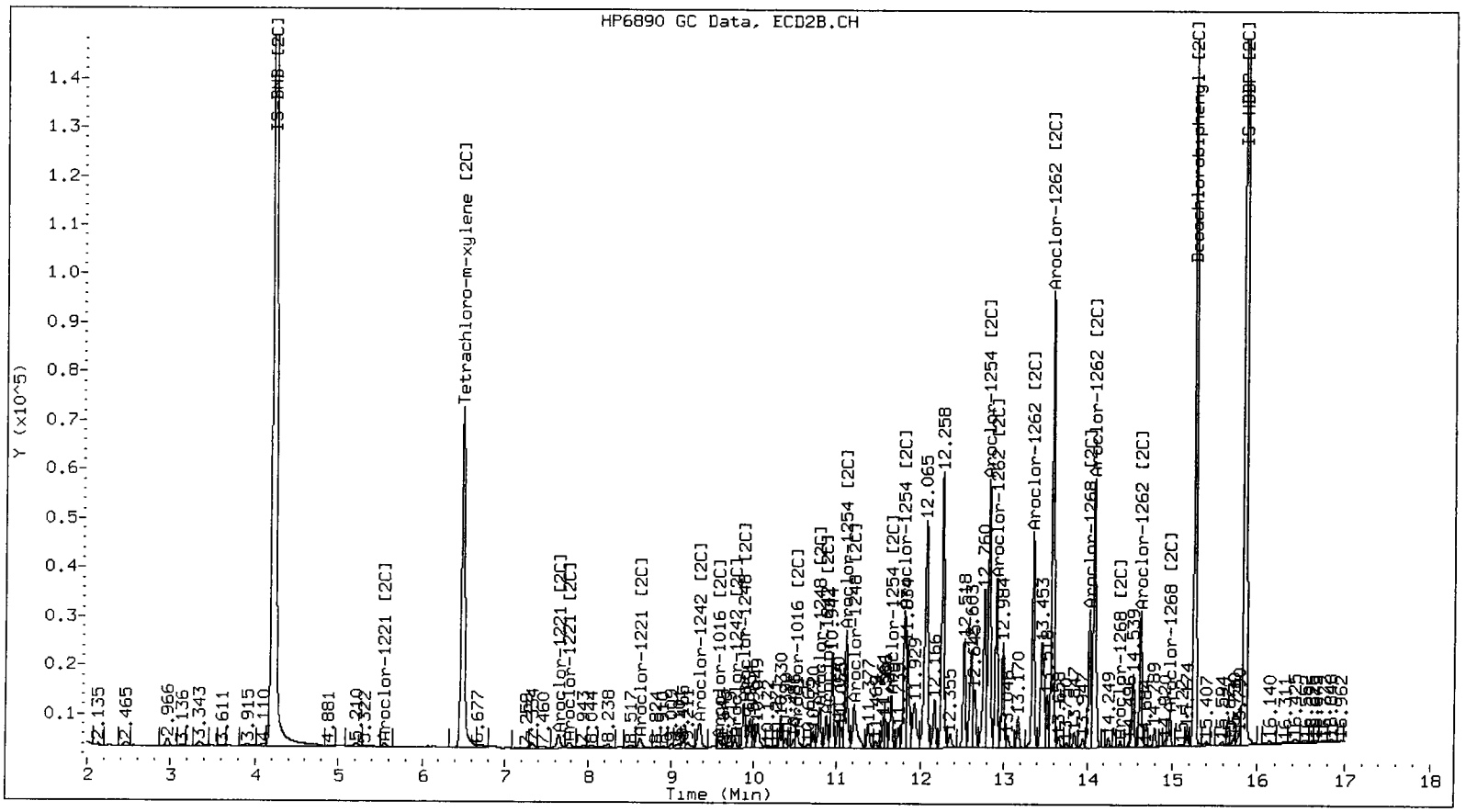


AVZ9 66366

ECD7-ZB5 AVZ9SRM1 24-FEB-2016 19:13, 2ul



ECD7-ZB35 AVZ9SRM1 24-FEB-2016 19:13, 2ul



AVZ9:88376

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241613.D
Data file 2: /20160224.b/20160224.b/02241613.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242B
Client ID:
Injection Date: 24-FEB-2016 19:35
Report Date: 02/26/2016 09:00
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
6.024	-0.001	2245938	6.482	0.001	6880352	39.7	39.5	0.5	Tetrachloro-m-xyle
14.743	0.000	6317032	15.260	-0.000	5634325	39.2	33.1	16.9	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	99.3	98.8
Decachlorobiphenyl	98.0	82.8

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10442060	1.5
Hexabromobiphenyl	12470452	12072066	-3.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15020195	-5.0
Hexabromobiphenyl	11807823	13302068	12.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1242	1	8.556	0.000	820606	255.6	1	8.628	0.000	1459210	250.9
Aroclor-1242	2	8.864	0.000	308715	262.0	2	9.353	0.000	2986520	248.0
Aroclor-1242	3	9.671	0.000	400199	268.6	3	9.781	0.000	773334	248.8
Aroclor-1242	4	10.072	0.000	281759	261.7	4	10.879	0.000	1008317	240.8

Total Col1Ave (4 peaks): 262.0 Total Col2Ave (4 peaks): 247.1 RPD = 6

Corrected Ave (3 peaks): 259.8 Corrected Ave (3 peaks): 245.9 RPD = 5

CalAmt %D: 4.8 CalAmt %D: -1.1

Total PCB Area Col1 (6.126 - 14.643) = 7768246 Col1 Total PCB = 0.2 ppm*

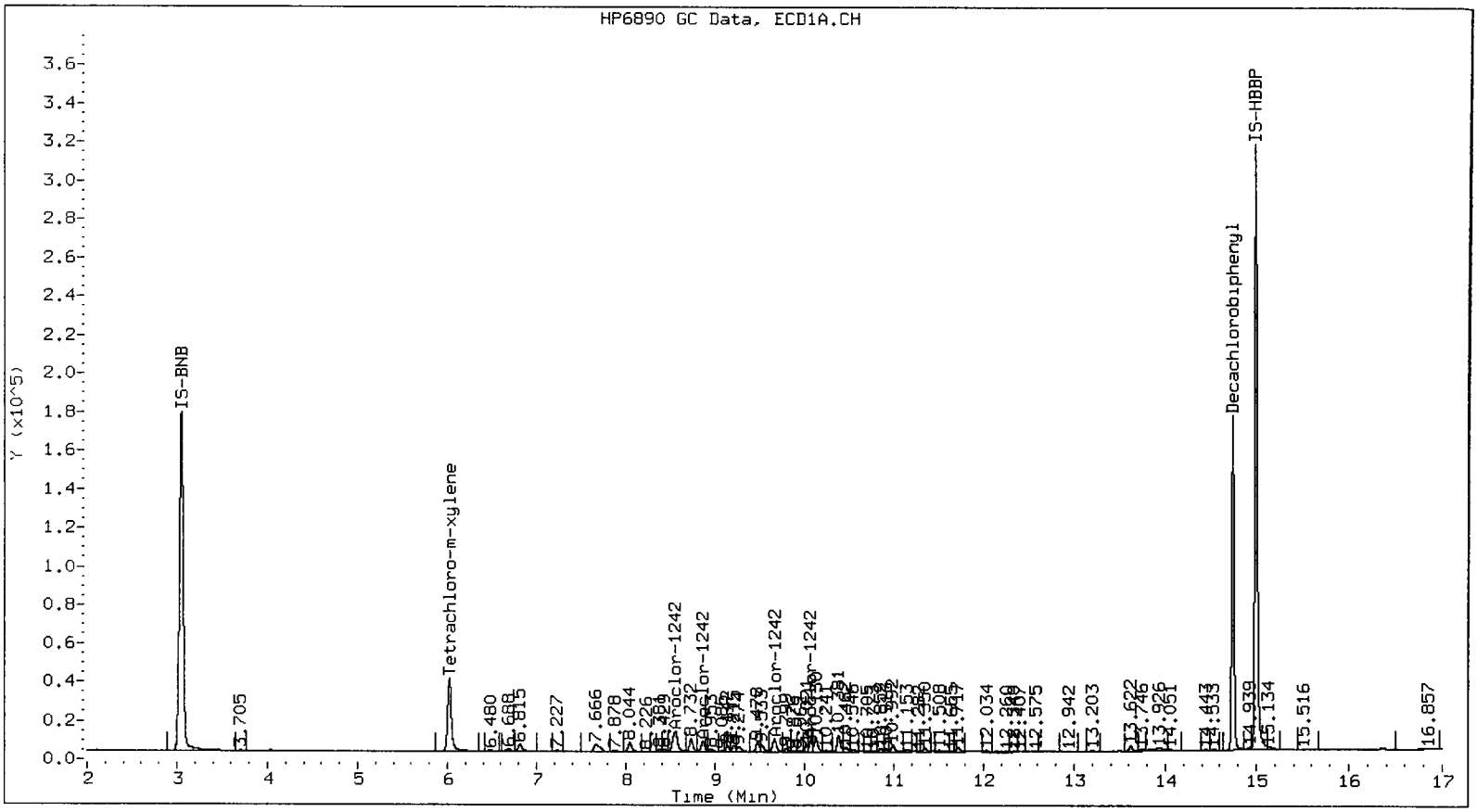
Total PCB Area Col2 (6.126 - 14.643) = 28471399 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

AVZ9 . 66372

ECD7-ZB5 AR1242B 24-FEB-2016 19:35, 2ul



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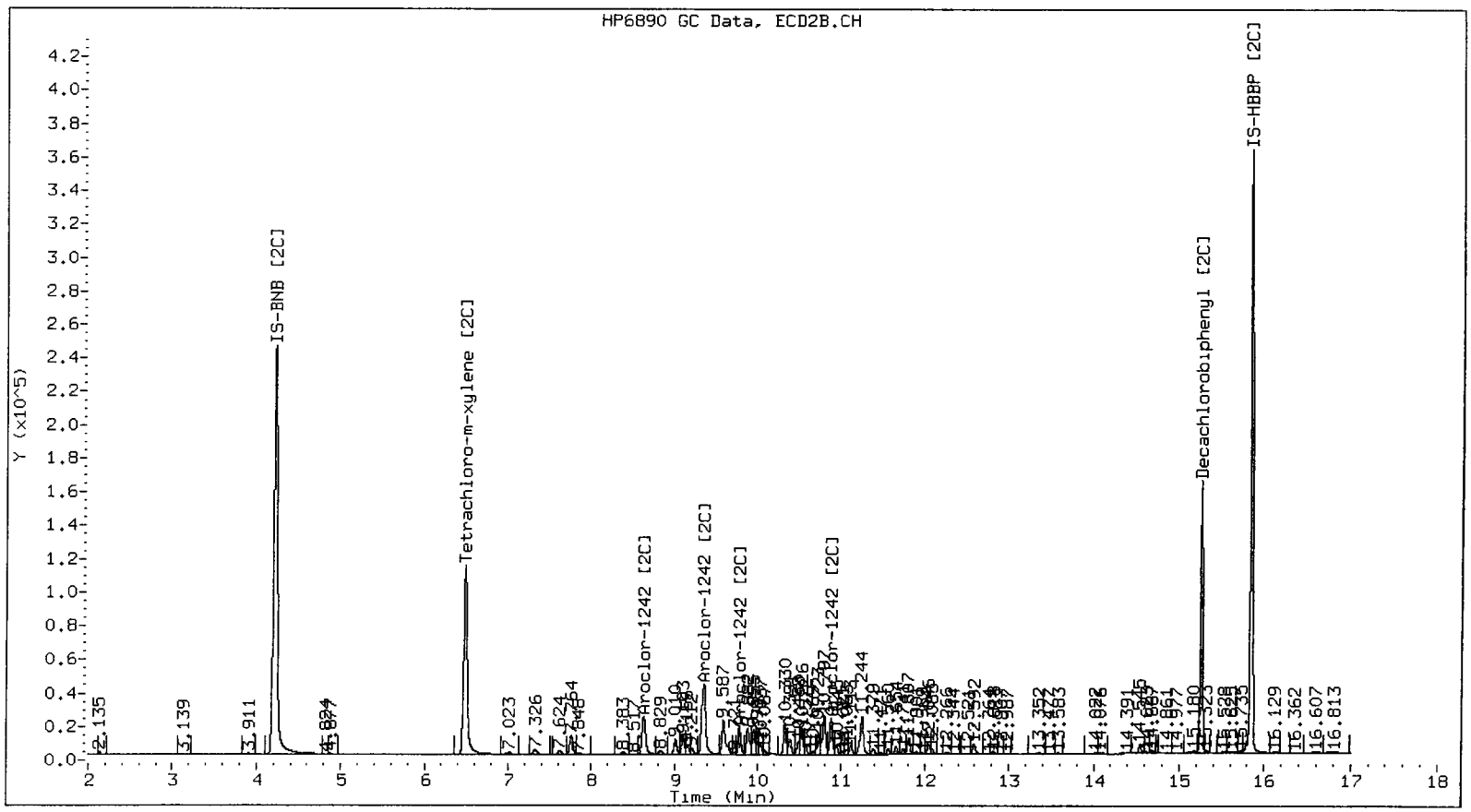
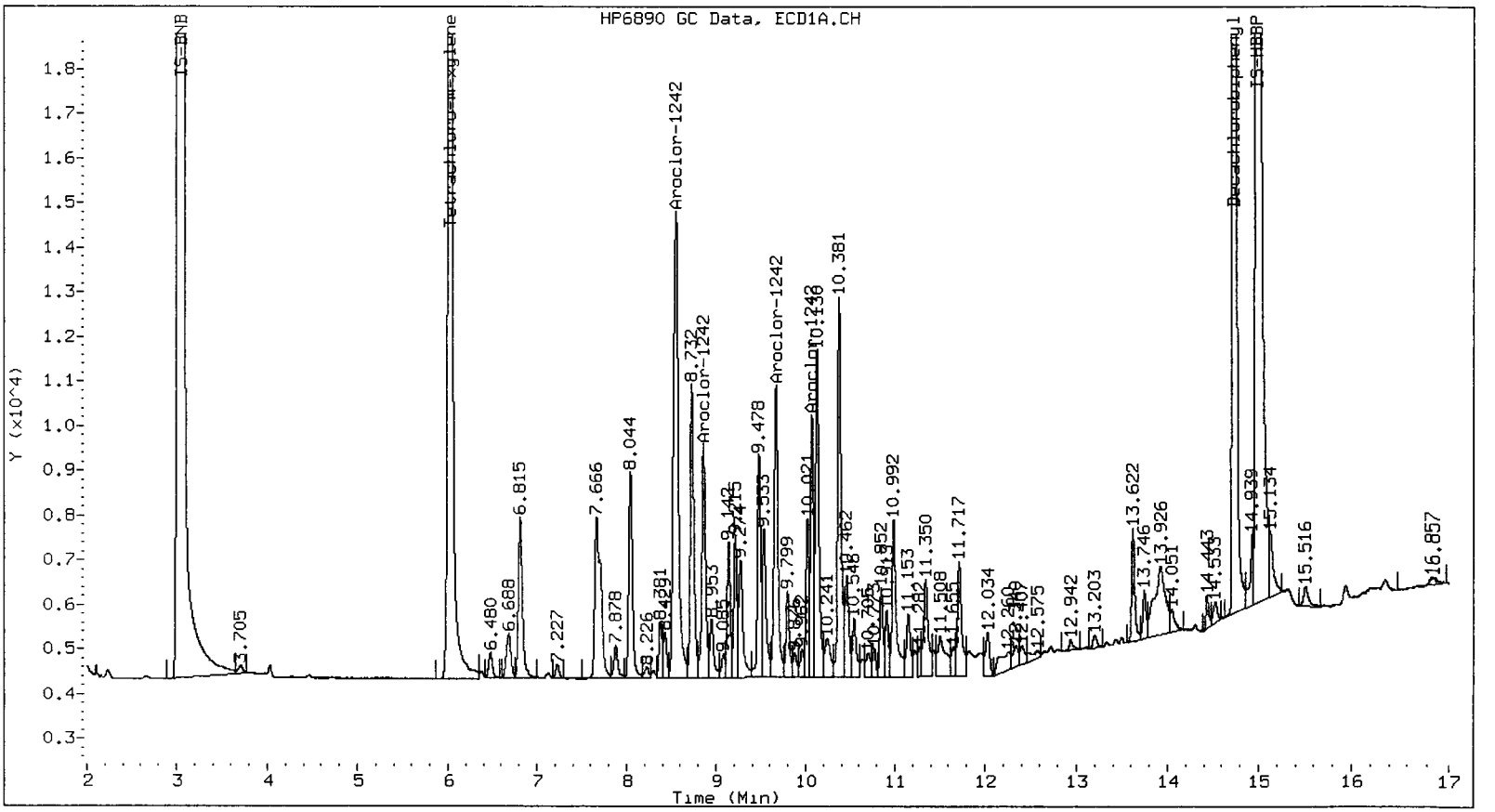
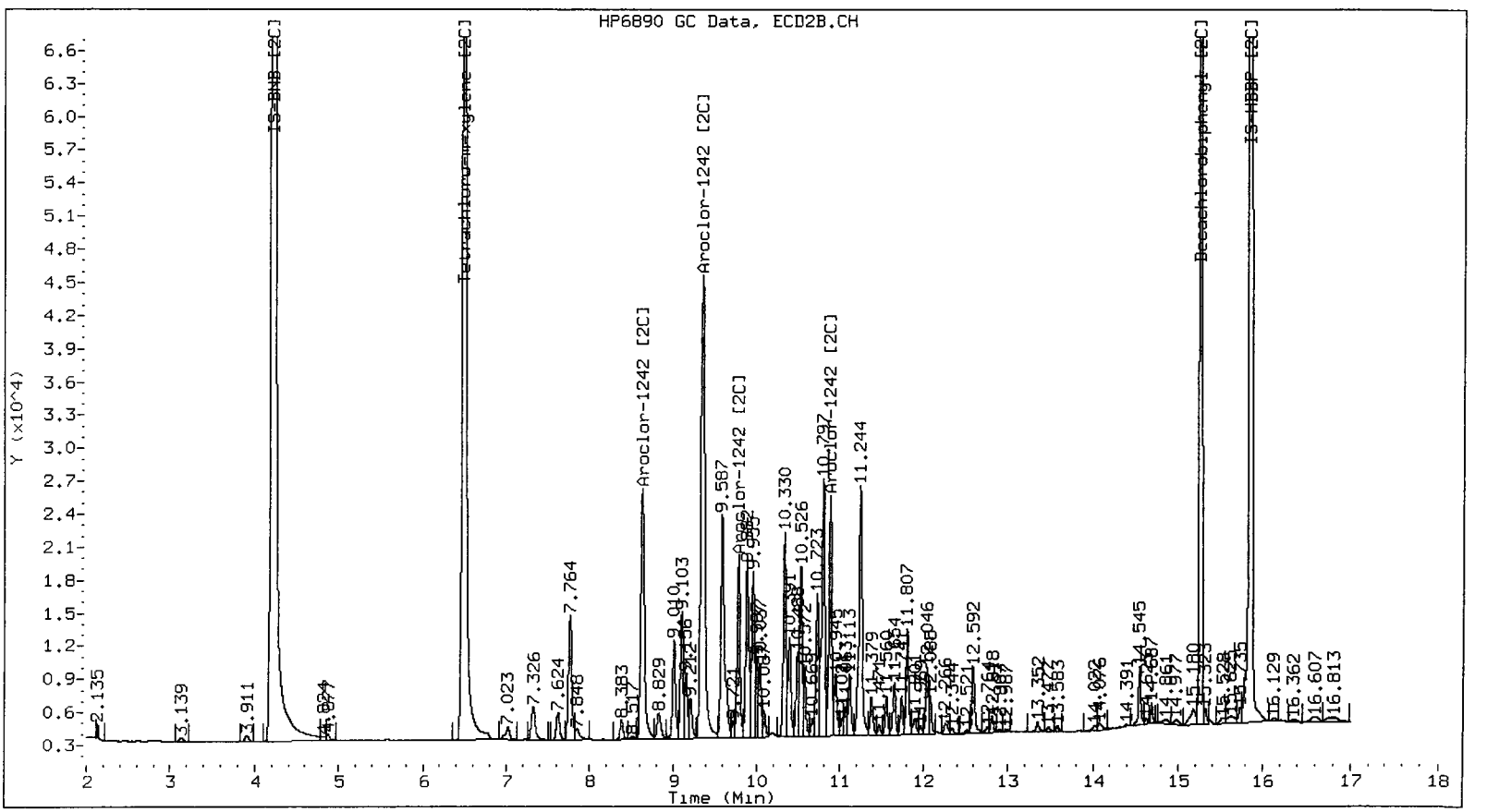


AVZ9:08370

ECD7-ZB5 AR1242B 24-FEB-2016 19:35, 2ul



ECD7-ZB35 AR1242B 24-FEB-2016 19:35, 2ul



Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241614.D
Data file 2: /20160224.b/20160224.b/02241614.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660B
Client ID:
Injection Date: 24-FEB-2016 19:57
Report Date: 02/26/2016 09:00
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
6.026	0.000	2311431	6.484	0.003	7074203	41.0	40.8	0.5	Tetrachloro-m-xyle
14.743	0.000	7069688	15.261	0.000	6232131	43.7	37.5	15.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

02/26/16

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	102.6	102.1
Decachlorobiphenyl	109.3	93.6

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10399789	1.1
Hexabromobiphenyl	12470452	12117734	-2.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	14944611	-5.4
Hexabromobiphenyl	11807823	13005994	10.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.047	0.000	334812	251.5	1	8.630	0.002	1858259	249.5
Aroclor-1016	2	8.557	0.000	1024141	249.5	2	9.355	0.001	3782383	246.7
Aroclor-1016	3	8.865	0.000	368978	263.3	3	9.587	0.001	1582977	258.7
Aroclor-1016	4	9.671	0.000	395315	253.0	4	10.527	0.001	712862	250.8

Total Col1Ave (4 peaks): 254.3 Total Col2Ave (4 peaks): 251.4 RPD = 1
Corrected Ave (3 peaks): 251.3 Corrected Ave (3 peaks): 249.0 RPD = 1

CalAmt %D: 1.7 CalAmt %D: 0.6

Aroclor-1260	1	12.260	0.000	802709	272.7	1	12.817	0.000	2487973	207.5
Aroclor-1260	2	12.941	0.000	2819690	251.8	2	13.581	0.000	4793441	206.1
Aroclor-1260	3	13.328	0.000	1288728	268.0	3	14.075	0.001	3270339	212.9
Aroclor-1260	4	13.430	0.000	809246	270.8	4	14.626	0.000	1387024	235.5
Aroclor-1260	5	13.843	0.000	461235	264.3	NS	---			----

Total Col1Ave (5 peaks): 265.5 Total Col2Ave (4 peaks): 215.5 RPD = 21
Corrected Ave (4 peaks): 263.7 Corrected Ave (3 peaks): 208.8 RPD = 23

CalAmt %D: 6.2 CalAmt %D: -13.8

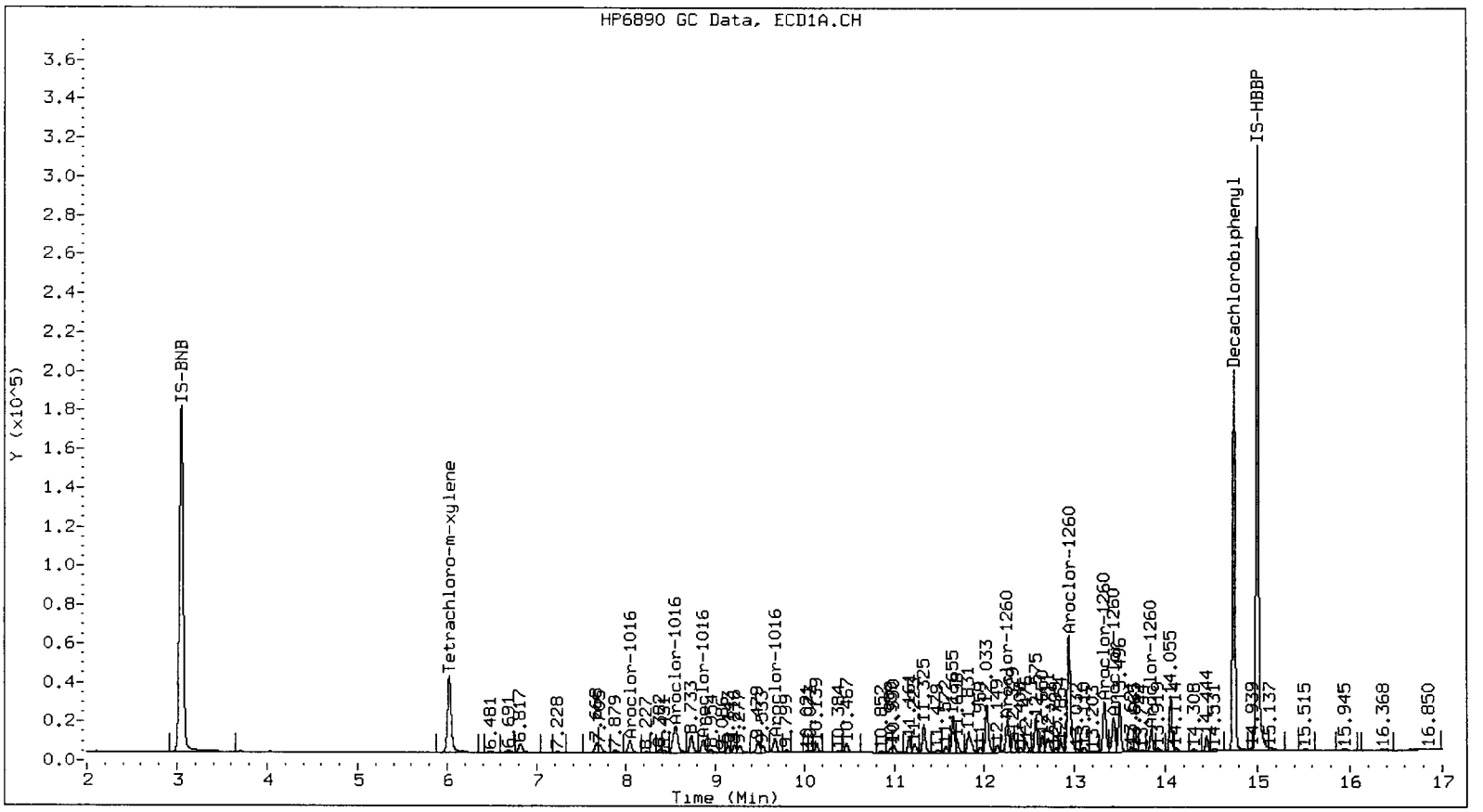
Total PCB Area Col1 (6.126 - 14.643) = 23118959 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.126 - 14.643) = 63567719 Col2 Total PCB = 0.5 ppm*

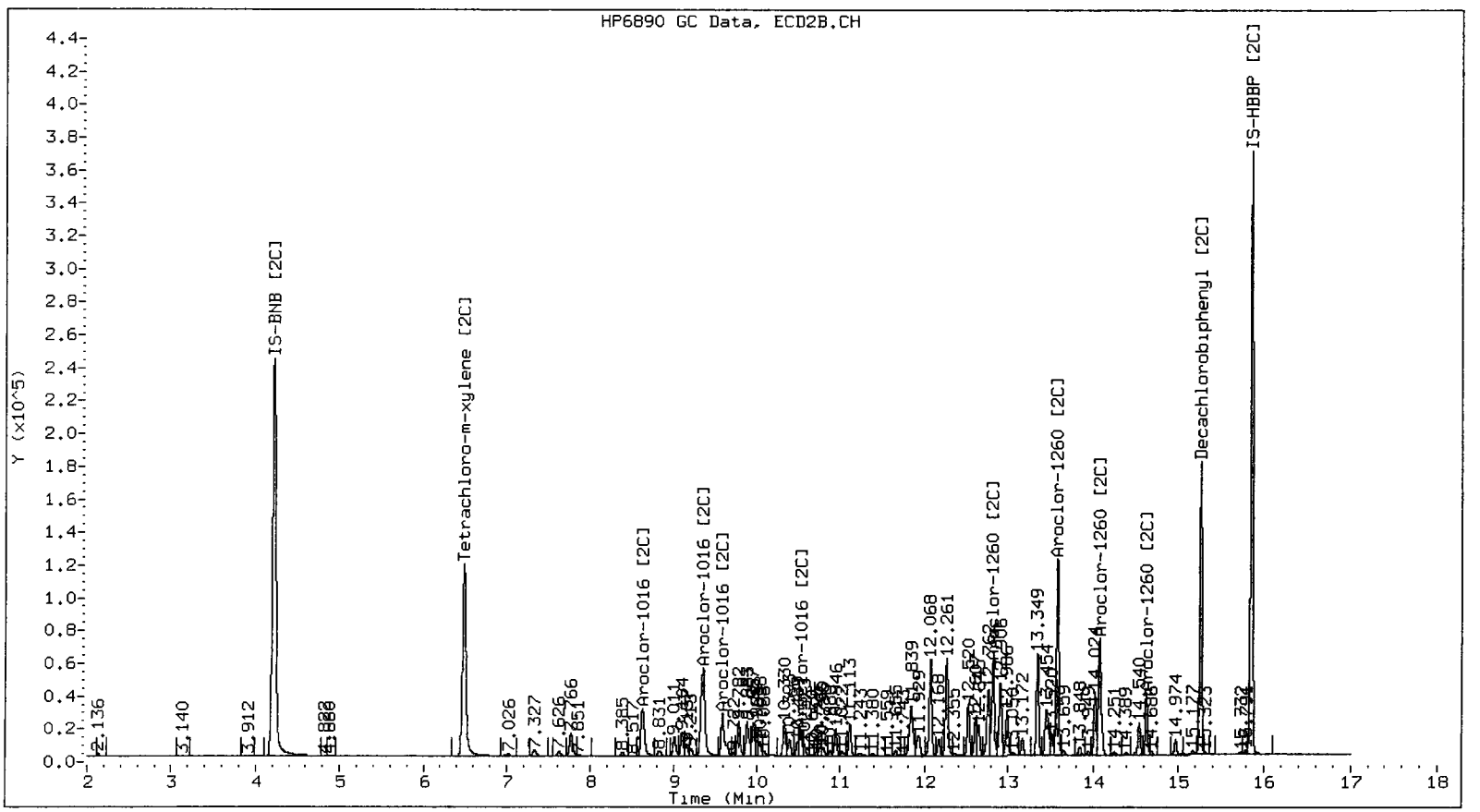
* Quantitated against AR1660 0.25ppm in Ical

AVZ3 . 00376

ECD7-ZB5 AR1660B 24-FEB-2016 19:57, 2ul



ECD7-ZB35 AR1660B 24-FEB-2016 19:57, 2ul



AVZ9 86377

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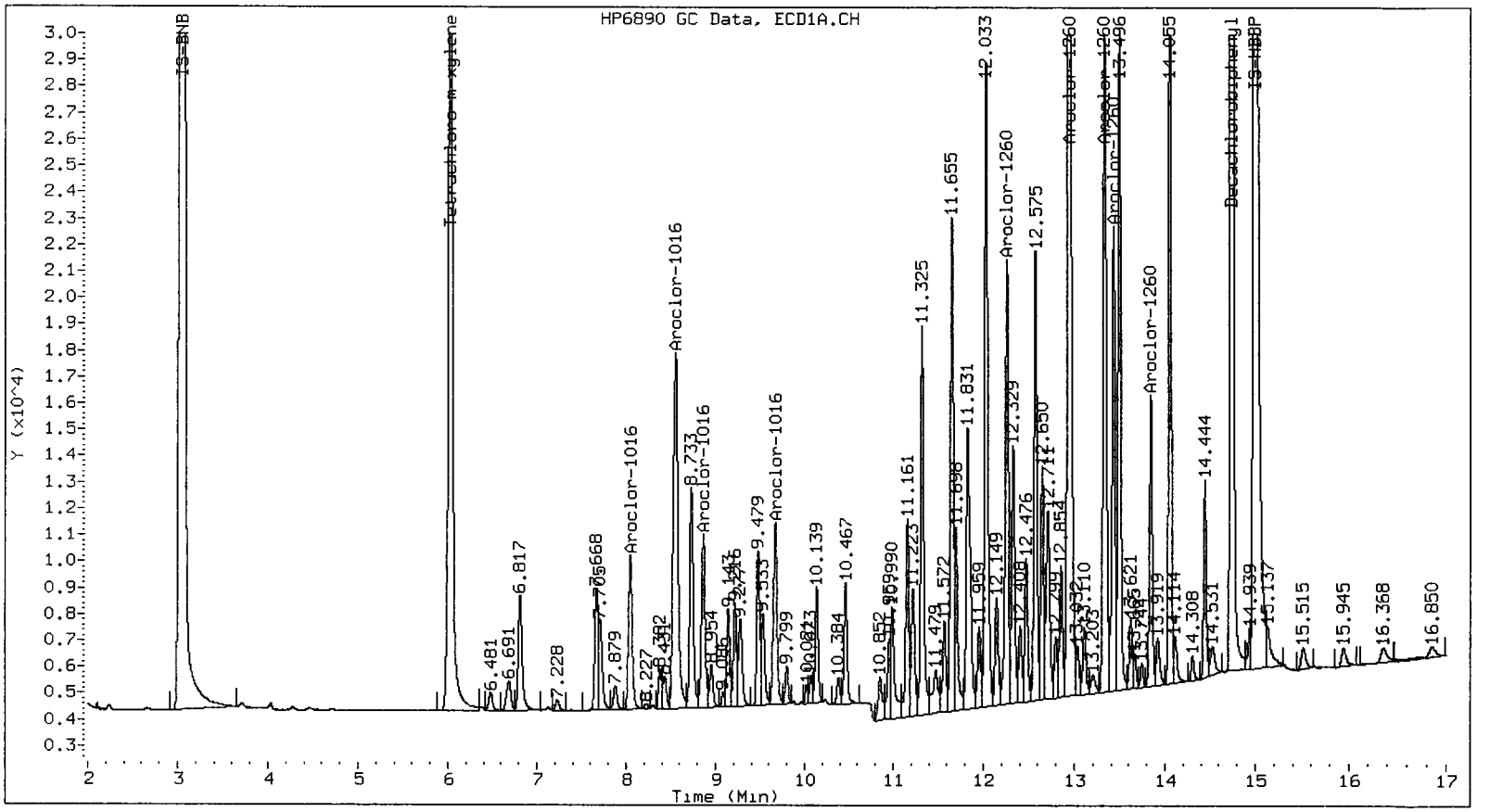

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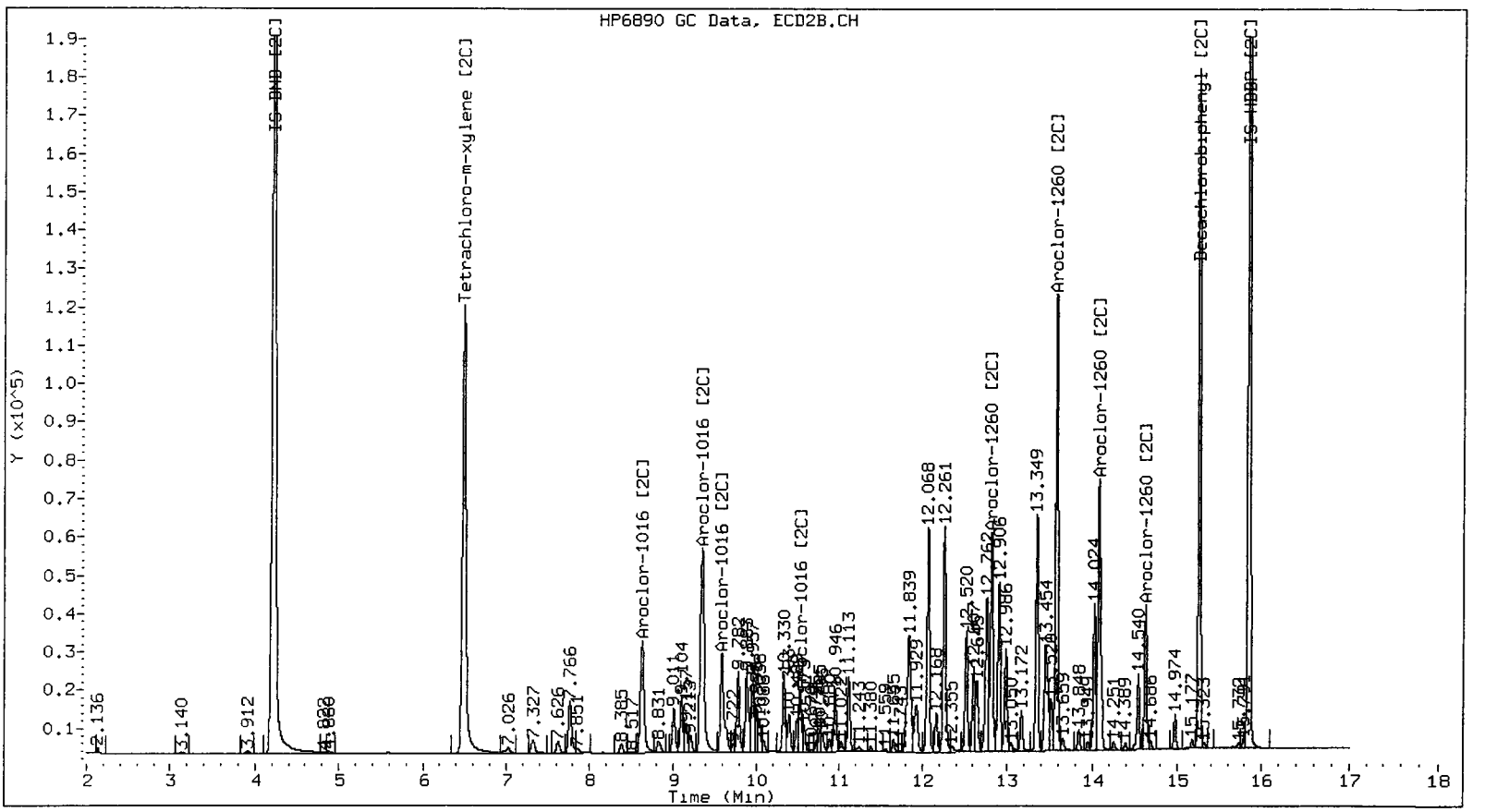


AVZ9.00378

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241621.D
Data file 2: /20160224.b/20160224.b/02241621.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9FMS
Client ID: JF-PDS-2-1-2ft- MS
Injection Date: 24-FEB-2016 22:30
Report Date: 02/26/2016 09:46
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
6.023	-0.000	1870207	6.480	-0.001	5805362	24.9	30.5	19.9	Tetrachloro-m-xyle
14.742	-0.001	6470027	15.260	-0.001	5850367	52.4	33.6	43.8*	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	62.4	76.1
Decachlorobiphenyl	~~131.0~~	84.0

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	13841920	34.5
Hexabromobiphenyl	12470452	9247635	-25.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	16444592	4.0
Hexabromobiphenyl	11807823	13615658	15.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.013	-0.030	22441719	12665.5	1	8.646	0.018	15179510	1852.4
Aroclor-1016	2	8.556	0.002	2212136	405.0	2	9.349	-0.004	7773892	460.8
Aroclor-1016	3	8.878	0.016	4573516	2452.3	3	9.583	-0.003	2164553	321.4
Aroclor-1016	4	9.720	0.050	10599188	5096.4	4	10.523	-0.002	1087167	347.6
Total Col1Ave (4 peaks):				5154.8		Total Col2Ave (4 peaks):			745.6	RPD = 149*
Corrected Ave (3 peaks):				2651.2		Corrected Ave (3 peaks):			376.6	RPD = 150*
Aroclor-1221	1	4.734	0.020	44060	100.6	1	---			0.0
Aroclor-1221	2	6.703	0.013	692114	983.4	2	7.580	-0.043	37748019	26460.3
Aroclor-1221	3	6.841	0.026	4465222	2124.3	3	7.757	-0.007	4689831	1039.1
Aroclor-1221	NS	---			----	4	8.646	0.002	15179510	10146.9
Total Col1Ave (3 peaks):				1069.5		Total Col2Ave (3 peaks):			12548.7	RPD = 169*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.734	0.020	44060	177.4	1	---			0.0
Aroclor-1232	2	6.703	0.013	692114	1463.6	2	7.580	-0.043	37748019	43398.1
Aroclor-1232	3	6.841	0.026	4465222	3203.6	3	7.757	-0.095	4689831	9559.0
Aroclor-1232	4	8.556	0.001	2212136	970.8	4	8.646	0.018	15179510	3980.5
Total Col1Ave (4 peaks):				1453.9		Total Col2Ave (3 peaks):			18979.2	RPD = 172*
Corrected Ave (3 peaks):				870.6		Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.556	-0.000	2212136	519.9	1	8.646	0.018	15179510	2383.9
Aroclor-1242	2	8.878	0.015	4573516	2927.7	2	9.349	-0.004	7773892	589.7
Aroclor-1242	3	9.720	0.049	10599188	5366.4	3	9.777	-0.004	1622608	476.8
Aroclor-1242	4	10.067	-0.005	342092	239.7	4	10.874	-0.005	194238	42.4
Total Col1Ave (4 peaks):				2263.4		Total Col2Ave (4 peaks):			873.2	RPD = 89*
Corrected Ave (3 peaks):				1229.1		Corrected Ave (3 peaks):			369.6	RPD = 108*
Aroclor-1248	1	8.556	0.003	2212136	886.2	1	9.349	-0.001	7773892	988.3
Aroclor-1248	2	9.493	0.016	6068933	3264.7	2	9.879	-0.003	2062983	355.9
Aroclor-1248	3	9.720	0.050	10599188	2798.3	3	10.792	-0.005	289405	32.7
Aroclor-1248	4	10.067	-0.004	342092	147.4	4	11.238	-0.004	159766	18.1
Total Col1Ave (4 peaks):				2024.2		Total Col2Ave (4 peaks):			348.7	RPD = 141*
Corrected Ave (3 peaks):				1352.8		Corrected Ave (3 peaks):			135.9	RPD = 165*
Aroclor-1254	1	10.463	-0.001	523581	170.9	1	11.110	-0.003	1256915	152.0
Aroclor-1254	2	---			0.0	2	11.238	0.027	159766	41.2
Aroclor-1254	3	10.850	-0.000	216090	86.3	3	11.652	-0.002	337247	54.3
Aroclor-1254	4	10.986	-0.004	640833	130.4	4	11.836	0.028	3126085	220.8
Aroclor-1254	5	11.323	-0.024	1197622	248.8	5	12.815	-0.002	4052245	388.5
Total Col1Ave (4 peaks):				159.1		Total Col2Ave (5 peaks):			171.4	RPD = 7
Corrected Ave (3 peaks):				129.2		Corrected Ave (4 peaks):			117.1	RPD = 10
Aroclor-1260	1	12.258	-0.002	1254044	558.3	1	12.815	-0.001	4052245	322.8
Aroclor-1260	2	12.939	-0.002	4618296	540.3	2	13.580	-0.001	8298057	340.8
Aroclor-1260	3	13.326	-0.003	2098612	571.8	3	14.073	-0.001	5384877	334.9
Aroclor-1260	4	13.429	-0.002	1327583	582.1	4	14.624	-0.001	2313782	375.3
Aroclor-1260	5	13.841	-0.002	760274	570.8	NS	---			----
Total Col1Ave (5 peaks):				564.7		Total Col2Ave (4 peaks):			343.5	RPD = 49*
Corrected Ave (4 peaks):				560.3		Corrected Ave (3 peaks):			332.8	RPD = 51*
Aroclor-1262	1	12.258	-0.002	1254044	419.1	1	12.904	-0.001	3386852	244.6
Aroclor-1262	2	12.939	-0.001	4618296	526.4	2	13.348	-0.001	3901283	304.9
Aroclor-1262	3	13.326	-0.003	2098612	754.8	3	13.580	-0.001	8298057	317.8
Aroclor-1262	4	13.429	-0.001	1327583	316.8	4	14.073	-0.002	5384877	317.0
Aroclor-1262	5	14.054	-0.001	1860680	395.3	5	14.624	-0.001	2313782	265.7
Total Col1Ave (5 peaks):				482.5		Total Col2Ave (5 peaks):			290.0	RPD = 50*
Corrected Ave (4 peaks):				414.4		Corrected Ave (4 peaks):			283.1	RPD = 38
Aroclor-1268	1	13.429	-0.001	1327583	108.9	1	14.022	0.001	2431417	89.6
Aroclor-1268	2	13.494	-0.001	1747816	115.6	2	14.073	-0.002	5384877	212.1
Aroclor-1268	3	13.841	0.014	760274	55.6	3	14.388	-0.000	106675	5.2

Aroclor-1268	4	14.444	-0.002	358701	7.2	4	14.972	-0.002	579298	9.9

Total Col1Ave (4 peaks): 71.8 Total Col2Ave (4 peaks): 79.2 RPD = 10

Corrected Ave (3 peaks): 57.2 Corrected Ave (3 peaks): 34.9 RPD = 48*

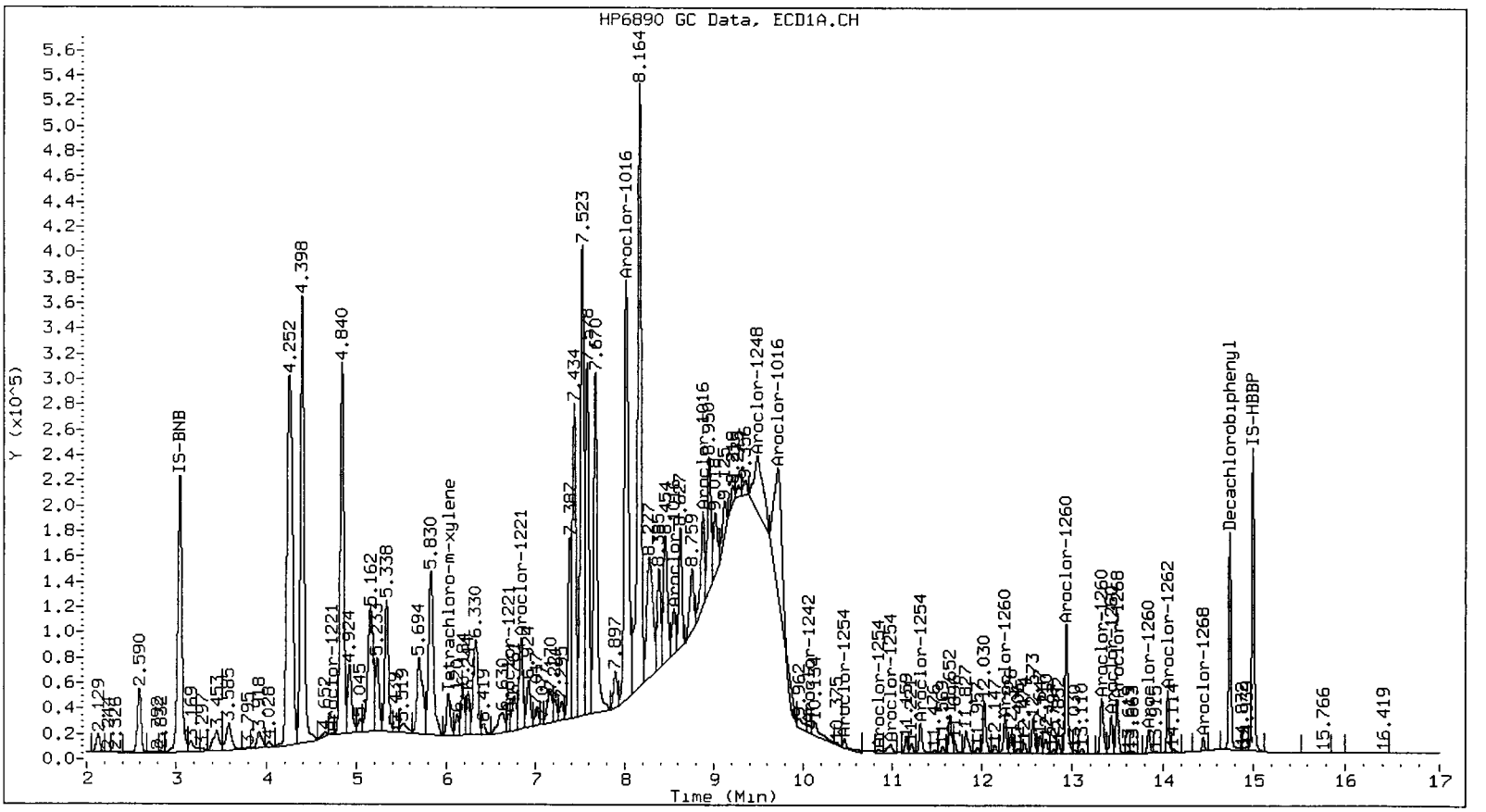
Total PCB Area Col1 (6.123 - 14.643) = 246049312 Col1 Total PCB = 4.3 ppm*

Total PCB Area Col2 (6.123 - 14.643) = 315534003 Col2 Total PCB = 2.3 ppm*

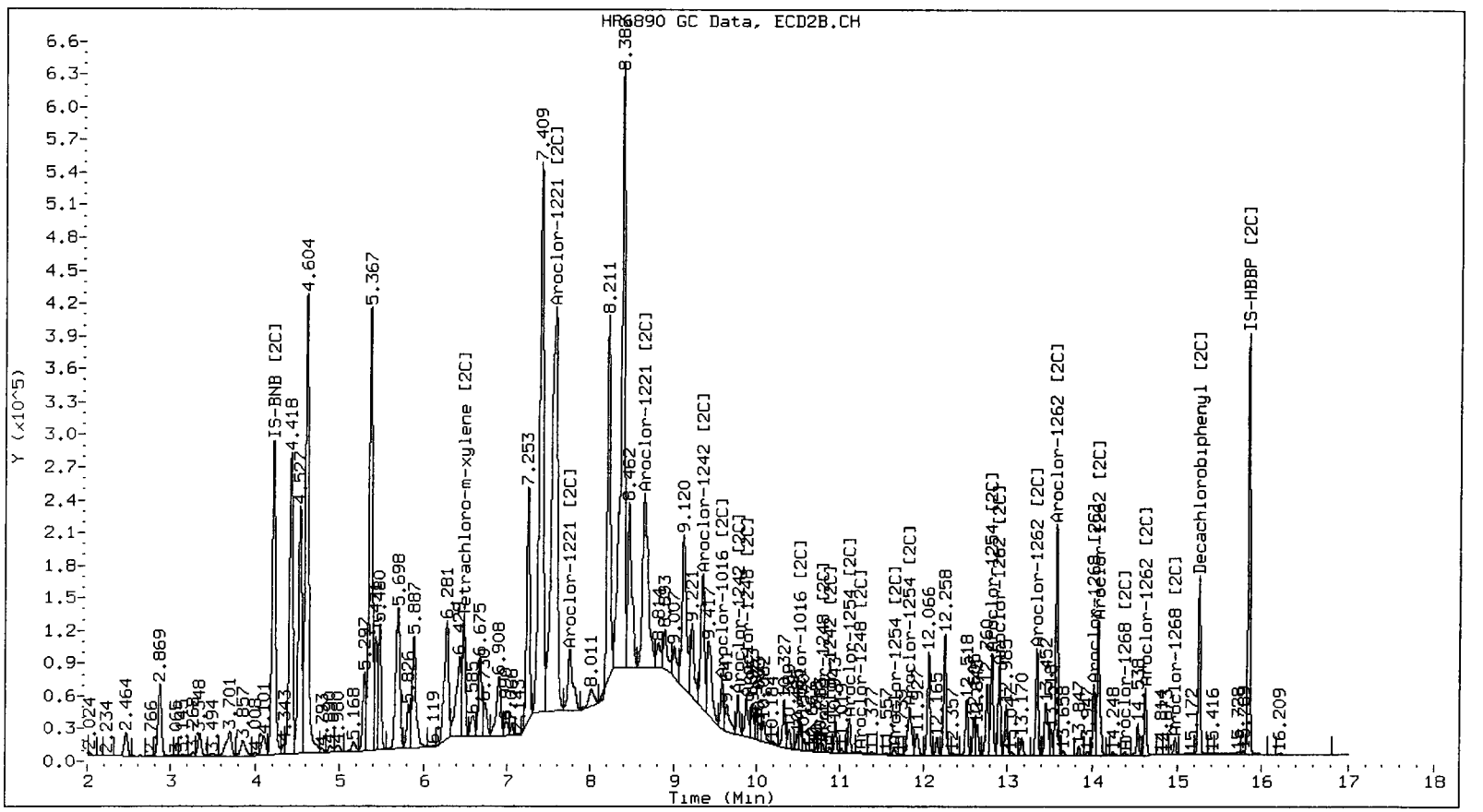
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

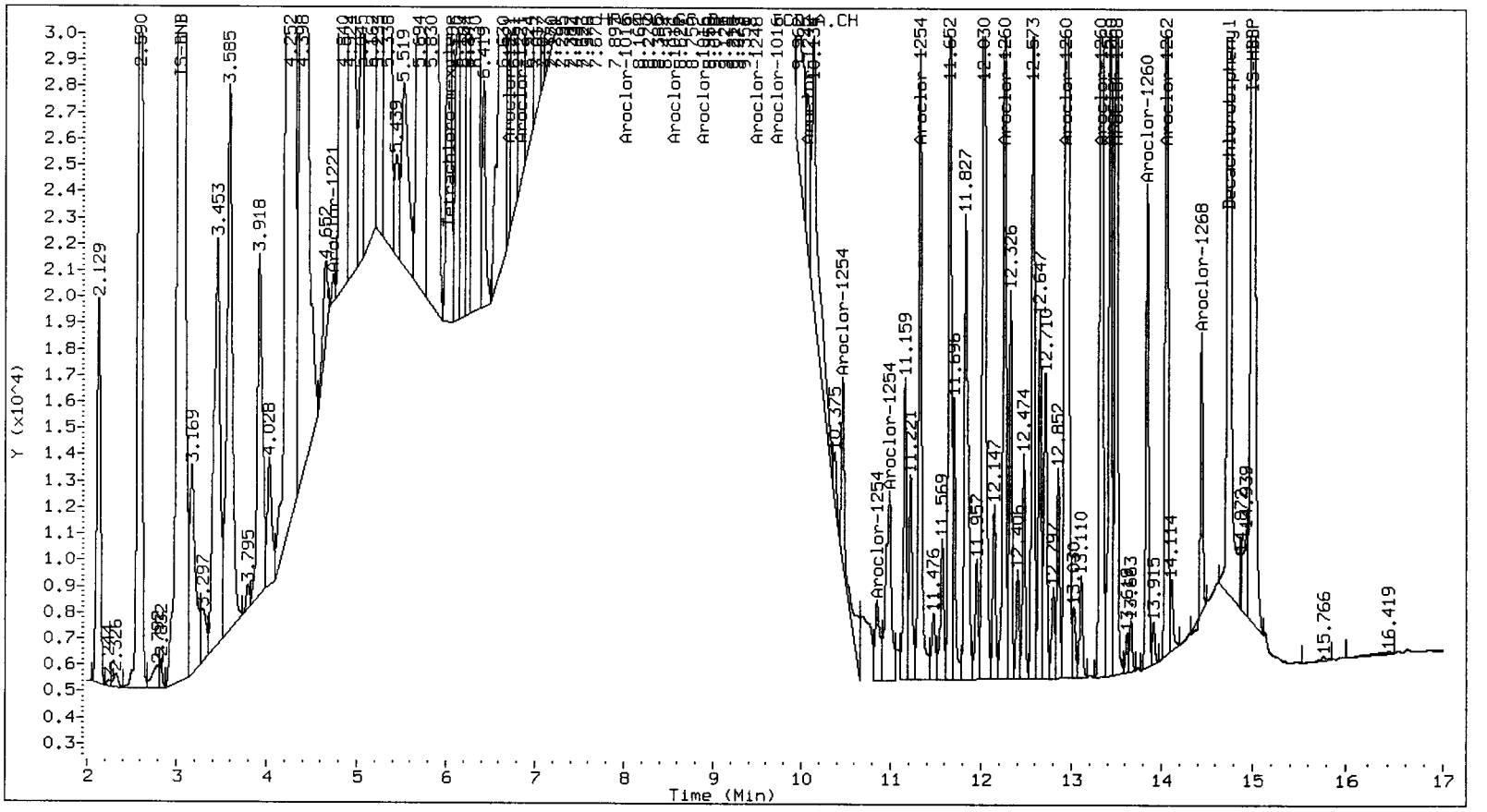
ECD7-ZB5 AVZ9FMS 24-FEB-2016 22:30, 2ul



ECD7-ZB35 AVZ9FMS 24-FEB-2016 22:30, 2ul



ECD7-ZB5 AVZ9FMS 24-FEB-2016 22:30, 2ul



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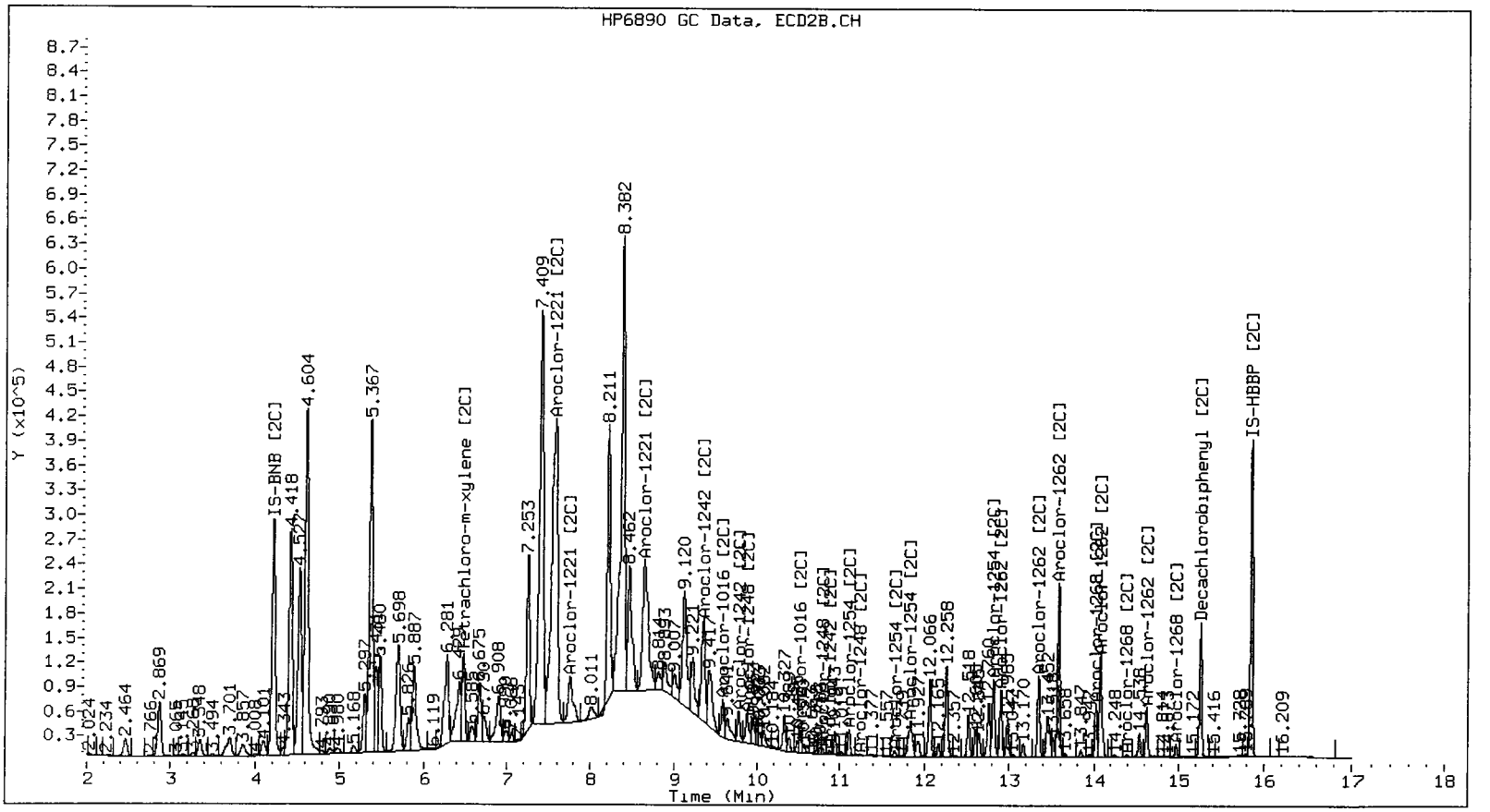
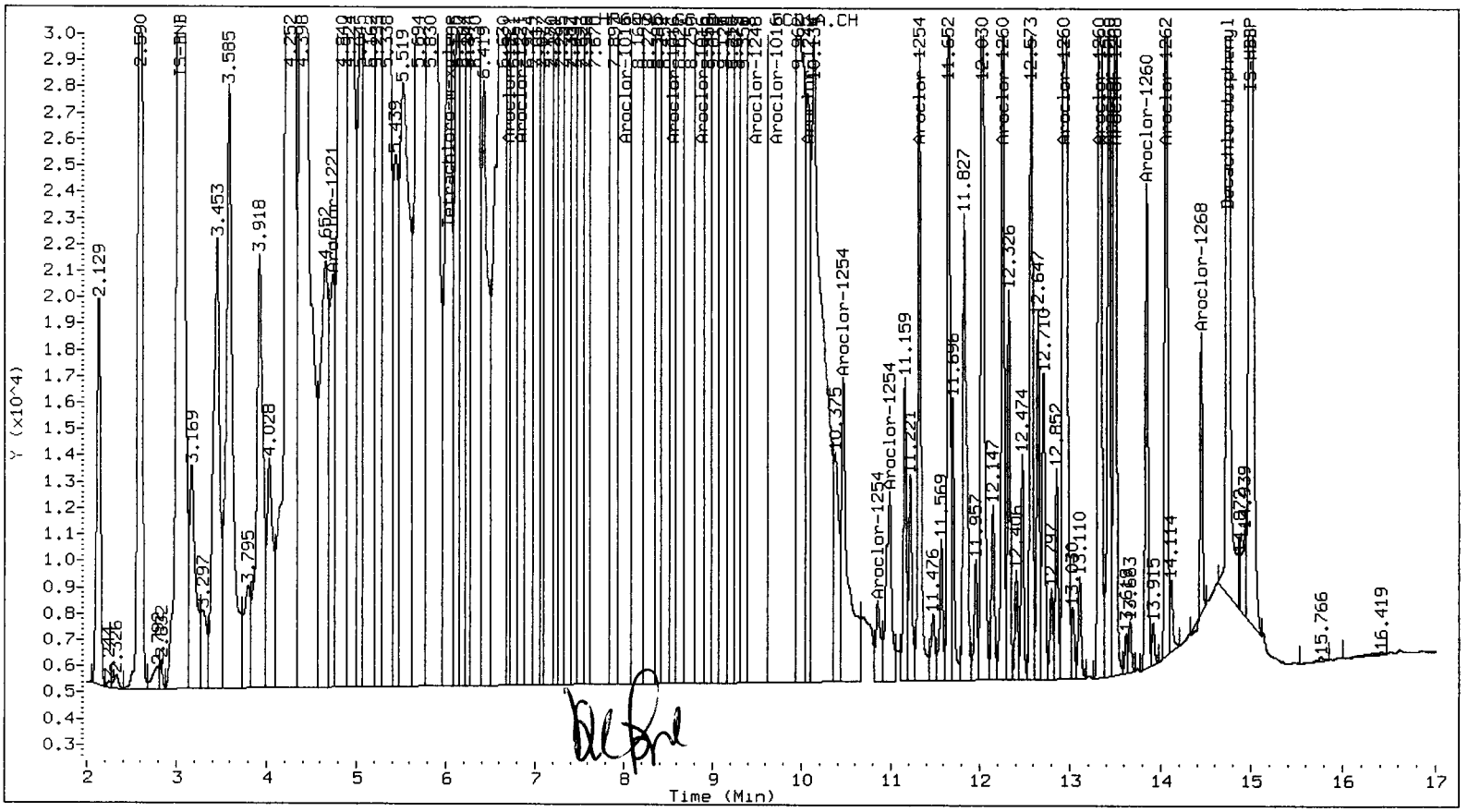
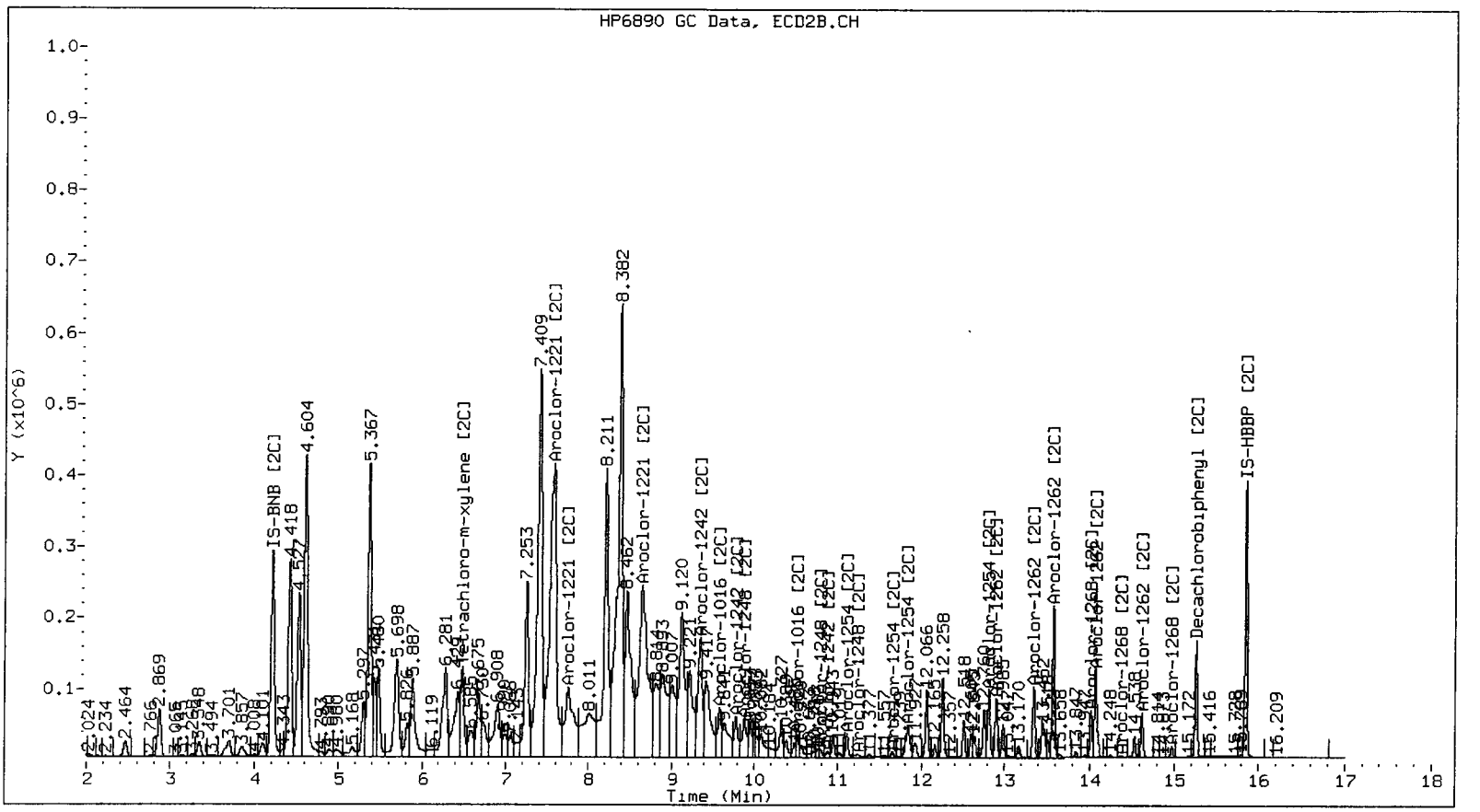


AVZ9:08345

ECD7-ZB5 AVZ9FMS 24-FEB-2016 22:30, 2ul



ECD7-ZB35 AVZ9FMS 24-FEB-2016 22:30, 2ul



AVZ9:66994

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241622.D
Data file 2: /20160224.b/20160224.b/02241622.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9FMSD
Client ID: JF-PDS-2-1-2ft- MSD
Injection Date: 24-FEB-2016 22:52
Report Date: 02/26/2016 09:46
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
6.024	0.001	2212812	6.481	0.000	6713216	28.3	35.0	21.0	Tetrachloro-m-xyle
14.742	-0.001	6524734	15.260	-0.000	5804479	55.4	34.3	47.0*	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	70.8	87.5
Decachlorobiphenyl	~~138.6~~ NR	85.8

M 02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	14418810	40.1
Hexabromobiphenyl	12470452	8818258	-29.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	16553563	4.7
Hexabromobiphenyl	11807823	13219703	12.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.021	-0.023	77578619	42031.7	1	8.647	0.020	27187718	3296.0
Aroclor-1016	2	8.628	0.074	26635565	4680.8	2	9.348	-0.005	8459918	498.2
Aroclor-1016	3	8.881	0.018	4726889	2433.1	3	9.584	-0.003	2149350	317.1
Aroclor-1016	4	9.671	0.000	1015613	468.8	4	10.523	-0.003	1137719	361.4
Total Col1Ave (4 peaks): 11403.6						Total Col2Ave (4 peaks): 1118.1				RPD = 167*
Corrected Ave (3 peaks): 2527.6						Corrected Ave (3 peaks): 392.2				RPD = 146*
Aroclor-1221	1	4.736	0.022	952726	2089.0	1	---			0.0
Aroclor-1221	2	6.702	0.012	1371757	1871.2	2	7.555	-0.069	88826080	61854.6
Aroclor-1221	3	6.842	0.027	9195635	4199.7	3	7.756	-0.008	5794161	1275.3
Aroclor-1221	NS	---			----	4	8.647	0.004	27187718	18054.3
Total Col1Ave (3 peaks): 2720.0						Total Col2Ave (3 peaks): 27061.4				RPD = 163*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.736	0.022	952726	3683.3	1	---			0.0
Aroclor-1232	2	6.702	0.012	1371757	2784.7	2	7.555	-0.068	88826080	101449.2
Aroclor-1232	3	6.842	0.027	9195635	6333.6	3	7.819	-0.033	3171458	6421.6
Aroclor-1232	4	8.628	0.074	26635565	11221.7	4	8.647	0.019	27187718	7082.5
Total Col1Ave (4 peaks): 6005.8						Total Col2Ave (3 peaks): 38317.7				RPD = 146*
Corrected Ave (3 peaks): 4267.2						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.628	0.072	26635565	6009.0	1	8.647	0.020	27187718	4241.7
Aroclor-1242	2	8.881	0.017	4726889	2904.8	2	9.348	-0.005	8459918	637.5
Aroclor-1242	3	9.671	0.000	1015613	493.6	3	9.778	-0.003	1509120	440.5
Aroclor-1242	4	10.135	0.063	1508247	1014.4	4	10.877	-0.002	232573	50.4
Total Col1Ave (4 peaks): 2605.5						Total Col2Ave (4 peaks): 1342.5				RPD = 64*
Corrected Ave (3 peaks): 1471.0						Corrected Ave (3 peaks): 376.1				RPD = 119*
Aroclor-1248	1	8.628	0.075	26635565	10243.1	1	9.348	-0.002	8459918	1068.4
Aroclor-1248	2	9.500	0.022	7521485	3884.2	2	9.879	-0.003	2275868	390.0
Aroclor-1248	3	9.671	0.001	1015613	349.4	3	10.792	-0.005	275182	30.9
Aroclor-1248	4	10.135	0.064	1508247	623.9	4	11.240	-0.003	223008	25.0
Total Col1Ave (4 peaks): 3775.2						Total Col2Ave (4 peaks): 378.6				RPD = 164*
Corrected Ave (3 peaks): 1619.3						Corrected Ave (3 peaks): 148.6				RPD = 166*
Aroclor-1254	1	10.464	-0.000	1102639	345.5	1	11.111	-0.002	1293294	155.4
Aroclor-1254	2	---			0.0	2	11.240	0.028	223008	57.2
Aroclor-1254	3	10.849	-0.001	290269	111.2	3	11.652	-0.002	421726	67.5
Aroclor-1254	4	10.986	-0.004	744291	145.4	4	11.836	0.028	2997737	210.4
Aroclor-1254	5	11.323	-0.023	1274404	254.2	5	12.815	-0.002	4082058	388.8
Total Col1Ave (4 peaks): 214.1						Total Col2Ave (5 peaks): 175.8				RPD = 20
Corrected Ave (3 peaks): 170.3						Corrected Ave (4 peaks): 122.6				RPD = 33
Aroclor-1260	1	12.258	-0.001	1276382	595.9	1	12.815	-0.002	4082058	334.9
Aroclor-1260	2	12.939	-0.002	4673058	573.4	2	13.580	-0.001	8344834	353.0
Aroclor-1260	3	13.327	-0.002	2094954	598.6	3	14.074	-0.000	5345346	342.4
Aroclor-1260	4	13.429	-0.002	1323567	608.6	4	14.624	-0.001	2293542	383.2
Aroclor-1260	5	13.841	-0.001	756681	595.8	NS	---			----
Total Col1Ave (5 peaks): 594.5						Total Col2Ave (4 peaks): 353.4				RPD = 51*
Corrected Ave (4 peaks): 590.9						Corrected Ave (3 peaks): 343.4				RPD = 53*
Aroclor-1262	1	12.258	-0.001	1276382	447.3	1	12.904	-0.001	3412640	253.9
Aroclor-1262	2	12.939	-0.001	4673058	558.5	2	13.348	-0.001	3923844	315.8
Aroclor-1262	3	13.327	-0.003	2094954	790.2	3	13.580	-0.000	8344834	329.2
Aroclor-1262	4	13.429	-0.001	1323567	331.2	4	14.074	-0.001	5345346	324.1
Aroclor-1262	5	14.054	-0.001	1980756	441.3	5	14.624	-0.001	2293542	271.3
Total Col1Ave (5 peaks): 513.7						Total Col2Ave (5 peaks): 298.9				RPD = 53*
Corrected Ave (4 peaks): 444.6						Corrected Ave (4 peaks): 291.3				RPD = 42*
Aroclor-1268	1	13.429	-0.001	1323567	113.8	1	14.022	0.001	2434540	92.4
Aroclor-1268	2	13.495	0.000	1750070	121.4	2	14.074	-0.001	5345346	216.9
Aroclor-1268	3	13.841	0.014	756681	58.0	3	14.388	-0.000	104081	5.2

Aroclor-1268	4	14.445	-0.001	331189	7.0	4	14.973	-0.001	575159	10.2

Total Col1Ave (4 peaks): 75.1 Total Col2Ave (4 peaks): 81.2 RPD = 8

Corrected Ave (3 peaks): 59.6 Corrected Ave (3 peaks): 35.9 RPD = 50*

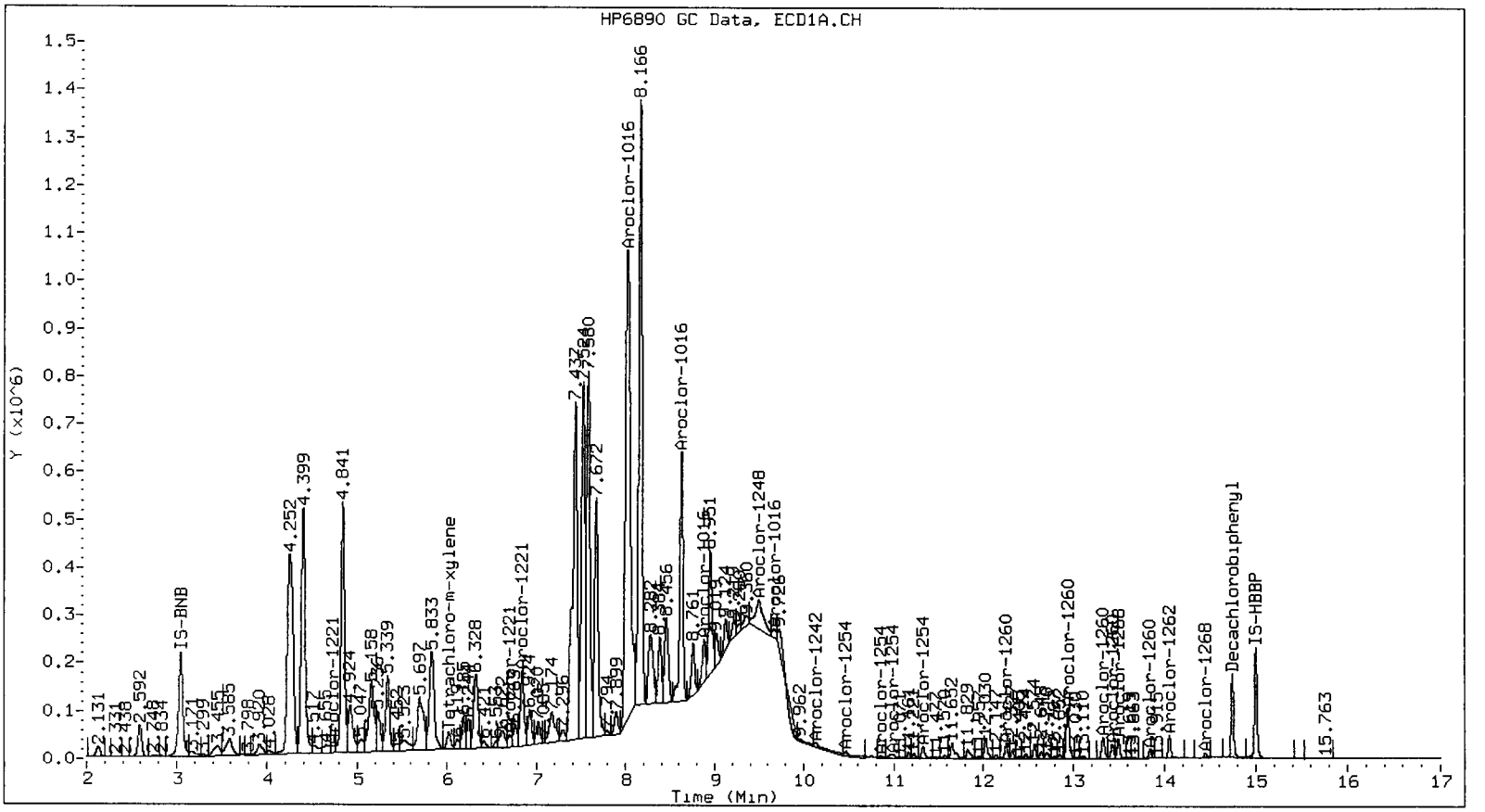
Total PCB Area Col1 (6.123 - 14.643) = 495954155 Col1 Total PCB = 8.3 ppm*

Total PCB Area Col2 (6.123 - 14.643) = 606990127 Col2 Total PCB = 4.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9FMSD 24-FEB-2016 22:52, 2ul



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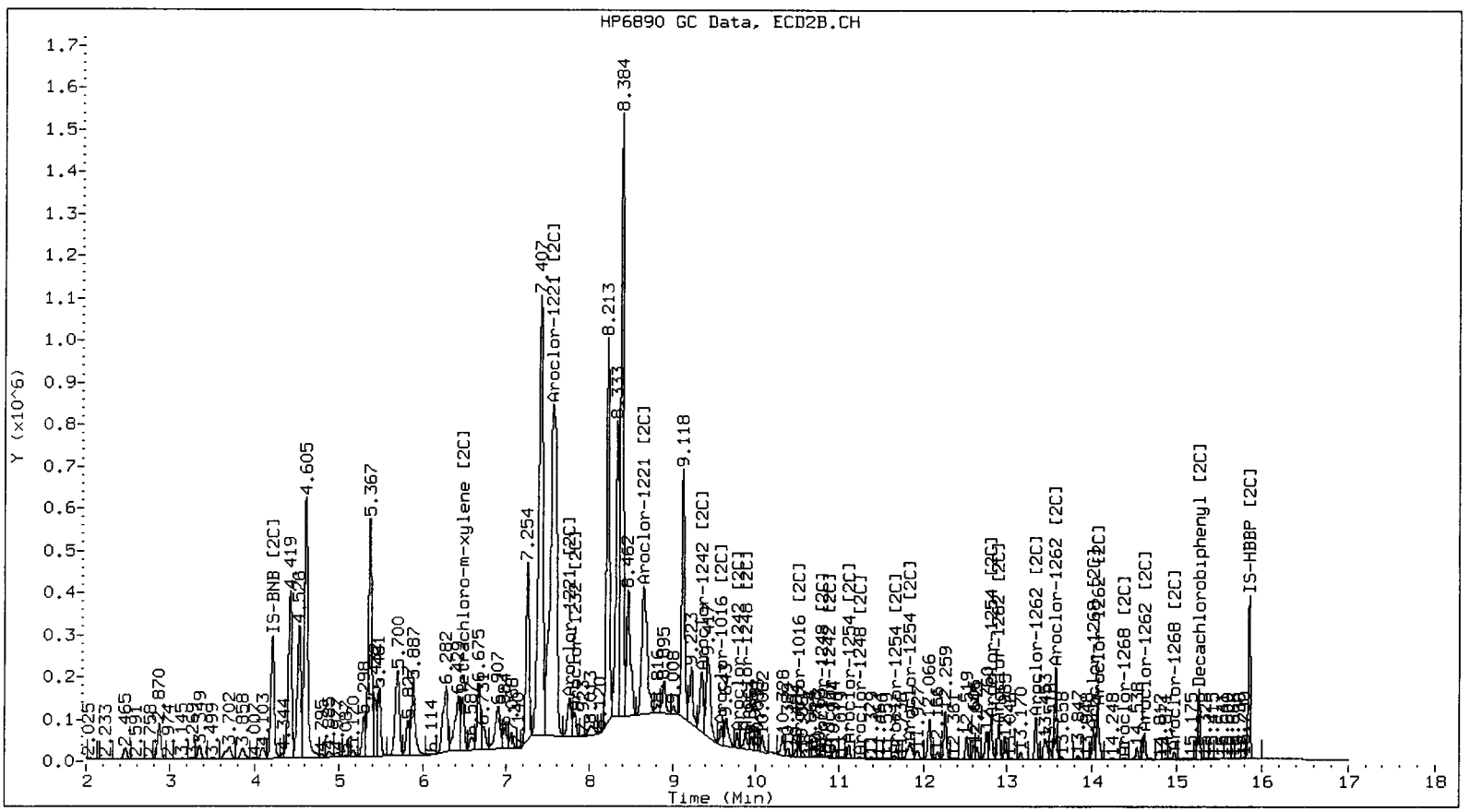

AVZ9.00388

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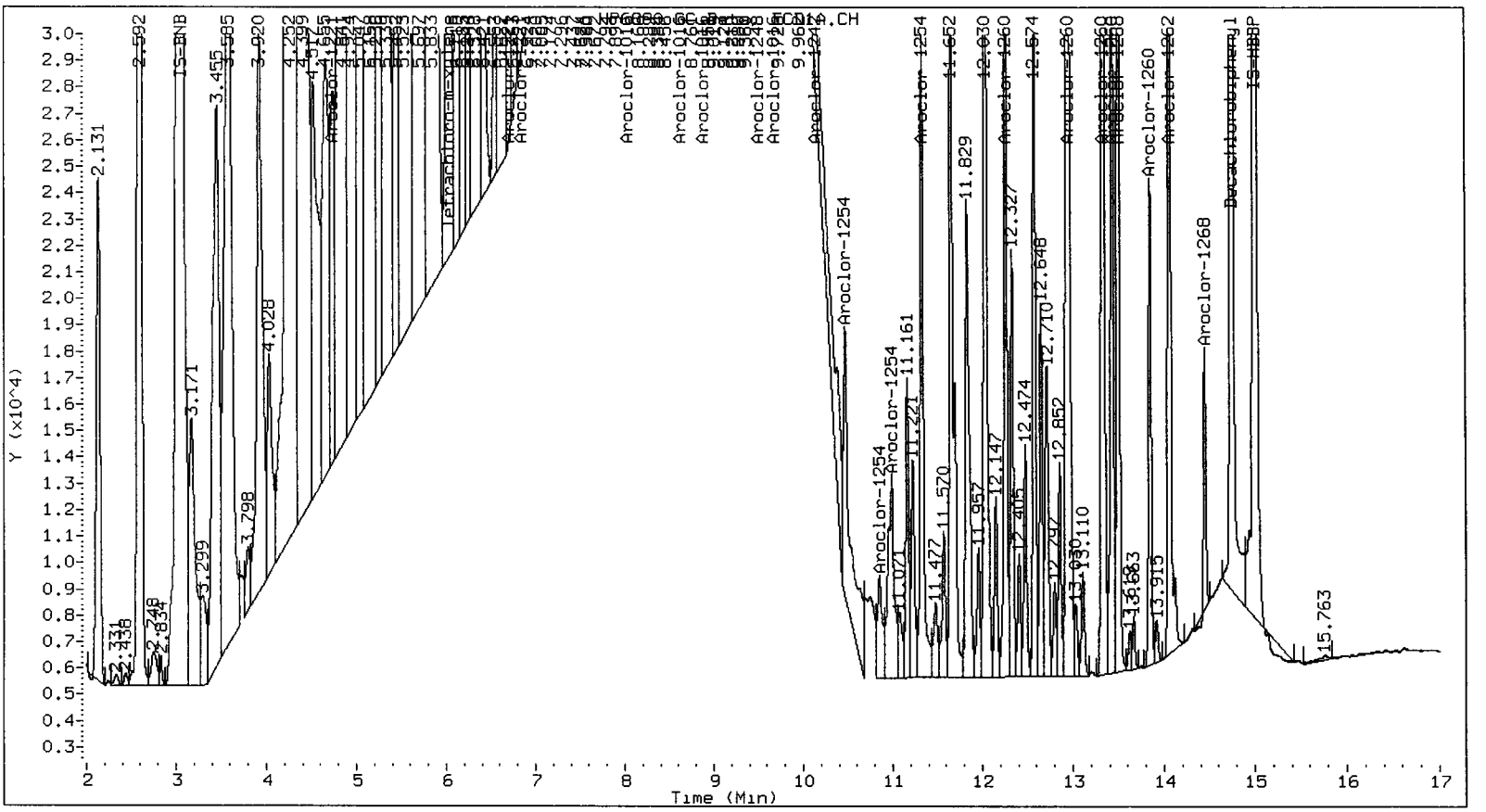

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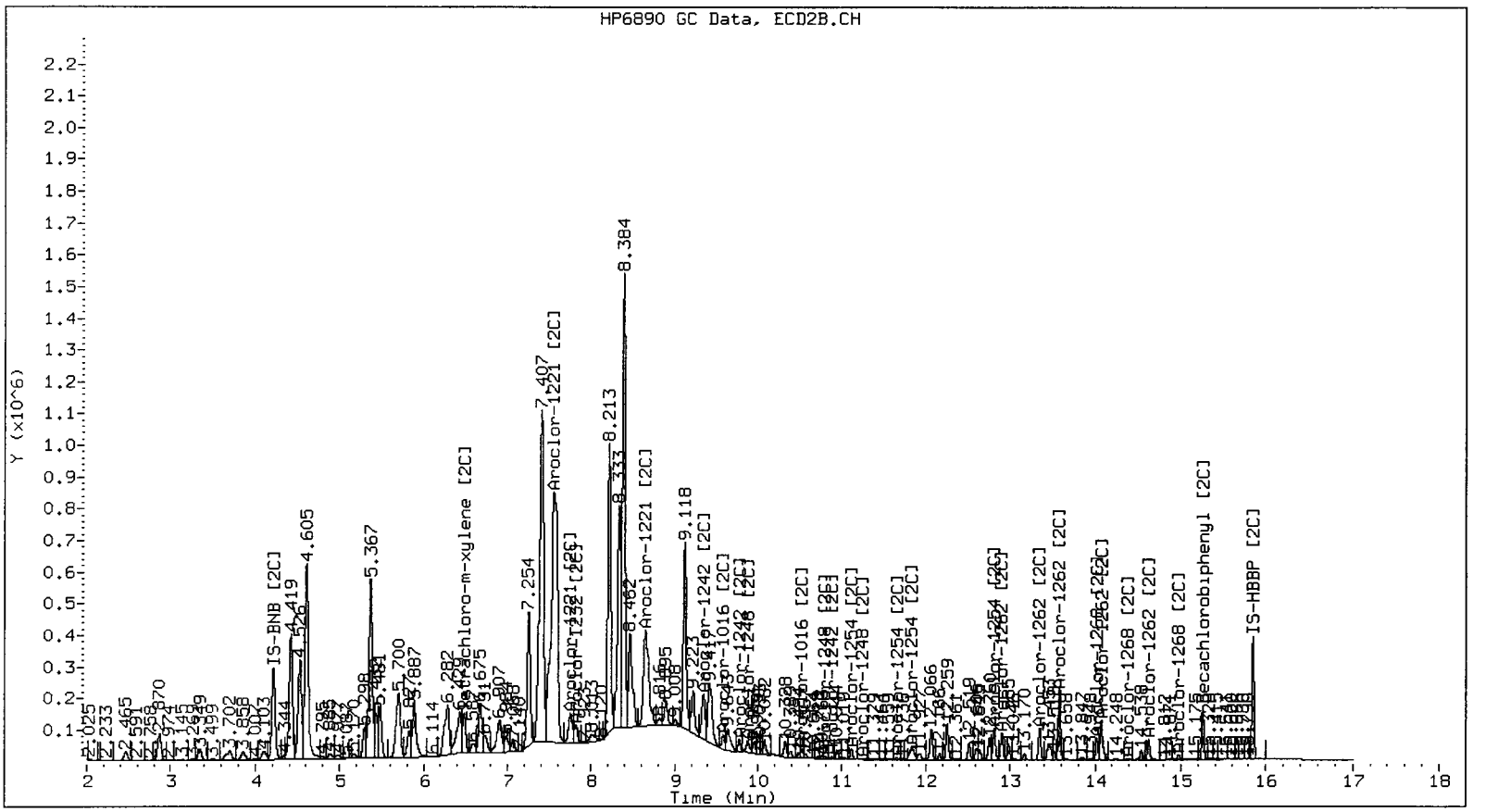

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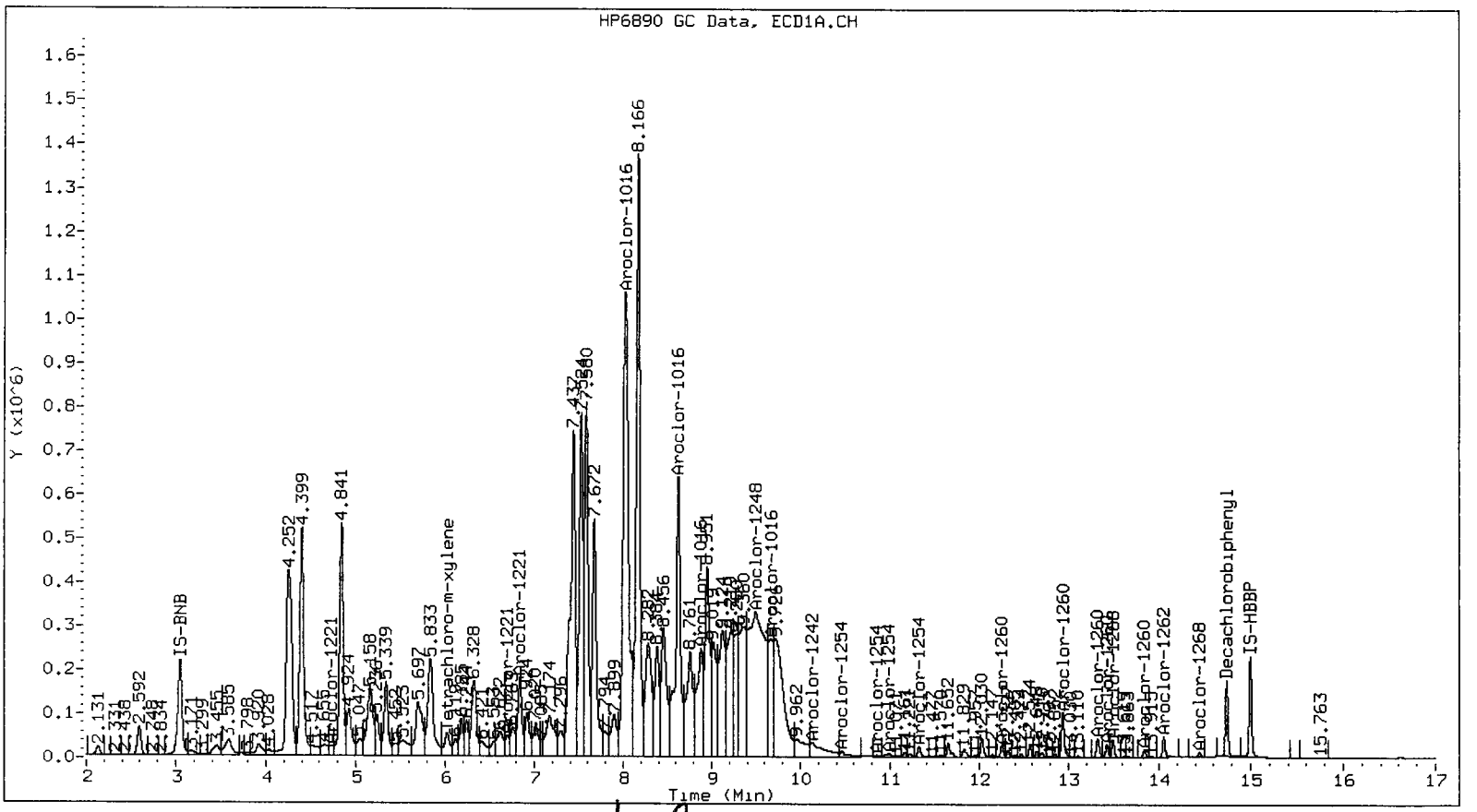

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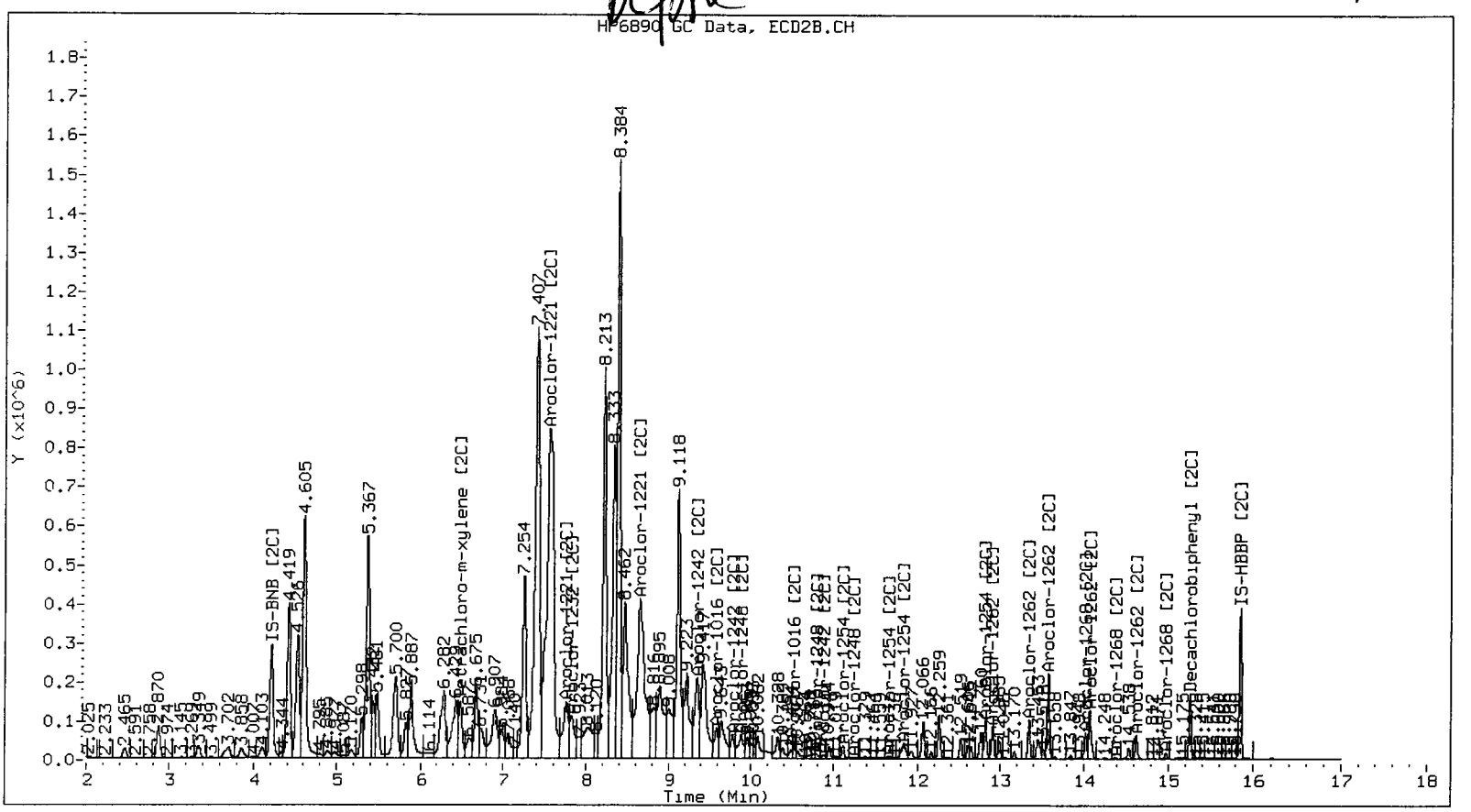


Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241623.D
Data file 2: /20160224.b/20160224.b/02241623.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248
Client ID:
Injection Date: 24-FEB-2016 23:14
Report Date: 02/26/2016 09:00
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
6.024	-0.002	2208008	6.483	0.002	6937142	41.2	42.0	1.9	Tetrachloro-m-xyle
14.743	-0.001	6395443	15.261	0.000	5723484	43.3	35.5	19.7	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	103.0	105.0
Decachlorobiphenyl	108.1	88.8

11 02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	9888568	-3.9
Hexabromobiphenyl	12470452	11077396	-11.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	14250138	-9.8
Hexabromobiphenyl	11807823	12601012	6.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1248	1	8.553	0.000	449540	252.1	1	9.350	0.000	1730696	253.9
Aroclor-1248	2	9.477	0.000	335577	252.7	2	9.882	0.000	1283733	255.5
Aroclor-1248	3	9.670	0.000	506450	254.0	3	10.797	0.000	1940244	252.8
Aroclor-1248	4	10.071	0.000	418776	252.6	4	11.242	0.000	1949291	254.2

Total Col1Ave (4 peaks): 252.9 Total Col2Ave (4 peaks): 254.1 RPD = 0

Corrected Ave (3 peaks): 252.5 Corrected Ave (3 peaks): 253.6 RPD = 0

CalAmt %D: 1.1 CalAmt %D: 1.6

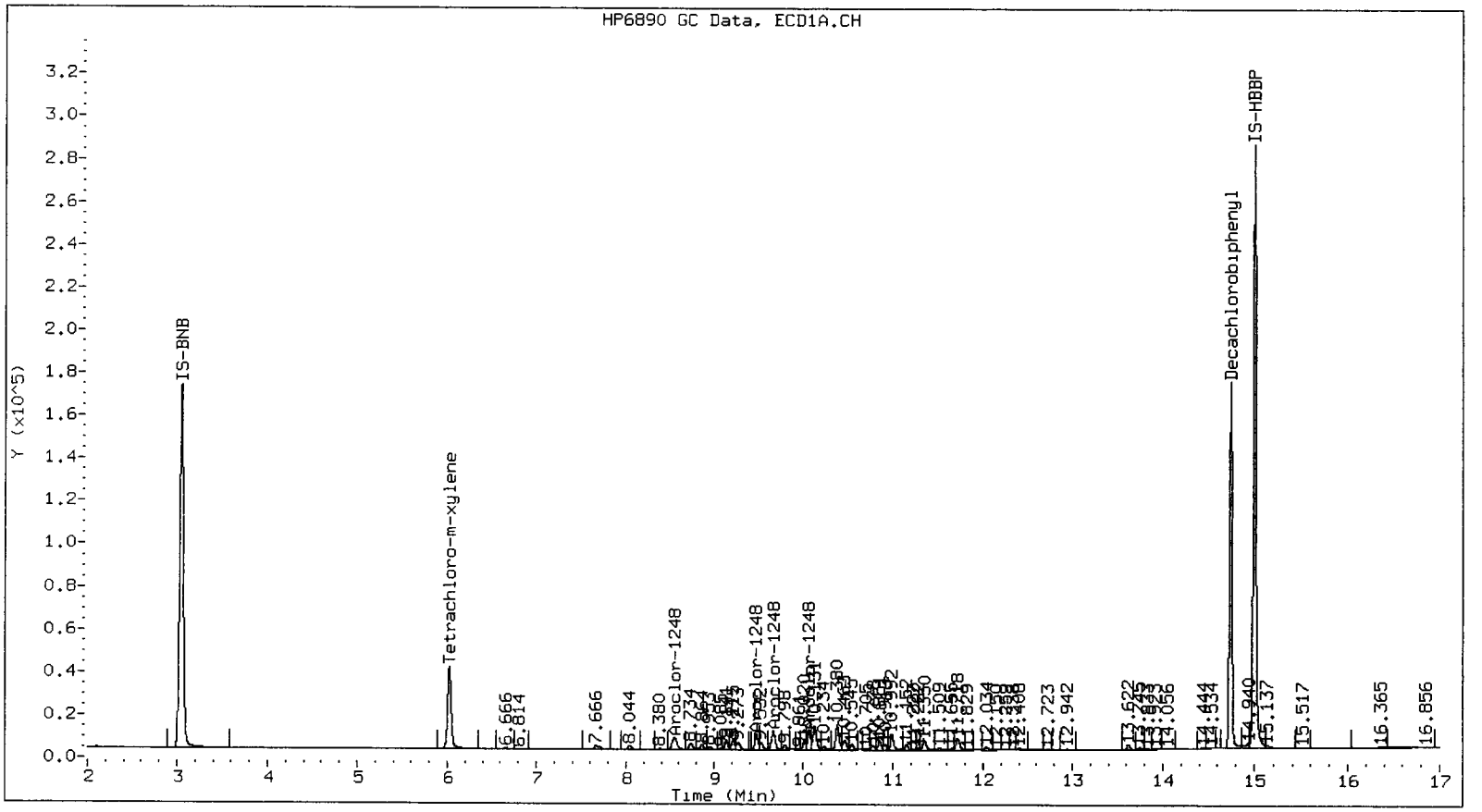
Total PCB Area Col1 (6.126 - 14.643) = 7369968 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.126 - 14.643) = 31113755 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AR1248 24-FEB-2016 23:14, 2ul



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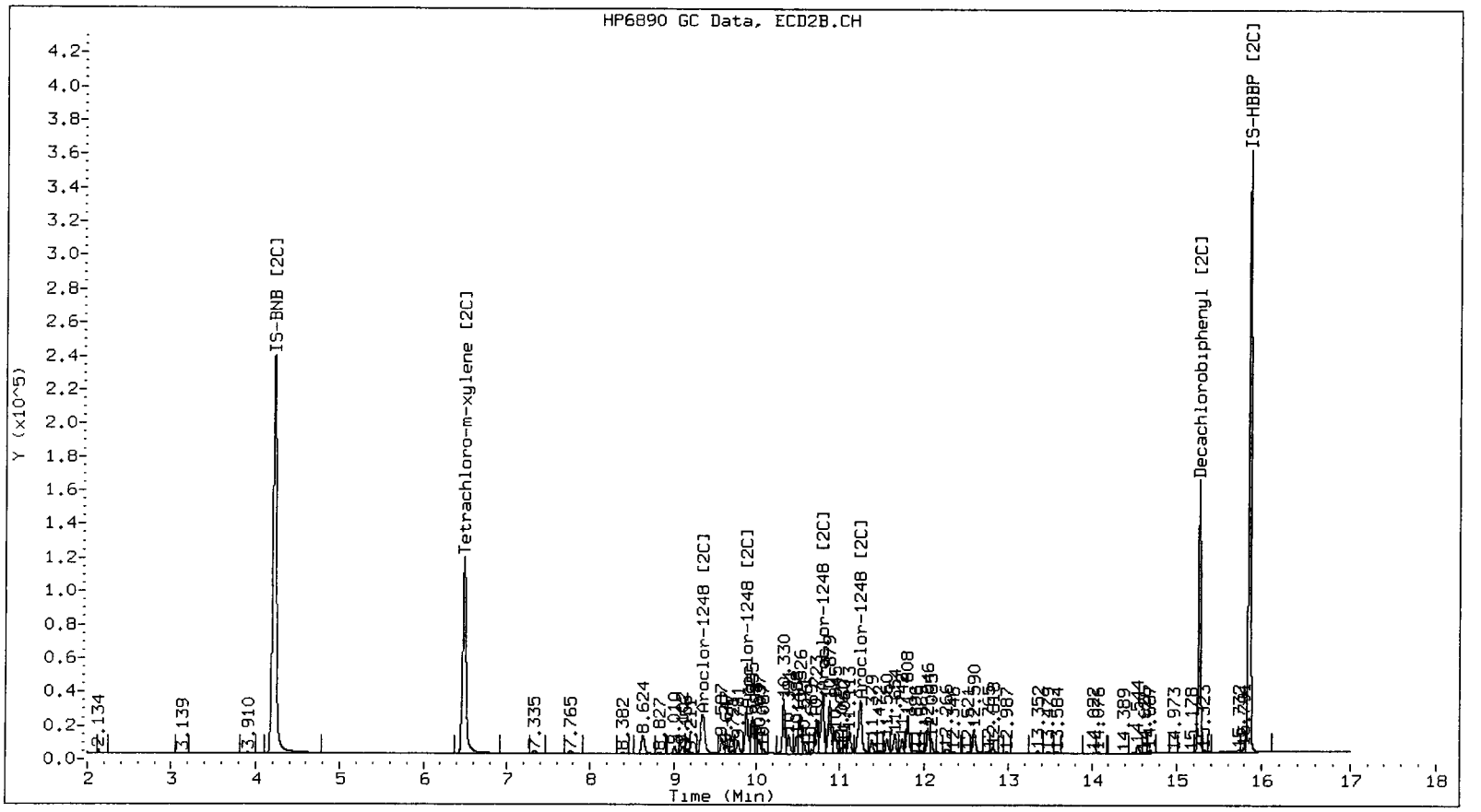

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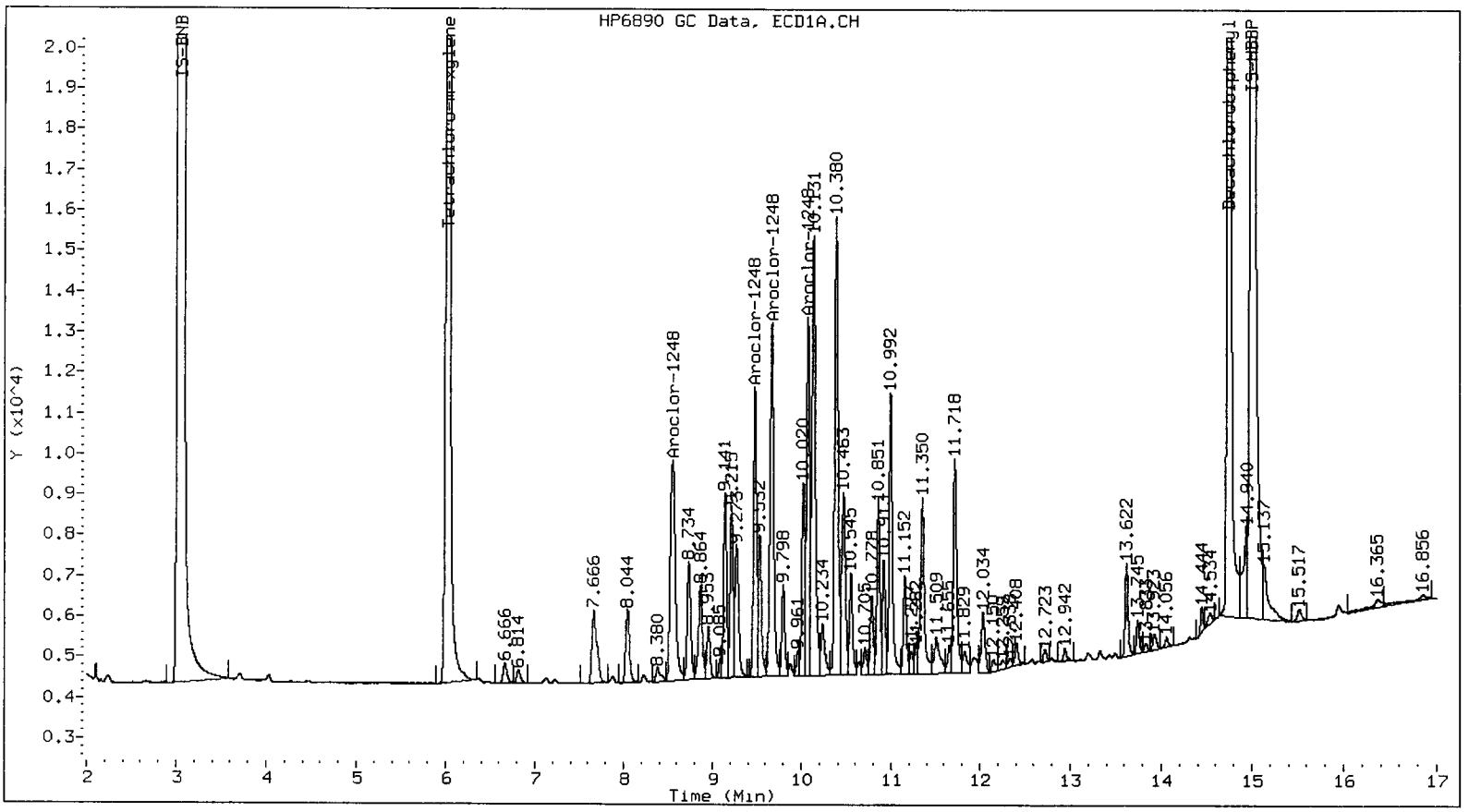

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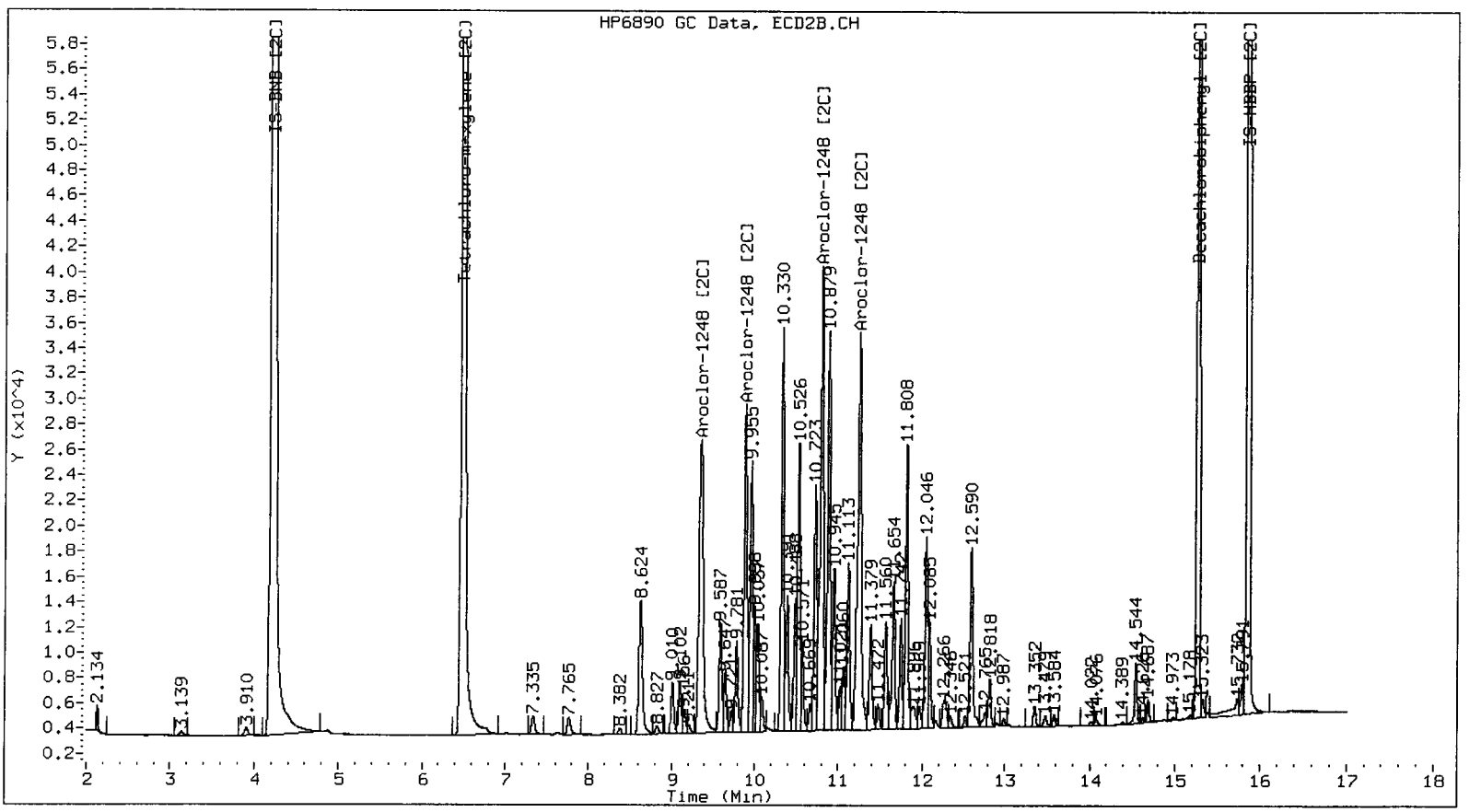


AVZ9.6639

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241624.D
Data file 2: /20160224.b/20160224.b/02241624.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660
Client ID:
Injection Date: 24-FEB-2016 23:36
Report Date: 02/26/2016 09:00
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
6.023	-0.002	2363544	6.481	0.000	7231714	40.8	40.5	0.8	Tetrachloro-m-xyle
14.743	-0.000	7361152	15.261	0.001	6475582	45.5	36.7	21.2	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	102.1	101.3
Decachlorobiphenyl	113.7	91.8

2/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10684307	3.8
Hexabromobiphenyl	12470452	12130278	-2.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15402774	-2.5
Hexabromobiphenyl	11807823	13780165	16.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.044	-0.003	342996	250.8	1	8.628	0.000	1923696	250.6
Aroclor-1016	2	8.556	-0.001	1051384	249.3	2	9.353	-0.000	3925680	248.4
Aroclor-1016	3	8.863	-0.002	380528	264.3	3	9.587	0.000	1655009	262.4
Aroclor-1016	4	9.671	-0.001	416301	259.3	4	10.527	0.001	747939	255.3

Total Col1Ave (4 peaks): 256.0 Total Col2Ave (4 peaks): 254.2 RPD = 1
Corrected Ave (3 peaks): 253.2 Corrected Ave (3 peaks): 251.5 RPD = 1

CalAmt %D: 2.4 CalAmt %D: 1.7

Aroclor-1260	1	12.260	-0.000	819451	278.1	1	12.817	0.000	2576287	202.8
Aroclor-1260	2	12.942	0.001	2884962	257.3	2	13.582	0.000	4944252	200.7
Aroclor-1260	3	13.329	0.000	1319143	274.0	3	14.076	0.001	3392594	208.5
Aroclor-1260	4	13.431	0.000	826814	276.4	4	14.626	0.001	1446308	231.8
Aroclor-1260	5	13.843	0.001	469668	268.8	NS	---			----

Total Col1Ave (5 peaks): 270.9 Total Col2Ave (4 peaks): 210.9 RPD = 25
Corrected Ave (4 peaks): 269.1 Corrected Ave (3 peaks): 204.0 RPD = 28

CalAmt %D: 8.4 CalAmt %D: -15.6

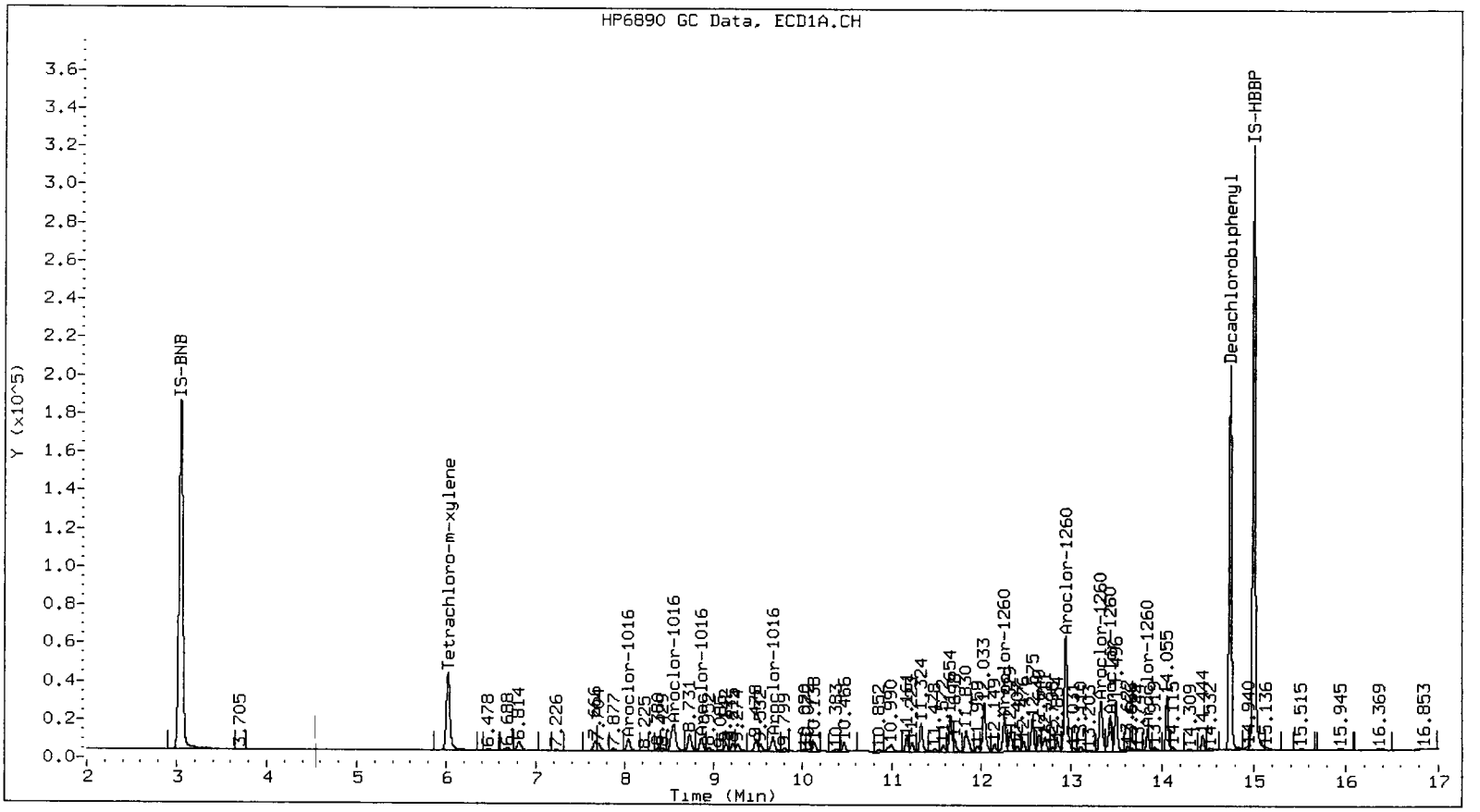
Total PCB Area Col1 (6.126 - 14.643) = 23655153 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.126 - 14.643) = 66168199 Col2 Total PCB = 0.5 ppm*

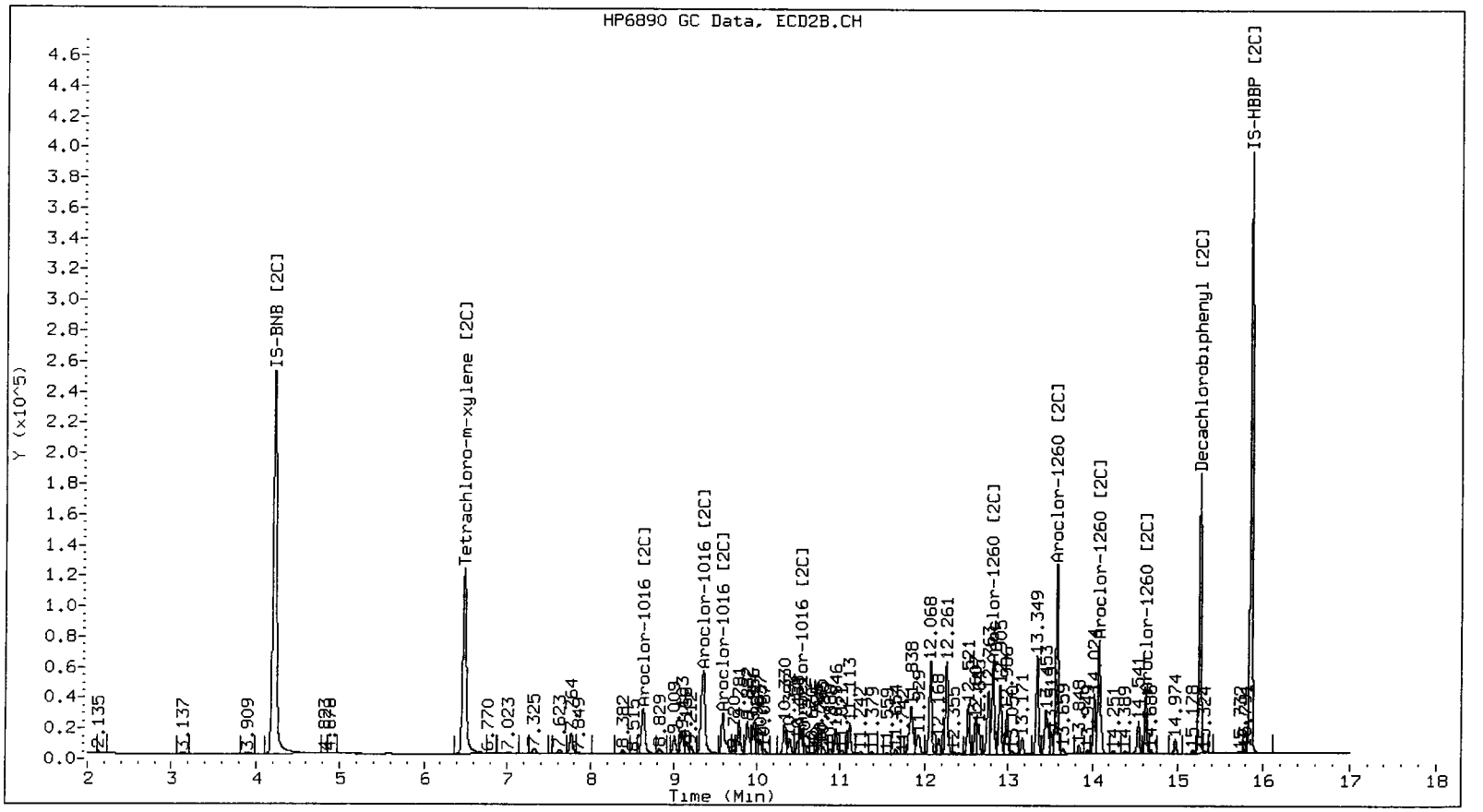
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AR1660 24-FEB-2016 23:36, 2ul

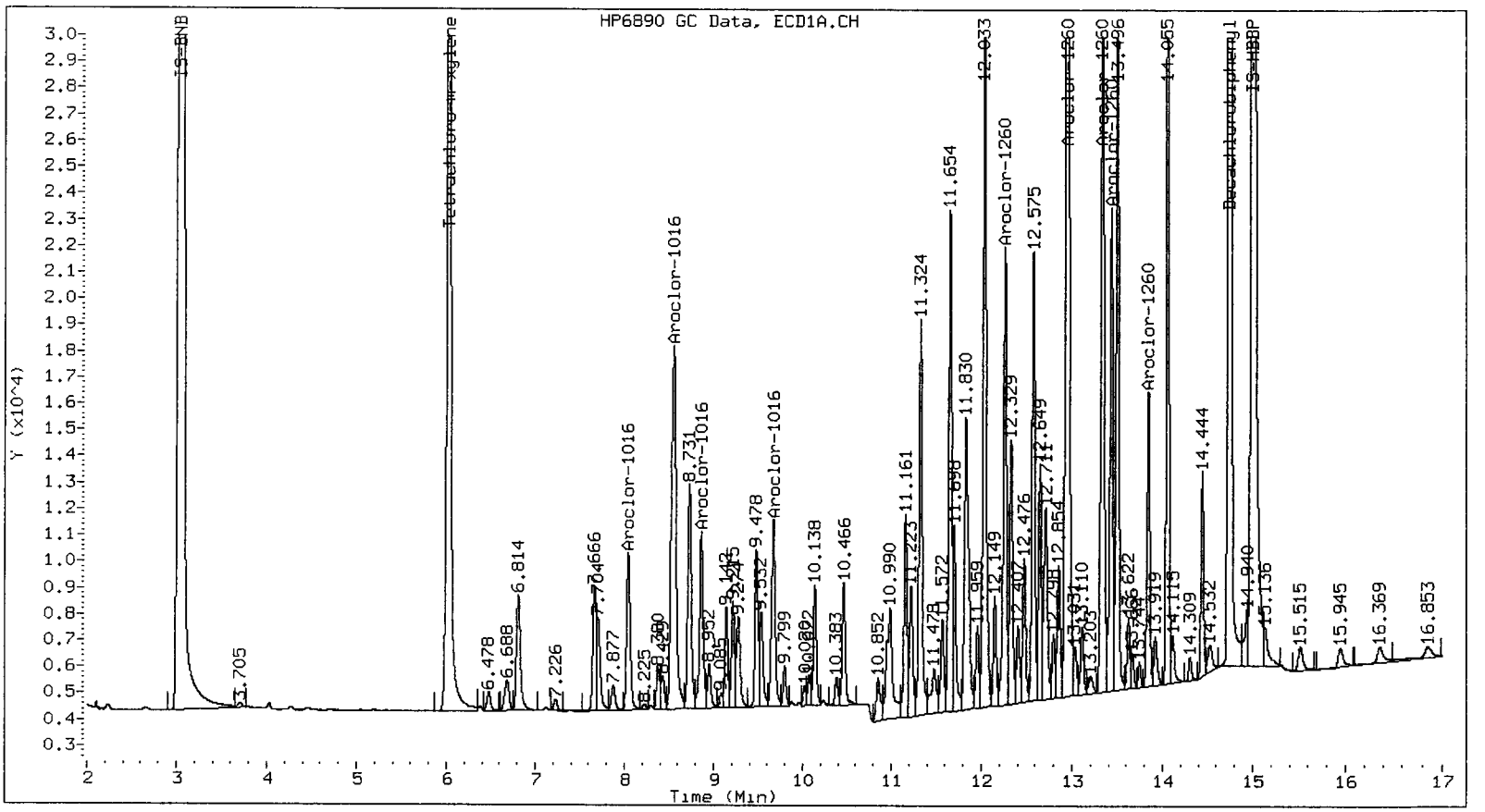


ECD7-ZB35 AR1660 24-FEB-2016 23:36, 2ul

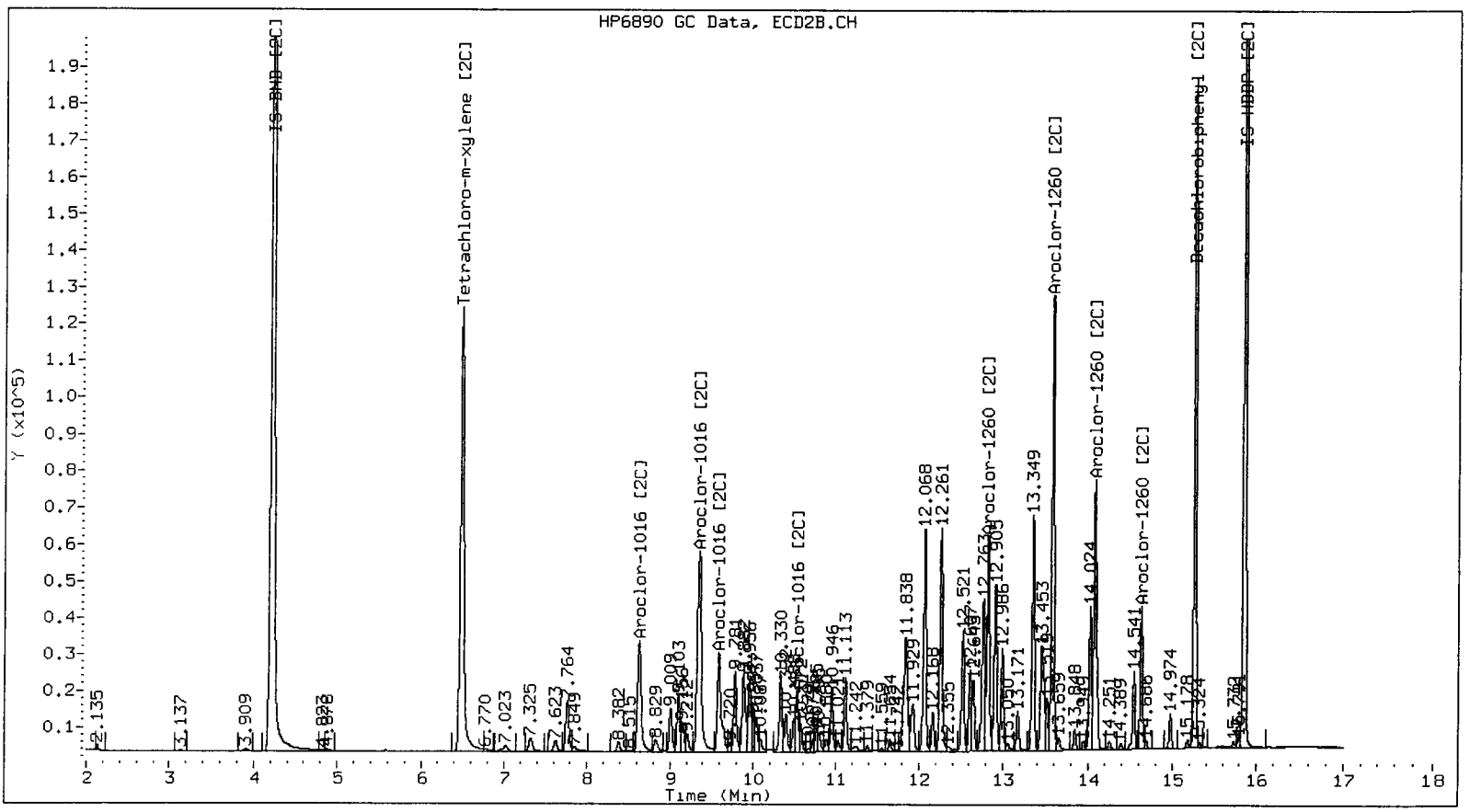


AVZ9:66397

ECD7-ZB5 AR1660 24-FEB-2016 23:36, 2ul



ECD7-ZB35 AR1660 24-FEB-2016 23:36, 2ul



Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241629.D
Data file 2: /20160224.b/20160224.b/02241629.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9K
Client ID: JF-PDS-103-1-2ft-16
Injection Date: 25-FEB-2016 01:25
Report Date: 02/26/2016 09:46
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
6.021	-0.002	1850083	6.478	-0.003	6803529	23.0	35.6	42.9*	Tetrachloro-m-xyle
14.742	-0.001	5901673	15.260	-0.000	5077898	50.2	30.6	48.7*	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	57.5	88.9
Decachlorobiphenyl	125.6	76.4

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	14851306	44.4
Hexabromobiphenyl	12470452	8799485	-29.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	16503196	4.4
Hexabromobiphenyl	11807823	12980381	9.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.014	-0.029	20890962	10989.0	1	8.648	0.021	12970788	1577.2
Aroclor-1016	2	8.553	-0.002	1444685	246.5	2	9.344	-0.009	2358478	139.3
Aroclor-1016	3	8.881	0.018	3797516	1897.8	3	9.554	-0.032	389533	57.6
Aroclor-1016	4	9.703	0.033	9299968	4167.8	4	10.555	0.029	245192	78.1
Total Col1Ave (4 peaks):				4325.3		Total Col2Ave (4 peaks):			463.1	RPD = 161*
Corrected Ave (3 peaks):				2104.0		Corrected Ave (3 peaks):			91.7	RPD = 183*
Aroclor-1221	1	4.731	0.017	79196	168.6	1	---			0.0
Aroclor-1221	2	6.703	0.013	653602	865.6	2	7.578	-0.045	42518915	29698.7
Aroclor-1221	3	6.843	0.028	10378526	4601.9	3	7.749	-0.014	6667157	1471.9
Aroclor-1221	NS	---			----	4	8.648	0.005	12970788	8639.7
Total Col1Ave (3 peaks):				1878.7		Total Col2Ave (3 peaks):			13270.1	RPD = 150*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.731	0.016	79196	297.3	1	---			0.0
Aroclor-1232	2	6.703	0.013	653602	1288.2	2	7.578	-0.045	42518915	48709.5
Aroclor-1232	3	6.843	0.028	10378526	6940.1	3	7.909	0.058	76959	156.3
Aroclor-1232	4	8.553	-0.002	1444685	590.9	4	8.648	0.021	12970788	3389.2
Total Col1Ave (4 peaks):				2279.1		Total Col2Ave (3 peaks):			17418.3	RPD = 154*
Corrected Ave (3 peaks):				725.5		Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.553	-0.003	1444685	316.4	1	8.648	0.021	12970788	2029.8
Aroclor-1242	2	8.881	0.017	3797516	2265.7	2	9.344	-0.009	2358478	178.3
Aroclor-1242	3	9.703	0.032	9299968	4388.6	3	9.878	0.097	736650	215.7
Aroclor-1242	4	---			0.0	4	10.894	0.015	54912	11.9
Total Col1Ave (3 peaks):				2323.6		Total Col2Ave (4 peaks):			608.9	RPD = 117*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			135.3	
Aroclor-1248	1	8.553	-0.000	1444685	539.4	1	9.344	-0.006	2358478	298.8
Aroclor-1248	2	9.499	0.022	2985058	1496.6	2	9.878	-0.003	736650	126.6
Aroclor-1248	3	9.703	0.033	9299968	3106.2	3	10.795	-0.002	59539	6.7
Aroclor-1248	4	---			0.0	4	11.237	-0.006	93908	10.6
Total Col1Ave (3 peaks):				1714.1		Total Col2Ave (4 peaks):			110.7	RPD = 176*
Corrected Ave: < 3 Peaks				50		Corrected Ave (3 peaks):			48.0	56
Aroclor-1254	1	---			0.0	1	11.110	-0.002	196316	23.7
Aroclor-1254	2	---			0.0	2	11.212	0.000	95519	24.6
Aroclor-1254	3	10.853	0.003	148419	55.2	3	11.650	-0.004	88876	14.3
Aroclor-1254	4	10.985	-0.006	260445	49.4	4	11.803	-0.005	259113	18.2
Aroclor-1254	5	11.331	-0.015	189366	36.7	5	12.814	-0.003	140607	13.4
Total Col1Ave (3 peaks):				47.1		Total Col2Ave (5 peaks):			18.8	RPD = 86*
Corrected Ave: < 3 Peaks						Corrected Ave (4 peaks):			17.4	
Aroclor-1260	1	12.261	0.002	48854	22.9	1	12.814	-0.002	140607	11.7
Aroclor-1260	2	12.939	-0.002	82489	10.1	2	13.580	-0.001	139324	6.0
Aroclor-1260	3	13.326	-0.003	29403	8.4	3	14.073	-0.001	94578	6.2
Aroclor-1260	4	13.429	-0.003	38046	17.5	4	14.624	-0.001	60546	10.3
Aroclor-1260	5	13.830	-0.012	35840	28.3	NS	---			----
Total Col1Ave (5 peaks):				17.4		Total Col2Ave (4 peaks):			8.6	RPD = 68*
Corrected Ave (4 peaks):				14.7		Corrected Ave (3 peaks):			7.5	RPD = 65*
Aroclor-1262	1	12.261	0.002	48854	17.2	1	12.904	-0.001	78803	6.0
Aroclor-1262	2	12.939	-0.001	82489	9.9	2	13.348	-0.001	85630	7.0
Aroclor-1262	3	13.326	-0.004	29403	11.1	3	13.580	-0.000	139324	5.6
Aroclor-1262	4	13.429	-0.002	38046	9.5	4	14.073	-0.002	94578	5.8
Aroclor-1262	5	14.054	-0.001	38511	8.6	5	14.624	-0.001	60546	7.3
Total Col1Ave (5 peaks):				11.3		Total Col2Ave (5 peaks):			6.3	RPD = 56*
Corrected Ave (4 peaks):				9.8		Corrected Ave (4 peaks):			6.1	RPD = 46*
Aroclor-1268	1	13.429	-0.002	38046	3.3	1	14.019	-0.002	75460	2.9
Aroclor-1268	2	13.494	-0.000	38057	2.6	2	14.073	-0.002	94578	3.9
Aroclor-1268	3	13.830	0.003	35840	2.8	3	14.388	0.000	41096	2.1

Aroclor-1268	4	14.375	-0.071	16394	0.3	4	14.972	-0.002	96446	1.7

Total Col1Ave (4 peaks): 2.3 Total Col2Ave (4 peaks): 2.7 RPD = 17

Corrected Ave (3 peaks): 1.9 Corrected Ave (3 peaks): 2.3 RPD = 16

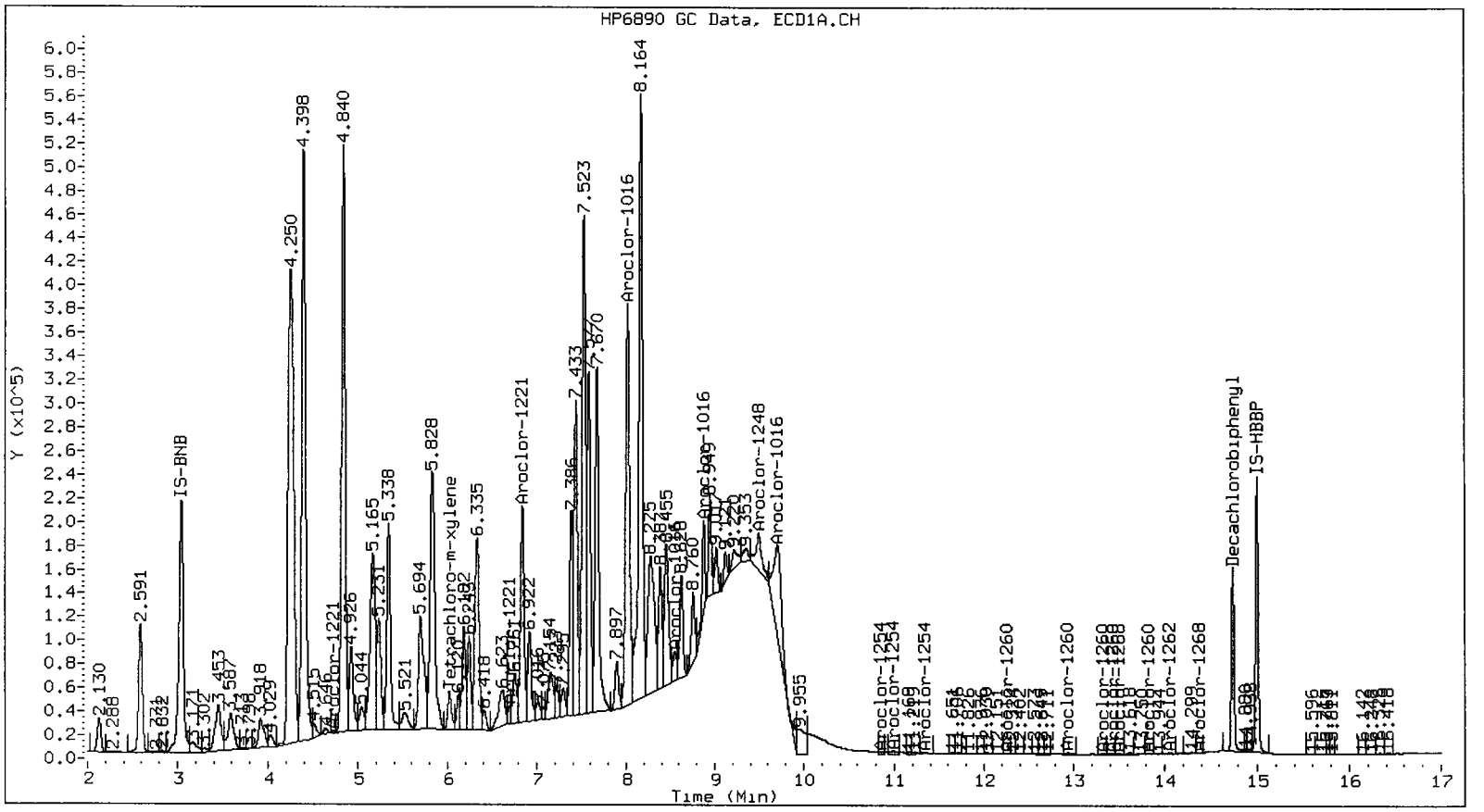
Total PCB Area Col1 (6.123 - 14.643) = 251038787 Col1 Total PCB = 4.1 ppm*

Total PCB Area Col2 (6.123 - 14.643) = 300243588 Col2 Total PCB = 2.2 ppm*

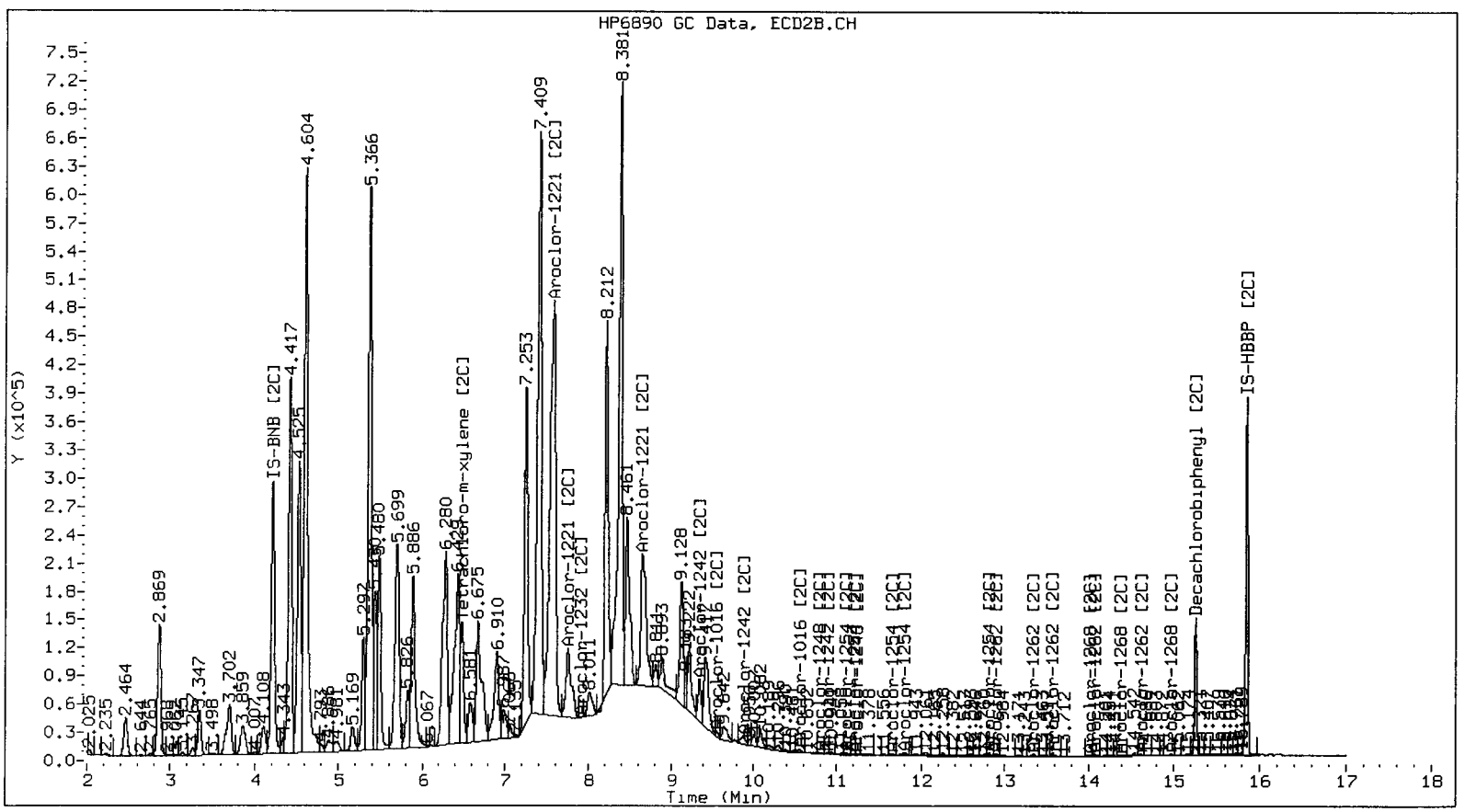
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9K 25-FEB-2016 01:25, 2ul

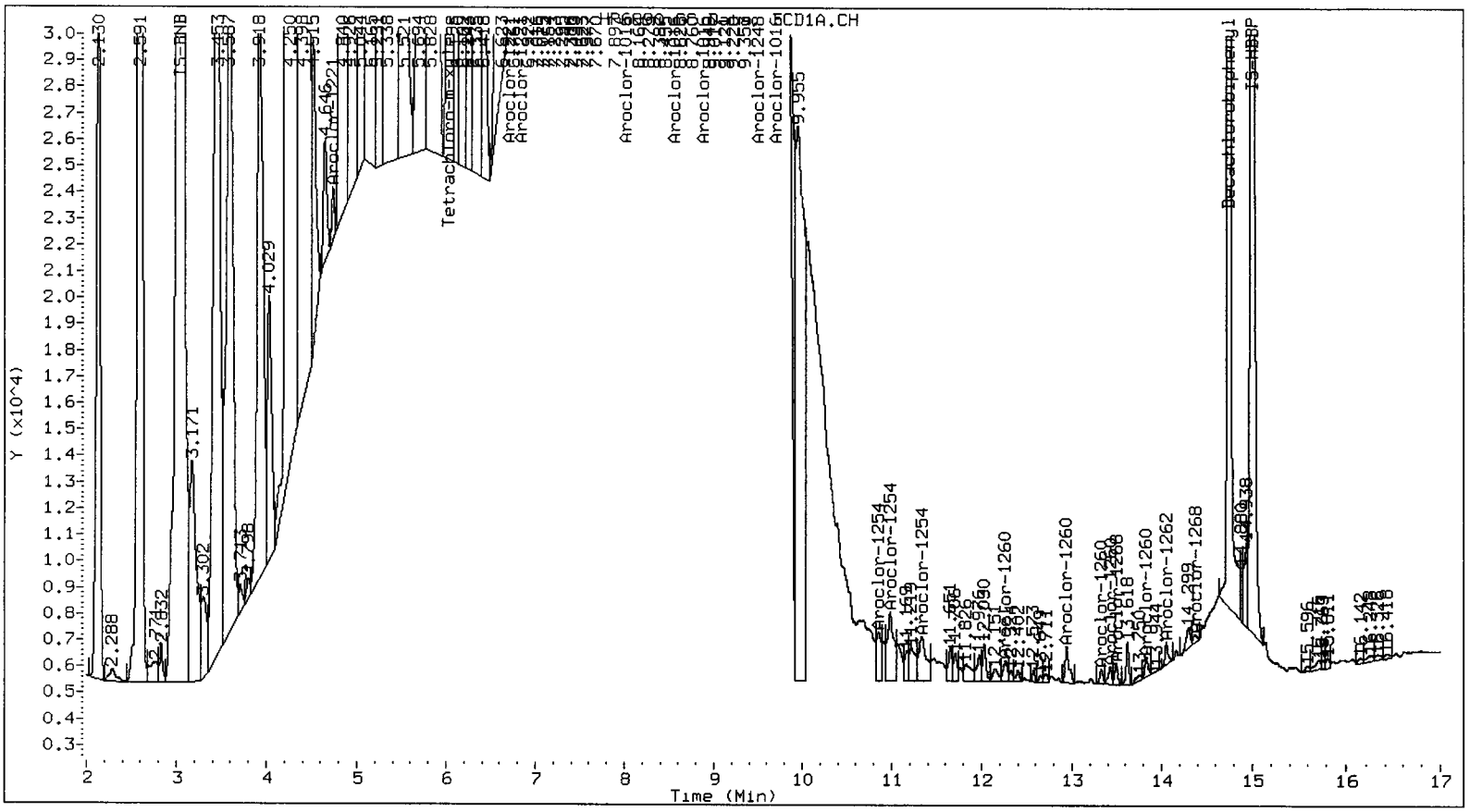


ECD7-ZB35 AVZ9K 25-FEB-2016 01:25, 2ul



AVZ9 : 88402

ECD7-ZB5 AVZ9K 25-FEB-2016 01:25, 2ul



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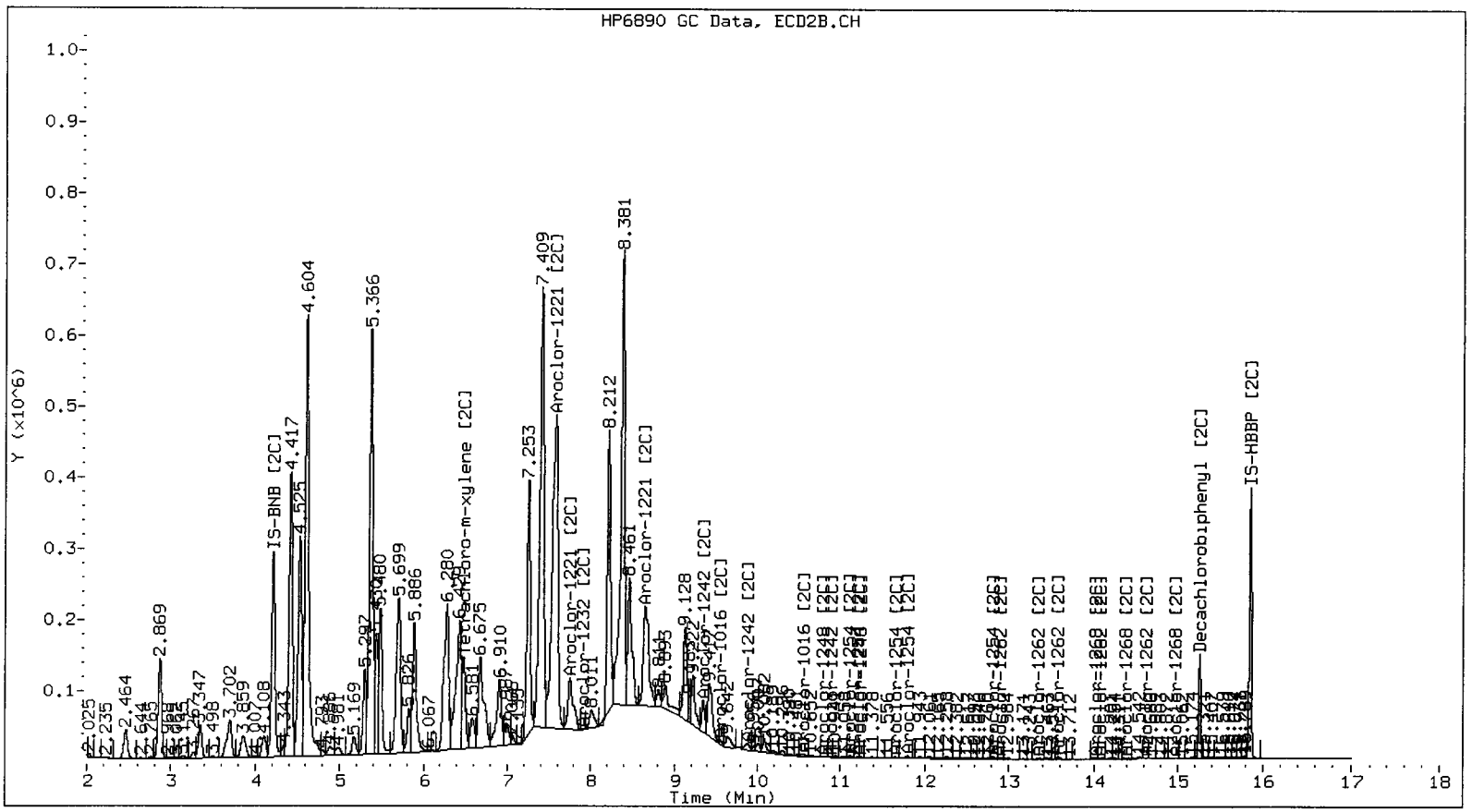

AVZ9:00483

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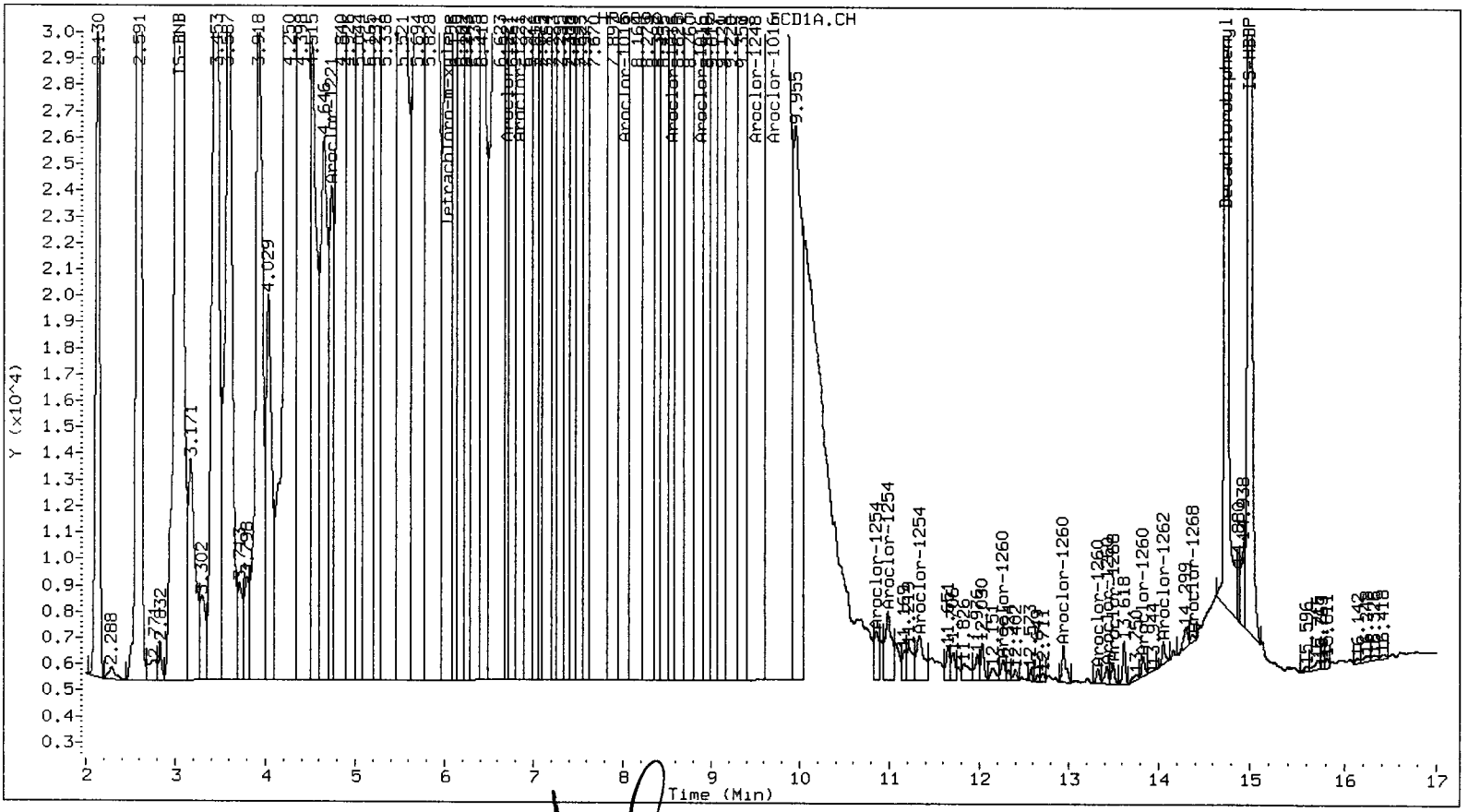
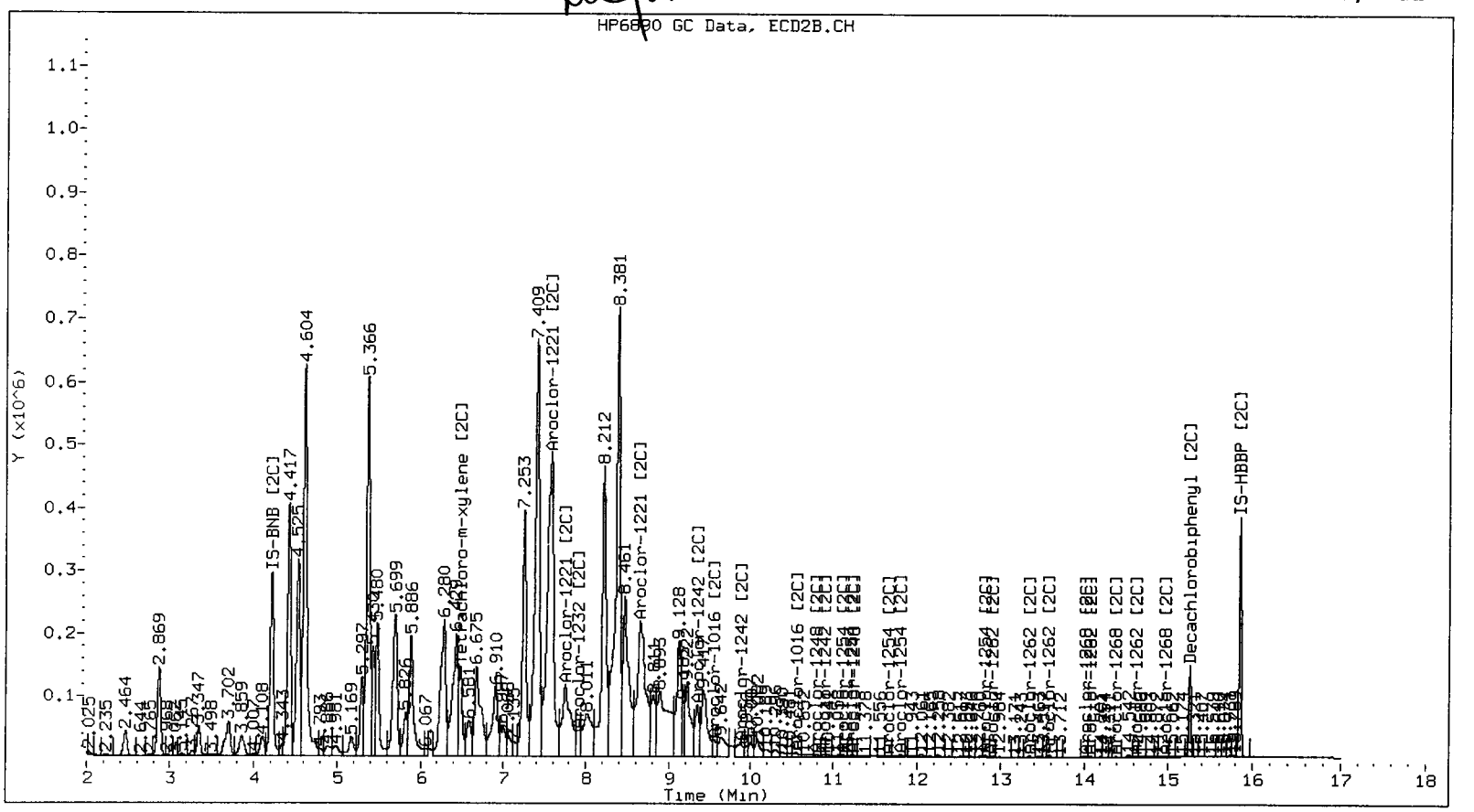


before

ECD7-ZB35 AVZ9K 25-FEB-2016 01:25, 2ul



AVZ9 . 8H38

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241630.D
Data file 2: /20160224.b/20160224.b/02241630.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9L
Client ID: JF-PDS-5-0-1ft-1602
Injection Date: 25-FEB-2016 01:47
Report Date: 02/26/2016 09:46
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
6.023	-0.000	1896213	6.480	-0.001	5580212	29.4	33.8	14.0	Tetrachloro-m-xyle
14.744	0.001	7646567	15.261	0.000	6371107	65.3	45.9	34.8	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	73.5	84.6
Decachlorobiphenyl	~~163.2~~ NR	114.9

AK 02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	11903511	15.7
Hexabromobiphenyl	12470452	8774027	-29.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	14227783	-10.0
Hexabromobiphenyl	11807823	10838098	-8.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.031	-0.012	1196745	785.4	1	8.629	0.001	3659385	516.1
Aroclor-1016	2	8.553	-0.001	2052601	436.9	2	9.349	-0.005	7331553	502.3
Aroclor-1016	3	8.866	0.004	1365008	851.1	3	9.583	-0.004	1470141	252.3
Aroclor-1016	4	9.668	-0.002	2466830	1379.3	4	10.524	-0.002	6415100	2370.7
Total Col1Ave (4 peaks):				863.2		Total Col2Ave (4 peaks):			910.4	RPD = 5
Corrected Ave (3 peaks):				691.1		Corrected Ave (3 peaks):			423.6	RPD = 48*
Aroclor-1221	1	4.736	0.022	74864	198.8	1	5.544	-0.042	393516	297.0
Aroclor-1221	2	6.692	0.002	146027	241.3	2	7.584	-0.039	4169959	3378.5
Aroclor-1221	3	6.815	0.000	281701	155.8	3	7.765	0.002	1043597	267.2
Aroclor-1221	NS	---			----	4	8.629	-0.015	3659385	2827.3
Total Col1Ave (3 peaks):				198.7		Total Col2Ave (4 peaks):			1692.5	RPD = 158*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			1130.5	
Aroclor-1232	1	4.736	0.022	74864	350.6	1	5.544	-0.042	393516	492.4
Aroclor-1232	2	6.692	0.002	146027	359.1	2	7.584	-0.039	4169959	5541.1
Aroclor-1232	3	6.815	0.001	281701	235.0	3	7.818	-0.034	982948	2315.6
Aroclor-1232	4	8.553	-0.001	2052601	1047.5	4	8.629	0.001	3659385	1109.1
Total Col1Ave (4 peaks):				498.0		Total Col2Ave (4 peaks):			2364.5	RPD = 130*
Corrected Ave (3 peaks):				314.9		Corrected Ave (3 peaks):			1305.7	RPD = 122*
Aroclor-1242	1	8.553	-0.003	2052601	560.9	1	8.629	0.001	3659385	664.2
Aroclor-1242	2	8.866	0.003	1365008	1016.1	2	9.349	-0.005	7331553	642.8
Aroclor-1242	3	9.668	-0.003	2466830	1452.4	3	9.777	-0.005	1160859	394.3
Aroclor-1242	4	10.068	-0.004	4952794	4034.9	4	10.874	-0.006	10925825	2755.1
Total Col1Ave (4 peaks):				1766.1		Total Col2Ave (4 peaks):			1114.1	RPD = 45*
Corrected Ave (3 peaks):				1009.8		Corrected Ave (3 peaks):			567.1	RPD = 56*
Aroclor-1248	1	8.553	-0.000	2052601	956.2	1	9.349	-0.001	7331553	1077.3
Aroclor-1248	2	9.475	-0.002	4595752	2874.8	2	9.880	-0.002	20979678	4182.7
Aroclor-1248	3	9.668	-0.002	2466830	1028.0	3	10.793	-0.004	18591953	2426.1
Aroclor-1248	4	10.068	-0.003	4952794	2481.8	4	11.209	-0.034	27619248	3608.0
Total Col1Ave (4 peaks):				1835.2		Total Col2Ave (4 peaks):			2823.5	RPD = 42*
Corrected Ave (3 peaks):				1488.7		Corrected Ave (3 peaks):			2370.5	RPD = 46*
Aroclor-1254	1	10.464	-0.001	15440252	5860.0	1	11.111	-0.001	49541922	6925.6
Aroclor-1254	2	10.543	-0.002	5683965	6471.3	2	11.209	-0.002	27619248	8240.8
Aroclor-1254	3	10.849	-0.001	13095576	6079.0	3	11.651	-0.002	31648961	5894.2
Aroclor-1254	4	10.988	-0.003	30880544	7305.2	4	11.805	-0.002	95636440	7808.6
Aroclor-1254	5	11.343	-0.003	29729628	7183.1	5	12.817	0.000	66560972	7375.1
Total Col1Ave (5 peaks):				6579.7		Total Col2Ave (5 peaks):			7248.9	RPD = 10
Corrected Ave (4 peaks):				6398.4		Corrected Ave (4 peaks):			7000.9	RPD = 9
Aroclor-1260	1	12.259	-0.001	4331459	2032.4	1	12.817	0.000	66560972	6660.5
Aroclor-1260	2	12.940	-0.002	16431414	2026.2	2	13.581	0.000	28031633	1446.4
Aroclor-1260	3	13.327	-0.002	8814498	2531.3	3	14.074	-0.000	23192028	1812.1
Aroclor-1260	4	13.431	-0.000	8586626	3968.4	4	14.625	-0.001	8157216	1662.3
Aroclor-1260	5	13.832	-0.011	6112782	4837.2	NS	---			----
Total Col1Ave (5 peaks):				3079.1		Total Col2Ave (4 peaks):			2895.3	RPD = 6
Corrected Ave (4 peaks):				2639.6		Corrected Ave (3 peaks):			1640.3	RPD = 47*
Aroclor-1262	1	12.259	-0.001	4331459	1525.6	1	12.905	-0.000	10861998	985.6
Aroclor-1262	2	12.940	-0.001	16431414	1973.8	2	13.350	0.001	27448552	2694.9
Aroclor-1262	3	13.327	-0.003	8814498	3341.5	3	13.581	0.001	28031633	1348.7
Aroclor-1262	4	13.431	0.001	8586626	2159.8	4	14.074	-0.001	23192028	1715.2
Aroclor-1262	5	14.056	0.000	8709356	1950.1	5	14.625	-0.000	8157216	1176.9
Total Col1Ave (5 peaks):				2190.2		Total Col2Ave (5 peaks):			1584.3	RPD = 32
Corrected Ave (4 peaks):				1902.3		Corrected Ave (4 peaks):			1306.6	RPD = 37
Aroclor-1268	1	13.431	0.000	8586626	742.3	1	14.022	0.001	12012759	555.9
Aroclor-1268	2	13.495	0.000	11243239	783.8	2	14.074	-0.001	23192028	1147.7
Aroclor-1268	3	13.832	0.004	6112782	470.9	3	14.388	-0.000	3370673	207.3

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Aroclor-1268	4	14.446	-0.000	16193338	344.6	4	14.974	0.000	11945464	257.4

Total Col1Ave (4 peaks): 585.4 Total Col2Ave (4 peaks): 542.1 RPD = 8

Corrected Ave (3 peaks): 519.3 Corrected Ave (3 peaks): 340.2 RPD = 42*

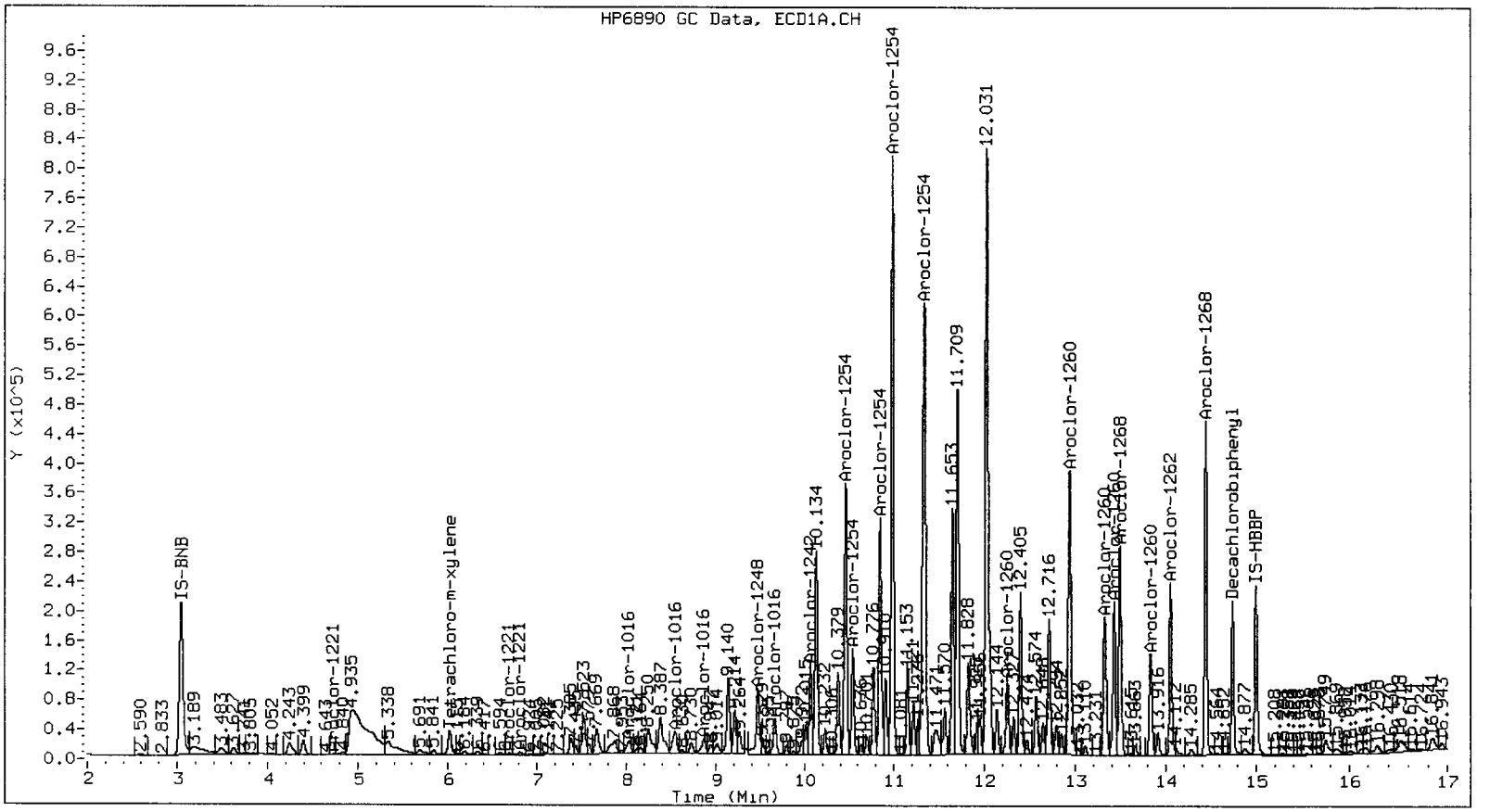
Total PCB Area Col1 (6.123 - 14.643) = 381576770 Col1 Total PCB = 7.7 ppm*

Total PCB Area Col2 (6.123 - 14.643) = 935978448 Col2 Total PCB = 8.0 ppm*

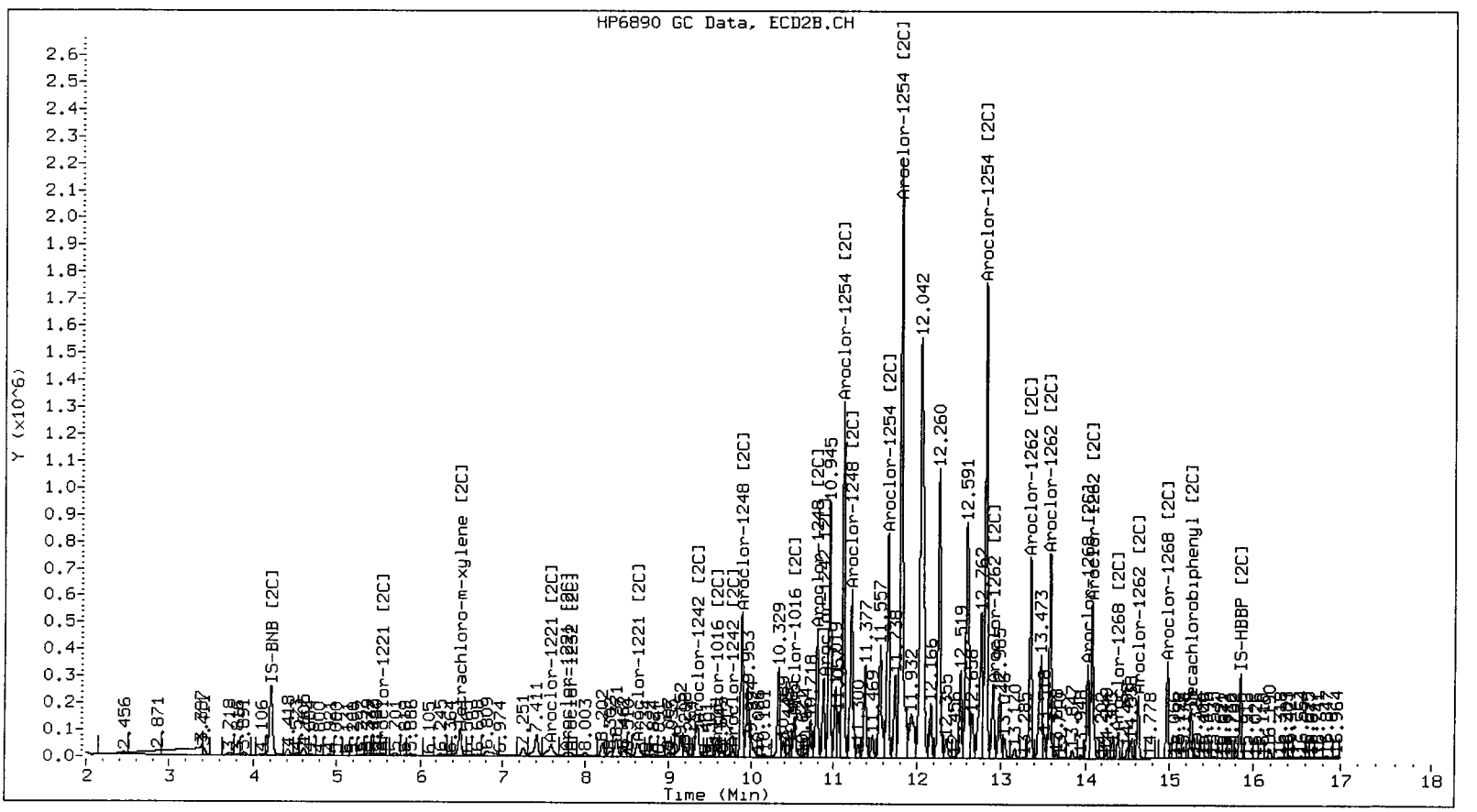
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9L 25-FEB-2016 01:47, 2ul

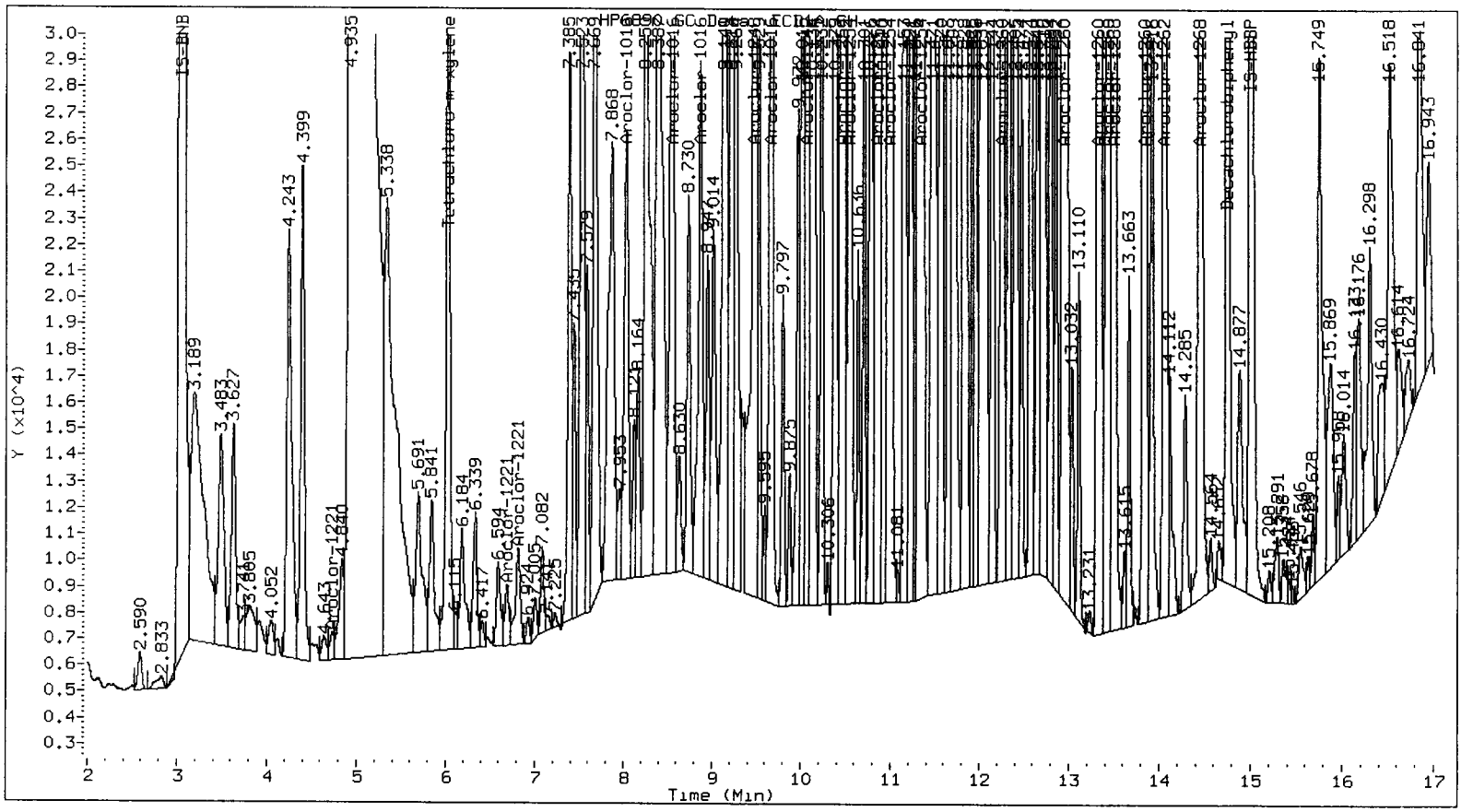


ECD7-ZB35 AVZ9L 25-FEB-2016 01:47, 2ul

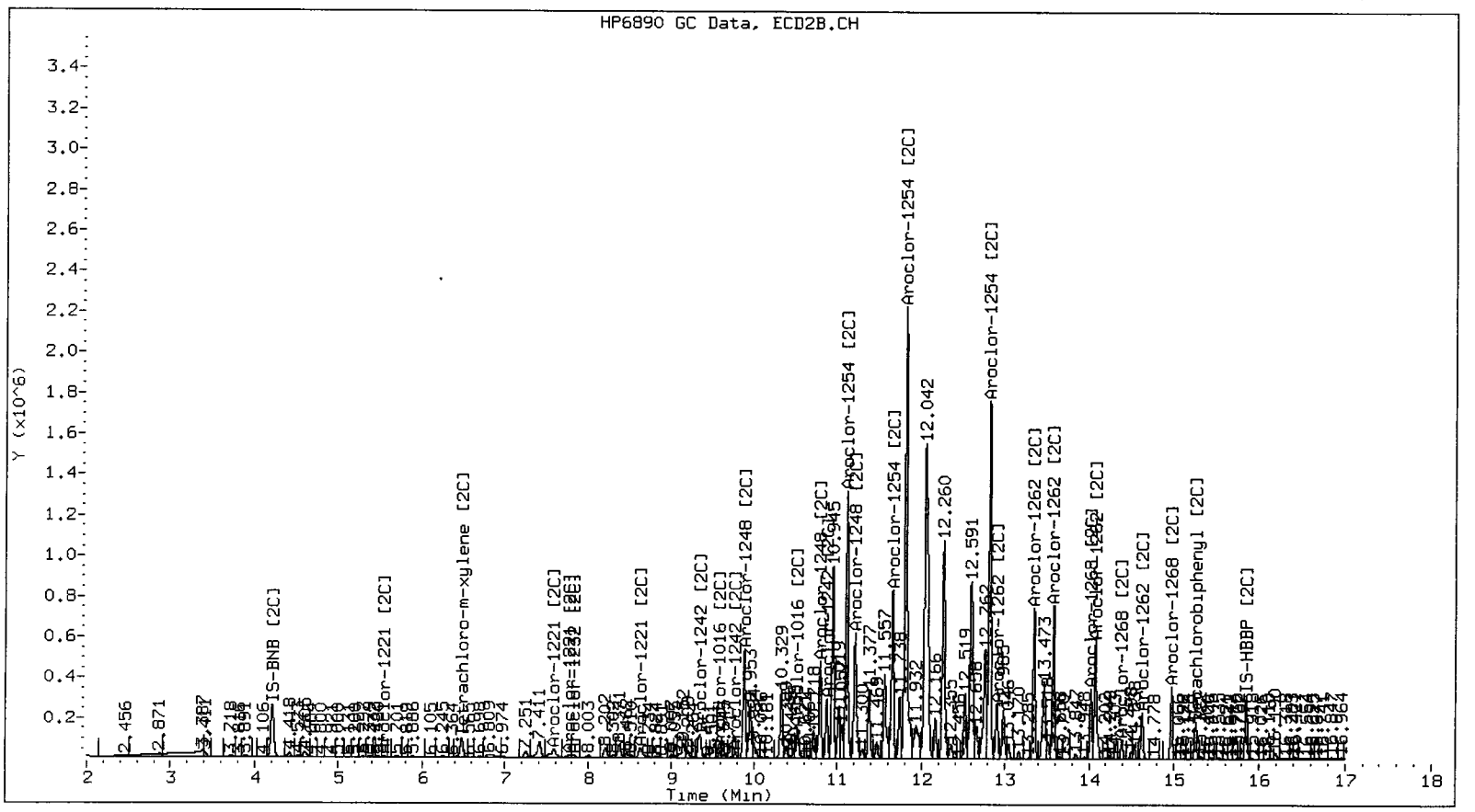


AVZ9-661-08

ECD7-ZB5 AVZ9L 25-FEB-2016 01:47, 2ul

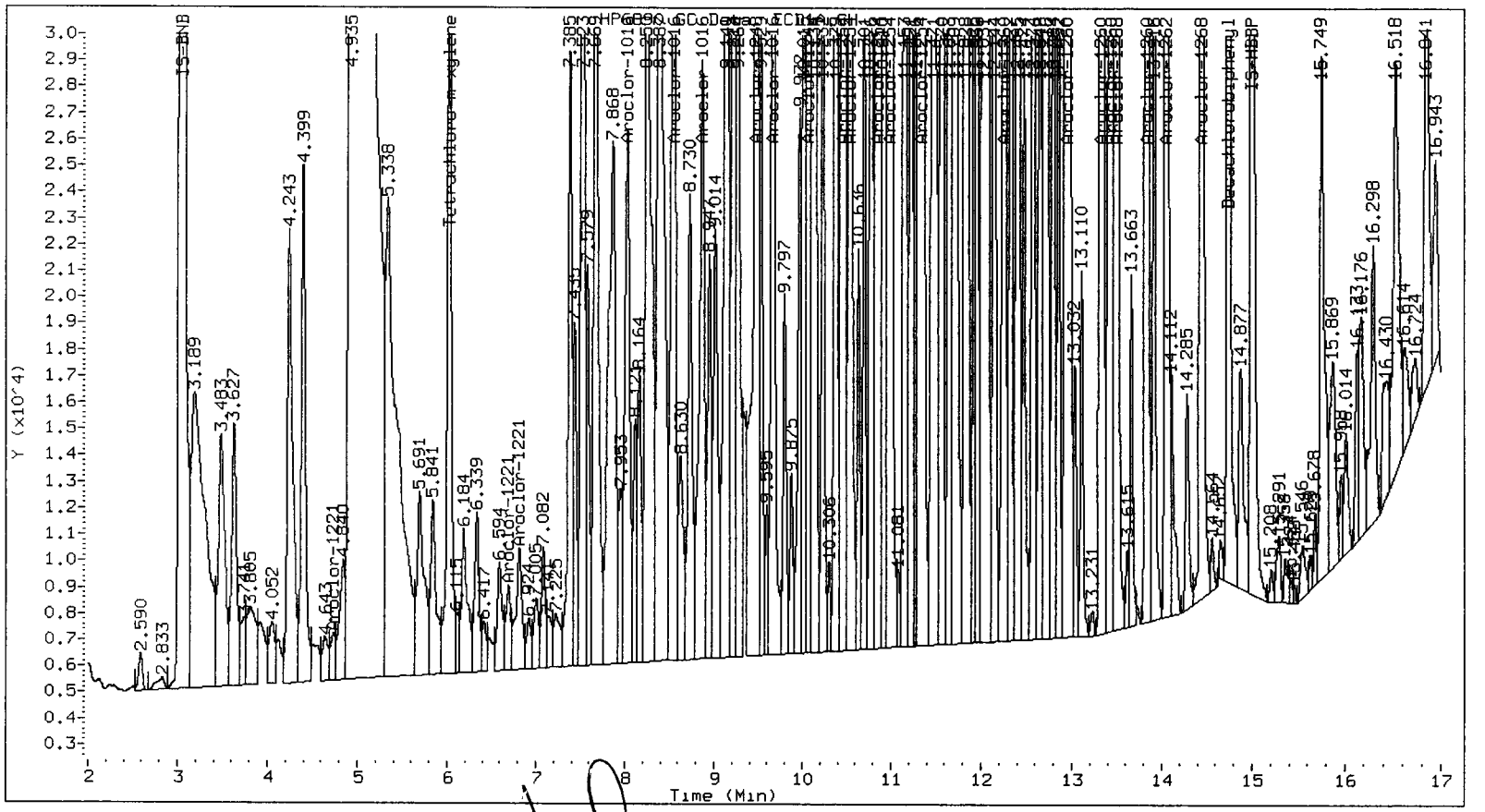


ECD7-ZB35 AVZ9L 25-FEB-2016 01:47, 2ul

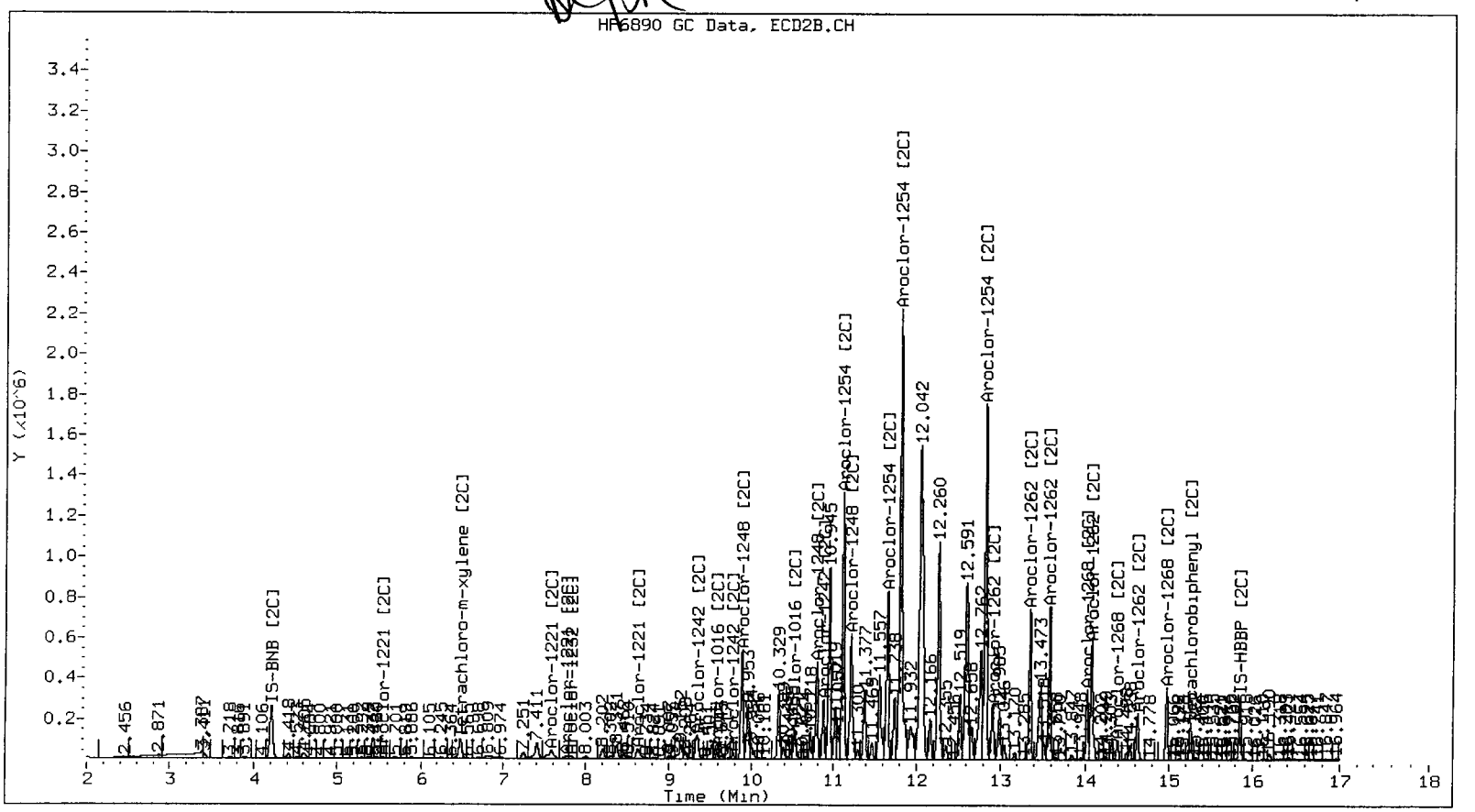


AVZ9 : 88%80

ECD7-ZB5 AVZ9L 25-FEB-2016 01:47, 2ul



ECD7-ZB35 AVZ9L 25-FEB-2016 01:47, 2ul



AVZ9:00410

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241631.D
Data file 2: /20160224.b/20160224.b/02241631.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9M
Client ID: JF-PDS-5-1-2ft-1602
Injection Date: 25-FEB-2016 02:09
Report Date: 02/26/2016 09:46
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
6.022	-0.001	1762028	6.479	-0.002	5954468	26.1	32.7	22.2	Tetrachloro-m-xyle
14.743	0.000	5007382	15.260	-0.000	4351963	39.0	26.4	38.6	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	65.3	81.7
Decachlorobiphenyl	97.5	66.0

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	12446097	21.0
Hexabromobiphenyl	12470452	9617804	-22.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15728991	-0.5
Hexabromobiphenyl	11807823	12890206	9.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.014	-0.030	8054197	5055.4	1	8.647	0.020	8428221	1075.3
Aroclor-1016	2	8.552	-0.002	158975	32.4	2	9.346	-0.008	1199094	74.3
Aroclor-1016	3	8.881	0.018	1229834	733.4	3	9.554	-0.033	109332	17.0
Aroclor-1016	4	9.590	-0.080	1372594	734.0	4	10.524	-0.002	810272	270.9
Total Col1Ave (4 peaks):				1638.8		Total Col2Ave (4 peaks):			359.4	RPD = 128*
Corrected Ave (3 peaks):				499.9		Corrected Ave (3 peaks):			120.7	RPD = 122*
Aroclor-1221	1	4.735	0.021	131292	333.5	1	---			0.0
Aroclor-1221	2	6.700	0.010	243941	385.5	2	7.581	-0.042	15478895	11343.9
Aroclor-1221	3	6.841	0.026	1865300	986.9	3	7.751	-0.013	2009662	465.5
Aroclor-1221	NS	---			----	4	8.647	0.004	8428221	5890.2
Total Col1Ave (3 peaks):				568.6		Total Col2Ave (3 peaks):			5899.9	RPD = 165*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.735	0.020	131292	588.0	1	---			0.0
Aroclor-1232	2	6.700	0.009	243941	573.7	2	7.581	-0.042	15478895	18605.4
Aroclor-1232	3	6.841	0.027	1865300	1488.4	3	7.751	-0.101	2009662	4282.5
Aroclor-1232	4	8.552	-0.002	158975	77.6	4	8.647	0.019	8428221	2310.7
Total Col1Ave (4 peaks):				681.9		Total Col2Ave (3 peaks):			8399.5	RPD = 170*
Corrected Ave (3 peaks):				413.1		Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.552	-0.004	158975	41.5	1	8.647	0.020	8428221	1383.9
Aroclor-1242	2	8.881	0.017	1229834	875.6	2	9.346	-0.008	1199094	95.1
Aroclor-1242	3	9.590	-0.081	1372594	772.9	3	9.776	-0.005	118531	36.4
Aroclor-1242	4	10.069	-0.003	847326	660.2	4	10.875	-0.004	1192991	272.1
Total Col1Ave (4 peaks):				587.6		Total Col2Ave (4 peaks):			446.9	RPD = 27
Corrected Ave (3 peaks):				491.5		Corrected Ave (3 peaks):			134.5	RPD = 114*
Aroclor-1248	1	8.552	-0.001	158975	70.8	1	9.346	-0.004	1199094	159.4
Aroclor-1248	2	9.482	0.005	1095936	655.7	2	9.881	-0.001	2916549	526.0
Aroclor-1248	3	9.590	-0.080	1372594	547.0	3	10.793	-0.004	2660249	314.0
Aroclor-1248	4	10.069	-0.002	847326	406.1	4	11.209	-0.033	3287939	388.5
Total Col1Ave (4 peaks):				419.9		Total Col2Ave (4 peaks):			347.0	RPD = 19
Corrected Ave (3 peaks):				341.3		Corrected Ave (3 peaks):			287.3	RPD = 17
Aroclor-1254	1	10.463	-0.001	1937849	703.4	1	11.111	-0.002	5485867	693.7
Aroclor-1254	2	10.543	-0.003	861401	938.0	2	11.209	-0.002	3287939	887.4
Aroclor-1254	3	10.848	-0.002	1608156	714.0	3	11.651	-0.003	4212185	709.6
Aroclor-1254	4	10.987	-0.003	3398462	768.9	4	11.804	-0.003	9045948	668.1
Aroclor-1254	5	11.343	-0.003	3125316	722.2	5	12.815	-0.002	5940482	595.4
Total Col1Ave (5 peaks):				769.3		Total Col2Ave (5 peaks):			710.8	RPD = 8
Corrected Ave (4 peaks):				727.1		Corrected Ave (4 peaks):			666.7	RPD = 9
Aroclor-1260	1	12.258	-0.002	237945	101.9	1	12.815	-0.001	5940482	499.8
Aroclor-1260	2	12.940	-0.001	761351	85.6	2	13.581	-0.001	1443135	62.6
Aroclor-1260	3	13.326	-0.003	548808	143.8	3	14.074	-0.001	1705670	112.1
Aroclor-1260	4	13.430	-0.001	235500	99.3	4	14.623	-0.003	1140849	195.5
Aroclor-1260	5	13.840	-0.002	317819	229.4	NS	---			----
Total Col1Ave (5 peaks):				132.0		Total Col2Ave (4 peaks):			217.5	RPD = 49*
Corrected Ave (4 peaks):				107.6		Corrected Ave (3 peaks):			123.4	RPD = 14
Aroclor-1262	1	12.258	-0.001	237945	76.5	1	12.905	-0.000	505016	38.5
Aroclor-1262	2	12.940	-0.001	761351	83.4	2	13.349	0.001	2510200	207.2
Aroclor-1262	3	13.326	-0.003	548808	189.8	3	13.581	-0.000	1443135	58.4
Aroclor-1262	4	13.430	-0.000	235500	54.0	4	14.074	-0.001	1705670	106.1
Aroclor-1262	5	14.054	-0.001	804546	164.3	5	14.623	-0.002	1140849	138.4
Total Col1Ave (5 peaks):				113.6		Total Col2Ave (5 peaks):			109.7	RPD = 3
Corrected Ave (4 peaks):				94.6		Corrected Ave (4 peaks):			85.3	RPD = 10
Aroclor-1268	1	13.430	-0.000	235500	18.6	1	14.024	0.003	505350	19.7
Aroclor-1268	2	13.495	0.001	300326	19.1	2	14.074	-0.002	1705670	71.0
Aroclor-1268	3	13.840	0.013	317819	22.3	3	14.392	0.004	808493	41.8

Aroclor-1268	4	14.444	-0.002	163763	3.2	4	14.975	0.001	1042906	18.9

Total Col1Ave (4 peaks): 15.8 Total Col2Ave (4 peaks): 37.8 RPD = 82*

Corrected Ave (3 peaks): 13.6 Corrected Ave (3 peaks): 26.8 RPD = 65*

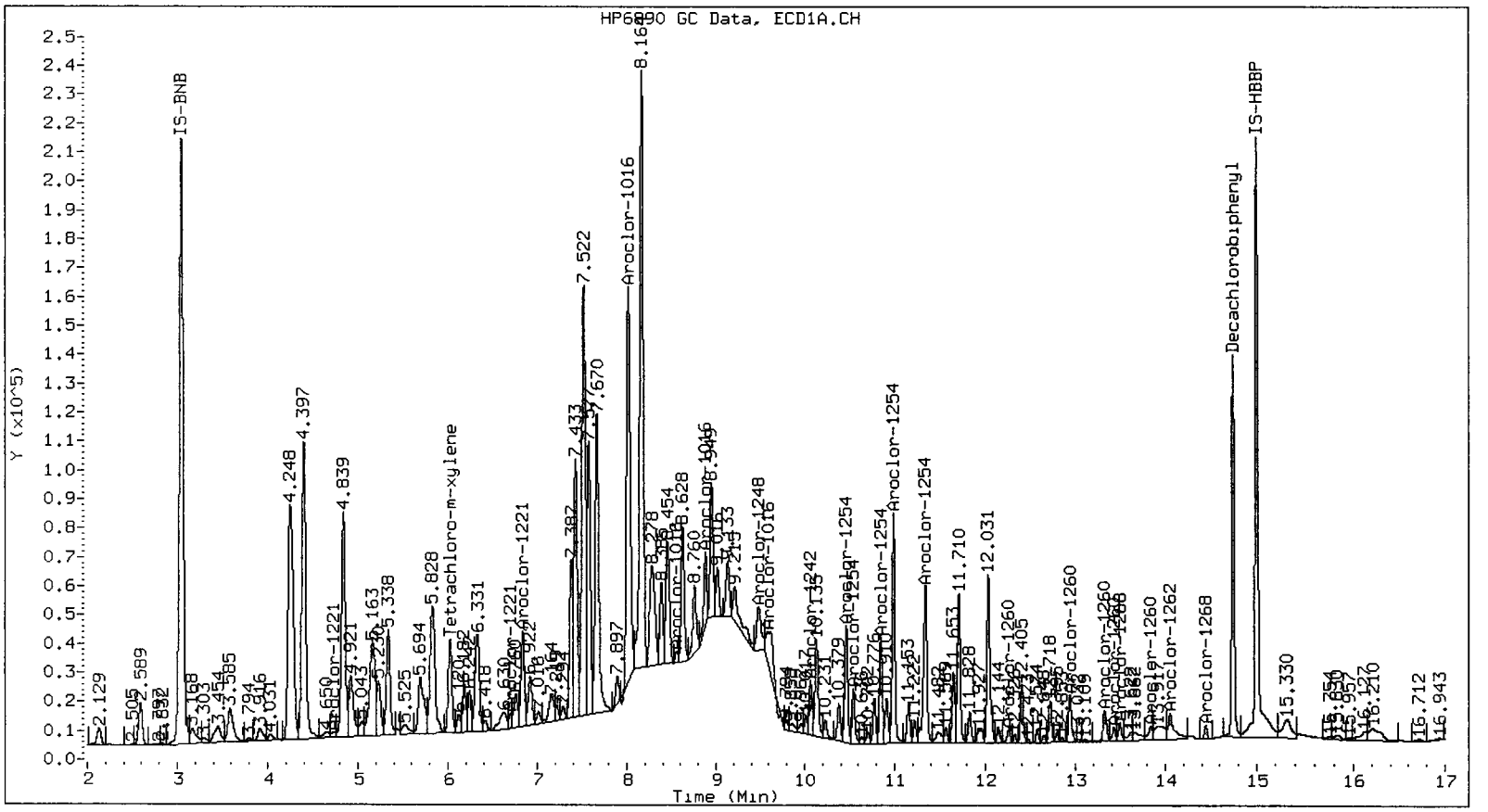
Total PCB Area Col1 (6.123 - 14.643) = 108873148 Col1 Total PCB = 2.1 ppm*

Total PCB Area Col2 (6.123 - 14.643) = 209894184 Col2 Total PCB = 1.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9M 25-FEB-2016 02:09, 2ul



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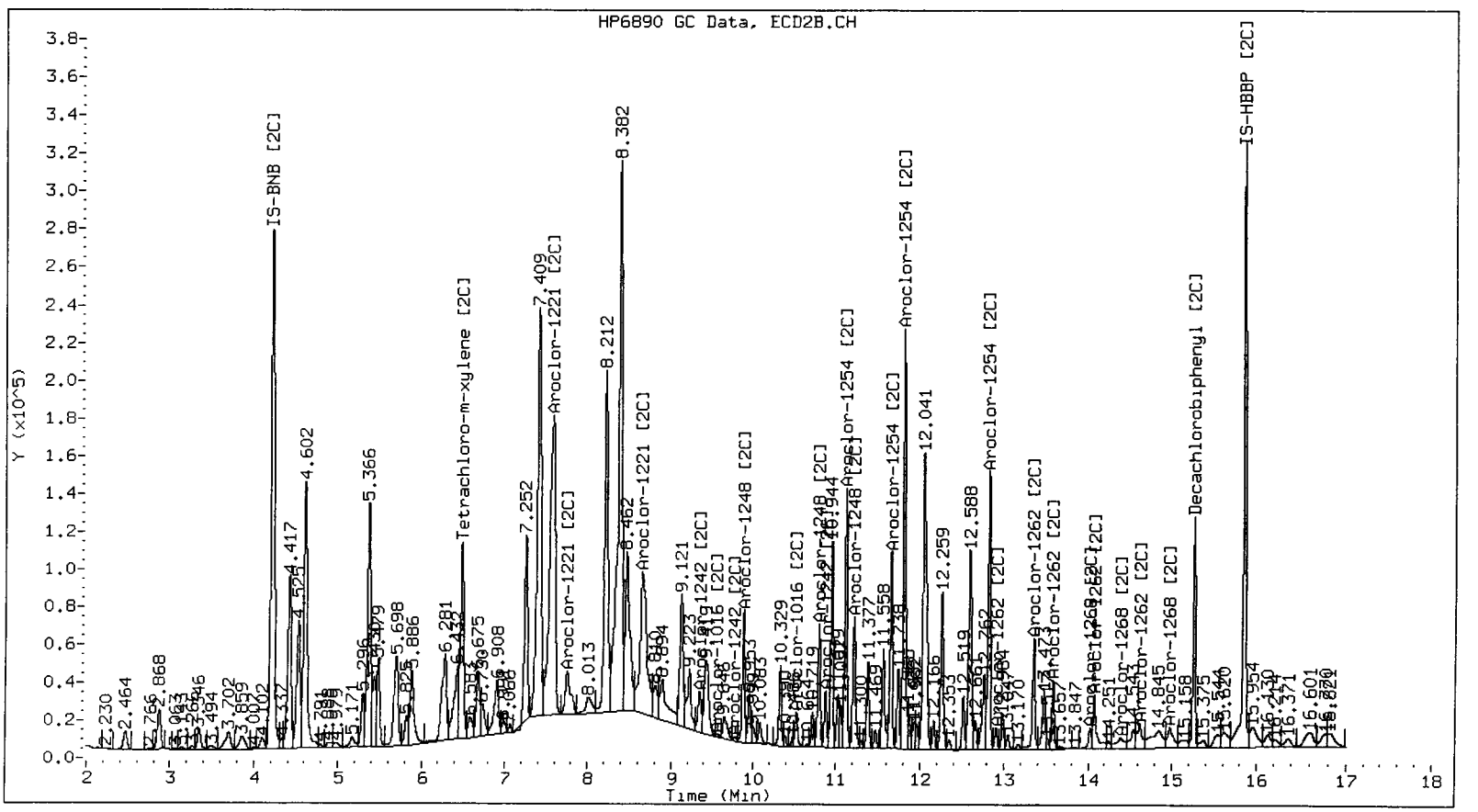
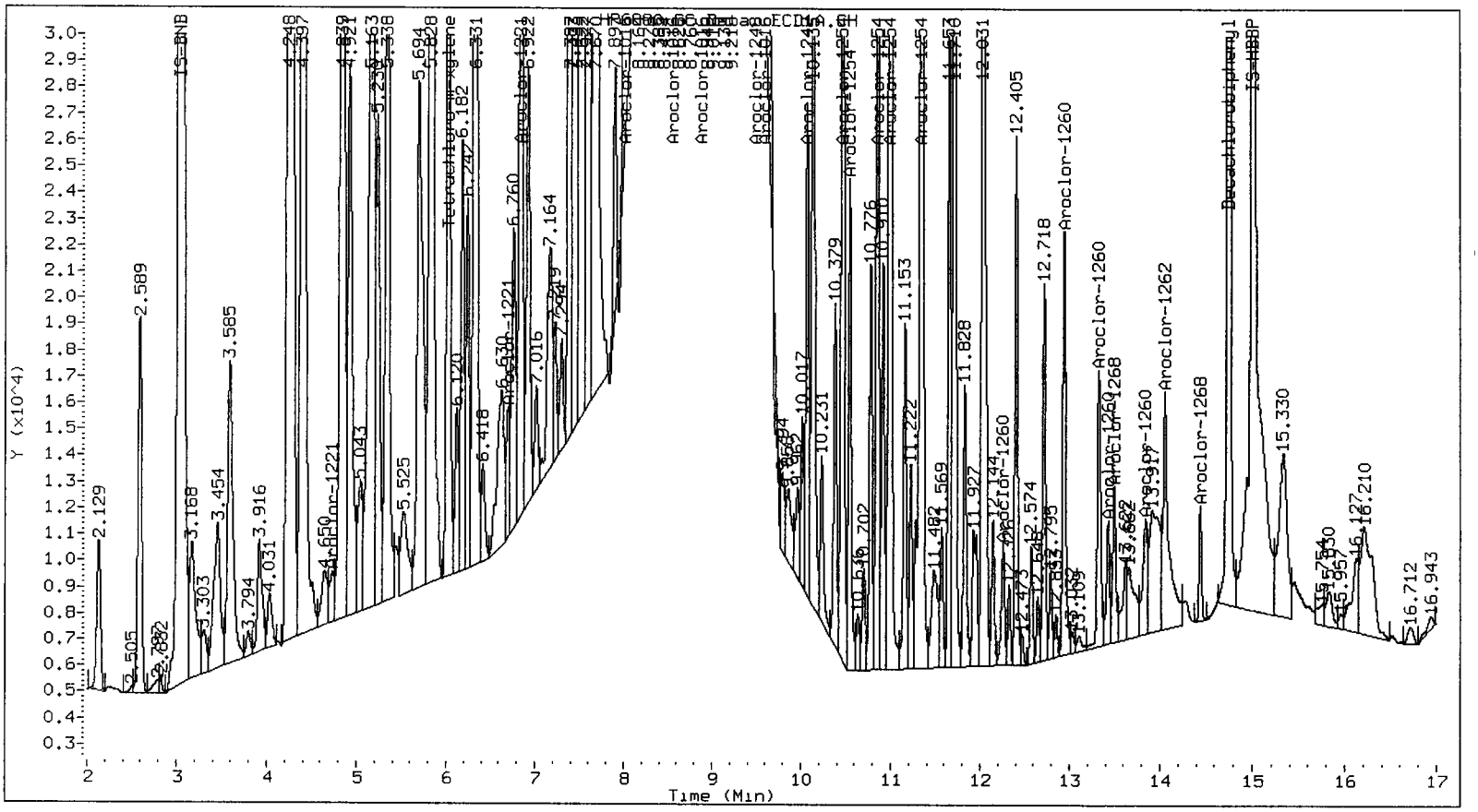


AVZ9.6041

ECD7-ZB5 AVZ9M 25-FEB-2016 02:09, 2ul



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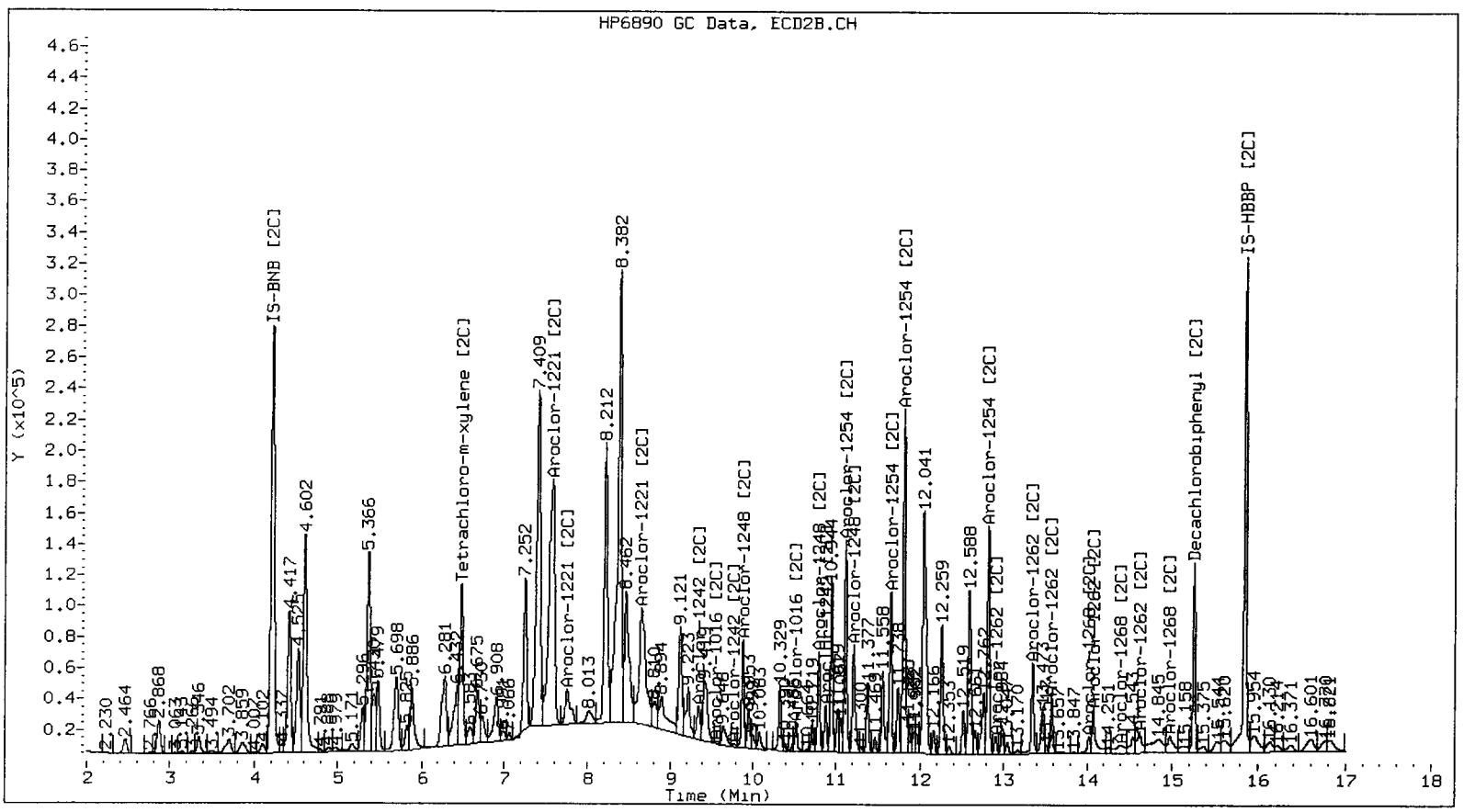

AVZ9:06415

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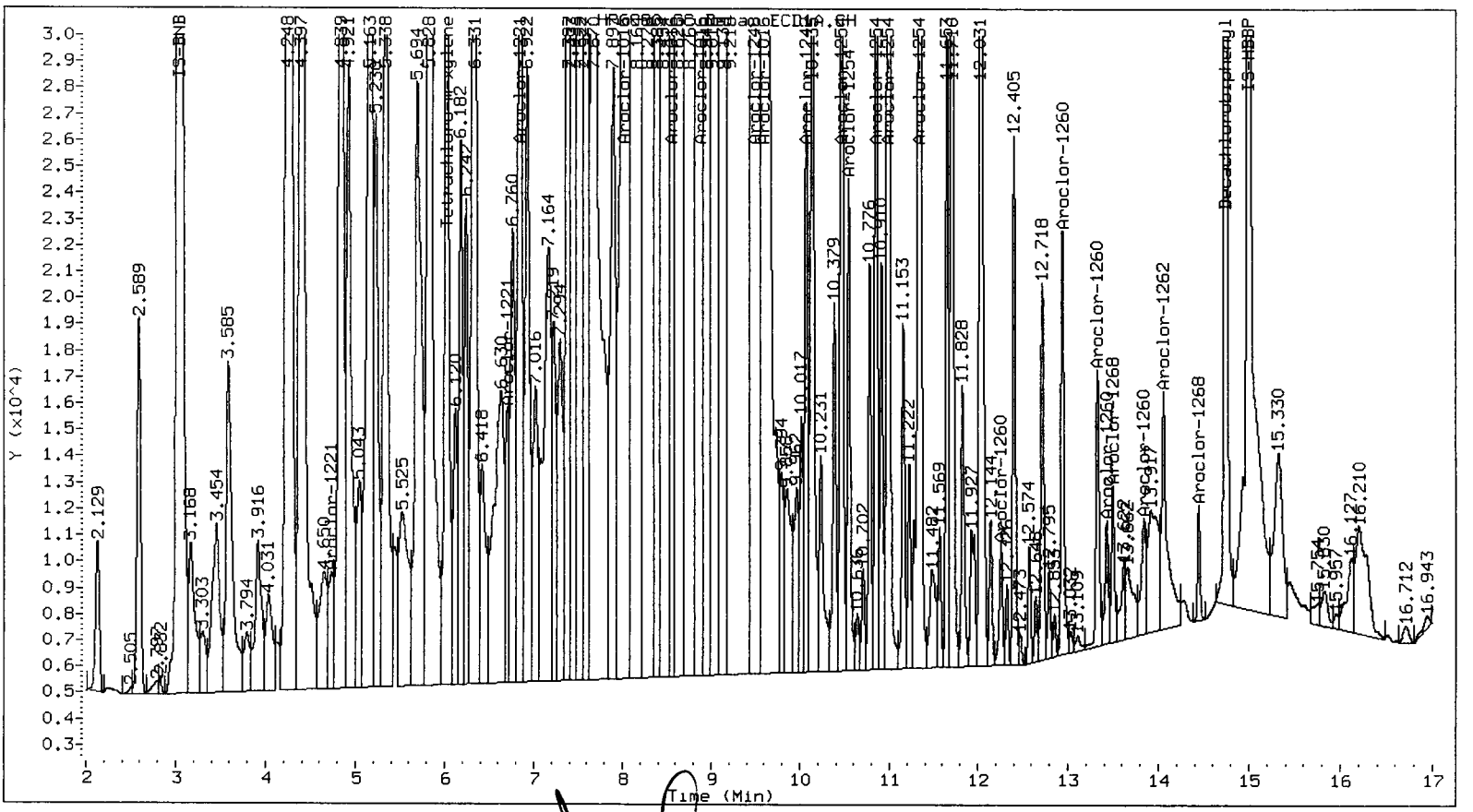
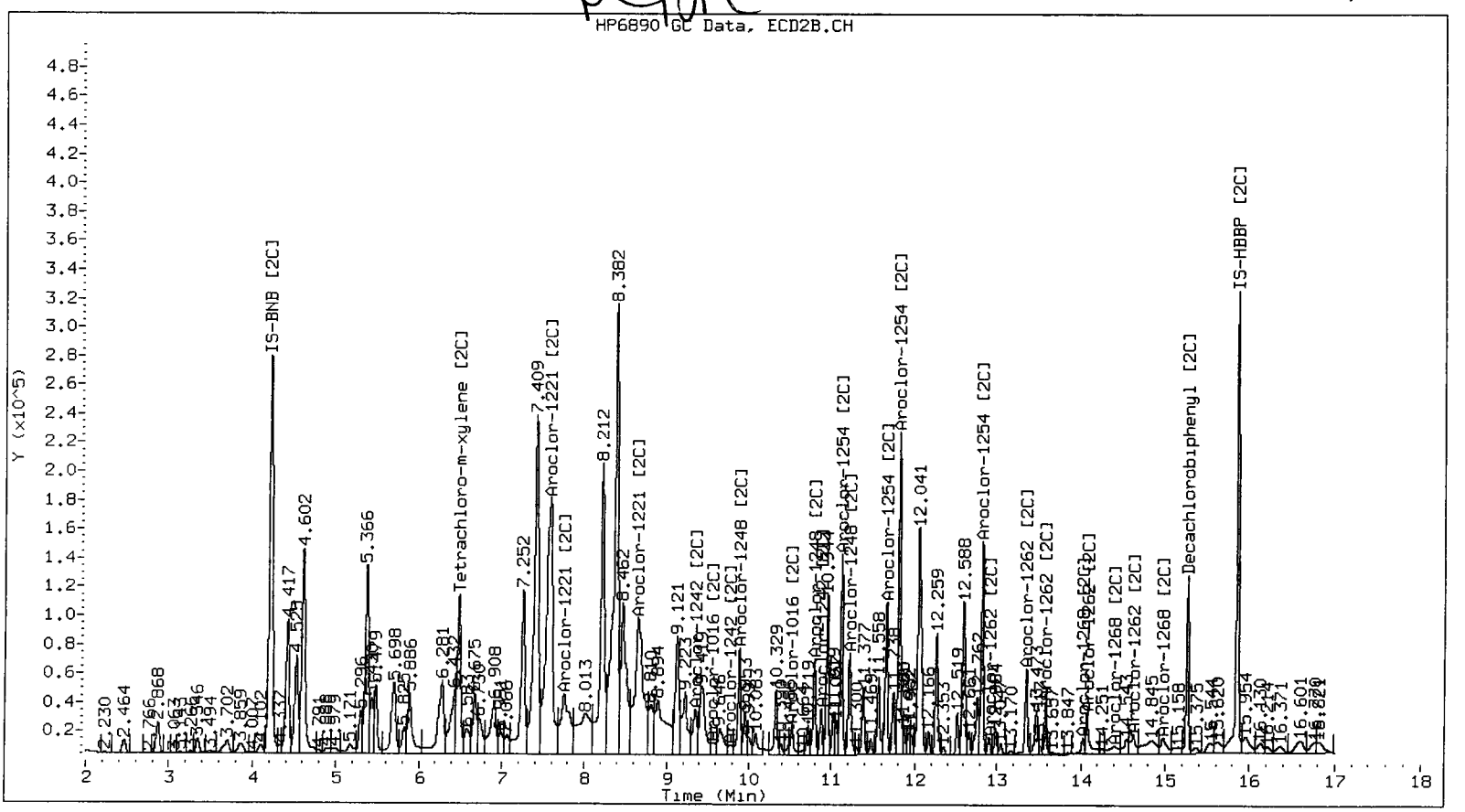


ECD7-ZB35 AVZ9M 25-FEB-2016 02:09, 2ul

HP6890 GC Data, ECD2B.CH



AVZ9 . 98416

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241633.D
Data file 2: /20160224.b/20160224.b/02241633.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9O
Client ID: JF-PDS-7-0-1ft-1602
Injection Date: 25-FEB-2016 02:52
Report Date: 02/26/2016 09:00
Matrix: SOIL
Dilution Factor: 20.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.025	-0.001	111245	6.483	0.002	326940	1.9	1.9	2.8	Tetrachloro-m-xyle
14.743	-0.001	379395	15.260	-0.000	483721	2.5	3.2	22.9	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	96.8	94.1
Decachlorobiphenyl	125.7	~~158.2~~ TVR

02/29/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10611292	3.1
Hexabromobiphenyl	12470452	11307030	-9.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	14989849	-5.2
Hexabromobiphenyl	11807823	11953216	1.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.044	-0.003	78404	57.7	1	8.628	0.000	554052	74.2
Aroclor-1016	2	8.556	-0.001	299681	71.6	2	9.354	0.001	1107494	72.0
Aroclor-1016	3	8.863	-0.002	75567	52.9	3	9.587	0.001	139715	22.8
Aroclor-1016	4	9.667	-0.005	257667	161.6	4	10.527	0.001	550431	193.1
Total Col1Ave (4 peaks):				85.9		Total Col2Ave (4 peaks):			90.5	RPD = 5
Corrected Ave (3 peaks):				60.7		Corrected Ave (3 peaks):			56.3	RPD = 8
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.694	0.004	30857	57.2	2	7.624	0.001	102037	78.5
Aroclor-1221	3	6.815	-0.000	40973	25.4	3	7.765	0.002	130039	31.6
Aroclor-1221	NS	---			----	4	8.628	-0.016	554052	406.3
Col1Ave: <3 Quant Peaks						Col2Ave: 172.1				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.694	0.003	30857	85.1	2	7.624	0.001	102037	128.7
Aroclor-1232	3	6.815	-0.000	40973	38.3	3	7.765	-0.087	130039	290.8
Aroclor-1232	4	8.556	0.001	299681	171.6	4	8.628	-0.000	554052	159.4
Total Col1Ave (3 peaks):				98.3		Total Col2Ave (3 peaks):			193.0	RPD = 65*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.556	-0.000	299681	91.9	1	8.628	-0.000	554052	95.5
Aroclor-1242	2	8.863	-0.001	75567	63.1	2	9.354	0.001	1107494	92.2
Aroclor-1242	3	9.667	-0.004	257667	170.2	3	9.781	-0.001	156660	50.5
Aroclor-1242	4	10.071	-0.001	266821	243.8	4	10.878	-0.001	851209	203.7
Total Col1Ave (4 peaks):				142.2		Total Col2Ave (4 peaks):			110.5	RPD = 25
Corrected Ave (3 peaks):				108.4		Corrected Ave (3 peaks):			79.4	RPD = 31
Aroclor-1248	1	8.556	0.002	299681	156.6	1	9.354	0.004	1107494	154.5
Aroclor-1248	2	9.478	0.001	237343	166.5	2	9.882	-0.000	1520679	287.8
Aroclor-1248	3	9.667	-0.003	257667	120.4	3	10.796	-0.001	1103679	136.7
Aroclor-1248	4	10.071	-0.000	266821	150.0	4	11.210	-0.032	1559566	193.4
Total Col1Ave (4 peaks):				148.4		Total Col2Ave (4 peaks):			193.1	RPD = 26
Corrected Ave (3 peaks):				142.3		Corrected Ave (3 peaks):			161.5	RPD = 13
Aroclor-1254	1	10.464	0.000	720357	306.7	1	11.111	-0.001	2216654	294.1
Aroclor-1254	2	10.544	0.000	324789	414.8	2	11.210	-0.001	1559566	441.7
Aroclor-1254	3	10.850	-0.000	405039	210.9	3	11.653	-0.001	1089653	192.6
Aroclor-1254	4	10.989	-0.000	1162162	308.4	4	11.806	-0.001	3818738	295.9
Aroclor-1254	5	11.343	-0.002	1100635	298.3	5	12.816	-0.001	2294017	241.3
Total Col1Ave (5 peaks):				307.8		Total Col2Ave (5 peaks):			293.1	RPD = 5
Corrected Ave (4 peaks):				281.1		Corrected Ave (4 peaks):			256.0	RPD = 9
Aroclor-1260	1	12.259	-0.001	175432	63.9	1	12.816	-0.001	2294017	208.1
Aroclor-1260	2	12.940	-0.001	540965	51.8	2	13.581	-0.000	999502	46.8
Aroclor-1260	3	13.326	-0.002	349317	77.8	3	14.075	-0.000	737335	52.2
Aroclor-1260	4	13.431	0.001	140824	50.5	4	14.623	-0.002	285178	52.7
Aroclor-1260	5	13.847	0.004	145113	89.1	NS	---			----
Total Col1Ave (5 peaks):				66.6		Total Col2Ave (4 peaks):			90.0	RPD = 30
Corrected Ave (4 peaks):				61.0		Corrected Ave (3 peaks):			50.6	RPD = 19
Aroclor-1262	1	12.259	-0.000	175432	47.9	1	12.905	-0.000	440543	36.2
Aroclor-1262	2	12.940	-0.000	540965	50.4	2	13.350	0.001	1046968	93.2
Aroclor-1262	3	13.326	-0.003	349317	102.8	3	13.581	0.000	999502	43.6
Aroclor-1262	4	13.431	0.001	140824	27.5	4	14.075	-0.001	737335	49.4
Aroclor-1262	5	14.055	0.000	241222	41.9	5	14.623	-0.002	285178	37.3
Total Col1Ave (5 peaks):				54.1		Total Col2Ave (5 peaks):			52.0	RPD = 4
Corrected Ave (4 peaks):				41.9		Corrected Ave (4 peaks):			41.6	RPD = 1
Aroclor-1268	1	13.431	0.001	140824	9.4	1	14.024	0.003	250609	10.5
Aroclor-1268	2	13.496	0.001	165144	8.9	2	14.075	-0.001	737335	33.1
Aroclor-1268	3	13.847	0.019	145113	8.7	3	14.398	0.010	60224	3.4
Aroclor-1268	4	14.444	-0.001	100881	1.7	4	14.967	-0.006	434324	8.5

AVZ9:0041

Total Col1Ave (4 peaks):	7.2	Total Col2Ave (4 peaks):	13.9	RPD = 64*
Corrected Ave (3 peaks):	6.4	Corrected Ave (3 peaks):	7.5	RPD = 15

Total PCB Area Col1 (6.126 - 14.643) = 15012943 Col1 Total PCB = 0.3 ppm*

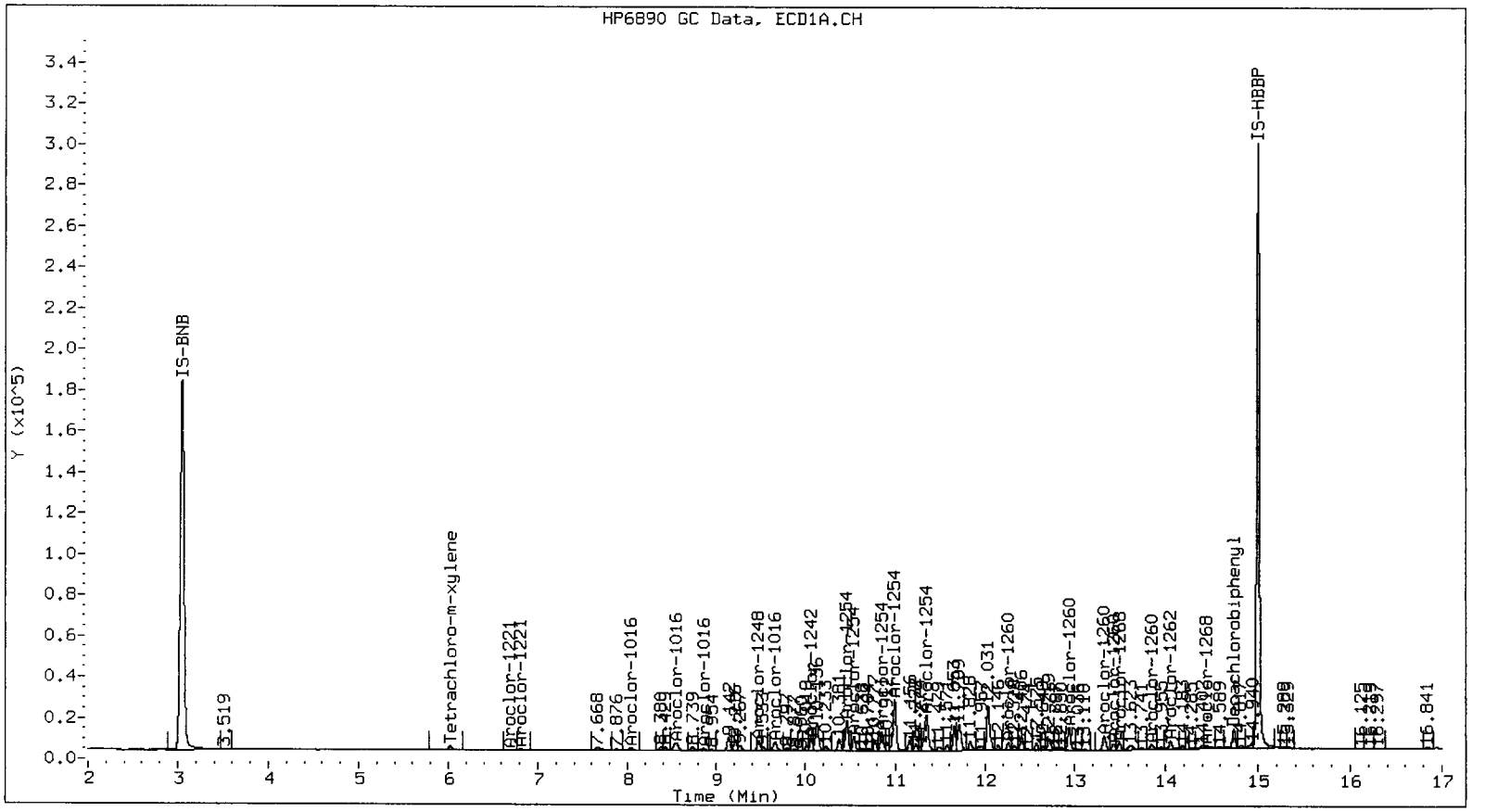
Total PCB Area Col2 (6.126 - 14.643) = 44490969 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

AVZ9:00419

ECD7-ZB5 AVZ9O 25-FEB-2016 02:52, 2ul



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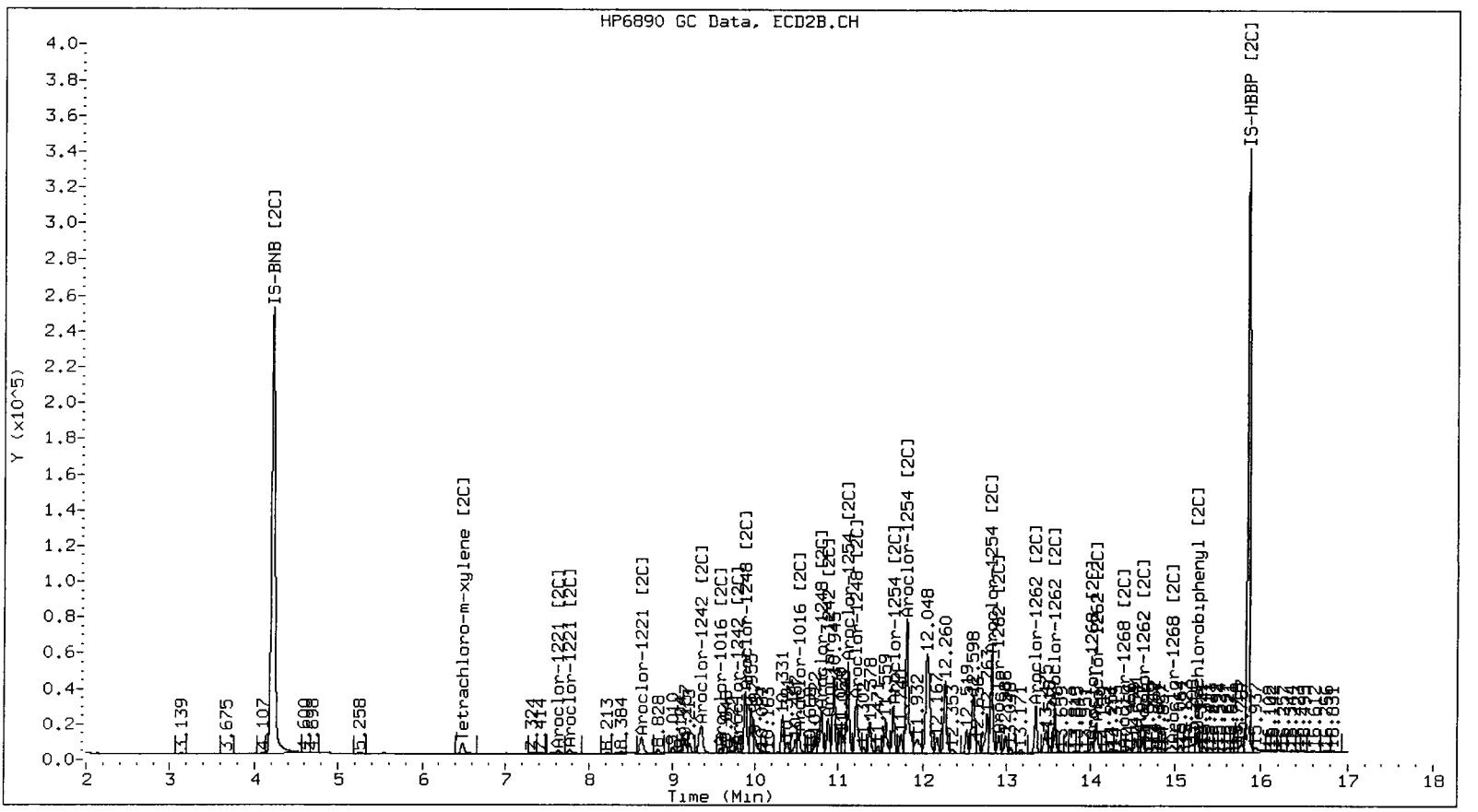
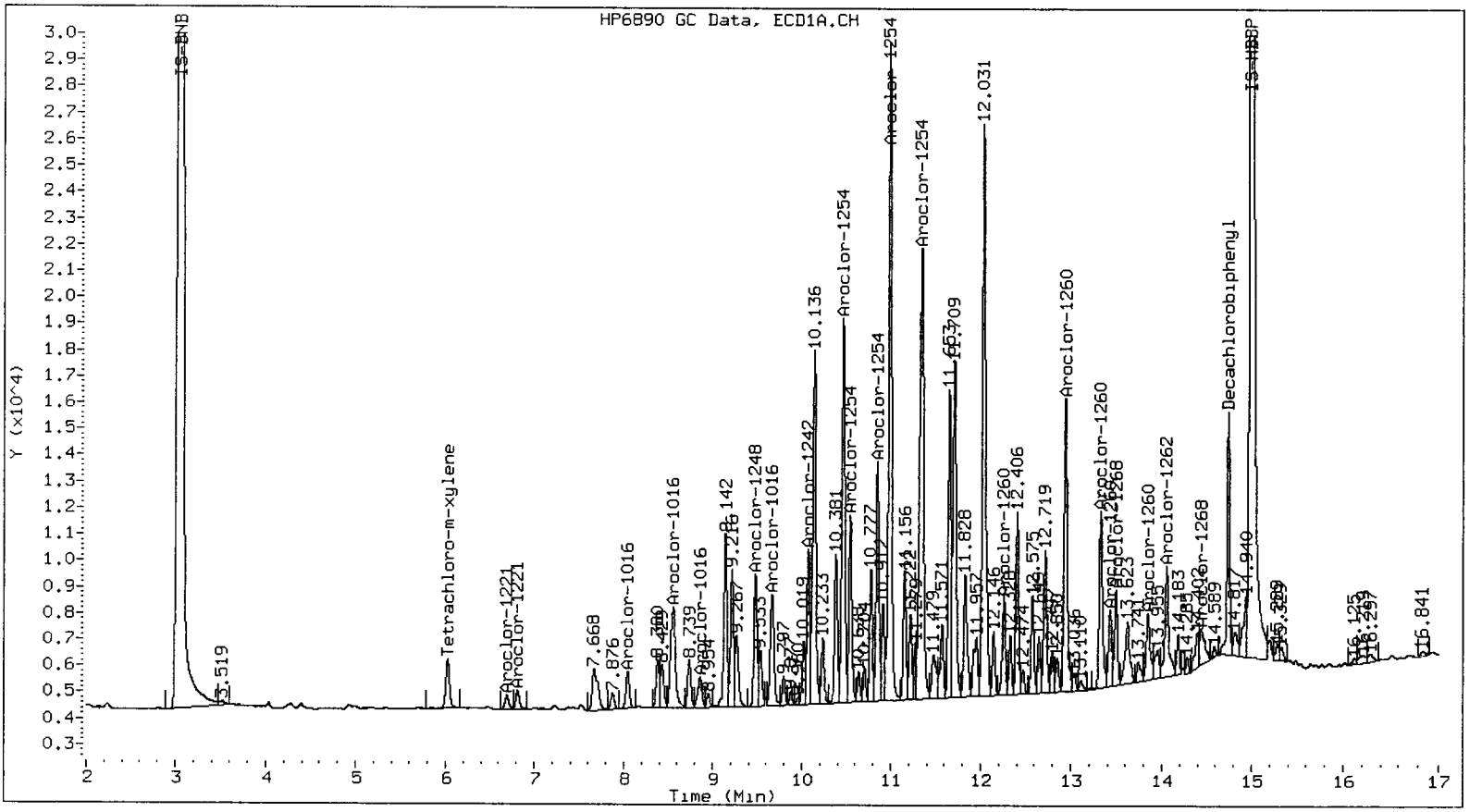


AVZ9 00426

ECD7-ZB5 AVZ9O 25-FEB-2016 02:52, 2ul



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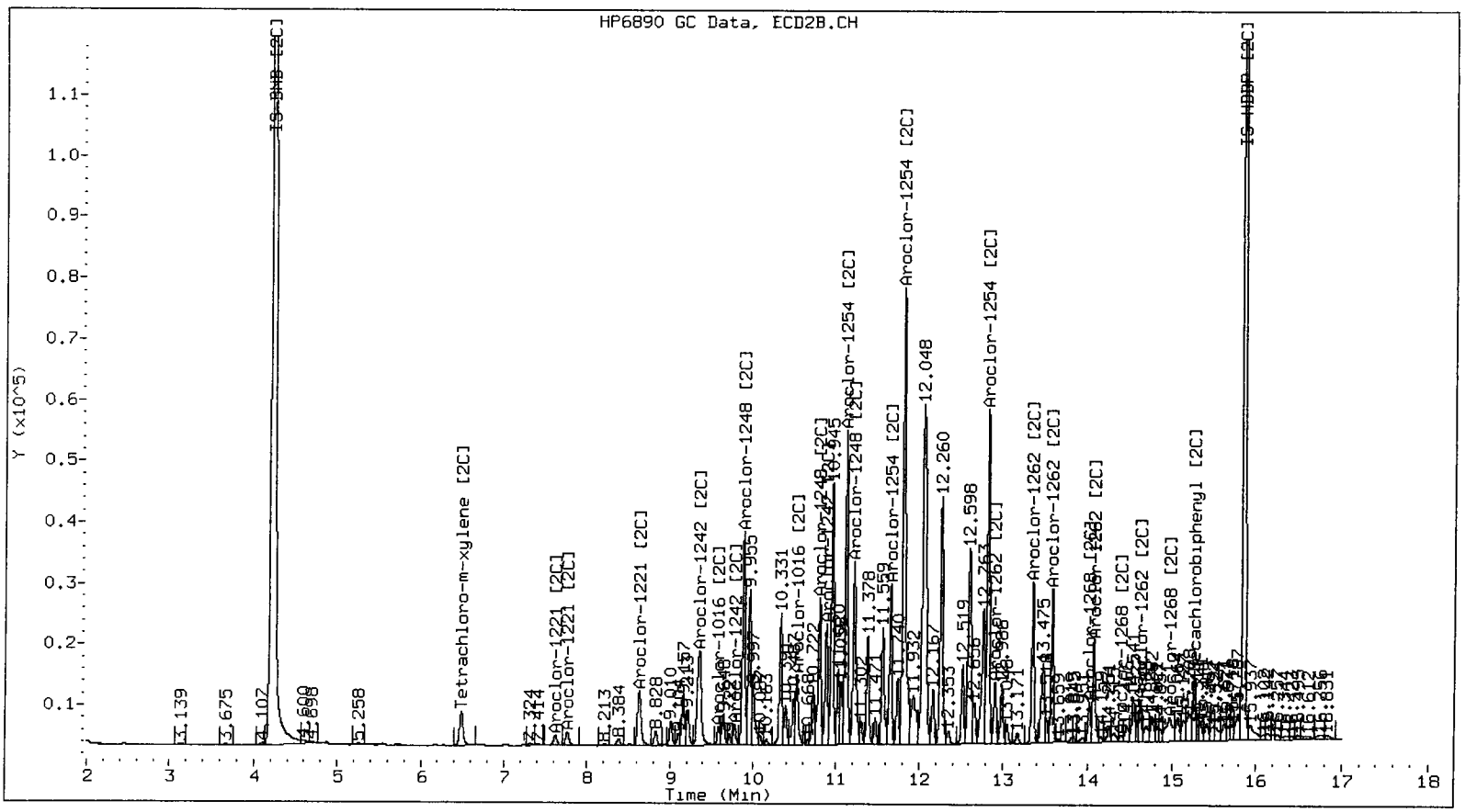


Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241634.D
Data file 2: /20160224.b/20160224.b/02241634.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9P
Client ID: JF-PDS-7-1-2ft-1602
Injection Date: 25-FEB-2016 03:14
Report Date: 02/26/2016 09:46
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
6.023	-0.000	1609056	6.481	-0.000	4888582	26.1	28.5	8.5	Tetrachloro-m-xyle
14.742	-0.001	5855333	15.260	0.000	5260191	36.8	32.2	13.3	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	65.3	71.2
Decachlorobiphenyl	91.9	80.4

h 02/29/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	11366988	10.5
Hexabromobiphenyl	12470452	11934085	-4.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	14818521	-6.2
Hexabromobiphenyl	11807823	12776821	8.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

AVZ9.08422

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.030	-0.014	665758	457.5	1	8.628	0.000	1818345	246.2
Aroclor-1016	2	8.553	-0.002	633268	141.2	2	9.348	-0.005	2142009	140.9
Aroclor-1016	3	8.867	0.004	261192	170.5	3	9.586	-0.001	275423	45.4
Aroclor-1016	4	9.667	-0.003	352584	206.4	4	10.524	-0.002	763161	270.8
Total Col1Ave (4 peaks):				243.9		Total Col2Ave (4 peaks):			175.8	RPD = 32
Corrected Ave (3 peaks):				172.7		Corrected Ave (3 peaks):			144.2	RPD = 18
Aroclor-1221	1	4.733	0.019	84125	234.0	1	5.547	-0.039	54777	39.7
Aroclor-1221	2	6.691	0.001	192017	332.2	2	7.585	-0.038	1690438	1315.0
Aroclor-1221	3	6.815	-0.000	231334	134.0	3	7.763	-0.001	825374	202.9
Aroclor-1221	NS	---			----	4	8.628	-0.016	1818345	1348.9
Total Col1Ave (3 peaks):				233.4		Total Col2Ave (4 peaks):			726.6	RPD = 103*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			519.2	
Aroclor-1232	1	4.733	0.019	84125	412.5	1	5.547	-0.039	54777	65.8
Aroclor-1232	2	6.691	0.000	192017	494.5	2	7.585	-0.038	1690438	2156.7
Aroclor-1232	3	6.815	0.000	231334	202.1	3	7.763	-0.089	825374	1866.9
Aroclor-1232	4	8.553	-0.002	633268	338.4	4	8.628	-0.000	1818345	529.1
Total Col1Ave (4 peaks):				361.9		Total Col2Ave (4 peaks):			1154.6	RPD = 105*
Corrected Ave (3 peaks):				317.7		Corrected Ave (3 peaks):			820.6	RPD = 88*
Aroclor-1242	1	8.553	-0.004	633268	181.2	1	8.628	-0.000	1818345	316.9
Aroclor-1242	2	8.867	0.003	261192	203.6	2	9.348	-0.005	2142009	180.3
Aroclor-1242	3	9.667	-0.004	352584	217.4	3	9.779	-0.002	322901	105.3
Aroclor-1242	4	10.069	-0.003	323120	275.7	4	10.875	-0.004	916915	222.0
Total Col1Ave (4 peaks):				219.5		Total Col2Ave (4 peaks):			206.1	RPD = 6
Corrected Ave (3 peaks):				200.7		Corrected Ave (3 peaks):			169.2	RPD = 17
Aroclor-1248	1	8.553	-0.001	633268	308.9	1	9.348	-0.002	2142009	302.2
Aroclor-1248	2	9.477	-0.001	444725	291.3	2	9.880	-0.002	2323191	444.7
Aroclor-1248	3	9.667	-0.003	352584	153.9	3	10.794	-0.003	1335208	167.3
Aroclor-1248	4	10.069	-0.002	323120	169.6	4	11.209	-0.033	1373839	172.3
Total Col1Ave (4 peaks):				230.9		Total Col2Ave (4 peaks):			271.6	RPD = 16
Corrected Ave (3 peaks):				204.9		Corrected Ave (3 peaks):			213.9	RPD = 4
Aroclor-1254	1	10.462	-0.003	680300	270.4	1	11.111	-0.002	1987931	266.8
Aroclor-1254	2	10.543	-0.002	270269	322.2	2	11.209	-0.002	1373839	393.6
Aroclor-1254	3	10.850	0.000	317479	154.3	3	11.652	-0.002	967282	173.0
Aroclor-1254	4	10.988	-0.002	962329	238.4	4	11.806	-0.002	3278882	257.0
Aroclor-1254	5	11.342	-0.005	839611	212.4	5	12.816	-0.001	1585919	168.7
Total Col1Ave (5 peaks):				239.6		Total Col2Ave (5 peaks):			251.8	RPD = 5
Corrected Ave (4 peaks):				218.9		Corrected Ave (4 peaks):			216.4	RPD = 1
Aroclor-1260	1	12.259	-0.001	145465	50.2	1	12.816	-0.001	1585919	134.6
Aroclor-1260	2	12.940	-0.001	368460	33.4	2	13.580	-0.001	712605	31.2
Aroclor-1260	3	13.327	-0.002	235232	49.7	3	14.074	-0.001	497234	33.0
Aroclor-1260	4	13.431	-0.000	94904	32.2	4	14.623	-0.002	188491	32.6
Aroclor-1260	5	13.847	0.004	93100	54.2	NS	---			----
Total Col1Ave (5 peaks):				43.9		Total Col2Ave (4 peaks):			57.8	RPD = 27
Corrected Ave (4 peaks):				41.4		Corrected Ave (3 peaks):			32.2	RPD = 25
Aroclor-1262	1	12.259	-0.000	145465	37.7	1	12.904	-0.001	304318	23.4
Aroclor-1262	2	12.940	-0.000	368460	32.5	2	13.349	0.000	729289	60.7
Aroclor-1262	3	13.327	-0.003	235232	65.6	3	13.580	-0.001	712605	29.1
Aroclor-1262	4	13.431	0.001	94904	17.6	4	14.074	-0.001	497234	31.2
Aroclor-1262	5	14.055	-0.000	150770	24.8	5	14.623	-0.002	188491	23.1
Total Col1Ave (5 peaks):				35.6		Total Col2Ave (5 peaks):			33.5	RPD = 6
Corrected Ave (4 peaks):				28.1		Corrected Ave (4 peaks):			26.7	RPD = 5
Aroclor-1268	1	13.431	0.000	94904	6.0	1	14.023	0.002	174301	6.8
Aroclor-1268	2	13.495	0.000	109692	5.6	2	14.074	-0.002	497234	20.9
Aroclor-1268	3	13.847	0.019	93100	5.3	3	14.395	0.007	32134	1.7

Aroclor-1268	4	14.473	0.027	52943	0.8	4	14.968	-0.005	299729	5.5

Total Col1Ave (4 peaks): 4.4 Total Col2Ave (4 peaks): 8.7 RPD = 65*

Corrected Ave (3 peaks): 3.9 Corrected Ave (3 peaks): 4.7 RPD = 18

Total PCB Area Col1 (6.123 - 14.643) = 18988551 Col1 Total PCB = 0.4 ppm*

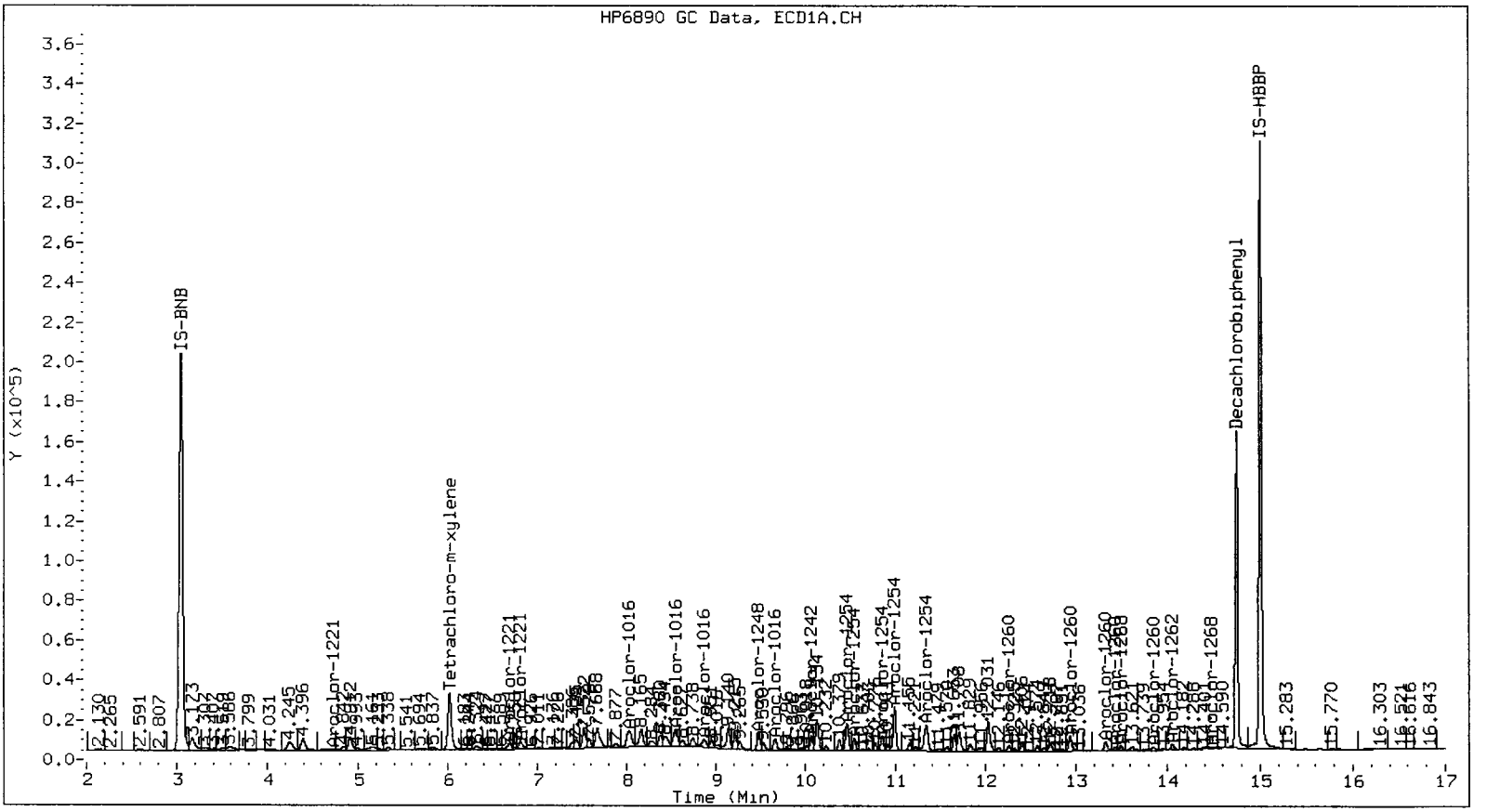
Total PCB Area Col2 (6.123 - 14.643) = 57065490 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

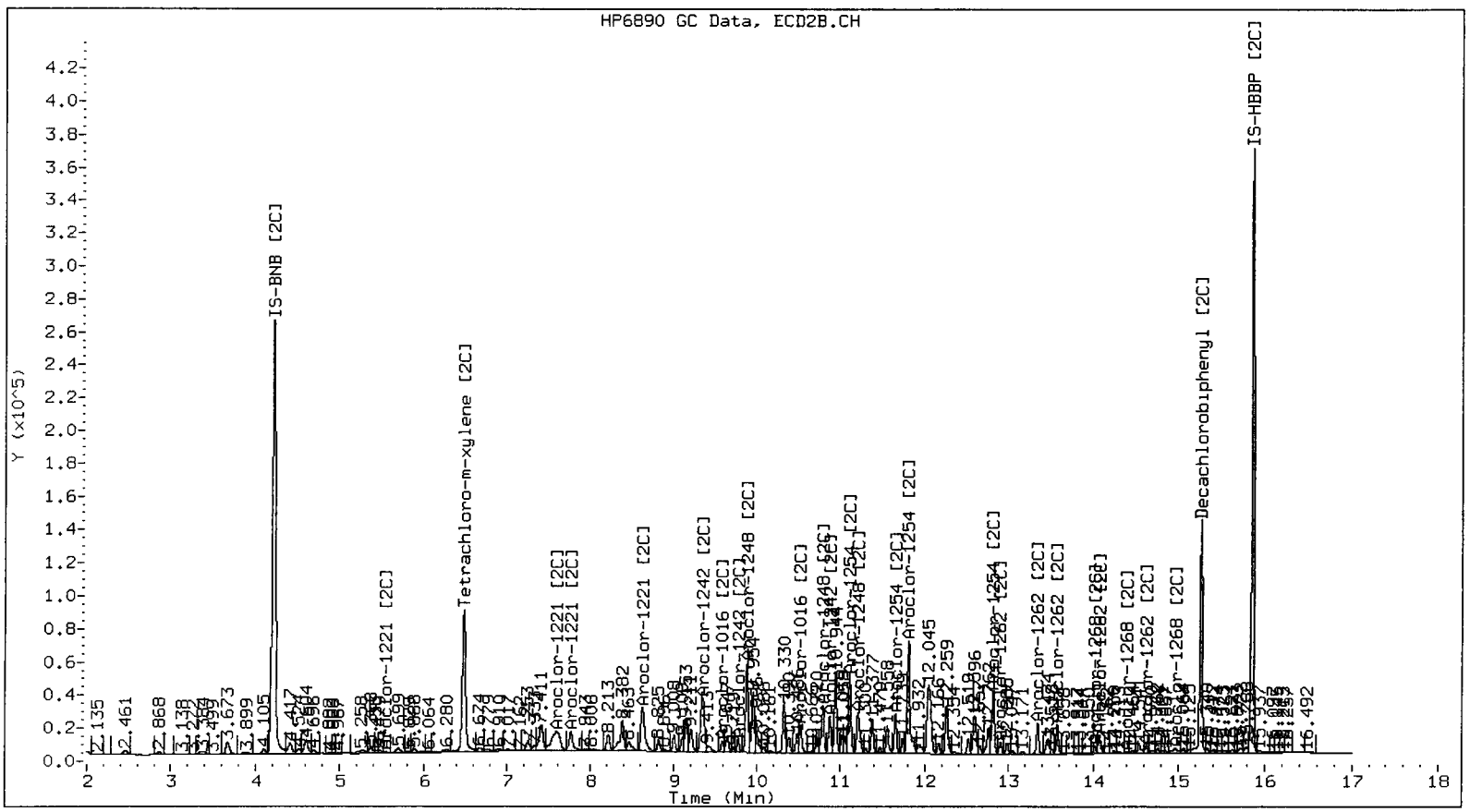
PCB-Form 10 Mod.

AVZ9 : 80424

ECD7-ZB5 AVZ9P 25-FEB-2016 03:14, 2ul



ECD7-ZB35 AVZ9P 25-FEB-2016 03:14, 2ul



AVZ9:99425

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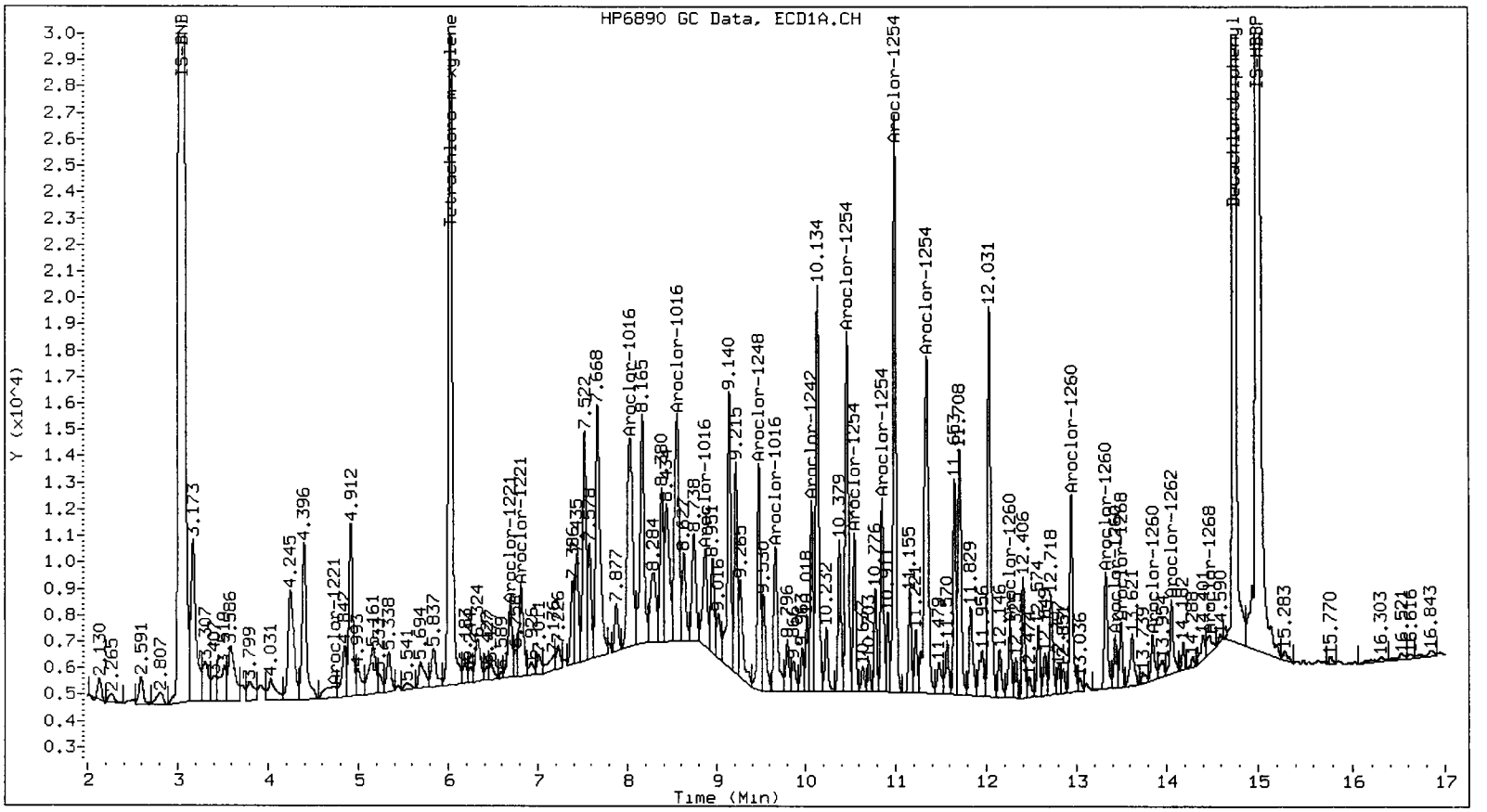

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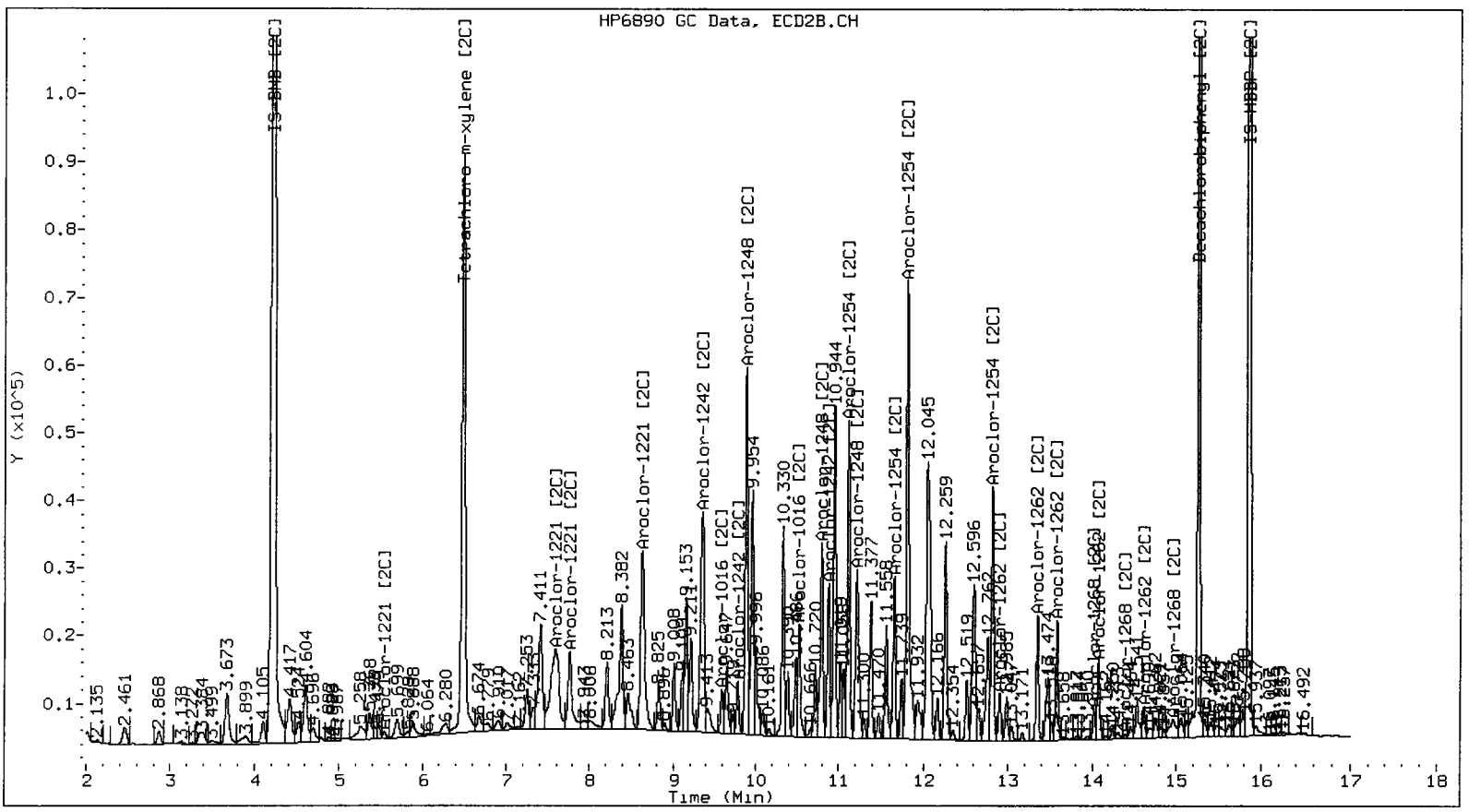
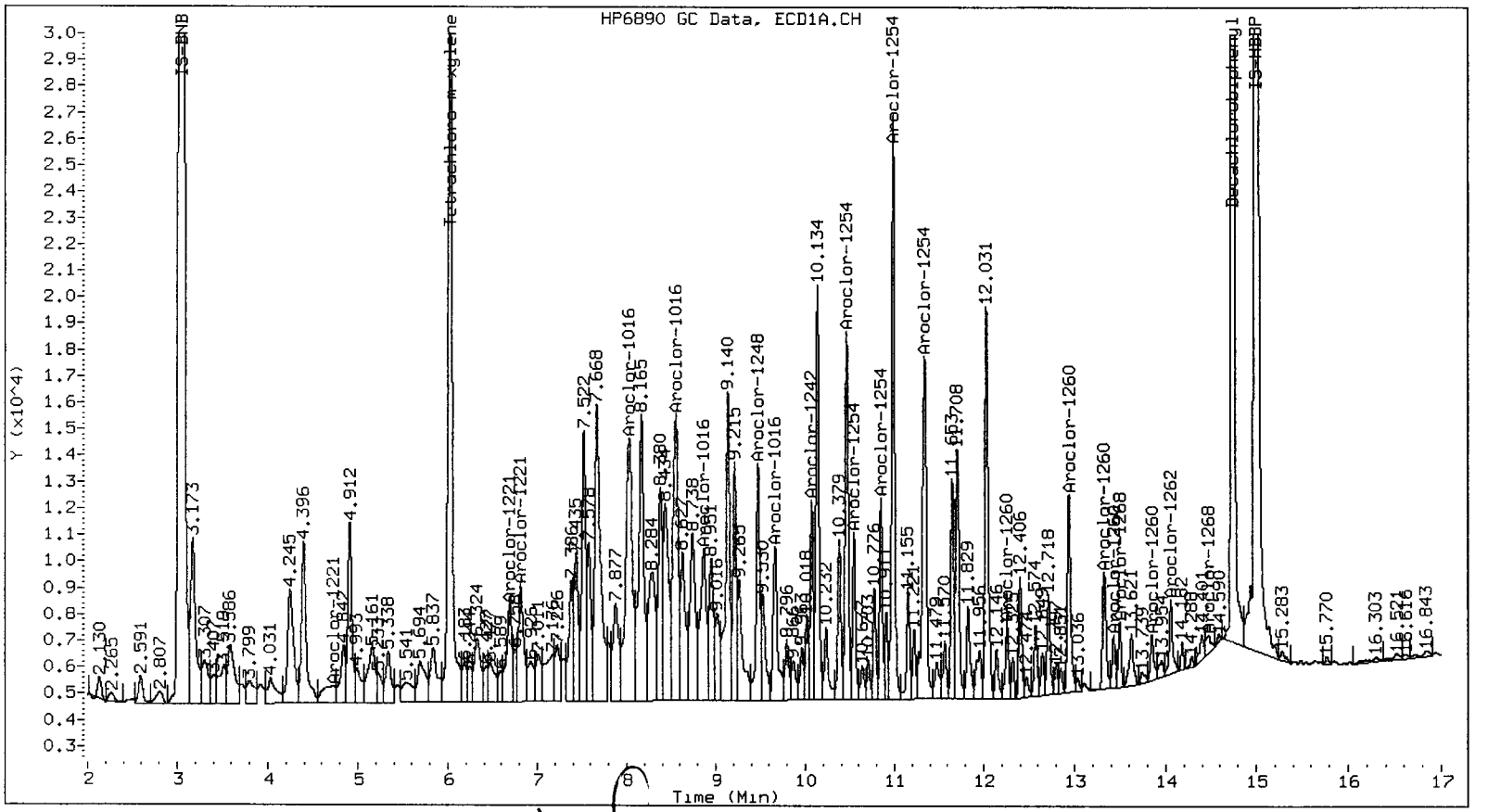


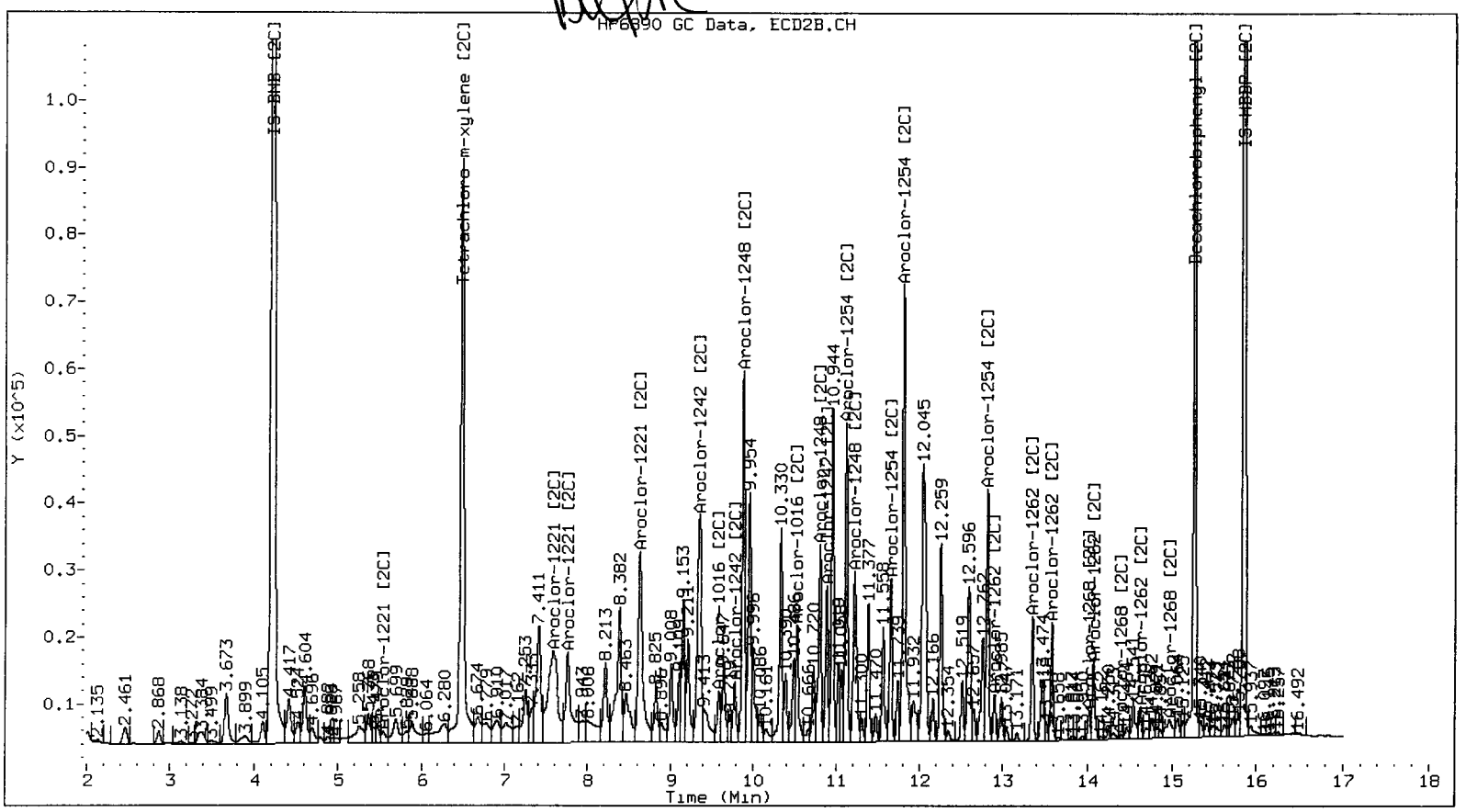
AVZ9 : 080425

ECD7-ZB5 AVZ9P 25-FEB-2016 03:14, 2ul



Before

ECD7-ZB35 AVZ9P 25-FEB-2016 03:14, 2ul



AVZ9 88427

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241635.D
Data file 2: /20160224.b/20160224.b/02241635.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254
Client ID:
Injection Date: 25-FEB-2016 03:36
Report Date: 02/26/2016 09:00
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
6.023	-0.003	2352170	6.482	0.001	7362863	40.6	41.6	2.3	Tetrachloro-m-xyle
14.742	-0.001	6951569	15.261	0.000	5714475	44.5	35.3	22.9	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	101.5	103.9
Decachlorobiphenyl	111.2	88.4

lk 02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10694013	3.9
Hexabromobiphenyl	12470452	11705529	-6.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15287474	-3.3
Hexabromobiphenyl	11807823	12635625	7.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	10.464	0.001	602142	254.4	1	11.113	0.000	1887136	245.5
Aroclor-1254	2	10.545	0.001	204500	259.2	2	11.211	0.000	903801	251.0
Aroclor-1254	3	10.850	0.000	451334	233.2	3	11.654	0.000	1220158	211.5
Aroclor-1254	4	10.991	0.001	954704	251.4	4	11.807	0.000	3169895	240.9
Aroclor-1254	5	11.346	0.001	907086	244.0	5	12.817	0.000	2317242	239.0

Total Col1Ave (5 peaks): 248.4 Total Col2Ave (5 peaks): 237.6 RPD = 4

Corrected Ave (4 peaks): 245.7 Corrected Ave (4 peaks): 234.2 RPD = 5

CalAmt %D: -0.6 CalAmt %D: -5.0

Total PCB Area Col1 (6.126 - 14.643) = 9835251 Col1 Total PCB = 0.2 ppm*

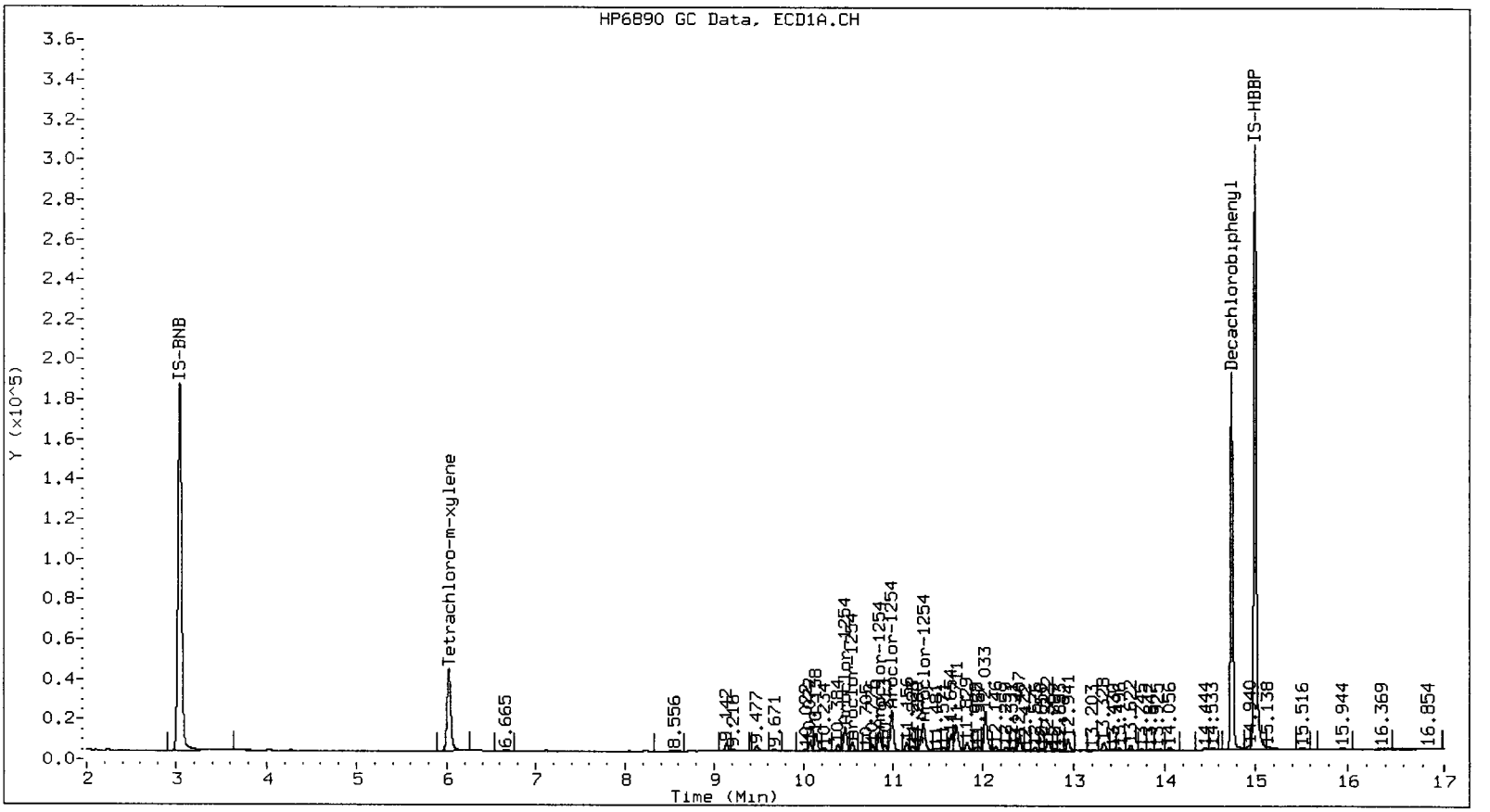
Total PCB Area Col2 (6.126 - 14.643) = 36567082 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

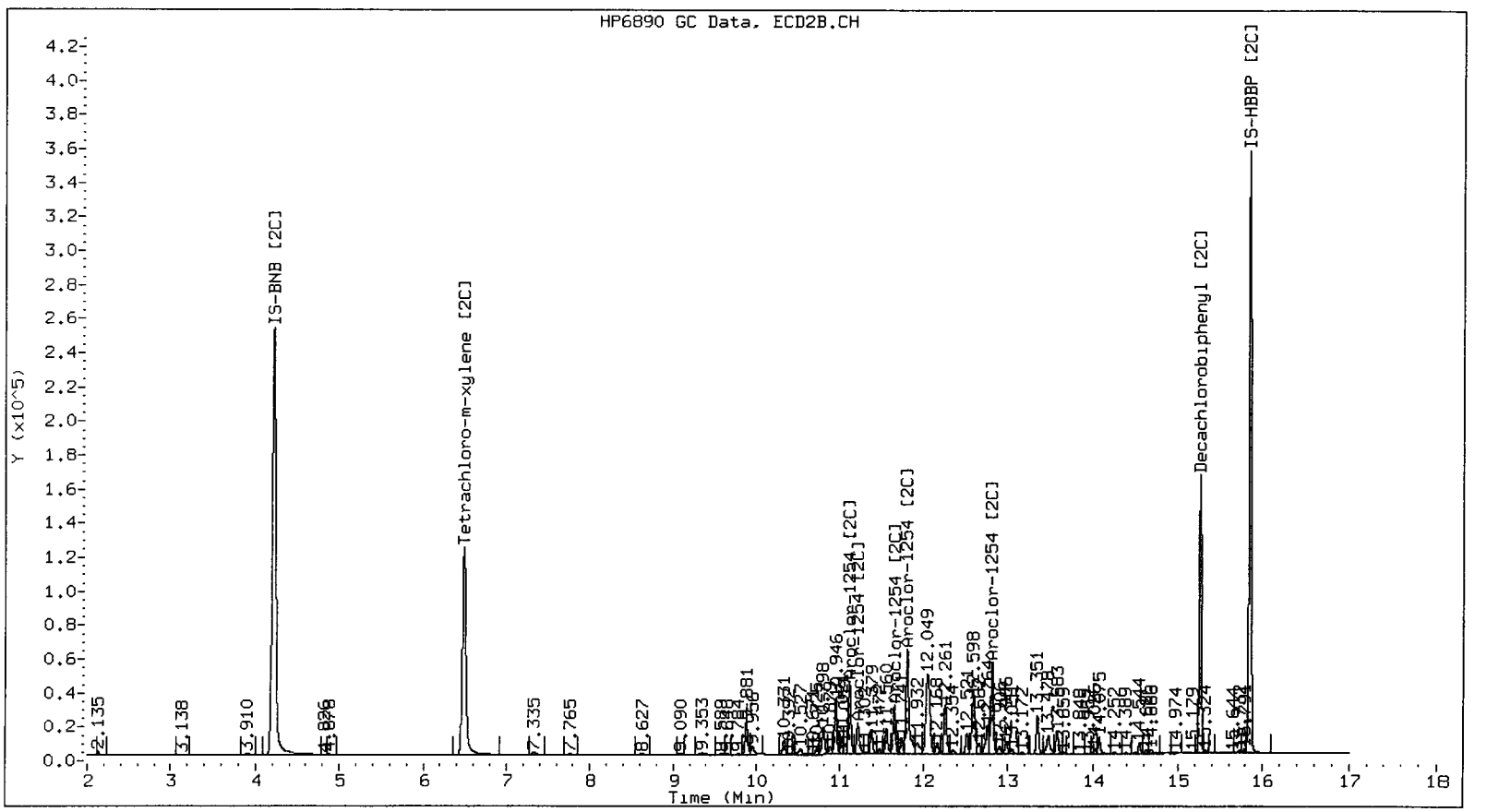
PCB-Form 10 Mod.

AV29:09:23

ECD7-ZB5 AR1254 25-FEB-2016 03:36, 2ul

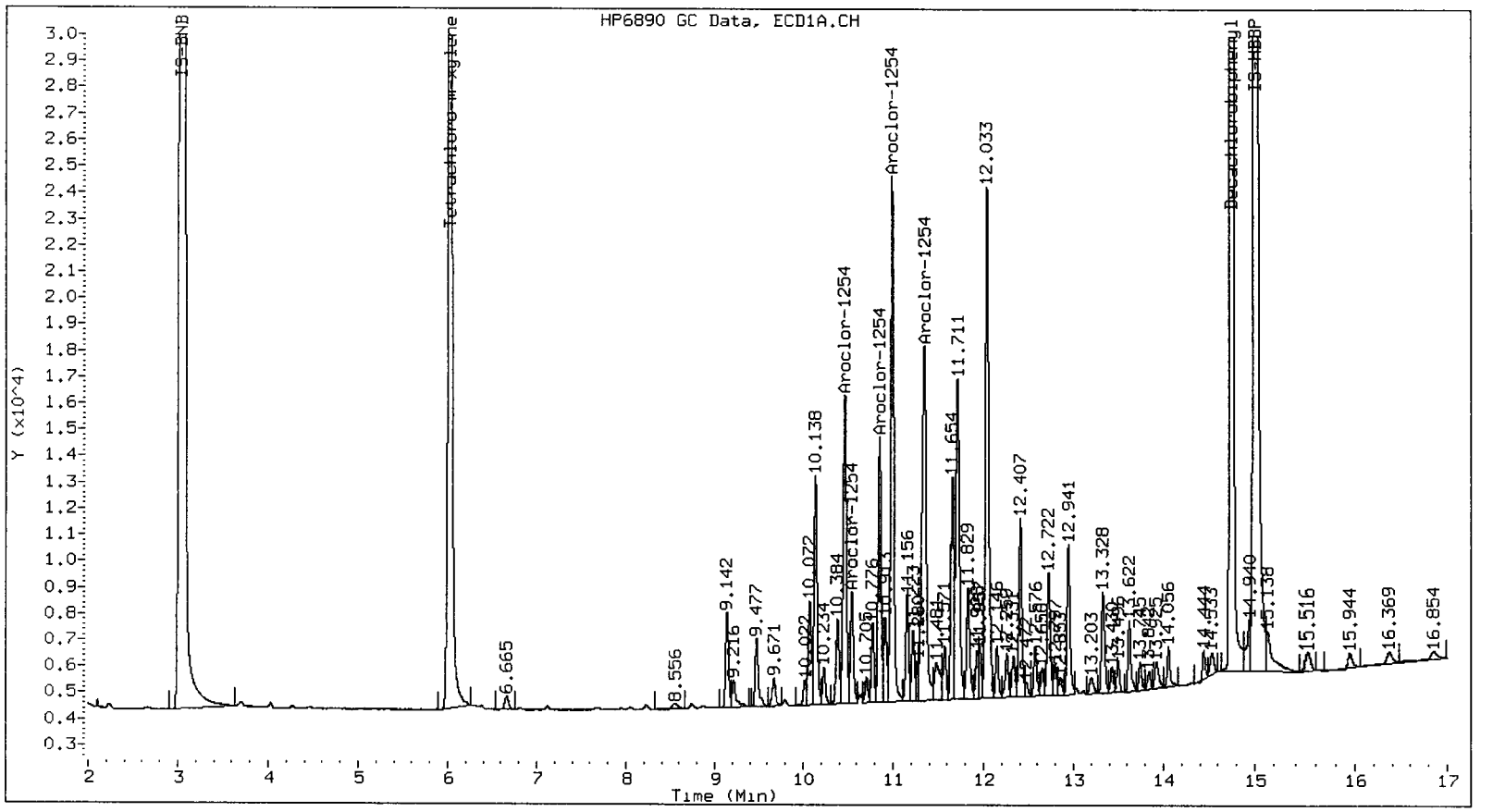


ECD7-ZB35 AR1254 25-FEB-2016 03:36, 2ul

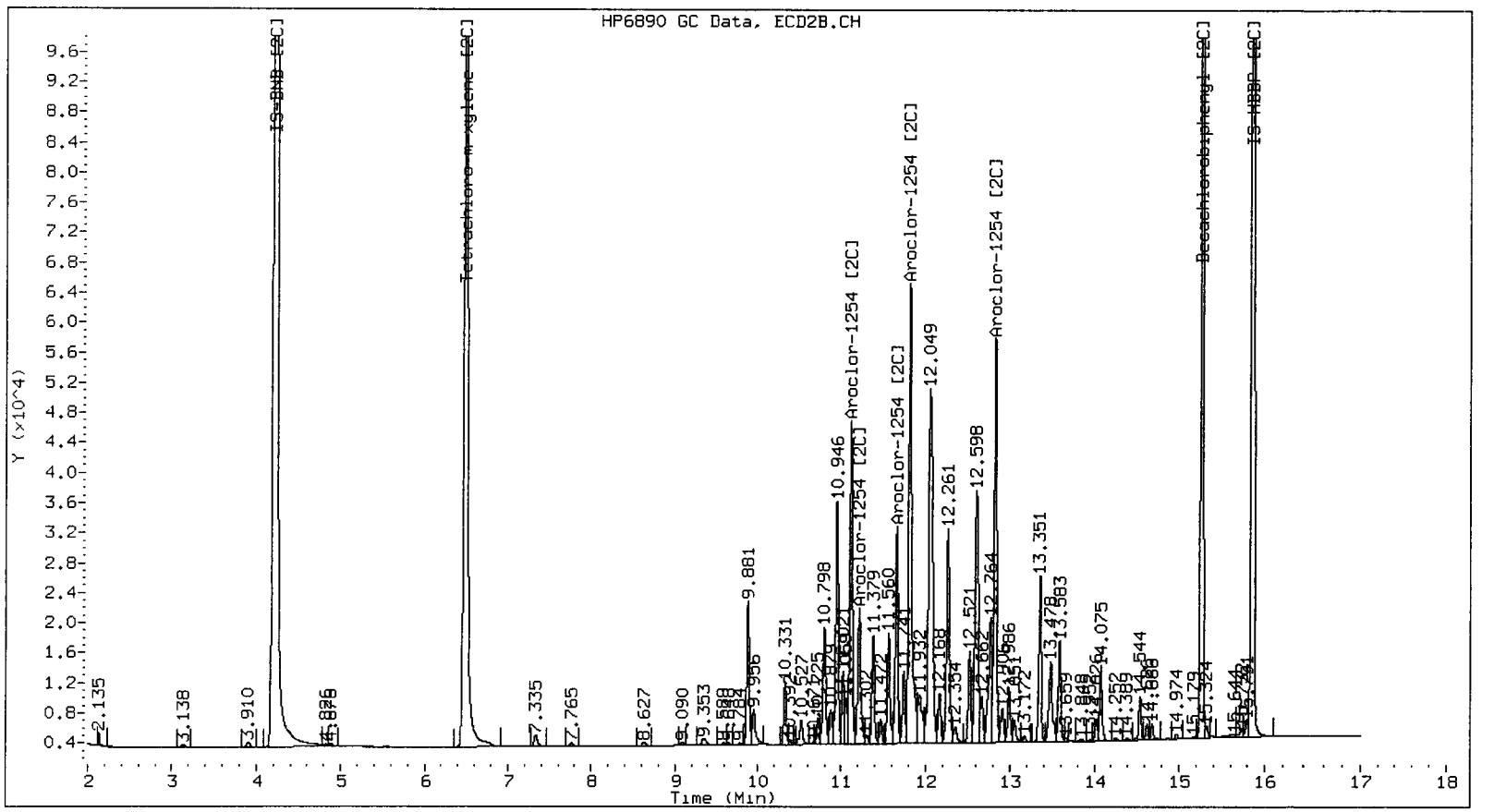


AVZ9:66436

ECD7-ZB5 AR1254 25-FEB-2016 03:36, 2ul



ECD7-ZB35 AR1254 25-FEB-2016 03:36, 2ul



AVZ3:66431

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241636.D
Data file 2: /20160224.b/20160224.b/02241636.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660
Client ID:
Injection Date: 25-FEB-2016 03:58
Report Date: 02/26/2016 09:00
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
6.023	-0.002	2413561	6.481	0.000	7322494	40.9	40.3	1.3	Tetrachloro-m-xyle
14.743	-0.000	7376718	15.260	0.000	6189385	44.8	36.7	19.8	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	102.2	100.8
Decachlorobiphenyl	112.1	91.9

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10900909	6.0
Hexabromobiphenyl	12470452	12328343	-1.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15661164	-0.9
Hexabromobiphenyl	11807823	13164141	11.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

AVZ9 : 88432

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1016	1	8.044	-0.004	350191	251.0	1	8.628	0.000	1949772	249.8
Aroclor-1016	2	8.554	-0.002	1069397	248.6	2	9.353	0.000	3982739	247.9
Aroclor-1016	3	8.863	-0.002	386267	263.0	3	9.587	0.000	1678374	261.7
Aroclor-1016	4	9.670	-0.001	413825	252.7	4	10.526	0.000	758226	254.6

Total Col1Ave (4 peaks): 253.8 Total Col2Ave (4 peaks): 253.5 RPD = 0
Corrected Ave (3 peaks): 250.7 Corrected Ave (3 peaks): 250.8 RPD = 0

CalAmt %D: 1.5 CalAmt %D: 1.4

Aroclor-1260	1	12.260	-0.000	840324	280.6	1	12.817	0.000	2582980	212.8
Aroclor-1260	2	12.941	0.000	2967354	260.4	2	13.581	0.000	4856255	206.3
Aroclor-1260	3	13.329	0.001	1348401	275.6	3	14.075	0.000	3277558	210.8
Aroclor-1260	4	13.431	0.001	847498	278.8	4	14.625	0.000	1367450	229.4
Aroclor-1260	5	13.842	-0.000	476334	268.3	NS	---			----

Total Col1Ave (5 peaks): 272.7 Total Col2Ave (4 peaks): 214.8 RPD = 24
Corrected Ave (4 peaks): 270.8 Corrected Ave (3 peaks): 210.0 RPD = 25

CalAmt %D: 9.1 CalAmt %D: -14.1

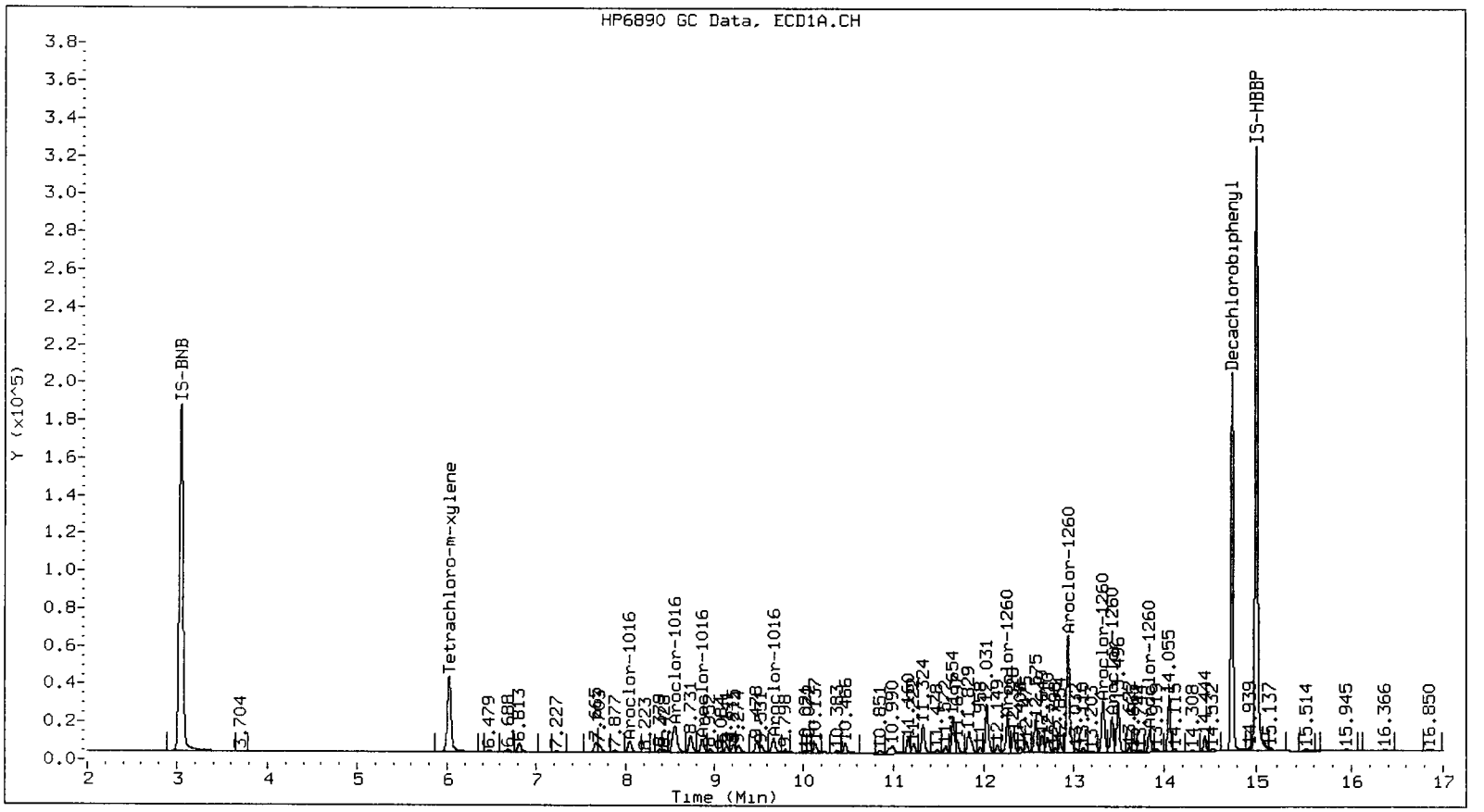
Total PCB Area Col1 (6.126 - 14.643) = 24141326 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.126 - 14.643) = 66240861 Col2 Total PCB = 0.5 ppm*

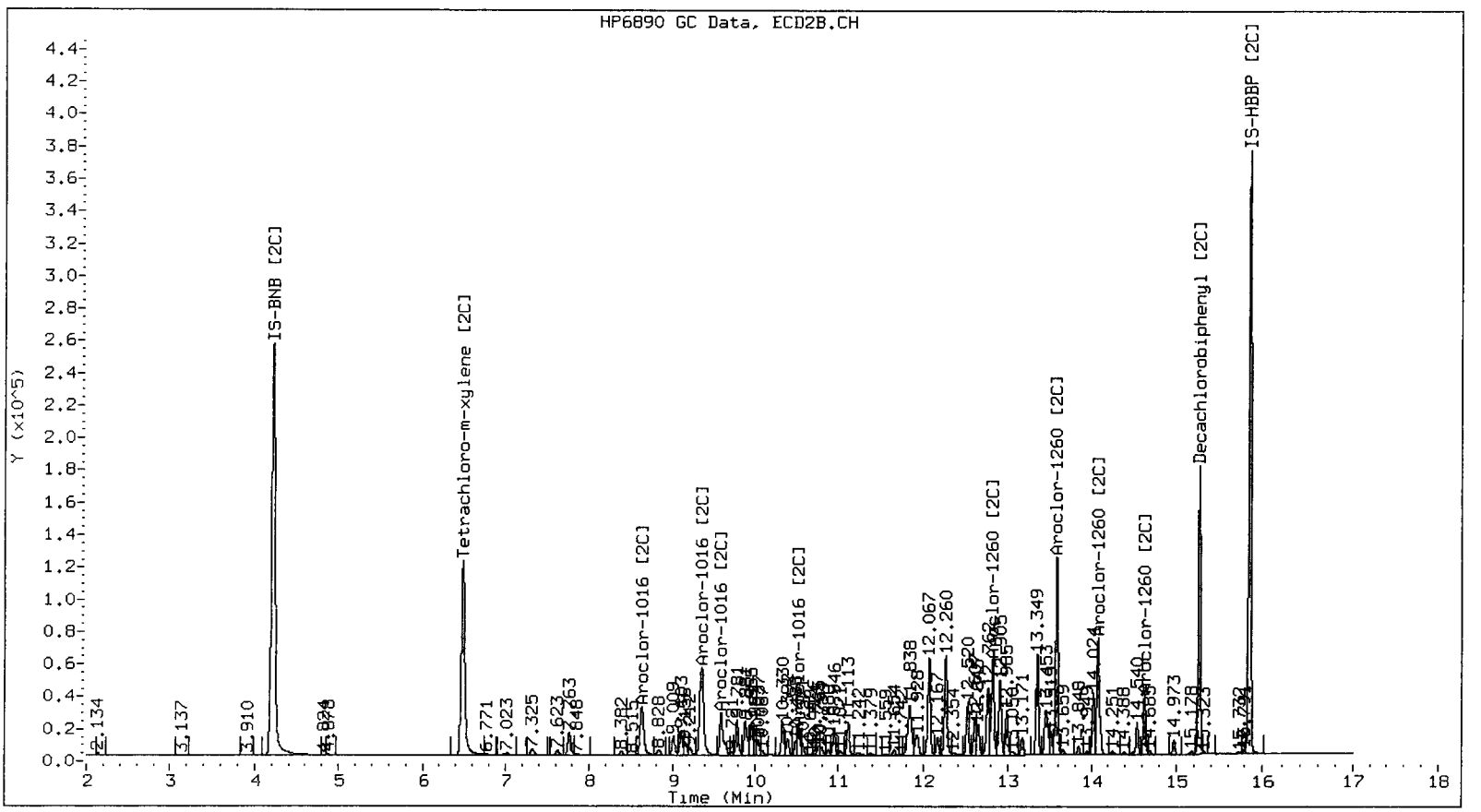
* Quantitated against AR1660 0.25ppm in Ical

AVZ9:00433

ECD7-ZB5 AR1660 25-FEB-2016 03:58, 2ul



ECD7-ZB35 AR1660 25-FEB-2016 03:58, 2ul



AVZ9:00434

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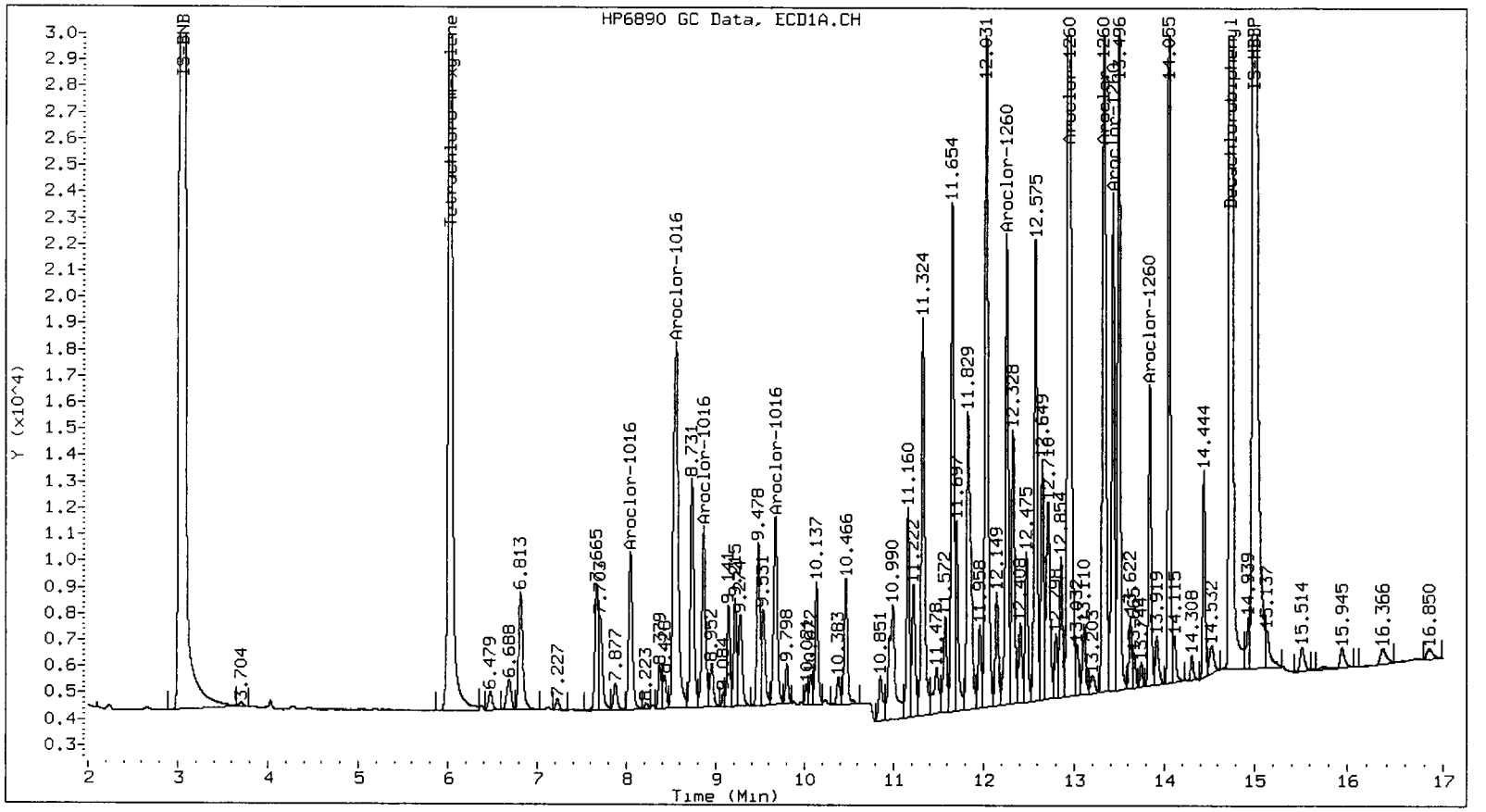
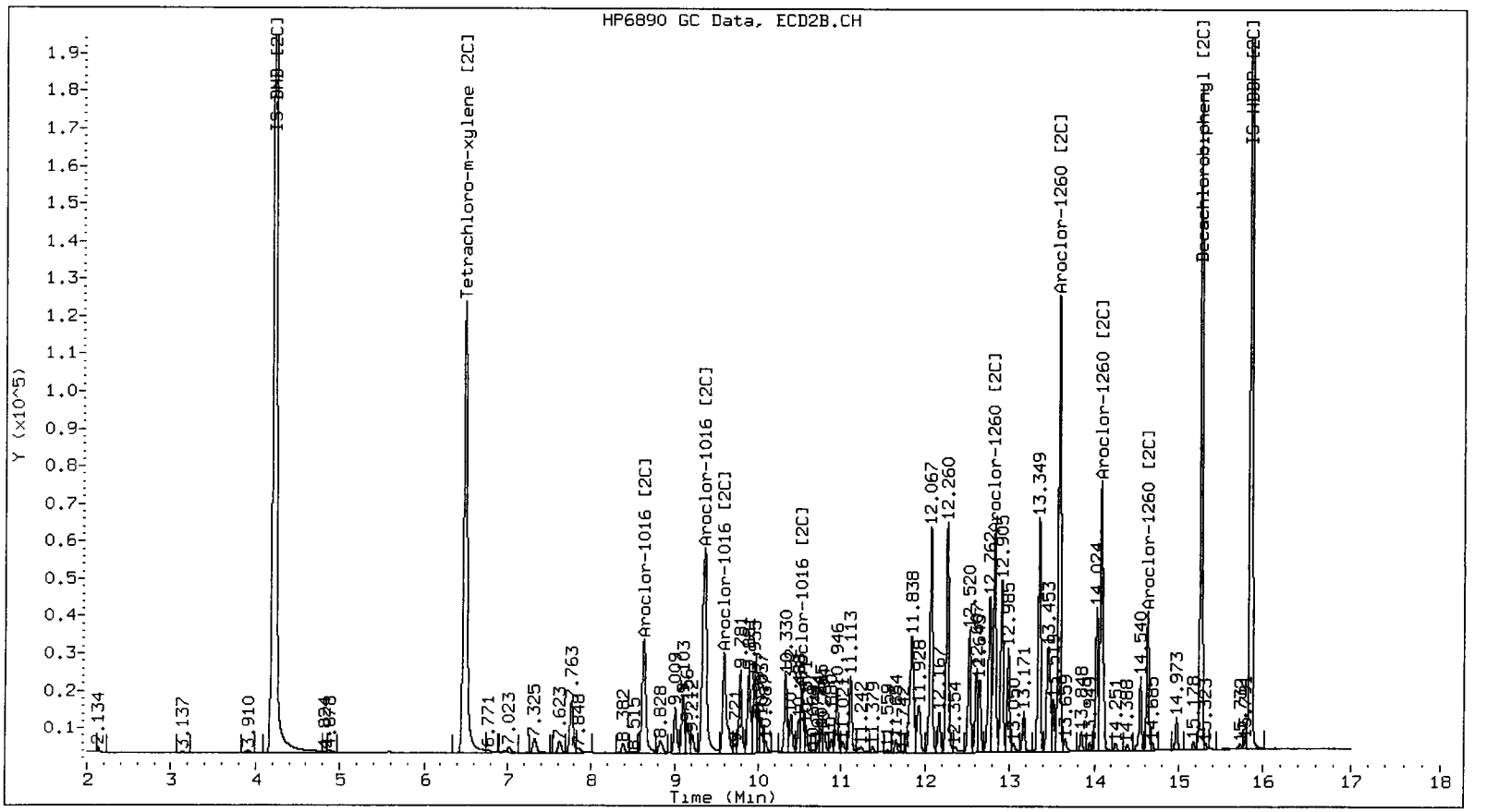


ECD7-ZB35 AR1660 25-FEB-2016 03:58, 2ul



Analytical Resources Inc.: Organics Instrument Log

ECD-7 Serial No.: US00003975

Date: 02/26/16 Analysis: PCB Analyst: [illegible]

Column 1 Serial No.: 311350 Column Type: 1701

Column 2 Serial No.: 330557 Column Type: [illegible]

GC Method: PCB ICal Date: 02/19/16 Injection Volume: 2µl

IS	Ical/Ccal	ICV
	D3916	
D4740	D3917-D3922	
	D3925	

Document All Maintenance Tasks In Element

	Inject Date/Time	Filename	DF	LabID	Cl
1	26-FEB-2016 09:36	02261601.D	1	DDT	
2	26-FEB-2016 09:58	02261602.D	1	DDT BD	
3	26-FEB-2016 10:20	02261603.D	1	AR1254	
4	26-FEB-2016 10:42	02261604.D	1	AR1660	
5	26-FEB-2016 11:03	02261605.D	10	AVZ9L	JF-F
6	26-FEB-2016 11:25	02261606.D	20	AVZ9N	JF-F
7	26-FEB-2016 11:47	02261607.D	1	AR1248	
8	26-FEB-2016 12:09	02261608.D	1	AR1660	
9	26-FEB-2016 13:29	02261609.D	1	RINSE	
10	26-FEB-2016 13:50	02261610.D	1	AR1242	
11	26-FEB-2016 14:12	02261611.D	1	AR1660	
12	26-FEB-2016 14:34	02261612.D	1	AWH8MBS1	
13	26-FEB-2016 14:56	02261613.D	1	AWH8LCSS1	
14	26-FEB-2016 15:18	02261614.D	1	AWH8LCSDS1	
15	26-FEB-2016 15:40	02261615.D	1	AWH8A	
16	26-FEB-2016 16:02	02261616.D	1	AWH8AMS	
17	26-FEB-2016 16:24	02261617.D	1	AWH8AMSD	
18	26-FEB-2016 16:46	02261618.D	1	E000570	
19	26-FEB-2016 17:08	02261619.D	1	AR1254	
20	26-FEB-2016 17:30	02261620.D	1	AR1660	

[illegible] 02/29/16

Every line must contain information or be lined out. Make all entries legible.
Start a new 00879ch QC period. Document All Maintenance Tasks In Element

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160226.b\20160226.b

ARI Job No.: DDT Method: PCB.m\PCB2.m Instrument: ecd7.i Date: 26-FEB-2016

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0936	02261601.D	DDT		1	NO MANUAL INTEGRATION
0958	02261602.D	DDT BD		1	NO MANUAL INTEGRATION
1020	02261603.D	AR1254		1	NO MANUAL INTEGRATION
1042	02261604.D	AR1660		1	NO MANUAL INTEGRATION
1103	02261605.D	AVZ9L	JF-PDS-5-0	10	NO MANUAL INTEGRATION
1125	02261606.D	AVZ9N	JF-PDS-105	20	NO MANUAL INTEGRATION
1147	02261607.D	AR1248		1	NO MANUAL INTEGRATION
1209	02261608.D	AR1660		1	NO MANUAL INTEGRATION
1329	02261609.D	RINSE		1	NO MANUAL INTEGRATION
1350	02261610.D	AR1242		1	NO MANUAL INTEGRATION
1412	02261611.D	AR1660		1	NO MANUAL INTEGRATION
1434	02261612.D	AWH8MBS1		1	NO MANUAL INTEGRATION
1456	02261613.D	AWH8LCSS1		1	NO MANUAL INTEGRATION
1518	02261614.D	AWH8LCSDS1		1	NO MANUAL INTEGRATION
1540	02261615.D	AWH8A		1	NO MANUAL INTEGRATION
1602	02261616.D	AWH8AMS		1	NO MANUAL INTEGRATION
1624	02261617.D	AWH8AMSD		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160226.b\20160226.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1646	02261618.D	E000570		1	Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], Aroclor-1268 [2C], IS-HBBP [2C],
1708	02261619.D	AR1254		1	NO MANUAL INTEGRATION
1730	02261620.D	AR1660		1	NO MANUAL INTEGRATION

AV23 - 09438

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160226.b/02261603.D
Data file 2: /20160226.b/20160226.b/02261603.D
Method: \\target\share\chem4\ecd7.i\20160226.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254
Client ID:
Injection Date: 26-FEB-2016 10:20
Report Date: 02/29/2016 08:24
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
6.023	-0.005	2486253	6.481	-0.006	7891592	40.1	41.7	3.8	Tetrachloro-m-xyle
14.744	0.001	7640480	15.259	-0.000	6585942	43.7	37.6	15.0	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	100.3	104.2
Decachlorobiphenyl	109.3	94.0

02/29/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	11441174	11.2
Hexabromobiphenyl	12470452	13093729	5.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	16335481	3.4
Hexabromobiphenyl	11807823	13691433	16.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

AVZ9 : 66435

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1254	1	10.463	-0.001	629947	248.7	1	11.110	-0.001	2009895	244.7
Aroclor-1254	2	10.544	-0.001	214226	253.8	2	11.209	-0.001	965754	251.0
Aroclor-1254	3	10.850	-0.001	466045	225.1	3	11.653	-0.001	1273373	206.6
Aroclor-1254	4	10.989	-0.001	1010231	248.6	4	11.806	-0.000	3409282	242.4
Aroclor-1254	5	11.344	-0.001	965984	242.8	5	12.815	-0.001	2490981	240.4

Total Col1Ave (5 peaks): 243.8 Total Col2Ave (5 peaks): 237.0 RPD = 3

Corrected Ave (4 peaks): 241.3 Corrected Ave (4 peaks): 233.5 RPD = 3

CalAmt %D: -2.5 CalAmt %D: -5.2

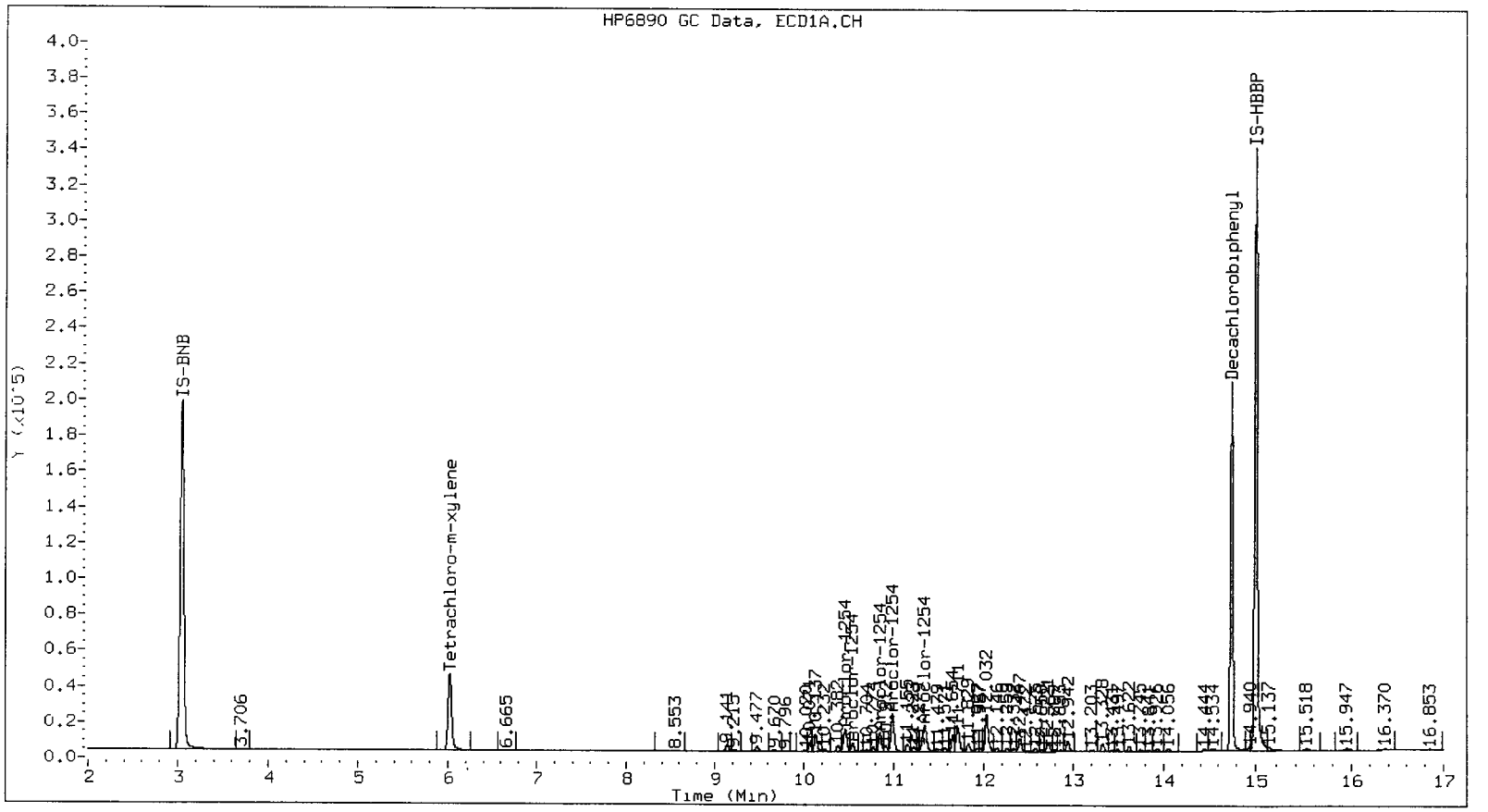
Total PCB Area Col1 (6.129 - 14.643) = 10416804 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.129 - 14.643) = 39207466 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AR1254 26-FEB-2016 10:20, 2ul



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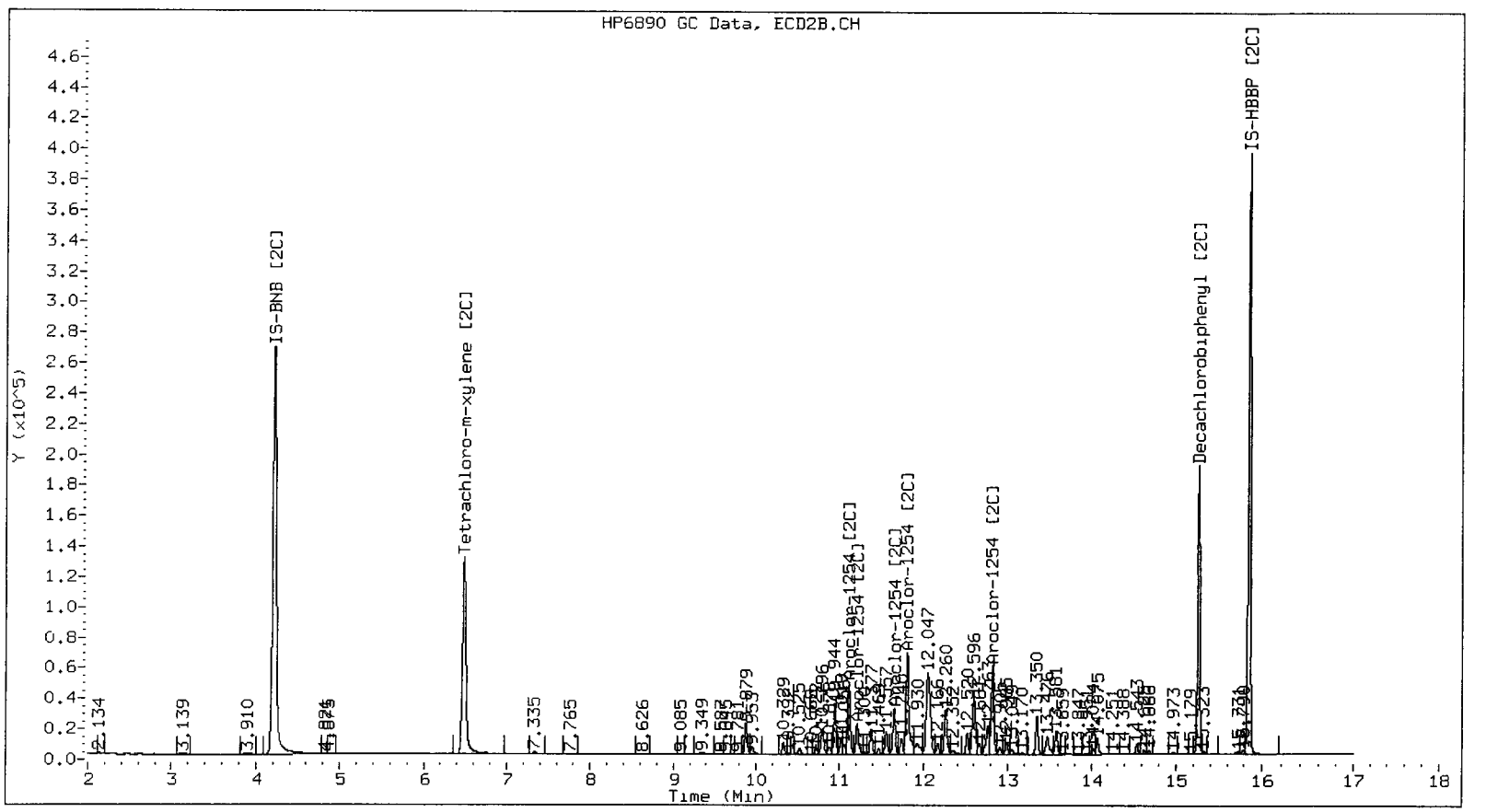
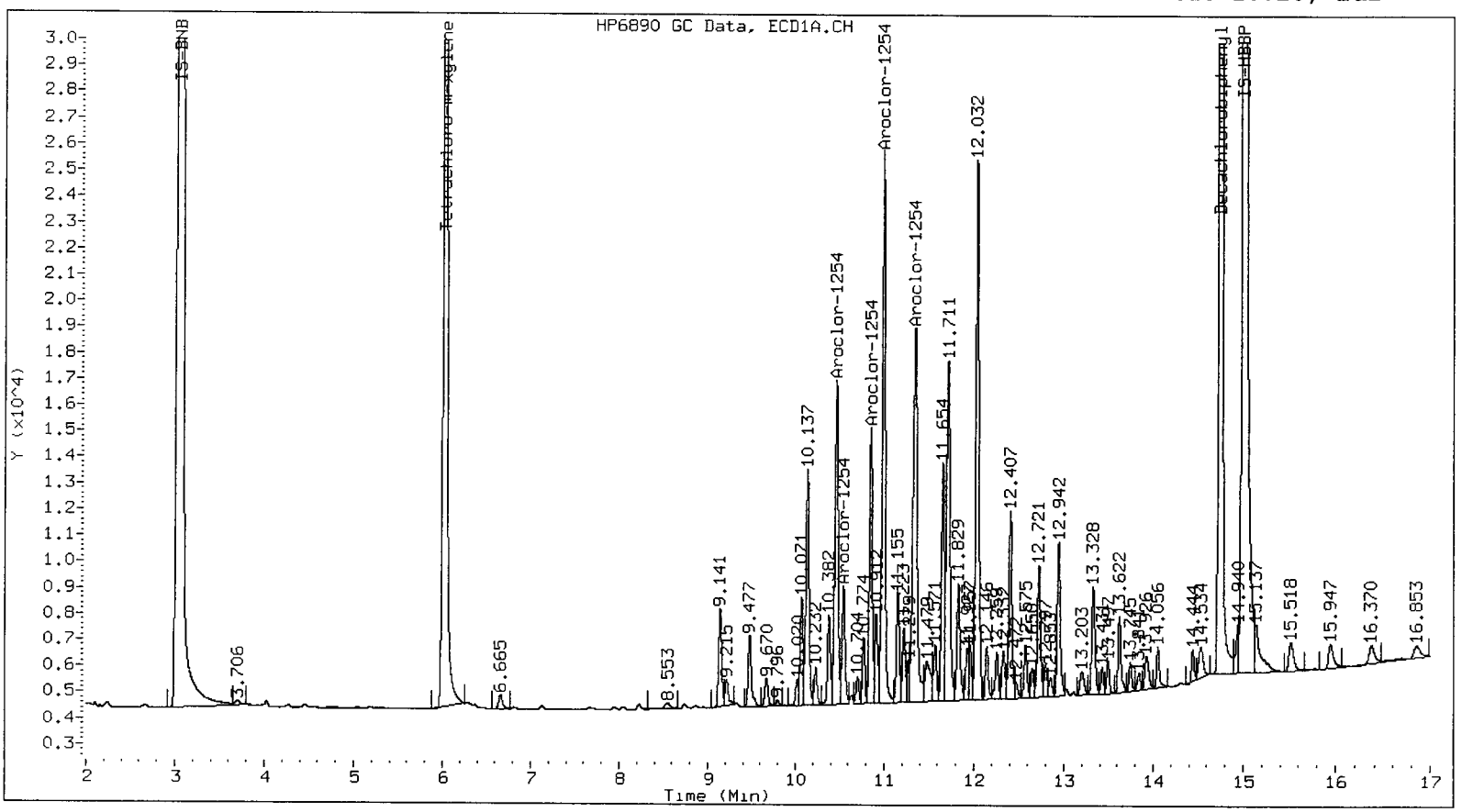
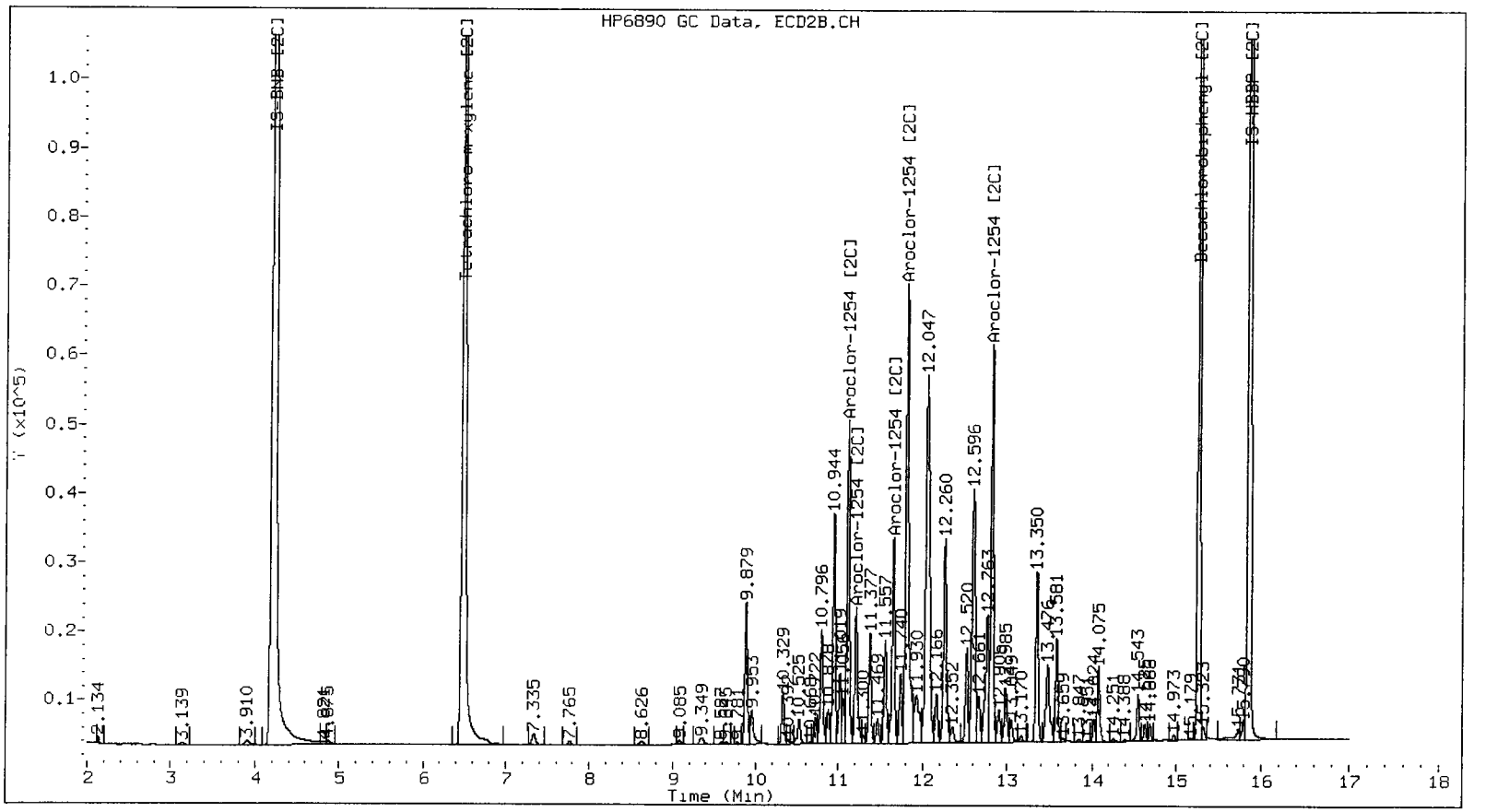


ECD7-ZB5 AR1254 26-FEB-2016 10:20, 2ul



ECD7-ZB35 AR1254 26-FEB-2016 10:20, 2ul



Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160226.b/02261604.D
Data file 2: /20160226.b/20160226.b/02261604.D
Method: \\target\share\chem4\ecd7.i\20160226.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660
Client ID:
Injection Date: 26-FEB-2016 10:42
Report Date: 02/29/2016 08:24
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
6.024	-0.005	2558999	6.482	-0.004	8058737	40.0	41.0	2.6	Tetrachloro-m-xyle
14.743	0.000	8062926	15.260	0.000	7028129	43.8	38.1	14.1	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	99.9	102.5
Decachlorobiphenyl	109.5	95.1

A 02/24/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	11820968	14.9
Hexabromobiphenyl	12470452	13788248	10.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	16951127	7.3
Hexabromobiphenyl	11807823	14436119	22.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.044	-0.005	373841	247.1	1	8.626	-0.004	2102784	248.9
Aroclor-1016	2	8.554	-0.005	1143654	245.1	2	9.353	-0.001	4277187	246.0
Aroclor-1016	3	8.863	-0.003	412674	259.1	3	9.586	-0.003	1814899	261.5
Aroclor-1016	4	9.669	-0.003	443162	249.5	4	10.525	-0.001	826530	256.4

Total Col1Ave (4 peaks): 250.2 Total Col2Ave (4 peaks): 253.2 RPD = 1

Corrected Ave (3 peaks): 247.2 Corrected Ave (3 peaks): 250.4 RPD = 1

CalAmt %D: 0.1 CalAmt %D: 1.3

Aroclor-1260	1	12.259	-0.000	891291	266.1	1	12.815	-0.001	2816101	211.6
Aroclor-1260	2	12.941	-0.000	3171873	248.9	2	13.581	-0.000	5322828	206.2
Aroclor-1260	3	13.328	0.000	1442815	263.7	3	14.075	-0.000	3664672	215.0
Aroclor-1260	4	13.431	0.000	905250	266.2	4	14.624	-0.000	1575215	241.0
Aroclor-1260	5	13.842	0.000	511699	257.7	NS	---			----

Total Col1Ave (5 peaks): 260.5 Total Col2Ave (4 peaks): 218.4 RPD = 18

Corrected Ave (4 peaks): 259.1 Corrected Ave (3 peaks): 210.9 RPD = 21

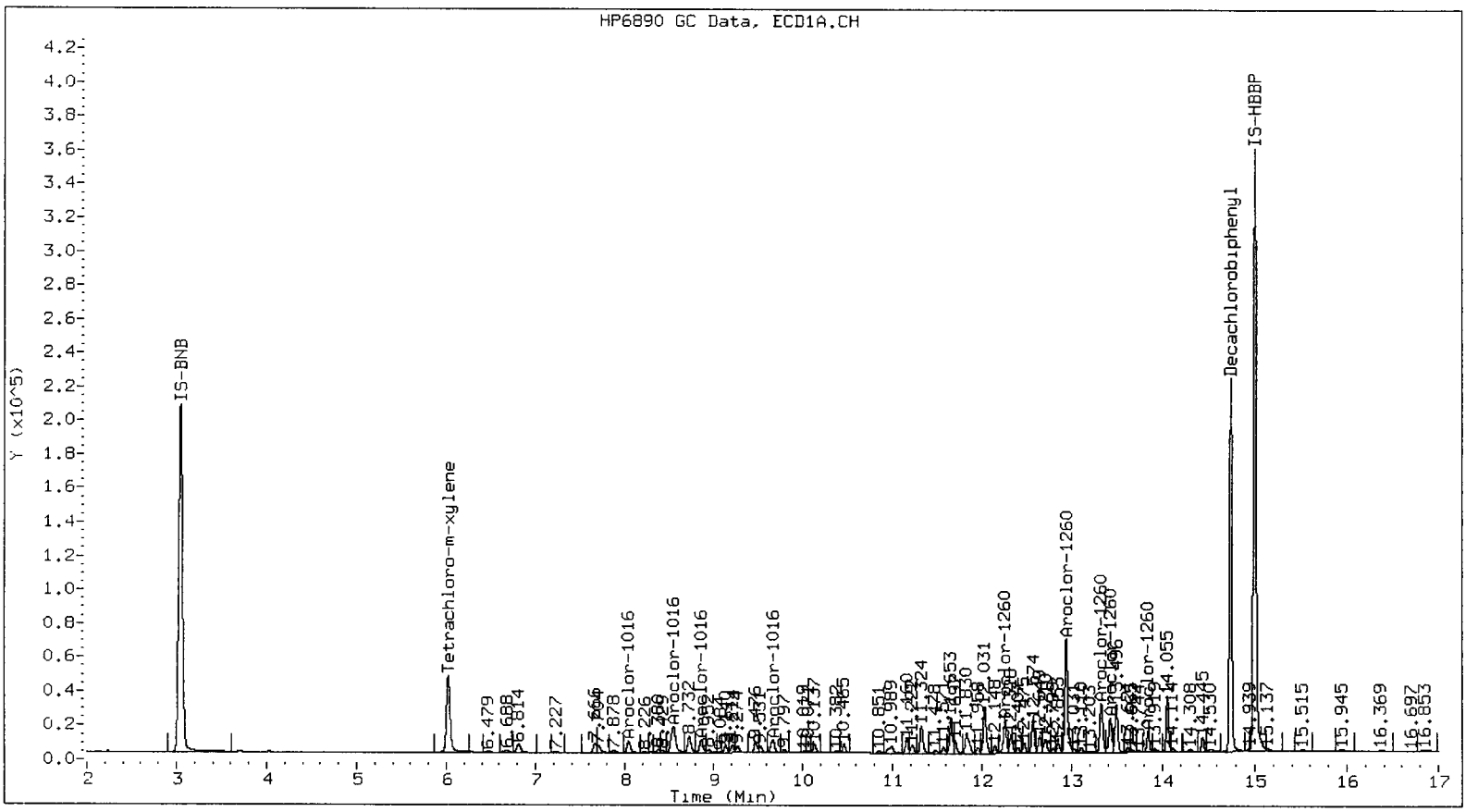
CalAmt %D: 4.2 CalAmt %D: -12.6

Total PCB Area Col1 (6.129 - 14.643) = 25798602 Col1 Total PCB = 0.5 ppm*

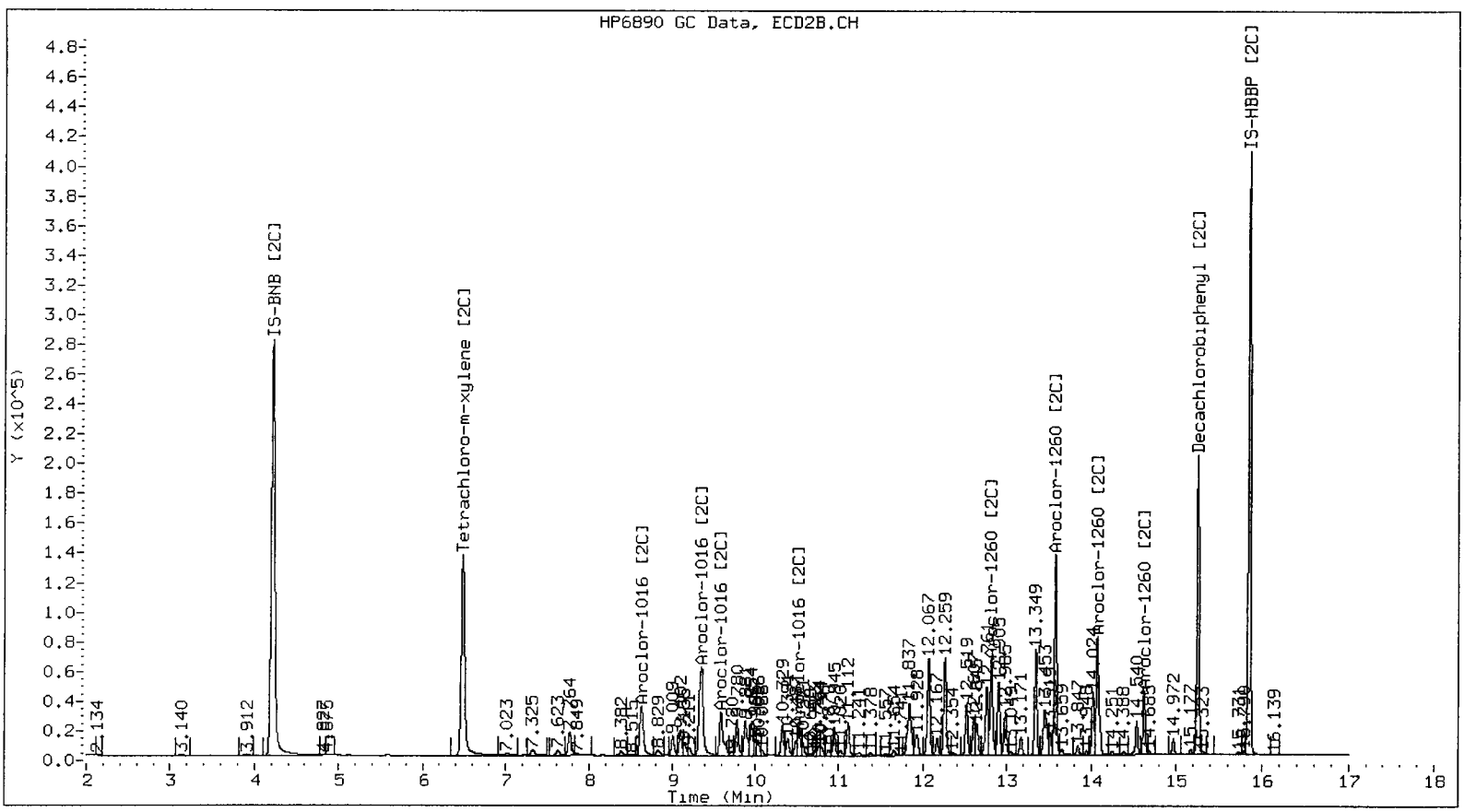
Total PCB Area Col2 (6.129 - 14.643) = 72428430 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

ECD7-ZB5 AR1660 26-FEB-2016 10:42, 2ul



ECD7-ZB35 AR1660 26-FEB-2016 10:42, 2ul



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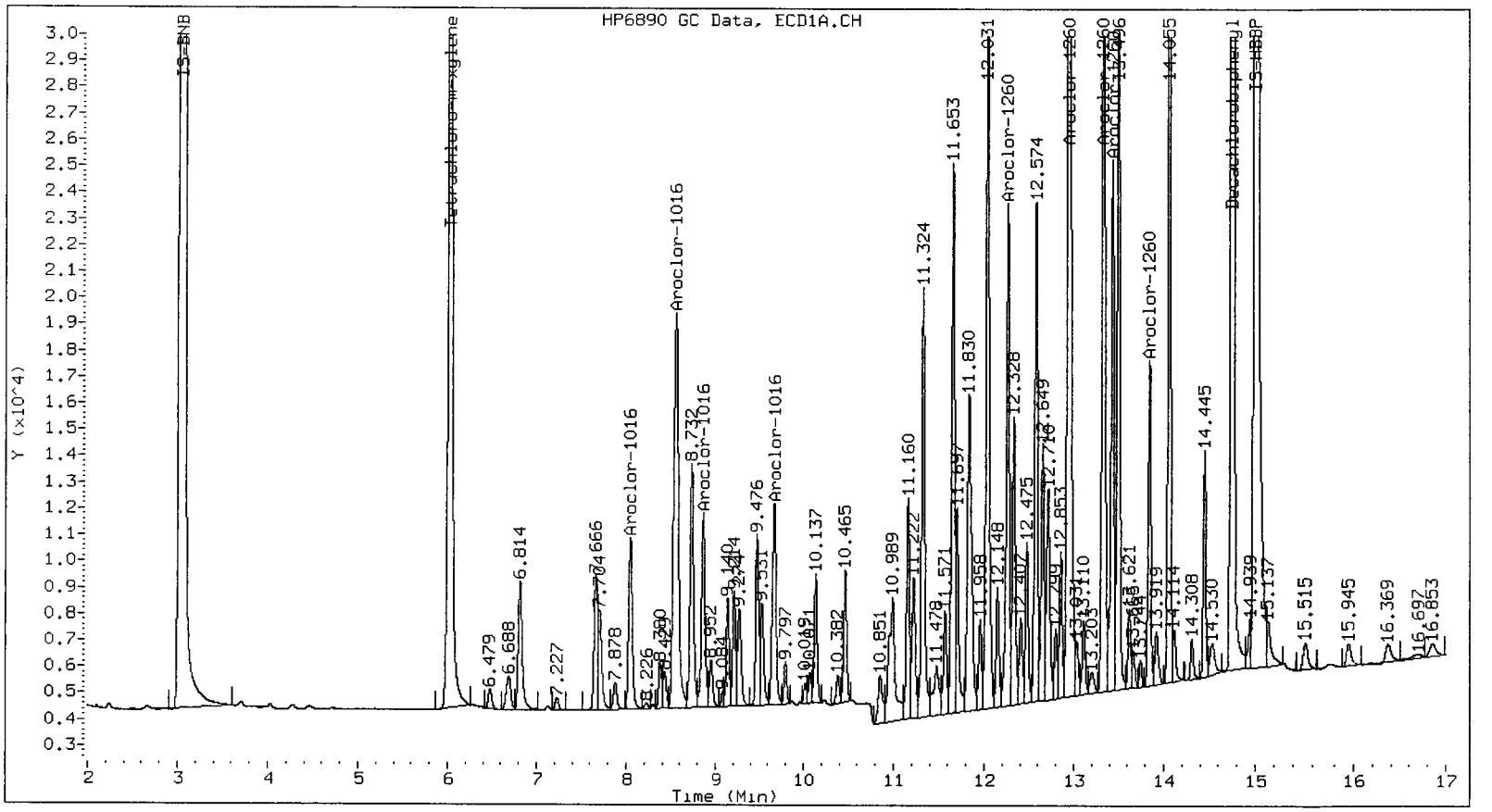

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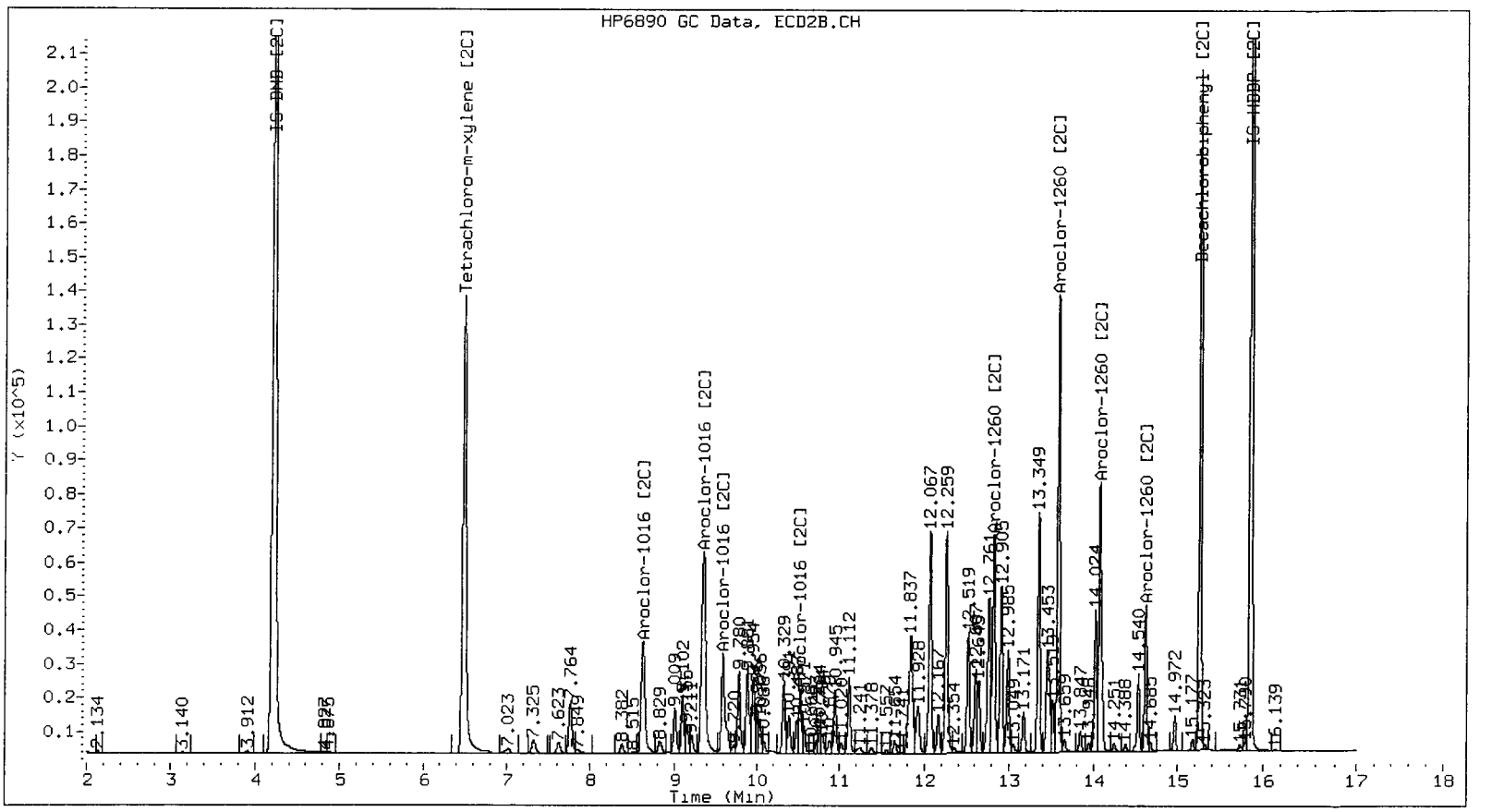


Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160226.b/02261605.D
Data file 2: /20160226.b/20160226.b/02261605.D
Method: \\target\share\chem4\ecd7.i\20160226.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9L
Client ID: JF-PDS-5-0-1ft-1602
Injection Date: 26-FEB-2016 11:03
Report Date: 02/29/2016 08:24
Matrix: SOIL
Dilution Factor: 10.000

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
6.023	-0.006	219219	6.480	-0.006	724631	3.9	4.4	12.8	Tetrachloro-m-xyle
14.742	-0.001	833797	15.259	-0.000	860103	6.4	5.9	7.3	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	96.7	109.9
Decachlorobiphenyl	160.0	~~148.7~~ NK

A 02/29/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10461566	1.7
Hexabromobiphenyl	12470452	9759891	-21.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	14217366	-10.0
Hexabromobiphenyl	11807823	11300918	-4.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

AVZ9:06447

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.035	-0.014	141910	106.0	1	8.628	-0.003	480366	67.8
Aroclor-1016	2	8.551	-0.008	281321	68.1	2	9.349	-0.005	972374	66.7
Aroclor-1016	3	8.867	0.001	140265	99.5	3	9.583	-0.005	206230	35.4
Aroclor-1016	4	9.667	-0.006	343310	218.4	4	10.524	-0.003	879941	325.4
Total Col1Ave (4 peaks):					123.0	Total Col2Ave (4 peaks):				123.8 RPD = 1
Corrected Ave (3 peaks):					91.2	Corrected Ave (3 peaks):				56.6 RPD = 47*
Aroclor-1221	1	---			0.0	1	5.544	-0.042	62532	47.2
Aroclor-1221	2	6.693	0.003	19204	36.1	2	7.585	-0.038	468699	380.0
Aroclor-1221	3	6.815	0.000	37369	23.5	3	7.768	0.005	132239	33.9
Aroclor-1221	NS	---			----	4	8.628	-0.015	480366	371.4
Col1Ave: <3 Quant Peaks						Col2Ave: 208.1				
Aroclor-1232	1	---			0.0	1	5.544	-0.042	62532	78.3
Aroclor-1232	2	6.693	0.003	19204	53.7	2	7.585	-0.038	468699	623.3
Aroclor-1232	3	6.815	0.000	37369	35.5	3	7.819	-0.033	100280	236.4
Aroclor-1232	4	8.551	-0.003	281321	163.4	4	8.628	0.000	480366	145.7
Total Col1Ave (3 peaks):					84.2	Total Col2Ave (4 peaks):				270.9 RPD = 105*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				153.5
Aroclor-1242	1	8.551	-0.003	281321	87.5	1	8.628	0.005	480366	87.3
Aroclor-1242	2	8.867	0.006	140265	118.8	2	9.349	-0.000	972374	85.3
Aroclor-1242	3	9.667	-0.002	343310	230.0	3	9.777	-0.001	158195	53.8
Aroclor-1242	4	10.068	-0.002	614902	570.0	4	10.874	-0.002	1426411	359.9
Total Col1Ave (4 peaks):					251.6	Total Col2Ave (4 peaks):				146.6 RPD = 53*
Corrected Ave (3 peaks):					145.4	Corrected Ave (3 peaks):				75.4 RPD = 63*
Aroclor-1248	1	8.551	-0.004	281321	149.1	1	9.349	0.000	972374	143.0
Aroclor-1248	2	9.475	-0.003	444436	316.3	2	9.879	-0.003	2707868	540.3
Aroclor-1248	3	9.667	-0.004	343310	162.8	3	10.793	-0.004	2388835	312.0
Aroclor-1248	4	10.068	-0.004	614902	350.6	4	11.208	-0.035	3482921	455.3
Total Col1Ave (4 peaks):					244.7	Total Col2Ave (4 peaks):				362.6 RPD = 39
Corrected Ave (3 peaks):					209.4	Corrected Ave (3 peaks):				303.4 RPD = 37
Aroclor-1254	1	10.461	-0.003	1807260	780.4	1	11.110	-0.002	5897482	825.0
Aroclor-1254	2	10.542	-0.003	776677	1006.1	2	11.208	-0.002	3482921	1040.0
Aroclor-1254	3	10.848	-0.002	1485542	784.6	3	11.651	-0.003	3894342	725.8
Aroclor-1254	4	10.987	-0.003	3221201	867.0	4	11.803	-0.002	10812565	883.5
Aroclor-1254	5	11.341	-0.004	3051092	838.8	5	12.813	-0.003	7684137	852.0
Total Col1Ave (5 peaks):					855.4	Total Col2Ave (5 peaks):				865.3 RPD = 1
Corrected Ave (4 peaks):					817.7	Corrected Ave (4 peaks):				821.6 RPD = 0
Aroclor-1260	1	12.258	-0.002	612998	258.6	1	12.813	-0.003	7684137	737.4
Aroclor-1260	2	12.939	-0.002	1786101	198.0	2	13.579	-0.001	3420072	169.2
Aroclor-1260	3	13.325	-0.003	981988	253.5	3	14.073	-0.001	2918422	218.7
Aroclor-1260	4	13.429	-0.001	970565	403.3	4	14.623	-0.001	1097415	214.5
Aroclor-1260	5	13.831	-0.012	651120	463.2	NS	---			----
Total Col1Ave (5 peaks):					315.3	Total Col2Ave (4 peaks):				325.0 RPD = 6
Corrected Ave (4 peaks):					278.3	Corrected Ave (3 peaks):				200.8 RPD = 32
Aroclor-1262	1	12.258	-0.002	612998	194.1	1	12.903	-0.002	1500854	130.6
Aroclor-1262	2	12.939	-0.001	1786101	192.9	2	13.348	-0.001	3465835	326.3
Aroclor-1262	3	13.325	-0.004	981988	334.7	3	13.579	-0.001	3420072	157.8
Aroclor-1262	4	13.429	-0.001	970565	219.5	4	14.073	-0.002	2918422	207.0
Aroclor-1262	5	14.054	-0.001	948434	190.9	5	14.623	-0.002	1097415	151.9
Total Col1Ave (5 peaks):					226.4	Total Col2Ave (5 peaks):				194.7 RPD = 15
Corrected Ave (4 peaks):					199.3	Corrected Ave (4 peaks):				161.8 RPD = 21
Aroclor-1268	1	13.429	-0.001	970565	75.4	1	14.021	-0.000	1553043	68.9
Aroclor-1268	2	13.494	-0.001	1189323	74.5	2	14.073	-0.002	2918422	138.5
Aroclor-1268	3	13.831	0.003	651120	45.1	3	14.387	-0.001	468435	27.6
Aroclor-1268	4	14.444	-0.002	1562030	29.9	4	14.972	-0.002	1530025	31.6

Total Col1Ave (4 peaks):	56.2	Total Col2Ave (4 peaks):	66.7	RPD = 17
Corrected Ave (3 peaks):	49.8	Corrected Ave (3 peaks):	42.7	RPD = 15

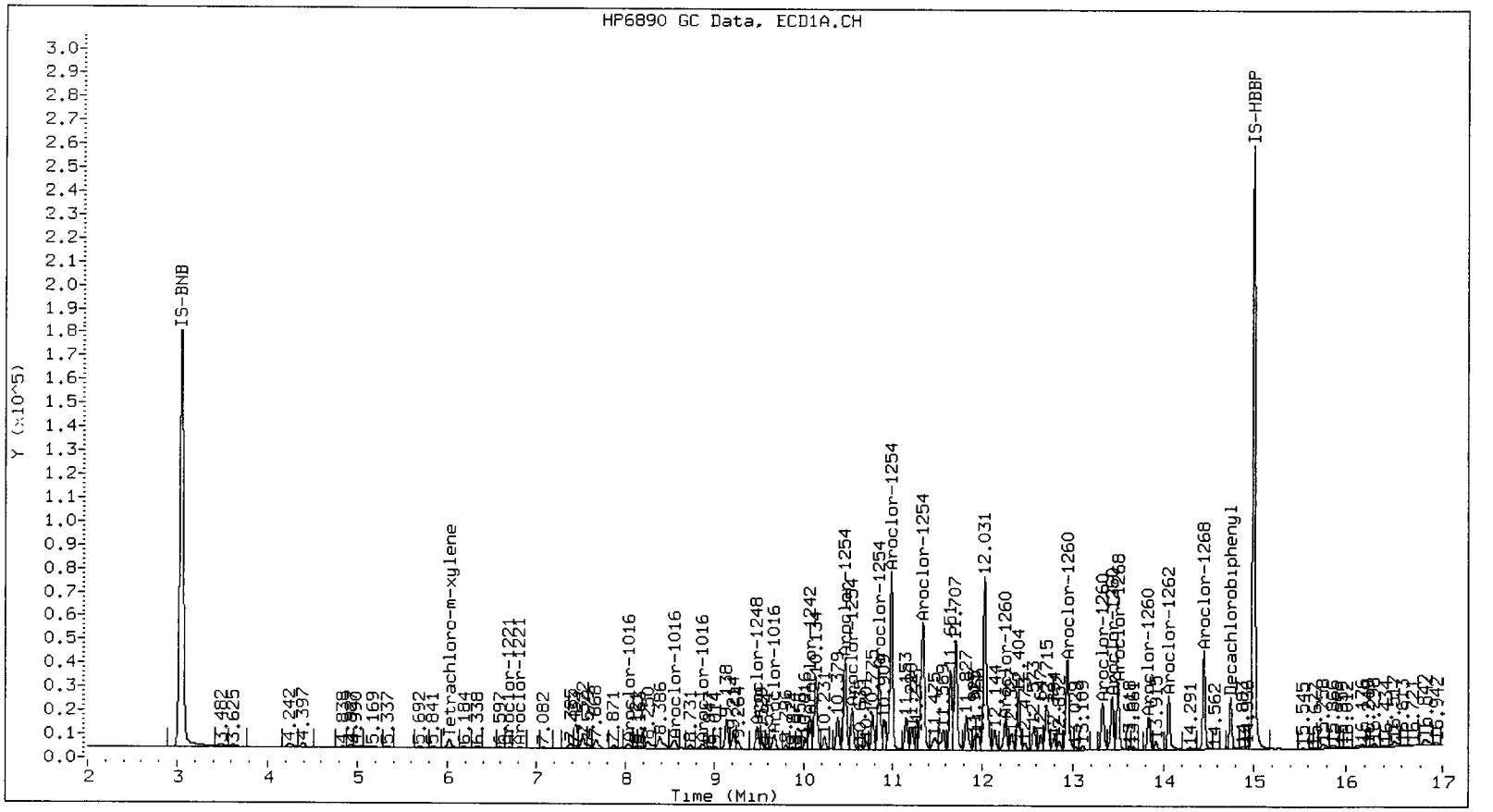
Total PCB Area Col1 (6.129 - 14.643) = 43341187 Col1 Total PCB = 1.0 ppm*

Total PCB Area Col2 (6.129 - 14.643) = 115966551 Col2 Total PCB = 1.0 ppm*

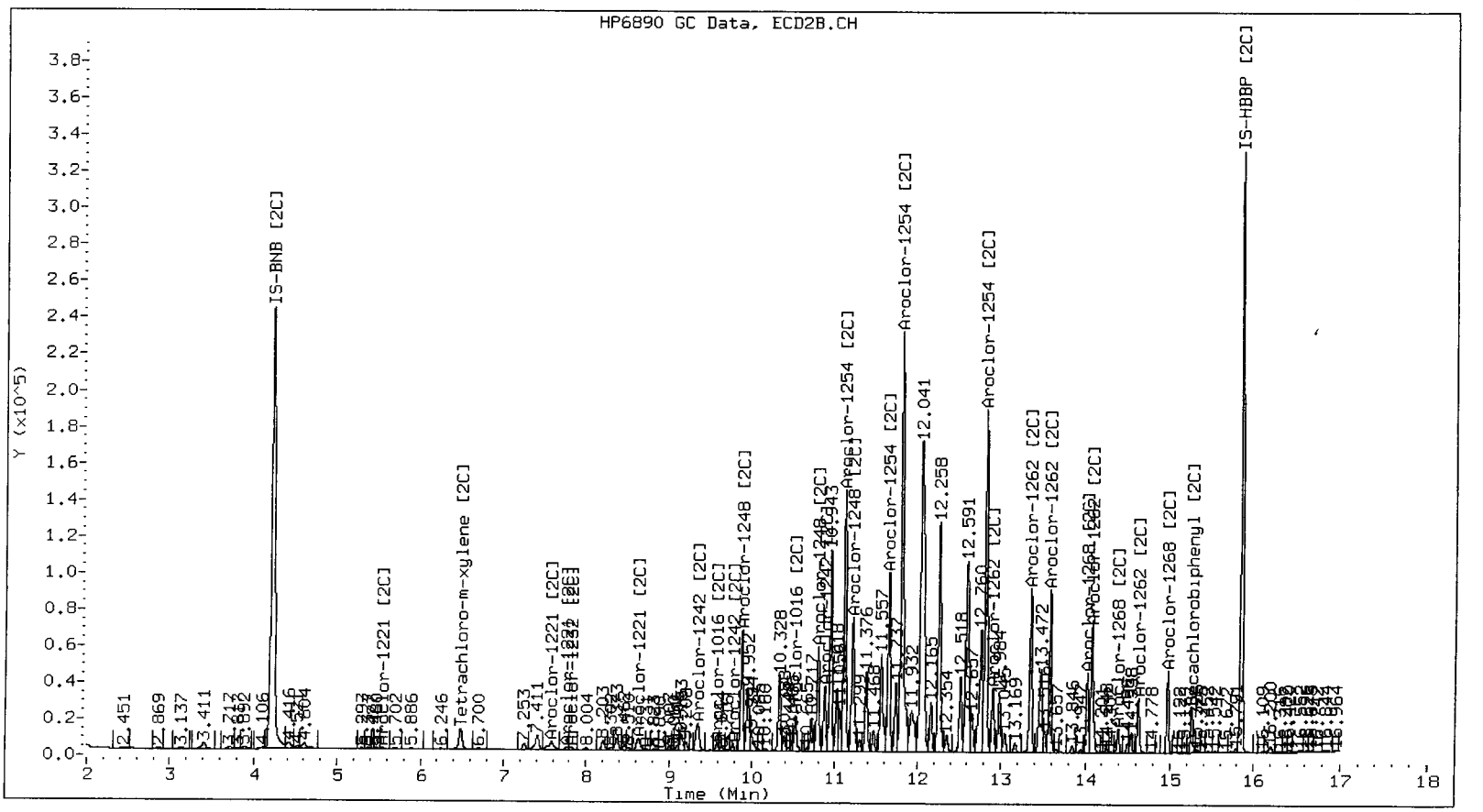
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9L 26-FEB-2016 11:03, 2ul

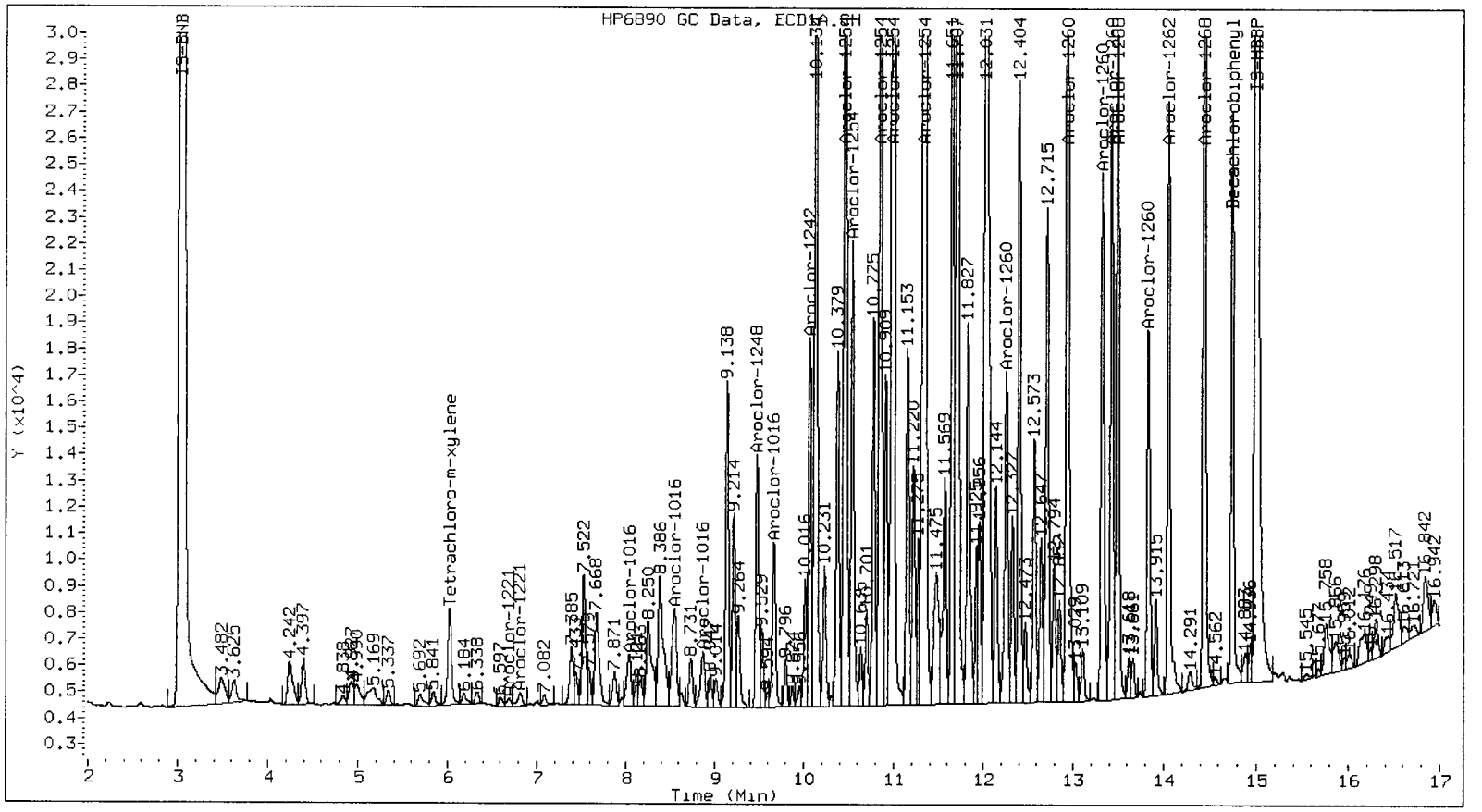


ECD7-ZB35 AVZ9L 26-FEB-2016 11:03, 2ul

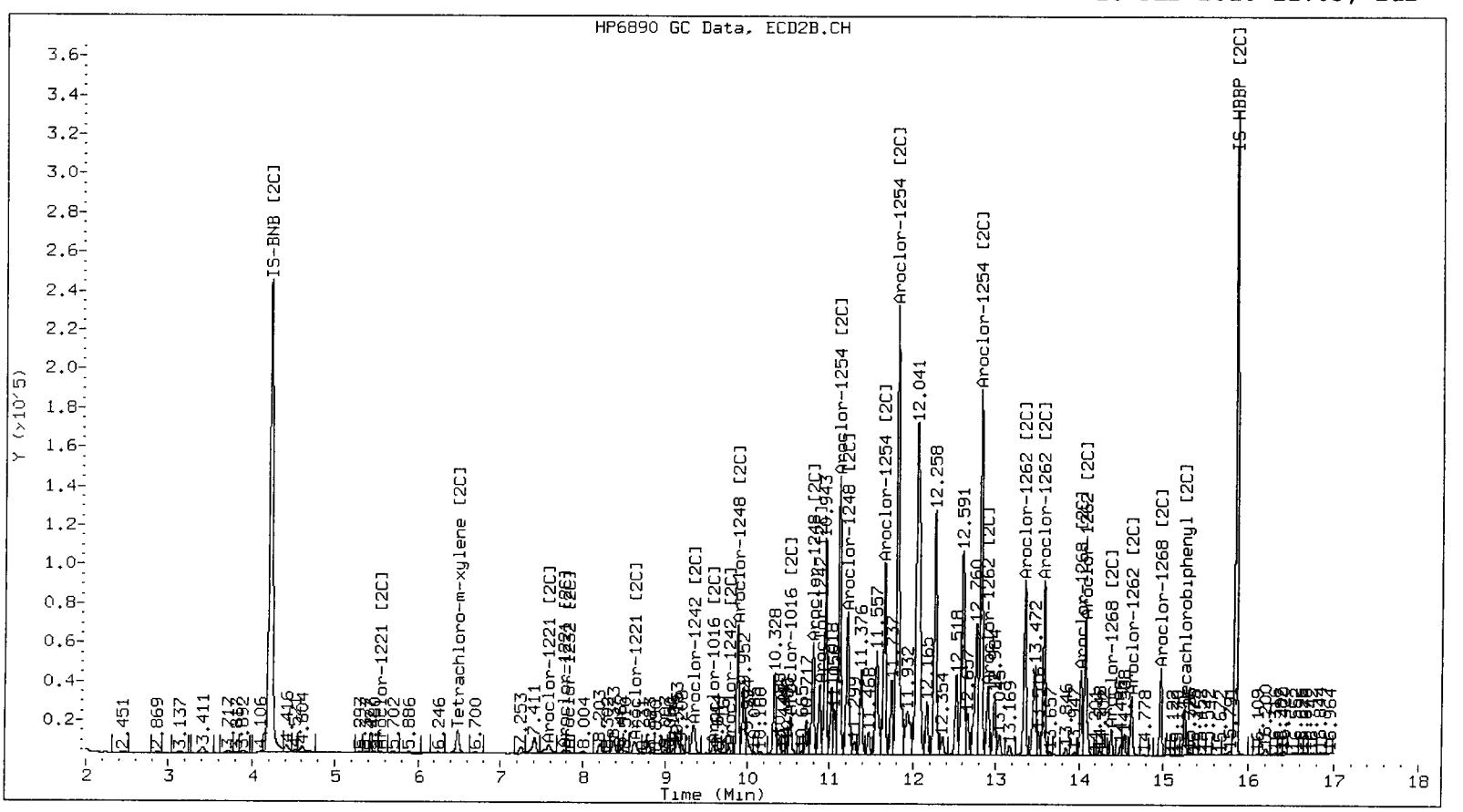


AVZ9:66456

ECD7-ZB5 AVZ9L 26-FEB-2016 11:03, 2ul



ECD7-ZB35 AVZ9L 26-FEB-2016 11:03, 2ul



AVZ9:66451

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160226.b/02261606.D
Data file 2: /20160226.b/20160226.b/02261606.D
Method: \\target\share\chem4\ecd7.i\20160226.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9N
Client ID: JF-PDS-105-0-1ft-16
Injection Date: 26-FEB-2016 11:25
Report Date: 02/29/2016 08:24
Matrix: SOIL
Dilution Factor: 20.000

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
6.027	-0.002	94394	6.484	-0.003	299826	1.7	1.8	3.1	Tetrachloro-m-xyle
14.742	-0.001	375958	15.259	-0.001	406786	2.8	2.8	0.5	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

02/29/16

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	86.7	89.4
Decachlorobiphenyl	138.1	138.9

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10051991	-2.3
Hexabromobiphenyl	12470452	10196627	-18.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	14470033	-8.4
Hexabromobiphenyl	11807823	11447769	-3.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

AVZ9:60452

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.041	-0.008	58618	45.6	1	8.629	-0.002	220574	30.6
Aroclor-1016	2	8.555	-0.004	158916	40.1	2	9.352	-0.002	460960	31.1
Aroclor-1016	3	8.867	0.002	81733	60.3	3	9.586	-0.002	98122	16.6
Aroclor-1016	4	9.669	-0.003	212889	141.0	4	10.524	-0.002	523735	190.3
Total Col1Ave (4 peaks):				71.7		Total Col2Ave (4 peaks):			67.1	RPD = 7
Corrected Ave (3 peaks):				48.7		Corrected Ave (3 peaks):			26.1	RPD = 60*
Aroclor-1221	1	---			0.0	1	5.548	-0.038	20194	15.0
Aroclor-1221	2	---			0.0	2	7.590	-0.033	145019	115.5
Aroclor-1221	3	---			0.0	3	7.774	0.011	99179	25.0
Aroclor-1221	NS	---			----	4	8.629	-0.015	220574	167.6
Col1Ave: <3 Quant Peaks						Col2Ave:			80.8	
Aroclor-1232	1	---			0.0	1	5.548	-0.039	20194	24.8
Aroclor-1232	2	---			0.0	2	7.590	-0.033	145019	189.5
Aroclor-1232	3	---			0.0	3	7.774	-0.077	99179	229.7
Aroclor-1232	4	---			0.0	4	8.629	0.001	220574	65.7
Col1Ave: <3 Quant Peaks						Col2Ave:			127.4	
Aroclor-1242	1	8.555	0.002	158916	51.4	1	8.629	0.005	220574	39.4
Aroclor-1242	2	8.867	0.006	81733	72.0	2	9.352	0.003	460960	39.7
Aroclor-1242	3	9.669	0.000	212889	148.4	3	9.779	0.001	76120	25.4
Aroclor-1242	4	10.070	-0.000	414778	400.2	4	10.875	-0.000	889614	220.6
Total Col1Ave (4 peaks):				168.0		Total Col2Ave (4 peaks):			81.3	RPD = 70*
Corrected Ave (3 peaks):				90.6		Corrected Ave (3 peaks):			34.8	RPD = 89*
Aroclor-1248	1	8.555	0.001	158916	87.7	1	9.352	0.004	460960	66.6
Aroclor-1248	2	9.477	-0.001	305919	226.6	2	9.880	-0.002	1752371	343.5
Aroclor-1248	3	9.669	-0.002	212889	105.1	3	10.794	-0.003	1600562	205.4
Aroclor-1248	4	10.070	-0.002	414778	246.1	4	11.209	-0.035	2210435	283.9
Total Col1Ave (4 peaks):				166.4		Total Col2Ave (4 peaks):			224.9	RPD = 30
Corrected Ave (3 peaks):				139.8		Corrected Ave (3 peaks):			185.3	RPD = 28
Aroclor-1254	1	10.463	-0.001	1190728	535.1	1	11.111	-0.001	3748287	515.2
Aroclor-1254	2	10.543	-0.002	510612	688.4	2	11.209	-0.001	2210435	648.5
Aroclor-1254	3	10.849	-0.001	979580	538.5	3	11.651	-0.002	2632633	482.1
Aroclor-1254	4	10.988	-0.002	2111185	591.4	4	11.804	-0.002	6962334	558.9
Aroclor-1254	5	11.343	-0.002	1955366	559.5	5	12.815	-0.002	4823497	525.5
Total Col1Ave (5 peaks):				582.6		Total Col2Ave (5 peaks):			546.0	RPD = 6
Corrected Ave (4 peaks):				556.1		Corrected Ave (4 peaks):			520.4	RPD = 7
Aroclor-1260	1	12.258	-0.002	320525	129.4	1	12.815	-0.001	4823497	457.0
Aroclor-1260	2	12.939	-0.002	924435	98.1	2	13.580	-0.001	1817009	88.8
Aroclor-1260	3	13.325	-0.003	527172	130.3	3	14.073	-0.001	1531581	113.3
Aroclor-1260	4	13.429	-0.001	429921	171.0	4	14.624	-0.001	574978	110.9
Aroclor-1260	5	13.832	-0.010	291307	198.4	NS	---			----
Total Col1Ave (5 peaks):				145.4		Total Col2Ave (4 peaks):			192.5	RPD = 28
Corrected Ave (4 peaks):				132.2		Corrected Ave (3 peaks):			104.3	RPD = 24
Aroclor-1262	1	12.258	-0.002	320525	97.1	1	12.903	-0.002	783196	67.3
Aroclor-1262	2	12.939	-0.001	924435	95.6	2	13.349	0.000	2119620	197.0
Aroclor-1262	3	13.325	-0.004	527172	172.0	3	13.580	-0.001	1817009	82.8
Aroclor-1262	4	13.429	-0.001	429921	93.1	4	14.073	-0.002	1531581	107.2
Aroclor-1262	5	14.054	-0.002	493188	95.0	5	14.624	-0.002	574978	78.5
Total Col1Ave (5 peaks):				110.5		Total Col2Ave (5 peaks):			106.6	RPD = 4
Corrected Ave (4 peaks):				95.2		Corrected Ave (4 peaks):			84.0	RPD = 13
Aroclor-1268	1	13.429	-0.002	429921	32.0	1	14.021	-0.000	722876	31.7
Aroclor-1268	2	13.494	-0.001	539981	32.4	2	14.073	-0.002	1531581	71.8
Aroclor-1268	3	13.832	0.005	291307	19.3	3	14.387	-0.001	235244	13.7
Aroclor-1268	4	14.444	-0.002	551408	10.1	4	14.972	-0.001	672497	13.7
Total Col1Ave (4 peaks):				23.4		Total Col2Ave (4 peaks):			32.7	RPD = 33

Corrected Ave (3 peaks): 20.5 Corrected Ave (3 peaks): 19.7 RPD = 4

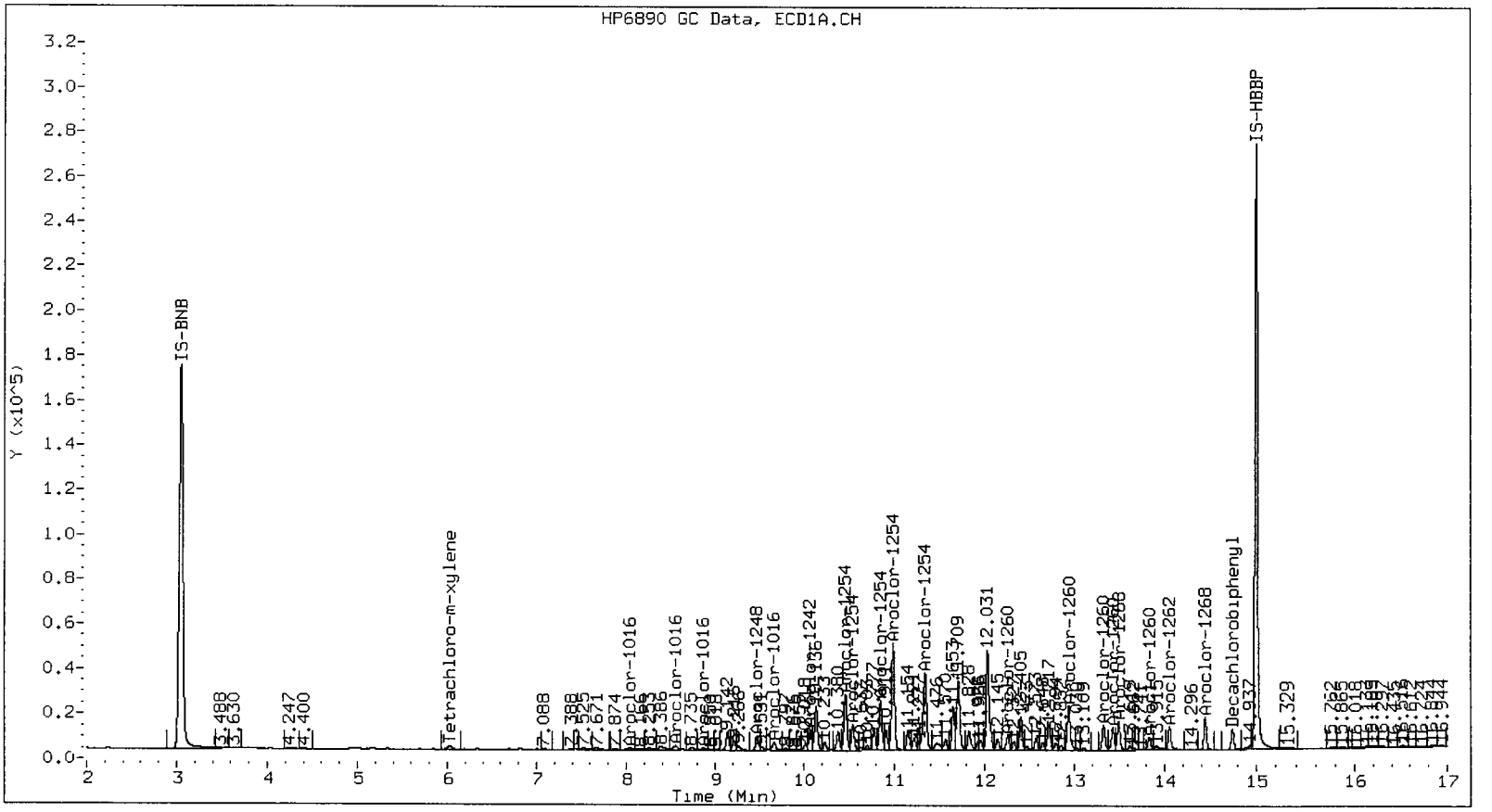
Total PCB Area Col1 (6.129 - 14.643) = 25505081 Col1 Total PCB = 0.6 ppm*

Total PCB Area Col2 (6.129 - 14.643) = 70446460 Col2 Total PCB = 0.6 ppm*

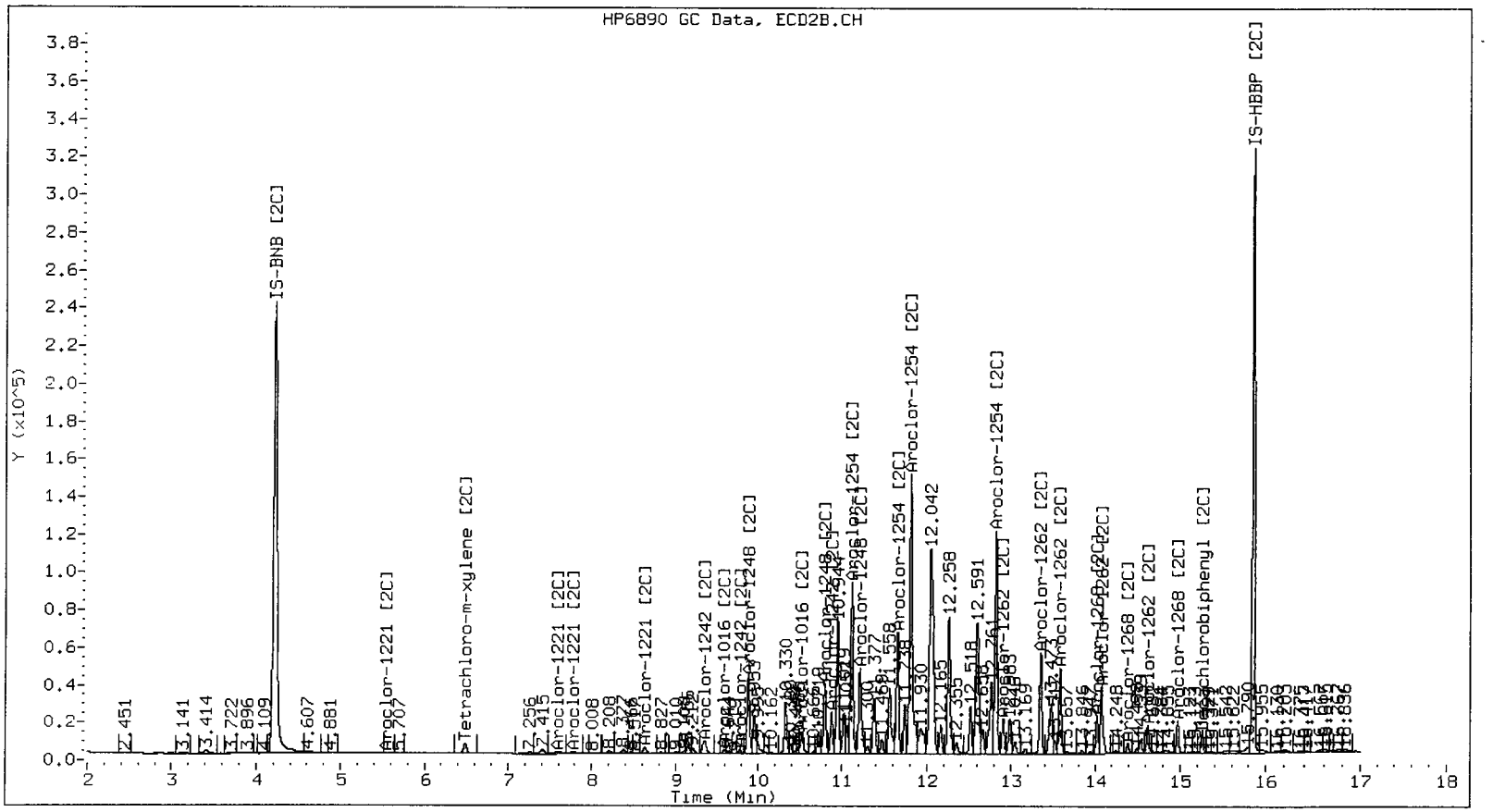
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9N 26-FEB-2016 11:25, 2ul

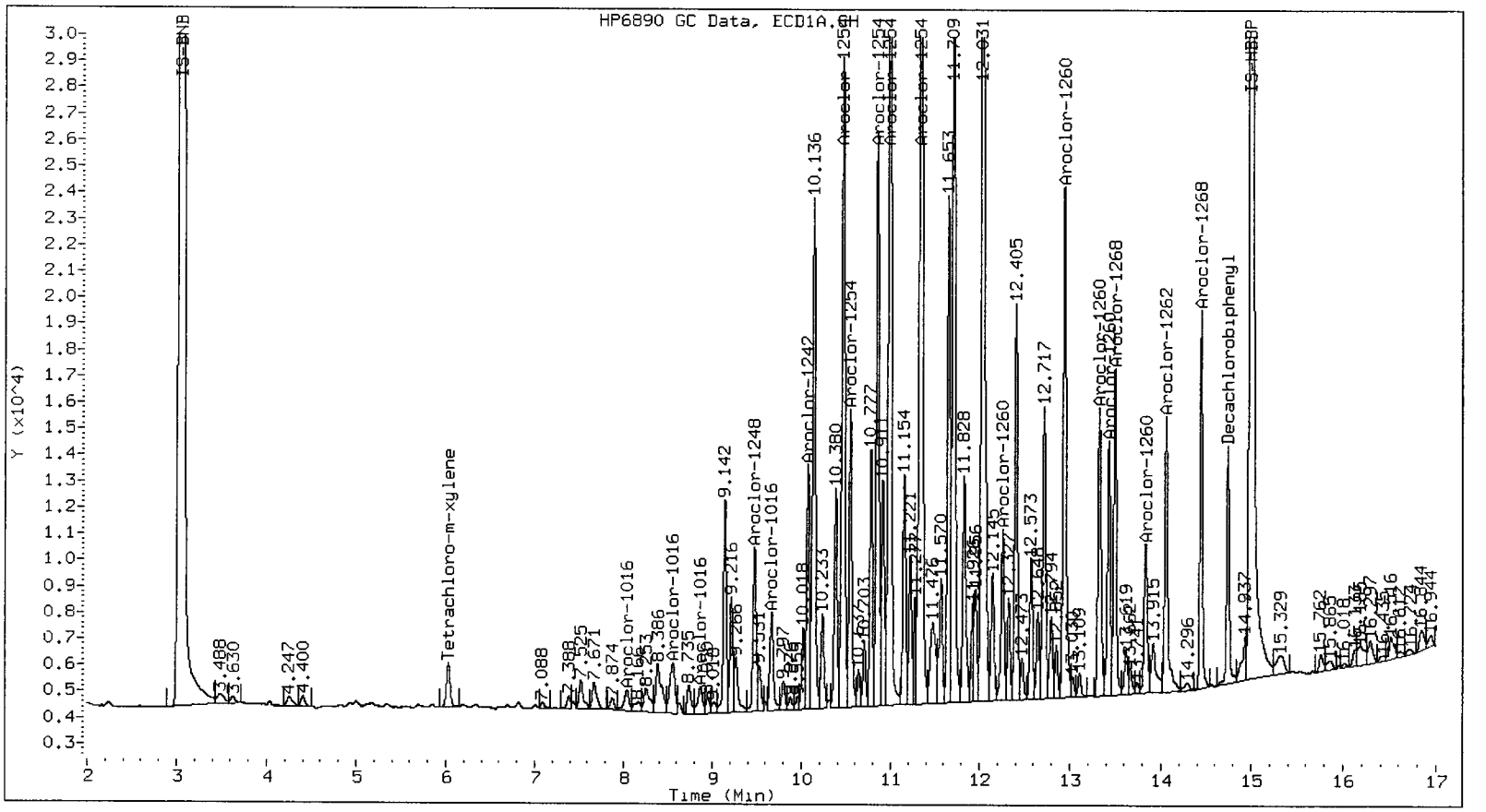


ECD7-ZB35 AVZ9N 26-FEB-2016 11:25, 2ul



AVZ9 : 86456

ECD7-ZB5 AVZ9N 26-FEB-2016 11:25, 2ul



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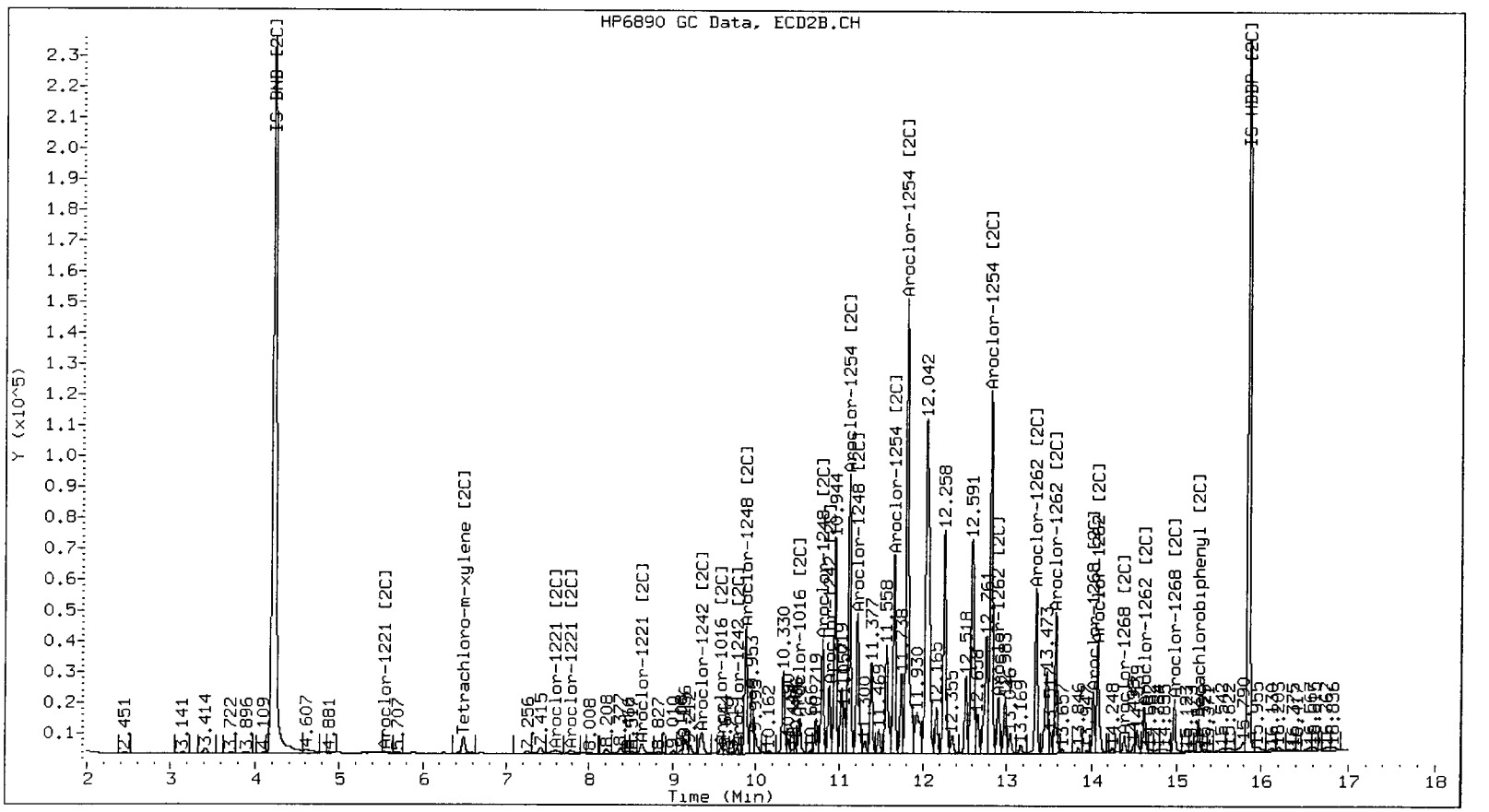


AVZ9:00456

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160226.b/02261607.D
Data file 2: /20160226.b/20160226.b/02261607.D
Method: \\target\share\chem4\ecd7.i\20160226.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248
Client ID:
Injection Date: 26-FEB-2016 11:47
Report Date: 02/29/2016 08:24
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
6.026	-0.003	2224102	6.483	-0.003	7134948	41.1	41.6	1.3	Tetrachloro-m-xyle
14.743	-0.000	6112008	15.260	0.001	5438706	40.7	34.8	15.7	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	102.7	104.0
Decachlorobiphenyl	101.7	86.9

02/29/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	9997665	-2.8
Hexabromobiphenyl	12470452	11255499	-9.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	14792964	-6.4
Hexabromobiphenyl	11807823	12227380	3.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

AVZ3:00457

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1248	1	8.555	0.000	456758	253.3	1	9.349	0.000	1761323	248.9
Aroclor-1248	2	9.478	0.000	346527	258.1	2	9.882	0.000	1306179	250.5
Aroclor-1248	3	9.671	0.000	523173	259.6	3	10.797	0.000	1964790	246.6
Aroclor-1248	4	10.072	0.000	426748	254.6	4	11.243	0.000	1972851	247.9

Total Col1Ave (4 peaks): 256.4 Total Col2Ave (4 peaks): 248.5 RPD = 3

Corrected Ave (3 peaks): 255.3 Corrected Ave (3 peaks): 247.8 RPD = 3

CalAmt %D: 2.6 CalAmt %D: -0.6

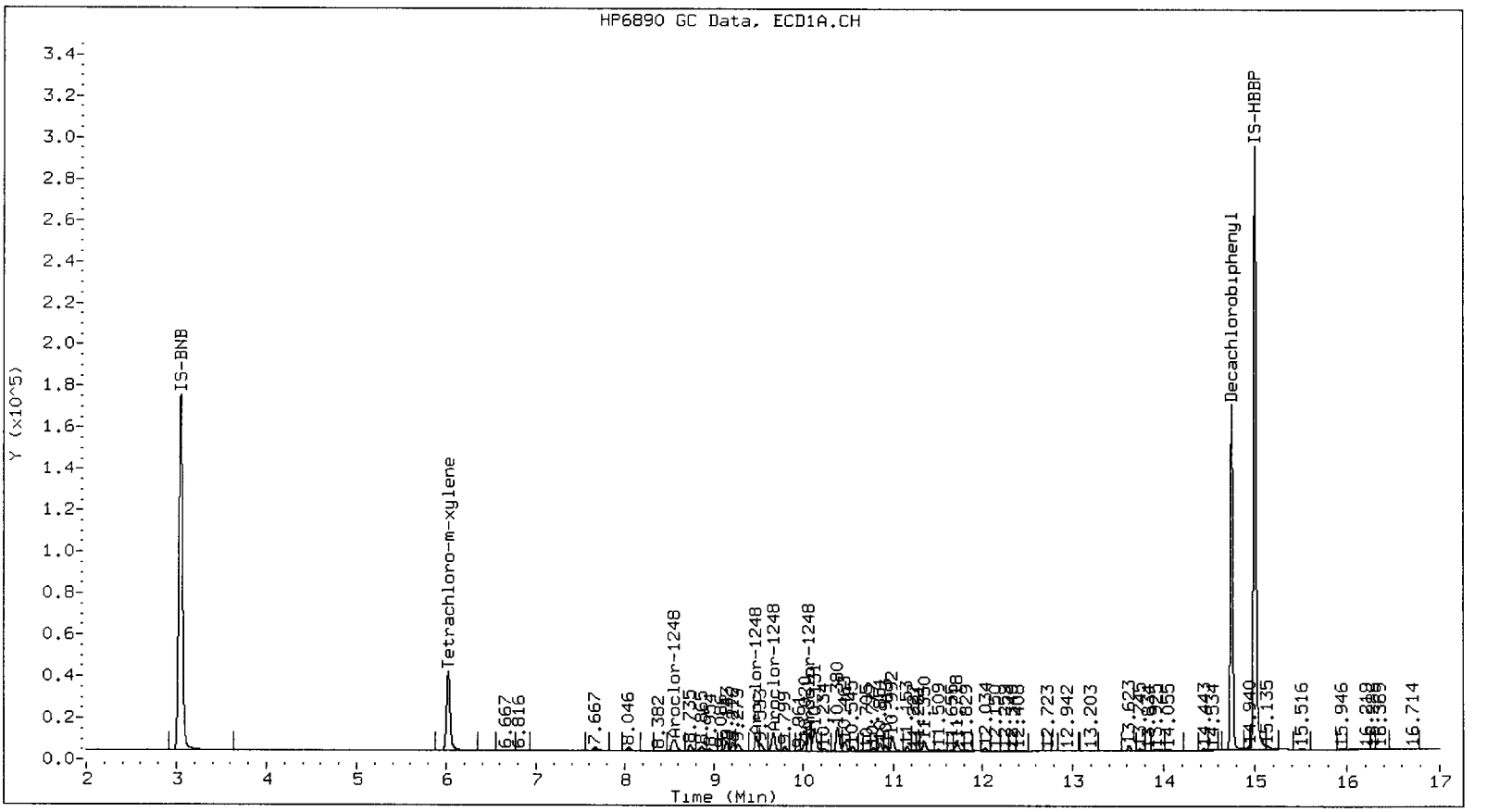
Total PCB Area Col1 (6.129 - 14.643) = 7890490 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.129 - 14.643) = 31773657 Col2 Total PCB = 0.3 ppm*

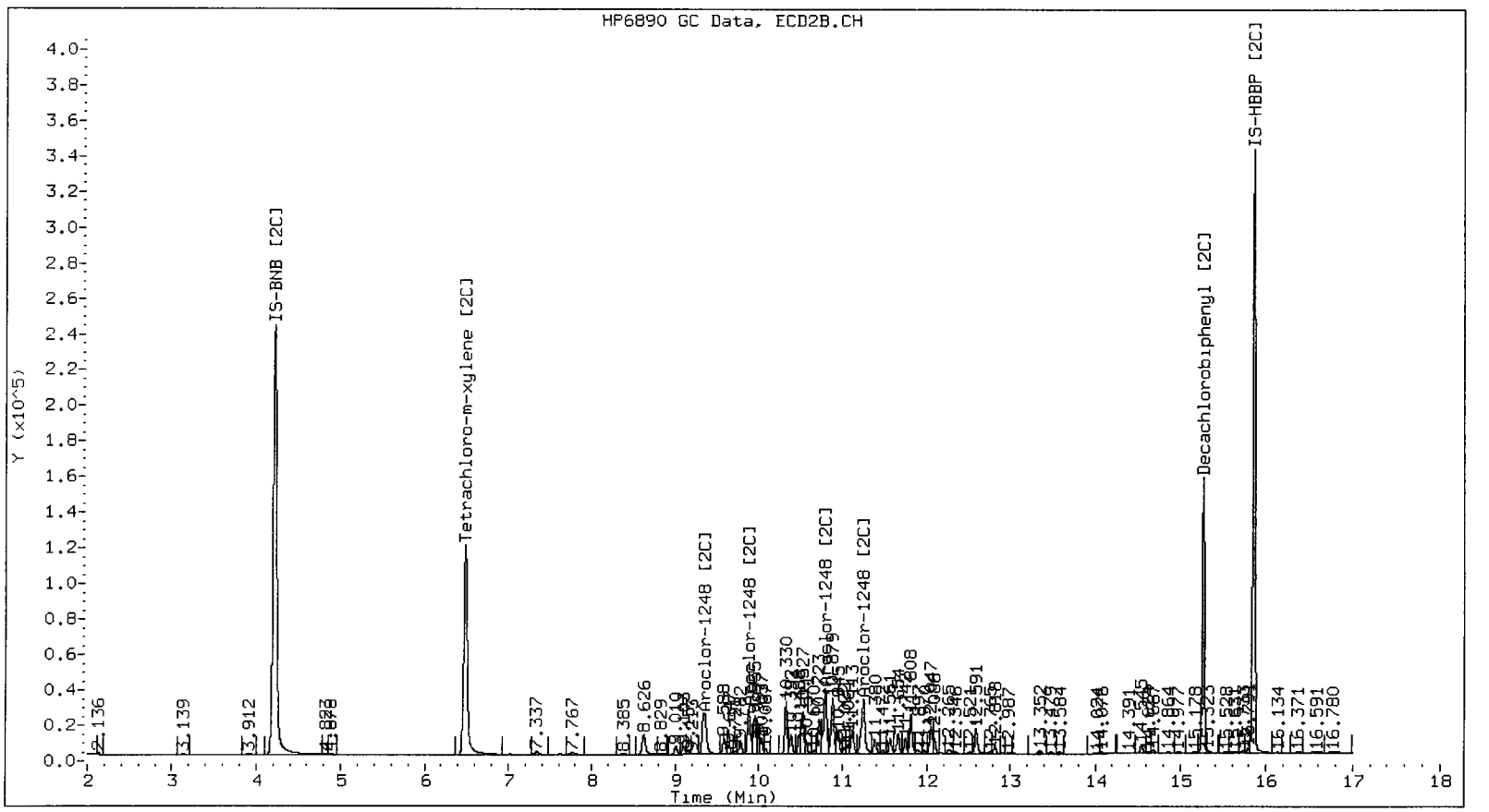
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AR1248 26-FEB-2016 11:47, 2ul

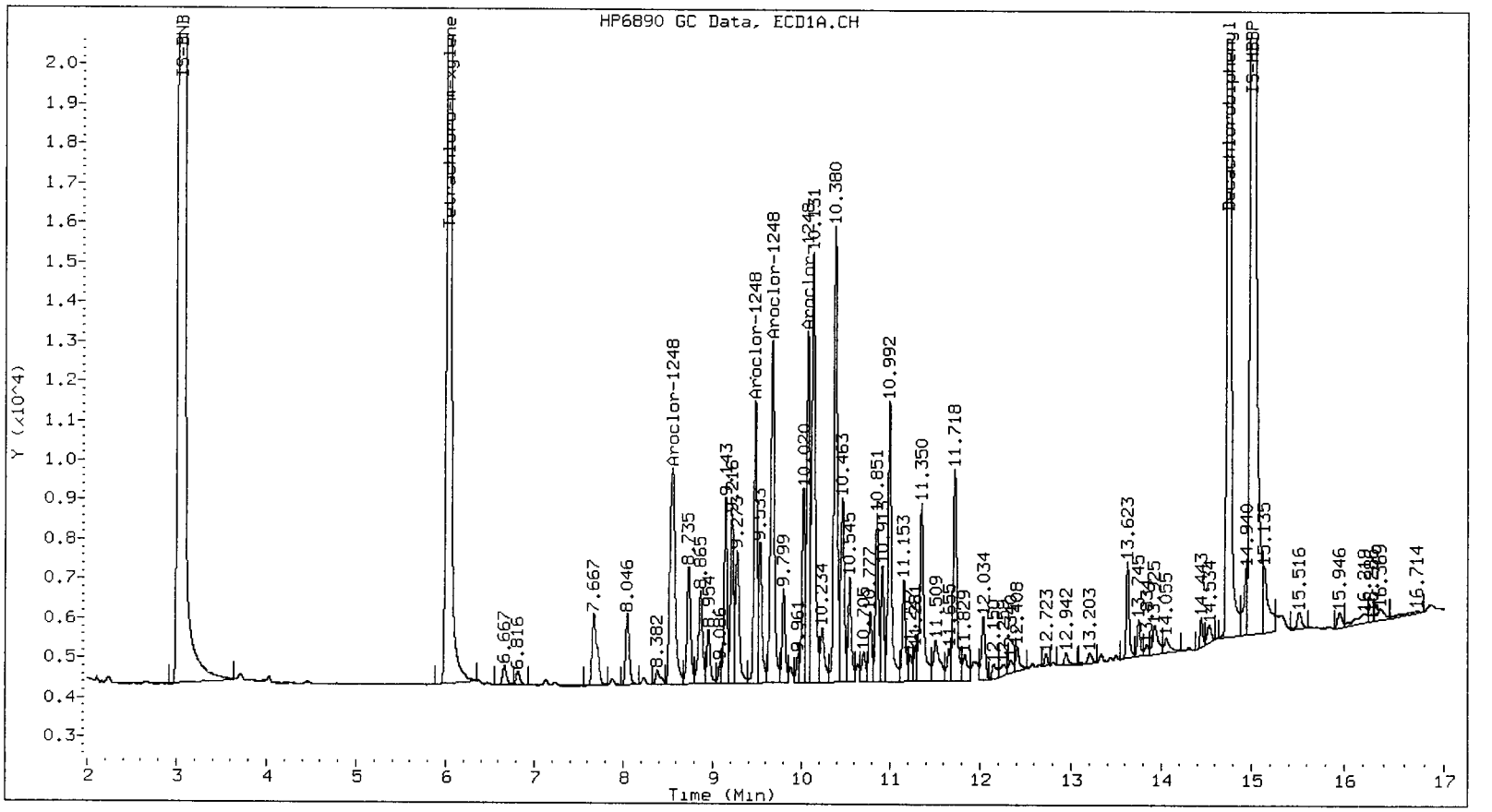


ECD7-ZB35 AR1248 26-FEB-2016 11:47, 2ul

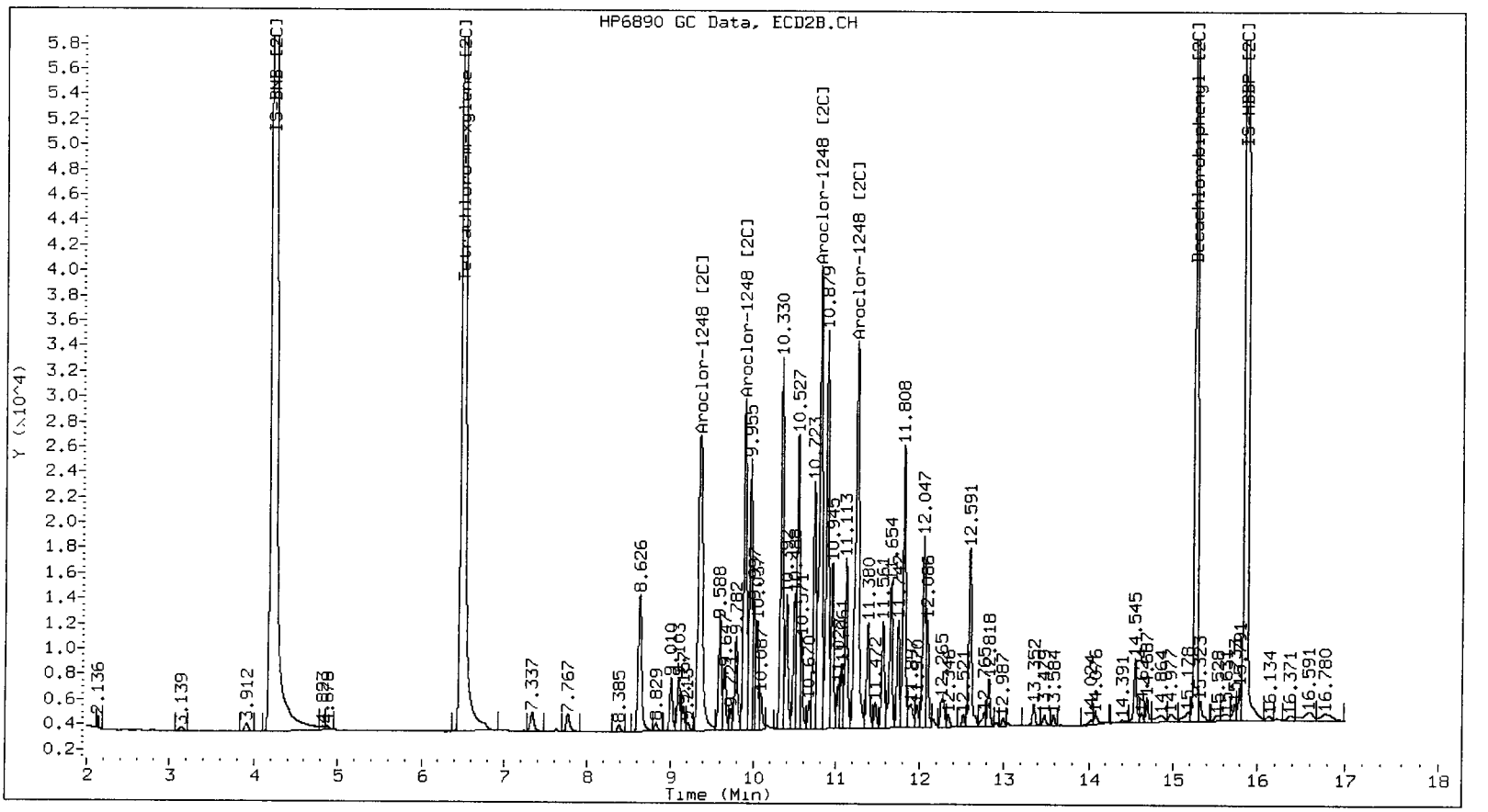


AVZ9:69450

ECD7-ZB5 AR1248 26-FEB-2016 11:47, 2ul



ECD7-ZB35 AR1248 26-FEB-2016 11:47, 2ul



AVZS:00466

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160226.b/02261608.D
Data file 2: /20160226.b/20160226.b/02261608.D
Method: \\target\share\chem4\ecd7.i\20160226.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660
Client ID:
Injection Date: 26-FEB-2016 12:09
Report Date: 02/29/2016 08:24
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
6.028	-0.001	2550769	6.486	-0.000	8149205	40.1	41.2	2.8	Tetrachloro-m-xyle
14.743	0.000	7826072	15.261	0.001	6857940	43.5	36.6	17.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

A 02/29/16

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	100.2	103.0
Decachlorobiphenyl	108.8	91.4

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	11754199	14.2
Hexabromobiphenyl	12470452	13474230	8.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	17061448	8.0
Hexabromobiphenyl	11807823	14664981	24.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.049	-0.000	371689	247.0	1	8.630	-0.000	2127525	250.2
Aroclor-1016	2	8.558	-0.001	1140759	245.9	2	9.355	0.000	4328649	247.3
Aroclor-1016	3	8.866	0.000	412506	260.5	3	9.588	-0.000	1838146	263.1
Aroclor-1016	4	9.672	-0.000	448557	254.0	4	10.527	0.000	836196	257.7

Total Col1Ave (4 peaks): 251.9 Total Col2Ave (4 peaks): 254.6 RPD = 1
Corrected Ave (3 peaks): 249.0 Corrected Ave (3 peaks): 251.7 RPD = 1

CalAmt %D: 0.7 CalAmt %D: 1.8

Aroclor-1260	1	12.260	0.001	839751	256.6	1	12.817	0.001	2809808	207.8
Aroclor-1260	2	12.941	0.000	3105202	249.3	2	13.581	0.001	5313630	202.6
Aroclor-1260	3	13.329	0.001	1415107	264.6	3	14.076	0.001	3625307	209.3
Aroclor-1260	4	13.430	-0.000	888705	267.5	4	14.625	0.001	1541012	232.1
Aroclor-1260	5	13.843	0.000	505039	260.2	NS	---			----

Total Col1Ave (5 peaks): 259.6 Total Col2Ave (4 peaks): 213.0 RPD = 20
Corrected Ave (4 peaks): 257.7 Corrected Ave (3 peaks): 206.6 RPD = 22

CalAmt %D: 3.9 CalAmt %D: -14.8

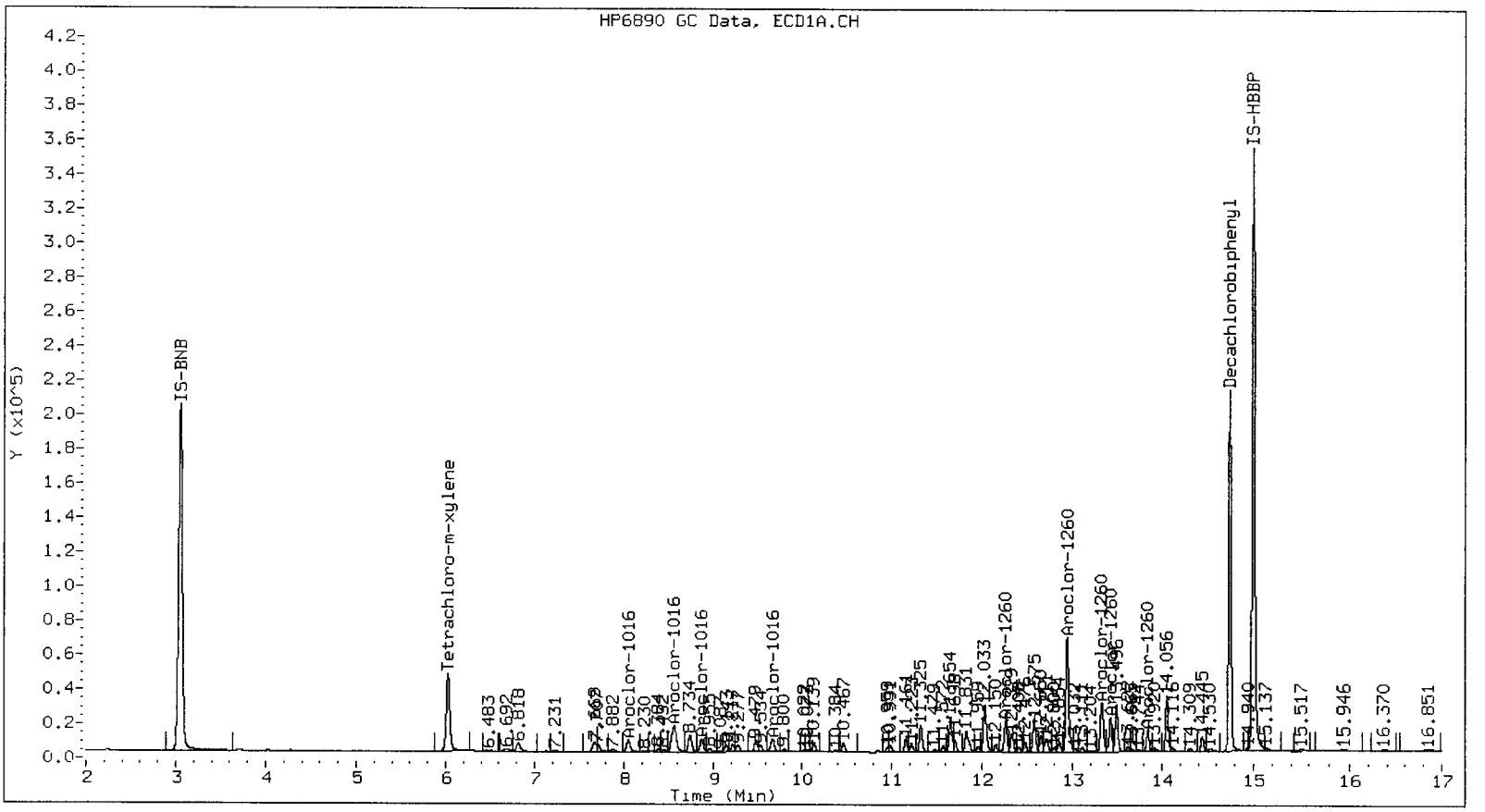
Total PCB Area Col1 (6.129 - 14.643) = 24421235 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.129 - 14.643) = 72641788 Col2 Total PCB = 0.5 ppm*

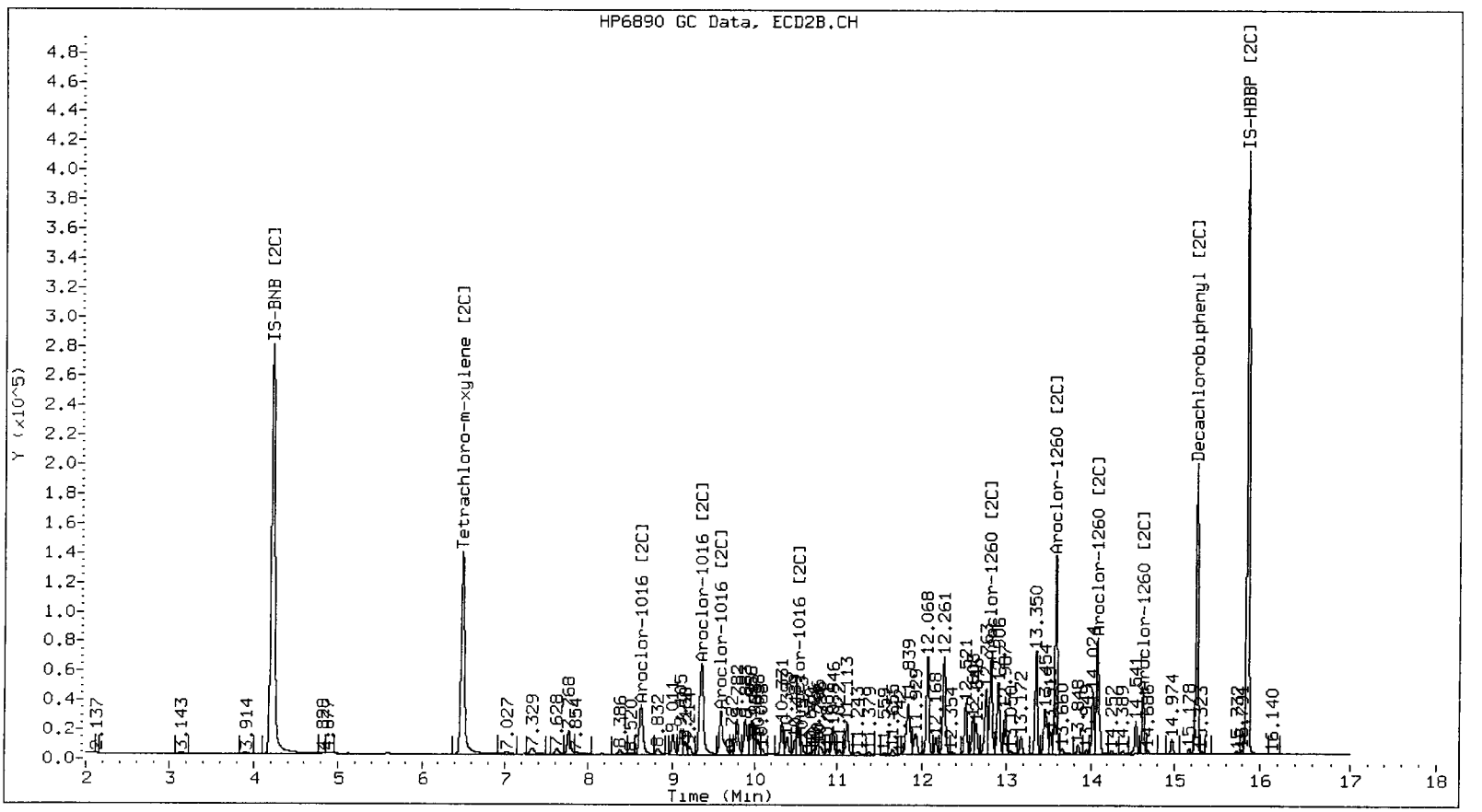
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AR1660 26-FEB-2016 12:09, 2ul

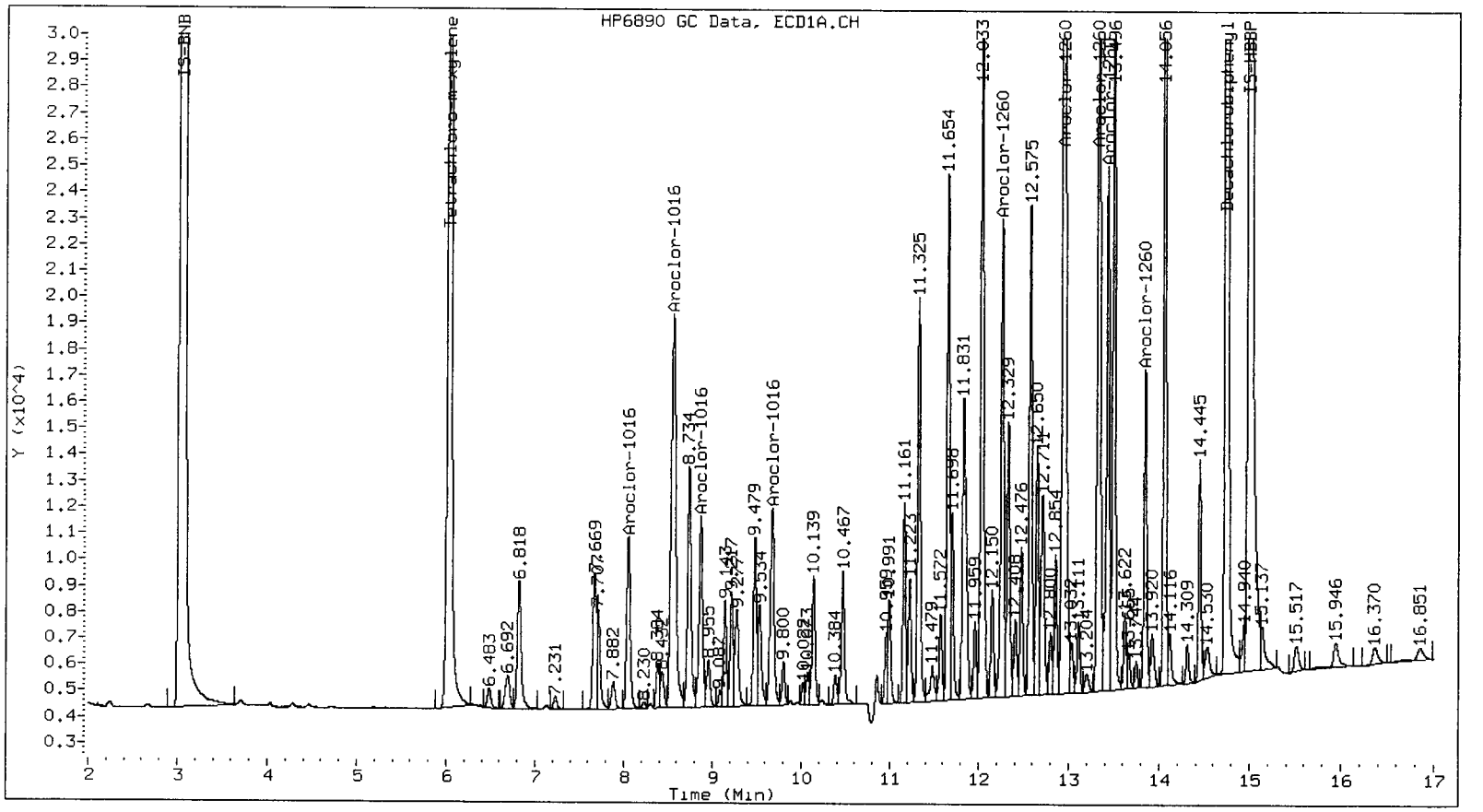


ECD7-ZB35 AR1660 26-FEB-2016 12:09, 2ul

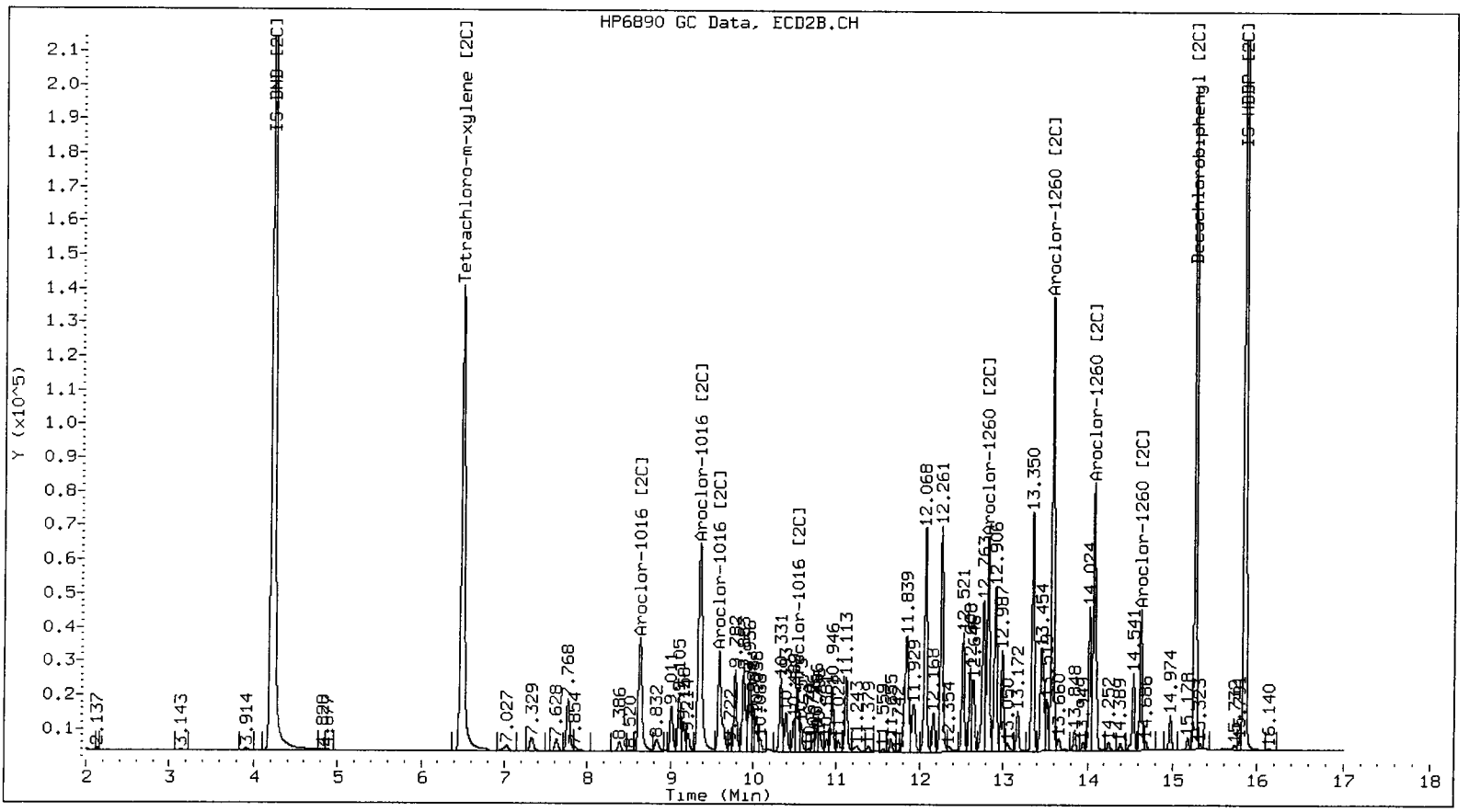


AV29 : 88469

ECD7-ZB5 AR1660 26-FEB-2016 12:09, 2ul



ECD7-ZB35 AR1660 26-FEB-2016 12:09, 2ul



AVZ0:08464

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241615.D
Data file 2: /20160224.b/20160224.b/02241615.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9A
Client ID: JF-PDS-6-0-1ft-1602
Injection Date: 24-FEB-2016 20:19
Report Date: 02/26/2016 09:00
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
6.024	-0.001	2027195	6.482	0.001	6200723	33.0	34.2	3.4	Tetrachloro-m-xyle
14.742	-0.001	7418253	15.260	-0.000	6453798	44.8	36.8	19.4	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	82.6	85.4
Decachlorobiphenyl	111.9	92.1

JL 02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	11326062	10.1
Hexabromobiphenyl	12470452	12416922	-0.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15654202	-1.0
Hexabromobiphenyl	11807823	13690558	15.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.036	-0.012	140954	97.2	1	8.629	0.001	402029	51.5
Aroclor-1016	2	8.555	-0.002	320340	71.7	2	9.353	-0.000	905354	56.4
Aroclor-1016	3	8.865	-0.000	135068	88.5	3	9.585	-0.001	256986	40.1
Aroclor-1016	4	9.669	-0.002	206670	121.4	4	10.525	-0.001	427436	143.6
Total Col1Ave (4 peaks):				94.7		Total Col2Ave (4 peaks):			72.9	RPD = 26
Corrected Ave (3 peaks):				85.8		Corrected Ave (3 peaks):			49.3	RPD = 54*
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.669	-0.022	45791	79.5	2	7.587	-0.037	269622	198.5
Aroclor-1221	3	6.816	0.001	40317	23.4	3	7.765	0.001	163029	37.9
Aroclor-1221	NS	---			----	4	8.629	-0.015	402029	282.3
Col1Ave: <3 Quant Peaks						Col2Ave: 172.9				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.669	-0.022	45791	118.3	2	7.587	-0.036	269622	325.6
Aroclor-1232	3	6.816	0.001	40317	35.4	3	7.765	-0.087	163029	349.1
Aroclor-1232	4	8.555	0.000	320340	171.8	4	8.629	0.001	402029	110.7
Total Col1Ave (3 peaks):				108.5		Total Col2Ave (3 peaks):			261.8	RPD = 83*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.555	-0.001	320340	92.0	1	8.629	0.001	402029	66.3
Aroclor-1242	2	8.865	0.001	135068	105.7	2	9.353	-0.000	905354	72.1
Aroclor-1242	3	9.669	-0.002	206670	127.9	3	9.779	-0.002	171732	53.0
Aroclor-1242	4	10.070	-0.002	197749	169.3	4	10.877	-0.002	590357	135.3
Total Col1Ave (4 peaks):				123.7		Total Col2Ave (4 peaks):			81.7	RPD = 41*
Corrected Ave (3 peaks):				108.5		Corrected Ave (3 peaks):			63.8	RPD = 52*
Aroclor-1248	1	8.555	0.002	320340	156.8	1	9.353	0.003	905354	120.9
Aroclor-1248	2	9.477	-0.000	169096	111.2	2	9.881	-0.001	589991	106.9
Aroclor-1248	3	9.669	-0.001	206670	90.5	3	10.795	-0.002	753190	89.3
Aroclor-1248	4	10.070	-0.001	197749	104.1	4	11.235	-0.007	868298	103.1
Total Col1Ave (4 peaks):				115.7		Total Col2Ave (4 peaks):			105.1	RPD = 10
Corrected Ave (3 peaks):				101.9		Corrected Ave (3 peaks):			99.8	RPD = 2
Aroclor-1254	1	10.464	0.000	306178	122.1	1	11.112	-0.001	873309	111.0
Aroclor-1254	2	10.544	-0.000	159880	191.3	2	11.235	0.024	868298	235.5
Aroclor-1254	3	10.850	0.000	226895	110.7	3	11.652	-0.002	519819	88.0
Aroclor-1254	4	10.989	-0.001	482074	119.9	4	11.805	-0.003	1523111	113.0
Aroclor-1254	5	11.342	-0.003	456944	116.0	5	12.816	-0.001	1043254	105.1
Total Col1Ave (5 peaks):				132.0		Total Col2Ave (5 peaks):			130.5	RPD = 1
Corrected Ave (4 peaks):				117.2		Corrected Ave (4 peaks):			104.3	RPD = 12
Aroclor-1260	1	12.261	0.001	110821	36.7	1	12.816	-0.001	1043254	82.6
Aroclor-1260	2	12.940	-0.001	258369	22.5	2	13.581	-0.001	506281	20.7
Aroclor-1260	3	13.325	-0.003	152682	31.0	3	14.074	-0.001	375364	23.2
Aroclor-1260	4	13.429	-0.001	85246	27.8	4	14.624	-0.001	142686	23.0
Aroclor-1260	5	13.840	-0.003	42939	24.0	NS	---			----
Total Col1Ave (5 peaks):				28.4		Total Col2Ave (4 peaks):			37.4	RPD = 27
Corrected Ave (4 peaks):				26.3		Corrected Ave (3 peaks):			22.3	RPD = 17
Aroclor-1262	1	12.261	0.001	110821	27.6	1	12.905	-0.000	224390	16.1
Aroclor-1262	2	12.940	-0.001	258369	21.9	2	13.349	0.000	475302	36.9
Aroclor-1262	3	13.325	-0.005	152682	40.9	3	13.581	-0.000	506281	19.3
Aroclor-1262	4	13.429	-0.001	85246	15.2	4	14.074	-0.001	375364	22.0
Aroclor-1262	5	14.054	-0.001	115015	18.2	5	14.624	-0.001	142686	16.3
Total Col1Ave (5 peaks):				24.8		Total Col2Ave (5 peaks):			22.1	RPD = 11
Corrected Ave (4 peaks):				20.7		Corrected Ave (4 peaks):			18.4	RPD = 12
Aroclor-1268	1	13.429	-0.001	85246	5.2	1	14.022	0.001	177735	6.5
Aroclor-1268	2	13.494	-0.000	105044	5.2	2	14.074	-0.002	375364	14.7
Aroclor-1268	3	13.840	0.012	42939	2.3	3	14.388	0.000	19048	0.9
Aroclor-1268	4	14.444	-0.002	45162	0.7	4	14.973	-0.001	92522	1.6

Total Col1Ave (4 peaks):	3.3	Total Col2Ave (4 peaks):	5.9	RPD = 56*
Corrected Ave (3 peaks):	2.7	Corrected Ave (3 peaks):	3.0	RPD = 10

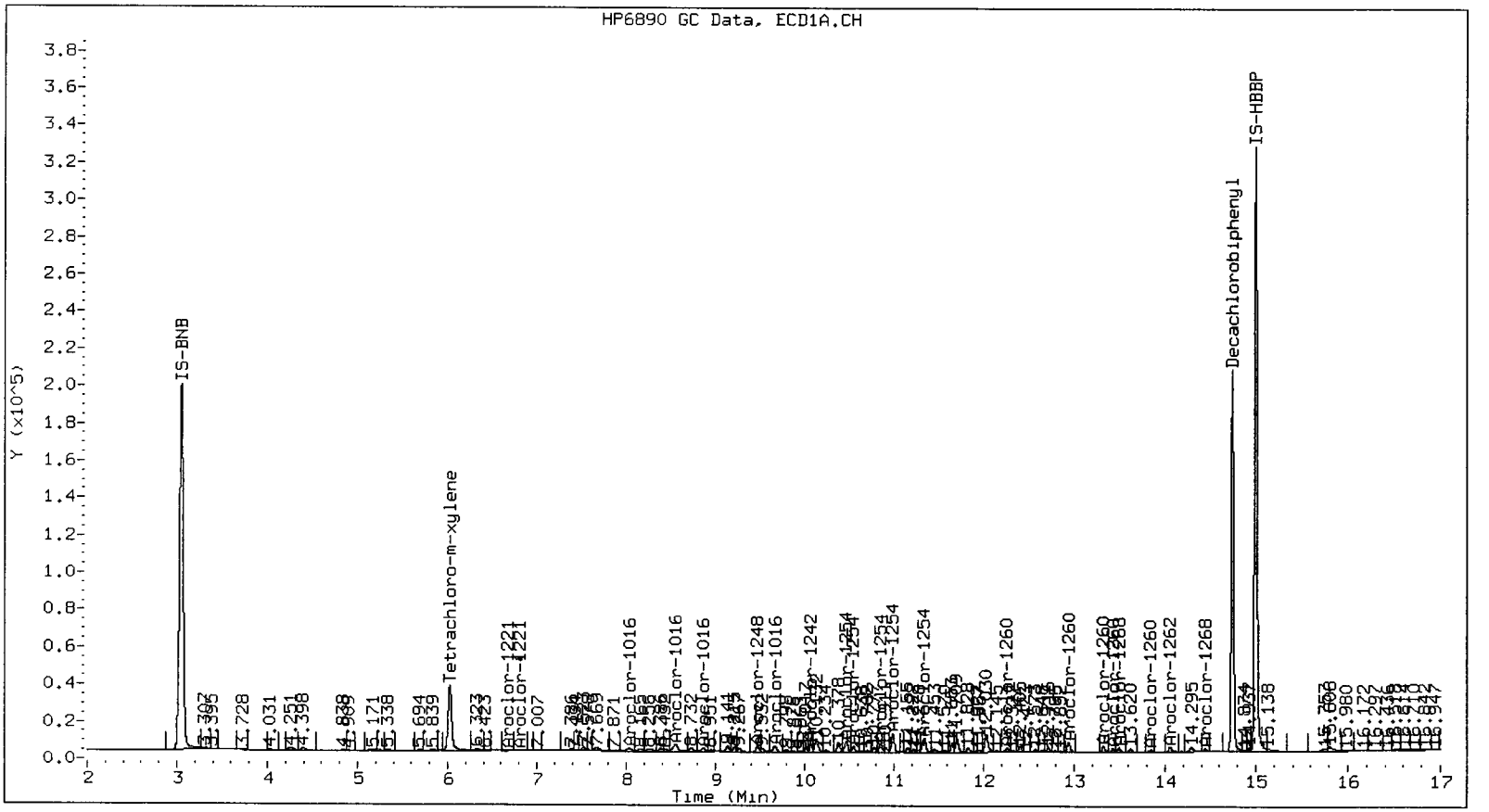
Total PCB Area Col1 (6.126 - 14.643) = 9071845 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.126 - 14.643) = 29105449 Col2 Total PCB = 0.2 ppm*

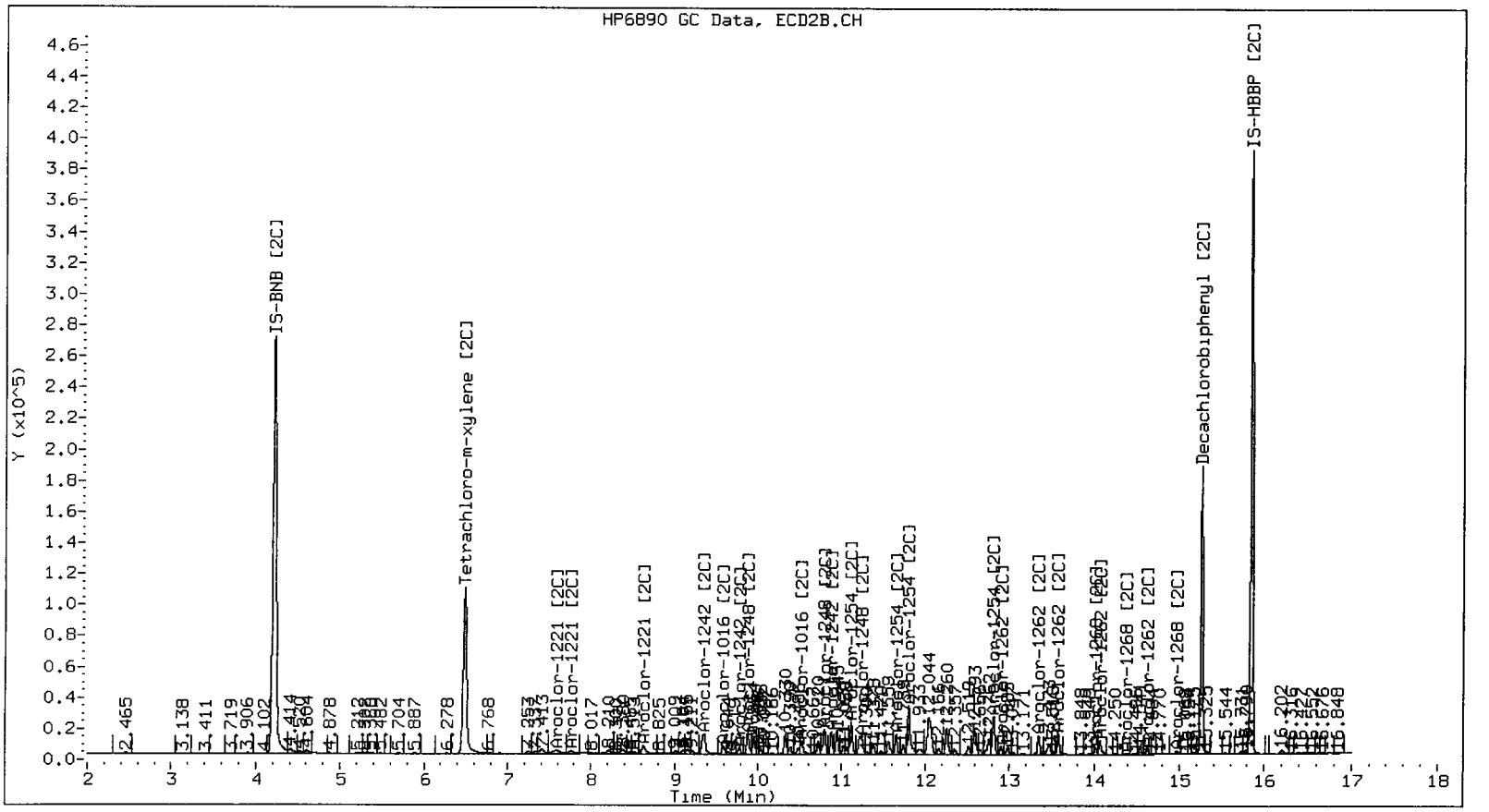
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9A 24-FEB-2016 20:19, 2ul

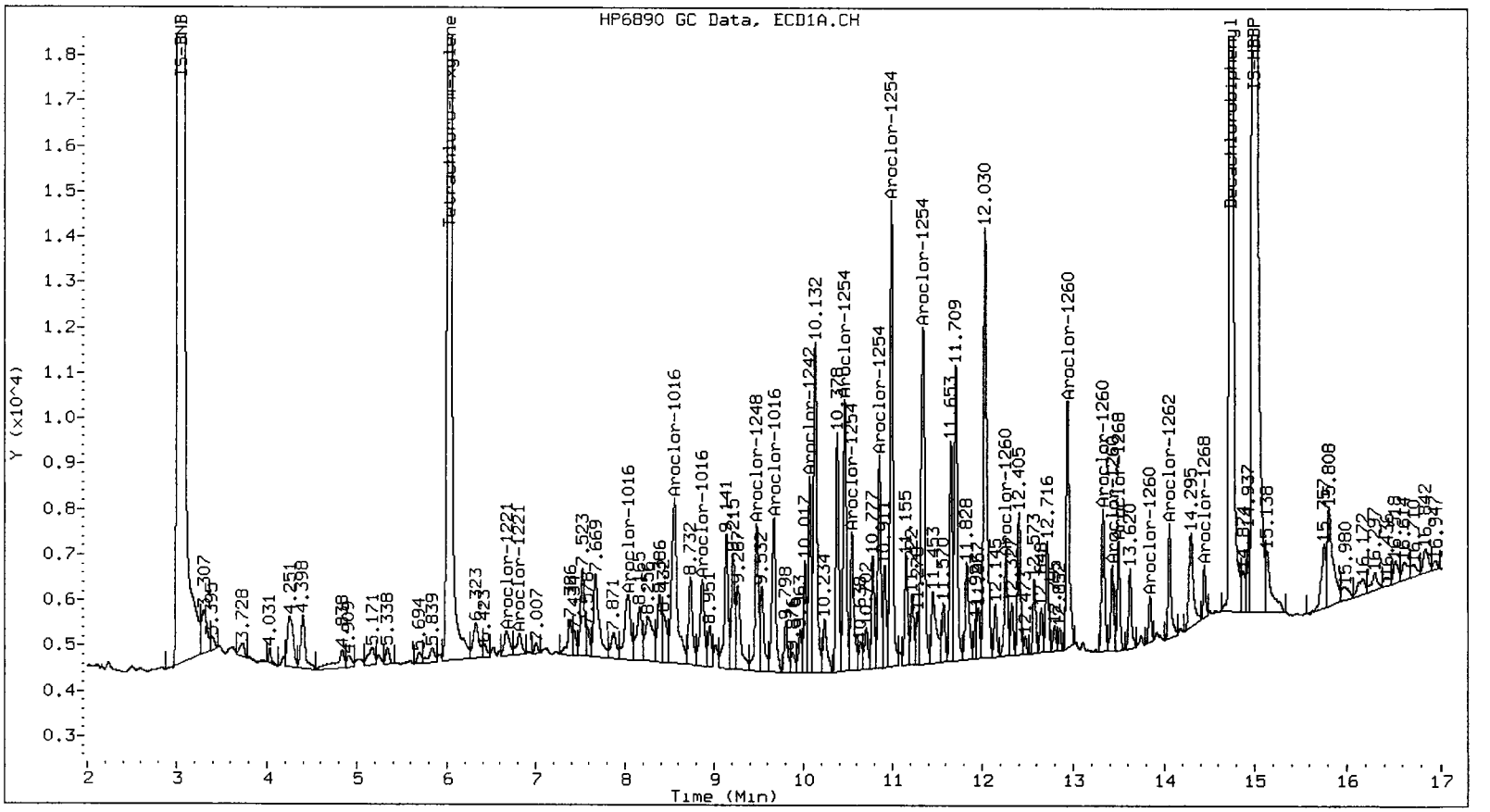


ECD7-ZB35 AVZ9A 24-FEB-2016 20:19, 2ul



AVZ9:66466

ECD7-ZB5 AVZ9A 24-FEB-2016 20:19, 2ul



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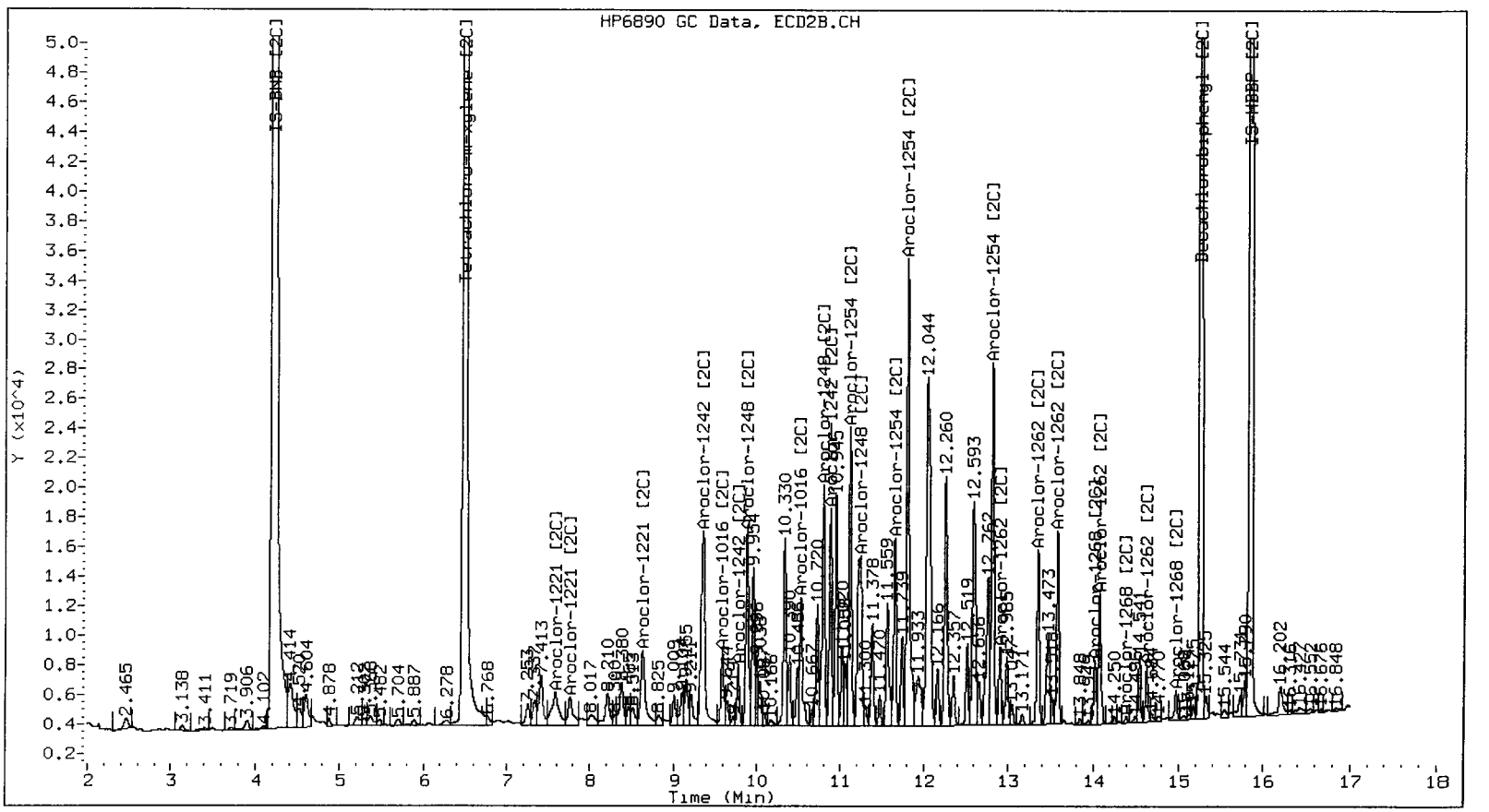


AVZ9.66453

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241616.D
Data file 2: /20160224.b/20160224.b/02241616.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9B
Client ID: JF-PDS-6-1-2ft-1602
Injection Date: 24-FEB-2016 20:40
Report Date: 02/26/2016 09:46
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
6.023	-0.001	1732252	6.481	-0.000	5941417	27.4	33.5	20.1	Tetrachloro-m-xyle
14.742	-0.000	6780344	15.261	0.000	5987766	45.5	34.8	26.7	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	68.5	83.8
Decachlorobiphenyl	113.6	86.9

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	11667388	13.4
Hexabromobiphenyl	12470452	11175243	-10.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15287797	-3.3
Hexabromobiphenyl	11807823	13464972	14.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.014	-0.029	1475281	987.8	1	8.648	0.021	1534620	201.4
Aroclor-1016	2	8.554	-0.000	61036	13.3	2	9.347	-0.007	263312	16.8
Aroclor-1016	3	8.881	0.018	553217	351.9	3	9.646	0.059	184194	29.4
Aroclor-1016	4	---			0.0	4	10.525	-0.001	15966	5.5
Total Col1Ave (3 peaks): 451.0						Total Col2Ave (4 peaks): 63.3 RPD = 151*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 17.2				
Aroclor-1221	1	4.743	0.028	48878	132.4	1	---			0.0
Aroclor-1221	2	6.701	0.011	79392	133.8	2	7.580	-0.043	3304322	2491.5
Aroclor-1221	3	6.842	0.027	610064	344.3	3	7.753	-0.010	548826	130.8
Aroclor-1221	NS	---			----	4	8.648	0.005	1534620	1103.5
Total Col1Ave (3 peaks): 203.5						Total Col2Ave (3 peaks): 1241.9 RPD = 144*				
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.743	0.028	48878	233.5	1	---			0.0
Aroclor-1232	2	6.701	0.011	79392	199.2	2	7.580	-0.043	3304322	4086.4
Aroclor-1232	3	6.842	0.027	610064	519.3	3	7.753	-0.098	548826	1203.3
Aroclor-1232	4	8.554	-0.000	61036	31.8	4	8.648	0.021	1534620	432.9
Total Col1Ave (4 peaks): 245.9						Total Col2Ave (3 peaks): 1907.5 RPD = 154*				
Corrected Ave (3 peaks): 154.8						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.554	-0.002	61036	17.0	1	8.648	0.021	1534620	259.2
Aroclor-1242	2	8.881	0.017	553217	420.1	2	9.347	-0.007	263312	21.5
Aroclor-1242	3	---			0.0	3	9.878	0.096	73575	23.3
Aroclor-1242	4	---			0.0	4	10.877	-0.002	9725	2.3
Col1Ave: <3 Quant Peaks						Col2Ave: 76.6				
Aroclor-1248	1	8.554	0.001	61036	29.0	1	9.347	-0.003	263312	36.0
Aroclor-1248	2	9.493	0.016	897753	572.9	2	9.878	-0.004	73575	13.7
Aroclor-1248	3	---			0.0	3	10.795	-0.002	16833	2.0
Aroclor-1248	4	---			0.0	4	11.234	-0.008	12770	1.6
Col1Ave: <3 Quant Peaks						Col2Ave: 13.3				
Aroclor-1254	1	---			0.0	1	11.111	-0.002	23446	3.1
Aroclor-1254	2	---			0.0	2	11.212	0.001	13087	3.6
Aroclor-1254	3	---			0.0	3	11.651	-0.002	17012	2.9
Aroclor-1254	4	10.988	-0.002	19763	4.8	4	11.804	-0.003	36129	2.7
Aroclor-1254	5	11.341	-0.005	17303	4.3	5	12.814	-0.003	36641	3.8
Col1Ave: <3 Quant Peaks						Col2Ave: 3.2				
Aroclor-1260	1	---			0.0	1	12.814	-0.003	36641	3.0
Aroclor-1260	2	---			0.0	2	13.580	-0.001	13864	0.6
Aroclor-1260	3	---			0.0	3	14.073	-0.002	39295	2.5
Aroclor-1260	4	---			0.0	4	14.623	-0.002	21132	3.5
Aroclor-1260	5	---			0.0	NS	---			----
Col1Ave: <3 Quant Peaks						Col2Ave: 2.4				
Aroclor-1262	1	---			0.0	1	12.814	-0.091	36641	2.7
Aroclor-1262	2	---			0.0	2	13.349	-0.000	22369	1.8
Aroclor-1262	3	---			0.0	3	13.580	-0.001	13864	0.5
Aroclor-1262	4	---			0.0	4	14.073	-0.002	39295	2.3
Aroclor-1262	5	---			0.0	5	14.623	-0.002	21132	2.5
Col1Ave: <3 Quant Peaks						Col2Ave: 2.0				
Aroclor-1268	1	---			0.0	1	14.005	-0.016	44754	1.7
Aroclor-1268	2	---			0.0	2	14.073	-0.003	39295	1.6
Aroclor-1268	3	13.743	-0.084	12193	0.7	3	14.389	0.001	11904	0.6
Aroclor-1268	4	14.386	-0.060	21180	0.4	4	14.977	0.004	43722	0.8
Col1Ave: <3 Quant Peaks						Col2Ave: 1.1				

Total PCB Area Col1 (6.123 - 14.643) = 19684361 Col1 Total PCB = 0.4 ppm*

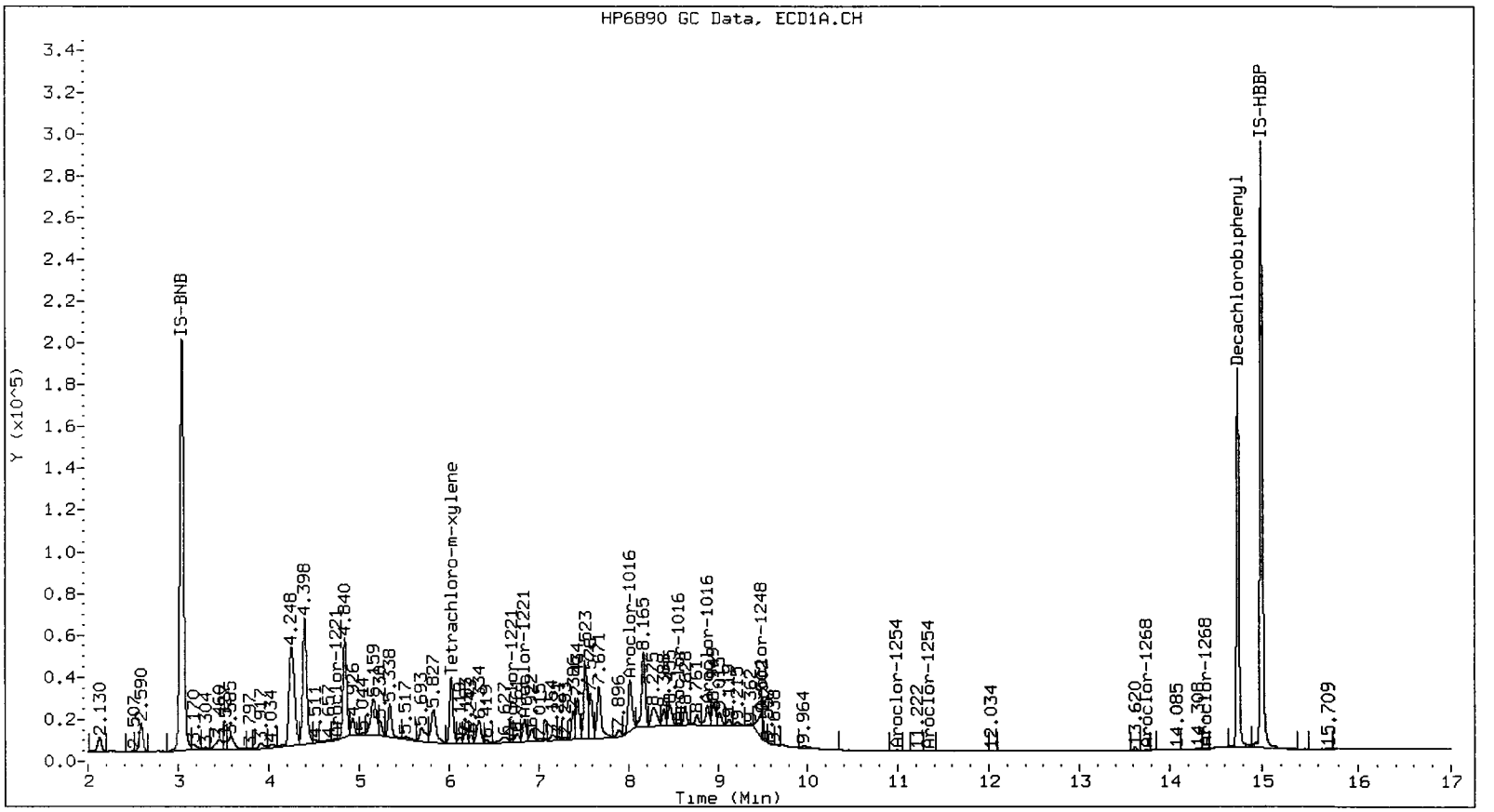
Total PCB Area Col2 (6.123 - 14.643) = 29657487 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

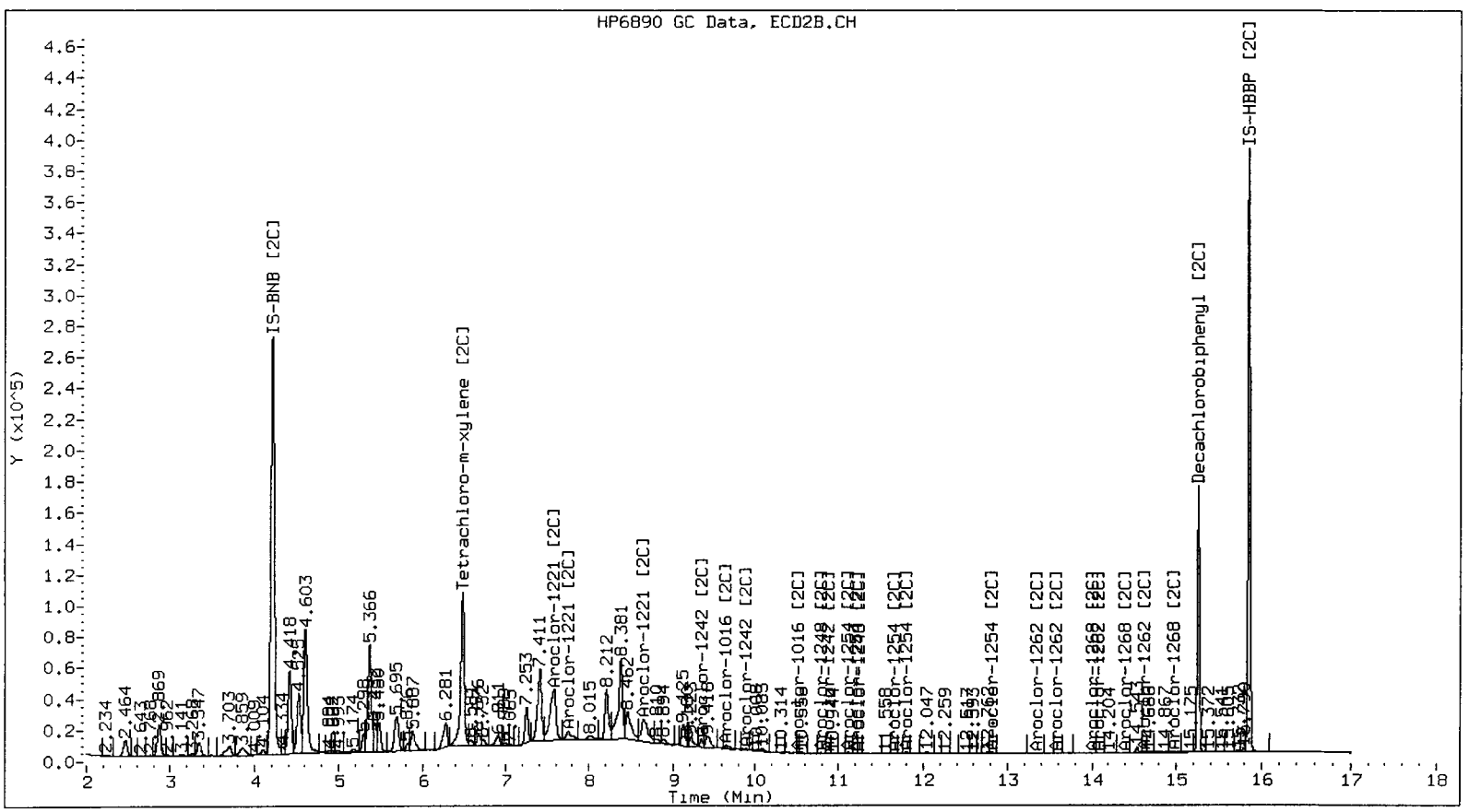
PCB-Form 10 Mod.

AVZ9:00472

ECD7-ZB5 AVZ9B 24-FEB-2016 20:40, 2ul

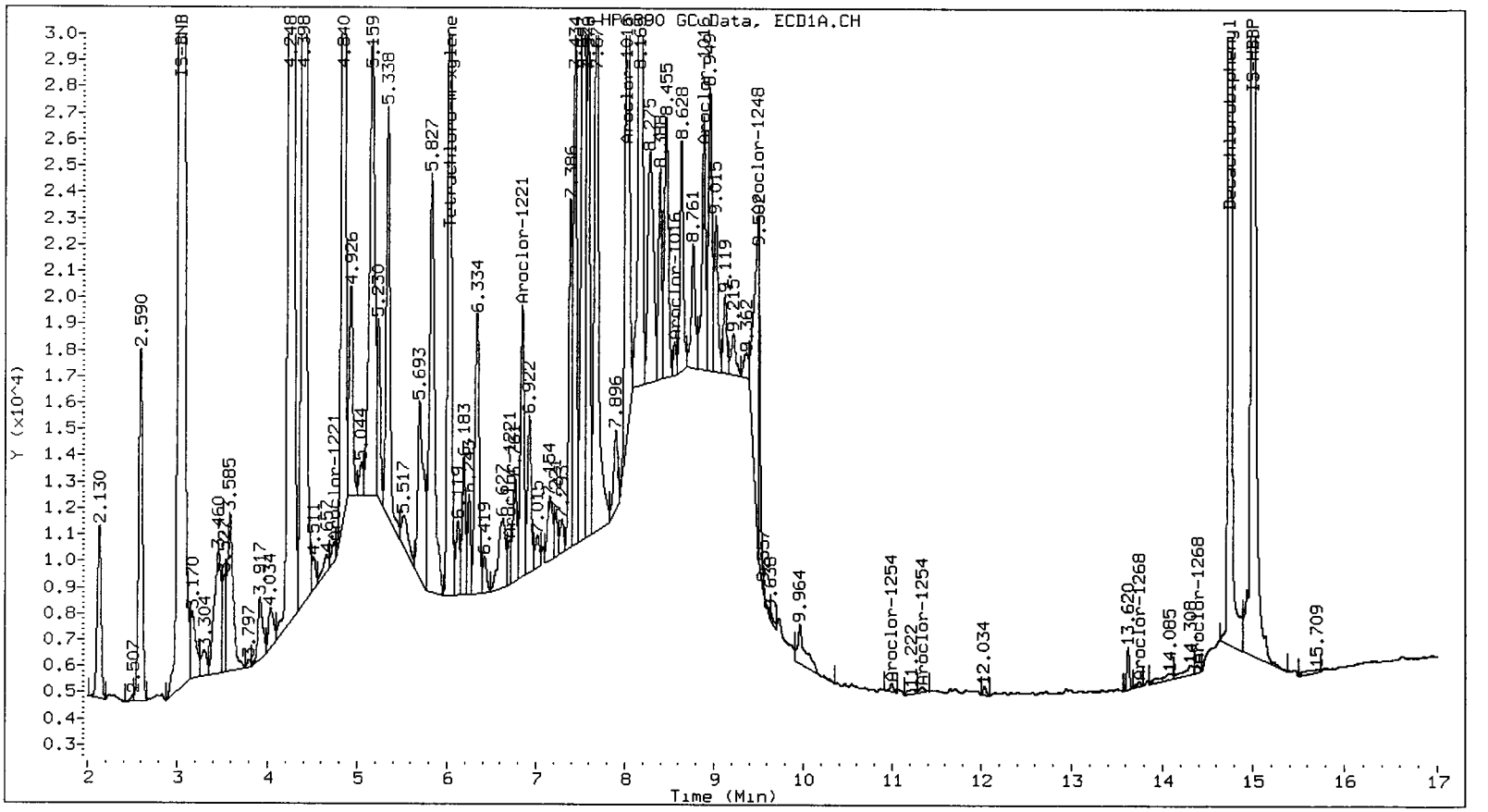


ECD7-ZB35 AVZ9B 24-FEB-2016 20:40, 2ul

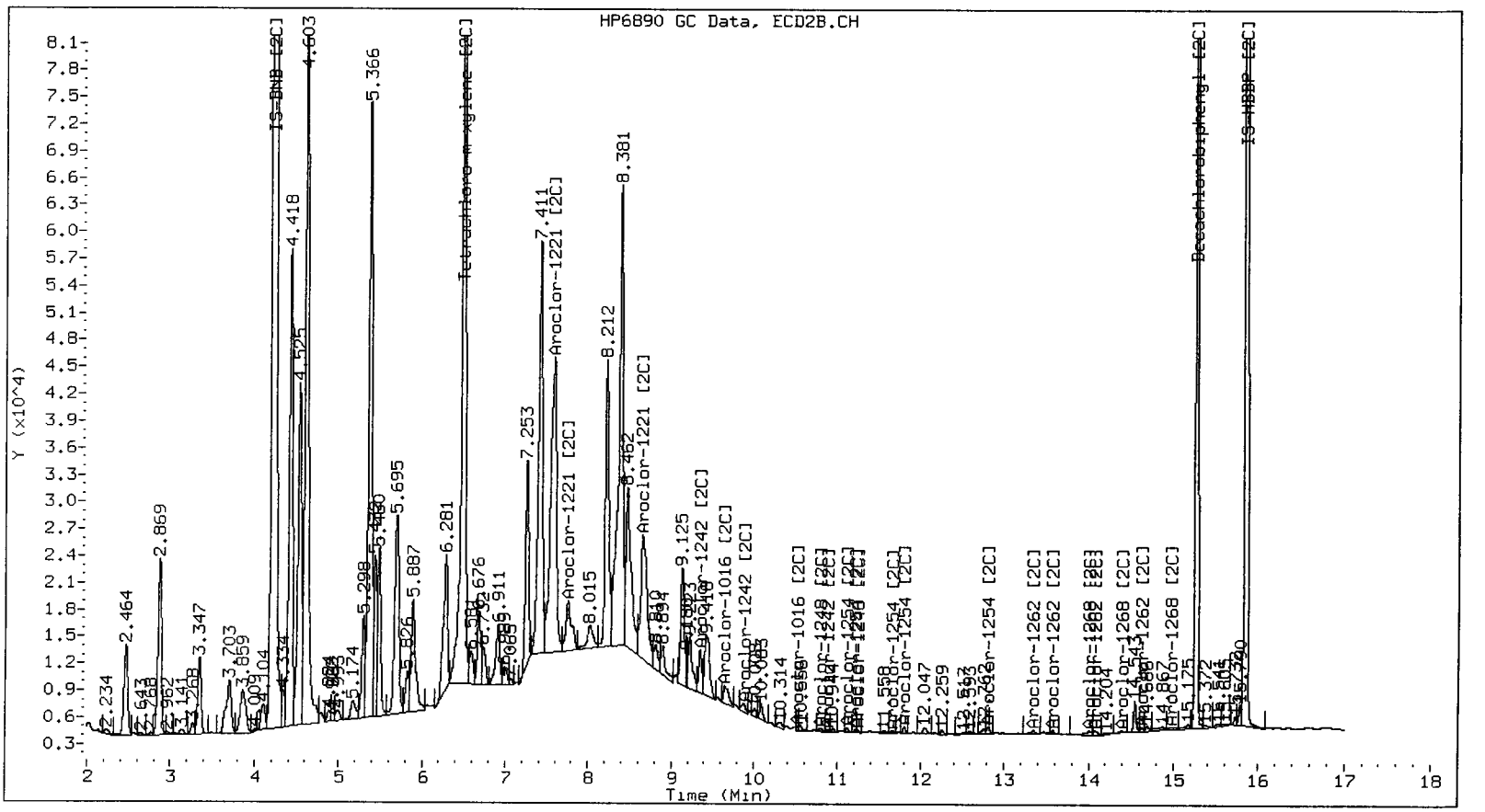


AVZ9 : 66473

ECD7-ZB5 AVZ9B 24-FEB-2016 20:40, 2ul

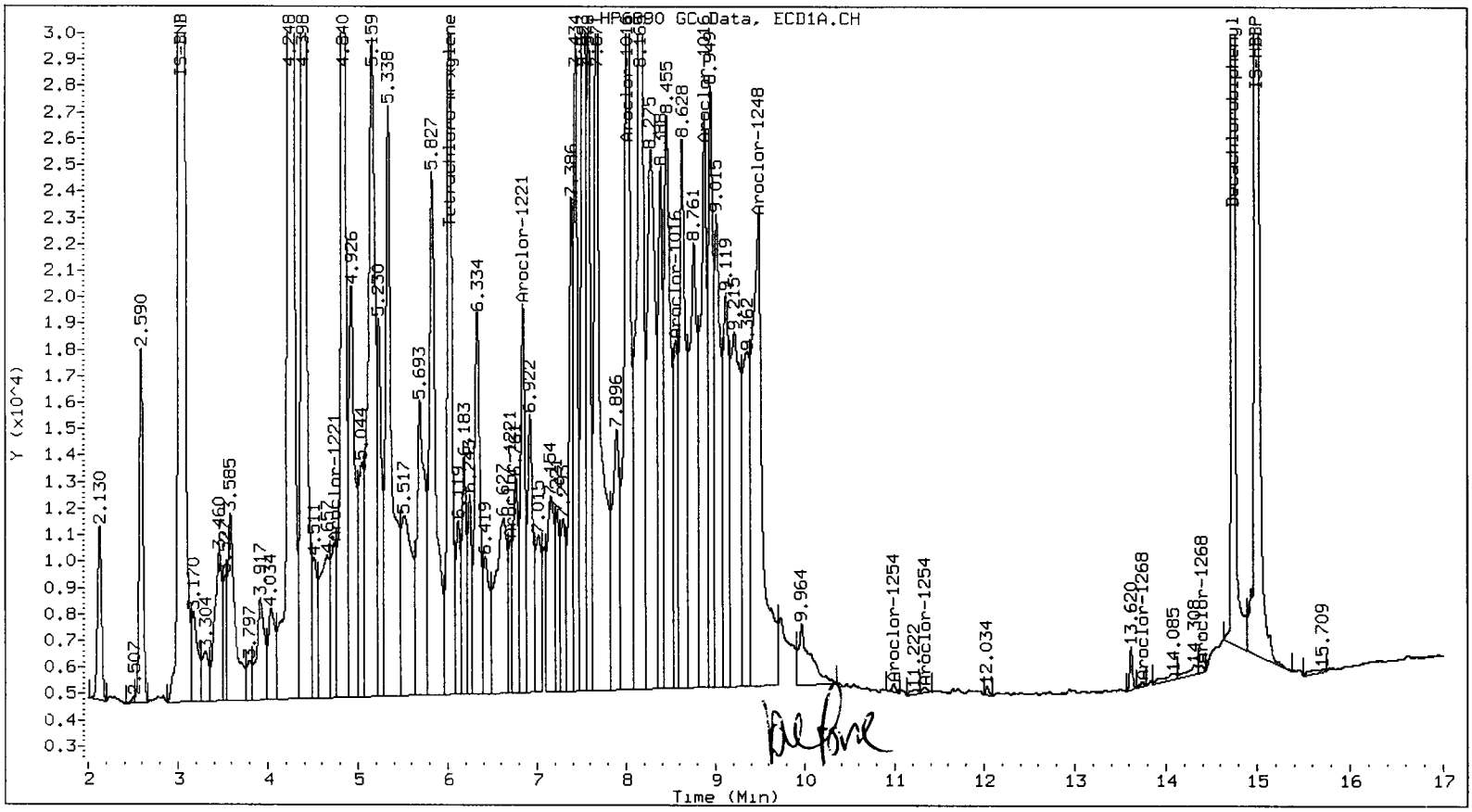


ECD7-ZB35 AVZ9B 24-FEB-2016 20:40, 2ul

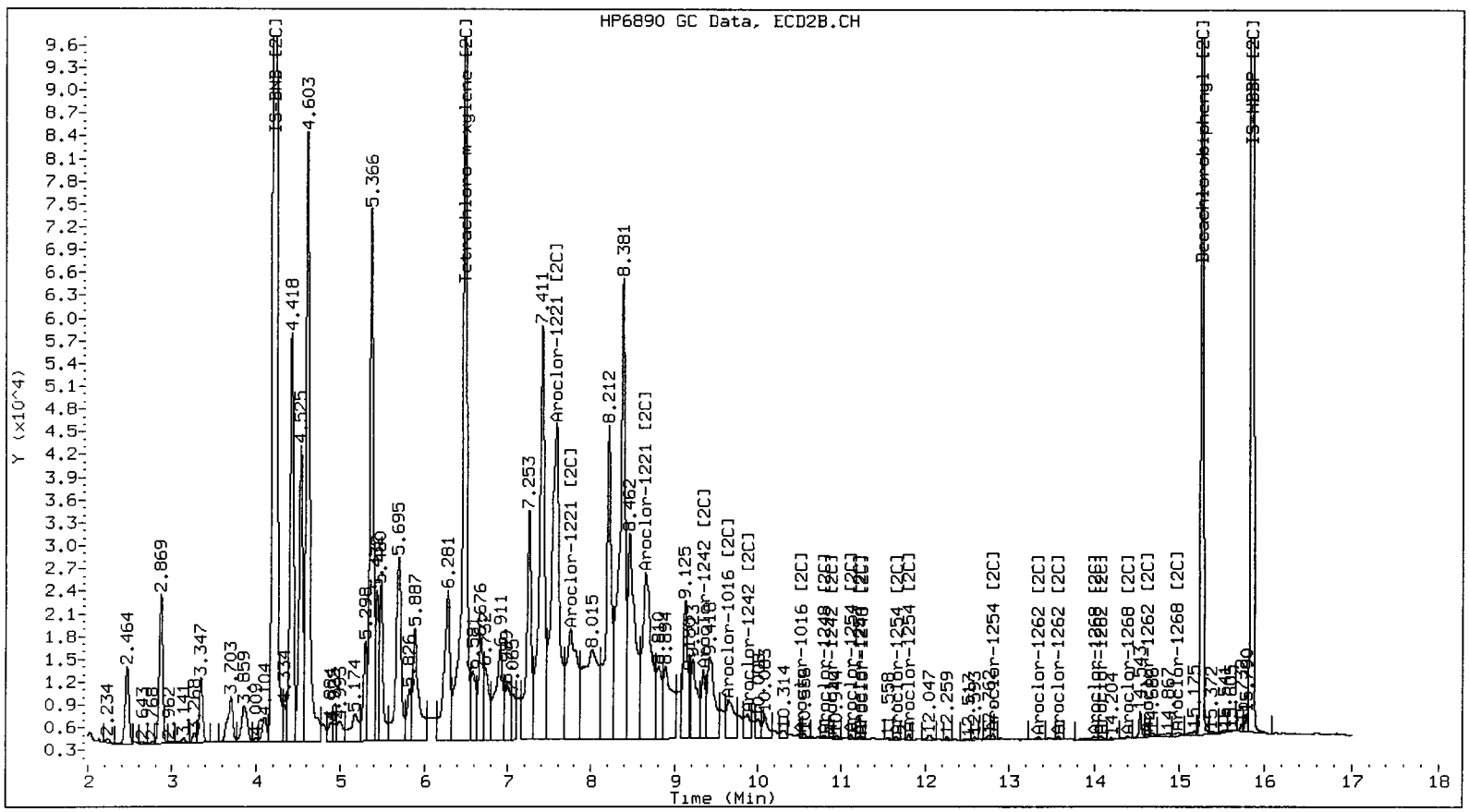


AVZ9 00474

ECD7-ZB5 AVZ9B 24-FEB-2016 20:40, 2ul



ECD7-ZB35 AVZ9B 24-FEB-2016 20:40, 2ul



AVZ9:66475

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241617.D
Data file 2: /20160224.b/20160224.b/02241617.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9C
Client ID: JF-PDS-4-0-1ft-1602
Injection Date: 24-FEB-2016 21:02
Report Date: 02/26/2016 09:46
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
6.024	0.000	2004618	6.480	-0.001	5391604	25.7	29.6	14.2	Tetrachloro-m-xyle
14.742	-0.001	5336788	15.260	-0.001	4739718	49.6	30.6	47.5*	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	64.2	74.0
Decachlorobiphenyl	124.1	76.4

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	14411365	40.1
Hexabromobiphenyl	12470452	8054496	-35.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15712152	-0.6
Hexabromobiphenyl	11807823	12115529	2.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.015	-0.029	9342291	5064.2	1	8.650	0.022	7721499	986.2
Aroclor-1016	2	8.550	-0.004	1019128	179.2	2	9.343	-0.010	3631532	225.3
Aroclor-1016	3	8.880	0.018	3898929	2008.0	3	---			0.0
Aroclor-1016	4	9.585	-0.085	249374386	115168.6	4	10.556	0.030	930243	311.3
Total Col1Ave (4 peaks): 30605.0						Total Col2Ave (3 peaks): 507.6 RPD = 193*				
Corrected Ave (3 peaks): 2417.1						Corrected Ave: < 3 Peaks				
Aroclor-1221	1	4.644	-0.070	706739	1550.5	1	---			0.0
Aroclor-1221	2	6.625	-0.066	2379353	3247.3	2	7.585	-0.038	48585456	35644.6
Aroclor-1221	3	6.843	0.028	7579438	3463.4	3	7.750	-0.013	2756077	639.1
Aroclor-1221	NS	---			----	4	8.650	0.006	7721499	5402.1
Total Col1Ave (3 peaks): 2753.7						Total Col2Ave (3 peaks): 13895.3 RPD = 134*				
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.644	-0.071	706739	2733.7	1	---			0.0
Aroclor-1232	2	6.762	0.072	4279870	8692.7	2	7.585	-0.038	48585456	58461.5
Aroclor-1232	3	6.843	0.028	7579438	5223.1	3	7.813	-0.039	1291511	2755.1
Aroclor-1232	4	8.550	-0.004	1019128	429.6	4	8.650	0.022	7721499	2119.2
Total Col1Ave (4 peaks): 4269.8						Total Col2Ave (3 peaks): 21111.9 RPD = 133*				
Corrected Ave (3 peaks): 2795.5						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.550	-0.006	1019128	230.0	1	8.650	0.022	7721499	1269.2
Aroclor-1242	2	8.880	0.017	3898929	2397.3	2	9.343	-0.010	3631532	288.3
Aroclor-1242	3	9.585	-0.085	249374386	121270.5	3	9.849	0.067	991754	305.0
Aroclor-1242	4	---			0.0	4	10.897	0.018	128259	29.3
Total Col1Ave (3 peaks): 41299.3						Total Col2Ave (4 peaks): 472.9 RPD = 195*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 207.5				
Aroclor-1248	1	8.550	-0.003	1019128	392.1	1	9.343	-0.007	3631532	483.2
Aroclor-1248	2	---			0.0	2	9.849	-0.033	991754	179.0
Aroclor-1248	3	9.585	-0.084	249374386	85834.3	3	---			0.0
Aroclor-1248	4	---			0.0	4	11.242	-0.000	189076	22.4
Col1Ave: <3 Quant Peaks						Col2Ave: 228.2				
Aroclor-1254	1	10.396	-0.068	724413	227.1	1	11.116	0.004	160996	20.4
Aroclor-1254	2	---			0.0	2	11.242	0.031	189076	51.1
Aroclor-1254	3	10.860	0.010	47641	18.3	3	11.654	-0.000	74823	12.6
Aroclor-1254	4	11.025	0.034	165080	32.3	4	11.770	-0.037	191812	14.2
Aroclor-1254	5	11.346	0.000	57137	11.4	5	12.815	-0.002	75026	7.5
Total Col1Ave (4 peaks): 72.3						Total Col2Ave (5 peaks): 21.2 RPD = 109*				
Corrected Ave (3 peaks): 20.6						Corrected Ave (4 peaks): 13.7 RPD = 41*				
Aroclor-1260	1	12.279	0.019	28716	14.7	1	12.815	-0.002	75026	6.7
Aroclor-1260	2	12.983	0.042	82764	11.1	2	13.575	-0.007	43305	2.0
Aroclor-1260	3	13.382	0.053	58365	18.3	3	14.050	-0.024	106926	7.5
Aroclor-1260	4	---			0.0	4	14.624	-0.002	99079	18.1
Aroclor-1260	5	13.834	-0.008	79188	68.3	NS	---			----
Total Col1Ave (4 peaks): 28.1						Total Col2Ave (4 peaks): 8.6 RPD = 107*				
Corrected Ave (3 peaks): 14.7						Corrected Ave (3 peaks): 5.4 RPD = 93*				
Aroclor-1262	1	12.279	0.019	28716	11.0	1	12.912	0.007	43346	3.5
Aroclor-1262	2	12.983	0.043	82764	10.8	2	13.370	0.021	123669	10.9
Aroclor-1262	3	13.382	0.052	58365	24.1	3	13.575	-0.006	43305	1.9
Aroclor-1262	4	---			0.0	4	14.050	-0.025	106926	7.1
Aroclor-1262	5	14.053	-0.003	48162	11.7	5	14.624	-0.001	99079	12.8
Total Col1Ave (4 peaks): 14.4						Total Col2Ave (5 peaks): 7.2 RPD = 67*				
Corrected Ave (3 peaks): 11.2						Corrected Ave (4 peaks): 5.8 RPD = 63*				
Aroclor-1268	1	13.382	-0.049	58365	5.5	1	13.997	-0.024	113849	4.7
Aroclor-1268	2	13.507	0.012	49386	3.8	2	14.050	-0.025	106926	4.7
Aroclor-1268	3	13.834	0.007	79188	6.6	3	14.399	0.011	20452	1.1
Aroclor-1268	4	14.370	-0.076	52436	1.2	4	14.970	-0.004	49145	0.9

Total Col1Ave (4 peaks):	4.3	Total Col2Ave (4 peaks):	2.9	RPD = 39
Corrected Ave (3 peaks):	3.5	Corrected Ave (3 peaks):	2.3	RPD = 43*

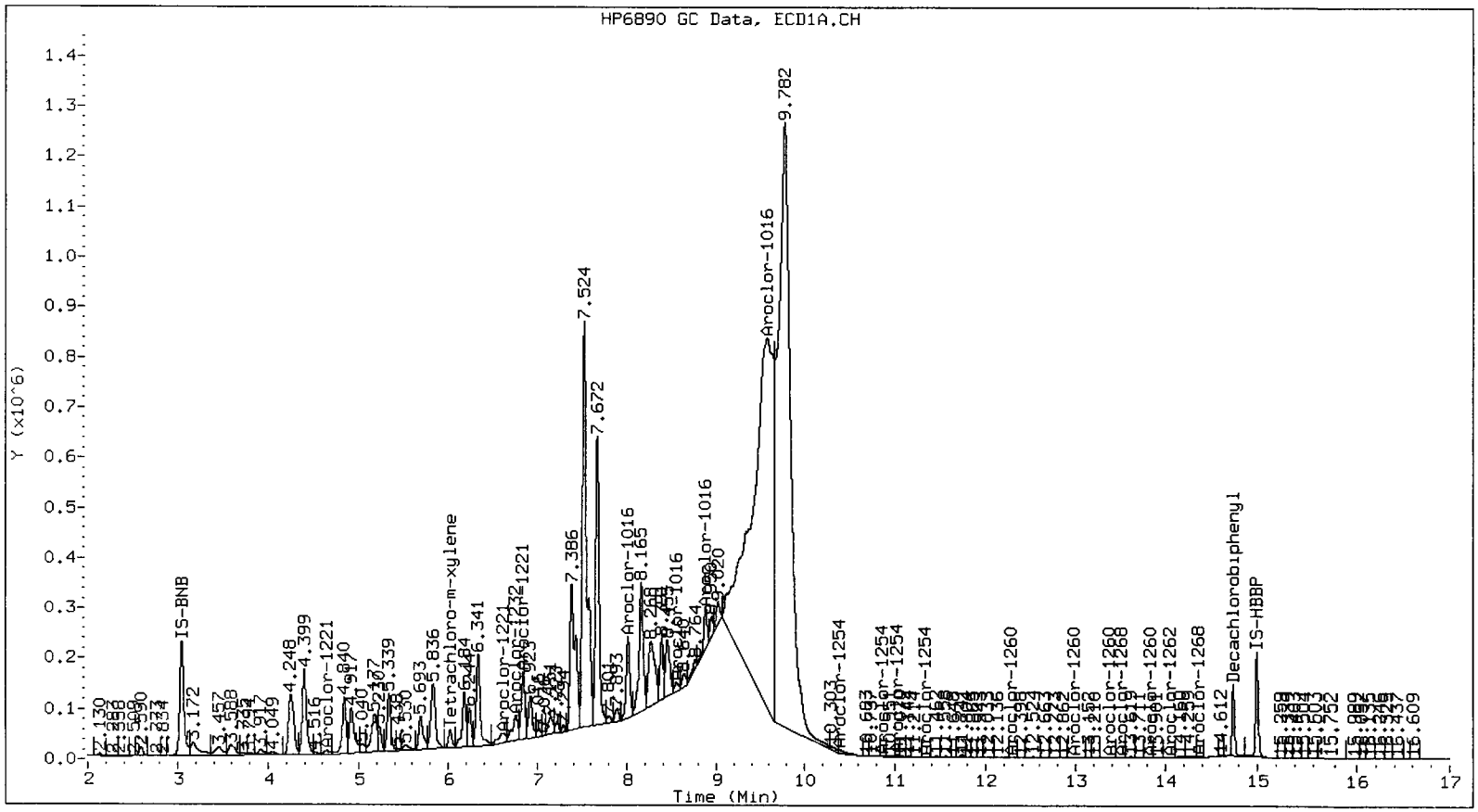
Total PCB Area Col1 (6.123 - 14.643) = 721321734 Col1 Total PCB = 12.1 ppm*

Total PCB Area Col2 (6.123 - 14.643) = 245735958 Col2 Total PCB = 1.9 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9C 24-FEB-2016 21:02, 2ul



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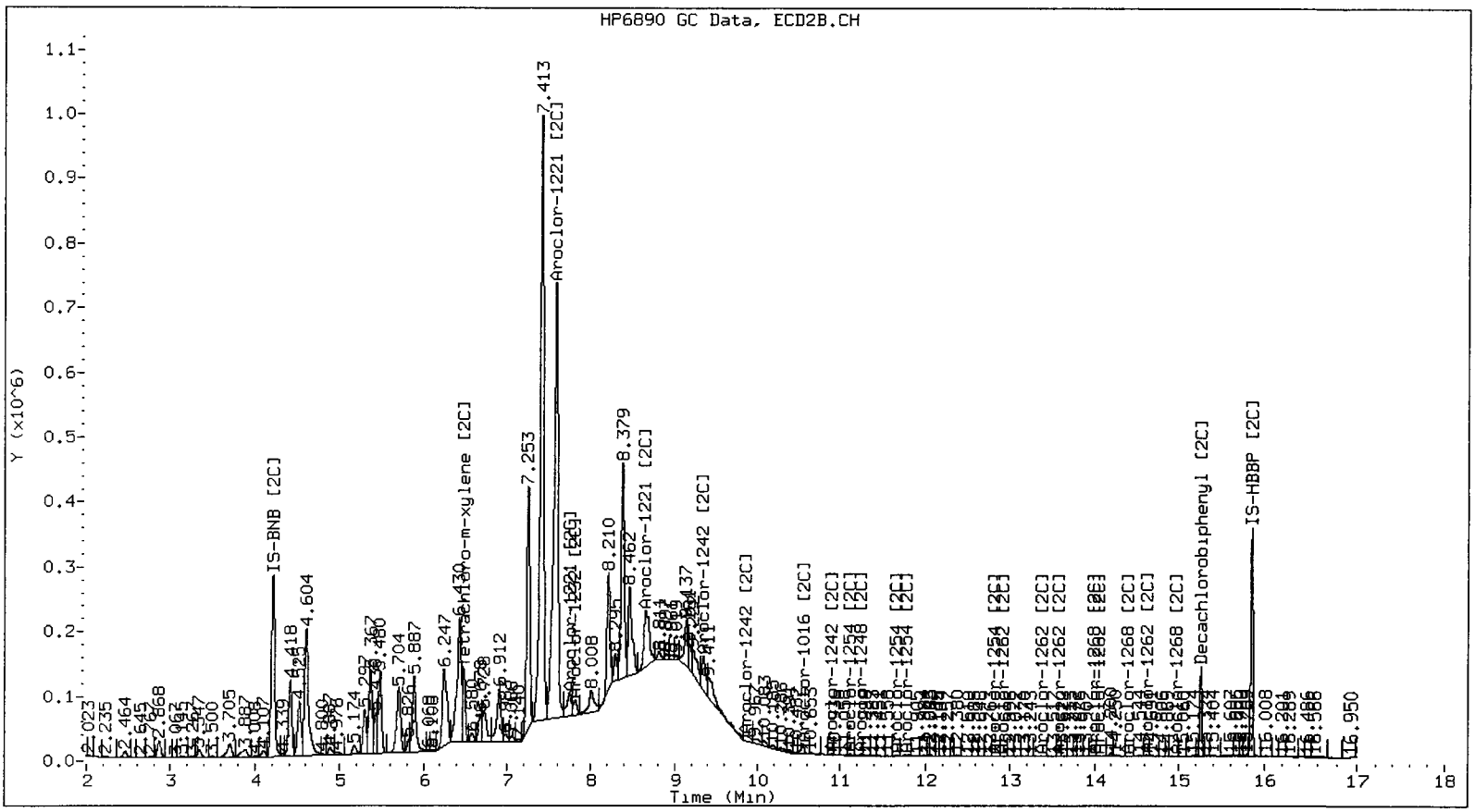

AVZ9 : 08:75

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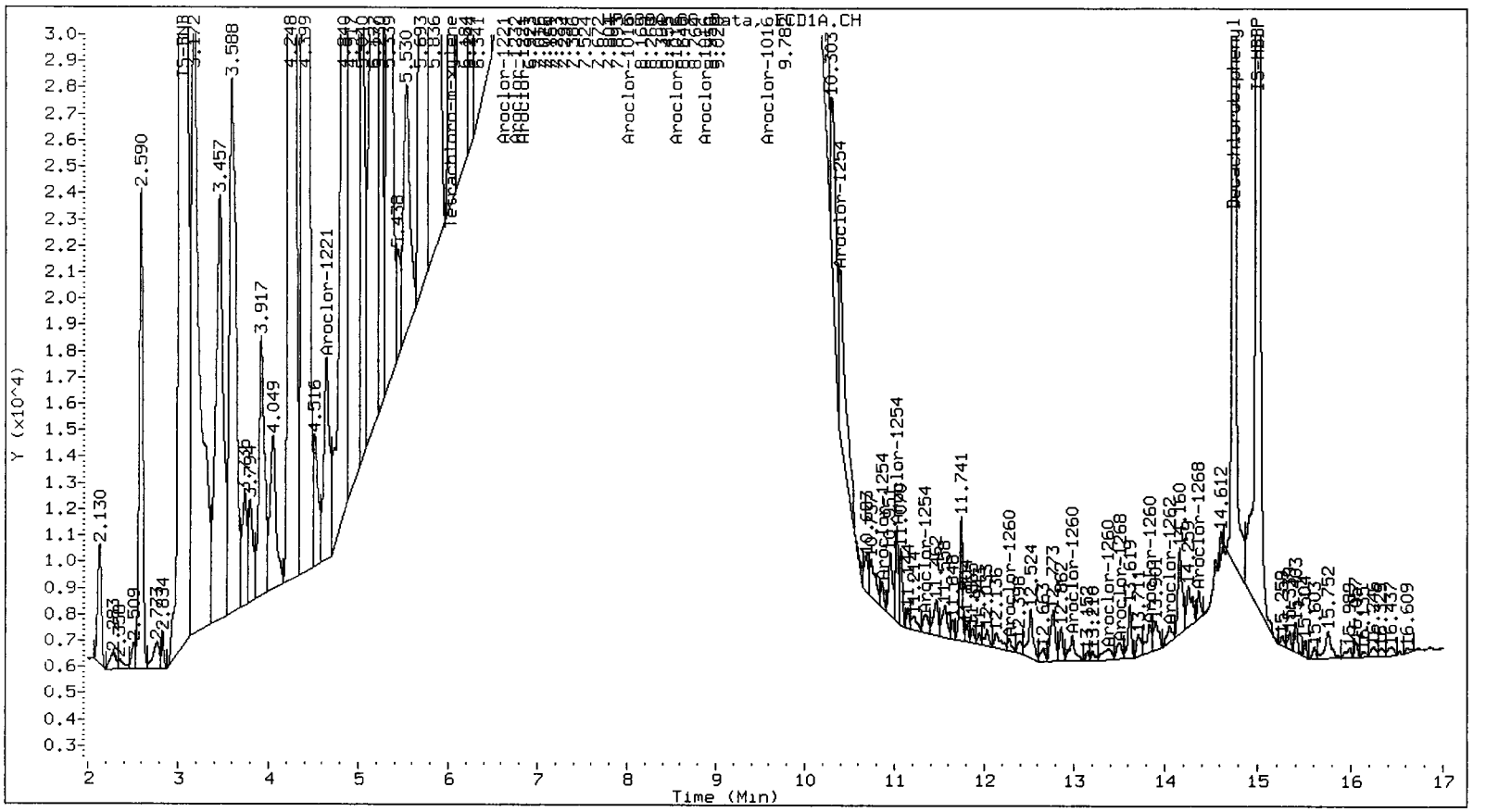

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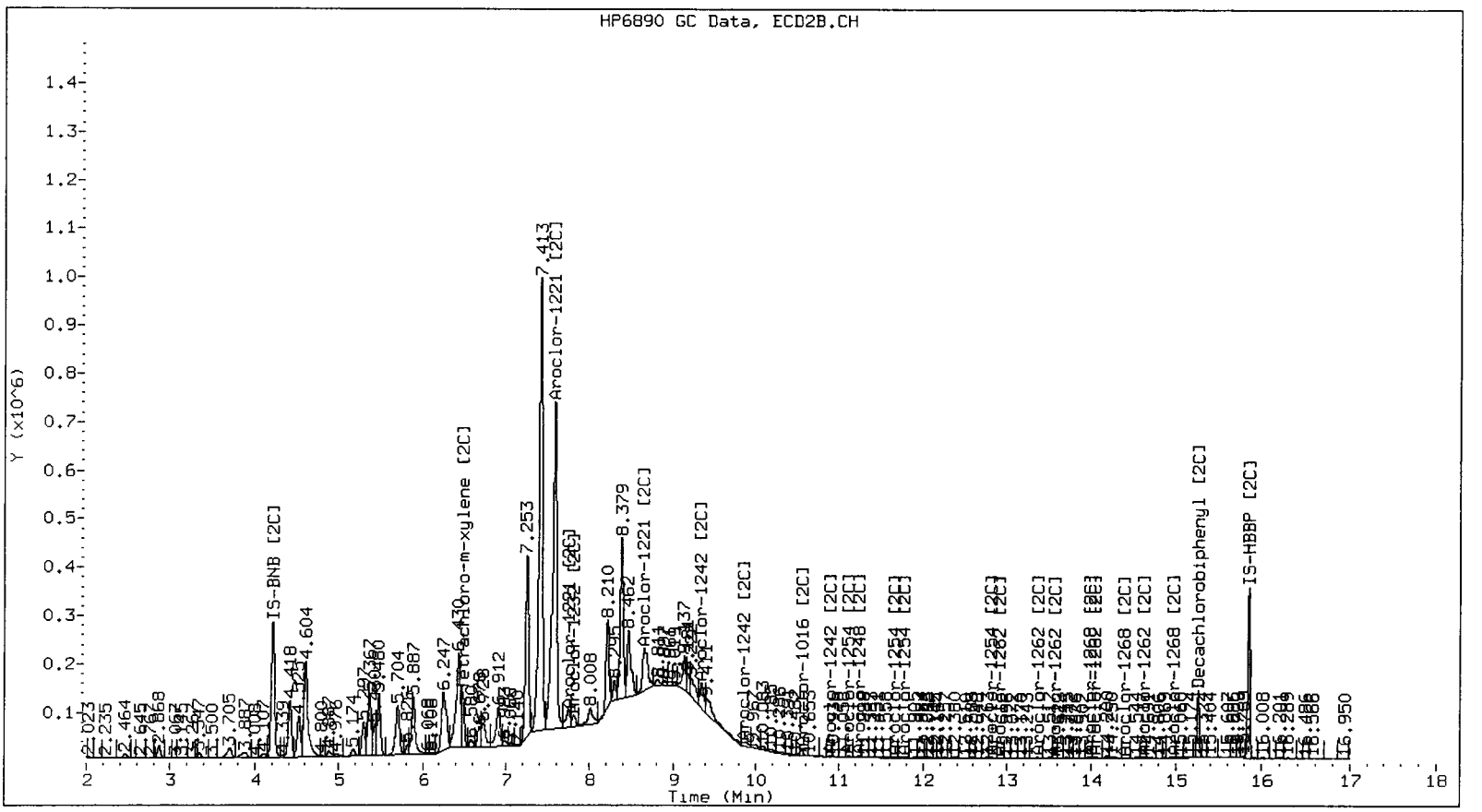

AVZ9 . 00488

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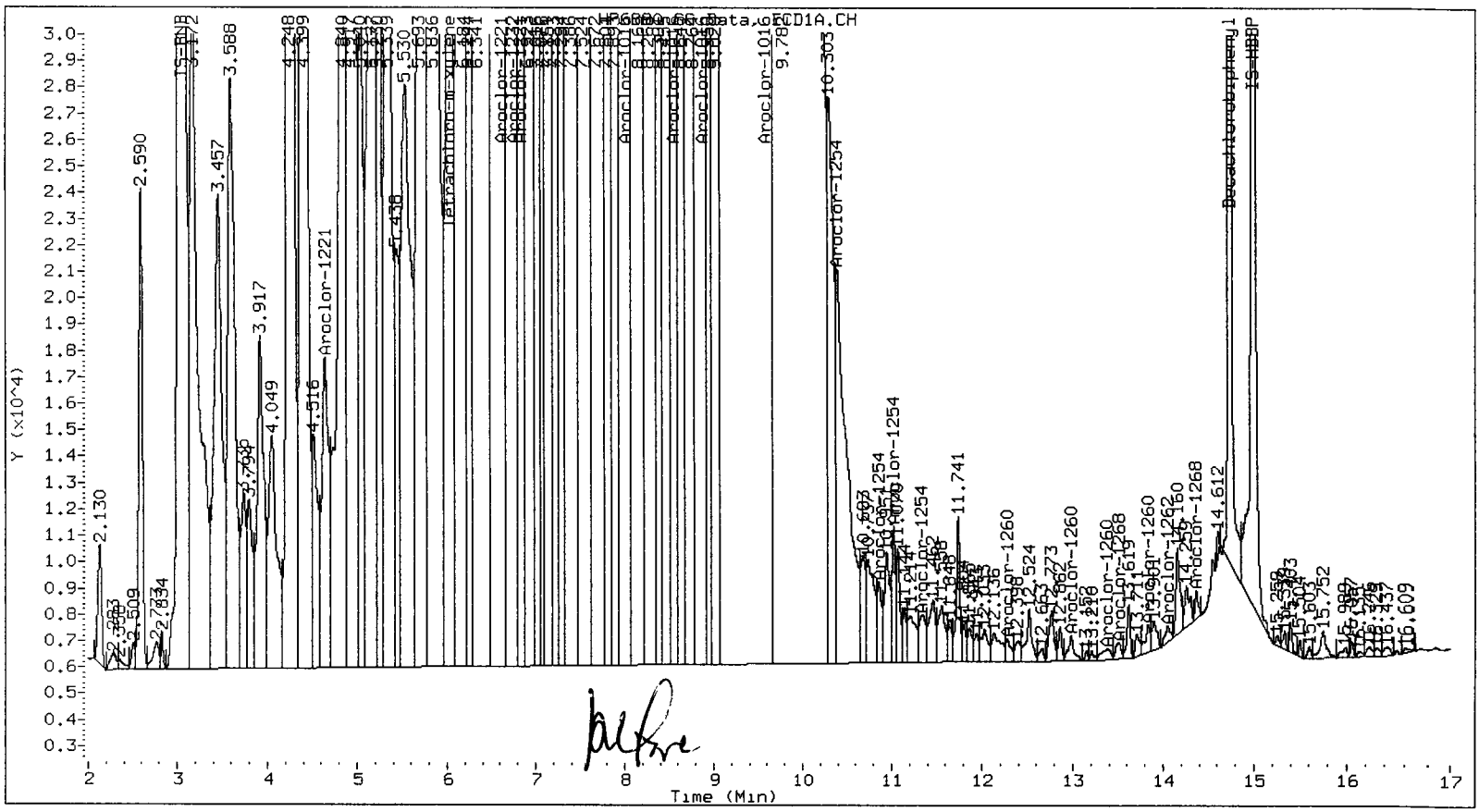

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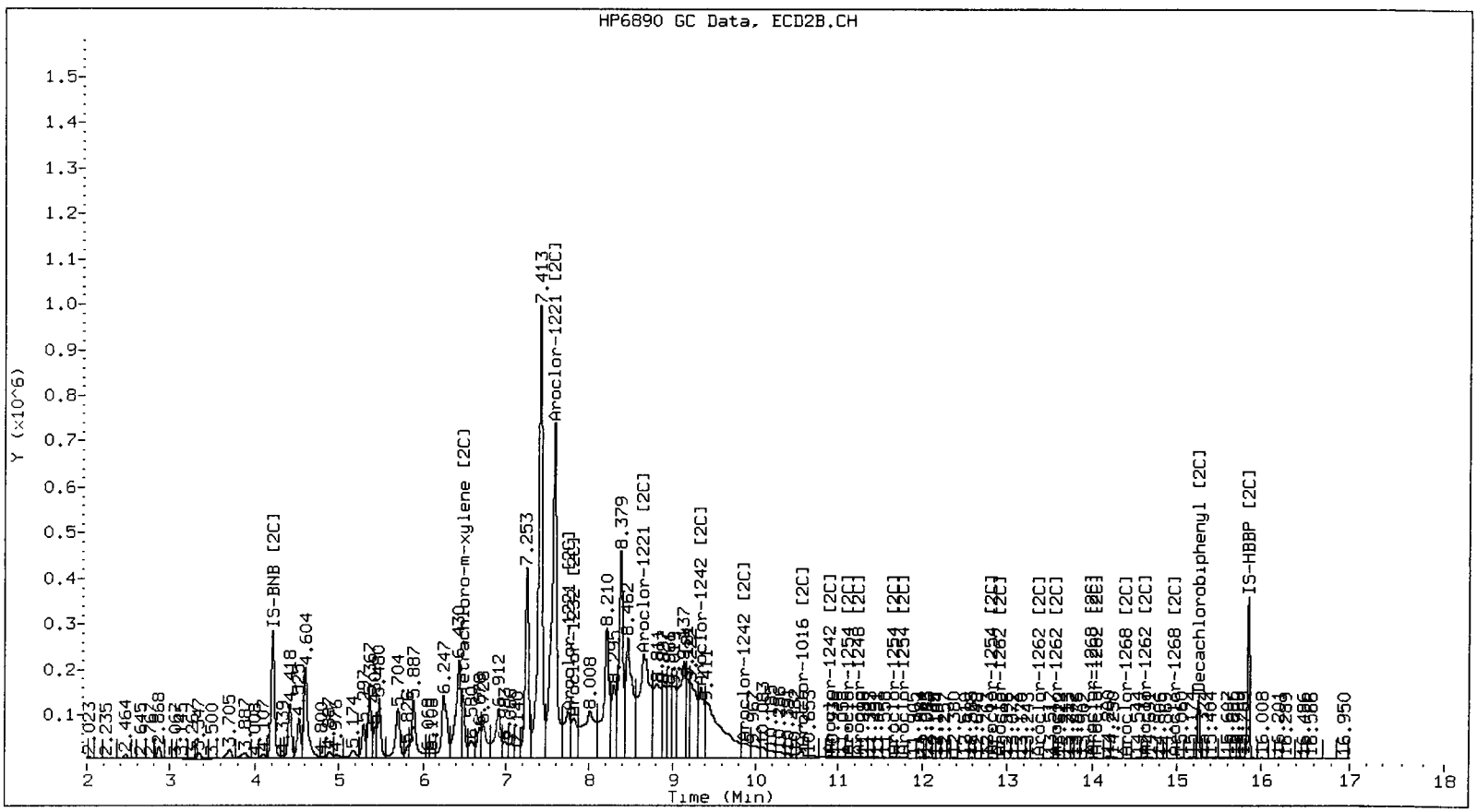


AVZ9.00431

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241618.D
Data file 2: /20160224.b/20160224.b/02241618.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9D
Client ID: JF-PDS-4-1-2ft-1602
Injection Date: 24-FEB-2016 21:24
Report Date: 02/26/2016 09:00
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
6.023	-0.003	1914550	6.481	-0.001	5834698	30.9	32.5	5.2	Tetrachloro-m-xyle
14.742	-0.001	6837265	15.259	-0.001	5877119	42.8	34.9	20.5	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	77.2	81.4
Decachlorobiphenyl	107.1	87.2

k 02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	11439063	11.2
Hexabromobiphenyl	12470452	11954223	-4.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15469418	-2.1
Hexabromobiphenyl	11807823	13174789	11.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.012	-0.035	65245	44.6	1	8.648	0.021	21944	2.8
Aroclor-1016	2	---			0.0	2	9.349	-0.005	28304	1.8
Aroclor-1016	3	8.877	0.012	33565	21.8	3	---			0.0
Aroclor-1016	4	---			0.0	4	10.524	-0.002	20440	6.9
	Col1Ave: <3 Quant Peaks					Col2Ave:		3.9		
Aroclor-1221	1	---			0.0	1	5.544	-0.041	20913	14.5
Aroclor-1221	2	6.661	-0.029	77237	132.8	2	7.644	0.020	63622	47.4
Aroclor-1221	3	6.835	0.020	25073	14.4	3	7.768	0.005	35396	8.3
Aroclor-1221	NS	---			----	4	8.648	0.005	21944	15.6
	Col1Ave: <3 Quant Peaks					Col2Ave:		21.5		
Aroclor-1232	1	---			0.0	1	5.544	-0.042	20913	24.1
Aroclor-1232	2	6.661	-0.029	77237	197.6	2	7.644	0.021	63622	77.8
Aroclor-1232	3	6.835	0.020	25073	21.8	3	7.818	-0.034	24895	53.9
Aroclor-1232	4	---			0.0	4	8.648	0.020	21944	6.1
	Col1Ave: <3 Quant Peaks					Col2Ave:		40.5		
Aroclor-1242	1	---			0.0	1	8.648	0.021	21944	3.7
Aroclor-1242	2	8.877	0.013	33565	26.0	2	9.349	-0.005	28304	2.3
Aroclor-1242	3	---			0.0	3	9.879	0.098	18460	5.8
Aroclor-1242	4	10.100	0.028	23942	20.3	4	10.786	-0.094	25038	5.8
	Col1Ave: <3 Quant Peaks					Col2Ave:		4.4		
Aroclor-1248	1	8.454	-0.100	21969	10.6	1	9.349	-0.001	28304	3.8
Aroclor-1248	2	---			0.0	2	9.879	-0.003	18460	3.4
Aroclor-1248	3	---			0.0	3	10.786	-0.011	25038	3.0
Aroclor-1248	4	10.100	0.029	23942	12.5	4	11.213	-0.030	17089	2.1
	Col1Ave: <3 Quant Peaks					Col2Ave:		3.1		
Aroclor-1254	1	---			0.0	1	11.113	0.001	15787	2.0
Aroclor-1254	2	---			0.0	2	11.213	0.001	17089	4.7
Aroclor-1254	3	---			0.0	3	---			0.0
Aroclor-1254	4	---			0.0	4	---			0.0
Aroclor-1254	5	---			0.0	5	12.810	-0.007	15892	1.6
	Col1Ave: <3 Quant Peaks					Col2Ave:		2.8		
Aroclor-1260	1	---			0.0	1	12.810	-0.006	15892	1.3
Aroclor-1260	2	12.981	0.040	66511	6.0	2	---			0.0
Aroclor-1260	3	---			0.0	3	13.999	-0.075	156088	10.0
Aroclor-1260	4	---			0.0	4	14.625	-0.000	7898	1.3
Aroclor-1260	5	13.744	-0.099	23607	13.7	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave:		4.2		
Aroclor-1262	1	---			0.0	1	12.810	-0.095	15892	1.2
Aroclor-1262	2	12.981	0.040	66511	5.9	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	13.999	-0.076	156088	9.5
Aroclor-1262	5	14.048	-0.007	53500	8.8	5	14.625	-0.000	7898	0.9
	Col1Ave: <3 Quant Peaks					Col2Ave:		3.9		
Aroclor-1268	1	---			0.0	1	13.999	-0.022	156088	5.9
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	14.388	0.000	6753	0.3
Aroclor-1268	4	---			0.0	4	14.947	-0.027	34637	0.6
	Col1Ave: <3 Quant Peaks					Col2Ave:		2.3		

Total PCB Area Col1 (6.126 - 14.643) = 1578974 Col1 Total PCB = 0.0 ppm*

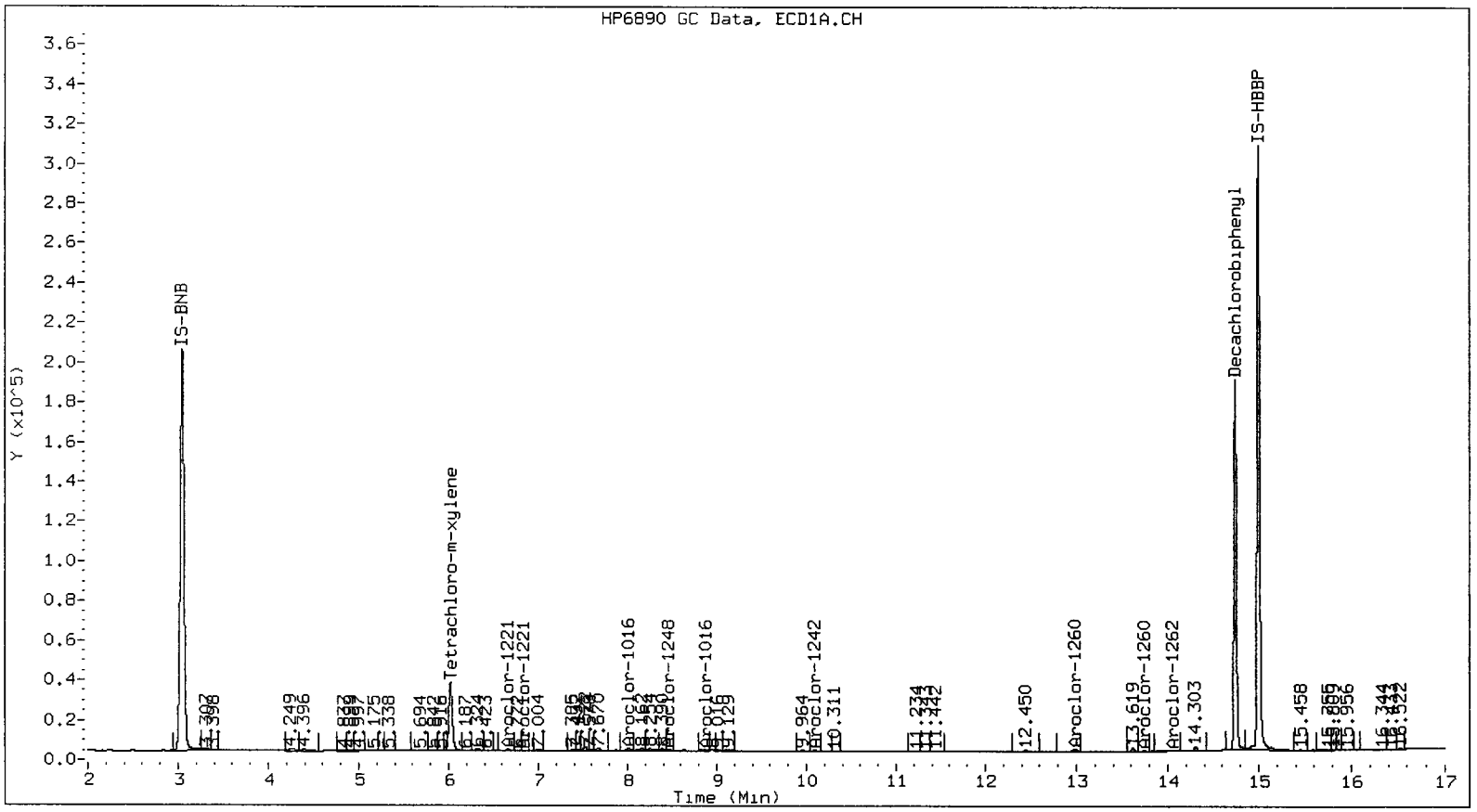
Total PCB Area Col2 (6.126 - 14.643) = 7553719 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

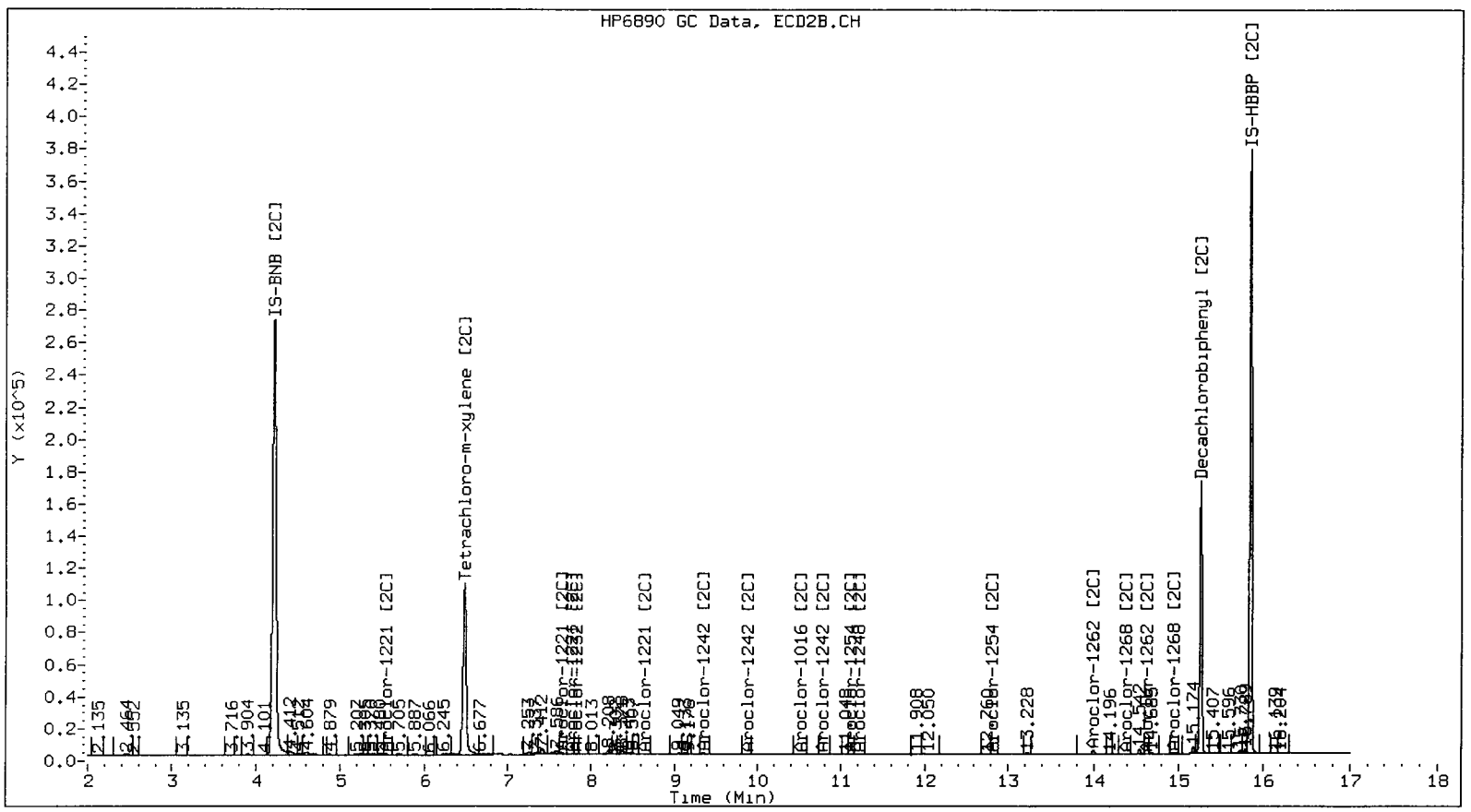
PCB-Form 10 Mod.

AVZ9:08484

ECD7-ZB5 AVZ9D 24-FEB-2016 21:24, 2ul



ECD7-ZB35 AVZ9D 24-FEB-2016 21:24, 2ul



AVZ9:66H85

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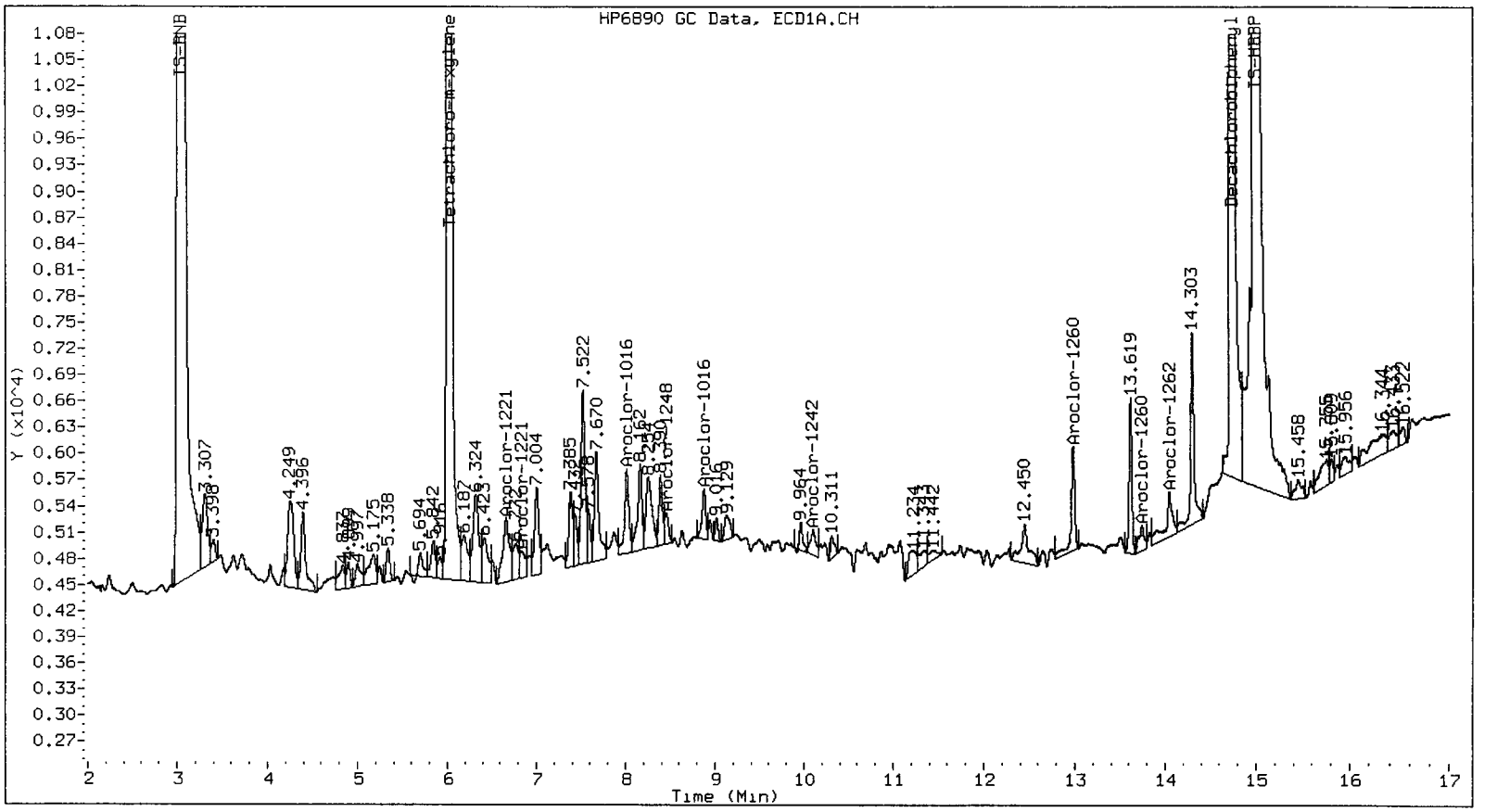

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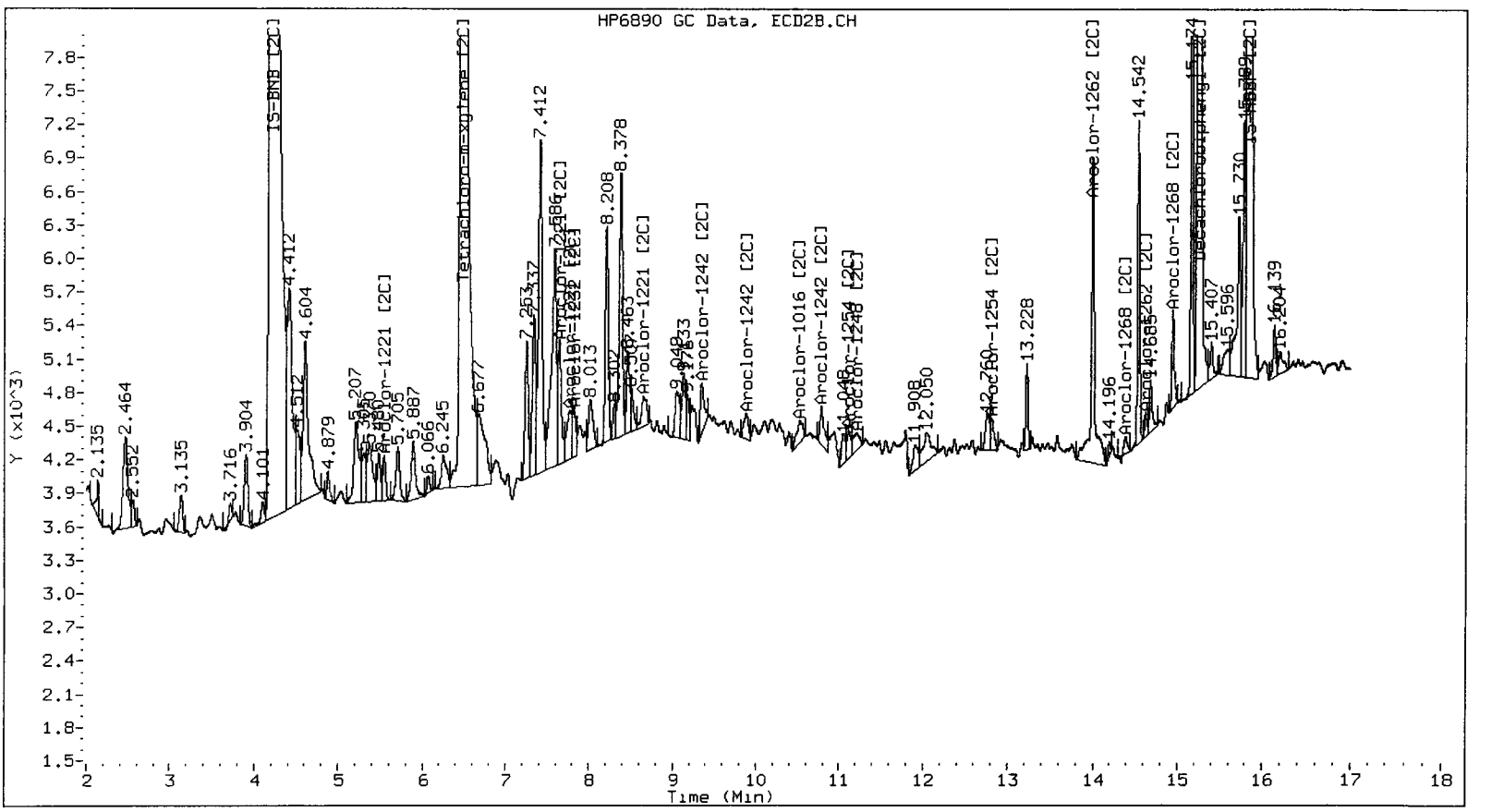


AVZ9.89486

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241619.D
Data file 2: /20160224.b/20160224.b/02241619.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9E
Client ID: JF-PDS-2-0-1ft-1602
Injection Date: 24-FEB-2016 21:46
Report Date: 02/26/2016 09:46
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
6.022	-0.001	1919891	6.479	-0.002	6132493	27.1	34.8	24.8	Tetrachloro-m-xyle
14.742	-0.001	5923315	15.260	-0.000	5253674	51.4	32.9	43.9*	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	67.8	87.0
Decachlorobiphenyl	128.4 NR	82.2

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	13060366	26.9
Hexabromobiphenyl	12470452	8640528	-30.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15201859	-3.8
Hexabromobiphenyl	11807823	12486701	5.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

AVZ9:00487

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	8.012	-0.031	12053093	7209.5	1	8.650	0.022	11354261	1498.9
Aroclor-1016	2	8.554	-0.000	501185	97.2	2	9.343	-0.010	2043048	131.0
Aroclor-1016	3	8.882	0.019	4127447	2345.5	3	9.650	0.063	410437	65.9
Aroclor-1016	4	9.749	0.079	89741072	45732.3	4	10.555	0.029	336869	116.5
Total Col1Ave (4 peaks): 13846.2						Total Col2Ave (4 peaks): 453.1 RPD = 187*				
Corrected Ave (3 peaks): 3217.4						Corrected Ave (3 peaks): 104.5 RPD = 187*				
Aroclor-1221	1	4.731	0.017	323724	783.7	1	---			0.0
Aroclor-1221	2	6.702	0.011	674747	1016.1	2	7.584	-0.039	60197550	45646.3
Aroclor-1221	3	6.842	0.027	2561019	1291.3	3	7.750	-0.013	1895654	454.3
Aroclor-1221	NS	---			----	4	8.650	0.007	11354261	8210.3
Total Col1Ave (3 peaks): 1030.4						Total Col2Ave (3 peaks): 18103.6 RPD = 178*				
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.731	0.016	323724	1381.7	1	---			0.0
Aroclor-1232	2	6.702	0.011	674747	1512.2	2	7.584	-0.039	60197550	74865.5
Aroclor-1232	3	6.842	0.027	2561019	1947.4	3	7.811	-0.041	995437	2194.8
Aroclor-1232	4	8.554	-0.000	501185	233.1	4	8.650	0.022	11354261	3220.8
Total Col1Ave (4 peaks): 1268.6						Total Col2Ave (3 peaks): 26760.4 RPD = 182*				
Corrected Ave (3 peaks): 1042.3						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.554	-0.002	501185	124.8	1	8.650	0.022	11354261	1928.9
Aroclor-1242	2	8.882	0.018	4127447	2800.3	2	9.343	-0.010	2043048	167.6
Aroclor-1242	3	9.749	0.079	89741072	48155.3	3	9.877	0.096	712066	226.3
Aroclor-1242	4	---			0.0	4	10.882	0.003	92516	21.8
Total Col1Ave (3 peaks): 17026.8						Total Col2Ave (4 peaks): 586.2 RPD = 187*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 138.6				
Aroclor-1248	1	8.554	0.001	501185	212.8	1	9.343	-0.007	2043048	281.0
Aroclor-1248	2	9.536	0.058	78206629	44587.8	2	9.877	-0.004	712066	132.9
Aroclor-1248	3	9.749	0.079	89741072	34084.0	3	10.792	-0.004	117109	14.3
Aroclor-1248	4	---			0.0	4	11.209	-0.033	165882	20.3
Total Col1Ave (3 peaks): 26294.9						Total Col2Ave (4 peaks): 112.1 RPD = 198*				
Corrected Ave: < 3 Peaks 50						Corrected Ave (3 peaks): 55.8 50				
Aroclor-1254	1	10.461	-0.004	167021	57.8	1	11.111	-0.002	296130	38.7
Aroclor-1254	2	10.535	-0.010	136236	141.4	2	11.209	-0.002	165882	46.3
Aroclor-1254	3	10.852	0.002	53410	22.6	3	11.652	-0.002	197664	34.5
Aroclor-1254	4	10.987	-0.003	193115	41.6	4	11.803	-0.004	536243	41.0
Aroclor-1254	5	11.337	-0.010	189090	41.6	5	12.815	-0.002	409618	42.5
Total Col1Ave (5 peaks): 61.0						Total Col2Ave (5 peaks): 40.6 RPD = 40*				
Corrected Ave (4 peaks): 40.9						Corrected Ave (4 peaks): 39.2 RPD = 4				
Aroclor-1260	1	12.260	0.000	118981	56.7	1	12.815	-0.002	409618	35.6
Aroclor-1260	2	12.940	-0.002	211963	26.5	2	13.580	-0.002	392717	17.6
Aroclor-1260	3	13.326	-0.003	95543	27.9	3	14.073	-0.002	261034	17.7
Aroclor-1260	4	13.429	-0.002	68353	32.1	4	14.624	-0.001	129956	23.0
Aroclor-1260	5	13.837	-0.006	75854	61.0	NS	---			----
Total Col1Ave (5 peaks): 40.8						Total Col2Ave (4 peaks): 23.5 RPD = 54*				
Corrected Ave (4 peaks): 35.8						Corrected Ave (3 peaks): 19.4 RPD = 59*				
Aroclor-1262	1	12.260	0.001	118981	42.6	1	12.905	0.000	160737	12.7
Aroclor-1262	2	12.940	-0.001	211963	25.9	2	13.349	0.000	285308	24.3
Aroclor-1262	3	13.326	-0.004	95543	36.8	3	13.580	-0.001	392717	16.4
Aroclor-1262	4	13.429	-0.001	68353	17.5	4	14.073	-0.003	261034	16.8
Aroclor-1262	5	14.055	-0.001	78910	17.9	5	14.624	-0.001	129956	16.3
Total Col1Ave (5 peaks): 28.1						Total Col2Ave (5 peaks): 17.3 RPD = 48*				
Corrected Ave (4 peaks): 24.5						Corrected Ave (4 peaks): 15.5 RPD = 45*				
Aroclor-1268	1	13.429	-0.001	68353	6.0	1	14.021	0.000	147488	5.9
Aroclor-1268	2	13.495	0.000	84032	5.9	2	14.073	-0.003	261034	11.2
Aroclor-1268	3	13.837	0.009	75854	5.9	3	14.388	0.000	43253	2.3

Aroclor-1268	4	14.448	0.002	18986	0.4	4	14.972	-0.001	142806	2.7

Total Col1Ave (4 peaks): 4.6 Total Col2Ave (4 peaks): 5.5 RPD = 19

Corrected Ave (3 peaks): 4.1 Corrected Ave (3 peaks): 3.6 RPD = 12

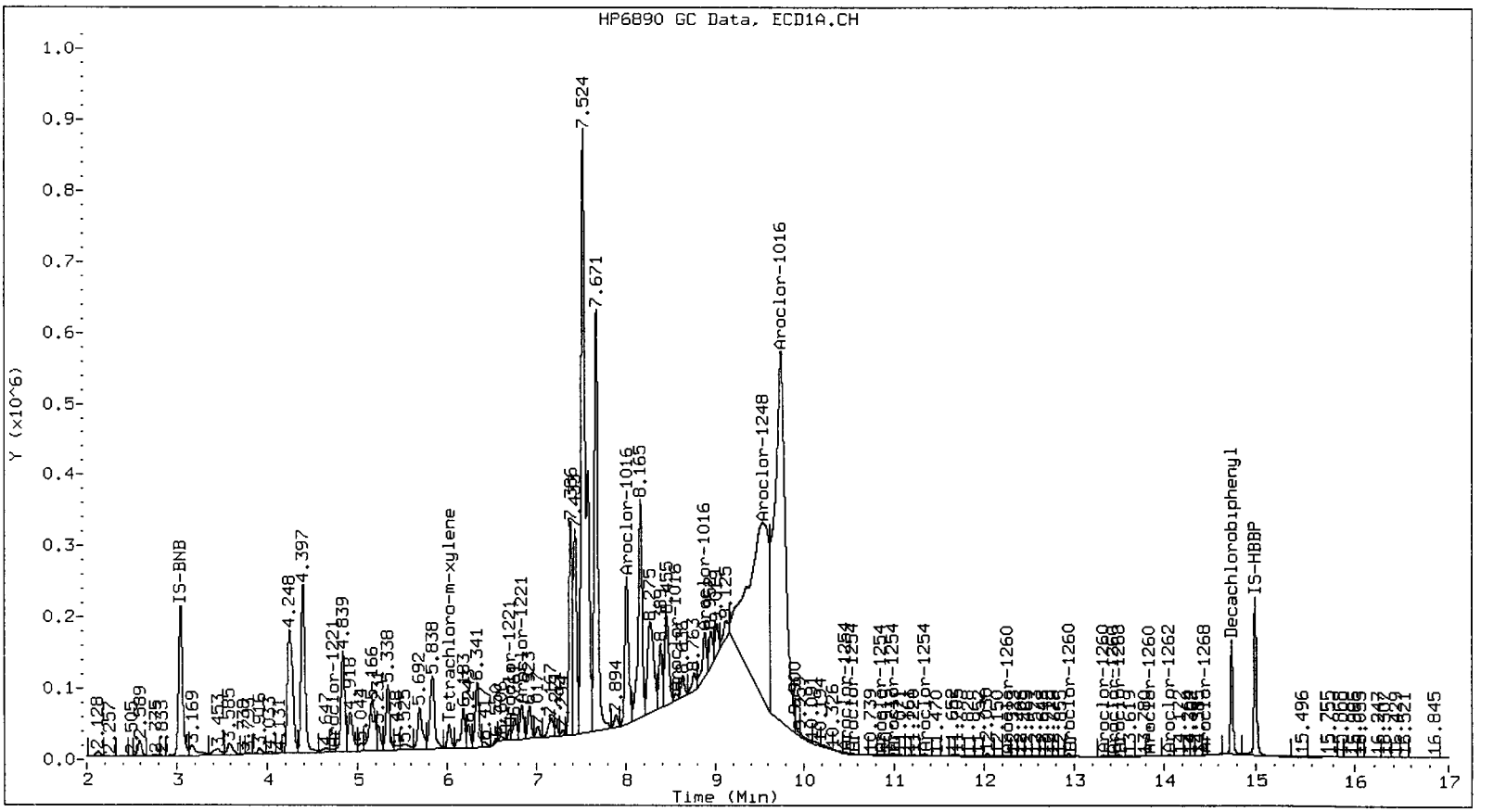
Total PCB Area Col1 (6.123 - 14.643) = 399580326 Col1 Total PCB = 7.4 ppm*

Total PCB Area Col2 (6.123 - 14.643) = 266532672 Col2 Total PCB = 2.1 ppm*

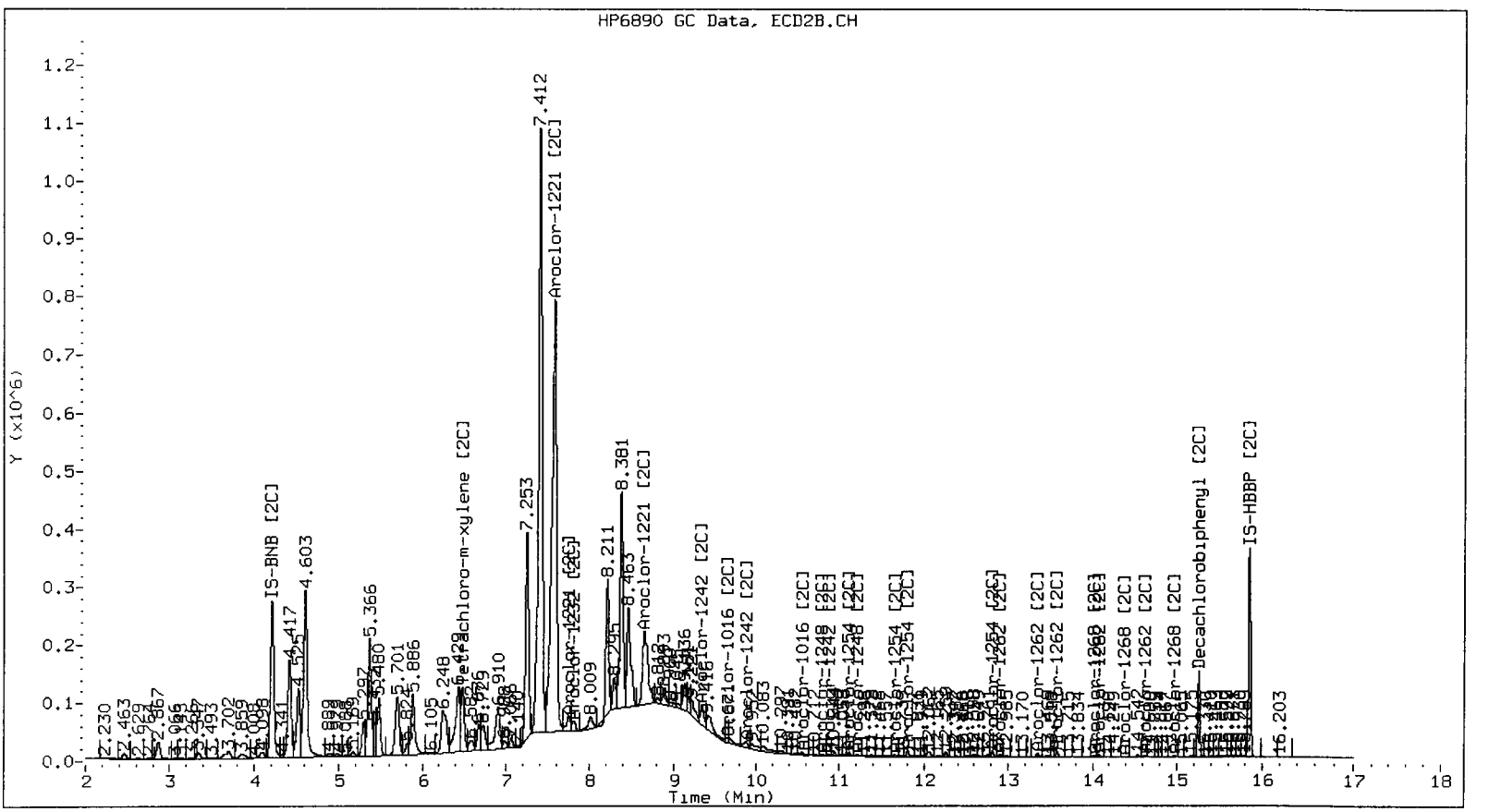
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9E 24-FEB-2016 21:46, 2ul



ECD7-ZB35 AVZ9E 24-FEB-2016 21:46, 2ul



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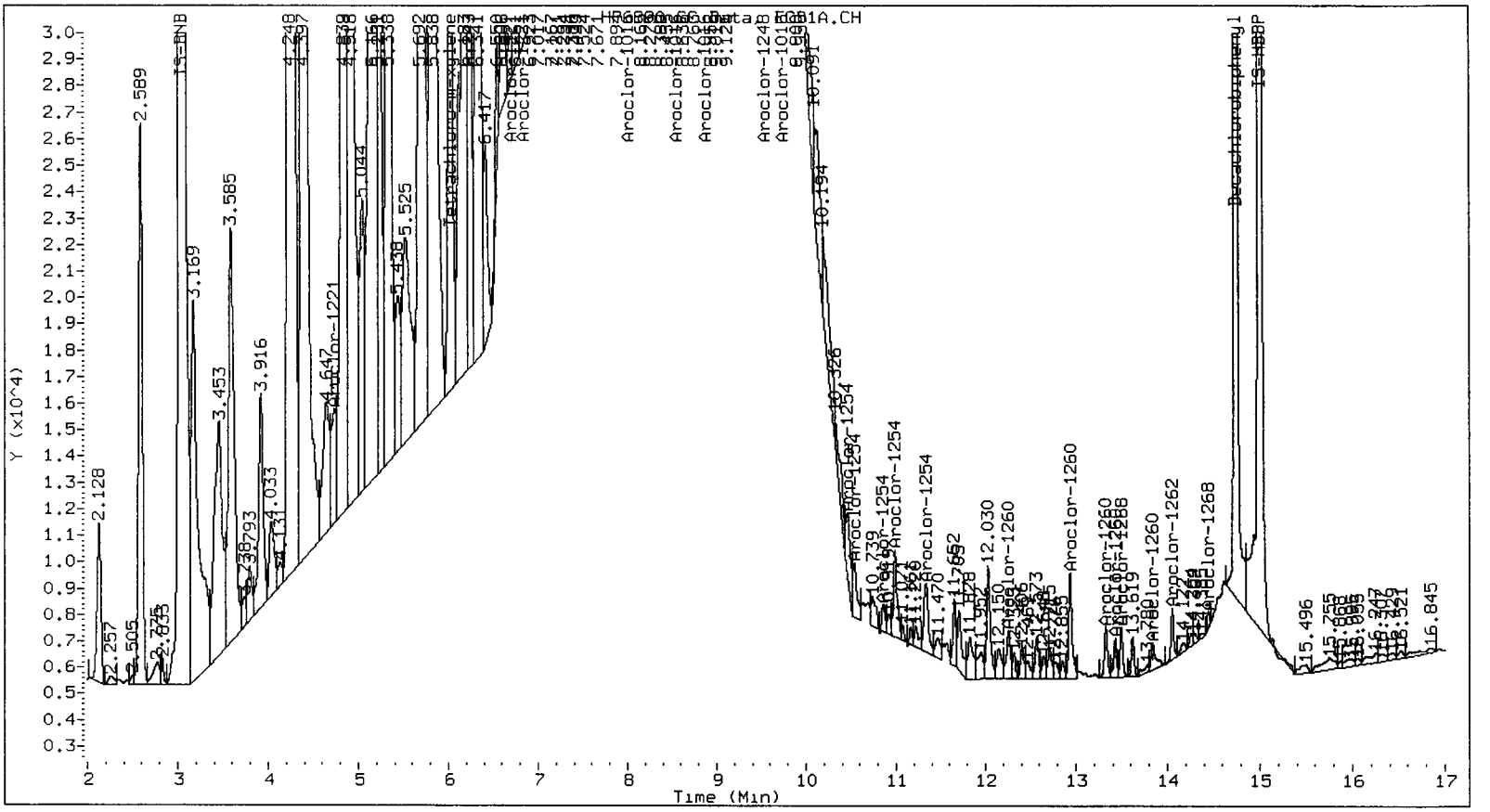
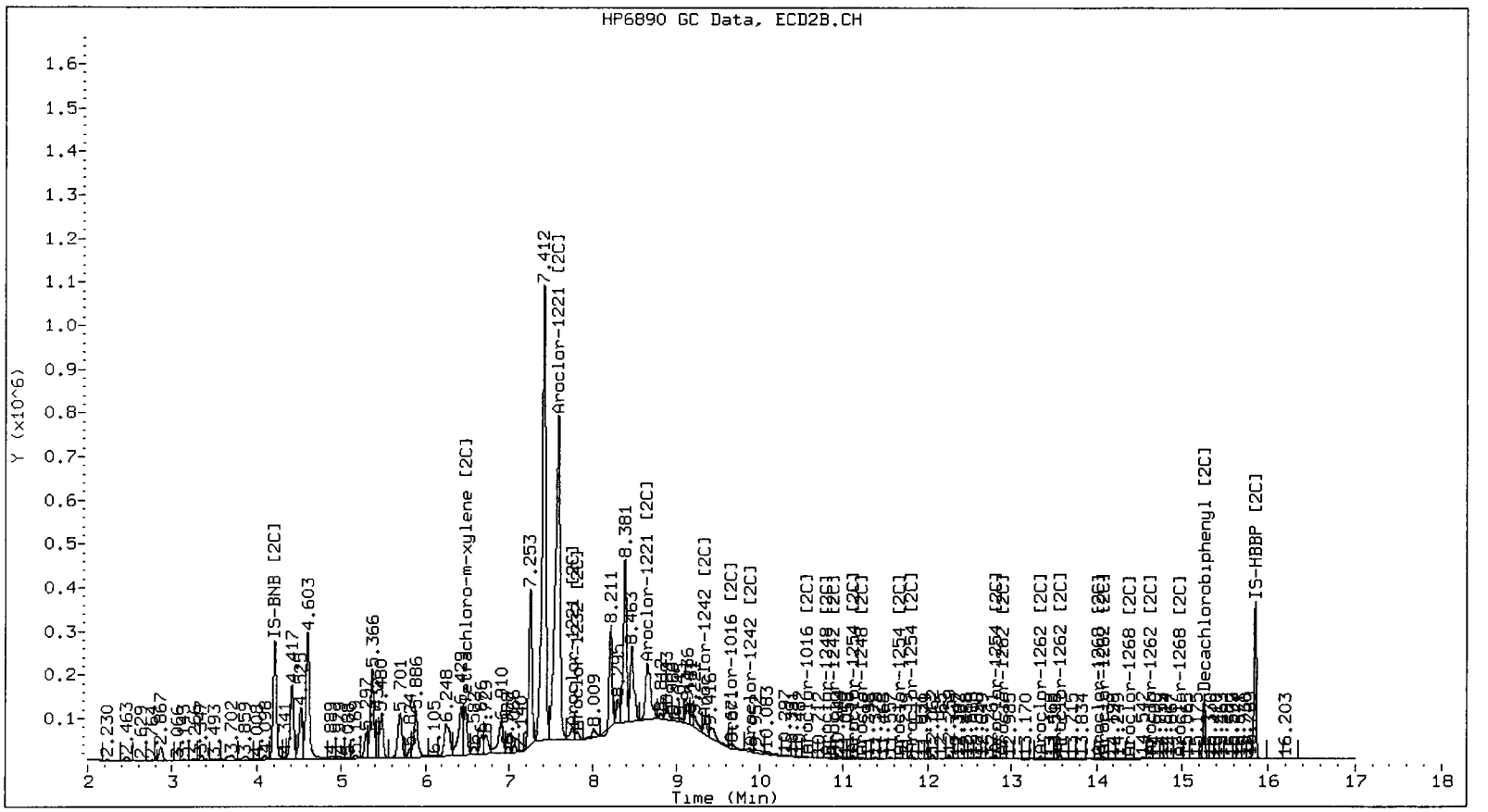
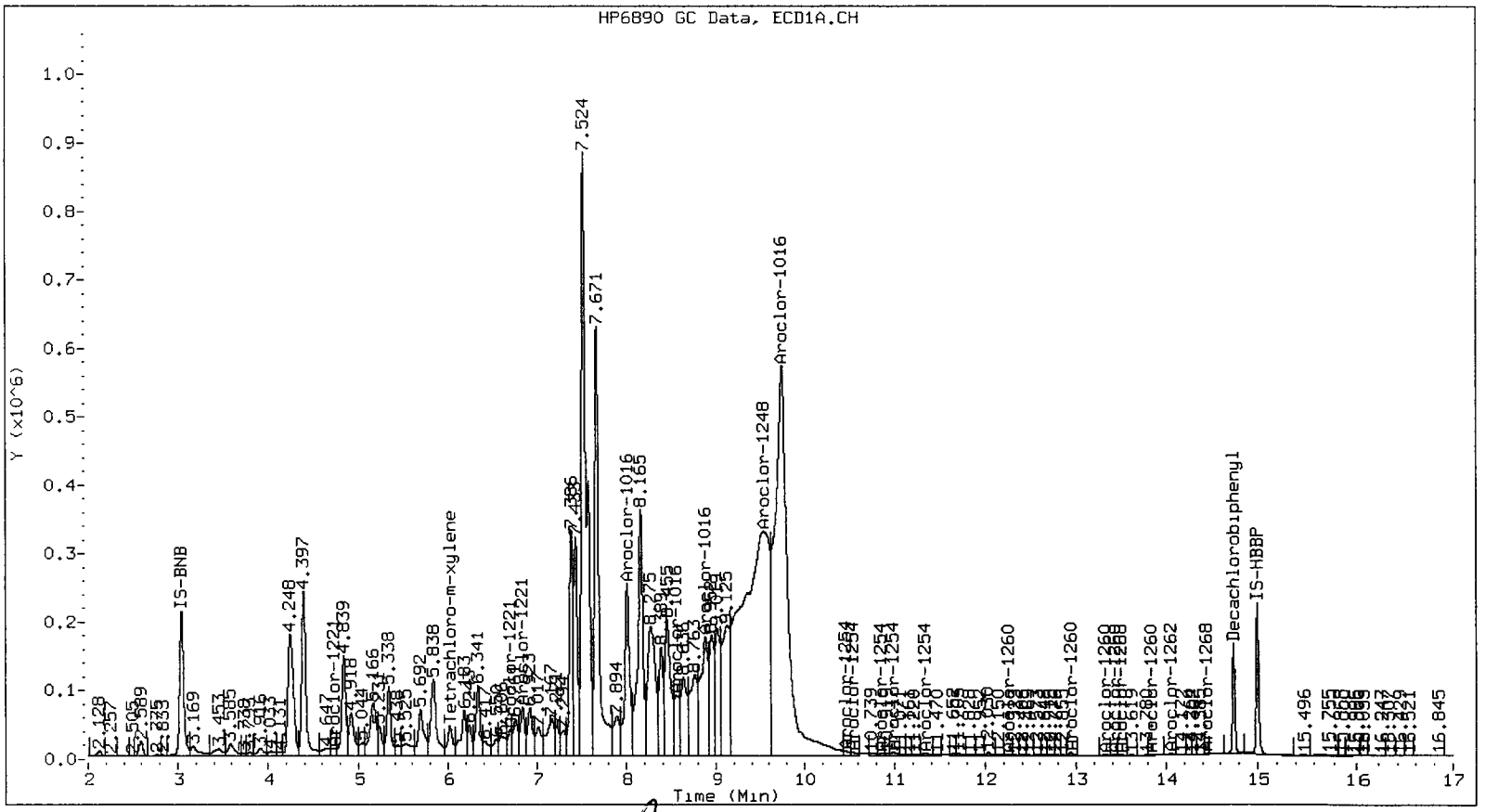


ECD7-ZB35 AVZ9E 24-FEB-2016 21:46, 2ul



AVZ9:66491

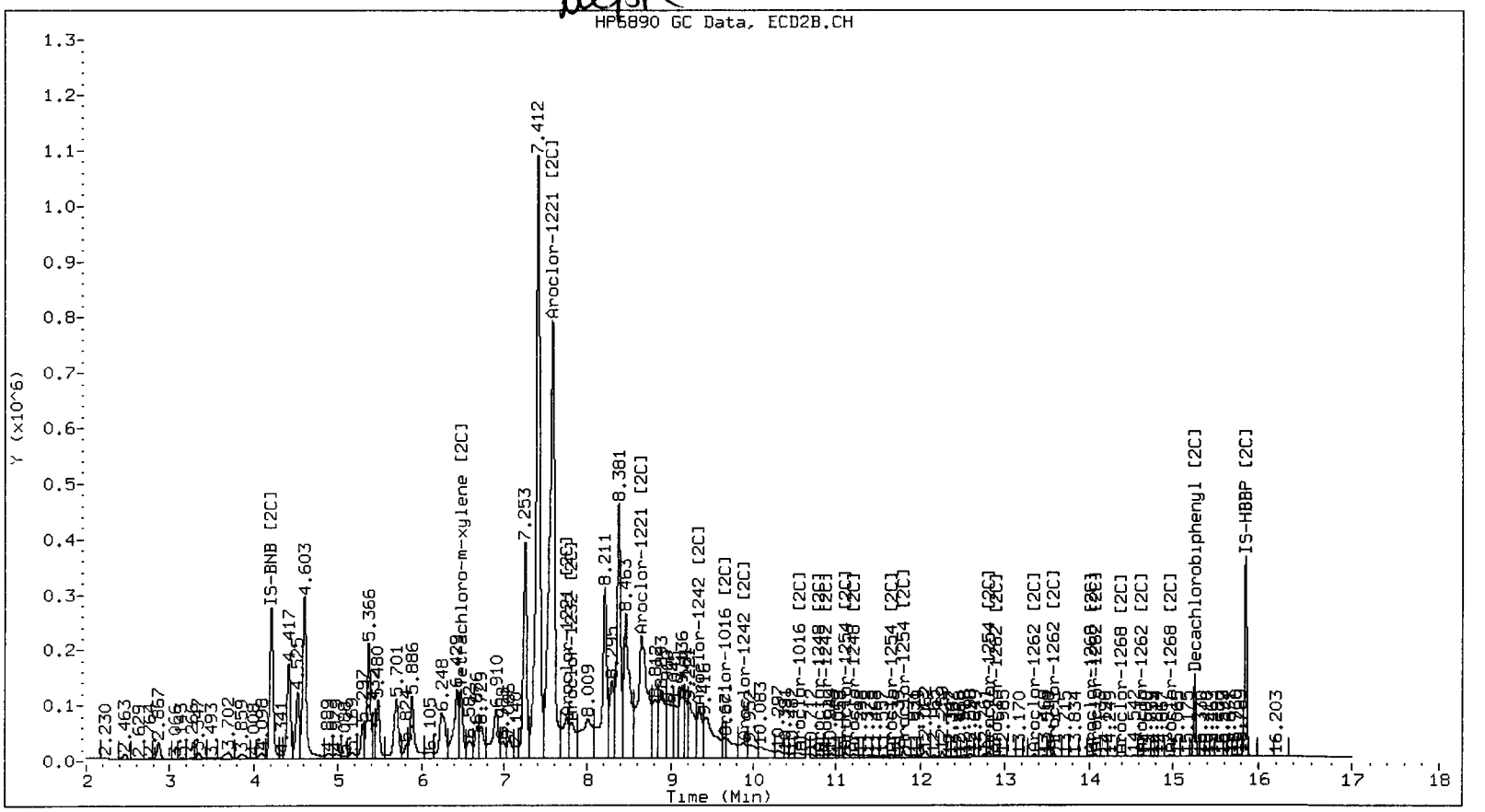
ECD7-ZB5 AVZ9E 24-FEB-2016 21:46, 2ul



ECD7-ZB35 AVZ9E

Before

24-FEB-2016 21:46, 2ul



AVZ9.00432

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241620.D
Data file 2: /20160224.b/20160224.b/02241620.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9F
Client ID: JF-PDS-2-1-2ft-1602
Injection Date: 24-FEB-2016 22:08
Report Date: 02/26/2016 09:46
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
6.023	-0.001	2339903	6.480	-0.001	6878789	30.3	37.2	20.5	Tetrachloro-m-xyle
14.742	-0.001	6392017	15.260	-0.000	5660737	55.6	34.6	46.6*	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	75.8	93.0
Decachlorobiphenyl	~~139.1~~	86.5

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	14250912	38.5
Hexabromobiphenyl	12470452	8607148	-31.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15945824	0.9
Hexabromobiphenyl	11807823	12786647	8.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

AVZ9:66493

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.013	-0.031	41075888	22516.9	1	8.648	0.021	20206499	2543.0
Aroclor-1016	2	8.628	0.073	9993223	1776.9	2	9.343	-0.010	2895130	177.0
Aroclor-1016	3	8.881	0.018	5184256	2700.0	3	9.644	0.058	2895121	443.4
Aroclor-1016	4	9.729	0.059	13435141	6274.6	4	10.556	0.030	819093	270.1
Total Col1Ave (4 peaks):				8317.1		Total Col2Ave (4 peaks):			858.4	RPD = 163*
Corrected Ave (3 peaks):				3583.8		Corrected Ave (3 peaks):			296.8	RPD = 169*
Aroclor-1221	1	4.734	0.020	862703	1913.9	1	---			0.0
Aroclor-1221	2	6.702	0.012	1404788	1938.8	2	7.580	-0.043	64336569	46508.7
Aroclor-1221	3	6.842	0.027	7903298	3652.0	3	7.752	-0.011	5583947	1275.9
Aroclor-1221	NS	---			----	4	8.648	0.005	20206499	13929.7
Total Col1Ave (3 peaks):				2501.6		Total Col2Ave (3 peaks):			20571.4	RPD = 157*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.734	0.020	862703	3374.5	1	---			0.0
Aroclor-1232	2	6.702	0.011	1404788	2885.4	2	7.580	-0.043	64336569	76279.9
Aroclor-1232	3	6.842	0.027	7903298	5507.6	3	7.805	-0.047	1680985	3533.4
Aroclor-1232	4	8.628	0.073	9993223	4259.8	4	8.648	0.021	20206499	5464.5
Total Col1Ave (4 peaks):				4006.8		Total Col2Ave (3 peaks):			28425.9	RPD = 151*
Corrected Ave (3 peaks):				3506.6		Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.628	0.072	9993223	2281.0	1	8.648	0.021	20206499	3272.7
Aroclor-1242	2	8.881	0.017	5184256	3223.4	2	9.343	-0.010	2895130	226.5
Aroclor-1242	3	9.729	0.059	13435141	6607.1	3	9.846	0.065	328649	99.6
Aroclor-1242	4	---			0.0	4	10.896	0.017	126689	28.5
Total Col1Ave (3 peaks):				4037.2		Total Col2Ave (4 peaks):			906.8	RPD = 127*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			118.2	
Aroclor-1248	1	8.628	0.075	9993223	3888.3	1	9.343	-0.007	2895130	379.6
Aroclor-1248	2	9.498	0.020	12229388	6389.8	2	9.874	-0.008	522957	93.0
Aroclor-1248	3	9.729	0.060	13435141	4676.4	3	10.795	-0.002	196832	22.9
Aroclor-1248	4	---			0.0	4	11.212	-0.031	54470	6.3
Total Col1Ave (3 peaks):				4984.9		Total Col2Ave (4 peaks):			125.5	RPD = 190*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):			40.8	
Aroclor-1254	1	---			0.0	1	11.109	-0.008	112505	14.0
Aroclor-1254	2	---			0.0	2	11.212	0.000	54470	14.5
Aroclor-1254	3	10.863	0.013	78291	30.4	3	11.651	-0.003	39085	6.5
Aroclor-1254	4	10.986	-0.005	121278	24.0	4	11.803	-0.004	151078	11.0
Aroclor-1254	5	11.338	-0.008	98382	19.9	5	12.815	-0.002	112743	11.1
Total Col1Ave (3 peaks):				24.7		Total Col2Ave (5 peaks):			11.4	RPD = 73*
Corrected Ave: < 3 Peaks						Corrected Ave (4 peaks):			10.7	
Aroclor-1260	1	12.261	0.001	100557	48.1	1	12.815	-0.002	112743	9.6
Aroclor-1260	2	12.940	-0.001	85909	10.8	2	13.580	-0.001	118190	5.2
Aroclor-1260	3	13.328	-0.000	29114	8.5	3	14.074	-0.001	98046	6.5
Aroclor-1260	4	13.428	-0.003	36393	17.1	4	14.624	-0.001	48740	8.4
Aroclor-1260	5	13.831	-0.012	25854	20.9	NS	---			----
Total Col1Ave (5 peaks):				21.1		Total Col2Ave (4 peaks):			7.4	RPD = 96*
Corrected Ave (4 peaks):				14.3		Corrected Ave (3 peaks):			6.7	RPD = 73*
Aroclor-1262	1	12.261	0.001	100557	36.1	1	12.904	-0.001	53233	4.1
Aroclor-1262	2	12.940	-0.000	85909	10.5	2	13.349	-0.000	76808	6.4
Aroclor-1262	3	13.328	-0.001	29114	11.3	3	13.580	-0.000	118190	4.8
Aroclor-1262	4	13.428	-0.002	36393	9.3	4	14.074	-0.001	98046	6.1
Aroclor-1262	5	14.055	-0.001	28996	6.6	5	14.624	-0.001	48740	6.0
Total Col1Ave (5 peaks):				14.8		Total Col2Ave (5 peaks):			5.5	RPD = 92*
Corrected Ave (4 peaks):				9.4		Corrected Ave (4 peaks):			5.3	RPD = 57*
Aroclor-1268	1	13.428	-0.003	36393	3.2	1	14.021	-0.000	70758	2.8
Aroclor-1268	2	13.495	-0.000	35385	2.5	2	14.074	-0.002	98046	4.1
Aroclor-1268	3	13.831	0.003	25854	2.0	3	14.388	-0.000	32024	1.7

Aroclor-1268 4	---	0.0	4	14.974	0.000	78690	1.4	

Total Col1Ave (3 peaks): 2.6 Total Col2Ave (4 peaks): 2.5 RPD = 3

Corrected Ave: < 3 Peaks Corrected Ave (3 peaks): 2.0

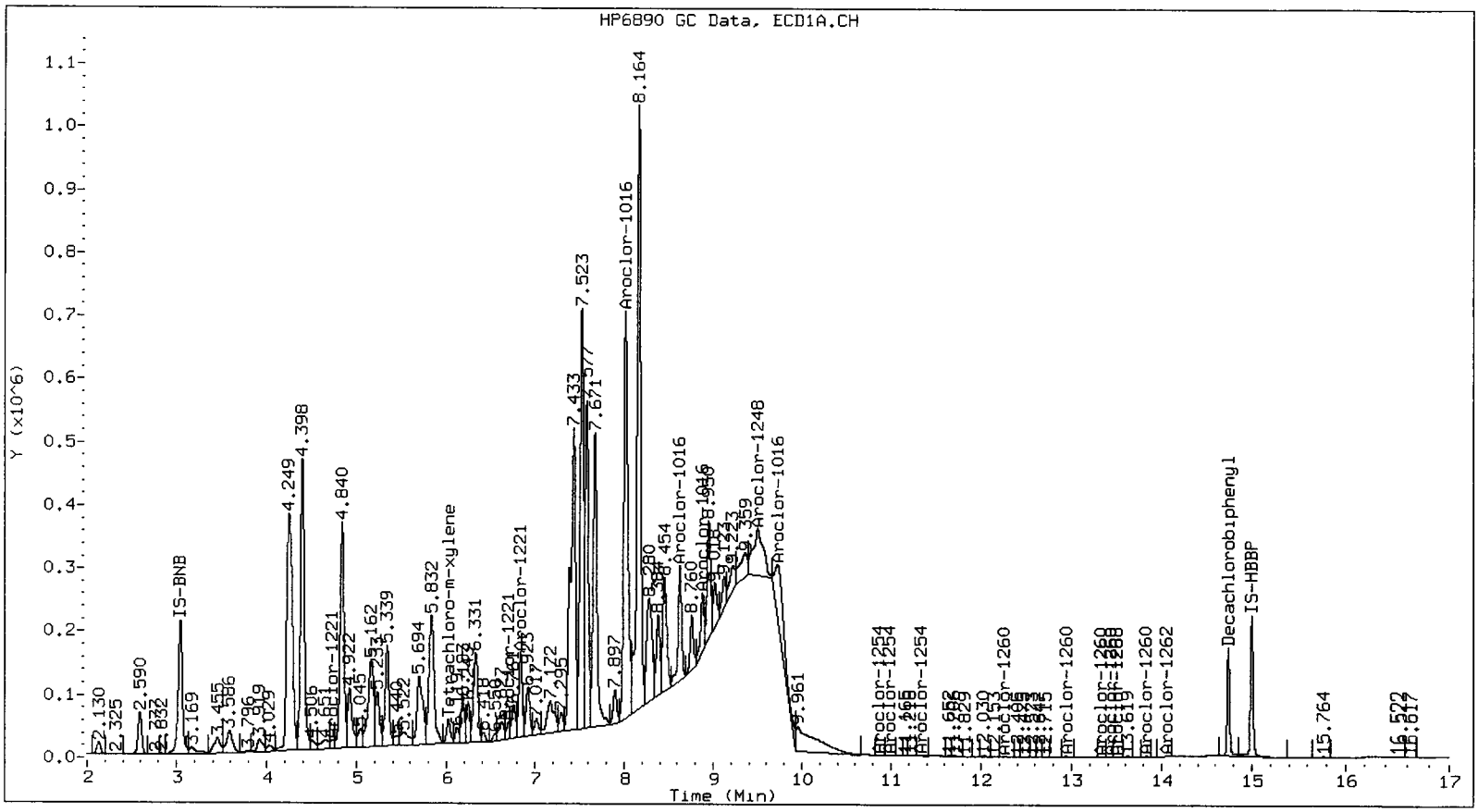
Total PCB Area Col1 (6.123 - 14.643) = 398280812 Col1 Total PCB = 6.7 ppm*

Total PCB Area Col2 (6.123 - 14.643) = 398367398 Col2 Total PCB = 3.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9F 24-FEB-2016 22:08, 2ul



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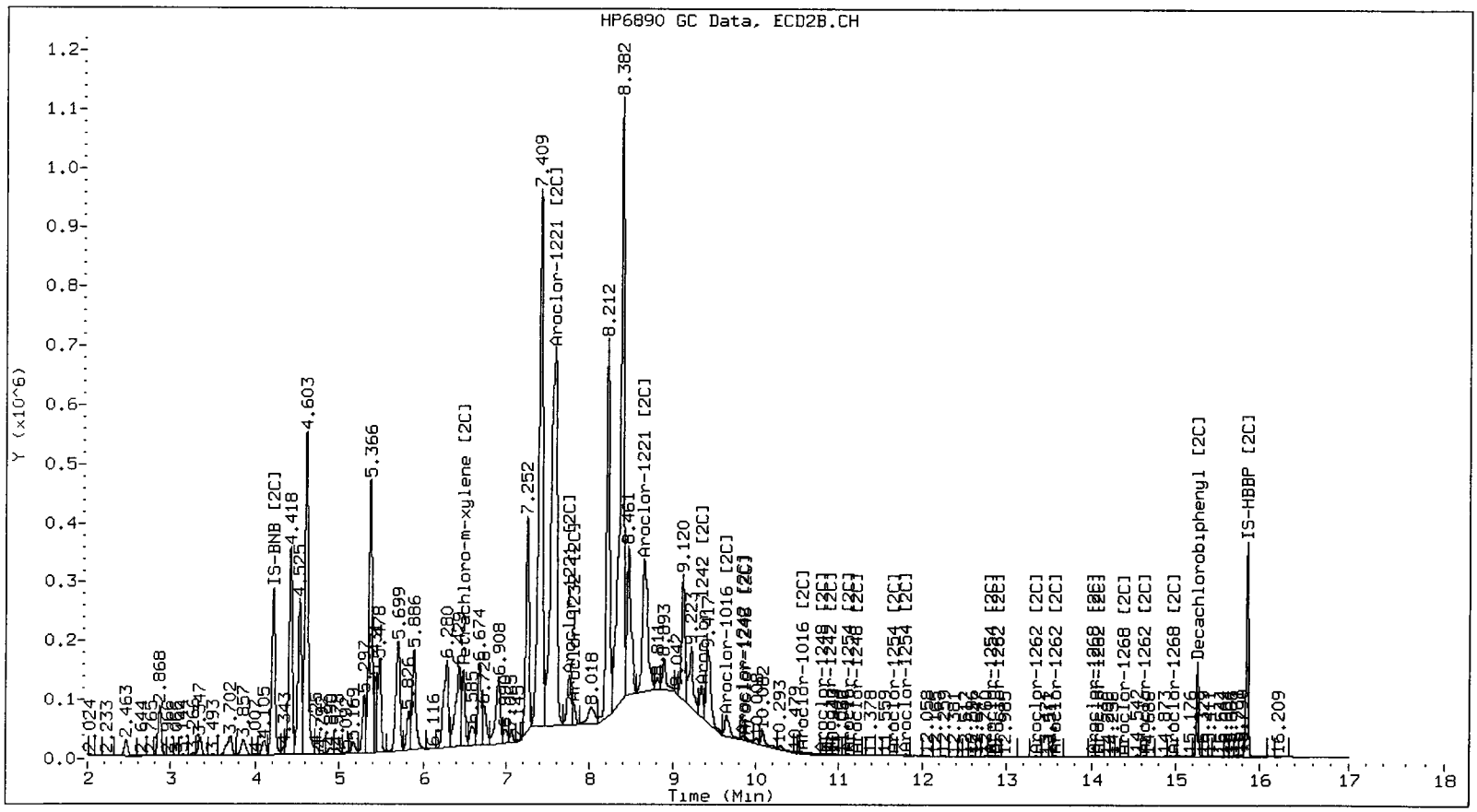

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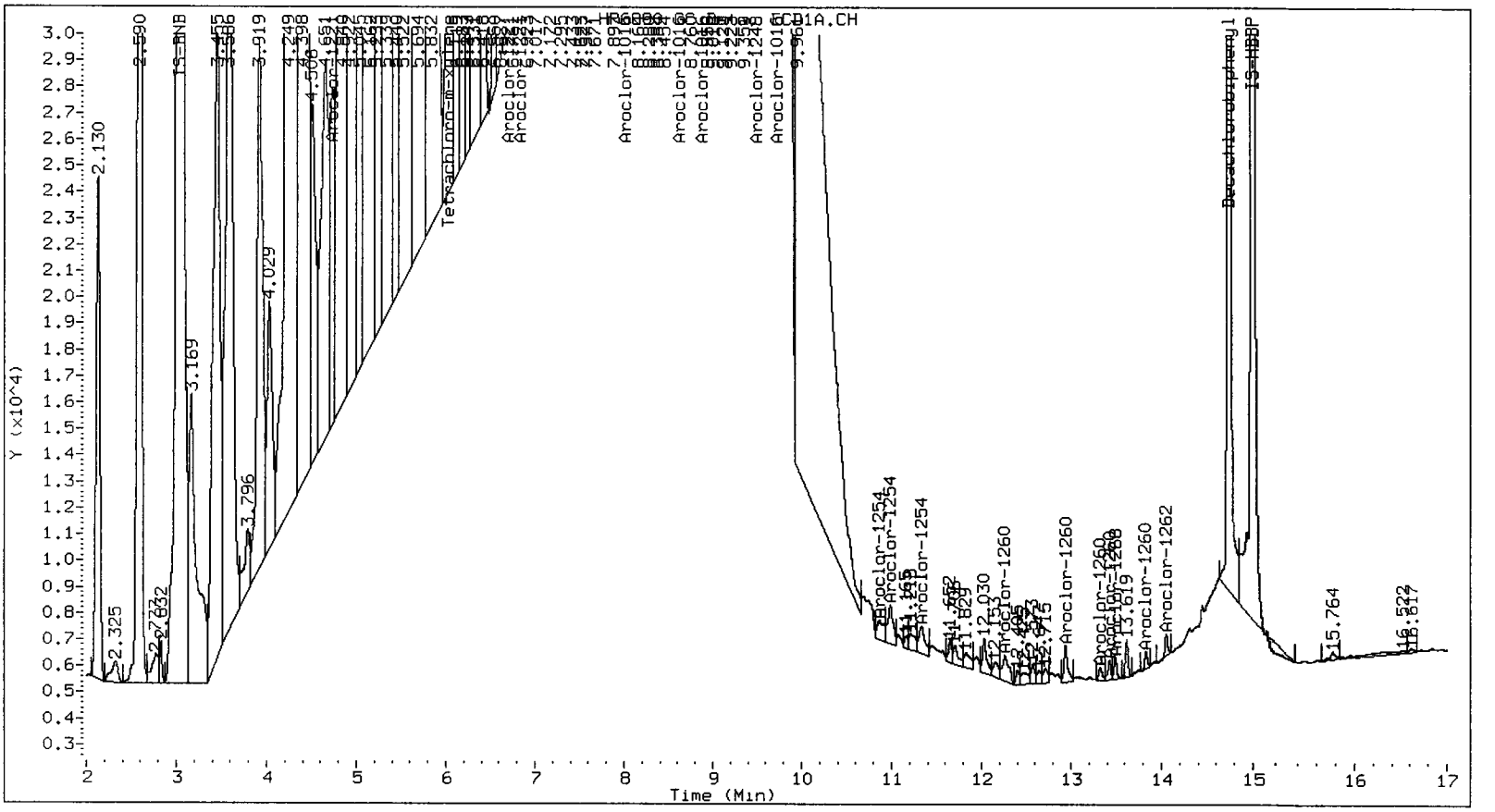

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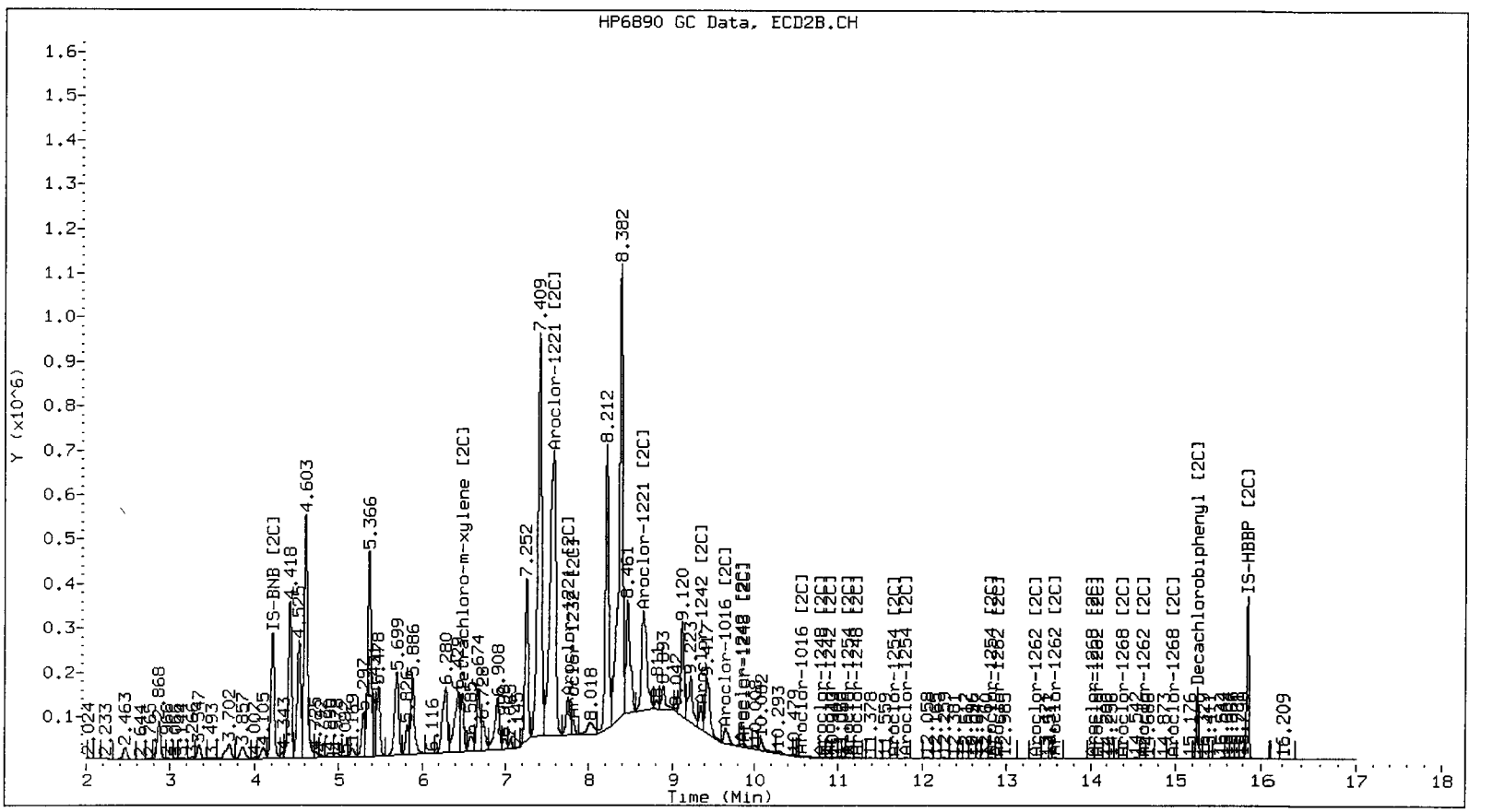

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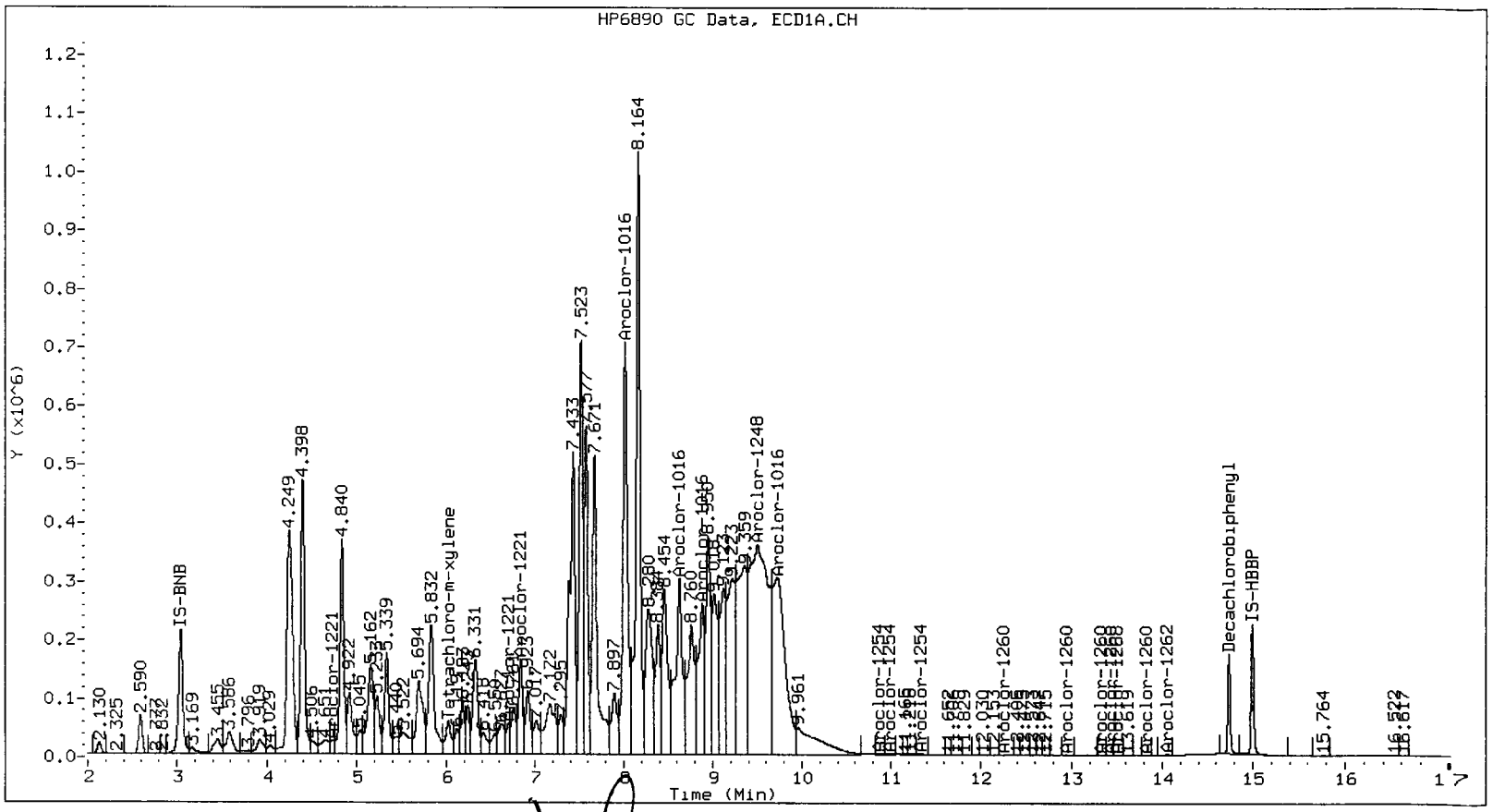

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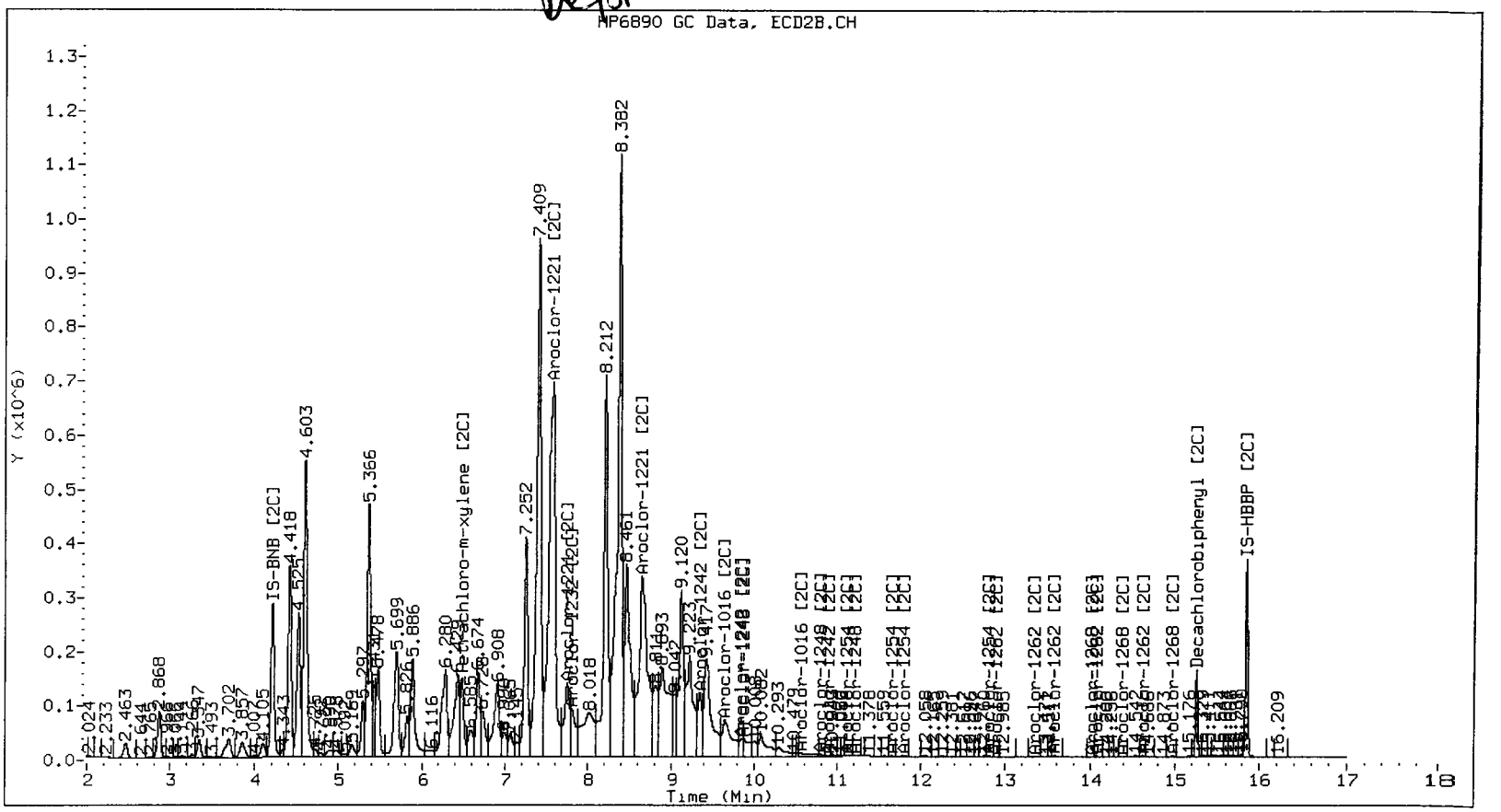


AVZ9:66498

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241625.D
Data file 2: /20160224.b/20160224.b/02241625.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9G
Client ID: JF-PDS-1-0-1ft-1602
Injection Date: 24-FEB-2016 23:57
Report Date: 02/26/2016 09:46
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
6.024	0.000	2042749	6.481	0.000	6803430	28.9	39.1	30.0	Tetrachloro-m-xyle
14.742	-0.001	6181211	15.260	-0.000	5476058	56.5	35.7	45.1*	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	72.3	97.8
Decachlorobiphenyl	141.4	89.3

JL 02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	13036478	26.7
Hexabromobiphenyl	12470452	8190226	-34.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15003909	-5.1
Hexabromobiphenyl	11807823	11981675	1.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

AVZ9 . 68499

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	8.017	-0.026	24195522	14499.0	1	8.647	0.020	14018522	1875.0
Aroclor-1016	2	8.555	0.001	603701	117.3	2	9.346	-0.007	3410172	221.5
Aroclor-1016	3	8.881	0.019	3634620	2069.3	3	9.557	-0.029	362294	59.0
Aroclor-1016	4	9.729	0.059	26873385	13719.9	4	10.525	-0.001	898862	315.0
Total Col1Ave (4 peaks):		7601.4				Total Col2Ave (4 peaks):		617.6	RPD = 170*	
Corrected Ave (3 peaks):		5302.2				Corrected Ave (3 peaks):		198.5	RPD = 186*	
Aroclor-1221	1	4.735	0.020	329782	799.8	1	---			0.0
Aroclor-1221	2	6.705	0.014	895998	1351.8	2	7.582	-0.041	52006477	39955.5
Aroclor-1221	3	6.843	0.028	6182678	3123.1	3	7.755	-0.009	3340197	811.1
Aroclor-1221	NS	---			----	4	8.647	0.004	14018522	10270.6
Total Col1Ave (3 peaks):		1758.2				Total Col2Ave (3 peaks):		17012.4	RPD = 163*	
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.735	0.020	329782	1410.1	1	---			0.0
Aroclor-1232	2	6.705	0.014	895998	2011.8	2	7.582	-0.041	52006477	65531.8
Aroclor-1232	3	6.843	0.028	6182678	4709.9	3	7.812	-0.040	1717134	3836.0
Aroclor-1232	4	8.555	0.001	603701	281.3	4	8.647	0.019	14018522	4029.0
Total Col1Ave (4 peaks):		2103.3				Total Col2Ave (3 peaks):		24465.6	RPD = 168*	
Corrected Ave (3 peaks):		1234.4				Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.555	-0.001	603701	150.6	1	8.647	0.019	14018522	2413.0
Aroclor-1242	2	8.881	0.018	3634620	2470.4	2	9.346	-0.007	3410172	283.5
Aroclor-1242	3	9.729	0.058	26873385	14446.8	3	9.775	-0.006	182827	58.9
Aroclor-1242	4	10.067	-0.005	692284	515.0	4	10.874	-0.005	1211795	289.8
Total Col1Ave (4 peaks):		4395.7				Total Col2Ave (4 peaks):		761.3	RPD = 141*	
Corrected Ave (3 peaks):		1045.3				Corrected Ave (3 peaks):		210.7	RPD = 133*	
Aroclor-1248	1	8.555	0.002	603701	256.8	1	9.346	-0.004	3410172	475.2
Aroclor-1248	2	9.493	0.016	13236988	7560.6	2	9.880	-0.002	4377134	827.5
Aroclor-1248	3	9.729	0.059	26873385	10225.3	3	10.794	-0.003	1537651	190.3
Aroclor-1248	4	10.067	-0.004	692284	316.8	4	11.209	-0.034	2411131	298.7
Total Col1Ave (4 peaks):		4889.9				Total Col2Ave (4 peaks):		447.9	RPD = 164*	
Corrected Ave (3 peaks):		2711.4				Corrected Ave (3 peaks):		321.4	RPD = 158*	
		350		321.4				300		
Aroclor-1254	1	10.462	-0.002	1183991	410.3	1	11.110	-0.002	3940792	522.4
Aroclor-1254	2	10.541	-0.004	561312	583.5	2	11.209	-0.003	2411131	682.2
Aroclor-1254	3	10.849	-0.001	1166633	494.5	3	11.651	-0.003	2796504	493.9
Aroclor-1254	4	10.987	-0.004	2756097	595.3	4	11.803	-0.005	8187057	633.9
Aroclor-1254	5	11.340	-0.006	2714871	598.9	5	12.814	-0.002	6086967	639.6
Total Col1Ave (5 peaks):		536.5				Total Col2Ave (5 peaks):		594.4	RPD = 10	
Corrected Ave (4 peaks):		520.9				Corrected Ave (4 peaks):		572.4	RPD = 9	
Aroclor-1260	1	12.259	-0.000	819321	411.9	1	12.814	-0.002	6086967	551.0
Aroclor-1260	2	12.939	-0.002	1947461	257.3	2	13.580	-0.001	3608841	168.4
Aroclor-1260	3	13.325	-0.004	952417	293.0	3	14.074	-0.001	3976652	281.1
Aroclor-1260	4	13.429	-0.002	1803095	892.7	4	14.624	-0.001	1776961	327.5
Aroclor-1260	5	13.829	-0.013	1078669	914.4	NS	---			----
Total Col1Ave (5 peaks):		583.9				Total Col2Ave (4 peaks):		332.0	RPD = 50*	
Corrected Ave (4 peaks):		463.7				Corrected Ave (3 peaks):		259.0	RPD = 57*	
Aroclor-1262	1	12.259	-0.000	819321	309.1	1	12.904	-0.001	1776650	145.8
Aroclor-1262	2	12.939	-0.001	1947461	250.6	2	13.348	-0.000	3196134	283.8
Aroclor-1262	3	13.325	-0.004	952417	386.8	3	13.580	-0.000	3608841	157.1
Aroclor-1262	4	13.429	-0.001	1803095	485.9	4	14.074	-0.001	3976652	266.0
Aroclor-1262	5	14.054	-0.002	1570473	376.7	5	14.624	-0.001	1776961	231.9
Total Col1Ave (5 peaks):		361.8				Total Col2Ave (5 peaks):		216.9	RPD = 50*	
Corrected Ave (4 peaks):		330.8				Corrected Ave (4 peaks):		200.2	RPD = 49*	
Aroclor-1268	1	13.429	-0.001	1803095	167.0	1	14.021	0.000	2597598	108.7
Aroclor-1268	2	13.493	-0.001	2318316	173.1	2	14.074	-0.002	3976652	178.0
Aroclor-1268	3	13.829	0.002	1078669	89.0	3	14.388	0.000	823574	45.8

Aroclor-1268	4	14.444	-0.002	3023499	68.9	4	14.973	-0.001	3171445	61.8

Total Col1Ave (4 peaks): 124.5 Total Col2Ave (4 peaks): 98.6 RPD = 23

Corrected Ave (3 peaks): 108.3 Corrected Ave (3 peaks): 72.1 RPD = 40*

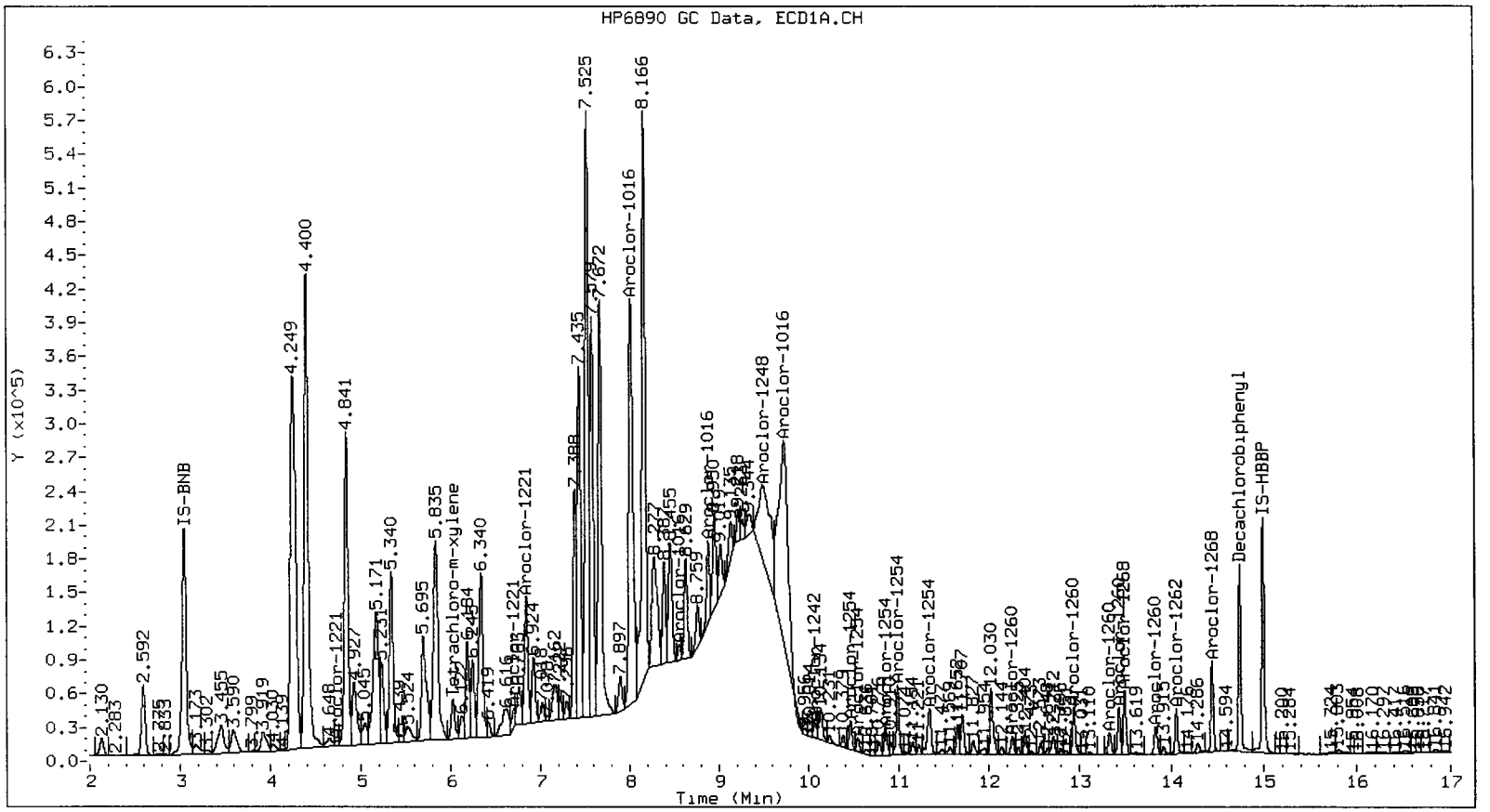
Total PCB Area Col1 (6.123 - 14.643) = 314552813 Col1 Total PCB = 5.8 ppm*

Total PCB Area Col2 (6.123 - 14.643) = 398143638 Col2 Total PCB = 3.2 ppm*

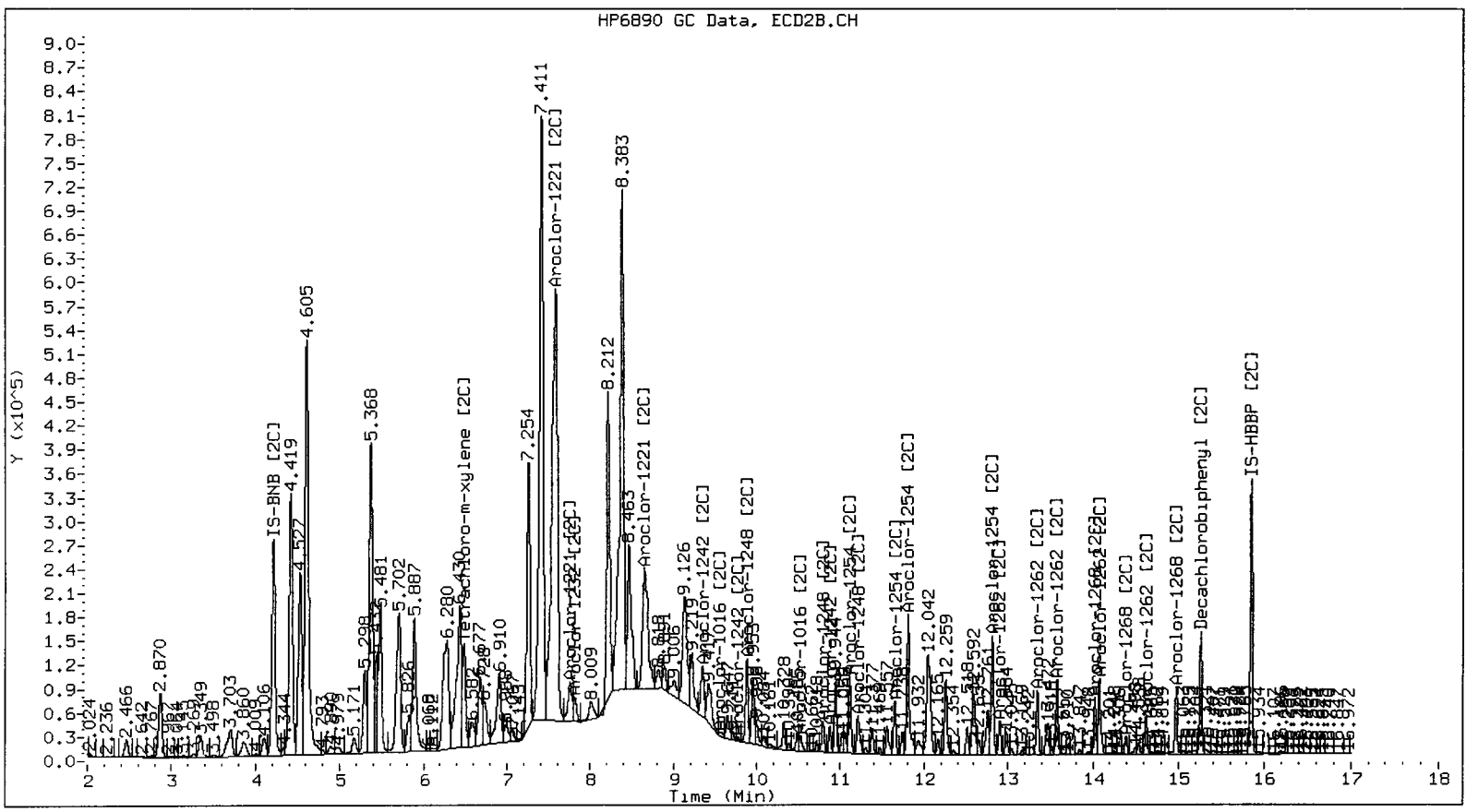
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

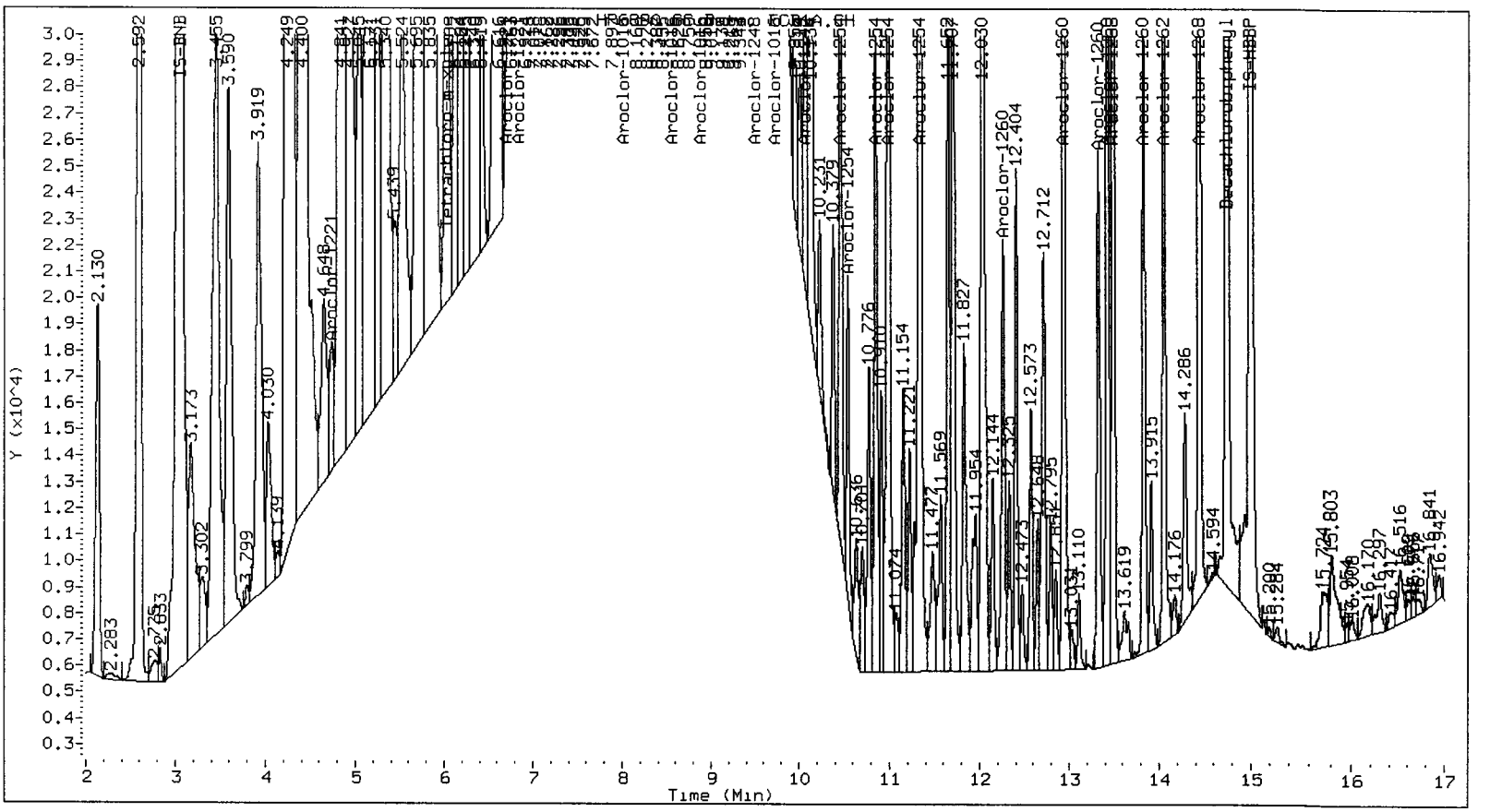
ECD7-ZB5 AVZ9G 24-FEB-2016 23:57, 2ul



ECD7-ZB35 AVZ9G 24-FEB-2016 23:57, 2ul



ECD7-ZB5 AVZ9G 24-FEB-2016 23:57, 2ul



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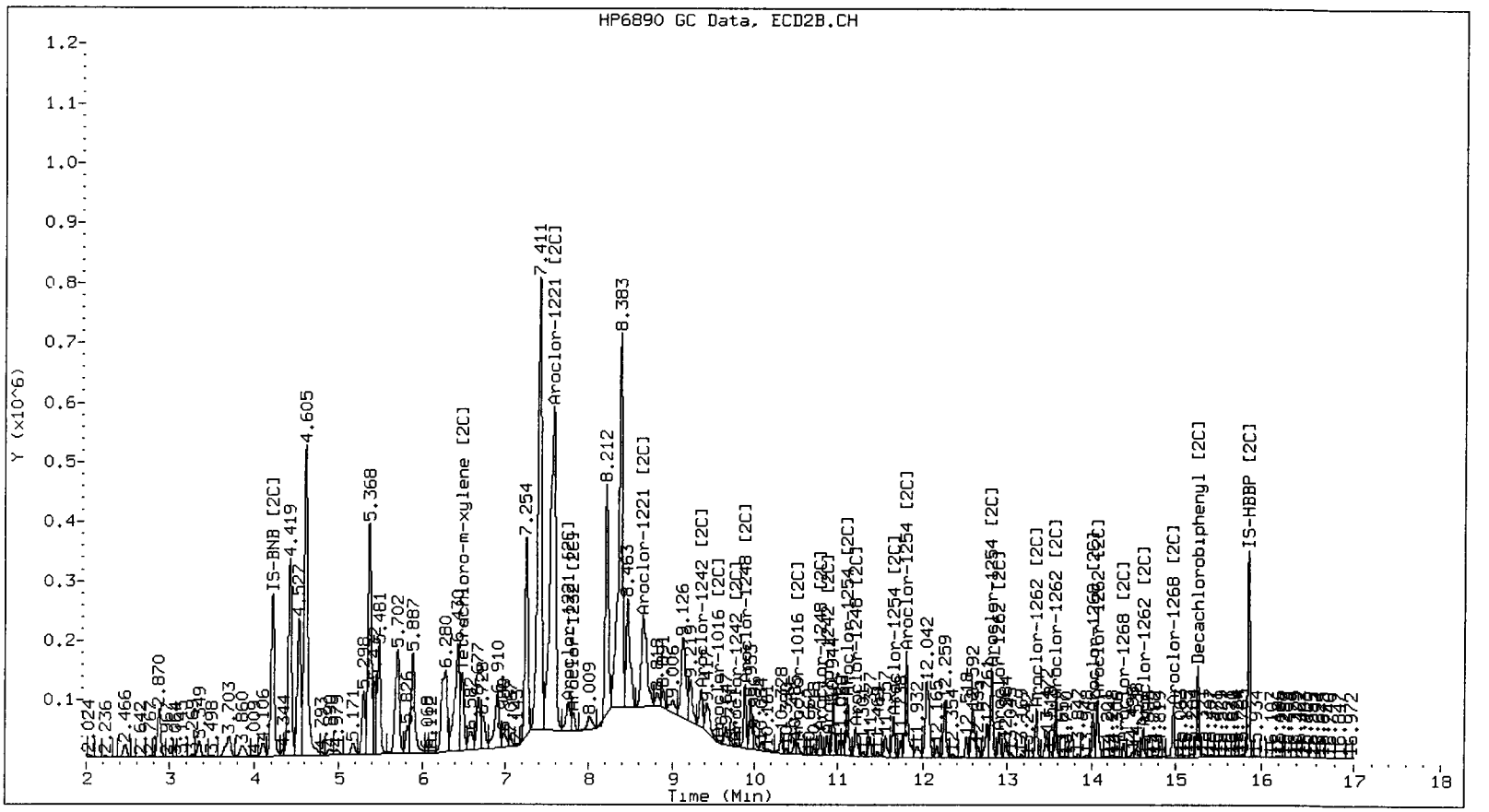

AVZ9:99583

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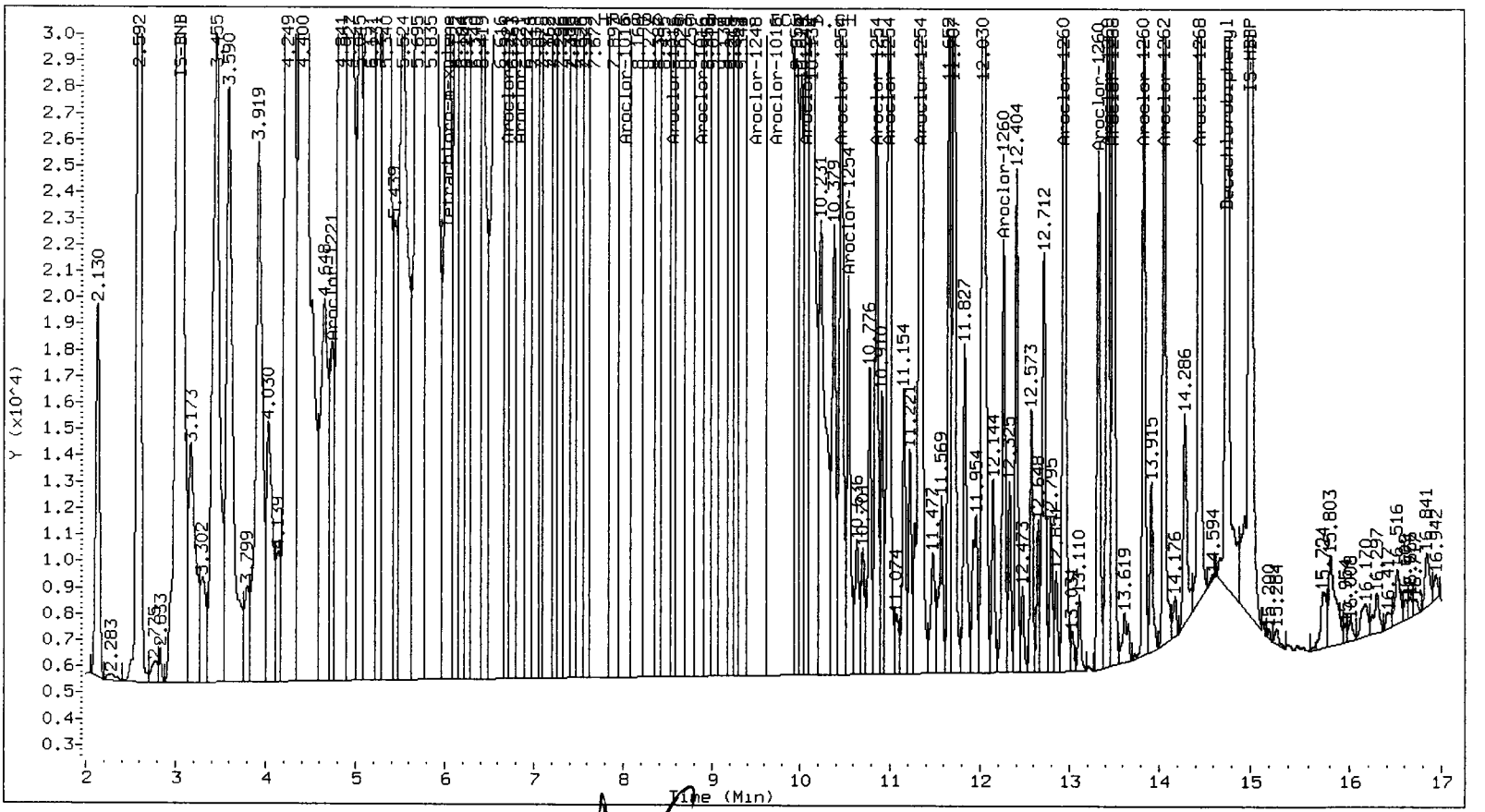
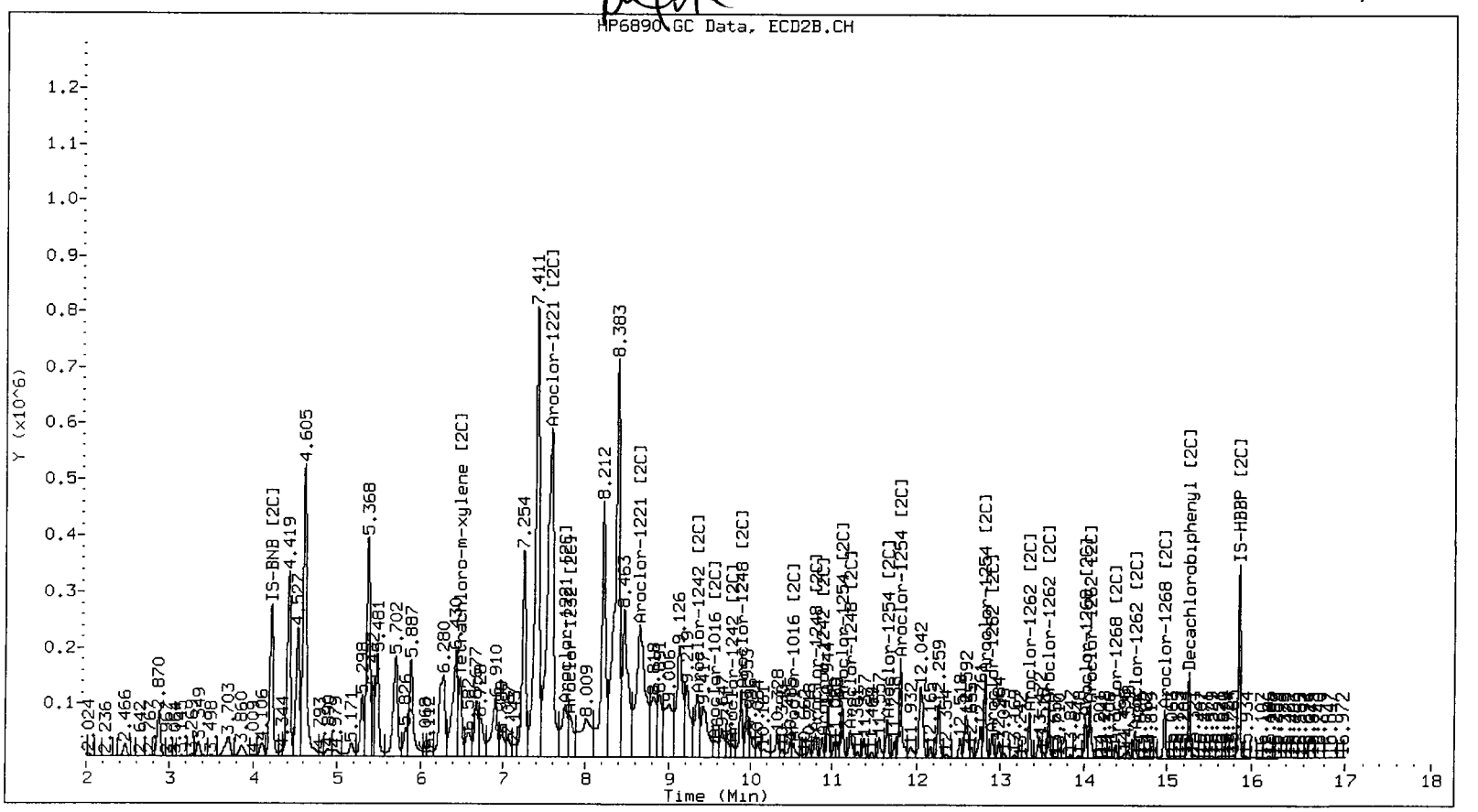


ECD7-ZB35 AVZ9G 24-FEB-2016 23:57, 2ul

HP6890 GC Data, ECD2B.CH



AVZ9 . 6656H

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241626.D
Data file 2: /20160224.b/20160224.b/02241626.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9H
Client ID: JF-PDS-1-1-2ft-1602
Injection Date: 25-FEB-2016 00:19
Report Date: 02/26/2016 09:46
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
6.025	0.001	1727725	6.482	0.001	5681476	28.1	32.0	13.0	Tetrachloro-m-xyle
14.743	-0.000	6401155	15.260	0.000	5524831	45.8	33.2	32.1	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	70.2	80.0
Decachlorobiphenyl	114.6	82.9

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	11352281	10.3
Hexabromobiphenyl	12470452	10460536	-16.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15314346	-3.1
Hexabromobiphenyl	11807823	13019686	10.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.016	-0.028	767689	528.3	1	8.647	0.020	987821	129.4
Aroclor-1016	2	8.551	-0.003	61141	13.6	2	9.346	-0.007	300751	19.1
Aroclor-1016	3	8.881	0.018	284883	186.3	3	9.647	0.061	174434	27.8
Aroclor-1016	4	9.673	0.003	46428	27.2	4	10.526	-0.000	87149	29.9
Total Col1Ave (4 peaks):				188.9		Total Col2Ave (4 peaks):			51.6	RPD = 114*
Corrected Ave (3 peaks):				75.7		Corrected Ave (3 peaks):			25.6	RPD = 99*
Aroclor-1221	1	4.738	0.024	124465	346.6	1	---			0.0
Aroclor-1221	2	6.704	0.014	59888	103.8	2	7.583	-0.040	2245469	1690.2
Aroclor-1221	3	6.843	0.028	275090	159.6	3	7.755	-0.008	330965	78.7
Aroclor-1221	NS	---			----	4	8.647	0.004	987821	709.1
Total Col1Ave (3 peaks):				203.3		Total Col2Ave (3 peaks):			826.0	RPD = 121*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.738	0.024	124465	611.2	1	---			0.0
Aroclor-1232	2	6.704	0.014	59888	154.4	2	7.583	-0.040	2245469	2772.1
Aroclor-1232	3	6.843	0.028	275090	240.7	3	7.755	-0.097	330965	724.4
Aroclor-1232	4	8.551	-0.003	61141	32.7	4	8.647	0.019	987821	278.2
Total Col1Ave (4 peaks):				259.7		Total Col2Ave (3 peaks):			1258.2	RPD = 132*
Corrected Ave (3 peaks):				142.6		Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.551	-0.005	61141	17.5	1	8.647	0.020	987821	166.6
Aroclor-1242	2	8.881	0.017	284883	222.4	2	9.346	-0.007	300751	24.5
Aroclor-1242	3	9.673	0.003	46428	28.7	3	9.880	0.098	235915	74.4
Aroclor-1242	4	10.071	-0.001	29911	25.6	4	10.876	-0.003	64443	15.1
Total Col1Ave (4 peaks):				73.5		Total Col2Ave (4 peaks):			70.2	RPD = 5
Corrected Ave (3 peaks):				23.9		Corrected Ave (3 peaks):			38.0	RPD = 46*
Aroclor-1248	1	8.551	-0.002	61141	29.9	1	9.346	-0.004	300751	41.1
Aroclor-1248	2	9.496	0.018	153676	100.8	2	9.880	-0.002	235915	43.7
Aroclor-1248	3	9.673	0.003	46428	20.3	3	10.795	-0.002	85592	10.4
Aroclor-1248	4	10.071	0.000	29911	15.7	4	11.210	-0.033	136678	16.6
Total Col1Ave (4 peaks):				41.7		Total Col2Ave (4 peaks):			27.9	RPD = 39
Corrected Ave (3 peaks):				22.0		Corrected Ave (3 peaks):			22.7	RPD = 3
Aroclor-1254	1	10.462	-0.002	117867	46.9	1	11.111	-0.002	216810	28.2
Aroclor-1254	2	10.544	-0.001	80871	36.5	2	11.210	-0.002	136678	37.9
Aroclor-1254	3	10.852	0.002	54922	26.7	3	11.652	-0.001	123602	21.4
Aroclor-1254	4	10.989	-0.002	179641	44.6	4	11.805	-0.003	456936	34.7
Aroclor-1254	5	11.336	-0.010	173800	44.0	5	12.816	-0.001	361077	37.2
Total Col1Ave (5 peaks):				51.8		Total Col2Ave (5 peaks):			31.9	RPD = 48*
Corrected Ave (4 peaks):				40.6		Corrected Ave (4 peaks):			30.3	RPD = 29
Aroclor-1260	1	12.260	-0.000	74309	29.2	1	12.816	-0.001	361077	30.1
Aroclor-1260	2	12.941	-0.000	128582	13.3	2	13.581	-0.001	264127	11.3
Aroclor-1260	3	13.326	-0.002	64088	15.4	3	14.075	-0.000	325619	21.2
Aroclor-1260	4	13.430	-0.001	114741	44.5	4	14.624	-0.002	239431	40.6
Aroclor-1260	5	13.832	-0.011	71868	47.7	NS	---			----
Total Col1Ave (5 peaks):				30.0		Total Col2Ave (4 peaks):			25.8	RPD = 15
Corrected Ave (4 peaks):				25.6		Corrected Ave (3 peaks):			20.8	RPD = 20
Aroclor-1262	1	12.260	-0.000	74309	22.0	1	12.905	-0.000	137502	10.4
Aroclor-1262	2	12.941	0.000	128582	13.0	2	13.349	-0.000	237872	19.4
Aroclor-1262	3	13.326	-0.003	64088	20.4	3	13.581	-0.000	264127	10.6
Aroclor-1262	4	13.430	-0.000	114741	24.2	4	14.075	-0.001	325619	20.0
Aroclor-1262	5	14.052	-0.003	189302	35.6	5	14.624	-0.001	239431	28.8
Total Col1Ave (5 peaks):				23.0		Total Col2Ave (5 peaks):			17.8	RPD = 25
Corrected Ave (4 peaks):				19.9		Corrected Ave (4 peaks):			15.1	RPD = 27
Aroclor-1268	1	13.430	-0.001	114741	8.3	1	14.015	-0.006	335760	12.9
Aroclor-1268	2	13.494	-0.000	131282	7.7	2	14.075	-0.001	325619	13.4
Aroclor-1268	3	13.832	0.004	71868	4.6	3	14.389	0.001	134831	6.9

Aroclor-1268	4	14.445	-0.001	112801	2.0	4	14.973	-0.001	453260	8.1

Total Col1Ave (4 peaks): 5.7 Total Col2Ave (4 peaks): 10.3 RPD = 58*

Corrected Ave (3 peaks): 4.8 Corrected Ave (3 peaks): 9.3 RPD = 64*

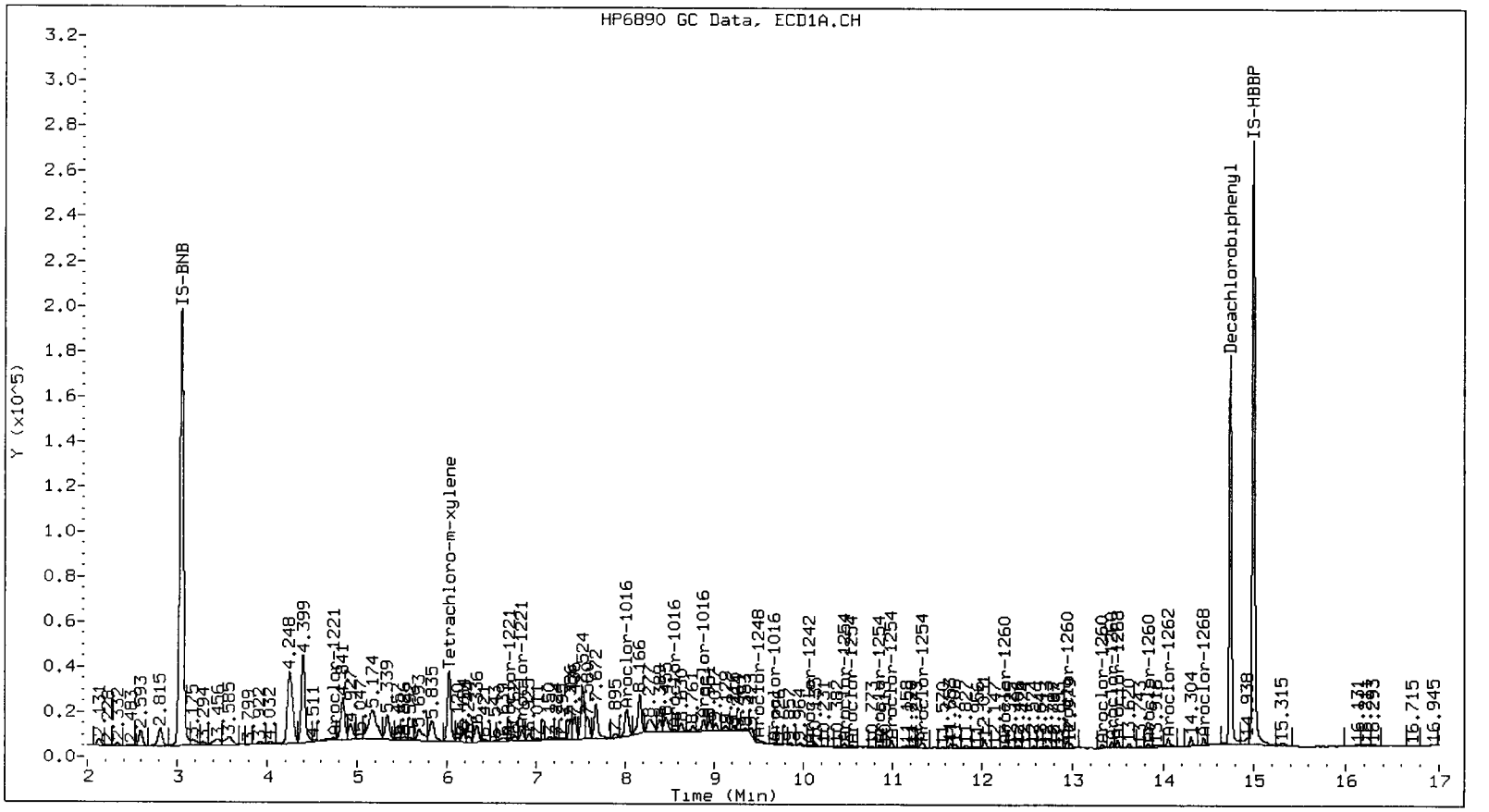
Total PCB Area Col1 (6.123 - 14.643) = 14025572 Col1 Total PCB = 0.3 ppm*

Total PCB Area Col2 (6.123 - 14.643) = 28056607 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9H 25-FEB-2016 00:19, 2ul



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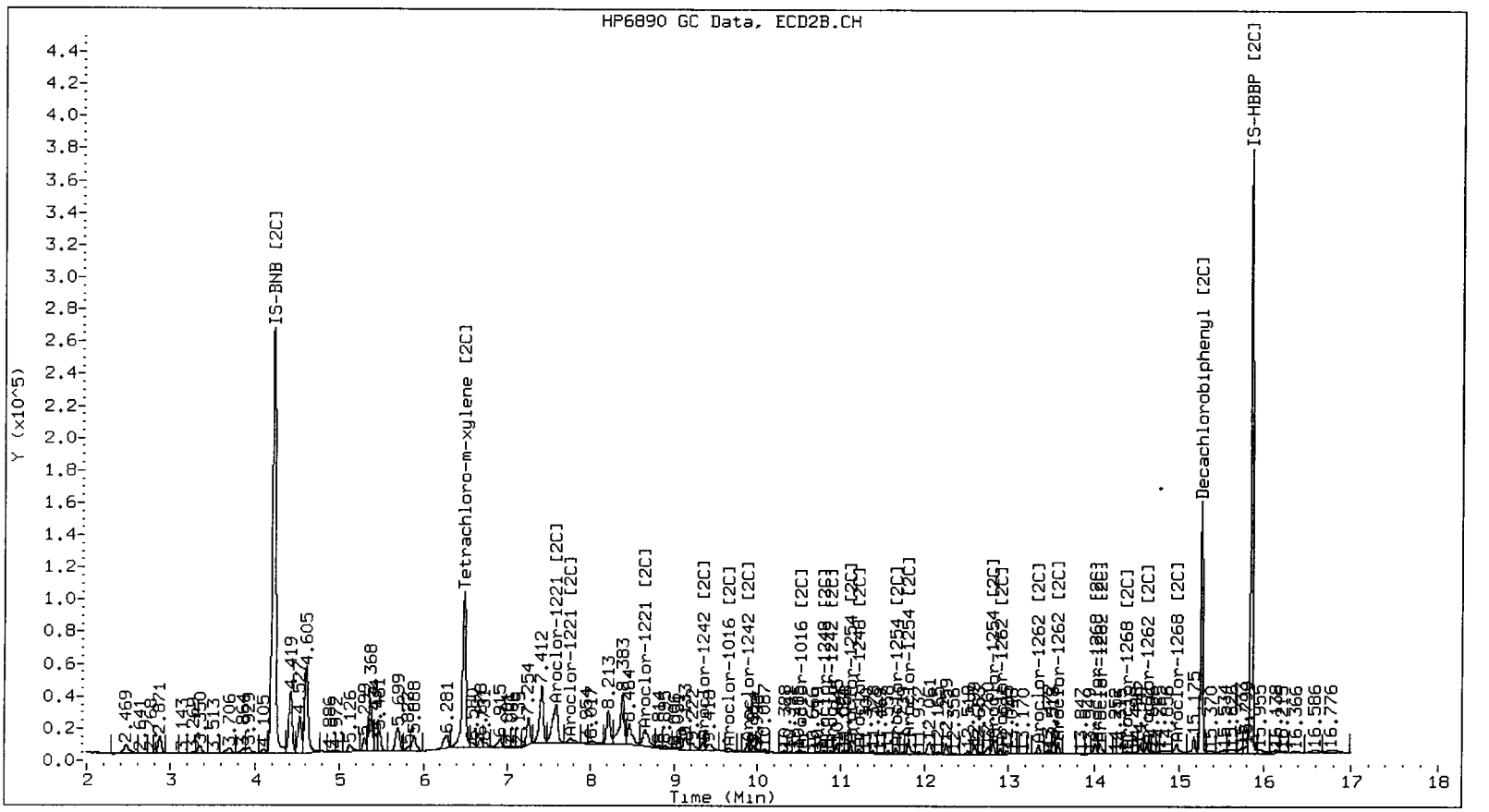

AVZ9:09569

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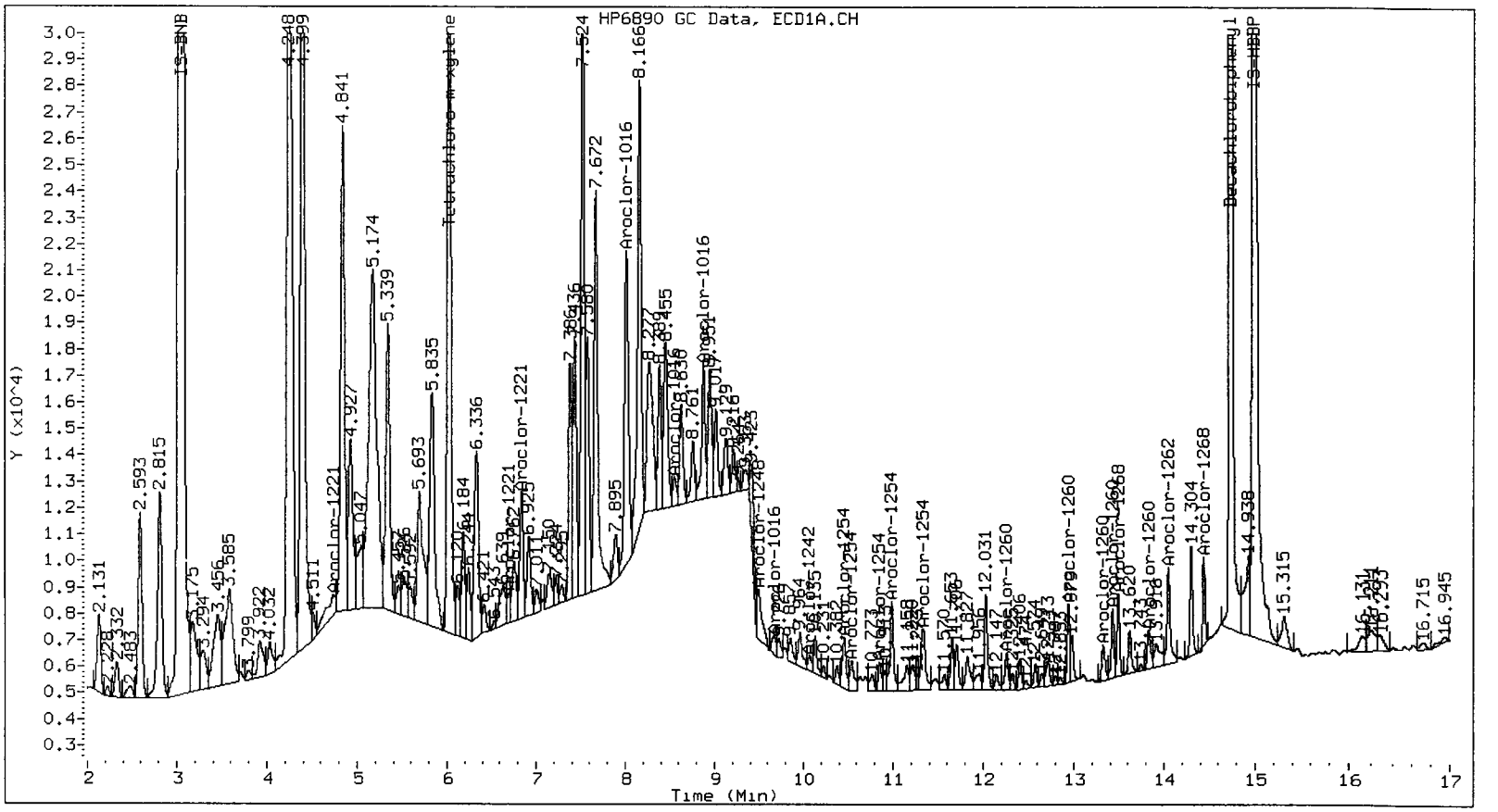

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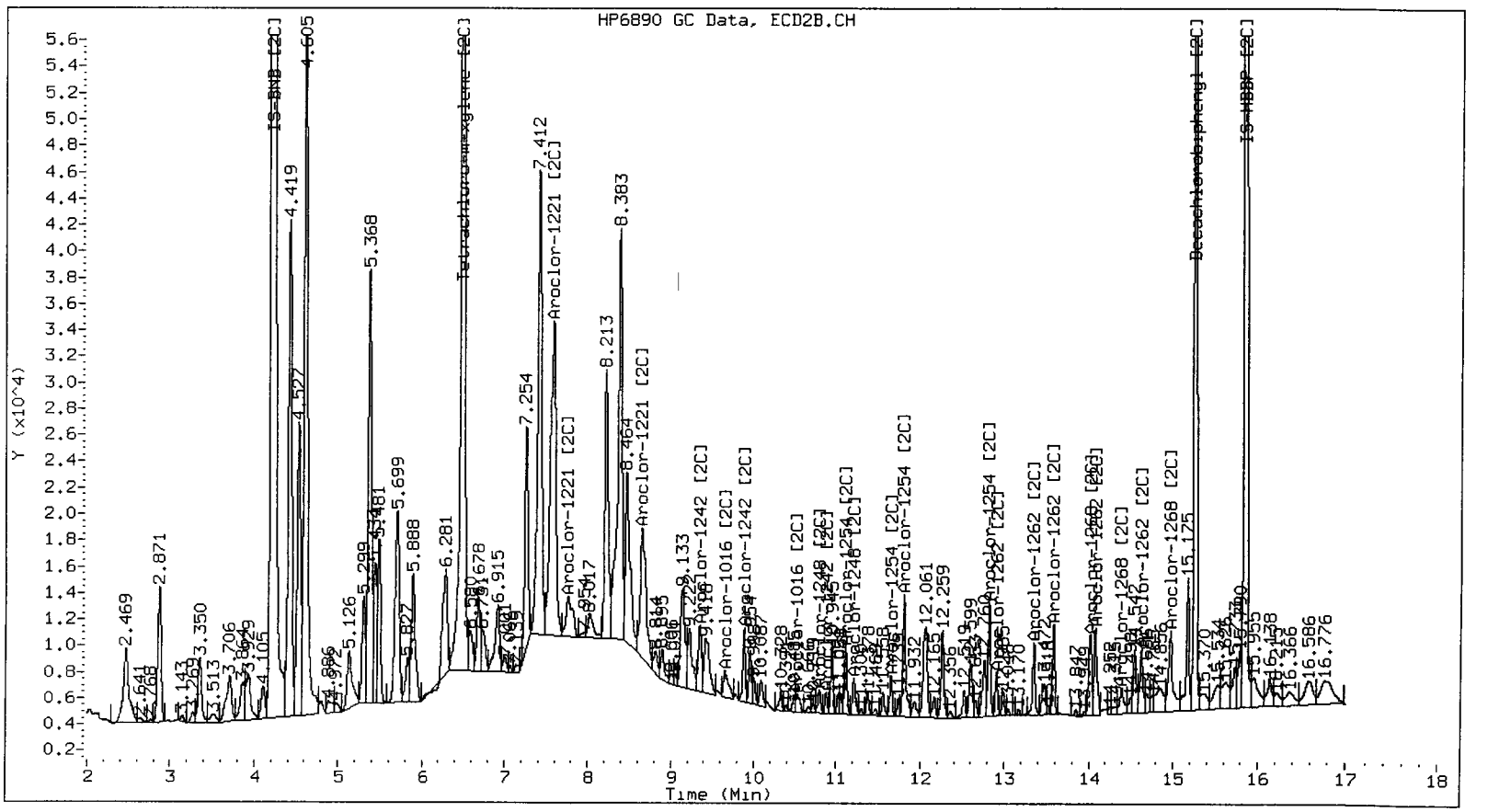

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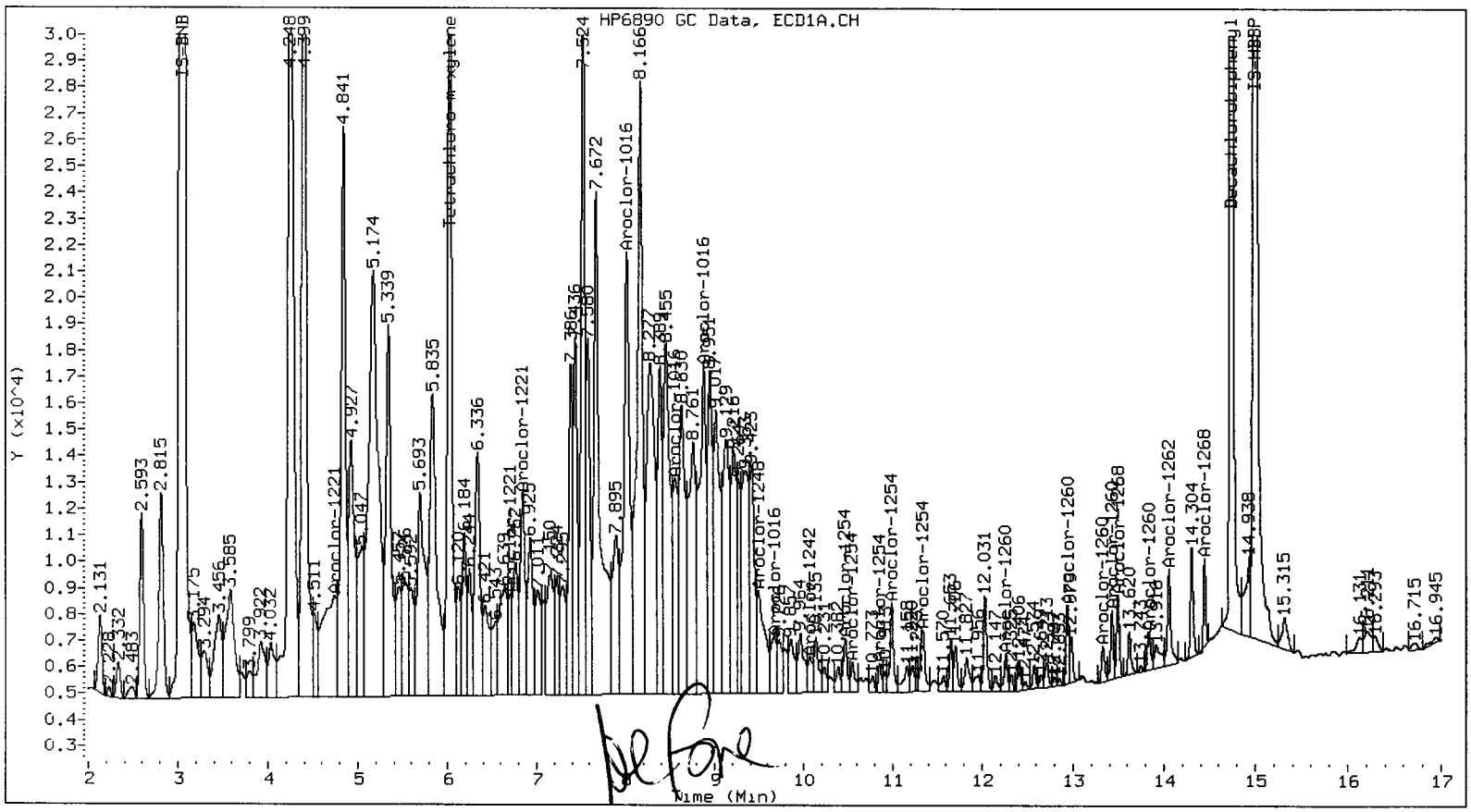

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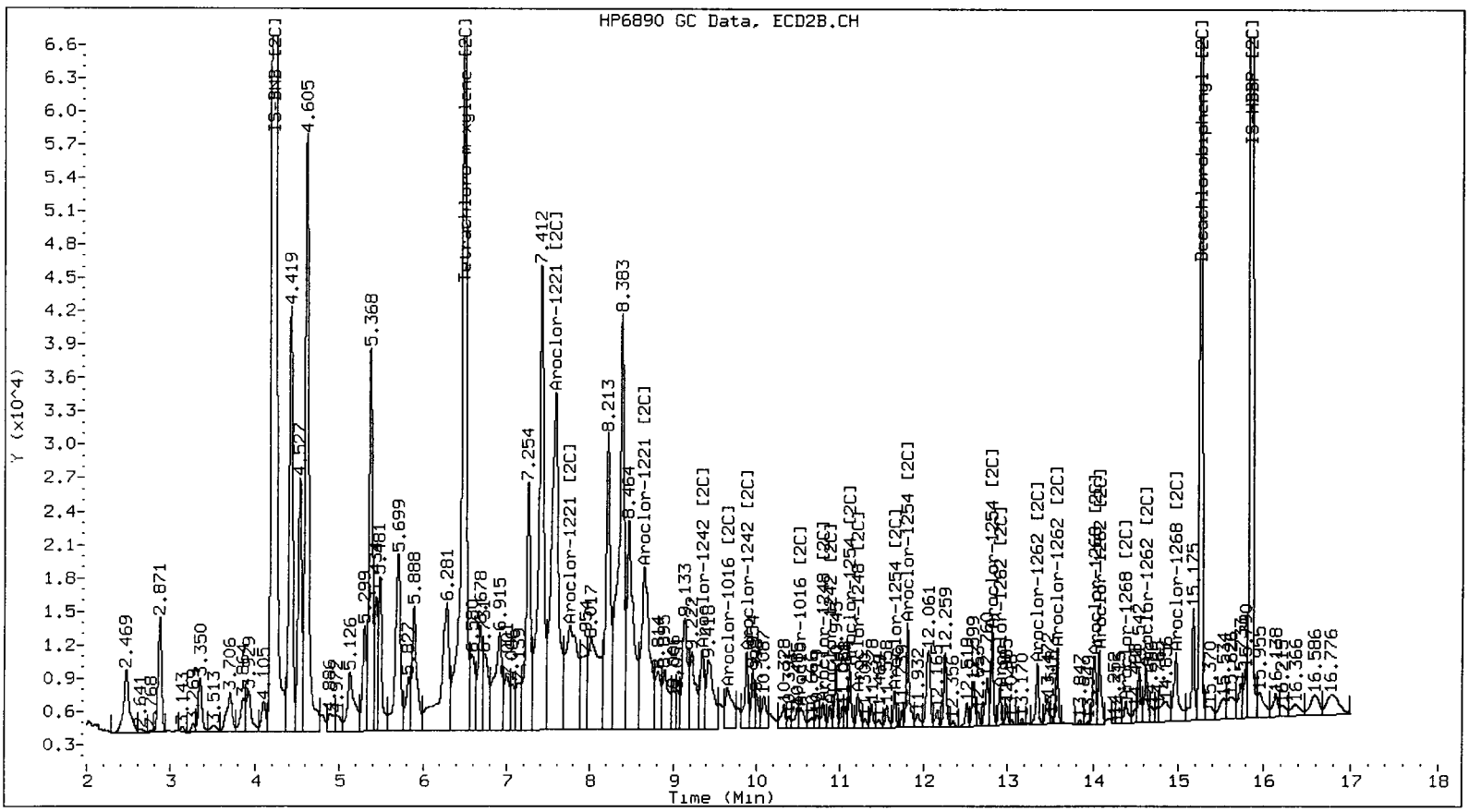


AVZ9:085519

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241627.D
Data file 2: /20160224.b/20160224.b/02241627.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9I
Client ID: JF-PDS-3-0-1ft-1602
Injection Date: 25-FEB-2016 00:41
Report Date: 02/26/2016 09:46
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
6.023	-0.000	1755593	6.480	-0.001	6685237	27.1	36.8	30.3	Tetrachloro-m-xyle
14.742	-0.001	5729128	15.260	0.000	5074038	42.9	30.5	33.8	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	67.7	91.9
Decachlorobiphenyl	107.4	76.4

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	11959482	16.2
Hexabromobiphenyl	12470452	9994460	-19.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15688984	-0.7
Hexabromobiphenyl	11807823	12985951	10.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.014	-0.030	1025824	670.1	1	8.647	0.020	1356182	173.5
Aroclor-1016	2	8.550	-0.004	105862	22.4	2	9.347	-0.006	540549	33.6
Aroclor-1016	3	8.879	0.016	541913	336.3	3	9.559	-0.028	36334	5.7
Aroclor-1016	4	9.648	-0.022	73512	40.9	4	10.525	-0.001	142757	47.8
Total Col1Ave (4 peaks):				267.4		Total Col2Ave (4 peaks):			65.1	RPD = 122*
Corrected Ave (3 peaks):				133.2		Corrected Ave (3 peaks):			29.0	RPD = 128*
Aroclor-1221	1	4.735	0.020	114442	302.5	1	---			0.0
Aroclor-1221	2	6.761	0.071	380262	625.4	2	7.582	-0.041	4109019	3019.0
Aroclor-1221	3	6.840	0.025	525082	289.1	3	7.753	-0.010	404026	93.8
Aroclor-1221	NS	---			----	4	8.647	0.004	1356182	950.2
Total Col1Ave (3 peaks):				405.7		Total Col2Ave (3 peaks):			1354.4	RPD = 108*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.735	0.020	114442	533.4	1	---			0.0
Aroclor-1232	2	6.761	0.071	380262	930.7	2	7.582	-0.041	4109019	4951.6
Aroclor-1232	3	6.840	0.026	525082	436.0	3	7.805	-0.046	300435	641.8
Aroclor-1232	4	8.550	-0.004	105862	53.8	4	8.647	0.019	1356182	372.8
Total Col1Ave (4 peaks):				488.5		Total Col2Ave (3 peaks):			1988.7	RPD = 121*
Corrected Ave (3 peaks):				341.1		Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.550	-0.006	105862	28.8	1	8.647	0.019	1356182	223.2
Aroclor-1242	2	8.879	0.015	541913	401.5	2	9.347	-0.006	540549	43.0
Aroclor-1242	3	9.648	-0.023	73512	43.1	3	9.775	-0.006	23414	7.2
Aroclor-1242	4	10.068	-0.004	70339	57.0	4	10.875	-0.004	175079	40.0
Total Col1Ave (4 peaks):				132.6		Total Col2Ave (4 peaks):			78.4	RPD = 51*
Corrected Ave (3 peaks):				43.0		Corrected Ave (3 peaks):			30.1	RPD = 35
Aroclor-1248	1	8.550	-0.003	105862	49.1	1	9.347	-0.003	540549	72.0
Aroclor-1248	2	9.459	-0.019	966231	601.6	2	9.880	-0.002	429663	77.7
Aroclor-1248	3	9.648	-0.022	73512	30.5	3	10.794	-0.003	267730	31.7
Aroclor-1248	4	10.068	-0.003	70339	35.1	4	11.209	-0.033	377861	44.8
Total Col1Ave (4 peaks):				179.1		Total Col2Ave (4 peaks):			56.5	RPD = 104*
Corrected Ave (3 peaks):				38.2		Corrected Ave (3 peaks):			49.5	RPD = 26
Aroclor-1254	1	10.463	-0.001	221398	83.6	1	11.111	-0.002	590877	74.9
Aroclor-1254	2	10.542	-0.003	111909	126.8	2	11.209	-0.002	377861	102.2
Aroclor-1254	3	10.849	-0.001	143461	66.3	3	11.652	-0.002	344809	58.2
Aroclor-1254	4	10.987	-0.003	356777	84.0	4	11.804	-0.004	1062395	78.7
Aroclor-1254	5	11.342	-0.005	318631	76.6	5	12.816	-0.001	712035	71.5
Total Col1Ave (5 peaks):				87.5		Total Col2Ave (5 peaks):			77.1	RPD = 13
Corrected Ave (4 peaks):				77.6		Corrected Ave (4 peaks):			70.8	RPD = 9
Aroclor-1260	1	12.259	-0.001	65562	27.0	1	12.816	-0.001	712035	59.5
Aroclor-1260	2	12.940	-0.002	183694	19.9	2	13.580	-0.001	331660	14.3
Aroclor-1260	3	13.325	-0.004	96079	24.2	3	14.074	-0.001	293610	19.1
Aroclor-1260	4	13.430	-0.001	98621	40.0	4	14.624	-0.001	142830	24.3
Aroclor-1260	5	13.835	-0.008	53448	37.1	NS	---			----
Total Col1Ave (5 peaks):				29.7		Total Col2Ave (4 peaks):			29.3	RPD = 1
Corrected Ave (4 peaks):				27.1		Corrected Ave (3 peaks):			19.2	RPD = 34
Aroclor-1262	1	12.259	-0.001	65562	20.3	1	12.904	-0.001	156133	11.8
Aroclor-1262	2	12.940	-0.001	183694	19.4	2	13.350	0.001	329330	27.0
Aroclor-1262	3	13.325	-0.004	96079	32.0	3	13.580	-0.000	331660	13.3
Aroclor-1262	4	13.430	-0.000	98621	21.8	4	14.074	-0.002	293610	18.1
Aroclor-1262	5	14.054	-0.001	107748	21.2	5	14.624	-0.001	142830	17.2
Total Col1Ave (5 peaks):				22.9		Total Col2Ave (5 peaks):			17.5	RPD = 27
Corrected Ave (4 peaks):				20.7		Corrected Ave (4 peaks):			15.1	RPD = 31
Aroclor-1268	1	13.430	-0.000	98621	7.5	1	14.021	0.000	156979	6.1
Aroclor-1268	2	13.494	-0.000	113480	6.9	2	14.074	-0.002	293610	12.1
Aroclor-1268	3	13.835	0.007	53448	3.6	3	14.388	0.000	40261	2.1

Aroclor-1268	4	14.444	-0.002	76273	1.4	4	14.973	-0.001	196914	3.5

Total Col1Ave (4 peaks): 4.9 Total Col2Ave (4 peaks): 5.9 RPD = 20

Corrected Ave (3 peaks): 4.0 Corrected Ave (3 peaks): 3.9 RPD = 3

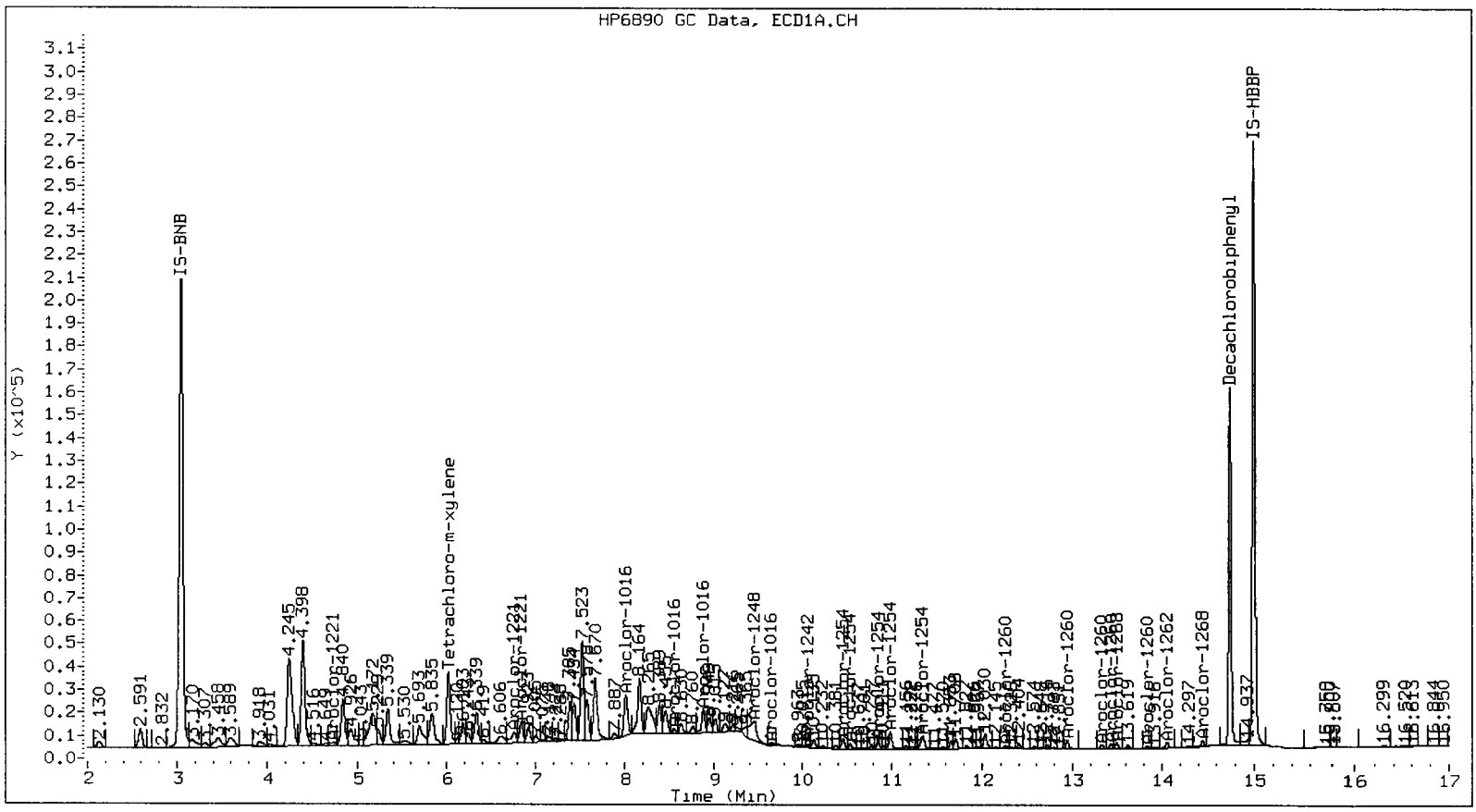
Total PCB Area Col1 (6.123 - 14.643) = 22949088 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.123 - 14.643) = 45136465 Col2 Total PCB = 0.3 ppm*

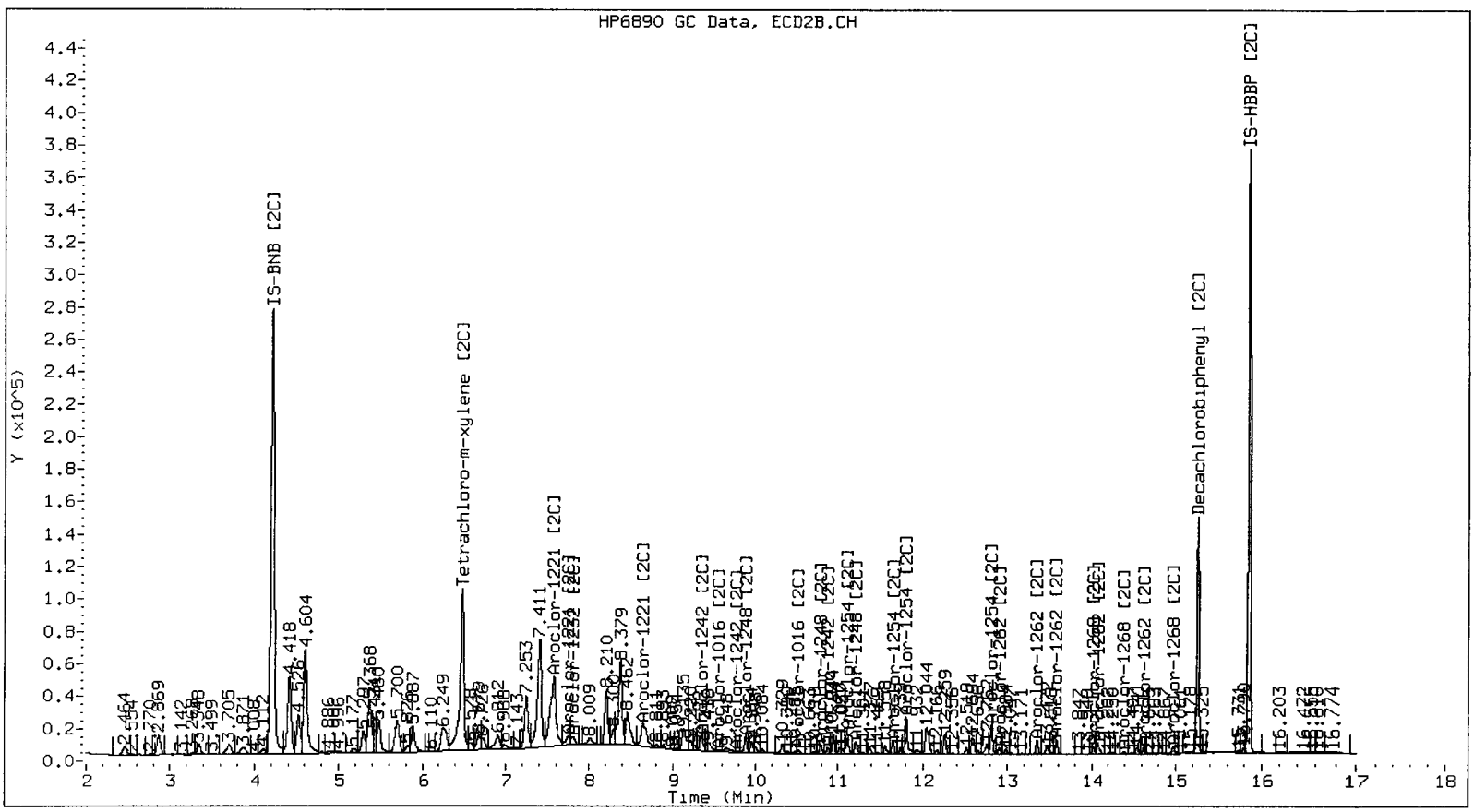
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9I 25-FEB-2016 00:41, 2ul



ECD7-ZB35 AVZ9I 25-FEB-2016 00:41, 2ul



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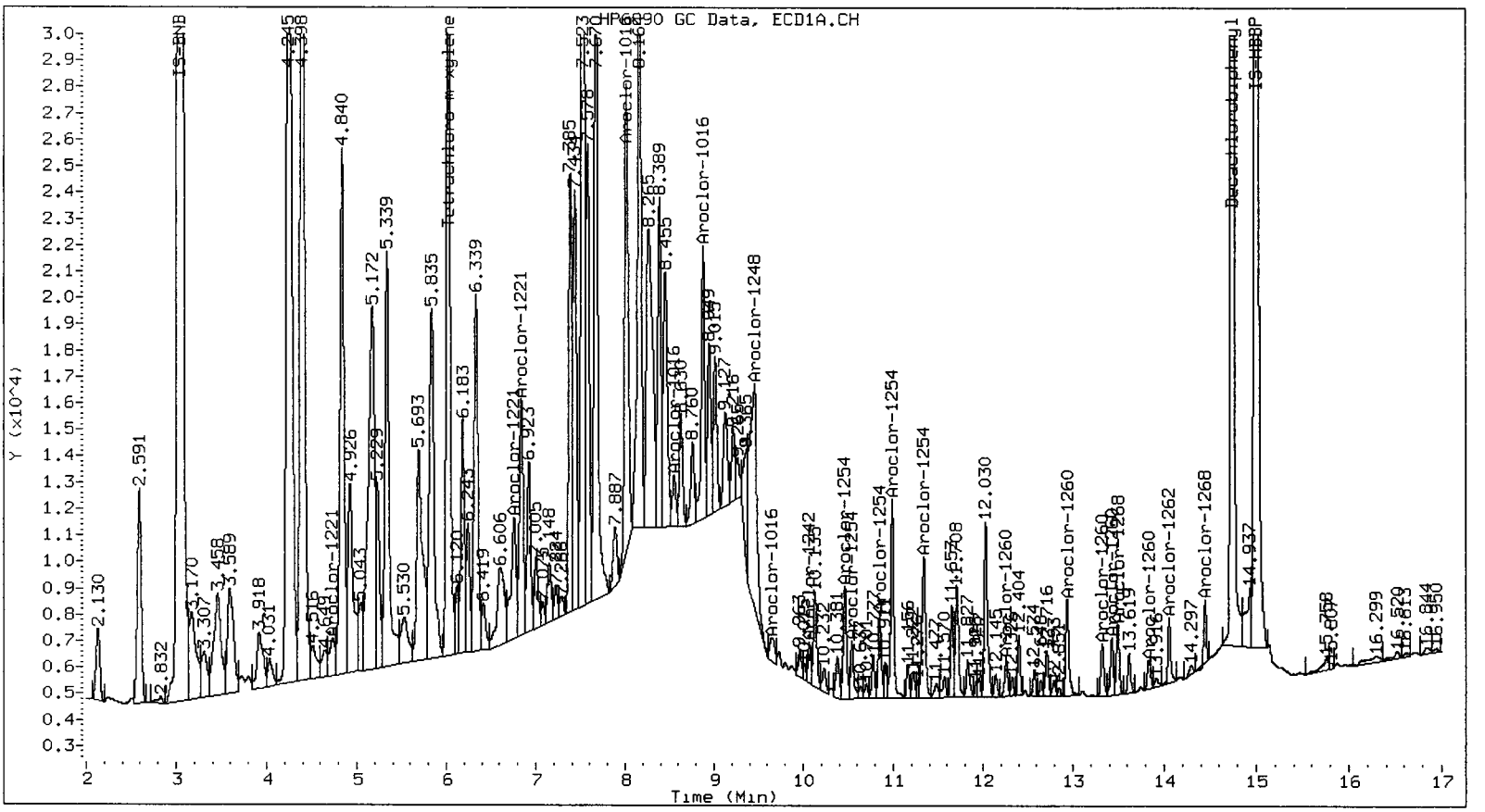

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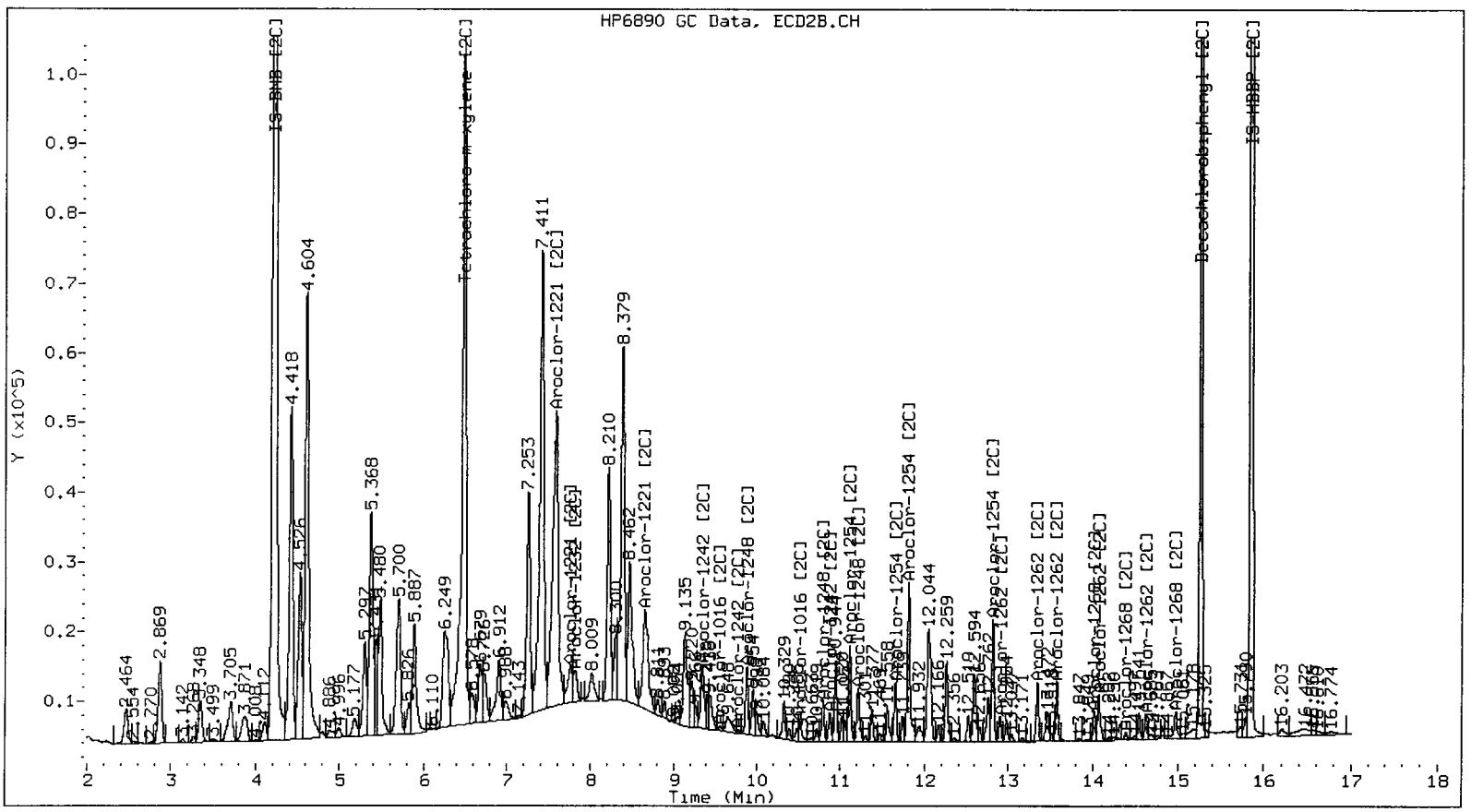

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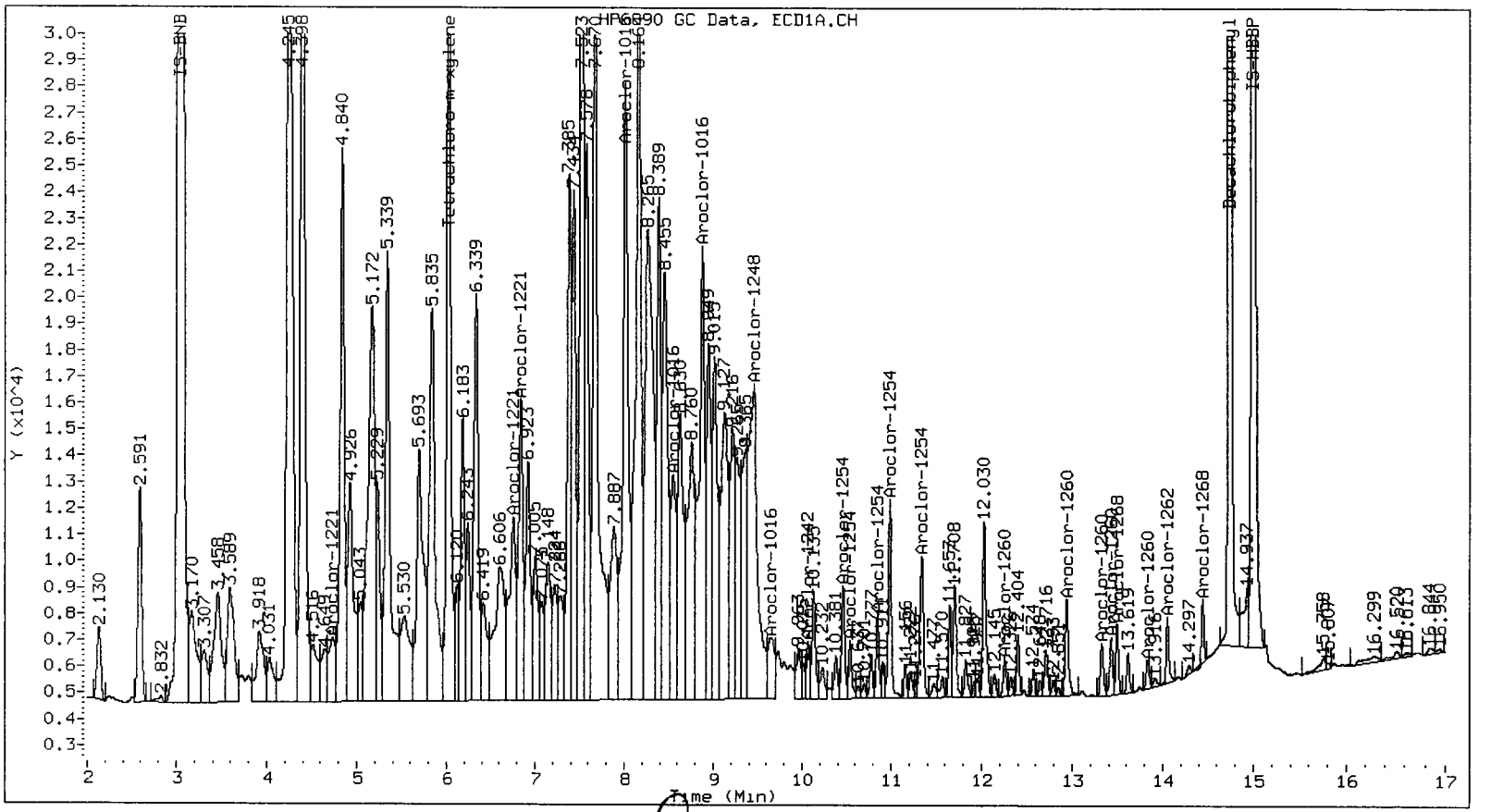

before

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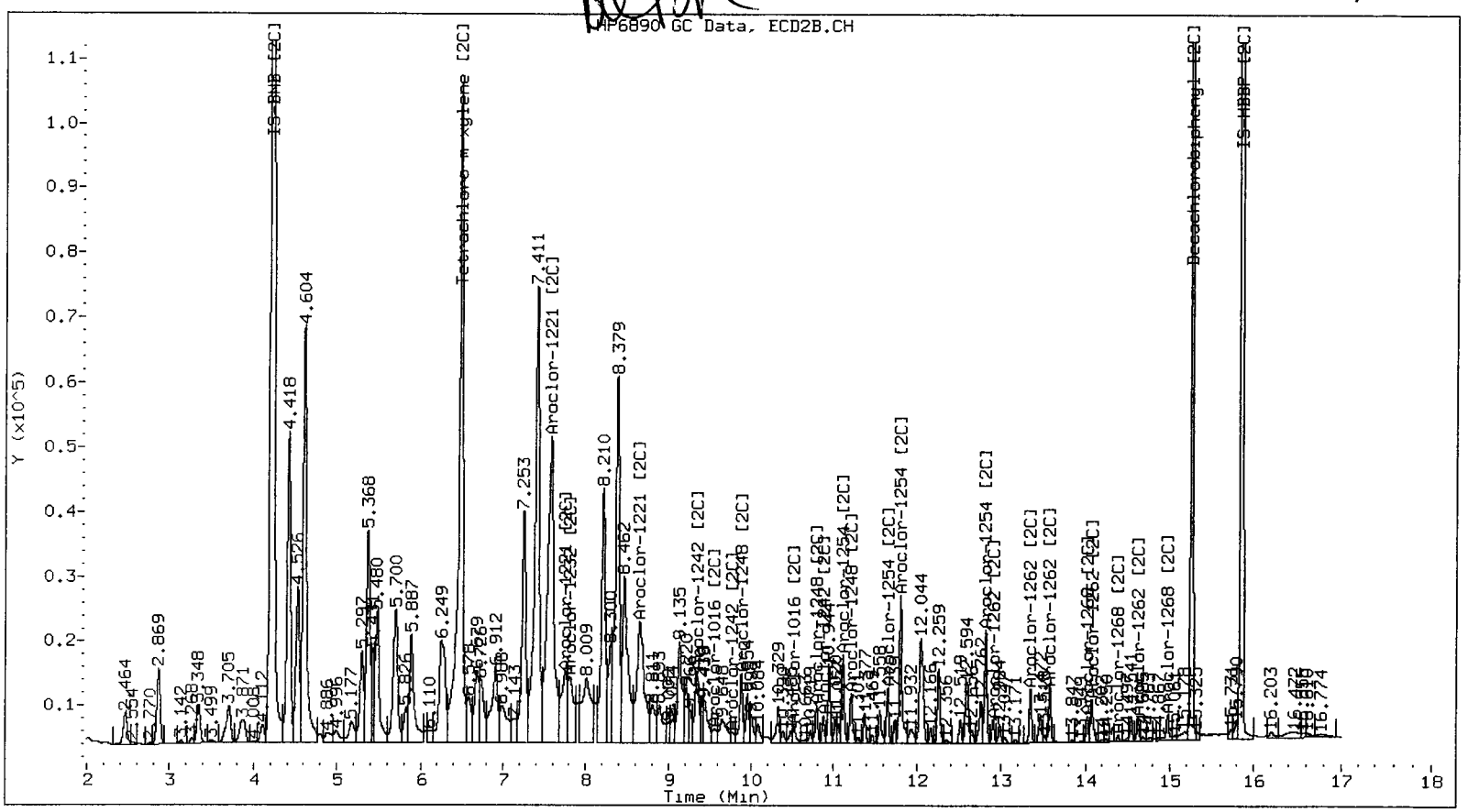


AVZ9:66516

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160224.b/02241628.D
Data file 2: /20160224.b/20160224.b/02241628.D
Method: \\target\share\chem4\ecd7.i\20160224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9J
Client ID: JF-PDS-3-1-2ft-1602
Injection Date: 25-FEB-2016 01:03
Report Date: 02/26/2016 10:12
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
6.023	0.000	1938707	6.481	-0.000	7232713	22.8	37.5	48.7*	Tetrachloro-m-xyle
14.742	-0.000	6308683	15.260	-0.000	5494593	55.3	33.6	48.9*	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	57.0	93.8
Decachlorobiphenyl	138.4	84.0

-NL

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	15684310	52.4
Hexabromobiphenyl	12470452	8540435	-31.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	16636402	5.3
Hexabromobiphenyl	11807823	12784588	8.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.015	-0.028	34784417	17325.4	1	8.652	0.024	16234814	1958.3
Aroclor-1016	2	8.558	0.003	1213553	196.1	2	9.345	-0.008	3526259	206.6
Aroclor-1016	3	8.883	0.020	8074724	3821.0	3	9.647	0.060	2235709	328.2
Aroclor-1016	4	9.583	-0.087	83516761	35440.2	4	10.557	0.031	346600	109.5
Total Col1Ave (4 peaks): 14195.7						Total Col2Ave (4 peaks): 650.7				RPD = 182*
Corrected Ave (3 peaks): 7114.2						Corrected Ave (3 peaks): 214.8				RPD = 188*
Aroclor-1221	1	4.734	0.020	397515	801.3	1	---			0.0
Aroclor-1221	2	6.706	0.016	1131847	1419.4	2	7.580	-0.043	57921274	40133.0
Aroclor-1221	3	6.843	0.028	10288757	4319.8	3	7.754	-0.009	7496835	1641.8
Aroclor-1221	NS	---			----	4	8.652	0.008	16234814	10727.2
Total Col1Ave (3 peaks): 2180.2						Total Col2Ave (3 peaks): 17500.7				RPD = 156*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.734	0.020	397515	1412.8	1	---			0.0
Aroclor-1232	2	6.706	0.016	1131847	2112.3	2	7.580	-0.043	57921274	65823.1
Aroclor-1232	3	6.843	0.029	10288757	6514.7	3	7.754	-0.097	7496835	15104.2
Aroclor-1232	4	8.558	0.003	1213553	470.0	4	8.652	0.024	16234814	4208.1
Total Col1Ave (4 peaks): 2627.5						Total Col2Ave (3 peaks): 28378.5				RPD = 166*
Corrected Ave (3 peaks): 1331.7						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.558	0.002	1213553	251.7	1	8.652	0.024	16234814	2520.3
Aroclor-1242	2	8.883	0.019	8074724	4561.8	2	9.345	-0.008	3526259	264.4
Aroclor-1242	3	9.583	-0.088	83516761	37317.8	3	9.848	0.066	1038134	301.5
Aroclor-1242	4	---			0.0	4	10.899	0.020	155800	33.6
Total Col1Ave (3 peaks): 14043.8						Total Col2Ave (4 peaks): 779.9				RPD = 179*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 199.8				
Aroclor-1248	1	8.558	0.005	1213553	429.0	1	9.345	-0.005	3526259	443.1
Aroclor-1248	2	9.537	0.059	25949142	12319.3	2	9.848	-0.034	1038134	177.0
Aroclor-1248	3	9.583	-0.087	83516761	26413.3	3	---			0.0
Aroclor-1248	4	---			0.0	4	11.241	-0.001	114475	12.8
Total Col1Ave (3 peaks): 12053.9						Total Col2Ave (3 peaks): 211.0				RPD = 194*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1254	1	---			0.0	1	11.110	-0.002	102605	12.3
Aroclor-1254	2	---			0.0	2	11.241	0.030	114475	29.2
Aroclor-1254	3	10.868	0.018	70689	24.9	3	11.653	-0.001	49380	7.9
Aroclor-1254	4	11.023	0.033	277615	49.8	4	11.769	-0.038	122507	8.6
Aroclor-1254	5	11.320	-0.026	100954	18.5	5	12.813	-0.003	63845	6.0
Total Col1Ave (3 peaks): 31.1						Total Col2Ave (5 peaks): 12.8				RPD = 83*
Corrected Ave: < 3 Peaks						Corrected Ave (4 peaks): 8.7				
Aroclor-1260	1	12.263	0.004	101331	48.8	1	12.813	-0.003	63845	5.4
Aroclor-1260	2	12.939	-0.002	94604	12.0	2	13.580	-0.001	102005	4.5
Aroclor-1260	3	13.327	-0.002	27354	8.1	3	14.074	-0.001	79233	5.2
Aroclor-1260	4	13.429	-0.002	37107	17.6	4	14.624	-0.001	73454	12.7
Aroclor-1260	5	13.829	-0.013	53075	43.1	NS	---			----
Total Col1Ave (5 peaks): 25.9						Total Col2Ave (4 peaks): 7.0				RPD = 115*
Corrected Ave (4 peaks): 20.2						Corrected Ave (3 peaks): 5.0				RPD = 120*
Aroclor-1262	1	12.263	0.004	101331	36.7	1	12.903	-0.001	80032	6.2
Aroclor-1262	2	12.939	-0.001	94604	11.7	2	13.348	-0.001	64994	5.4
Aroclor-1262	3	13.327	-0.003	27354	10.7	3	13.580	-0.000	102005	4.2
Aroclor-1262	4	13.429	-0.001	37107	9.6	4	14.074	-0.001	79233	5.0
Aroclor-1262	5	14.054	-0.001	33038	7.6	5	14.624	-0.001	73454	9.0
Total Col1Ave (5 peaks): 15.2						Total Col2Ave (5 peaks): 5.9				RPD = 88*
Corrected Ave (4 peaks): 9.9						Corrected Ave (4 peaks): 5.2				RPD = 63*
Aroclor-1268	1	13.429	-0.001	37107	3.3	1	14.014	-0.007	74688	2.9
Aroclor-1268	2	13.495	0.001	34384	2.5	2	14.074	-0.002	79233	3.3
Aroclor-1268	3	13.829	-0.002	53075	4.2	3	14.389	0.000	58493	3.0

12.56

Aroclor-1268	4	14.374	-0.072	14816	0.3	4	14.973	-0.000	126391	2.3

Total Col1Ave (4 peaks): 2.6 Total Col2Ave (4 peaks): 2.9 RPD = 12

Corrected Ave (3 peaks): 2.0 Corrected Ave (3 peaks): 2.8 RPD = 31

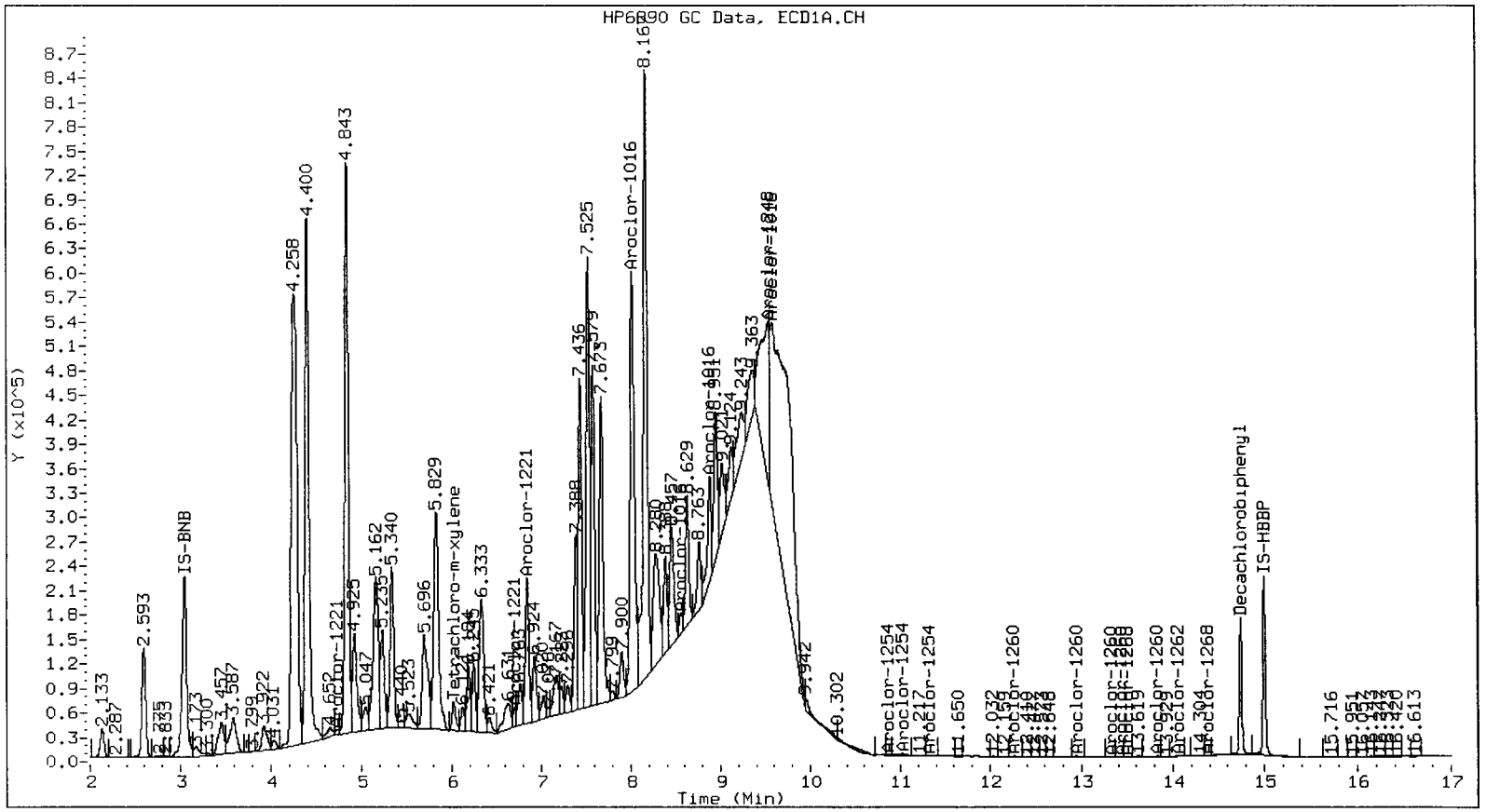
Total PCB Area Col1 (6.123 - 14.643) = 448710768 Col1 Total PCB = 6.9 ppm*

Total PCB Area Col2 (6.123 - 14.643) = 377962209 Col2 Total PCB = 2.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9J 25-FEB-2016 01:03, 2ul



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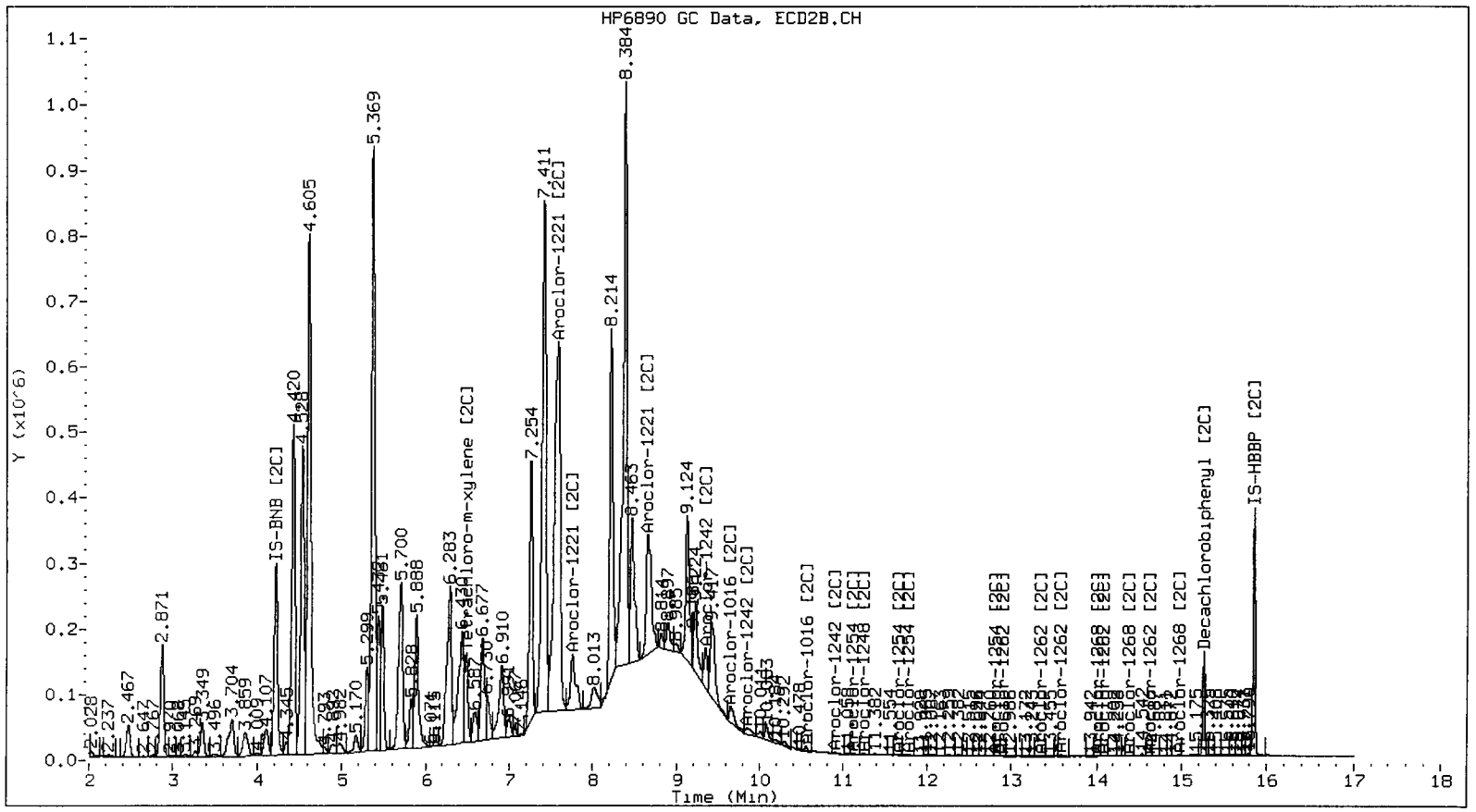

AVZ9 00520

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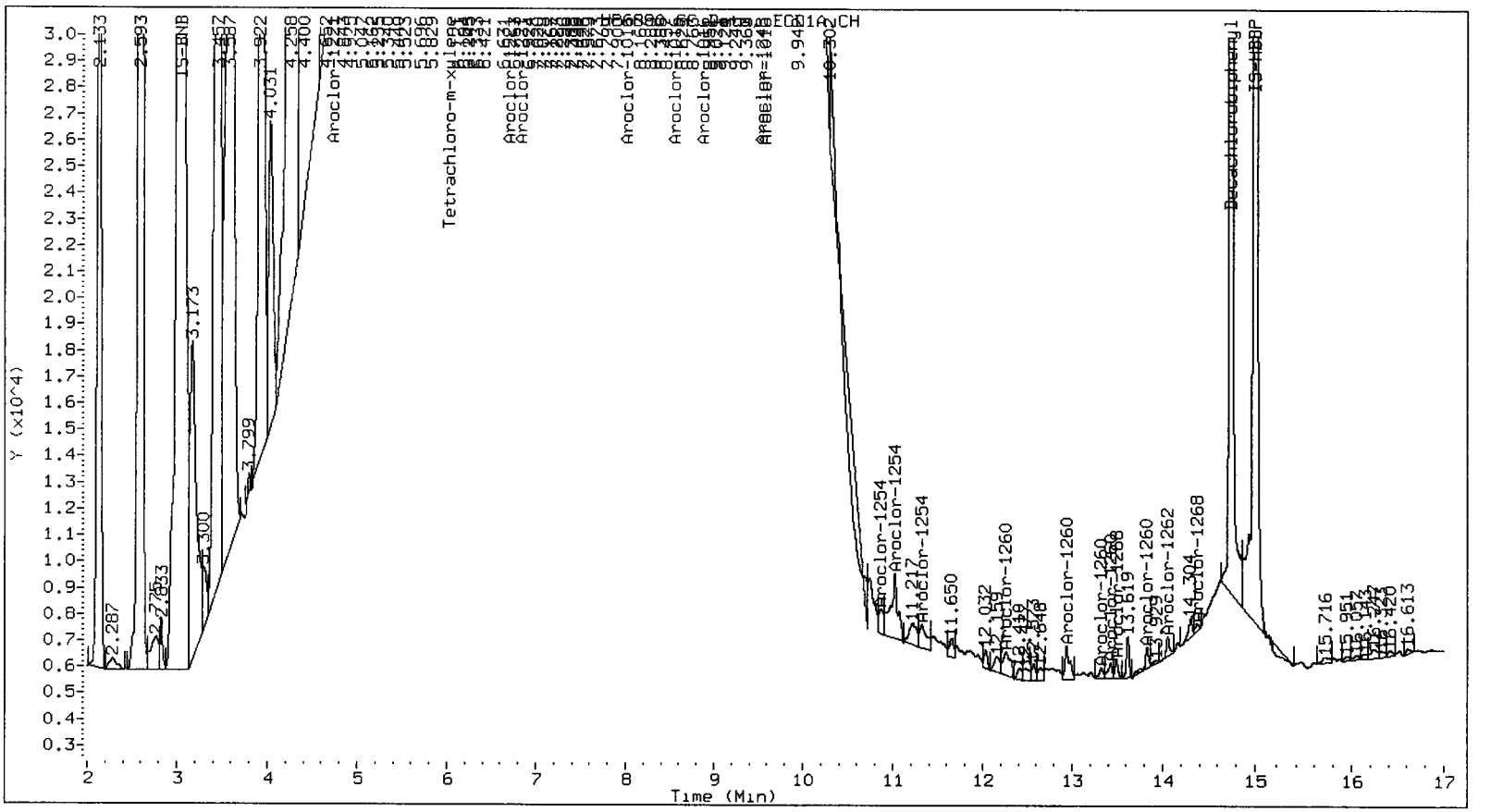

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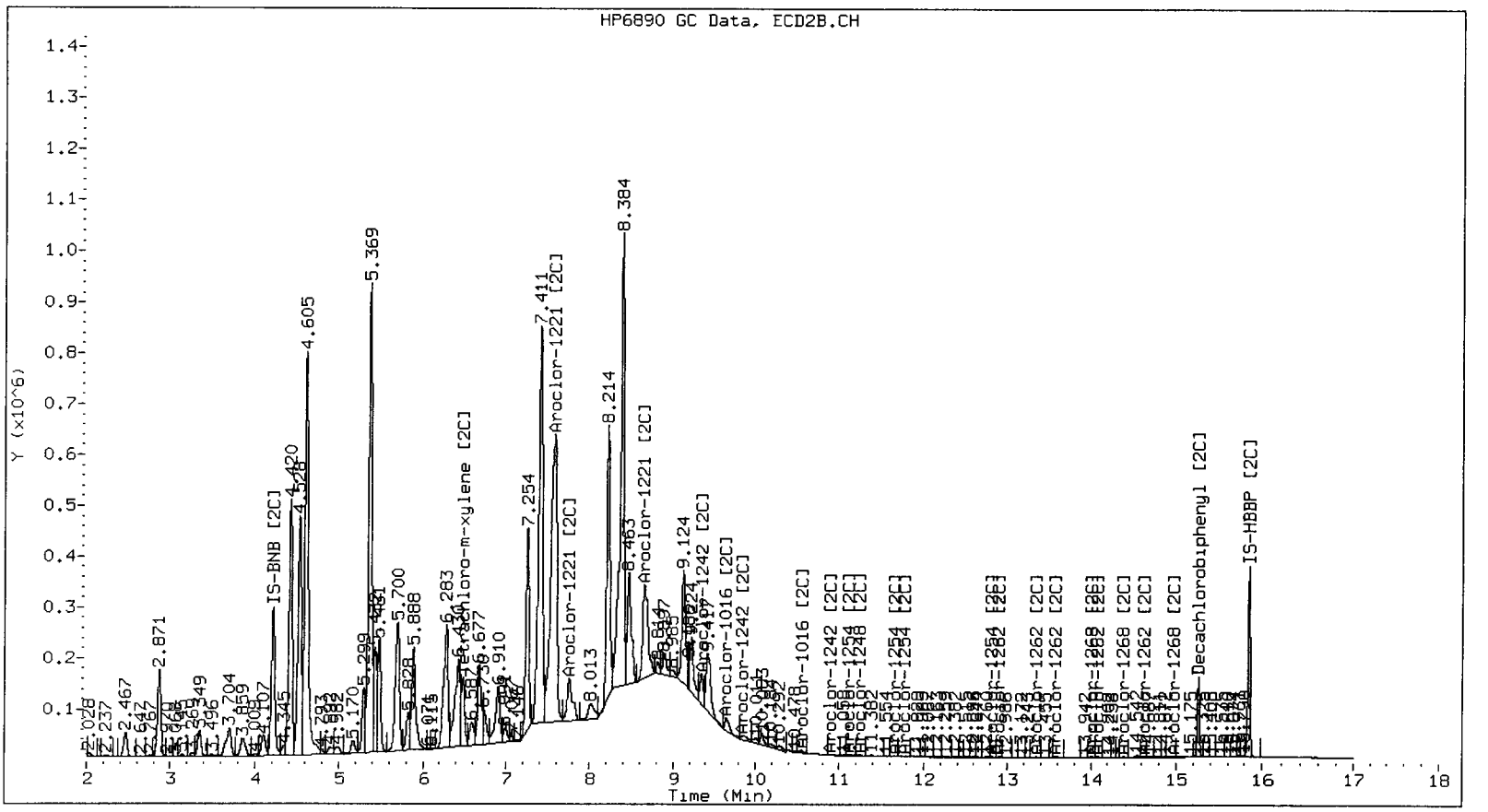

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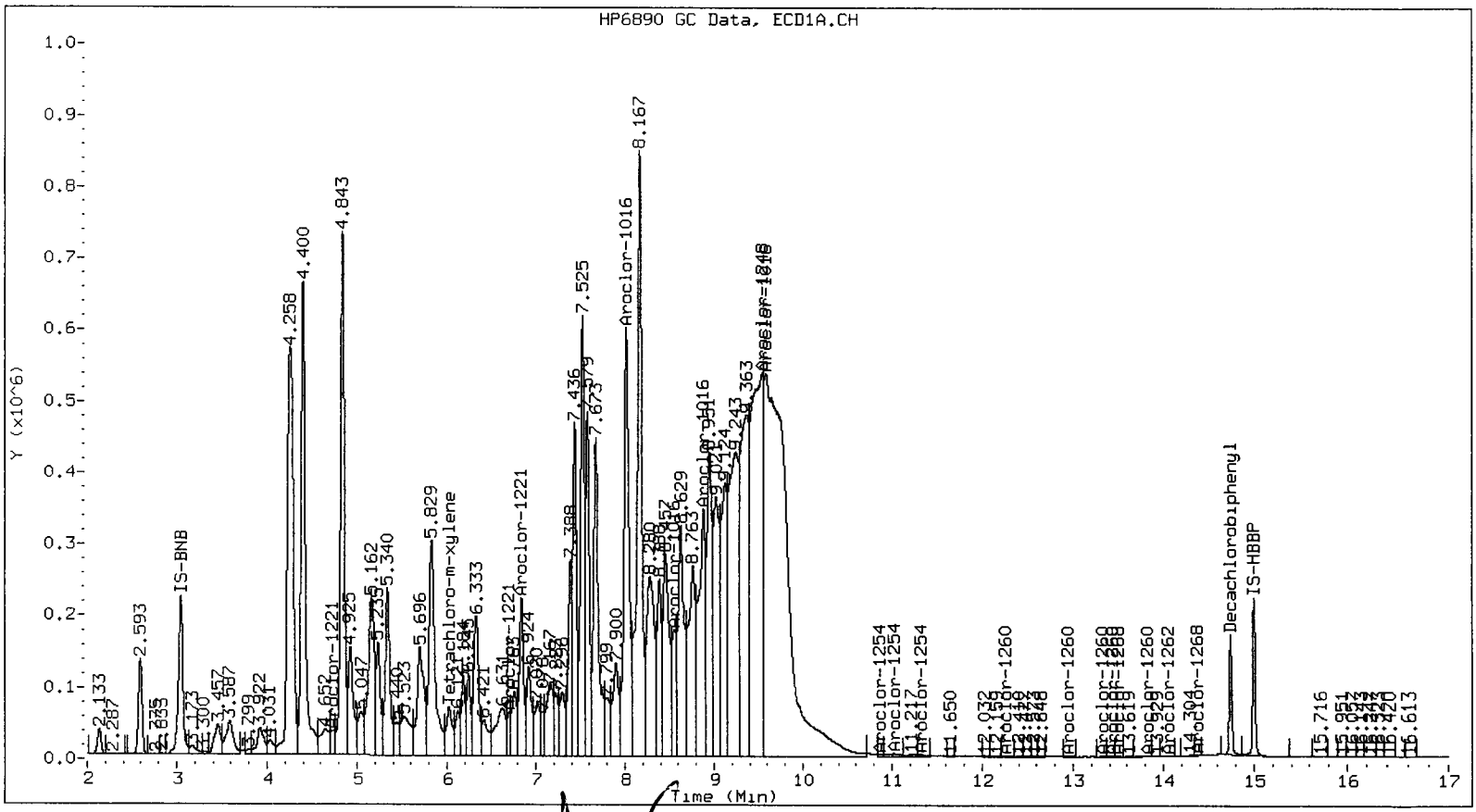
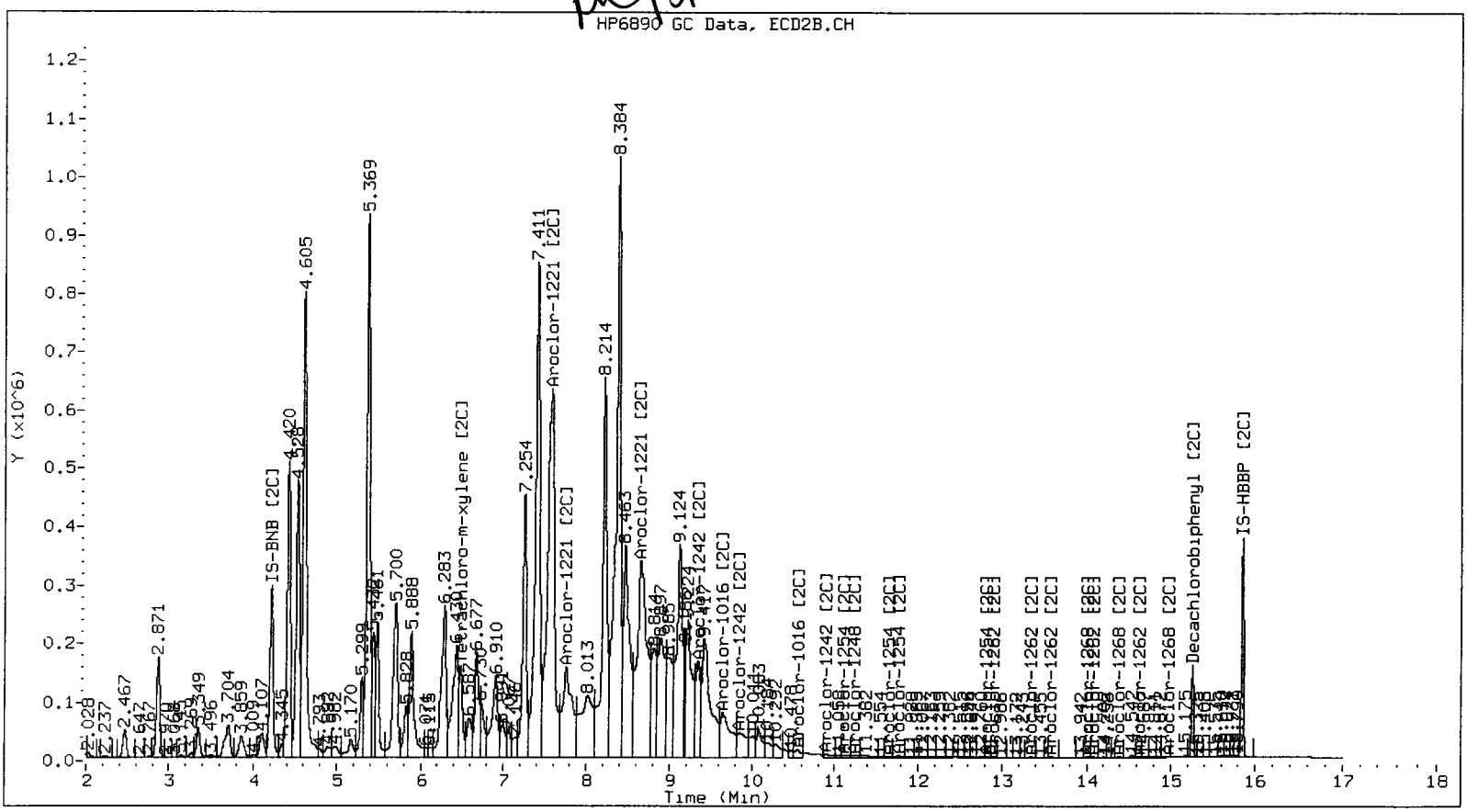


Before

ECD7-ZB35 AVZ9J 25-FEB-2016 01:03, 2ul



AVZ9:68522

Analytical Resources, Incorporated
Analytical Chemists and Consultants

GC Analyst Notes / Data Review Checklist

ELEMENT/NWA: AVZ9 Client: Anchor QEA LLC

METHOD: **8082A**(PCB) **8151A**(Herb) **NW-TPH**(TPH-D) **NW-TPH**(HCID) **8041A**(PCP)
8081B(PEST) **8015B**(Dir Inj) **NW-EPH**(EPH) **8082A**(Congeners) **Other**

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 ECD-8 ECD-9

Calibration Code: ZB00017 Analysis Start Date: 02/24/16

	REVIEW 1/REVIEW 2		REVIEW 1/REVIEW 2
Endrin/DDT B.D. ≤15%?	NA / Y / N / ___	Method Blank in Control?	Y / N / ✓
Retention times within Windows?	Y / N / ✓	BS/BSD Recovery in Control?	Y / N / ___
ICV/CCV met %D Criteria?	Y / N / ✓	MS / MSD Recovery in Control?	Y / N / ___
Surrogate Recovery in Control?	Y / N / ✓	Samples Diluted?	Y / N / ✓
Internal STD. within 50-200%?	NA / Y / N / ___	Special Analysis Request?	Y / N / ___
Manual Integrations?	Y / N / ✓	VDP Completed?	NA / Y / N / ___
Integration Summary?	Y / N / ✓	Technical Review?	___ / ___

Detail problems, corrective actions and/or other pertinent information below

nent w/ best fit, y-flags are for ranges. skimmed oily baseline rise in samples. sample oily matrix neg. affects HBBP PCB reported as NR. due to sample matrix. misc. peaks throughout samples. AR1060 rec. for ms/msd affected by sample matrix/misc peaks. for AR1016 ms/msd reporting from column2. due to misc. peaks on column1

(Review 1) Analyst: [signature] **Date:** 02/29/16

(Review 2) Peer: [signature] **Date:** ___

(Final Review) Reviewer: [signature] **Date:** 2/29

Analytical Resources Inc.: Organics Instrument Log

ECD-7 Serial No.: US00003975

Date: 02/22/16 Analysis: PCB Analyst: JC

Column 1 Serial No.: 311350 Column Type: ZB5

Column 2 Serial No.: 330557 Column Type: ZB35

GC Method: PCB ICal Date: 02/19/16 Injection Volume: 2µL

IS	Ical/Ccal	ICV
D4740	D3916	
	D3917 - D3921	
	D3925	

Document All Maintenance Tasks In Element

	Inject Date/Time	Filename	DF	LabID
1	22-FEB-2016 07:50	02221601.D	1	DDT
2	22-FEB-2016 08:12	02221602.D	1	DDT BD
3	22-FEB-2016 08:34	02221603.D	1	AR1254A
4	22-FEB-2016 08:56	02221604.D	1	AR1660A
5	22-FEB-2016 09:18	02221605.D	1	BEB0060-BLK1
6	22-FEB-2016 09:39	02221606.D	1	BEB0060-BS1
7	22-FEB-2016 10:01	02221607.D	1	16B0036-01
8	22-FEB-2016 10:23	02221608.D	1	16B0037-01
9	22-FEB-2016 10:45	02221609.D	1	AR1248B
10	22-FEB-2016 11:07	02221610.D	1	AR1660B
11	22-FEB-2016 17:42	02221611.D	1	RINSE
12	22-FEB-2016 18:04	02221612.D	1	AR1242
13	22-FEB-2016 18:26	02221613.D	1	AR1660
14	22-FEB-2016 18:48	02221614.D	1	AWG5MBW11
15	22-FEB-2016 19:10	02221615.D	1	AWG5LCSW1
16	22-FEB-2016 19:31	02221616.D	1	AWG5A
17	22-FEB-2016 19:53	02221617.D	1	AVZ9MBW1
18	22-FEB-2016 20:15	02221618.D	1	AVZ9LCSW1
19	22-FEB-2016 20:37	02221619.D	1	AVZ9MRL
20	22-FEB-2016 20:59	02221620.D	1	AVZ9AQ
21	22-FEB-2016 21:21	02221621.D	1	AWE4A
22	22-FEB-2016 21:42	02221622.D	1	AR1248
23	22-FEB-2016 22:04	02221623.D	1	AR1660
24	22-FEB-2016 22:26	02221624.D	1	AVR0MBS1
25	22-FEB-2016 22:48	02221625.D	1	AVR0LCSS1
26	22-FEB-2016 23:10	02221626.D	1	AVR0SRM1
27	22-FEB-2016 23:32	02221627.D	1	AVR0A
28	22-FEB-2016 23:53	02221628.D	1	AVR0F
29	23-FEB-2016 00:15	02221629.D	1	AVR0G
30	23-FEB-2016 00:37	02221630.D	1	AVR0H
31	23-FEB-2016 00:59	02221631.D	1	AVR0I
32	23-FEB-2016 01:21	02221632.D	1	AVR0J
33	23-FEB-2016 01:43	02221633.D	1	AVR0K
34	23-FEB-2016 02:04	02221634.D	1	AR1254
35	23-FEB-2016 02:26	02221635.D	1	AR1660
36	23-FEB-2016 02:48	02221636.D	1	AVR0L
37	23-FEB-2016 03:10	02221637.D	1	AVR0M
38	23-FEB-2016 03:32	02221638.D	1	AVR0N
39	23-FEB-2016 03:53	02221639.D	1	AVR0NMS
40	23-FEB-2016 04:15	02221640.D	1	AVR0NMSD
41	23-FEB-2016 04:37	02221641.D	1	AVR0O
42	23-FEB-2016 04:59	02221642.D	1	AVR0P
43	23-FEB-2016 05:21	02221643.D	1	AVR0Q
44	23-FEB-2016 05:43	02221644.D	1	AVR0R
45	23-FEB-2016 06:05	02221645.D	1	AVR0S
46	23-FEB-2016 06:26	02221646.D	1	AR1242
47	23-FEB-2016 06:48	02221647.D	1	

JC 02/23/16

Every line must contain information or be lined out. Make all entries legible.
Start a new 00875ch QC period. Document All Maintenance Tasks In Element

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160222.b

ARI Job No.: DDT Method: PCB.m Instrument: ecd7.i Date: 22-FEB-2016

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0750	02221601.D DDT			1	NO MANUAL INTEGRATION
0812	02221602.D DDT BD			1	NO MANUAL INTEGRATION
0834	02221603.D AR1254A			1	NO MANUAL INTEGRATION
0856	02221604.D AR1660A			1	NO MANUAL INTEGRATION
0918	02221605.D BEB0060-BLK1			1	NO MANUAL INTEGRATION
0939	02221606.D BEB0060-BS1			1	NO MANUAL INTEGRATION
1001	02221607.D 16B0036-01			1	NO MANUAL INTEGRATION
1023	02221608.D 16B0037-01			1	IS-BNB, Tetrachloro-m-xylene,
1045	02221609.D AR1248B			1	NO MANUAL INTEGRATION
1107	02221610.D AR1660B			1	NO MANUAL INTEGRATION
1742	02221611.D RINSE			1	NO MANUAL INTEGRATION
1804	02221612.D AR1242			1	NO MANUAL INTEGRATION
1826	02221613.D AR1660			1	NO MANUAL INTEGRATION
1848	02221614.D AWG5MBW1	AWG5MBW1		1	NO MANUAL INTEGRATION
1910	02221615.D AWG5LCSW1	AWG5LCSW1		1	NO MANUAL INTEGRATION
1931	02221616.D AWG5A		Batch# Sit	1	NO MANUAL INTEGRATION
1953	02221617.D AVZ9MBW1	AVZ9MBW1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160222.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2015	02221618.D	AVZ9LCSW1	AVZ9LCSW1	1	NO MANUAL INTEGRATION
2037	02221619.D	AVZ9MRL		1	NO MANUAL INTEGRATION
2059	02221620.D	AVZ9AQ	JF-RB-1602	1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268, Decachlorobiphenyl,
2121	02221621.D	AWE4A	JF-Rinsate	1	NO MANUAL INTEGRATION
2142	02221622.D	AR1248		1	NO MANUAL INTEGRATION
2204	02221623.D	AR1660		1	NO MANUAL INTEGRATION
2226	02221624.D	AVR0MBS1	AVR0MBS1	1	NO MANUAL INTEGRATION
2248	02221625.D	AVR0LCSS1	AVR0LCSS1	1	NO MANUAL INTEGRATION
2310	02221626.D	AVR0SRM1	PSR	1	NO MANUAL INTEGRATION
2332	02221627.D	AVR0A	JF-LTR-14V	1	NO MANUAL INTEGRATION
2353	02221628.D	AVR0F	JF-LTR-13V	1	NO MANUAL INTEGRATION
0015	02221629.D	AVR0G	JF-LTR-2V-	1	NO MANUAL INTEGRATION
0037	02221630.D	AVR0H	JF-LTR-6V-	1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, IS-BNB, Tetrachloro-m-xylene,
0059	02221631.D	AVR0I	JF-LTR-4V-	1	NO MANUAL INTEGRATION
0121	02221632.D	AVR0J	JF-LTR-6V-	1	NO MANUAL INTEGRATION
0143	02221633.D	AVR0K	JF-LTR-6V-	1	NO MANUAL INTEGRATION
0204	02221634.D	AR1254		1	NO MANUAL INTEGRATION
0226	02221635.D	AR1660		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160222.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0248	02221636.D	AVR0L	JF-LTR-14V	1	NO MANUAL INTEGRATION
0310	02221637.D	AVR0M	JF-LTR-21V	1	NO MANUAL INTEGRATION
0332	02221638.D	AVR0N	JF-LTR-4V-	1	NO MANUAL INTEGRATION
0353	02221639.D	AVR0NMS	JF-LTR-4V-	1	NO MANUAL INTEGRATION
0415	02221640.D	AVR0NMSD	JF-LTR-4V-	1	NO MANUAL INTEGRATION
0437	02221641.D	AVR0O	JF-LTR-1V-	1	NO MANUAL INTEGRATION
0459	02221642.D	AVR0P	JF-LTR-19V	1	NO MANUAL INTEGRATION
0521	02221643.D	AVR0Q	JF-LTR-13V	1	NO MANUAL INTEGRATION
0543	02221644.D	AVR0R	JF-LTR-2V-	1	NO MANUAL INTEGRATION
0605	02221645.D	AVR0S	JF-LTR-4V-	1	NO MANUAL INTEGRATION
0626	02221646.D	AR1242		1	NO MANUAL INTEGRATION
0648	02221647.D	AR1660		1	NO MANUAL INTEGRATION
0750	02221601.D	DDT		1	NO MANUAL INTEGRATION
0812	02221602.D	DDT BD		1	NO MANUAL INTEGRATION
0834	02221603.D	AR1254A		1	NO MANUAL INTEGRATION
0856	02221604.D	AR1660A		1	NO MANUAL INTEGRATION
0918	02221605.D	BEB0060-BLK1		1	NO MANUAL INTEGRATION
0939	02221606.D	BEB0060-BS1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160222.b\20160222.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1001	02221607.D	16B0036-01		1	NO MANUAL INTEGRATION
1023	02221608.D	16B0037-01		1	IS-HBBP [2C], Tetrachloro-m-xylene [2C], Decachlorobiphenyl [2C],
1045	02221609.D	AR1248B		1	NO MANUAL INTEGRATION
1107	02221610.D	AR1660B		1	NO MANUAL INTEGRATION
1742	02221611.D	RINSE		1	NO MANUAL INTEGRATION
1804	02221612.D	AR1242		1	NO MANUAL INTEGRATION
1826	02221613.D	AR1660		1	NO MANUAL INTEGRATION
1848	02221614.D	AWG5MBW1	AWG5MBW1	1	NO MANUAL INTEGRATION
1910	02221615.D	AWG5LCSW1	AWG5LCSW1	1	NO MANUAL INTEGRATION
1931	02221616.D	AWG5A	Batch# Sit	1	NO MANUAL INTEGRATION
1953	02221617.D	AVZ9MBW1	AVZ9MBW1	1	NO MANUAL INTEGRATION
2015	02221618.D	AVZ9LCSW1	AVZ9LCSW1	1	NO MANUAL INTEGRATION
2037	02221619.D	AVZ9MRL		1	NO MANUAL INTEGRATION
2059	02221620.D	AVZ9AQ	JF-RB-1602	1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C],
2121	02221621.D	AWE4A	JF-Rinsate	1	NO MANUAL INTEGRATION
2142	02221622.D	AR1248		1	NO MANUAL INTEGRATION
2204	02221623.D	AR1660		1	NO MANUAL INTEGRATION
2226	02221624.D	AVR0MBS1	AVR0MBS1	1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160222.b\20160222.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2248	02221625.D	AVR0LCSS1	AVR0LCSS1	1	NO MANUAL INTEGRATION
2310	02221626.D	AVR0SRM1	PSR	1	NO MANUAL INTEGRATION
2332	02221627.D	AVR0A	JF-LTR-14V	1	NO MANUAL INTEGRATION
2353	02221628.D	AVR0F	JF-LTR-13V	1	NO MANUAL INTEGRATION
0015	02221629.D	AVR0G	JF-LTR-2V-	1	NO MANUAL INTEGRATION
0037	02221630.D	AVR0H	JF-LTR-6V-	1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], IS-BNB [2C], Tetrachloro-m-xylene [2C],
0059	02221631.D	AVR0I	JF-LTR-4V-	1	NO MANUAL INTEGRATION
0121	02221632.D	AVR0J	JF-LTR-6V-	1	NO MANUAL INTEGRATION
0143	02221633.D	AVR0K	JF-LTR-6V-	1	NO MANUAL INTEGRATION
0204	02221634.D	AR1254		1	NO MANUAL INTEGRATION
0226	02221635.D	AR1660		1	NO MANUAL INTEGRATION
0248	02221636.D	AVR0L	JF-LTR-14V	1	NO MANUAL INTEGRATION
0310	02221637.D	AVR0M	JF-LTR-21V	1	NO MANUAL INTEGRATION
0332	02221638.D	AVR0N	JF-LTR-4V-	1	NO MANUAL INTEGRATION
0353	02221639.D	AVR0NMS	JF-LTR-4V-	1	NO MANUAL INTEGRATION
0415	02221640.D	AVR0NMSD	JF-LTR-4V-	1	NO MANUAL INTEGRATION
0437	02221641.D	AVR0O	JF-LTR-1V-	1	NO MANUAL INTEGRATION
0459	02221642.D	AVR0P	JF-LTR-19V	1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20160222.b\20160222.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0521	02221643.D	AVR0Q	JF-LTR-13V	1	NO MANUAL INTEGRATION
0543	02221644.D	AVR0R	JF-LTR-2V-	1	NO MANUAL INTEGRATION
0605	02221645.D	AVR0S	JF-LTR-4V-	1	NO MANUAL INTEGRATION
0626	02221646.D	AR1242		1	NO MANUAL INTEGRATION
0648	02221647.D	AR1660		1	NO MANUAL INTEGRATION

02221646

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160222.b/02221612.D
Data file 2: /20160222.b/20160222.b/02221612.D
Method: \\target\share\chem4\ecd7.i\20160222.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242
Client ID:
Injection Date: 22-FEB-2016 18:04
Report Date: 02/26/2016 07:00
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
6.020	-0.004	2399506	6.476	-0.007	6949351	39.1	39.8	1.6	Tetrachloro-m-xyle
14.744	0.001	6584683	15.261	-0.000	5410596	39.5	34.6	13.1	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	97.9	99.5
Decachlorobiphenyl	98.7	86.6

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	11314932	10.0
Hexabromobiphenyl	12470452	12491680	0.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15067607	-4.7
Hexabromobiphenyl	11807823	12207209	3.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.551	-0.004	857455	246.5	1	8.622	0.000	1476549	253.1
Aroclor-1242	2	8.861	-0.003	317579	248.7	2	9.348	0.000	3056639	253.0
Aroclor-1242	3	9.669	-0.002	408363	252.9	3	9.777	0.000	788654	252.9
Aroclor-1242	4	10.070	-0.002	290159	248.7	4	10.876	0.000	1042452	248.2

Total Col1Ave (4 peaks): 249.2 Total Col2Ave (4 peaks): 251.8 RPD = 1

Corrected Ave (3 peaks): 248.0 Corrected Ave (3 peaks): 251.4 RPD = 1

CalAmt %D: -0.3 CalAmt %D: 0.7

Total PCB Area Col1 (6.124 - 14.643) = 7262603 Col1 Total PCB = 0.2 ppm*

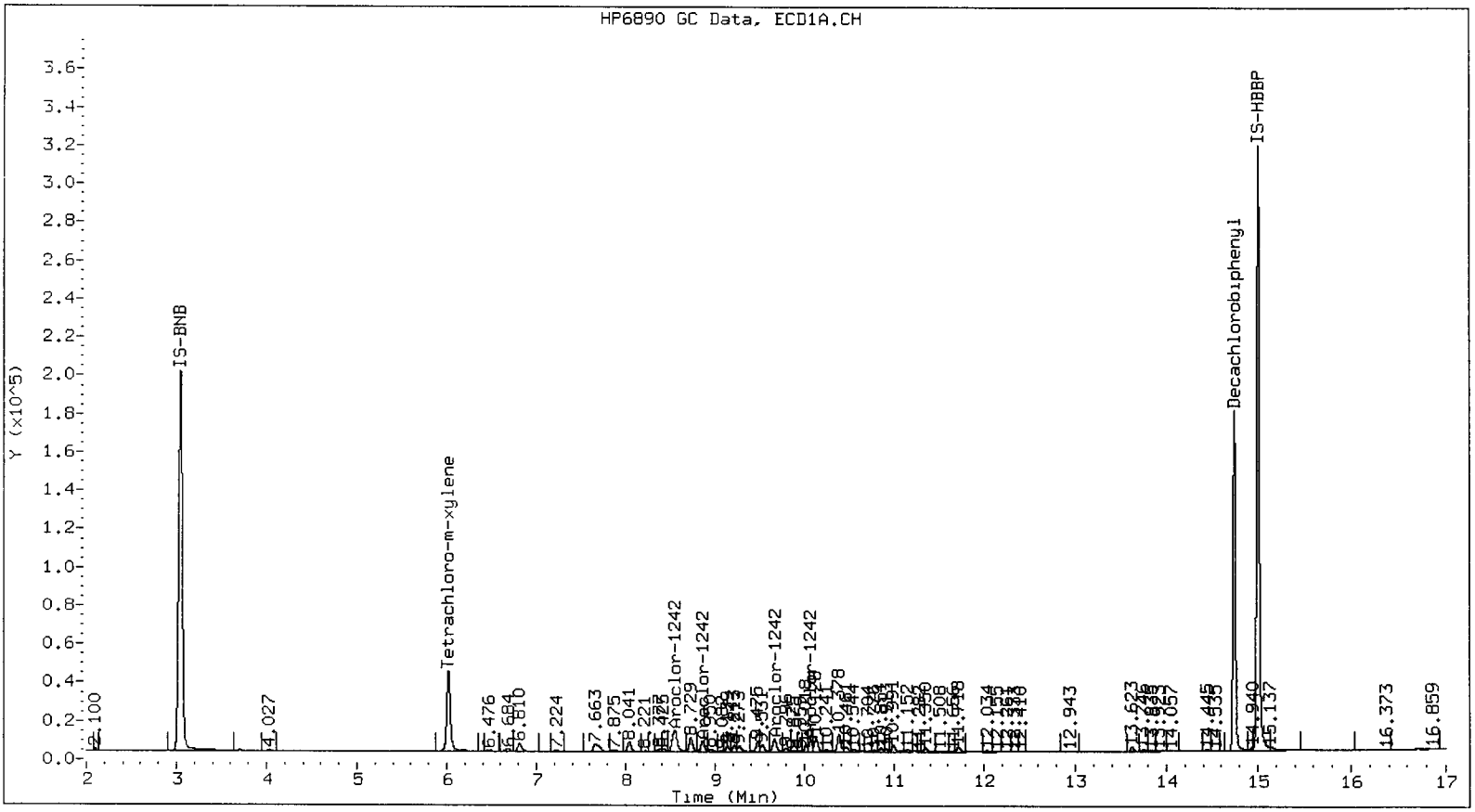
Total PCB Area Col2 (6.124 - 14.643) = 28953782 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

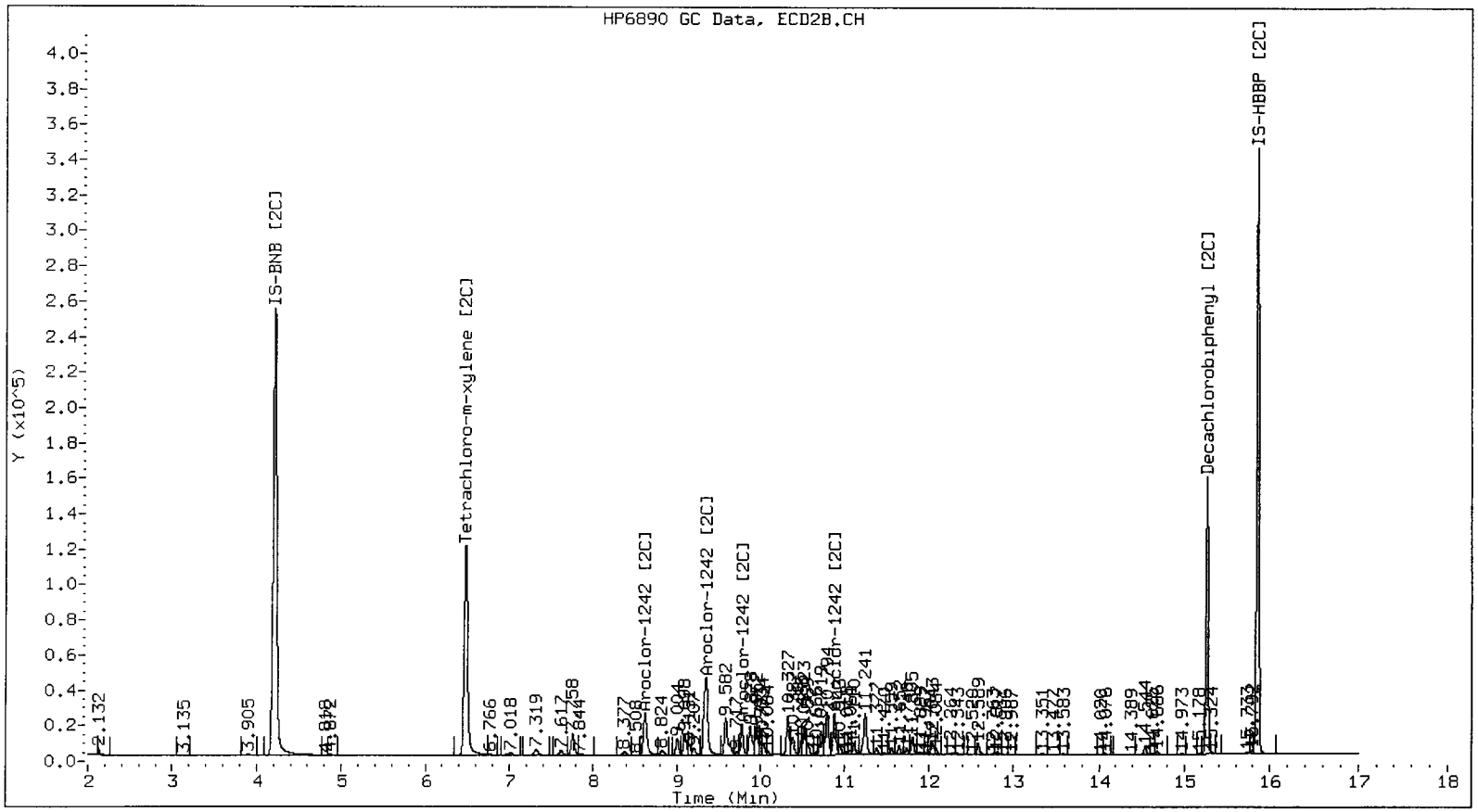
PCB-Form 10 Mod.

AV29:06532

ECD7-ZB5 AR1242 22-FEB-2016 18:04, 2ul

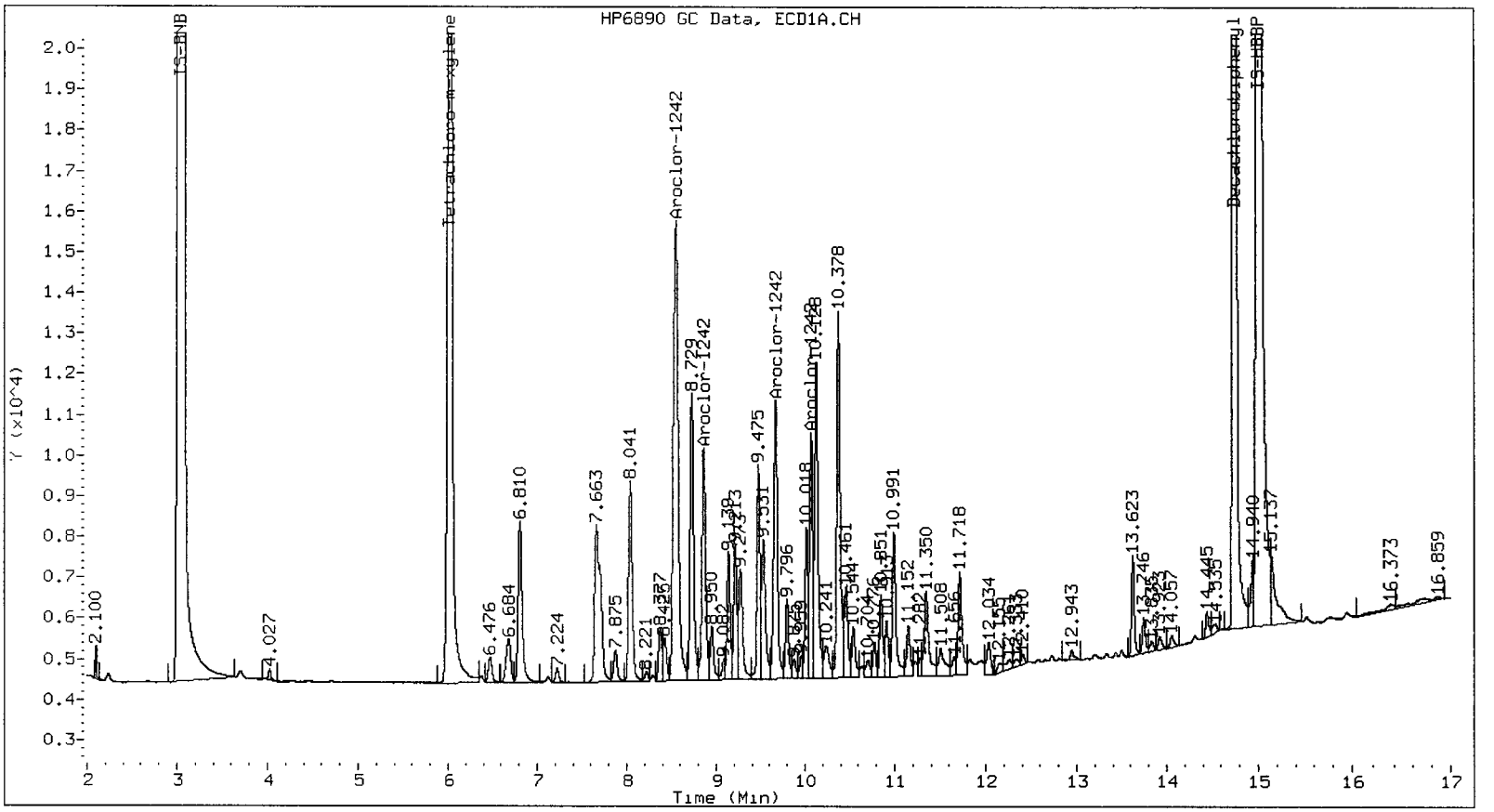


ECD7-ZB35 AR1242 22-FEB-2016 18:04, 2ul

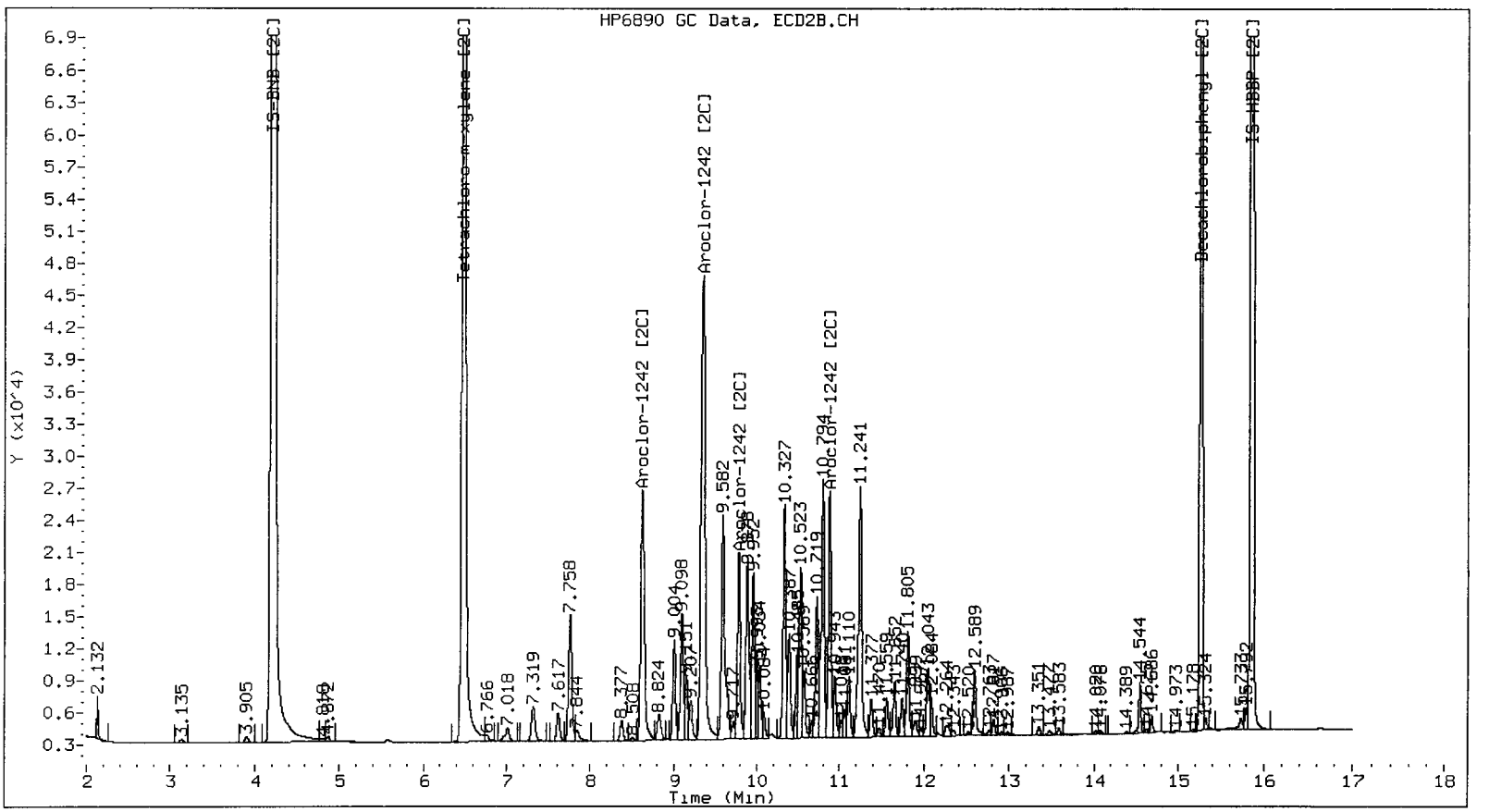


AVZ9:00533

ECD7-ZB5 AR1242 22-FEB-2016 18:04, 2ul



ECD7-ZB35 AR1242 22-FEB-2016 18:04, 2ul



Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160222.b/02221613.D
Data file 2: /20160222.b/20160222.b/02221613.D
Method: \\target\share\chem4\ecd7.i\20160222.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660
Client ID:
Injection Date: 22-FEB-2016 18:26
Report Date: 02/26/2016 07:00
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
6.020	-0.004	2534927	6.477	-0.005	7467034	40.6	41.1	1.3	Tetrachloro-m-xyle
14.744	0.000	7472428	15.261	-0.000	6241353	43.5	37.4	14.9	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	101.5	102.8
Decachlorobiphenyl	108.7	93.6

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	11526882	12.0
Hexabromobiphenyl	12470452	12869808	3.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15663002	-0.9
Hexabromobiphenyl	11807823	13026923	10.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.040	-0.005	364048	246.7	1	8.623	-0.005	1961796	251.4
Aroclor-1016	2	8.552	-0.004	1113602	244.8	2	9.350	-0.003	4050354	252.1
Aroclor-1016	3	8.860	-0.004	403321	259.7	3	9.583	-0.004	1681598	262.2
Aroclor-1016	4	9.668	-0.003	437171	252.4	4	10.524	-0.003	753958	253.1

Total Col1Ave (4 peaks): 250.9 Total Col2Ave (4 peaks): 254.7 RPD = 1

Corrected Ave (3 peaks): 248.0 Corrected Ave (3 peaks): 252.2 RPD = 2

CalAmt %D: 0.4 CalAmt %D: 1.9

Aroclor-1260	1	12.260	-0.001	812268	259.8	1	12.816	-0.002	2606872	217.0
Aroclor-1260	2	12.941	-0.001	2955549	248.5	2	13.581	-0.001	5070462	217.7
Aroclor-1260	3	13.329	-0.001	1354962	265.3	3	14.075	-0.001	3426517	222.7
Aroclor-1260	4	13.431	-0.000	847730	267.1	4	14.625	-0.001	1407861	238.7
Aroclor-1260	5	13.844	0.000	487676	263.1	NS	---			----

Total Col1Ave (5 peaks): 260.8 Total Col2Ave (4 peaks): 224.0 RPD = 15

Corrected Ave (4 peaks): 259.2 Corrected Ave (3 peaks): 219.1 RPD = 17

CalAmt %D: 4.3 CalAmt %D: -10.4

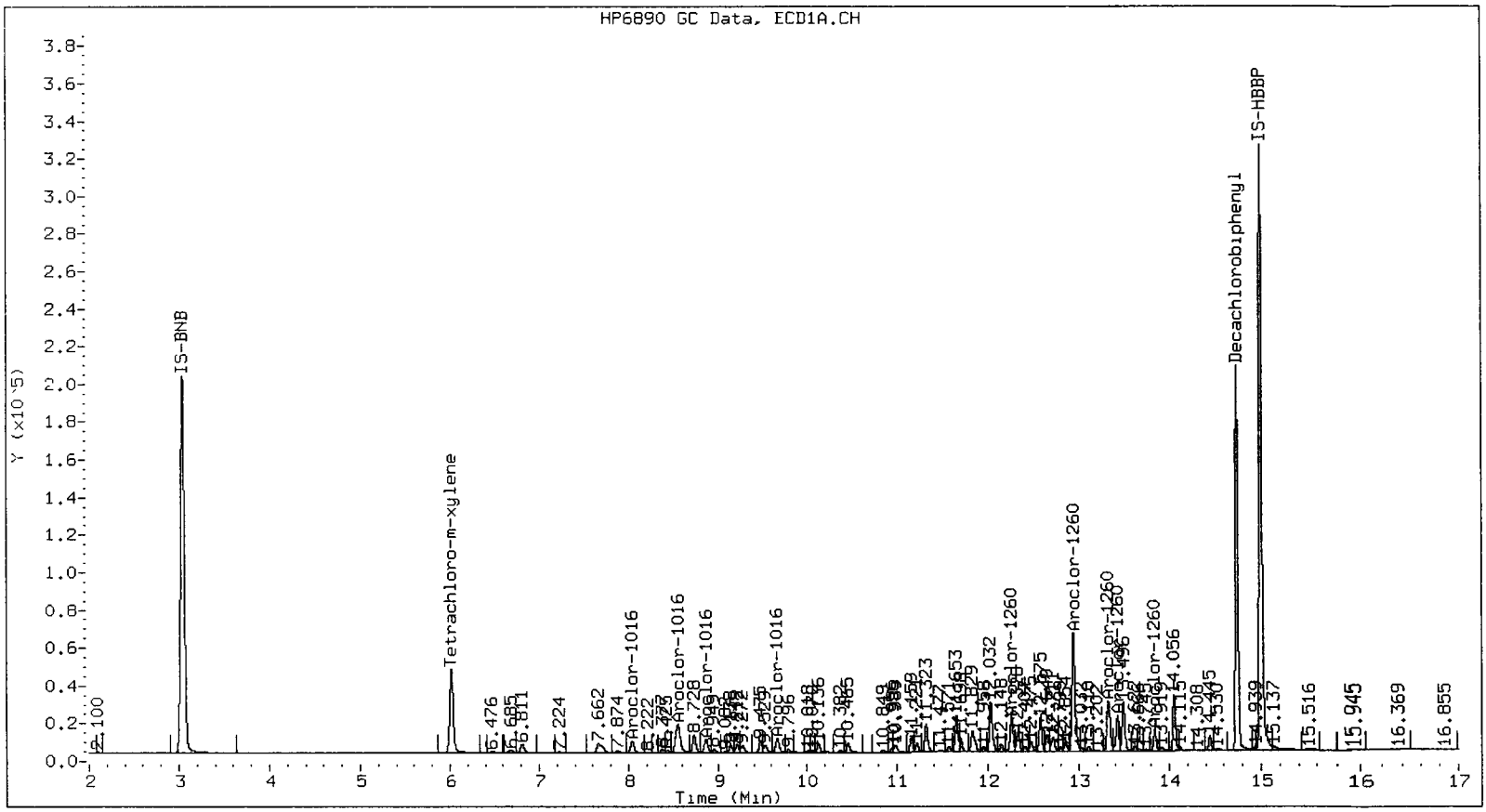
Total PCB Area Col1 (6.124 - 14.643) = 23494083 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.124 - 14.643) = 67328413 Col2 Total PCB = 0.5 ppm*

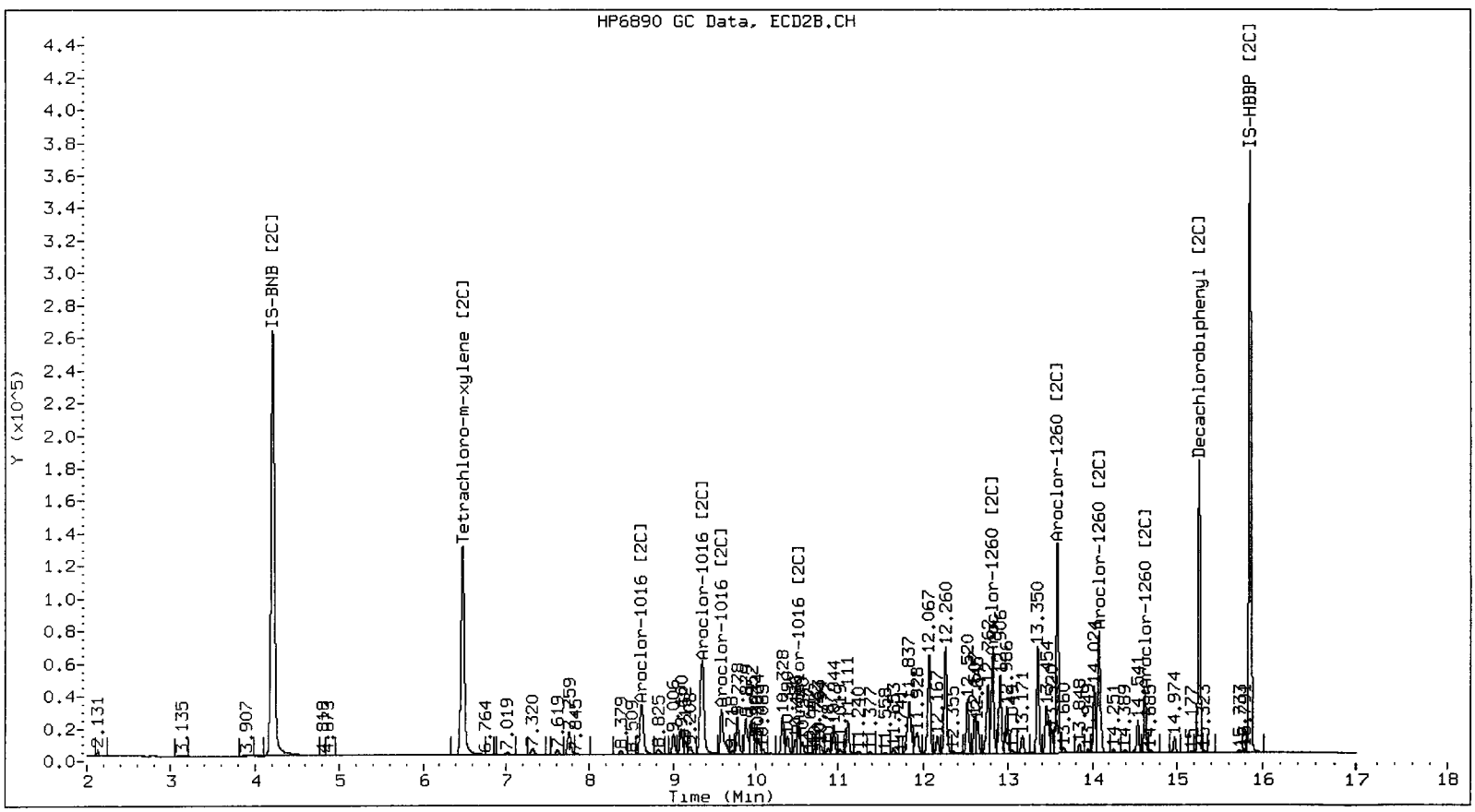
* Quantitated against AR1660 0.25ppm in Ical

AVZS 00536

ECD7-ZB5 AR1660 22-FEB-2016 18:26, 2ul

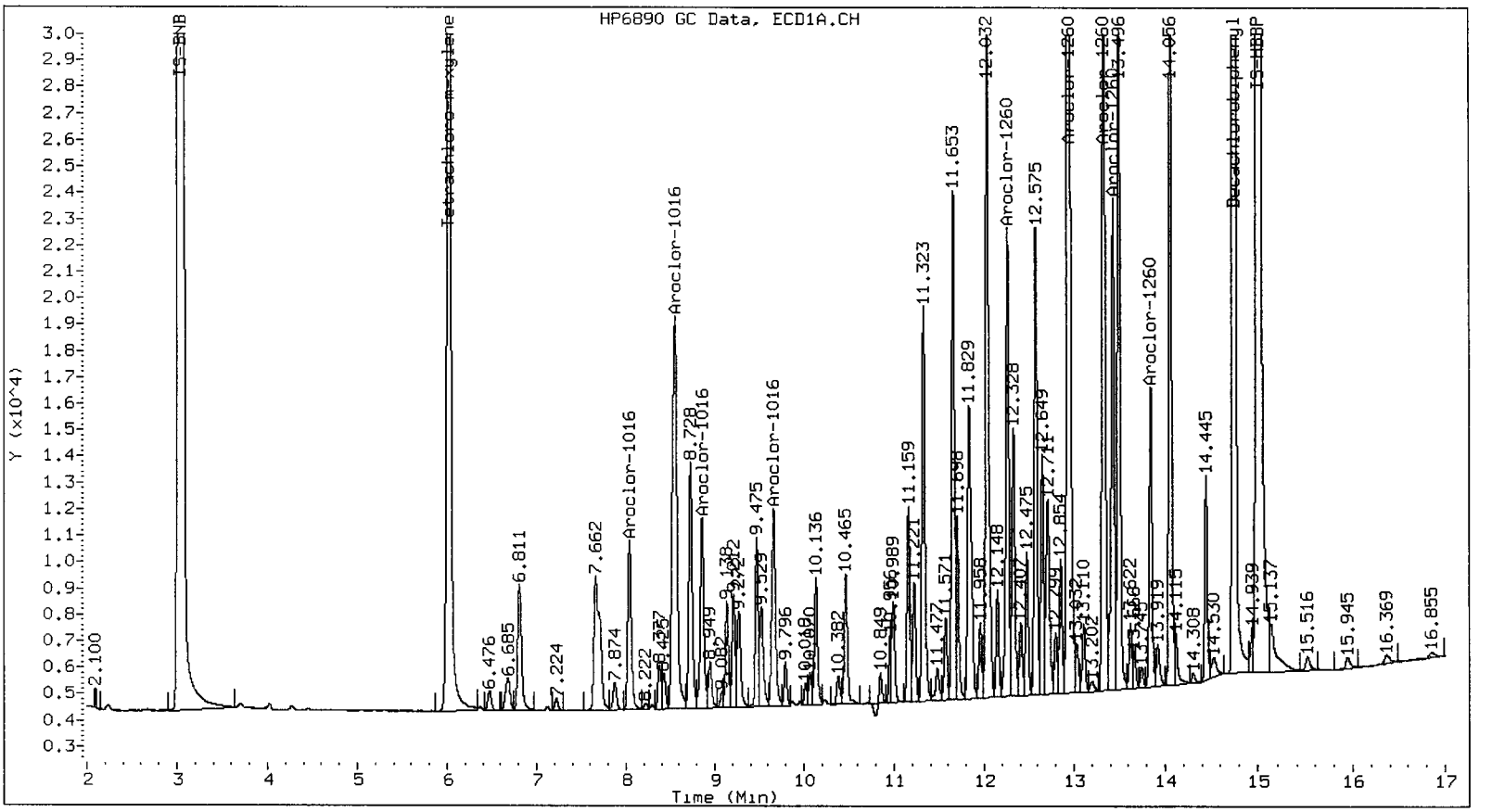


ECD7-ZB35 AR1660 22-FEB-2016 18:26, 2ul

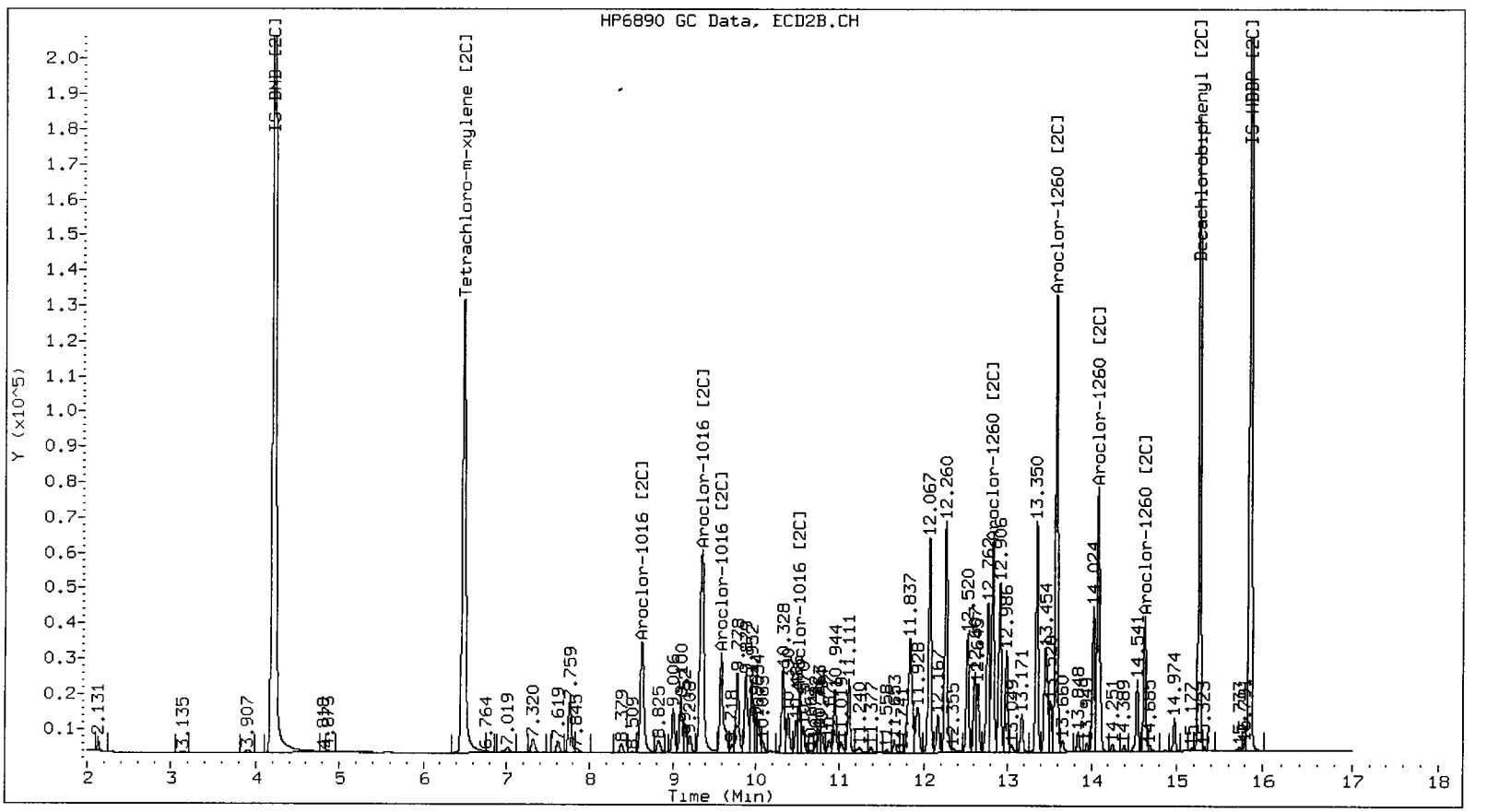


AVZ9.00537

ECD7-ZB5 AR1660 22-FEB-2016 18:26, 2ul



ECD7-ZB35 AR1660 22-FEB-2016 18:26, 2ul



Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160222.b/02221617.D
Data file 2: /20160222.b/20160222.b/02221617.D
Method: \\target\share\chem4\ecd7.i\20160222.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9MBW1
Client ID: AVZ9MBW1
Injection Date: 22-FEB-2016 19:53
Report Date: 02/26/2016 07:00
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
6.022	-0.002	1382686	6.480	-0.002	4314823	22.0	23.0	4.6	Tetrachloro-m-xyle
14.743	-0.001	4422932	15.261	-0.000	4018113	24.3	21.8	10.7	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	54.9	57.5
Decachlorobiphenyl	60.7	54.5

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	11623785	13.0
Hexabromobiphenyl	12470452	13650888	9.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	16185646	2.4
Hexabromobiphenyl	11807823	14394308	21.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	5.548	-0.038	24560	16.3
Aroclor-1221	2	---			0.0	2	7.644	0.020	28202	20.1
Aroclor-1221	3	---			0.0	3	7.776	0.012	30176	6.8
Aroclor-1221	NS	---			----	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: 14.4				
Aroclor-1232	1	---			0.0	1	5.548	-0.038	24560	27.0
Aroclor-1232	2	---			0.0	2	7.644	0.021	28202	32.9
Aroclor-1232	3	---			0.0	3	7.901	0.049	52576	108.9
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: 56.3				
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	12.983	0.041	19404	1.5	2	---			0.0
Aroclor-1260	3	---			0.0	3	14.002	-0.074	29545	1.7
Aroclor-1260	4	---			0.0	4	14.625	-0.002	11882	1.8
Aroclor-1260	5	13.925	0.082	139388	70.9	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1262	1	---			0.0	1	12.930	0.025	42354	2.9
Aroclor-1262	2	12.983	0.042	19404	1.5	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	14.002	-0.074	29545	1.6
Aroclor-1262	5	14.048	-0.008	24860	3.6	5	14.625	-0.000	11882	1.3
	Col1Ave: <3 Quant Peaks					Col2Ave: 1.9				
Aroclor-1268	1	---			0.0	1	14.002	-0.019	29545	1.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	14.949	-0.024	8826	0.1
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

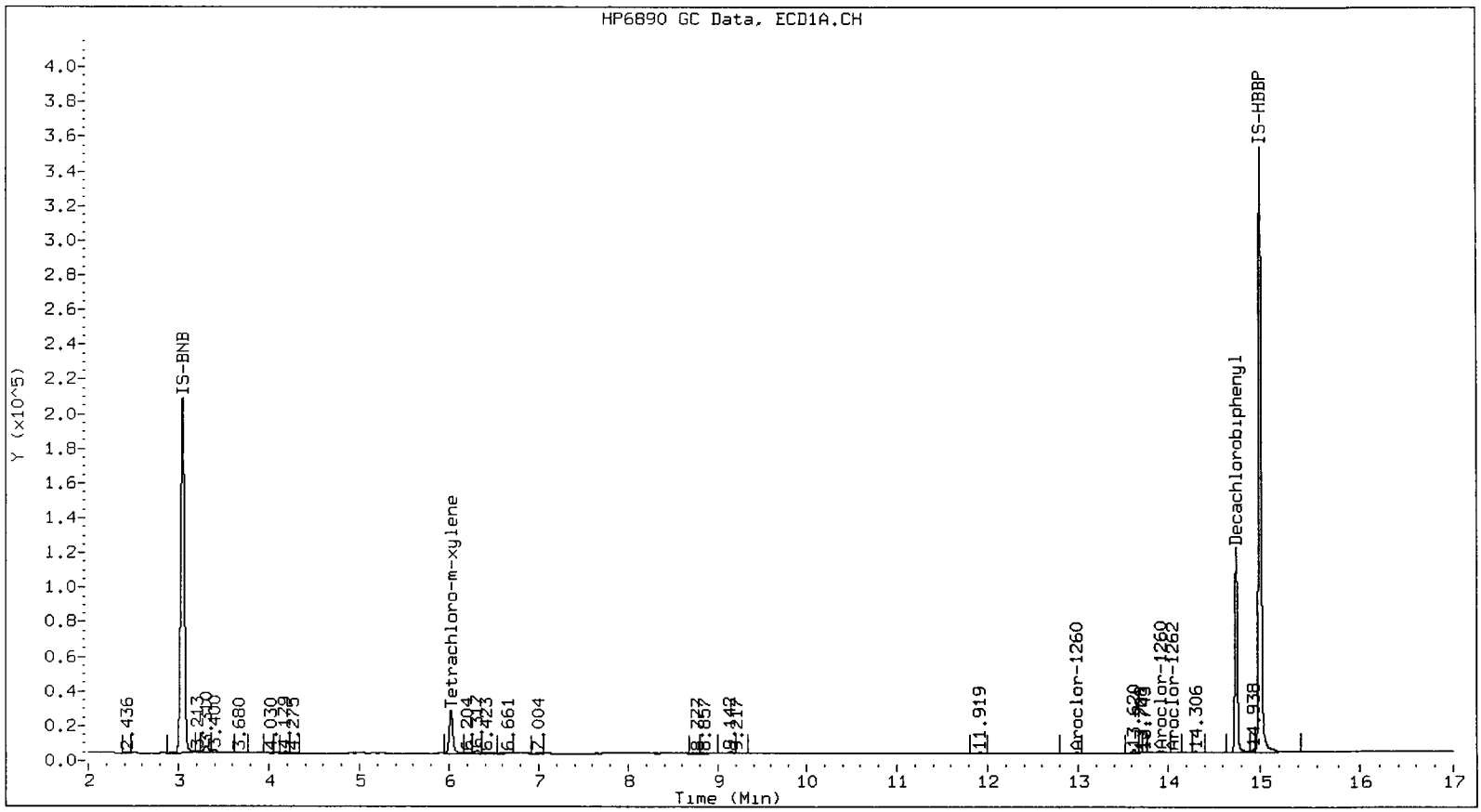
Total PCB Area Col1 (6.124 - 14.643) = 788277 Col1 Total PCB = 0.0 ppm*

Total PCB Area Col2 (6.124 - 14.643) = 4918427 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9MBW1 22-FEB-2016 19:53, 2ul



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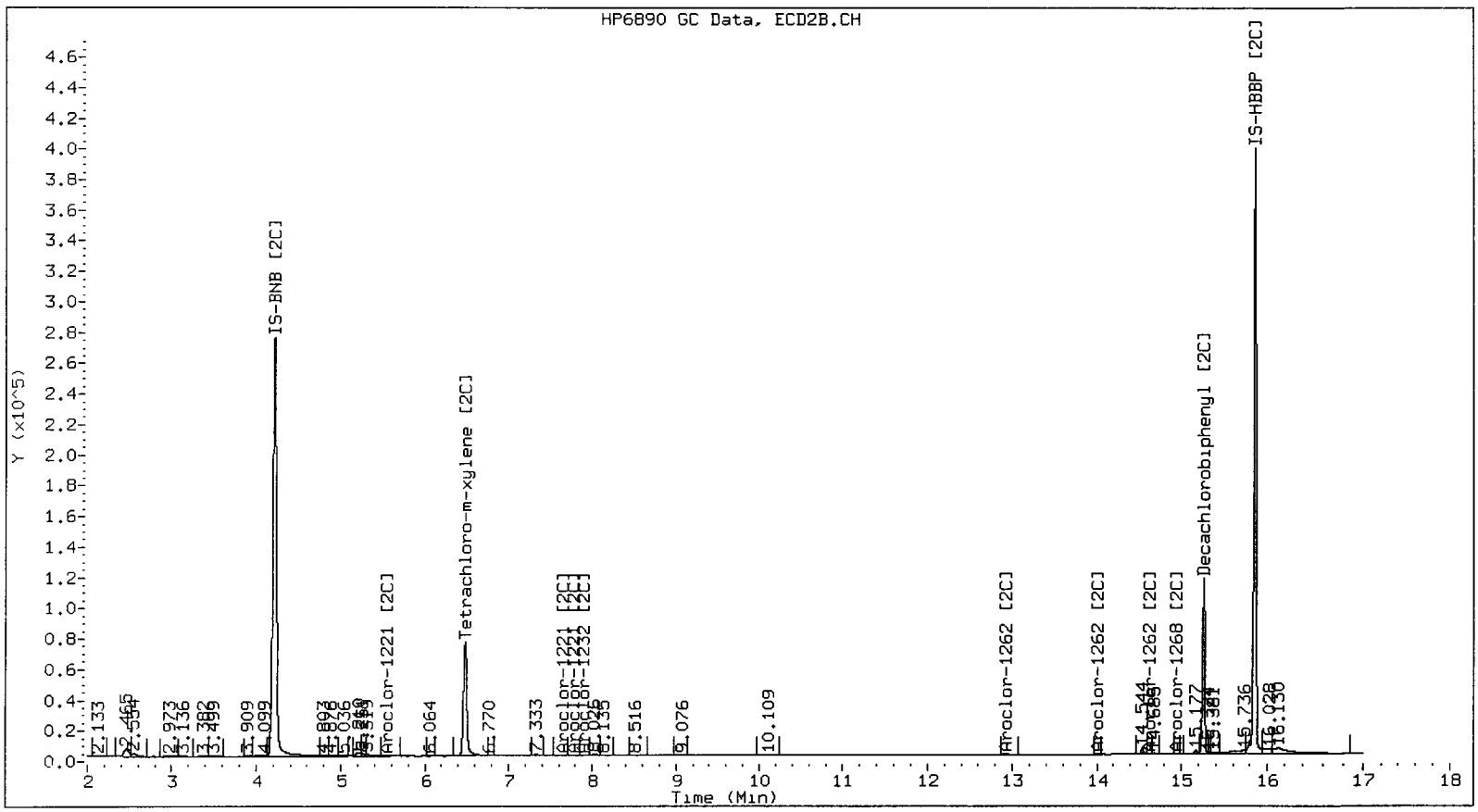

AVZ9:00342

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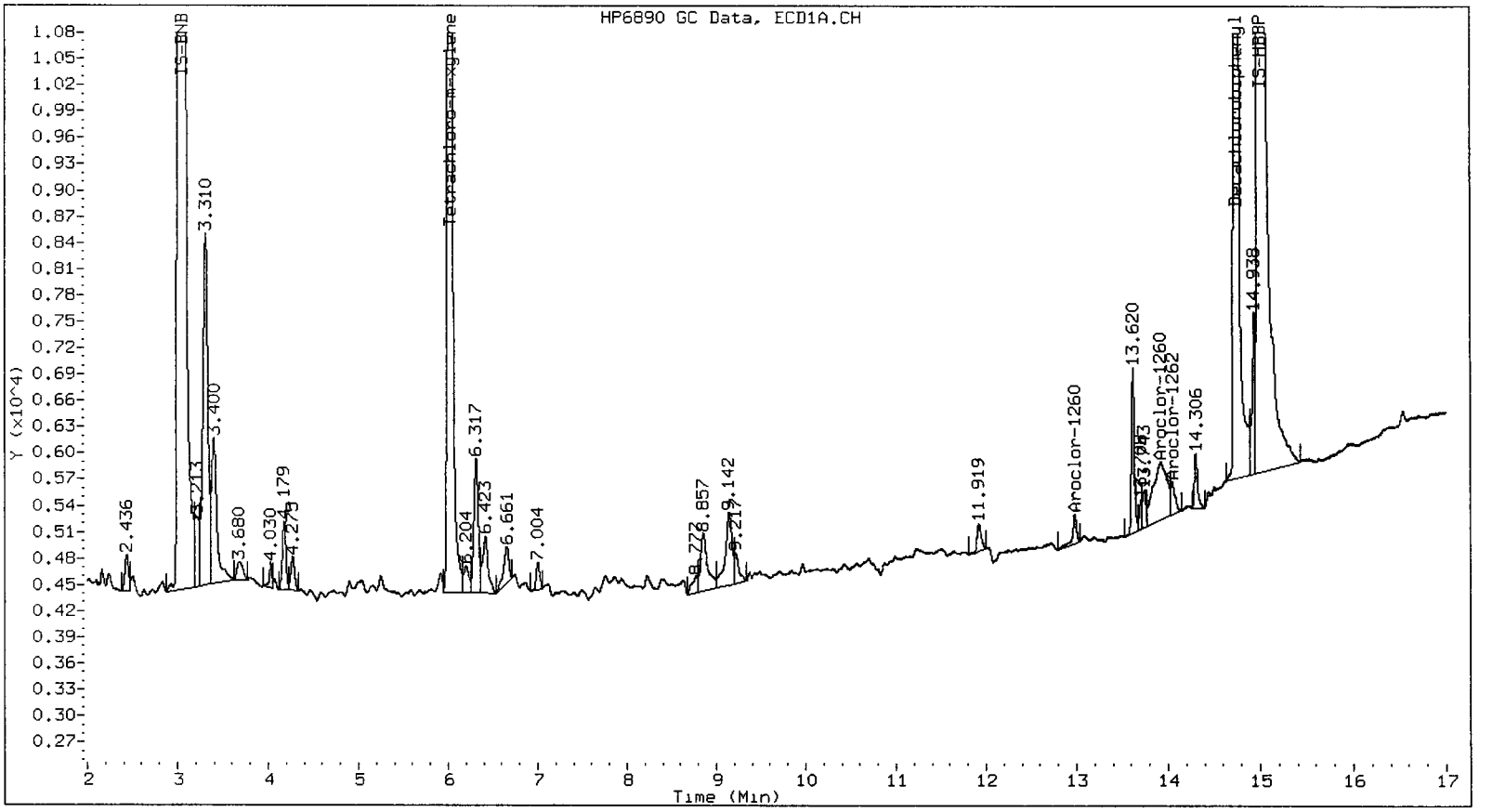

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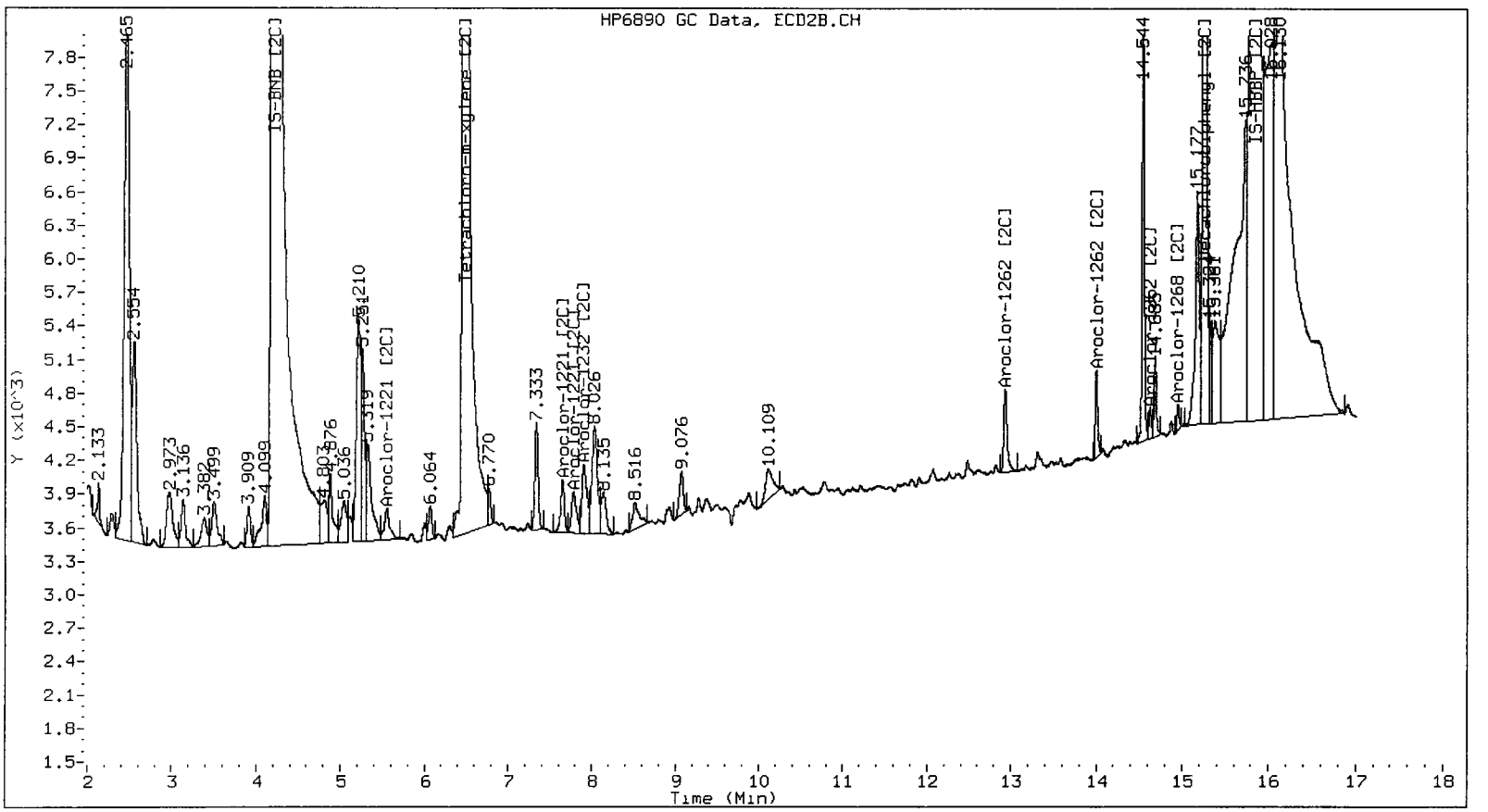


Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160222.b/02221618.D
Data file 2: /20160222.b/20160222.b/02221618.D
Method: \\target\share\chem4\ecd7.i\20160222.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9LCSW1
Client ID: AVZ9LCSW1
Injection Date: 22-FEB-2016 20:15
Report Date: 02/26/2016 07:00
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
6.023	-0.001	1356891	6.480	-0.002	4215974	22.8	23.4	2.8	Tetrachloro-m-xyle
14.743	-0.000	5056586	15.261	-0.001	4565057	28.6	26.5	7.8	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	56.9	58.6
Decachlorobiphenyl	71.6	66.2

k 02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	11000219	6.9
Hexabromobiphenyl	12470452	13223962	6.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15531394	-1.7
Hexabromobiphenyl	11807823	13468643	14.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.043	-0.002	112954	80.2	1	8.626	-0.003	569000	73.5
Aroclor-1016	2	8.553	-0.002	333058	76.7	2	9.352	-0.002	1199826	75.3
Aroclor-1016	3	8.861	-0.003	169385	114.3	3	9.585	-0.002	482811	75.9
Aroclor-1016	4	9.670	-0.001	134769	81.5	4	10.525	-0.002	229276	77.6
Total Col1Ave (4 peaks):				88.2		Total Col2Ave (4 peaks):			75.6	RPD = 15
Corrected Ave (3 peaks):				79.5		Corrected Ave (3 peaks):			74.9	RPD = 6
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.674	-0.016	65413	117.0	2	7.625	0.002	68006	50.5
Aroclor-1221	3	6.813	-0.002	82048	49.1	3	7.763	-0.001	253625	59.5
Aroclor-1221	NS	---			----	4	8.626	-0.018	569000	402.7
Col1Ave: <3 Quant Peaks						Col2Ave: 170.9				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.674	-0.017	65413	174.1	2	7.625	0.002	68006	82.8
Aroclor-1232	3	6.813	-0.002	82048	74.1	3	7.901	0.049	78741	169.9
Aroclor-1232	4	8.553	-0.001	333058	183.9	4	8.626	-0.002	569000	158.0
Total Col1Ave (3 peaks):				144.0		Total Col2Ave (3 peaks):			136.9	RPD = 5
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	8.553	-0.003	333058	98.5	1	8.626	0.004	569000	94.6
Aroclor-1242	2	8.861	-0.002	169385	136.4	2	9.352	0.004	1199826	96.4
Aroclor-1242	3	9.670	-0.002	134769	85.9	3	9.780	0.003	298393	92.8
Aroclor-1242	4	10.071	-0.002	18036	15.9	4	10.877	0.002	48136	11.1
Total Col1Ave (4 peaks):				84.2		Total Col2Ave (4 peaks):			73.7	RPD = 13
Corrected Ave (3 peaks):				66.8		Corrected Ave (3 peaks):			66.2	RPD = 1
Aroclor-1248	1	8.553	-0.001	333058	167.9	1	9.352	0.003	1199826	161.5
Aroclor-1248	2	9.477	-0.001	102256	69.2	2	9.881	-0.001	350919	64.1
Aroclor-1248	3	9.670	-0.000	134769	60.8	3	10.793	-0.004	66078	7.9
Aroclor-1248	4	10.071	-0.001	18036	9.8	4	11.241	-0.002	23870	2.9
Total Col1Ave (4 peaks):				76.9		Total Col2Ave (4 peaks):			59.1	RPD = 26
Corrected Ave (3 peaks):				46.6		Corrected Ave (3 peaks):			24.9	RPD = 61*
Aroclor-1254	1	10.466	0.001	69526	28.6	1	11.112	-0.002	276154	35.4
Aroclor-1254	2	---			0.0	2	11.241	0.029	23870	6.5
Aroclor-1254	3	10.854	0.004	23586	11.8	3	11.653	-0.002	50487	8.6
Aroclor-1254	4	10.989	-0.002	108569	27.8	4	11.838	0.030	683186	51.1
Aroclor-1254	5	11.324	-0.024	255721	66.9	5	12.817	-0.001	886749	90.0
Total Col1Ave (4 peaks):				33.8		Total Col2Ave (5 peaks):			38.3	RPD = 13
Corrected Ave (3 peaks):				22.7		Corrected Ave (4 peaks):			25.4	RPD = 11
Aroclor-1260	1	12.259	-0.002	290872	90.6	1	12.817	-0.001	886749	71.4
Aroclor-1260	2	12.940	-0.002	972966	79.6	2	13.581	-0.001	1757475	73.0
Aroclor-1260	3	13.328	-0.002	441901	84.2	3	14.075	-0.002	1184091	74.4
Aroclor-1260	4	13.430	-0.001	282985	86.8	4	14.625	-0.002	503479	82.6
Aroclor-1260	5	13.842	-0.001	153198	80.4	NS	---			----
Total Col1Ave (5 peaks):				84.3		Total Col2Ave (4 peaks):			75.3	RPD = 11
Corrected Ave (4 peaks):				82.8		Corrected Ave (3 peaks):			72.9	RPD = 13
Aroclor-1262	1	12.259	-0.000	290872	68.0	1	12.905	0.000	753934	55.0
Aroclor-1262	2	12.940	0.000	972966	77.5	2	13.350	0.001	869306	68.7
Aroclor-1262	3	13.328	-0.002	441901	111.1	3	13.581	0.000	1757475	68.0
Aroclor-1262	4	13.430	0.000	282985	47.2	4	14.075	-0.001	1184091	70.5
Aroclor-1262	5	14.055	-0.000	378123	56.2	5	14.625	-0.000	503479	58.5
Total Col1Ave (5 peaks):				72.0		Total Col2Ave (5 peaks):			64.1	RPD = 12
Corrected Ave (4 peaks):				62.2		Corrected Ave (4 peaks):			62.6	RPD = 1
Aroclor-1268	1	13.430	-0.000	282985	16.2	1	14.023	0.002	567380	21.1
Aroclor-1268	2	13.496	0.001	358487	16.6	2	14.075	-0.001	1184091	47.2
Aroclor-1268	3	13.842	0.015	153198	7.8	3	14.388	0.000	21217	1.0
Aroclor-1268	4	14.444	-0.001	96660	1.4	4	14.974	0.000	123807	2.1

Total Col1Ave (4 peaks):	10.5	Total Col2Ave (4 peaks):	17.9	RPD = 52*
Corrected Ave (3 peaks):	8.5	Corrected Ave (3 peaks):	8.1	RPD = 4

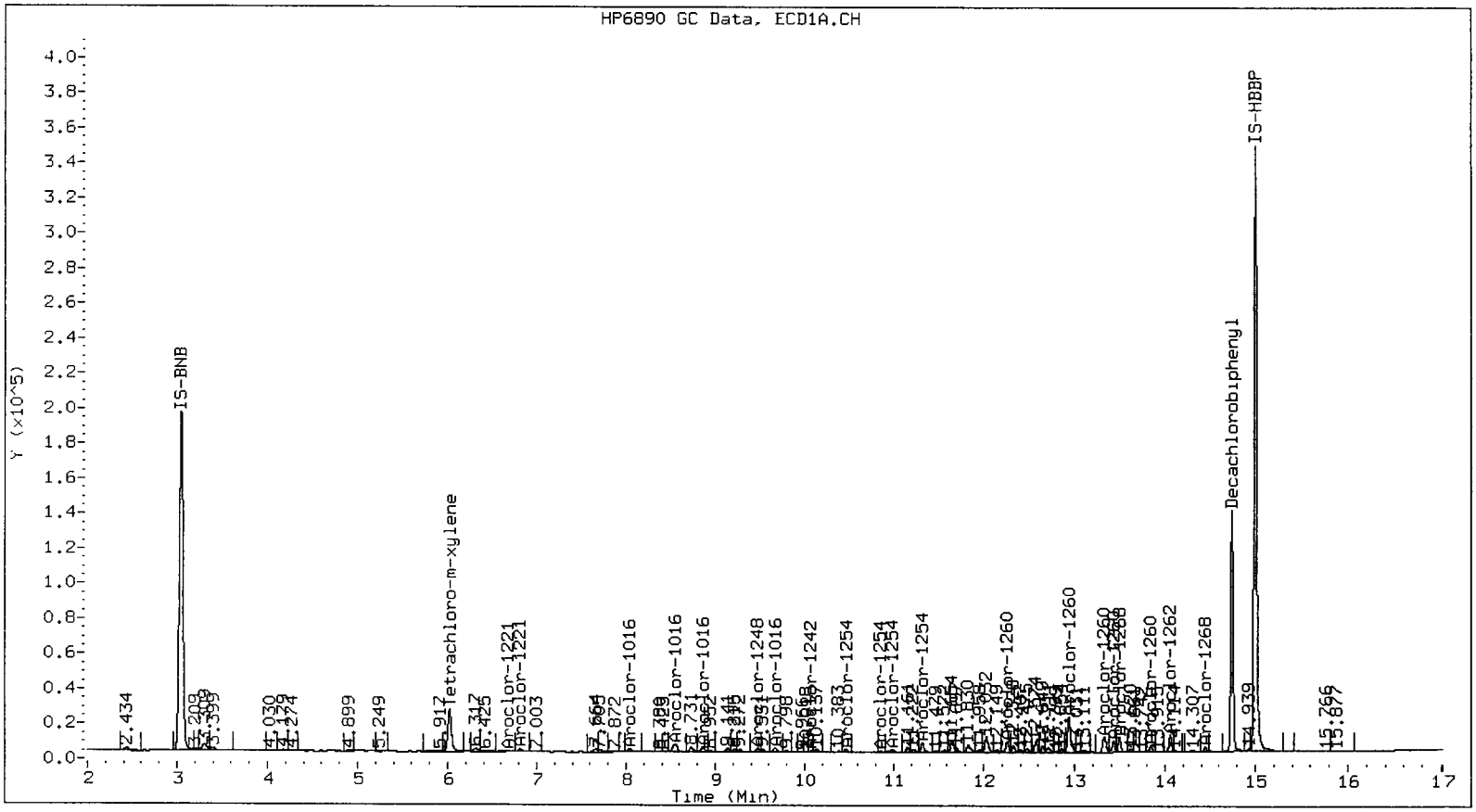
Total PCB Area Col1 (6.124 - 14.643) = 8361706 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (6.124 - 14.643) = 24019740 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9LCSW1 22-FEB-2016 20:15, 2ul



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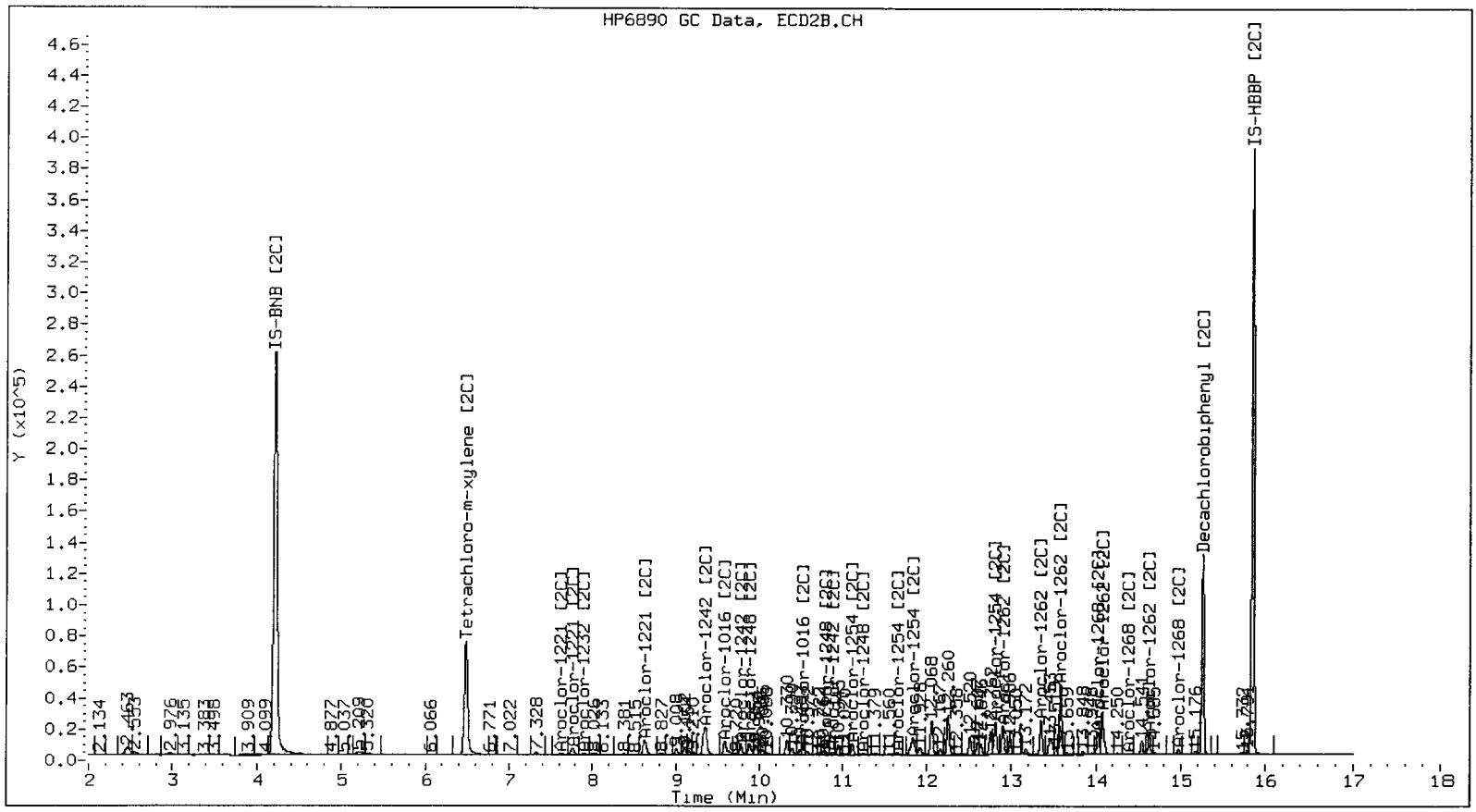

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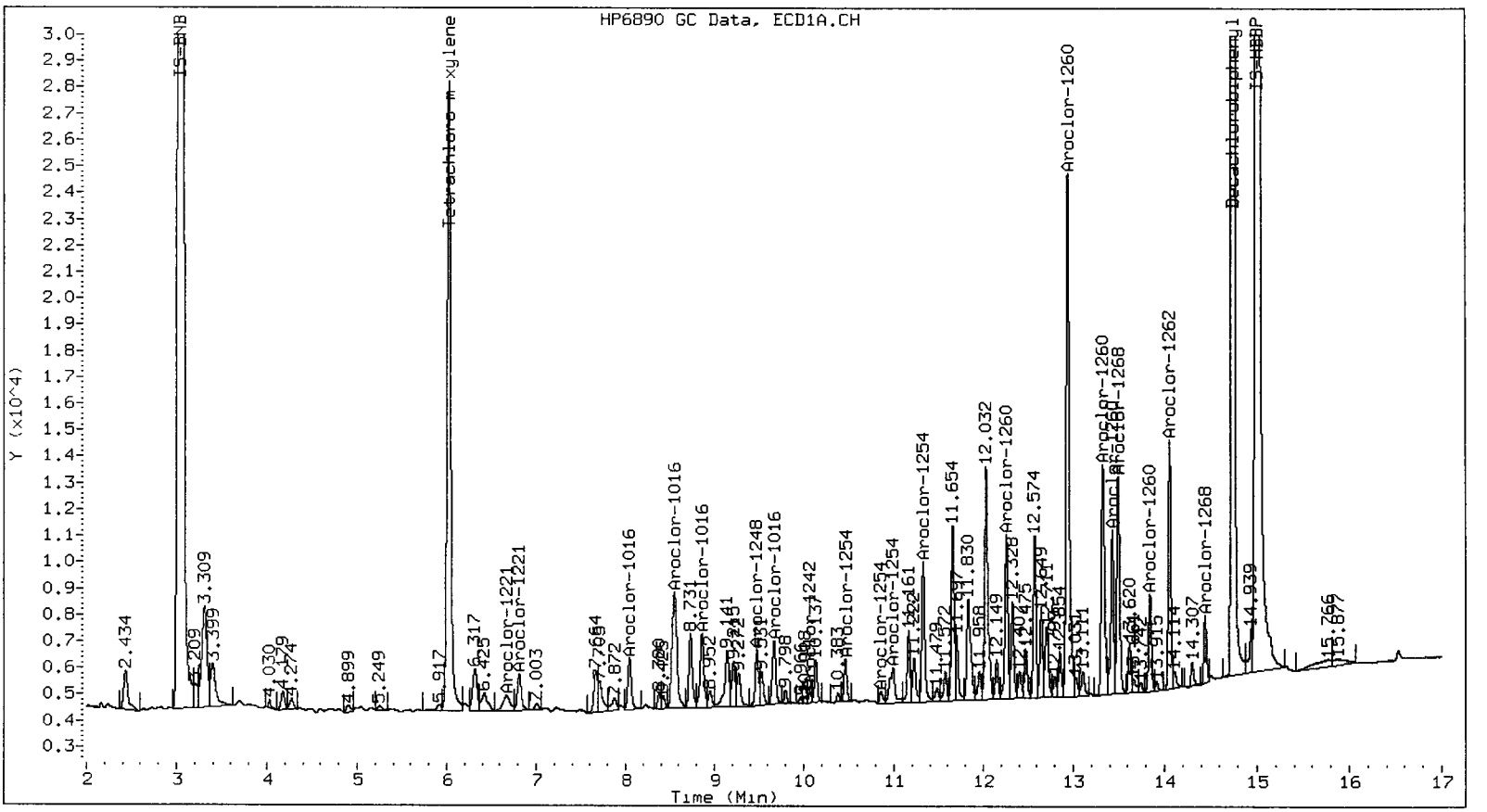

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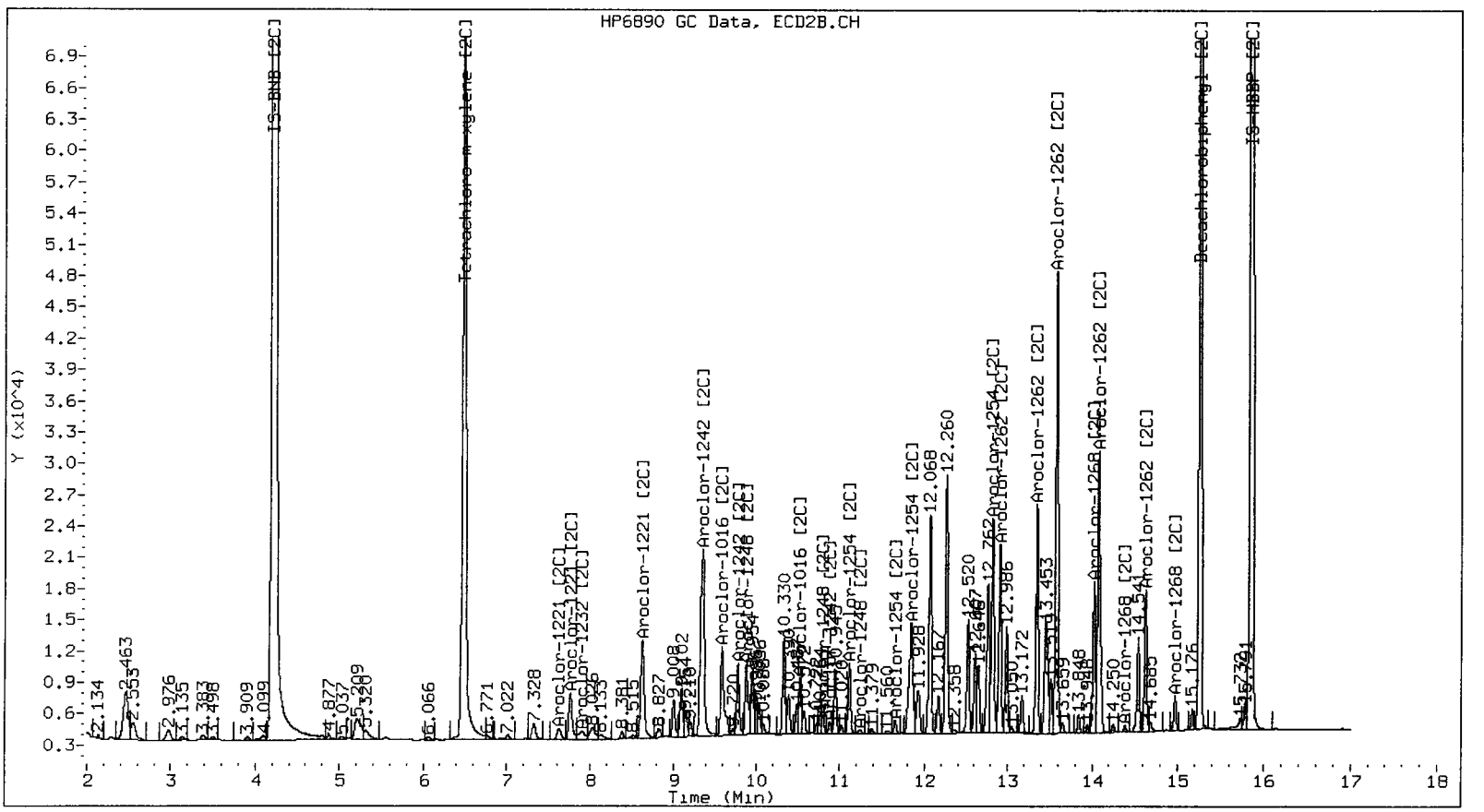

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

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Data file 2: /20160222.b/20160222.b/02221620.D
Method: \\target\share\chem4\ecd7.i\20160222.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AVZ9AQ
Client ID: JF-RB-160212
Injection Date: 22-FEB-2016 20:59
Report Date: 02/26/2016 07:28
Matrix: WATER
Dilution Factor: 1.000

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.023	-0.000	1454744	6.479	-0.003	3988746	23.1	21.6	6.8	Tetrachloro-m-xyle
14.743	-0.000	3579987	15.260	-0.001	3358486	19.4	19.0	2.1	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	57.8	54.0
Decachlorobiphenyl	48.6	47.6

02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	11620119	12.9
Hexabromobiphenyl	12470452	13794582	10.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15943859	0.9
Hexabromobiphenyl	11807823	13793096	16.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.046	0.001	13601	9.1	1	8.626	-0.003	68566	8.6
Aroclor-1016	2	8.553	-0.002	47074	10.3	2	9.353	-0.000	121079	7.4
Aroclor-1016	3	8.861	-0.003	75033	47.9	3	9.585	-0.003	16630	2.5
Aroclor-1016	4	9.674	0.003	73076	41.9	4	10.527	-0.001	135756	44.8
Total Col1Ave (4 peaks):				27.3	Total Col2Ave (4 peaks):				15.8	RPD = 53*
Corrected Ave (3 peaks):				20.4	Corrected Ave (3 peaks):				6.2	RPD = 107*
Aroclor-1221	1	4.753	0.039	29223	79.5	1	5.545	-0.040	435672	293.5
Aroclor-1221	2	6.665	-0.025	71705	121.4	2	7.644	0.021	279612	202.2
Aroclor-1221	3	6.747	-0.068	67114	38.0	3	7.775	0.012	57550	13.2
Aroclor-1221	NS	---			----	4	8.626	-0.018	68566	47.3
Total Col1Ave (3 peaks):				79.6	Total Col2Ave (4 peaks):				139.0	RPD = 54*
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				87.5	
Aroclor-1232	1	4.753	0.039	29223	140.2	1	5.545	-0.041	435672	486.4
Aroclor-1232	2	6.665	-0.025	71705	180.6	2	7.644	0.021	279612	331.6
Aroclor-1232	3	6.747	-0.068	67114	57.4	3	7.901	0.049	62137	130.6
Aroclor-1232	4	8.553	-0.001	47074	24.6	4	8.626	-0.002	68566	18.5
Total Col1Ave (4 peaks):				100.7	Total Col2Ave (4 peaks):				241.8	RPD = 82*
Corrected Ave (3 peaks):				74.1	Corrected Ave (3 peaks):				160.2	RPD = 74*
Aroclor-1242	1	8.553	0.002	47074	13.2	1	8.626	0.004	68566	11.1
Aroclor-1242	2	8.861	0.000	75033	57.2	2	9.353	0.006	121079	9.5
Aroclor-1242	3	9.674	0.005	73076	44.1	3	9.775	-0.002	21491	6.5
Aroclor-1242	4	10.071	0.001	62915	52.5	4	10.877	0.002	167462	37.7
Total Col1Ave (4 peaks):				41.7	Total Col2Ave (4 peaks):				16.2	RPD = 88*
Corrected Ave (3 peaks):				36.6	Corrected Ave (3 peaks):				9.0	RPD = 121*
Aroclor-1248	1	8.553	-0.001	47074	22.5	1	9.353	0.004	121079	15.9
Aroclor-1248	2	9.476	-0.002	161199	103.3	2	9.880	-0.002	265434	47.2
Aroclor-1248	3	9.674	0.004	73076	31.2	3	10.796	-0.002	243122	28.3
Aroclor-1248	4	10.071	-0.001	62915	32.3	4	11.210	-0.034	299433	34.9
Total Col1Ave (4 peaks):				47.3	Total Col2Ave (4 peaks):				31.6	RPD = 40
Corrected Ave (3 peaks):				28.7	Corrected Ave (3 peaks):				26.4	RPD = 8
Aroclor-1254	1	10.463	-0.002	180616	70.2	1	11.112	-0.002	423469	52.8
Aroclor-1254	2	10.544	-0.001	82929	96.7	2	11.210	-0.002	299433	79.7
Aroclor-1254	3	10.852	0.002	81231	38.6	3	11.653	-0.001	213121	35.4
Aroclor-1254	4	10.988	-0.003	256309	62.1	4	11.806	-0.002	789631	57.5
Aroclor-1254	5	11.342	-0.005	266128	65.9	5	12.817	-0.001	416289	41.2
Total Col1Ave (5 peaks):				66.7	Total Col2Ave (5 peaks):				53.3	RPD = 22
Corrected Ave (4 peaks):				59.2	Corrected Ave (4 peaks):				46.7	RPD = 24
Aroclor-1260	1	12.261	-0.000	81264	24.3	1	12.817	-0.001	416289	32.7
Aroclor-1260	2	12.942	-0.000	134254	10.5	2	13.582	0.000	191540	7.8
Aroclor-1260	3	13.327	-0.001	80788	14.8	3	14.074	-0.002	131423	8.1
Aroclor-1260	4	13.432	0.001	27971	8.2	4	14.623	-0.003	53834	8.6
Aroclor-1260	5	13.845	0.001	24047	12.1	NS	---			----
Total Col1Ave (5 peaks):				14.0	Total Col2Ave (4 peaks):				14.3	RPD = 2
Corrected Ave (4 peaks):				11.4	Corrected Ave (3 peaks):				8.2	RPD = 33
Aroclor-1262	1	12.261	0.001	81264	18.2	1	12.907	0.002	89473	6.4
Aroclor-1262	2	12.942	0.001	134254	10.3	2	13.351	0.002	217352	16.8
Aroclor-1262	3	13.327	-0.002	80788	19.5	3	13.582	0.002	191540	7.2
Aroclor-1262	4	13.432	0.002	27971	4.5	4	14.074	-0.001	131423	7.6
Aroclor-1262	5	14.052	-0.004	62909	9.0	5	14.623	-0.002	53834	6.1
Total Col1Ave (5 peaks):				12.3	Total Col2Ave (5 peaks):				8.8	RPD = 33
Corrected Ave (4 peaks):				10.5	Corrected Ave (4 peaks):				6.8	RPD = 42*
Aroclor-1268	1	13.432	0.002	27971	1.5	1	14.003	-0.018	132433	4.8
Aroclor-1268	2	13.495	0.000	33103	1.5	2	14.074	-0.002	131423	5.1
Aroclor-1268	3	13.845	0.017	24047	1.2	3	14.465	0.077	22892	1.1

Aroclor-1268	4	14.446	-0.000	37589	0.5	4	14.951	-0.022	74001	1.3

Total Col1Ave (4 peaks): 1.2 Total Col2Ave (4 peaks): 3.1 RPD = 89*

Corrected Ave (3 peaks): 1.1 Corrected Ave (3 peaks): 2.4 RPD = 78*

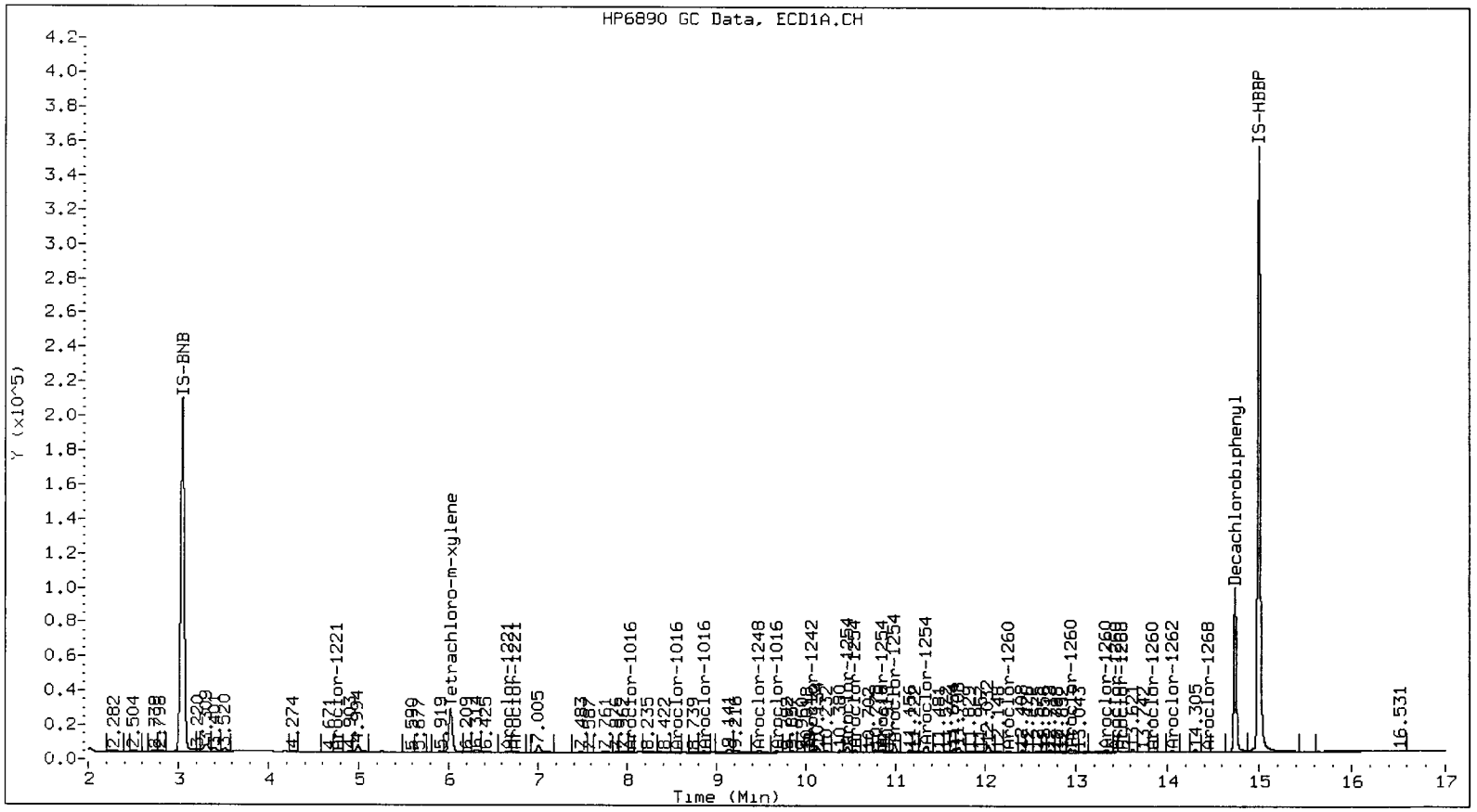
Total PCB Area Col1 (6.123 - 14.643) = 4761214 Col1 Total PCB = 0.1 ppm*

Total PCB Area Col2 (6.123 - 14.643) = 13304447 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

ECD7-ZB5 AVZ9AQ 22-FEB-2016 20:59, 2ul



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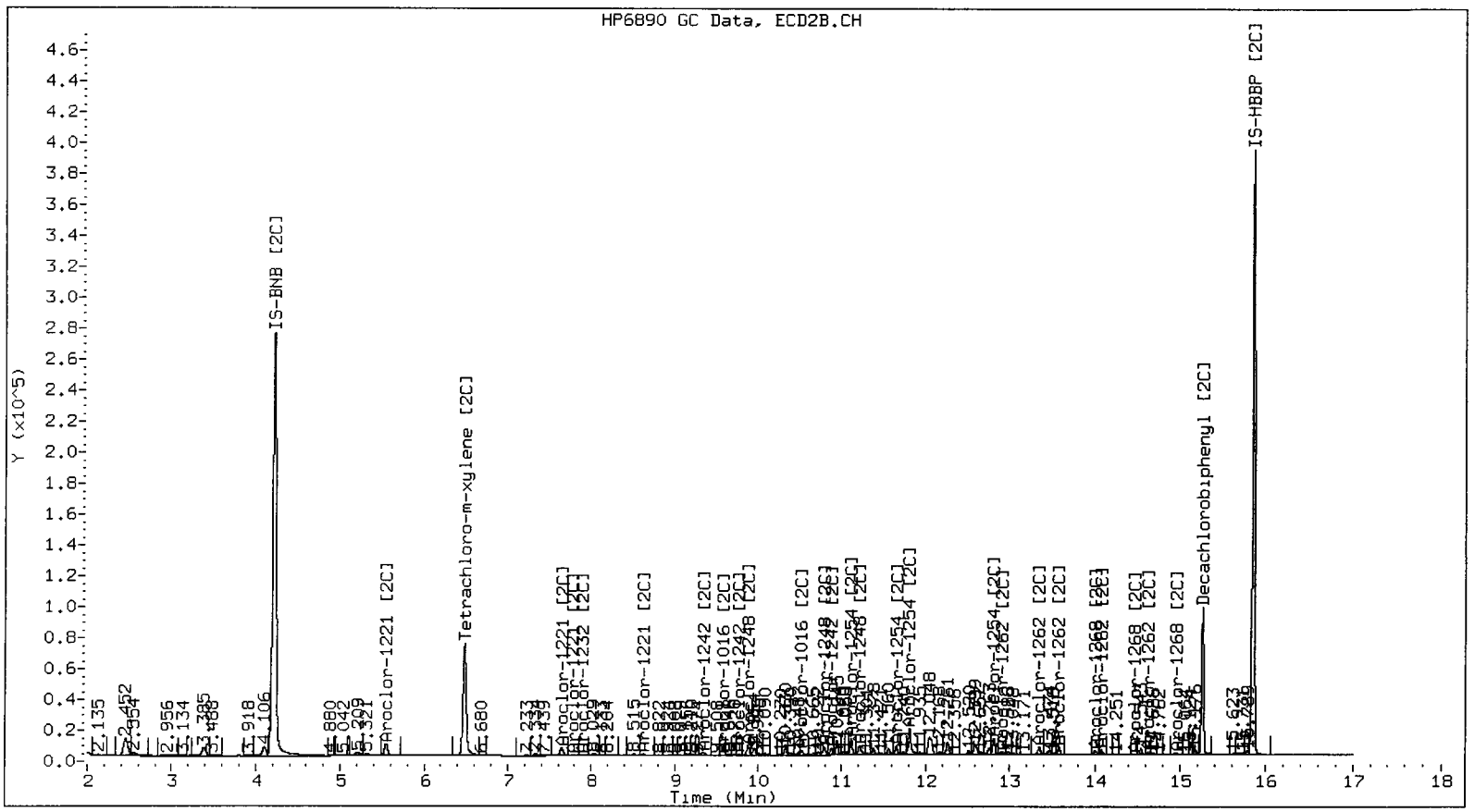

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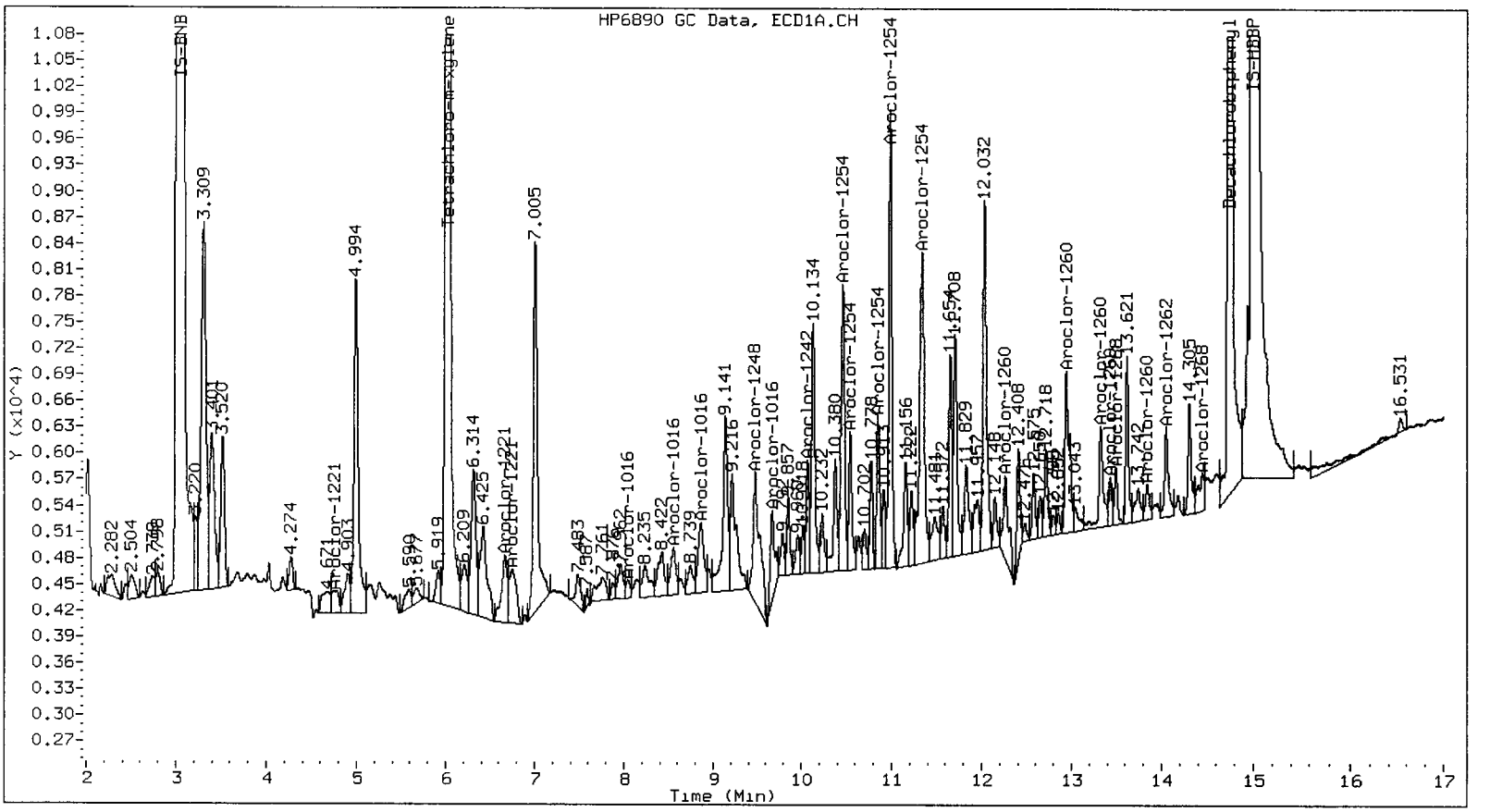

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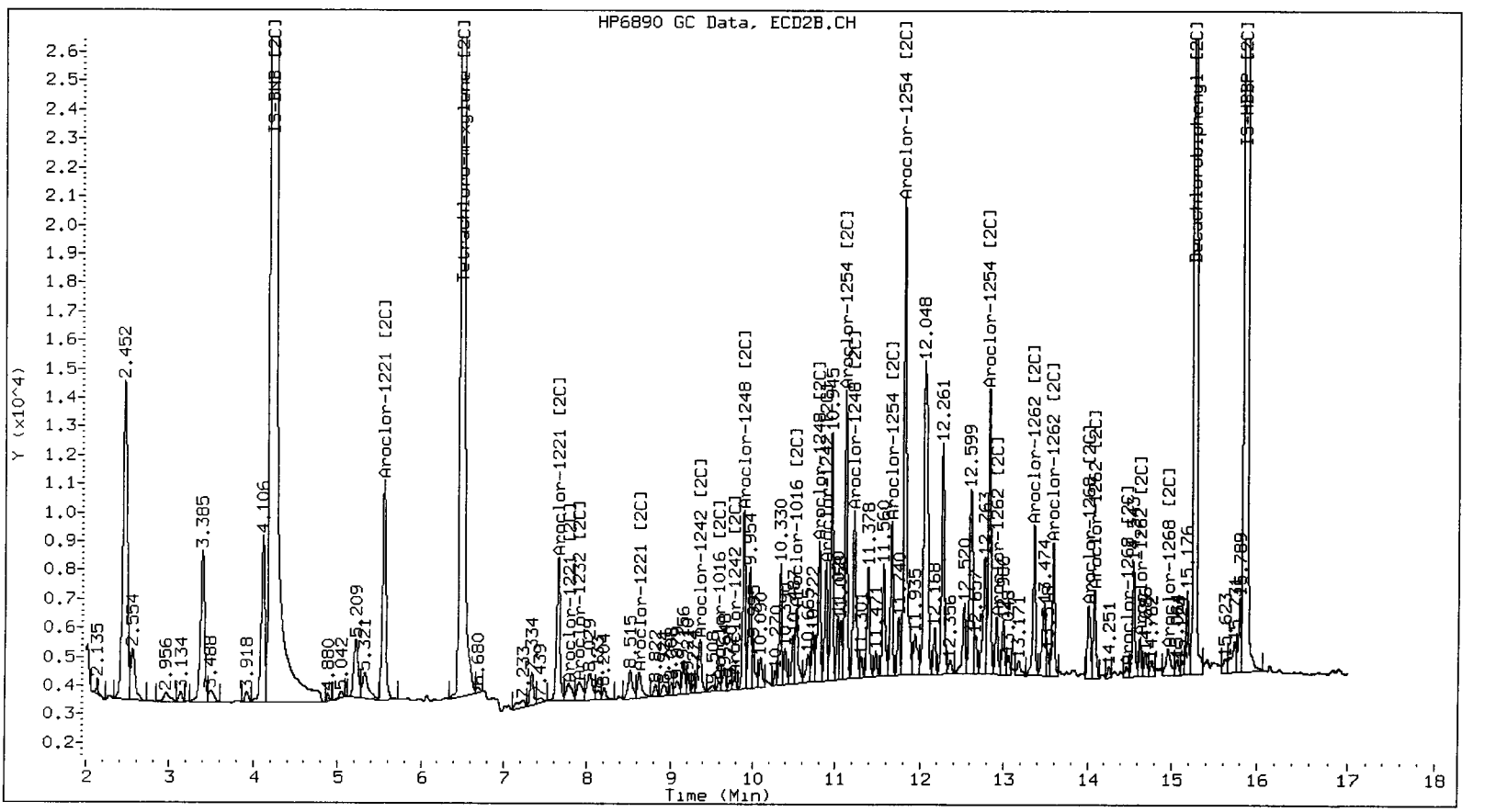

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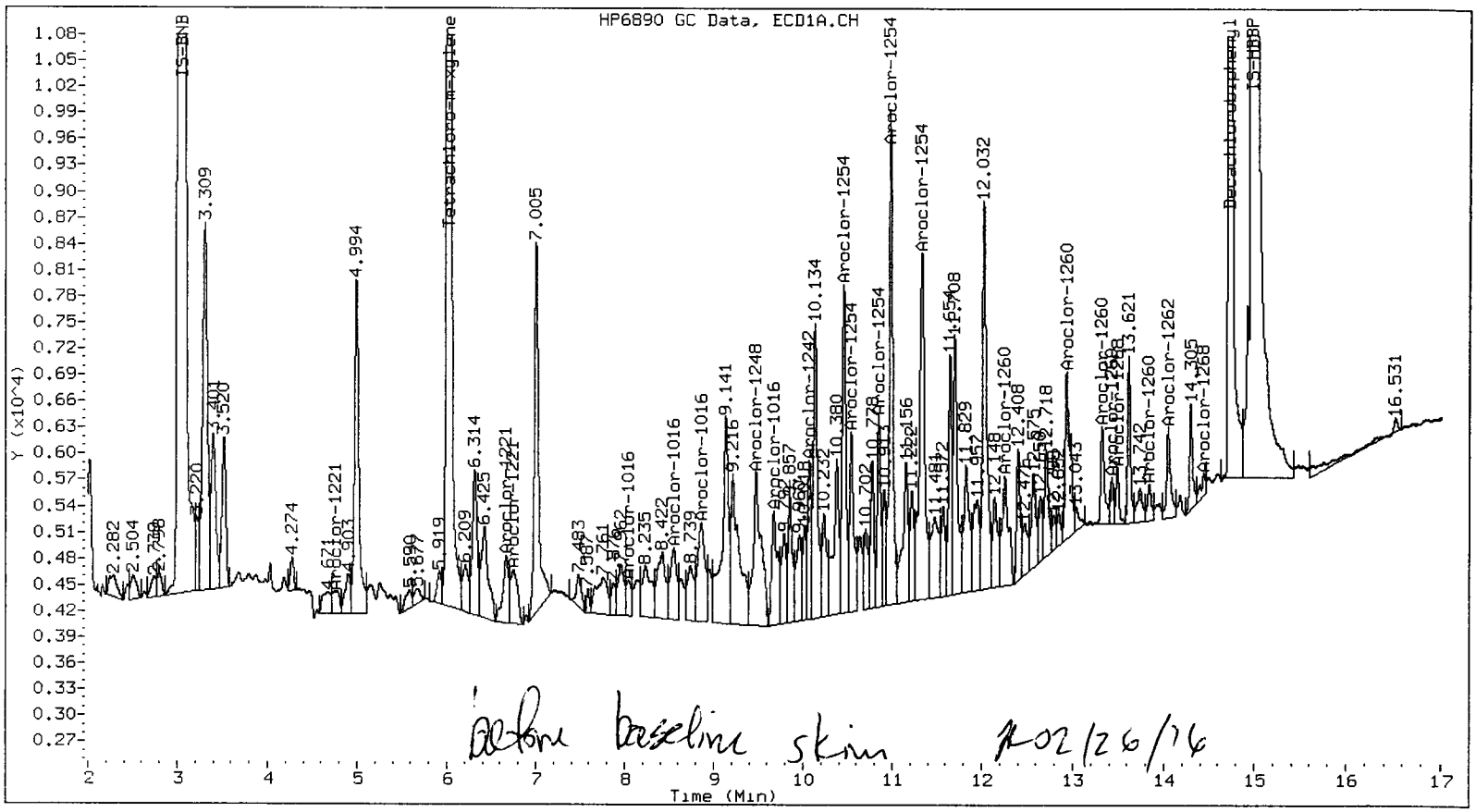
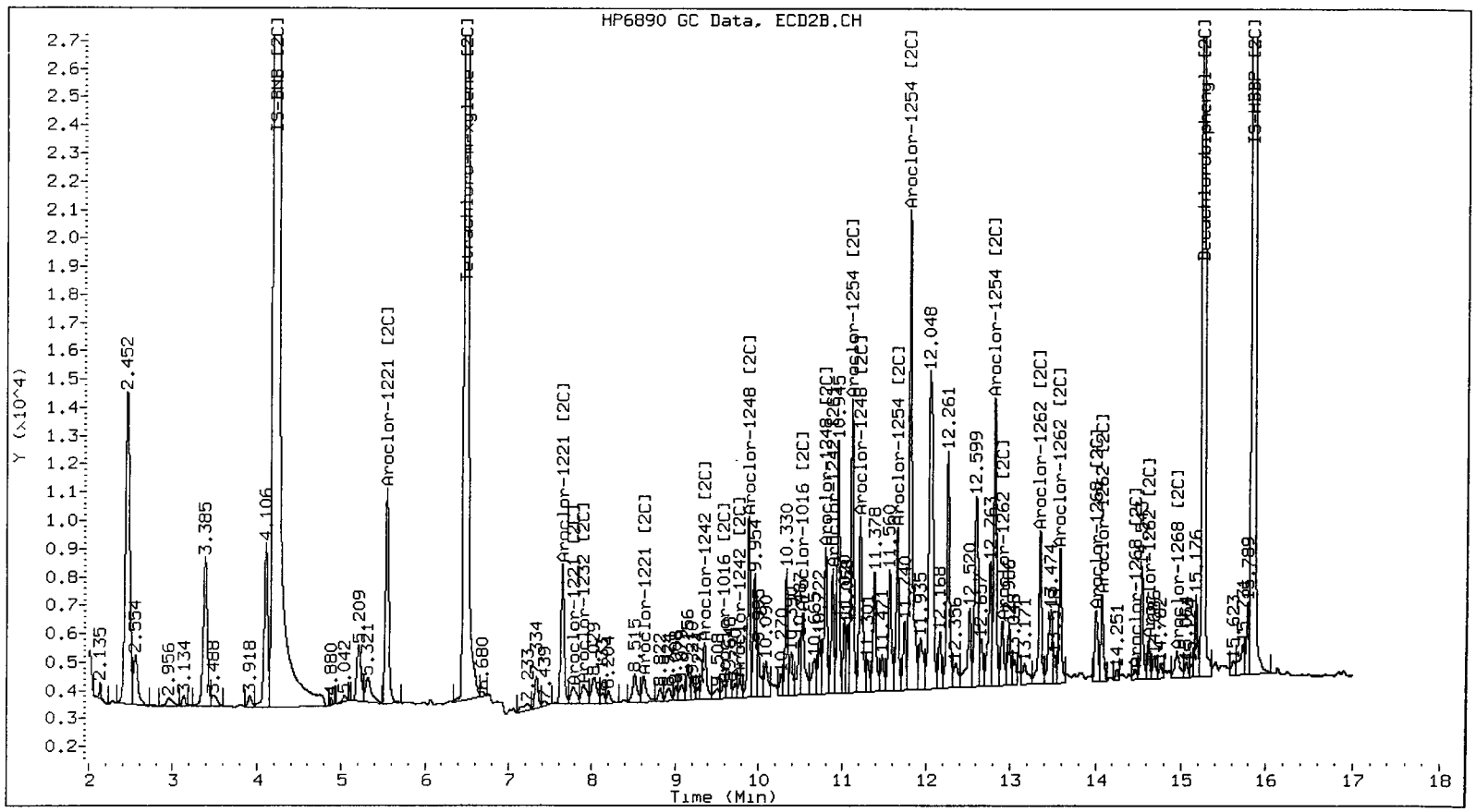


ECD7-ZB35 AVZ9AQ 22-FEB-2016 20:59, 2ul



AVZ9:005053

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160222.b/02221622.D
Data file 2: /20160222.b/20160222.b/02221622.D
Method: \\target\share\chem4\ecd7.i\20160222.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248
Client ID:
Injection Date: 22-FEB-2016 21:42
Report Date: 02/26/2016 07:00
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
6.024	-0.000	2368154	6.482	-0.000	7284186	40.9	41.6	1.8	Tetrachloro-m-xyle
14.743	-0.000	6825277	15.261	0.000	6020505	40.3	35.9	11.4	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	102.1	104.0
Decachlorobiphenyl	100.7	89.8

m 02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	10701570	4.0
Hexabromobiphenyl	12470452	12691429	1.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	15110240	-4.4
Hexabromobiphenyl	11807823	13097234	10.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- Indicates standard response outside Limits (-50 to +100%)

AYZ9 : 88554

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1248	1	8.554	0.000	482133	249.8	1	9.349	0.000	1819227	251.7
Aroclor-1248	2	9.478	0.000	364010	253.3	2	9.882	0.000	1346556	252.8
Aroclor-1248	3	9.670	0.000	547566	253.8	3	10.798	0.000	2049871	251.9
Aroclor-1248	4	10.072	0.000	450857	251.3	4	11.244	0.000	2055528	252.8

Total Col1Ave (4 peaks): 252.0 Total Col2Ave (4 peaks): 252.3 RPD = 0

Corrected Ave (3 peaks): 251.5 Corrected Ave (3 peaks): 252.1 RPD = 0

CalAmt %D: 0.8 CalAmt %D: 0.9

Total PCB Area Col1 (6.124 - 14.643) = 7935757 Col1 Total PCB = 0.2 ppm*

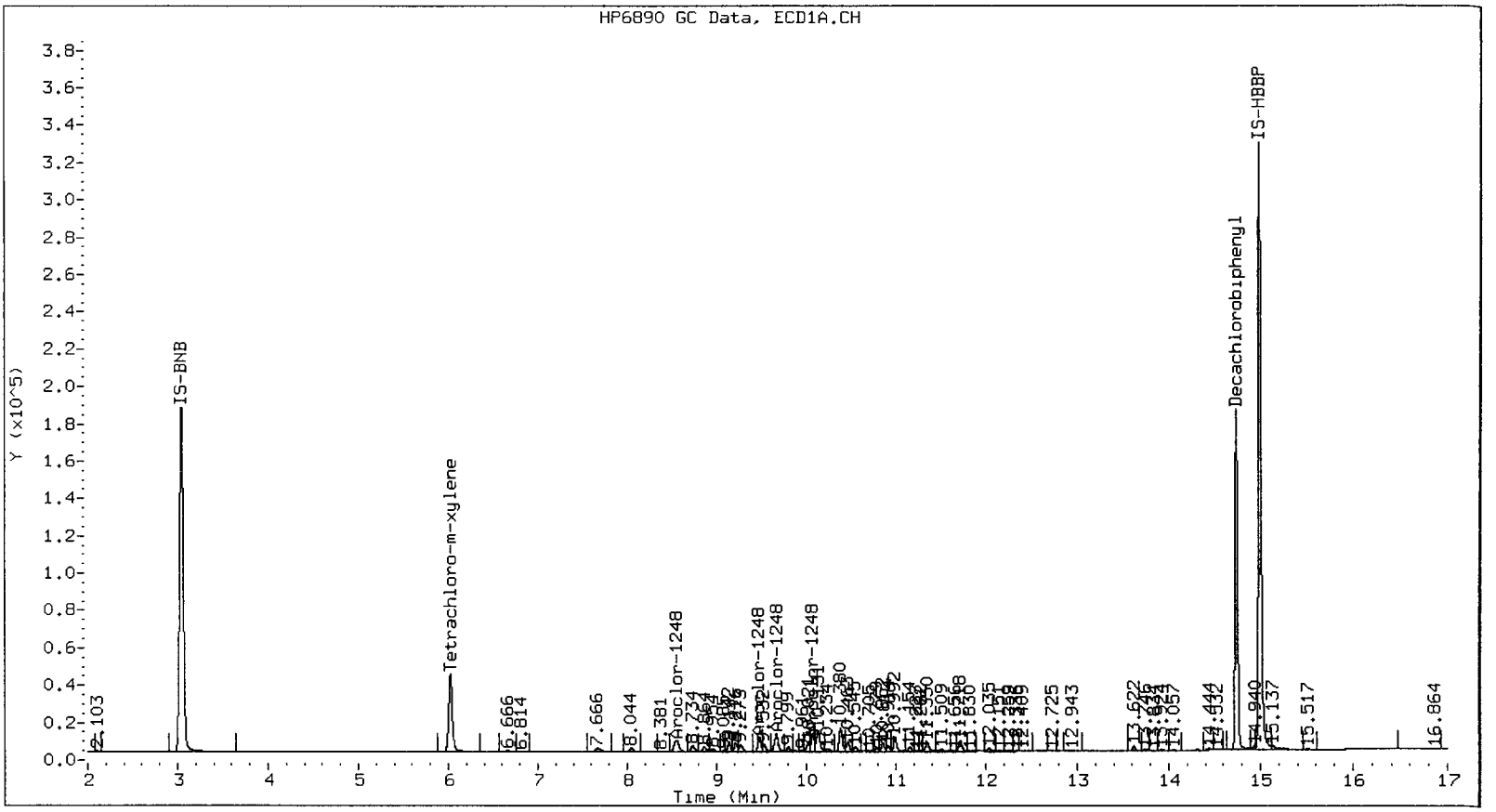
Total PCB Area Col2 (6.124 - 14.643) = 32910569 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

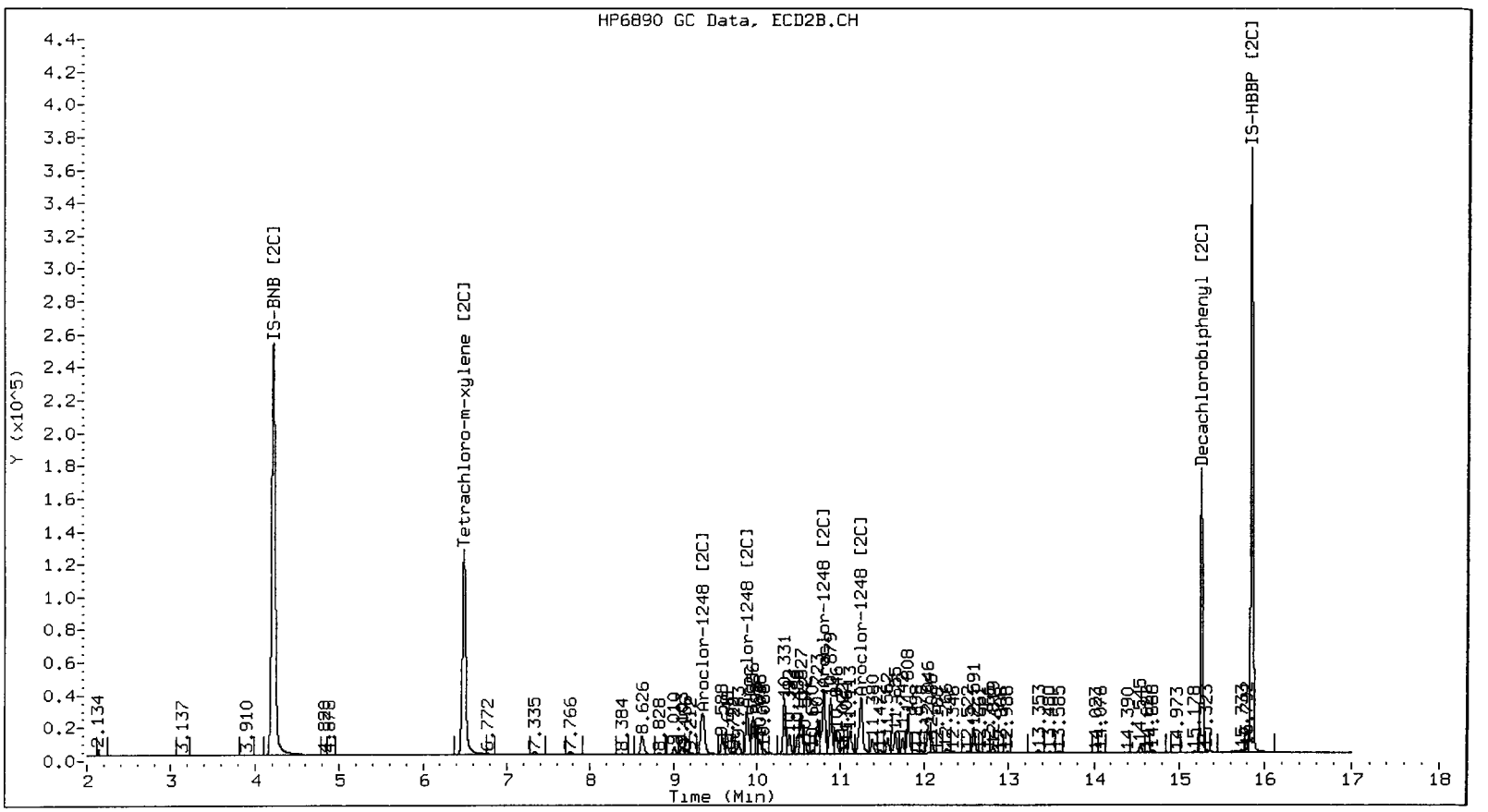
PCB-Form 10 Mod.

AV29:08555

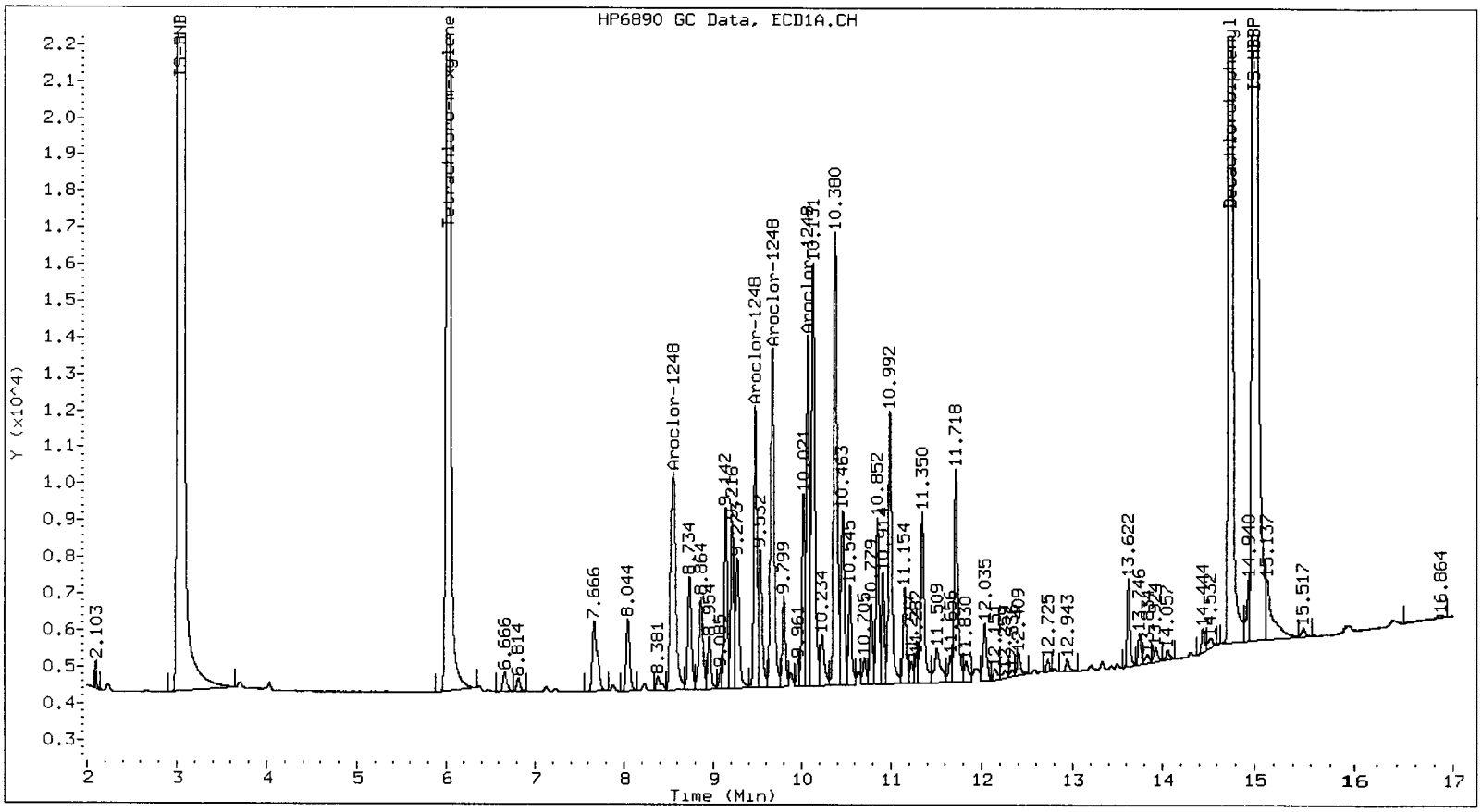
ECD7-ZB5 AR1248 22-FEB-2016 21:42, 2ul



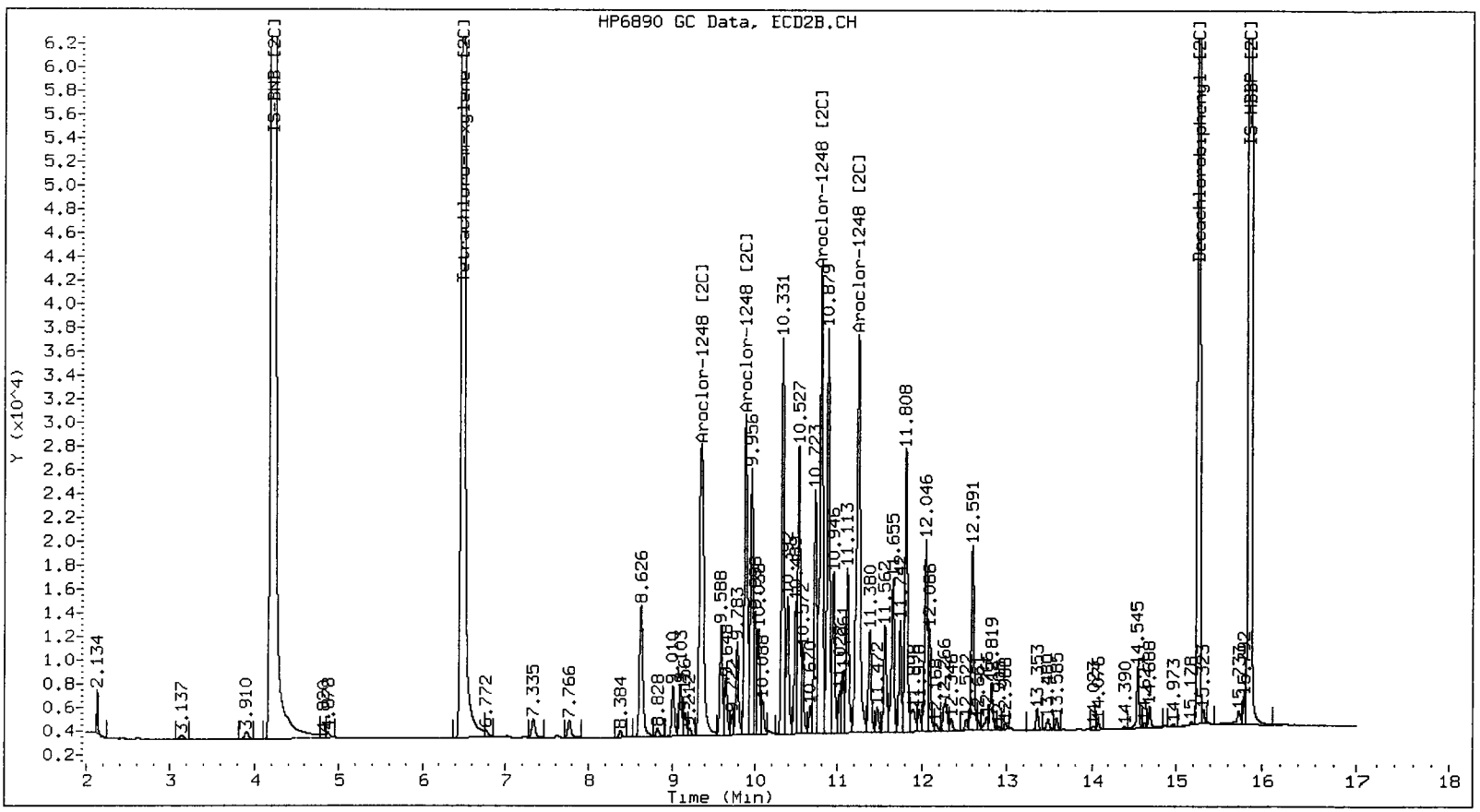
ECD7-ZB35 AR1248 22-FEB-2016 21:42, 2ul



ECD7-ZB5 AR1248 22-FEB-2016 21:42, 2ul



ECD7-ZB35 AR1248 22-FEB-2016 21:42, 2ul



AVZS:0055T

Analytical Resources Inc.
Dual Column 8082 PCB Quantitation Report

Data file 1: /20160222.b/02221623.D
Data file 2: /20160222.b/20160222.b/02221623.D
Method: \\target\share\chem4\ecd7.i\20160222.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660
Client ID:
Injection Date: 22-FEB-2016 22:04
Report Date: 02/26/2016 07:00
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
6.023	-0.001	2546264	6.482	-0.001	7784960	40.3	41.2	2.3	Tetrachloro-m-xyle
14.743	-0.000	7830420	15.261	-0.000	6802009	42.6	37.4	12.9	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	100.7	103.0
Decachlorobiphenyl	106.5	93.6

A 02/26/16

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	10288295	11673340	13.5
Hexabromobiphenyl	12470452	13764480	10.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	15804744	16299208	3.1
Hexabromobiphenyl	11807823	14200925	20.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 19-FEB-2016
<- 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	8.044	-0.001	370544	248.0	1	8.627	-0.001	2035204	250.6
Aroclor-1016	2	8.555	-0.001	1137575	246.9	2	9.354	0.000	4210266	251.8
Aroclor-1016	3	8.864	-0.001	412033	262.0	3	9.587	-0.000	1754881	262.9
Aroclor-1016	4	9.671	-0.000	446502	254.6	4	10.527	-0.000	791575	255.3

Total Col1Ave (4 peaks): 252.9 Total Col2Ave (4 peaks): 255.2 RPD = 1
Corrected Ave (3 peaks): 249.8 Corrected Ave (3 peaks): 252.6 RPD = 1

CalAmt %D: 1.1 CalAmt %D: 2.1

Aroclor-1260	1	12.261	-0.000	855470	255.9	1	12.819	0.000	2748431	209.9
Aroclor-1260	2	12.942	-0.000	3050209	239.8	2	13.582	-0.000	5368238	211.4
Aroclor-1260	3	13.329	-0.001	1400445	256.4	3	14.076	-0.000	3644268	217.3
Aroclor-1260	4	13.432	0.000	876230	258.1	4	14.626	-0.001	1533258	238.5
Aroclor-1260	5	13.843	0.000	501980	253.2	NS	---			----

Total Col1Ave (5 peaks): 252.7 Total Col2Ave (4 peaks): 219.3 RPD = 14
Corrected Ave (4 peaks): 251.3 Corrected Ave (3 peaks): 212.9 RPD = 17

CalAmt %D: 1.1 CalAmt %D: -12.3

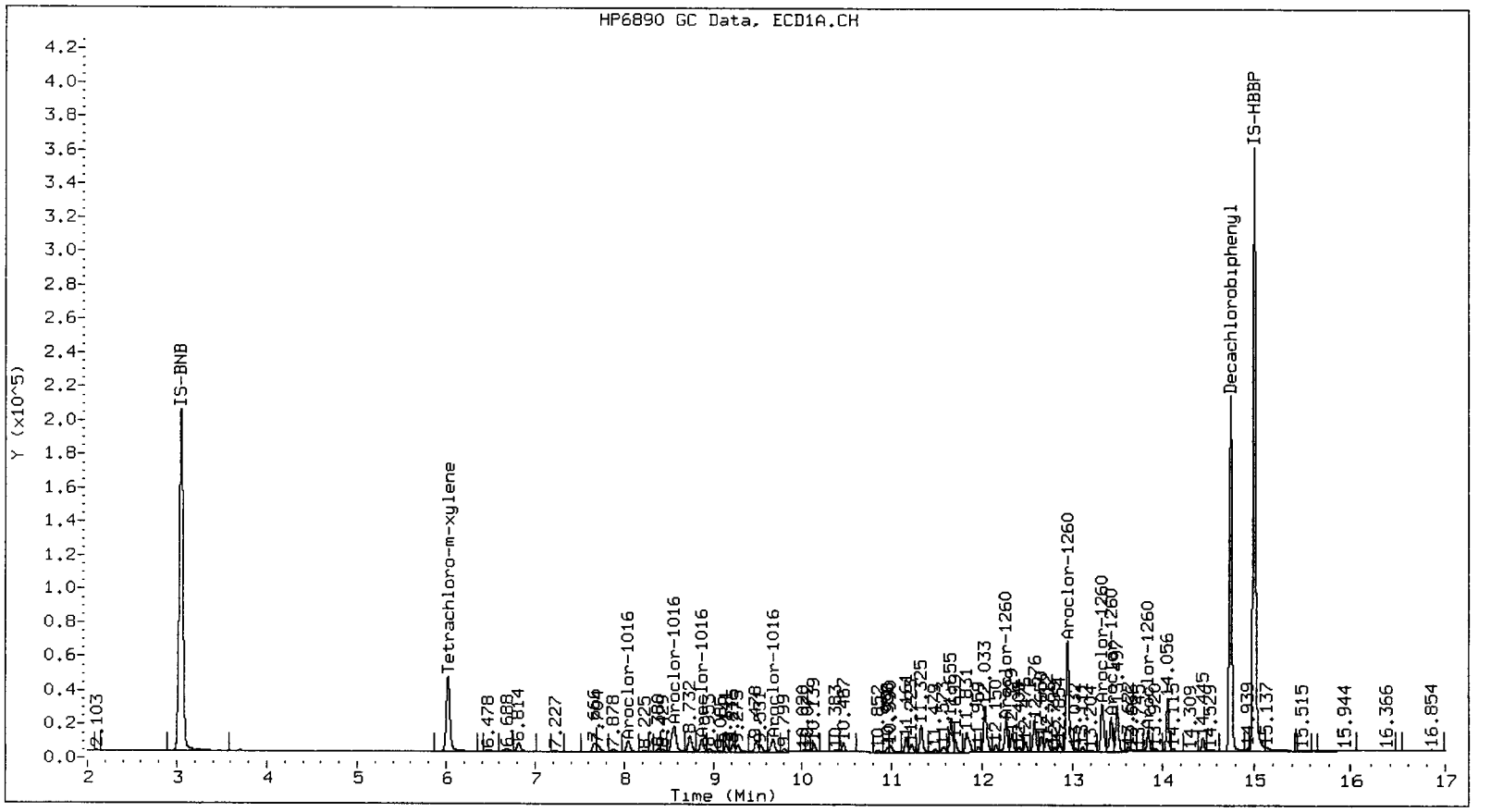
Total PCB Area Col1 (6.124 - 14.643) = 24746305 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (6.124 - 14.643) = 70615603 Col2 Total PCB = 0.5 ppm*

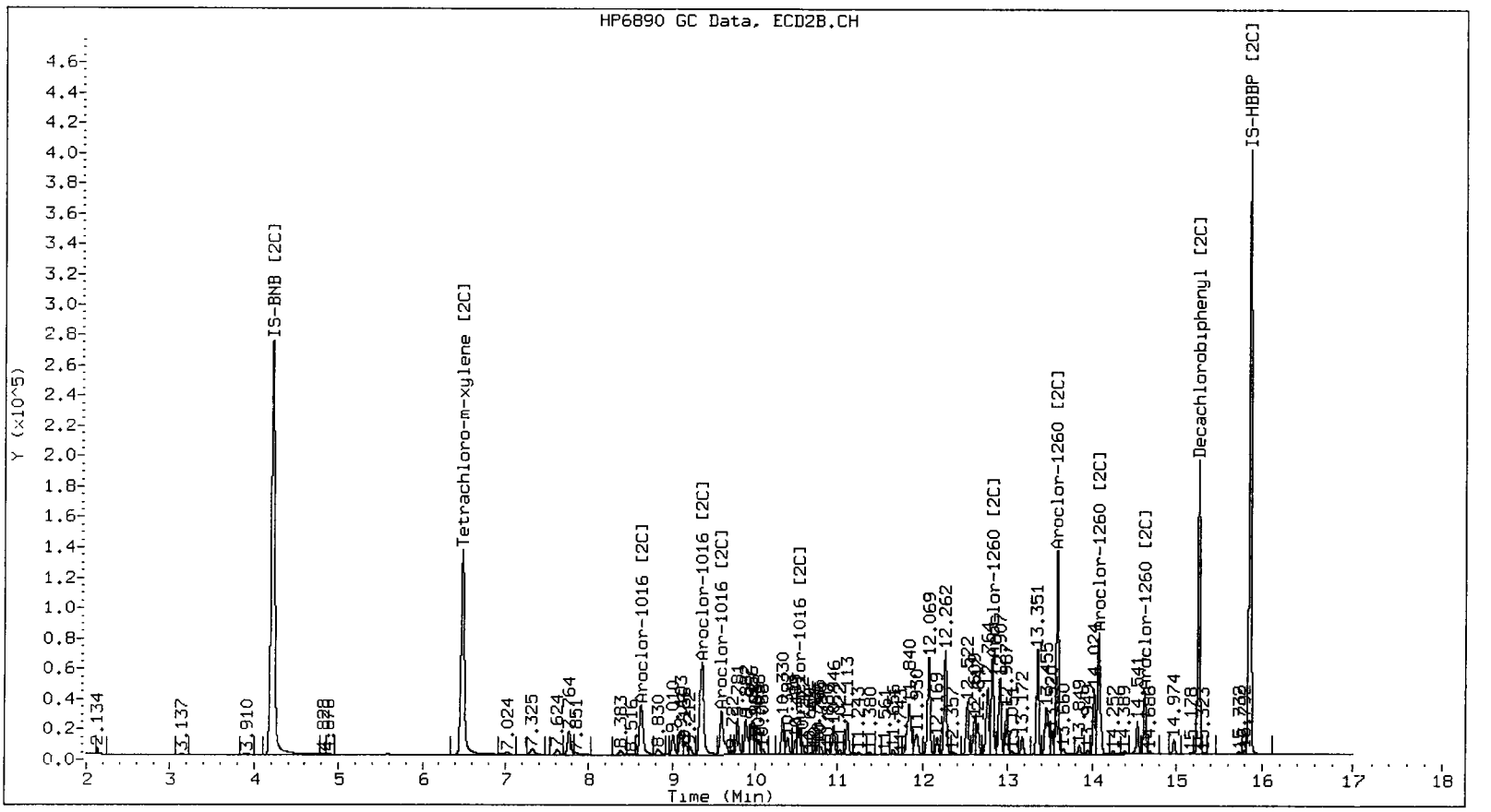
* Quantitated against AR1660 0.25ppm in Ical

AVZ9:005539

ECD7-ZB5 AR1660 22-FEB-2016 22:04, 2ul

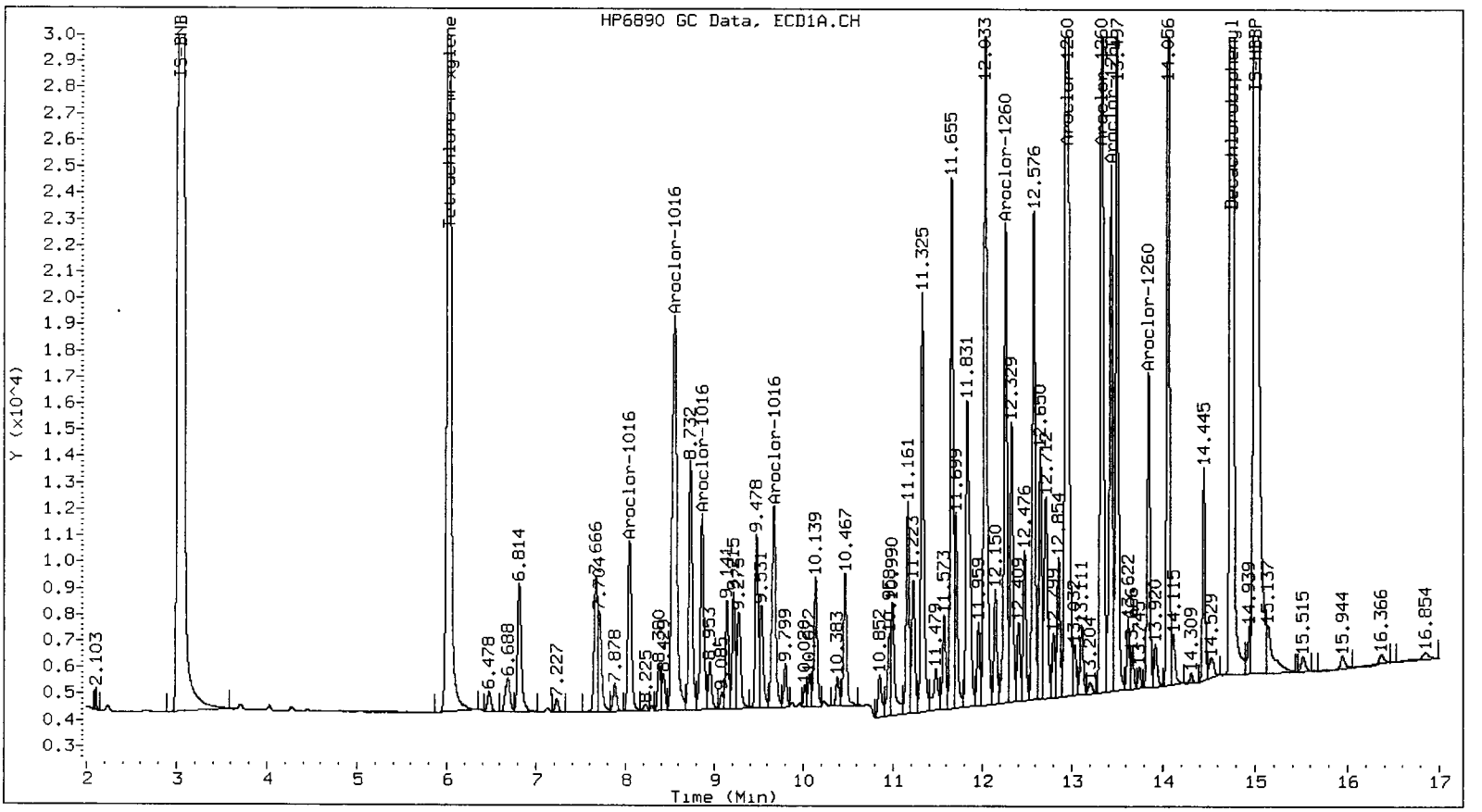


ECD7-ZB35 AR1660 22-FEB-2016 22:04, 2ul

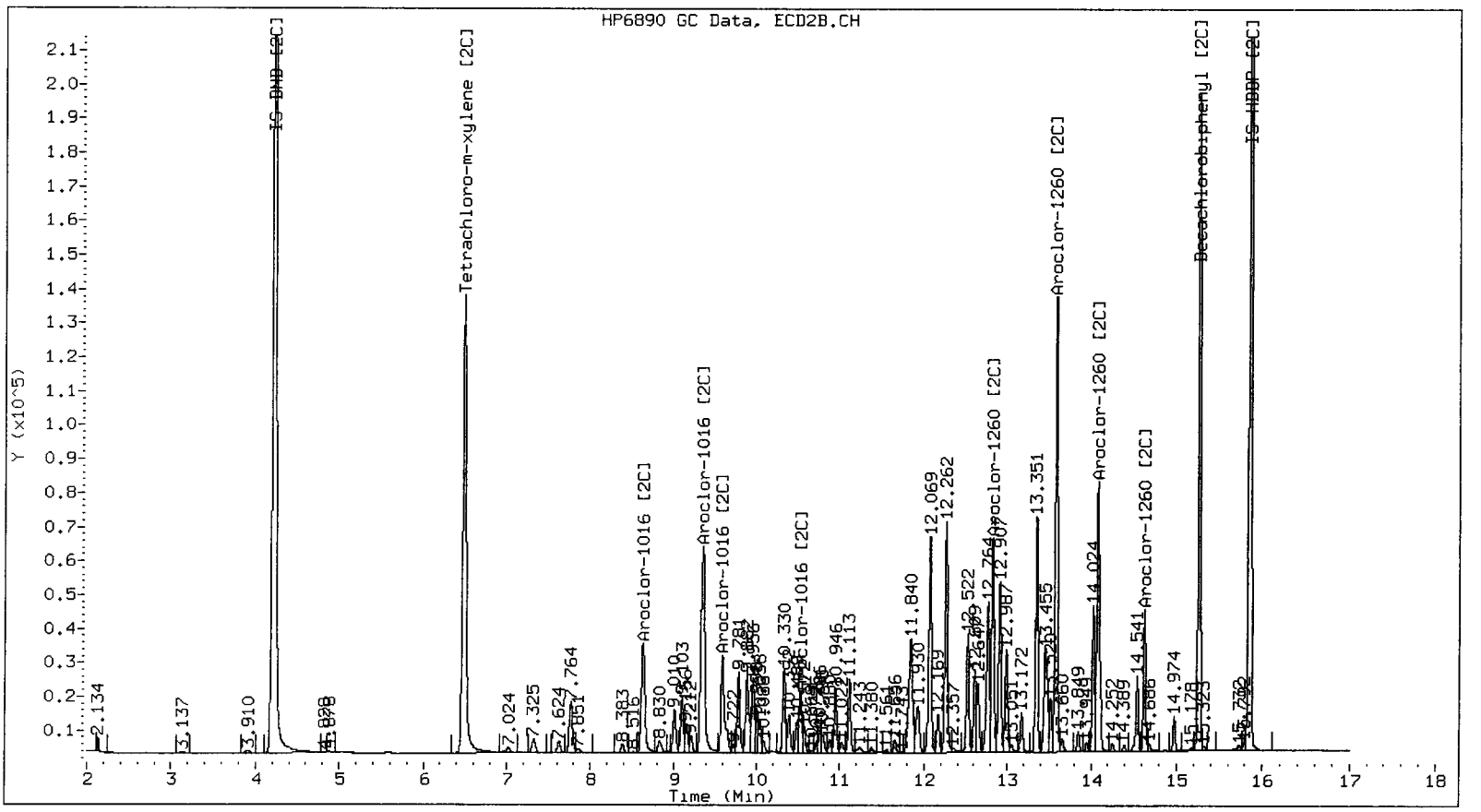


AVZ9:66566

ECD7-ZB5 AR1660 22-FEB-2016 22:04, 2ul



ECD7-ZB35 AR1660 22-FEB-2016 22:04, 2ul



AV29 . 69561

Metals Raw Data
Preparation Bench Sheets and Notes

ARI Job ID: AVZ9

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SPIKING LOG

Analyst: MB

Date: 3/1/16

Final Volume MB 3/1/16 50.0

Final Volume (Hg): 50.0

Sample ID AVZa ASPK, MBISPK

	Prepcode:			
	Spike Solution:	ICP Routine	ICP No GFA	GFA
	Standard No.:			
	Vol Added (mL):			
STOCK CONCENTRATION	Ag	50		2.0
	Al	200	200	
	As	200		10
	Ba	200	200	
	Be	50	50	
	Ca	1000	1000	
	Cd	50		2.0
	Co	50	50	
	Cr	50	50	
	Cu	50	50	
	Fe	200	200	
	K	1000	1000	
	Mg	1000	1000	
	Mn	50	50	
	Na	1000	1000	
	Ni	50	50	
	Pb	200		10
	Se	200		10
	Sr	50	50	
	Tl	200		10
	V	50	50	
	Zn	50	50	

	SWN		
	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
	D5545		
	1.0		
Ag	25✓		
Al			500
As	25✓		
Ba	25		
Be	25		
Ca			500
Cd	25✓		
Co	25		
Cr	25✓		
Cu	25✓		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25		
Pb	25✓		
Sb		25	
Se	80		
Tl	25		
U	25		
V	25		
Zn	80✓		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No.
Hg	SWM	CVA	1.0	0.05	D0214
Hg MBSPK	↓	CVA	1.0	0.10	↓
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SPIKING LOG

Analyst: MH

Date: 3/2/16

Final Volume 25.0

Final Volume (Hg): 20.0

Sample ID AVZ9 AQSPK
MB25PK

Prepcode:				
Spike Solution:		ICP Routine	ICP No GFA	GFA
Standard No.:				
Vol Added (mL):				
STOCK CONCENTRATION	Ag	50		2.0
	Al	200	200	
	As	200		10
	Ba	200	200	
	Be	50	50	
	Ca	1000	1000	
	Cd	50		2.0
	Co	50	50	
	Cr	50	50	
	Cu	50	50	
	Fe	200	200	
	K	1000	1000	
	Mg	1000	1000	
	Mn	50	50	
	Na	1000	1000	
	Ni	50	50	
	Pb	200		10
	Se	200		10
	Sr	50	50	
	Tl	200		10
	V	50	50	
	Zn	50	50	

	REN		
	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
	05455		
	0.05		
Ag	25 ✓		
Al			500
As	25 ✓		
Ba	25		
Be	25		
Ca			500
Cd	25 ✓		
Co	25		
Cr	25 ✓		
Cu	25 ✓		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25		
Pb	25 ✓		
Sb		25	
Se	80		
Tl	25		
U	25		
V	25		
Zn	80 ✓		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No.
Hg	TWM	CVA	1.0	0.020	D82/4
Hg MBSPK	↓	CVA	1.0	0.040	↓
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No.

5033F

28021

Revision 14, 11/21/05

AVZ9 : 88504

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Mercury Digestion Log

Prep Code: SMM
Matrix: SOI
Analyst: MB
Date: 3/1/16
Bath Temp: 95°C
Start Time: 1355
End Time: 1425

ARI Sample ID	Sample Bottle #	pH<2	Initial Weight (g) ~~Volume (mL)~~	Final Volume (mL)	# $KMnO_4$ Aliquots	CLP	Comments
AVZ9 A	1	–	0.674	50.0	1	Y	
" ADUP		–	0.676				
" ASPK		–	0.679				
" B		–	0.618				
" C		–	0.678				
" D		–	0.641				
" E		–	0.615				
" F		–	0.608				
" G		–	0.692				
" H		–	0.612				
" I		–	0.616				
" J		–	0.607				
" K		–	0.650				
" L		–	0.638				
" M		–	0.617				
" N		–	0.608				
" O		–	0.615				
" P	1	–	0.667				
" MB1	–	–	–				
" MB1SPK	–	–	–			Y	
AWP1 A	2	–	0.278		3/7	N	
" B	2	–	0.281				
" C	2	–	0.255				
" MB	–	–	–				
" MBSPK	–	–	–	50.0	1	N	

Chemical/Reagent ID:

HNO_3: D4652
H_2SO_4: D2685
HCl: –
5% $K_2S_2O_8$: E0464
5% $KMnO_4$: D4751
Digest Tube Lot: 1504103

AVZ9 : 00565

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: MH Date: 3/2/16 Time: 800

Matrix: water Block ID: #12 Block Temp: 96°C Thermometer: mp26

ARI Sample ID	Btl #	pH<2	Prep Code: REN Initial ~~Wt (g)~~ Vol (mL)	Final Vol (mL)	Prep Code: Initial Wt (g) Vol (mL)	Final Vol (mL)	Comments
AWU3 A	2	✓	50.0	25.0			Boiled
" MB	–	–					
" MBSPK	–	–					
AWU4 A	1	✓					
AWV3 A	1	✓					
" B	1	✓					
" C	1	✓					
" D	1	✓					
" MB	–	–					
" MBSPK	–	–					
AVZ9 AQ	5	✓					
" AQDUP	5	✓					
" AQSPK	5	✓					
" MB2	–	–					
" MB2SPK	–	–	50.0	25.0			
				MH 3/2/16			

Chemical/Reagent ID:

HNO_3: E0264 HCl: – H_2O_2: 02734 Tube Lot #: 1509104

AVZ9 : 66566

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Mercury Digestion Log

Prep Code: TWM
Matrix: water
Analyst: MH
Date: 3/2/16
Bath Temp: 94°C
Start Time: 900
End Time: 1100

ARI Sample ID	Sample Bottle #	pH<2	Initial ~~Weight (g)~~ Volume (mL)	Final Volume (mL)	# $KMnO_4$ Aliquots	CLP	Comments
AVZ9 AQ	5	✓	20.0	20.0	5/5 1	Y	
" AQDUP	5	✓	↓	↓	1	↓	
" AQSPK	5	✓	↓	↓	1	↓	
" MB2	—	—	↓	↓	1	↓	
"MB2SPK	—	—	20.0	20.0	1	Y	

MH
3/2/16

Chemical/Reagent ID:

HNO_3: D4652
H_2SO_4: D2695
HCl: —
5% $K_2S_2O_8$: D4750
5% $KMnO_4$: D4751
Digest Tube Lot: 1509/04

AVZ9:08507

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: MB **Date:** 3/1/16 **Time:** 1210

Matrix: soil **Block ID:** #6 **Block Temp:** 45°C **Thermometer:** mp45

ARI Sample ID	Btl #	pH<2	Prep Code: SWN Initial Wt (g) ~~Vol (mL)~~	Prep Code: SWN Final Vol (mL)	Prep Code: SWC Initial Wt (g) ~~Vol (mL)~~	Prep Code: SWC Final Vol (mL)	Comments
AVZ9 A	1	–	2.087	50.0			
" ADUP		–	2.092				
" ASPK		–	2.092				
" B		–	2.030				
" C		–	2.061				
" D		–	2.059				
" E		–	2.012				
" F		–	2.001				
" G		–	2.035			MB 3/1/16	
" H		–	2.043				
" I		–	2.029				
" J		–	2.030				
" K		–	2.075				
" L		–	2.084				
" M		–	2.012				
" N		–	2.053				
" O		–	2.028				
" P	1	–	2.038				
" MS1	–	–	–				
" MBISPK	–	–	–	50.0			
AWP1 A	2	–			1.010	50.0	
" B	2	–		MB 3/1/16	1.022		
" C	2	–			1.052		
" MB	–	–			–		
" MBSPK	–	–			–	50.0	

Chemical/Reagent ID:

HNO_3: D4652/E0345 HCl: D5194 H_2O_2: D2934 Tube Lot #: 1504103

Metals Raw Data
Run Logs, Calibrations, and Raw Data

ARI Job ID: AVZ9

ANALYTICAL RESOURCES INCORPORATED

Metals Data Review Checklist

Method: ICP/ICP-MS/GFA CVA **Analysis Date:** 3/4/16

M2	Analyst ee 3/7/16	Peer 3/7/16	Comment
Logbook:			
Analyst, Date, Method info	✓	✓	
Sample ID's	✓	✓	
Standard/QC solution ID's recorded	✓	✓	
Prep codes	✓	✓	
Dilution factors	✓	✓	
Crossouts/Corrections/Deletions	✓	✓	See load
Calibration:			
Blank & Standard intensities	✓	✓	
Standard deviations	✓	✓	
Curve fit	✓	✓	
Calibration Verification:			
ICV/CCV	✓	✓	See log
ICB/CCB	✓	✓	
Samples:			
RSD's & SD's	✓	✓	
Internal Standards	✓	✓	
Carry-over	✓	✓	
Method QC:			
CRI/CRA	✓	✓	
ICSA/ICSAB	✓	✓	See log
Post Spikes/Serial Dilutions	—	—	
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	✓	✓	
Matrix Spikes	✓	✓	
Matrix Duplicates	✓	✓	
Method Blanks	✓	✓	
Data Distribution:			
Requested elements/isotope identified	✓	✓	
Correct samples identified for distribution	✓	✓	
Raw data match distributed data	✓	✓	
Data filename correct	✓	✓	
Necessary Analysts Notes and CAF's	—	—	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 81DN1050201

Analysis Date: 3/4/16 **Analyst:** ee

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		Std Ø	E675		
		1	E669		
		2	E617		
		3	E618		
		4	E61Ø		
		5	E67Ø		
		Rinse			
		ICV	E156		
		ICB	E675		
		CCV1	E61Ø		
		CCB1	E675		
		Low Check	E669		
		ICSA	E524		Cr 53↑
		ICSAB	E525		↓
		LR200	E65Ø		
		LR300	E533		
		B1-B2			
		CCV2			
		CCB2			
		AVZ9 MB1	SWN	20	
		AVZ9 MB2	REN	2	
		AQ DUP			
		AQ			
		AQSPK			

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 81DN1050201

Analysis Date: 3/4/16 **Analyst:** ee

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		AVZ9 ADUP	SWN	20	
		A			
		ASPK			
		MB1SPK			
		MB2SPK	REN	2	
		CCV3			
		CCB3			
		AWY4 MB	REN	2	
		AXA1 MB			
		AWY5 MB			
		A			RR Zn 5x
		AWZ0 A			
		AXA1 A		10	
	✓	AWY4 A		10	use 5x
		MBSPK		2	
		AXA1 MBSPK			
		AWY5 MBSPK			
		CCV4			
		CCB4			
		std Ø			
		CCV5			
		CCB5			
		AWY5 A	REN	5	Zn Only
		AWY4 A	REN	5	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 81DN1050201

Analysis Date: 3/4/16 **Analyst:** ee

All corrections made by analyst unless otherwise noted. ee 3/4/16

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		AVZ9 B	SWN	20	
		C			
		D			
		E			
		F			
		G			
		H			
		I			
		CCV6			
		CCB6			
		AWX1 MB	REN	2	
		AVZ9 J	SWN	20	
		K			
		L			MR Pb 50x
		M			
		N			RR Pb 50x
		O			
		P			
		AWX1 A	REN	2	
		MBSPK		2	
		CCV7			
		CCB7			
		AWY6 MB	REN	2	
		AWN2 A		10	~~RR As 20x~~

AVZ9 : 00573

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 81DN1050201

Analysis Date: 3/4/16 **Analyst:** ee

All corrections made by analyst unless otherwise noted. ee 3/4/16

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		AWN2 C	REN	5	As only
		AWN7 E	↓	↓	↓
		↓ D	↓	↓	↓
		AWY6 A	↓	2	
		↓ MBSPK	↓	2	
		AVZ9 L	SWN	50	Pb only
		↓ N	↓	↓	↓
		CCV8			
		CCB8			
		~~AWM6 MB~~	~~REN~~	~~2~~	
		↓ A	↓	↓	
		B			
		↓ MBSPK	↓	↓	
		CCV9			Cr^{53} ↑
		CCB9			
		Rinse/DI			

~~ee 3/4/16~~

ee 3/4/16

AVZ9 : 66574

Performance Check Report

Sample ID: STD Performance Check
Sample Date/Time: Friday, March 04, 2016 10:59:04
Sample Description:
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\STD Performance Check.mth
Dataset File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\DataSet\Default\STD Performance Check.8786
MassCal File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Conditions File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Dual Detector Mode: Pulse
Acq. Dead Time (ns): 35
Current Dead Time (ns): 35
Torch Z position (mm): 0.00

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD	Mode
	Be	9.0	3441.7	3441.681	62.325	1.8	Standard
	In	114.9	90213.9	90213.891	450.265	0.5	Standard
	U	238.1	68072.3	68072.333	178.520	0.3	Standard
⌈	CeO	155.9	1669.1	0.020	0.001	7.0	Standard
| >	Ce	139.9	83774.9	83774.929	547.544	0.7	Standard
⌊	Ce++	70.0	2015.8	0.024	0.000	2.0	Standard
	Bkgd	220.0	0.1	0.067	0.091	136.9	Standard

Current Conditions File Data

Current Value	Description
1.07	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
18.00	Plasma Gas Flow
-12.00	Deflector Voltage
1600.00	ICP RF Power
-1637.00	Analog Stage Voltage
1050.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-15.00	Cell Rod Offset STD [CRO]
7.00	Discriminator Threshold
-2.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.25	RPq
1.07	DRC Mode NEB
-8.00	DRC Mode QRO
-2.50	DRC Mode CRO
-4.00	DRC Mode Cell Entrance/Exit Voltage
0.60	Cell Gas A
0.00	Cell Gas B
250.00	Axial Field Voltage
-15.00	KED Mode CRO
-12.00	KED Mode QRO
-2.00	KED Mode Cell Entrance Voltage
-24.00	KED Mode Cell Exit Voltage
0.00	KED Cell Gas A
4.00	KED Cell Gas B
0.00	KED RPa
0.25	KED RPq
475.00	KED Mode Axial Field Voltage

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Wizard\SmartTune\ARIdaily_UCT.swz

Start Time: 3/4/2016 10:48:06 AM
End Time: 3/4/2016 11:01:08 AM

STD Performance Check - [Passed] Optimum value(s): N/A
Obtained Intensity (Be 9): 2386.80
Obtained Intensity (In 115): 82479.97
Obtained Intensity (U 238): 60848.79
Obtained Intensity (Bkgd 220): 0.10
Obtained Formula (Ce++ 70 / Ce 140): 0.024 (=1832.65 / 75237.14)
Obtained Formula (CeO 156 / Ce 140): 0.018 (=1343.20 / 75237.14)

Torch Alignment - [Passed]

Vertical	Horizontal	Intensity
1.49 mm	0.60 mm	88237.67

Nebulizer Gas Flow STD/KED [NEB] - [Passed] Optimum value(s): 1.07
Obtained Intensity (In 115): 88087.75
Obtained Formula (CeO 156 / Ce 140): 0.0199 (=1545.08 / 77692.69)

Mass Calibration and Resolution - [Passed] Optimum value(s): N/A
Target/Obtained mass (7.016/7.025), Target/Obtained resolution (0.7/0.697)
Target/Obtained mass (23.985/23.975), Target/Obtained resolution (0.7/0.701)
Target/Obtained mass (114.904/114.925), Target/Obtained resolution (0.7/0.710)
Target/Obtained mass (238.05/238.025), Target/Obtained resolution (0.7/0.686)

QID STD/DRC - Optimum value(s): Correlation Coefficient = 1.000; Intercept = -12.51

KED Mode QID - Optimum value(s): Correlation Coefficient = 1.000; Intercept = -14.57

STD Performance Check - [Passed] Optimum value(s): N/A
Obtained Intensity (Be 9): 3441.68
Obtained Intensity (In 115): 90213.89
Obtained Intensity (U 238): 68072.33
Obtained Intensity (Bkgd 220): 0.07
Obtained Formula (Ce++ 70 / Ce 140): 0.024 (=2015.81 / 83774.93)
Obtained Formula (CeO 156 / Ce 140): 0.020 (=1669.10 / 83774.93)

AVZ9:06576

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Blank
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 11:36:44
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File:

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L				69959	4	Standard
Cl	37		mg/L				5416204	1	Standard
> Sc	45		ug/L				1335545	3	Standard
Cr	52		ug/L				33387	0	Standard
Cr	53		ug/L				221	10	Standard
Mn	55		ug/L				582	6	Standard
> Ge-1	72		ug/L				52065	1	KED
Co	59		ug/L				7	66	KED
Ni	60		ug/L				3	69	KED
Ni	62		ug/L				1	86	KED
Cu	63		ug/L				34	40	KED
Cu	65		ug/L				21	45	KED
Zn	66		ug/L				125	10	KED
Zn	67		ug/L				15	24	KED
Zn	68		ug/L				96	16	KED
As	75		ug/L				3	28	KED
Se-1	78		ug/L				10	23	KED
Y	89		ug/L				834388	1	Standard
Kr	83		ug/L				100	5	Standard
> In-1	115		ug/L				16218	1	KED
Mo	98		ug/L				6	15	KED
Cd	111		ug/L				1	114	KED
Cd	114		ug/L				1	105	KED
> In	115		ug/L				1082385	1	Standard
Ag	107		ug/L				52	31	Standard
Sb	121		ug/L				44	13	Standard
Sb	123		ug/L				39	16	Standard
Ba	135		ug/L				30	28	Standard
Ba	137		ug/L				46	20	Standard
> Tb	159		ug/L				1222564	0	Standard
Tl	205		ug/L				17	11	Standard
Pb	208		ug/L				261	12	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 11:41:36
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File:

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	67674	2	Standard
Cl	37		mg/L			5416204	5267460	1	Standard
> Sc	45		ug/L			1335545	1344603	1	Standard
Cr	52	0.500	ug/L	0.070	14	33387	45325	3	Standard
Cr	53	0.500	ug/L	0.013	2	221	1557	3	Standard
Mn	55	0.500	ug/L	0.008	1	582	16549	0	Standard
> Ge-1	72		ug/L			52065	52627	1	KED
Co	59	0.200	ug/L	0.009	4	7	806	4	KED
Ni	60	0.500	ug/L	0.023	4	3	550	5	KED
Ni	62	0.500	ug/L	0.042	8	1	84	9	KED
Cu	63	0.500	ug/L	0.013	2	34	1499	2	KED
Cu	65	0.500	ug/L	0.040	8	21	740	7	KED
Zn	66	4.000	ug/L	0.060	1	125	1487	2	KED
Zn	67	4.000	ug/L	0.236	5	15	227	4	KED
Zn	68	4.000	ug/L	0.354	8	96	1008	6	KED
As	75	0.200	ug/L	0.030	14	3	45	13	KED
Se-1	78	0.500	ug/L	0.117	23	10	19	10	KED
Y	89		ug/L			834388	835284	1	Standard
Kr	83		ug/L			100	102	14	Standard
> In-1	115		ug/L			16218	16956	2	KED
Mo	98	0.200	ug/L	0.009	4	6	162	6	KED
Cd	111	0.100	ug/L	0.011	10	1	29	9	KED
Cd	114	0.100	ug/L	0.013	13	1	69	15	KED
> In	115		ug/L			1082385	1098864	1	Standard
Ag	107	0.200	ug/L	0.013	6	52	4108	4	Standard
Sb	121	0.200	ug/L	0.009	4	44	3068	3	Standard
Sb	123	0.200	ug/L	0.001	0	39	2353	2	Standard
Ba	135	0.500	ug/L	0.012	2	30	2162	0	Standard
Ba	137	0.500	ug/L	0.003	0	46	3792	1	Standard
> Tb	159		ug/L			1222564	1205268	2	Standard
Tl	205	0.200	ug/L	0.003	1	17	7131	4	Standard
Pb	208	0.100	ug/L	0.005	4	261	4498	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 2
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 11:46:28
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File:

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens	Intens. RSD	Mode
C	13		ug/L			69959	71084	4	Standard
Cl	37		mg/L			5416204	5541989	0	Standard
> Sc	45		ug/L			1335545	1351712	1	Standard
Cr	52	10.000	ug/L	0.189	1	33387	265452	0	Standard
Cr	53	9.999	ug/L	0.206	2	221	26496	0	Standard
Mn	55	10.000	ug/L	0.224	2	582	323092	1	Standard
> Ge-1	72		ug/L			52065	53963	0	KED
Co	59	10.000	ug/L	0.495	4	7	39846	4	KED
Ni	60	10.001	ug/L	0.350	3	3	11792	3	KED
Ni	62	10.001	ug/L	0.367	3	1	1814	4	KED
Cu	63	10.001	ug/L	0.185	1	34	30700	1	KED
Cu	65	10.000	ug/L	0.329	3	21	14824	2	KED
Zn	66	10.008	ug/L	0.417	4	125	3636	3	KED
Zn	67	10.006	ug/L	0.509	5	15	560	4	KED
Zn	68	10.156	ug/L	0.097	0	96	2731	1	KED
As	75	10.000	ug/L	0.182	1	3	2136	1	KED
Se-1	78	10.005	ug/L	0.074	0	10	242	0	KED
Y	89		ug/L			834388	851565	2	Standard
Kr	83		ug/L			100	99	24	Standard
> In-1	115		ug/L			16218	16620	1	KED
Mo	98	10.000	ug/L	0.086	0	6	8395	0	KED
Cd	111	10.000	ug/L	0.147	1	1	2470	0	KED
Cd	114	10.000	ug/L	0.172	1	1	6226	2	KED
> In	115		ug/L			1082385	1102757	0	Standard
Ag	107	10.000	ug/L	0.164	1	52	201841	1	Standard
Sb	121	10.000	ug/L	0.068	0	44	153079	0	Standard
Sb	123	10.000	ug/L	0.123	1	39	115395	0	Standard
Ba	135	10.001	ug/L	0.097	0	30	44598	1	Standard
Ba	137	10.001	ug/L	0.240	2	46	76820	2	Standard
> Tb	159		ug/L			1222564	1222640	1	Standard
Tl	205	10.000	ug/L	0.371	3	17	339411	4	Standard
Pb	208	10.000	ug/L	0.226	2	261	446810	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 3
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 11:51:34
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	70381	4	Standard
	Cl	37		mg/L			5416204	5742193	3	Standard
⌈>	Sc	45		ug/L			1335545	1366865	0	Standard
|	Cr	52	19.892	ug/L	0.149	0	33387	490436	0	Standard
|	Cr	53	19.989	ug/L	0.030	0	221	53225	0	Standard
⌊	Mn	55	19.931	ug/L	0.336	1	582	641857	2	Standard
⌈>	Ge-1	72		ug/L			52065	53285	2	KED
|	Co	59	20.005	ug/L	0.733	3	7	78754	1	KED
|	Ni	60	19.890	ug/L	0.535	2	3	22653	0	KED
|	Ni	62	19.841	ug/L	0.920	4	1	3442	3	KED
|	Cu	63	20.037	ug/L	0.480	2	34	61145	1	KED
|	Cu	65	20.029	ug/L	0.352	1	21	29465	2	KED
|	Zn	66	20.095	ug/L	0.048	0	125	7197	2	KED
|	Zn	67	20.210	ug/L	0.474	2	15	1142	4	KED
|	Zn	68	20.308	ug/L	0.532	2	96	5583	2	KED
|	As	75	20.096	ug/L	0.533	2	3	4316	0	KED
⌊	Se-1	78	19.903	ug/L	0.543	2	10	458	4	KED
	Y	89		ug/L			834388	857165	0	Standard
	Kr	83		ug/L			100	103	9	Standard
⌈>	In-1	115		ug/L			16218	16244	1	KED
|	Mo	98	20.235	ug/L	0.651	3	6	17413	2	KED
|	Cd	111	20.076	ug/L	0.208	1	1	4922	0	KED
⌊	Cd	114	20.225	ug/L	0.396	1	1	12885	2	KED
⌈>	In	115		ug/L			1082385	1114474	1	Standard
|	Ag	107	19.936	ug/L	0.135	0	52	401503	1	Standard
|	Sb	121	19.903	ug/L	0.594	2	44	301934	1	Standard
|	Sb	123	19.918	ug/L	0.292	1	39	228460	0	Standard
|	Ba	135	20.004	ug/L	0.217	1	30	90180	0	Standard
⌊	Ba	137	19.882	ug/L	0.531	2	46	150726	1	Standard
⌈>	Tb	159		ug/L			1222564	1235310	2	Standard
|	Tl	205	19.933	ug/L	0.357	1	17	674468	3	Standard
⌊	Pb	208	19.859	ug/L	0.260	1	261	871660	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 4
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 11:56:49
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	70543	2	Standard
	Cl	37		mg/L			5416204	5864744	2	Standard
⌈>	Sc	45		ug/L			1335545	1335892	2	Standard
|	Cr	52	49.860	ug/L	1.966	3	33387	1135237	2	Standard
|	Cr	53	50.080	ug/L	1.559	3	221	131006	2	Standard
⌊	Mn	55	49.970	ug/L	2.211	4	582	1566156	2	Standard
⌈>	Ge-1	72		ug/L			52065	52901	1	KED
|	Co	59	49.863	ug/L	0.219	0	7	192324	1	KED
|	Ni	60	50.081	ug/L	0.746	1	3	57099	1	KED
|	Ni	62	49.980	ug/L	0.783	1	1	8593	0	KED
|	Cu	63	49.692	ug/L	2.750	5	34	146018	5	KED
|	Cu	65	49.927	ug/L	0.417	0	21	72372	1	KED
|	Zn	66	49.812	ug/L	1.229	2	125	17212	2	KED
|	Zn	67	49.984	ug/L	1.378	2	15	2777	2	KED
|	Zn	68	49.536	ug/L	1.756	3	96	12810	3	KED
|	As	75	49.864	ug/L	1.064	2	3	10487	1	KED
⌊	Se-1	78	50.275	ug/L	1.094	2	10	1165	2	KED
	Y	89		ug/L			834388	858433	2	Standard
	Kr	83		ug/L			100	99	20	Standard
⌈>	In-1	115		ug/L			16218	16580	3	KED
|	Mo	98	49.743	ug/L	3.551	7	6	42537	4	KED
|	Cd	111	49.673	ug/L	0.965	1	1	12032	1	KED
⌊	Cd	114	49.693	ug/L	2.716	5	1	31323	3	KED
⌈>	In	115		ug/L			1082385	1100594	0	Standard
|	Ag	107	49.539	ug/L	0.682	1	52	941756	1	Standard
|	Sb	121	49.800	ug/L	0.388	0	44	731595	0	Standard
|	Sb	123	49.920	ug/L	0.672	1	39	560923	0	Standard
|	Ba	135	49.748	ug/L	0.664	1	30	215994	0	Standard
⌊	Ba	137	50.052	ug/L	0.481	0	46	376712	1	Standard
⌈>	Tb	159		ug/L			1222564	1252503	0	Standard
|	Tl	205	49.353	ug/L	1.551	3	17	1590031	2	Standard
⌊	Pb	208	49.566	ug/L	1.567	3	261	2113454	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 5
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 12:03:45
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	70231	4	Standard
	Cl	37		mg/L			5416204	5794062	2	Standard
⌈>	Sc	45		ug/L			1335545	1350934	1	Standard
|	Cr	52	99.057	ug/L	3.334	3	33387	2180356	2	Standard
|	Cr	53	99.498	ug/L	3.913	3	221	258657	2	Standard
⌊	Mn	55	99.201	ug/L	3.575	3	582	3062943	2	Standard
⌈>	Ge-1	72		ug/L			52065	51706	1	KED
|	Co	59	100.628	ug/L	3.694	3	7	387286	1	KED
|	Ni	60	99.466	ug/L	0.561	0	3	108906	1	KED
|	Ni	62	100.026	ug/L	3.721	3	1	16821	3	KED
|	Cu	63	99.910	ug/L	2.152	2	34	286027	0	KED
|	Cu	65	99.549	ug/L	1.994	2	21	138894	0	KED
|	Zn	66	99.828	ug/L	1.699	1	125	33400	2	KED
|	Zn	67	100.223	ug/L	0.794	0	15	5467	1	KED
|	Zn	68	100.160	ug/L	3.843	3	96	25343	2	KED
|	As	75	100.436	ug/L	2.192	2	3	20945	0	KED
⌊	Se-1	78	100.471	ug/L	2.118	2	10	2302	0	KED
	Y	89		ug/L			834388	850699	1	Standard
	Kr	83		ug/L			100	128	2	Standard
⌈>	In-1	115		ug/L			16218	16361	0	KED
|	Mo	98	100.186	ug/L	2.063	2	6	85162	1	KED
|	Cd	111	99.805	ug/L	1.320	1	1	23706	1	KED
⌊	Cd	114	99.549	ug/L	2.240	2	1	61044	1	KED
⌈>	In	115		ug/L			1082385	1085050	1	Standard
|	Ag	107	99.694	ug/L	1.719	1	52	1849496	1	Standard
|	Sb	121	98.971	ug/L	1.981	2	44	1385683	1	Standard
|	Sb	123	99.150	ug/L	1.982	1	39	1068022	1	Standard
|	Ba	135	100.065	ug/L	1.520	1	30	429201	0	Standard
⌊	Ba	137	100.223	ug/L	1.676	1	46	749118	0	Standard
⌈>	Tb	159		ug/L			1222564	1242570	1	Standard
|	Tl	205	100.761	ug/L	4.027	3	17	3305490	5	Standard
⌊	Pb	208	99.627	ug/L	0.822	0	261	4162830	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Rinse sample
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 12:11:21
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	68323	1	Standard
	Cl	37		mg/L			5416204	5682772	3	Standard
>	Sc	45		ug/L			1335545	1326437	0	Standard
	Cr	52	0.050	ug/L	0.060	121	33387	34212	3	Standard
	Cr	53	0.001	ug/L	0.004	353	221	222	4	Standard
	Mn	55	0.014	ug/L	0.006	41	582	990	17	Standard
>	Ge-1	72		ug/L			52065	52416	1	KED
	Co	59	0.001	ug/L	0.001	89	7	13	37	KED
	Ni	60	0.002	ug/L	0.005	199	3	5	88	KED
	Ni	62	0.011	ug/L	0.007	58	1	3	34	KED
	Cu	63	0.052	ug/L	0.006	10	34	187	6	KED
	Cu	65	0.035	ug/L	0.002	7	21	71	4	KED
	Zn	66	0.062	ug/L	0.075	120	125	147	16	KED
	Zn	67	0.170	ug/L	0.114	67	15	25	26	KED
	Zn	68	0.035	ug/L	0.012	33	96	106	4	KED
	As	75	0.014	ug/L	0.007	52	3	6	22	KED
	Se-1	78	-0.003	ug/L	0.028	1056	10	10	4	KED
	Y	89		ug/L			834388	836008	1	Standard
	Kr	83		ug/L			100	86	22	Standard
>	In-1	115		ug/L			16218	16823	2	KED
	Mo	98	0.055	ug/L	0.005	8	6	55	9	KED
	Cd	111	-0.000	ug/L	0.002	1074	1	1	43	KED
	Cd	114	0.001	ug/L	0.004	513	1	2	98	KED
>	In	115		ug/L			1082385	1105032	1	Standard
	Ag	107	0.004	ug/L	0.004	103	52	129	59	Standard
	Sb	121	0.204	ug/L	0.005	2	44	2953	0	Standard
	Sb	123	0.197	ug/L	0.002	0	39	2197	2	Standard
	Ba	135	-0.000	ug/L	0.003	2703	30	30	43	Standard
	Ba	137	0.005	ug/L	0.007	134	46	83	57	Standard
>	Tb	159		ug/L			1222564	1229784	0	Standard
	Tl	205	0.010	ug/L	0.006	54	17	351	50	Standard
	Pb	208	0.010	ug/L	0.007	72	261	663	42	Standard

Sample Information

Sample Date/Time: Friday, March 04, 2016 12:03:45
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_
Mass Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tu
Conditions File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Calibration

Analyte	Mass	r Corr Coef	Slope	Std 1 Conc	Std 2 Conc	Std 3 Conc	Std 4 Conc	Std 5 Conc
C	13							
Cl	37							
Sc	45							
Cr	52	**0.9998**	0.016	0.50	10	20	50	100
Cr	53	**1.0000**	0.002	0.50	10	20	50	100
Mn	55	**0.9999**	0.023	0.50	10	20	50	100
Ge-1	72							
Co	59	**0.9999**	0.074	0.20	10	20	50	100
Ni	60	**0.9999**	0.021	0.50	10	20	50	100
Ni	62	**1.0000**	0.003	0.50	10	20	50	100
Cu	63	**1.0000**	0.055	0.50	10	20	50	100
Cu	65	**1.0000**	0.027	0.50	10	20	50	100
Zn	66	**1.0000**	0.006	4.00	10	20	50	100
Zn	67	**1.0000**	0.001	4.00	10	20	50	100
Zn	68	**0.9999**	0.005	4.00	10	20	50	100
As	75	**1.0000**	0.004	0.20	10	20	50	100
Se-1	78	**0.9999**	0.000	0.50	10	20	50	100
Y	89							
Kr	83							
In-1	115							
Mo	98	**1.0000**	0.052	0.20	10	20	50	100
Cd	111	**1.0000**	0.015	0.10	10	20	50	100
Cd	114	**0.9999**	0.037	0.10	10	20	50	100
In	115							
Ag	107	**0.9999**	0.017	0.20	10	20	50	100
Sb	121	**0.9998**	0.013	0.20	10	20	50	100
Sb	123	**0.9999**	0.010	0.20	10	20	50	100
Ba	135	**1.0000**	0.004	0.50	10	20	50	100
Ba	137	**1.0000**	0.007	0.50	10	20	50	100
Tb	159							
Tl	205	**0.9998**	0.026	0.20	10	20	50	100
Pb	208	**0.9999**	0.034	0.10	10	20	50	100

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICV
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 12:18:57
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	71057	3	Standard
Cl	37		mg/L			5416204	6044762	2	Standard
> Sc	45		ug/L			1335545	1368568	1	Standard
Cr	52	53.771	ug/L	0.930	1	33387	1215079	2	Standard
Cr	53	52.868	ug/L	0.228	0	221	139378	1	Standard
Mn	55	52.778	ug/L	0.974	1	582	1651481	1	Standard
> Ge-1	72		ug/L			52065	53464	1	KED
Co	59	50.791	ug/L	0.919	1	7	202194	0	KED
Ni	60	51.292	ug/L	1.237	2	3	58074	2	KED
Ni	62	51.948	ug/L	1.016	1	1	9034	0	KED
Cu	63	52.727	ug/L	1.522	2	34	156121	2	KED
Cu	65	51.681	ug/L	1.137	2	21	74575	1	KED
Zn	66	50.187	ug/L	0.567	1	125	17425	0	KED
Zn	67	52.928	ug/L	0.538	1	15	2993	0	KED
Zn	68	51.348	ug/L	1.076	2	96	13486	0	KED
As	75	52.353	ug/L	0.776	1	3	11292	0	KED
Se-1	78	77.036	ug/L	2.021	2	10	1827	2	KED
Y	89		ug/L			834388	882052	2	Standard
Kr	83		ug/L			100	108	9	Standard
> In-1	115		ug/L			16218	16495	2	KED
Mo	98	50.409	ug/L	1.525	3	6	43185	0	KED
Cd	111	49.980	ug/L	1.635	3	1	11963	0	KED
Cd	114	50.513	ug/L	1.695	3	1	31215	0	KED
> In	115		ug/L			1082385	1126692	2	Standard
Ag	107	49.753	ug/L	0.325	0	52	958456	1	Standard
Sb	121	52.218	ug/L	1.405	2	44	758999	0	Standard
Sb	123	51.615	ug/L	1.333	2	39	577209	0	Standard
Ba	135	51.062	ug/L	1.501	2	30	227374	1	Standard
Ba	137	51.126	ug/L	1.535	3	46	396727	1	Standard
> Tb	159		ug/L			1222564	1288572	5	Standard
Tl	205	48.601	ug/L	1.337	2	17	1651236	2	Standard
Pb	208	51.934	ug/L	1.455	2	261	2248062	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICB
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 12:26:32
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	68380	4	Standard
	Cl	37		mg/L			5416204	5513302	2	Standard
⌈>	Sc	45		ug/L			1335545	1316773	1	Standard
|	Cr	52	0.080	ug/L	0.038	47	33387	34605	1	Standard
|	Cr	53	-0.002	ug/L	0.008	483	221	213	8	Standard
⌊	Mn	55	0.013	ug/L	0.002	16	582	979	5	Standard
⌈>	Ge-1	72		ug/L			52065	52601	0	KED
|	Co	59	0.002	ug/L	0.000	25	7	15	12	KED
|	Ni	60	0.003	ug/L	0.001	29	3	6	15	KED
|	Ni	62	0.007	ug/L	0.017	231	1	2	114	KED
|	Cu	63	0.075	ug/L	0.003	3	34	253	3	KED
|	Cu	65	0.055	ug/L	0.007	12	21	99	9	KED
|	Zn	66	0.088	ug/L	0.031	34	125	156	6	KED
|	Zn	67	0.238	ug/L	0.109	45	15	29	20	KED
|	Zn	68	0.036	ug/L	0.089	249	96	106	21	KED
|	As	75	0.003	ug/L	0.006	201	3	4	29	KED
⌊	Se-1	78	0.057	ug/L	0.092	162	10	11	19	KED
	Y	89		ug/L			834388	832008	3	Standard
	Kr	83		ug/L			100	91	5	Standard
⌈>	In-1	115		ug/L			16218	16705	1	KED
|	Mo	98	0.037	ug/L	0.009	24	6	39	18	KED
|	Cd	111	0.004	ug/L	0.002	61	1	2	24	KED
⌊	Cd	114	0.003	ug/L	0.003	96	1	3	50	KED
⌈>	In	115		ug/L			1082385	1115793	0	Standard
|	Ag	107	0.001	ug/L	0.000	50	52	69	11	Standard
|	Sb	121	0.040	ug/L	0.001	1	44	617	1	Standard
|	Sb	123	0.039	ug/L	0.004	11	39	471	10	Standard
|	Ba	135	-0.001	ug/L	0.001	117	30	26	21	Standard
⌊	Ba	137	0.001	ug/L	0.000	27	46	52	2	Standard
⌈>	Tb	159		ug/L			1222564	1219651	1	Standard
|	Tl	205	0.005	ug/L	0.001	13	17	166	12	Standard
⌊	Pb	208	0.006	ug/L	0.001	12	261	518	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 12:31:24
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	67058	1	Standard
	Cl	37		mg/L			5416204	5756504	2	Standard
>	Sc	45		ug/L			1335545	1338399	1	Standard
	Cr	52	51.076	ug/L	0.462	0	33387	1130313	1	Standard
	Cr	53	50.355	ug/L	1.402	2	221	129814	1	Standard
	Mn	55	50.374	ug/L	1.621	3	582	1541650	3	Standard
>	Ge-1	72		ug/L			52065	52481	2	KED
	Co	59	50.679	ug/L	0.937	1	7	198041	2	KED
	Ni	60	51.277	ug/L	0.664	1	3	56982	1	KED
	Ni	62	51.244	ug/L	1.397	2	1	8746	0	KED
	Cu	63	51.428	ug/L	1.064	2	34	149456	1	KED
	Cu	65	50.155	ug/L	0.523	1	21	71064	3	KED
	Zn	66	51.798	ug/L	0.932	1	125	17647	0	KED
	Zn	67	51.390	ug/L	0.718	1	15	2852	0	KED
	Zn	68	50.214	ug/L	1.087	2	96	12946	0	KED
	As	75	50.307	ug/L	1.523	3	3	10648	0	KED
	Se-1	78	51.064	ug/L	3.234	6	10	1191	4	KED
	Y	89		ug/L			834388	834913	0	Standard
	Kr	83		ug/L			100	101	2	Standard
>	In-1	115		ug/L			16218	16882	1	KED
	Mo	98	48.344	ug/L	1.839	3	6	42401	2	KED
	Cd	111	49.812	ug/L	0.771	1	1	12208	0	KED
	Cd	114	48.468	ug/L	1.198	2	1	30667	1	KED
>	In	115		ug/L			1082385	1119901	1	Standard
	Ag	107	49.897	ug/L	1.029	2	52	955288	0	Standard
	Sb	121	50.859	ug/L	0.556	1	44	735023	1	Standard
	Sb	123	50.512	ug/L	1.533	3	39	561508	1	Standard
	Ba	135	50.042	ug/L	1.012	2	30	221540	1	Standard
	Ba	137	49.623	ug/L	1.082	2	46	382813	1	Standard
>	Tb	159		ug/L			1222564	1247108	1	Standard
	Tl	205	49.564	ug/L	0.789	1	17	1631752	3	Standard
	Pb	208	51.711	ug/L	0.772	1	261	2169035	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 12:38:40
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	69835	1	Standard
	Cl	37		mg/L			5416204	5581621	2	Standard
⌈>	Sc	45		ug/L			1335545	1324067	2	Standard
|	Cr	52	0.042	ug/L	0.008	18	33387	33996	2	Standard
|	Cr	53	-0.004	ug/L	0.006	141	221	207	5	Standard
⌊	Mn	55	0.022	ug/L	0.001	3	582	1233	3	Standard
⌈>	Ge-1	72		ug/L			52065	53157	0	KED
|	Co	59	0.001	ug/L	0.001	75	7	10	20	KED
|	Ni	60	0.006	ug/L	0.002	30	3	9	20	KED
|	Ni	62	-0.004	ug/L	0.006	163	1	0	173	KED
|	Cu	63	0.120	ug/L	0.006	5	34	389	4	KED
|	Cu	65	0.113	ug/L	0.007	6	21	184	6	KED
|	Zn	66	0.107	ug/L	0.054	49	125	165	10	KED
|	Zn	67	0.187	ug/L	0.125	66	15	26	25	KED
|	Zn	68	0.095	ug/L	0.012	12	96	123	3	KED
|	As	75	0.013	ug/L	0.005	35	3	6	15	KED
⌊	Se-1	78	0.066	ug/L	0.115	174	10	11	22	KED
	Y	89		ug/L			834388	842692	4	Standard
	Kr	83		ug/L			100	87	14	Standard
⌈>	In-1	115		ug/L			16218	16670	1	KED
|	Mo	98	0.055	ug/L	0.028	51	6	54	44	KED
|	Cd	111	0.004	ug/L	0.005	119	1	2	49	KED
⌊	Cd	114	-0.002	ug/L	0.002	78	1	0	230	KED
⌈>	In	115		ug/L			1082385	1093830	2	Standard
|	Ag	107	0.002	ug/L	0.001	41	52	93	19	Standard
|	Sb	121	0.035	ug/L	0.002	4	44	539	6	Standard
|	Sb	123	0.033	ug/L	0.002	5	39	395	7	Standard
|	Ba	135	-0.000	ug/L	0.001	1328	30	30	16	Standard
⌊	Ba	137	0.002	ug/L	0.001	43	46	61	12	Standard
⌈>	Tb	159		ug/L			1222564	1246837	2	Standard
|	Tl	205	0.011	ug/L	0.001	10	17	368	8	Standard
⌊	Pb	208	0.008	ug/L	0.001	14	261	614	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: LOW CHECK
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 12:43:31
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	67441	2	Standard
	Cl	37		mg/L			5416204	5519665	2	Standard
>	Sc	45		ug/L			1335545	1303314	2	Standard
	Cr	52	**0.630**	ug/L	0.012	1	33387	45762	2	Standard
	Cr	53	**0.510**	ug/L	0.023	4	221	1495	5	Standard
	Mn	55	**0.546**	ug/L	0.009	1	582	16817	1	Standard
>	Ge-1	72		ug/L			52065	55000	0	KED
	Co	59	**0.197**	ug/L	0.007	3	7	815	3	KED
	Ni	60	**0.494**	ug/L	0.017	3	3	579	3	KED
	Ni	62	**0.479**	ug/L	0.058	12	1	86	12	KED
	Cu	63	**0.490**	ug/L	0.011	2	34	1530	2	KED
	Cu	65	**0.512**	ug/L	0.015	2	21	782	2	KED
	Zn	66	**3.685**	ug/L	0.112	3	125	1439	2	KED
	Zn	67	**3.617**	ug/L	0.373	10	15	226	9	KED
	Zn	68	**3.587**	ug/L	0.075	2	96	1064	1	KED
	As	75	**0.192**	ug/L	0.011	5	3	46	5	KED
	Se-1	78	**0.532**	ug/L	0.086	16	10	23	9	KED
	Y	89		ug/L			834388	828755	0	Standard
	Kr	83		ug/L			100	111	9	Standard
>	In-1	115		ug/L			16218	16345	1	KED
	Mo	98	**0.243**	ug/L	0.013	5	6	213	3	KED
	Cd	111	**0.123**	ug/L	0.020	16	1	30	16	KED
	Cd	114	**0.099**	ug/L	0.012	12	1	62	13	KED
>	In	115		ug/L			1082385	1110242	1	Standard
	Ag	107	**0.218**	ug/L	0.008	3	52	4195	2	Standard
	Sb	121	**0.231**	ug/L	0.003	1	44	3351	1	Standard
	Sb	123	**0.235**	ug/L	0.004	1	39	2633	1	Standard
	Ba	135	**0.484**	ug/L	0.011	2	30	2153	2	Standard
	Ba	137	**0.502**	ug/L	0.009	1	46	3889	2	Standard
>	Tb	159		ug/L			1222564	1253214	1	Standard
	Tl	205	**0.218**	ug/L	0.007	3	17	7232	4	Standard
	Pb	208	**0.108**	ug/L	0.005	4	261	4820	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICSA
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 12:48:23
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	135949	4	Standard
Cl	37		mg/L			5416204	14341892	2	Standard
> Sc	45		ug/L			1335545	1497286	3	Standard
Cr	52	**0.594**	ug/L	0.075	12	33387	51685	3	Standard
Cr	53	**6.061**	ug/L	0.276	4	221	17682	1	Standard
Mn	55	**0.101**	ug/L	0.006	6	582	4118	1	Standard
> Ge-1	72		ug/L			52065	52307	2	KED
Co	59	**0.008**	ug/L	0.001	17	7	40	11	KED
Ni	60	**0.054**	ug/L	0.003	4	3	63	3	KED
Ni	62	**0.045**	ug/L	0.007	15	1	8	12	KED
Cu	63	**0.109**	ug/L	0.002	2	34	349	1	KED
Cu	65	**0.113**	ug/L	0.020	17	21	180	13	KED
Zn	66	**-0.038**	ug/L	0.034	89	125	113	10	KED
Zn	67	**0.068**	ug/L	0.043	63	15	19	11	KED
Zn	68	**-0.091**	ug/L	0.020	22	96	73	5	KED
As	75	**0.022**	ug/L	0.009	41	3	8	21	KED
Se-1	78	**0.060**	ug/L	0.069	115	10	11	15	KED
Y	89		ug/L			834388	941074	1	Standard
Kr	83		ug/L			100	182	7	Standard
> In-1	115		ug/L			16218	17189	2	KED
Mo	98	**394.443**	ug/L	15.638	3	6	352061	1	KED
Cd	111	**0.072**	ug/L	0.014	18	1	19	18	KED
Cd	114	**0.051**	ug/L	0.019	36	1	34	34	KED
> In	115		ug/L			1082385	1098972	1	Standard
Ag	107	**0.052**	ug/L	0.003	4	52	1037	2	Standard
Sb	121	**0.022**	ug/L	0.001	3	44	358	1	Standard
Sb	123	**0.020**	ug/L	0.001	3	39	255	2	Standard
Ba	135	**0.034**	ug/L	0.002	6	30	180	4	Standard
Ba	137	**0.028**	ug/L	0.004	14	46	259	10	Standard
> Tb	159		ug/L			1222564	1232893	4	Standard
Tl	205	**0.011**	ug/L	0.001	7	17	361	7	Standard
Pb	208	**0.061**	ug/L	0.002	3	261	2808	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICSAB
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 12:53:15
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	139394	2	Standard
	Cl	37		mg/L			5416204	14205254	2	Standard
>	Sc	45		ug/L			1335545	1503824	0	Standard
	Cr	52	20.490	ug/L	0.089	0	33387	531997	1	Standard
	Cr	53	24.367	ug/L	0.237	0	221	70721	0	Standard
	Mn	55	19.789	ug/L	0.267	1	582	680866	1	Standard
>	Ge-1	72		ug/L			52065	50865	0	KED
	Co	59	20.279	ug/L	0.458	2	7	76814	1	KED
	Ni	60	20.440	ug/L	0.051	0	3	22019	0	KED
	Ni	62	21.135	ug/L	0.196	0	1	3498	0	KED
	Cu	63	20.500	ug/L	0.398	1	34	57774	1	KED
	Cu	65	20.044	ug/L	0.416	2	21	27533	2	KED
	Zn	66	19.745	ug/L	0.534	2	125	6597	2	KED
	Zn	67	17.735	ug/L	0.920	5	15	964	4	KED
	Zn	68	17.462	ug/L	0.656	3	96	4426	3	KED
	As	75	19.772	ug/L	0.065	0	3	4060	0	KED
	Se-1	78	0.103	ug/L	0.153	149	10	12	28	KED
	Y	89		ug/L			834388	948093	2	Standard
	Kr	83		ug/L			100	167	5	Standard
>	In-1	115		ug/L			16218	16930	2	KED
	Mo	98	393.531	ug/L	18.505	4	6	345913	2	KED
	Cd	111	19.189	ug/L	0.564	2	1	4715	0	KED
	Cd	114	19.248	ug/L	0.491	2	1	12213	1	KED
>	In	115		ug/L			1082385	1096216	1	Standard
	Ag	107	20.155	ug/L	0.232	1	52	377849	2	Standard
	Sb	121	0.018	ug/L	0.001	6	44	297	5	Standard
	Sb	123	0.019	ug/L	0.002	10	39	244	8	Standard
	Ba	135	0.038	ug/L	0.001	2	30	196	2	Standard
	Ba	137	0.029	ug/L	0.002	6	46	266	4	Standard
>	Tb	159		ug/L			1222564	1234200	0	Standard
	Tl	205	0.004	ug/L	0.001	21	17	149	18	Standard
	Pb	208	0.058	ug/L	0.002	4	261	2683	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: LR200
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 13:00:50
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	72499	3	Standard
	Cl	37		mg/L			5416204	5768979	1	Standard
⌈>	Sc	45		ug/L			1335545	1362222	3	Standard
|	Cr	52	187.210	ug/L	6.264	3	33387	4122735	1	Standard
|	Cr	53	190.335	ug/L	4.671	2	221	498592	1	Standard
⌊	Mn	55	186.534	ug/L	8.462	4	582	5803698	2	Standard
⌈>	Ge-1	72		ug/L			52065	49936	1	KED
|	Co	59	192.704	ug/L	3.440	1	7	716441	0	KED
|	Ni	60	190.811	ug/L	6.439	3	3	201694	1	KED
|	Ni	62	191.788	ug/L	3.521	1	1	31148	0	KED
|	Cu	63	192.878	ug/L	3.927	2	34	533380	2	KED
|	Cu	65	190.286	ug/L	2.631	1	21	256403	0	KED
|	Zn	66	187.552	ug/L	7.356	3	125	60469	2	KED
|	Zn	67	188.530	ug/L	6.855	3	15	9918	3	KED
|	Zn	68	191.503	ug/L	4.267	2	96	46721	0	KED
|	As	75	195.589	ug/L	3.468	1	3	39393	0	KED
⌊	Se-1	78	191.735	ug/L	4.796	2	10	4234	0	KED
	Y	89		ug/L			834388	883869	3	Standard
	Kr	83		ug/L			100	145	18	Standard
⌈>	In-1	115		ug/L			16218	15569	3	KED
|	Mo	98	205.180	ug/L	9.748	4	6	165783	1	KED
|	Cd	111	199.646	ug/L	6.944	3	1	45086	0	KED
⌊	Cd	114	194.765	ug/L	7.409	3	1	113554	0	KED
⌈>	In	115		ug/L			1082385	1039755	0	Standard
|	Ag	107	194.604	ug/L	2.488	1	52	3459744	1	Standard
|	Sb	121	200.706	ug/L	5.532	2	44	2692858	2	Standard
|	Sb	123	191.584	ug/L	1.183	0	39	1977770	0	Standard
|	Ba	135	202.088	ug/L	4.497	2	30	830604	1	Standard
⌊	Ba	137	197.990	ug/L	3.042	1	46	1418258	1	Standard
⌈>	Tb	159		ug/L			1222564	1236028	0	Standard
|	Tl	205	197.345	ug/L	5.321	2	17	6438755	3	Standard
⌊	Pb	208	196.927	ug/L	7.564	3	261	8186007	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: LR300
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 13:05:42
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	71371	1	Standard
Cl	37		mg/L			5416204	5711222	1	Standard
> Sc	45		ug/L			1335545	1337342	1	Standard
Cr	52	286.343	ug/L	5.420	1	33387	6177311	2	Standard
Cr	53	288.498	ug/L	3.517	1	221	742207	1	Standard
Mn	55	280.665	ug/L	6.368	2	582	8578601	1	Standard
> Ge-1	72		ug/L			52065	48235	0	KED
Co	59	299.242	ug/L	3.566	1	7	1074784	0	KED
Ni	60	295.161	ug/L	3.793	1	3	301465	0	KED
Ni	62	298.123	ug/L	0.493	0	1	46779	1	KED
Cu	63	285.444	ug/L	3.191	1	34	762521	2	KED
Cu	65	289.146	ug/L	2.726	0	21	376376	0	KED
Zn	66	284.970	ug/L	3.360	1	125	88737	2	KED
Zn	67	285.993	ug/L	4.910	1	15	14528	1	KED
Zn	68	282.936	ug/L	2.470	0	96	66654	1	KED
As	75	299.469	ug/L	1.210	0	3	58269	0	KED
Se-1	78	285.775	ug/L	5.410	1	10	6092	0	KED
Y	89		ug/L			834388	824630	1	Standard
Kr	83		ug/L			100	220	3	Standard
> In-1	115		ug/L			16218	15928	2	KED
Mo	98	294.342	ug/L	7.670	2	6	243490	0	KED
Cd	111	278.184	ug/L	8.214	2	1	64298	0	KED
Cd	114	271.357	ug/L	8.665	3	1	161932	0	KED
> In	115		ug/L			1082385	1024704	0	Standard
Ag	107	284.428	ug/L	1.429	0	52	4983338	1	Standard
Sb	121	308.909	ug/L	4.726	1	44	4084600	0	Standard
Sb	123	299.641	ug/L	9.679	3	39	3048053	2	Standard
Ba	135	300.998	ug/L	7.616	2	30	1219206	2	Standard
Ba	137	316.137	ug/L	1.896	0	46	2231686	0	Standard
> Tb	159		ug/L			1222564	1197505	1	Standard
Tl	205	297.243	ug/L	5.735	1	17	9396523	3	Standard
Pb	208	300.080	ug/L	6.073	2	261	12085038	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: B1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 13:13:16
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	73035	1	Standard
Cl	37		mg/L			5416204	5565845	1	Standard
> Sc	45		ug/L			1335545	1334056	2	Standard
Cr	52	0.063	ug/L	0.072	115	33387	34662	2	Standard
Cr	53	0.008	ug/L	0.004	47	221	240	4	Standard
Mn	55	0.005	ug/L	0.001	25	582	725	3	Standard
> Ge-1	72		ug/L			52065	53755	4	KED
Co	59	0.002	ug/L	0.003	109	7	17	58	KED
Ni	60	0.010	ug/L	0.007	76	3	13	56	KED
Ni	62	0.015	ug/L	0.022	150	1	3	100	KED
Cu	63	0.014	ug/L	0.002	16	34	76	7	KED
Cu	65	0.015	ug/L	0.010	67	21	43	31	KED
Zn	66	-0.177	ug/L	0.048	27	125	68	24	KED
Zn	67	-0.187	ug/L	0.070	37	15	5	66	KED
Zn	68	-0.213	ug/L	0.017	8	96	43	15	KED
As	75	0.008	ug/L	0.006	72	3	5	26	KED
Se-1	78	0.034	ug/L	0.058	170	10	11	10	KED
Y	89		ug/L			834388	833252	1	Standard
Kr	83		ug/L			100	109	18	Standard
> In-1	115		ug/L			16218	17072	2	KED
Mo	98	0.124	ug/L	0.013	10	6	117	12	KED
Cd	111	-0.000	ug/L	0.002	1005	1	1	43	KED
Cd	114	0.004	ug/L	0.006	175	1	4	95	KED
> In	115		ug/L			1082385	1133881	2	Standard
Ag	107	0.004	ug/L	0.000	12	52	123	6	Standard
Sb	121	0.316	ug/L	0.007	2	44	4669	3	Standard
Sb	123	0.311	ug/L	0.014	4	39	3541	2	Standard
Ba	135	0.001	ug/L	0.001	168	30	34	15	Standard
Ba	137	0.001	ug/L	0.001	131	46	55	15	Standard
> Tb	159		ug/L			1222564	1269519	1	Standard
Tl	205	0.078	ug/L	0.003	3	17	2645	4	Standard
Pb	208	0.011	ug/L	0.001	9	261	740	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: B2
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 13:20:03
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	72148	5	Standard
	Cl	37		mg/L			5416204	5604816	3	Standard
>	Sc	45		ug/L			1335545	1329881	2	Standard
	Cr	52	**0.071**	ug/L	0.055	77	33387	34748	1	Standard
	Cr	53	**0.009**	ug/L	0.006	60	221	243	3	Standard
	Mn	55	**0.005**	ug/L	0.001	30	582	719	3	Standard
>	Ge-1	72		ug/L			52065	54327	0	KED
	Co	59	**0.001**	ug/L	0.001	65	7	13	28	KED
	Ni	60	**0.004**	ug/L	0.003	58	3	8	35	KED
	Ni	62	**0.018**	ug/L	0.016	93	1	4	65	KED
	Cu	63	**0.011**	ug/L	0.006	51	34	69	24	KED
	Cu	65	**-0.002**	ug/L	0.005	217	21	19	40	KED
	Zn	66	**-0.226**	ug/L	0.050	22	125	52	33	KED
	Zn	67	**-0.101**	ug/L	0.107	106	15	10	56	KED
	Zn	68	**-0.227**	ug/L	0.018	7	96	40	11	KED
	As	75	**0.004**	ug/L	0.015	348	3	4	72	KED
	Se-1	78	**0.068**	ug/L	0.013	18	10	12	2	KED
	Y	89		ug/L			834388	853679	1	Standard
	Kr	83		ug/L			100	99	7	Standard
>	In-1	115		ug/L			16218	16675	3	KED
	Mo	98	**0.046**	ug/L	0.018	38	6	46	34	KED
	Cd	111	**0.004**	ug/L	0.009	239	1	2	98	KED
	Cd	114	**-0.001**	ug/L	0.002	117	1	1	86	KED
>	In	115		ug/L			1082385	1130697	3	Standard
	Ag	107	**0.002**	ug/L	0.001	33	52	102	12	Standard
	Sb	121	**0.109**	ug/L	0.002	2	44	1640	3	Standard
	Sb	123	**0.106**	ug/L	0.001	1	39	1236	4	Standard
	Ba	135	**-0.000**	ug/L	0.001	198	30	29	16	Standard
	Ba	137	**0.002**	ug/L	0.002	111	46	61	25	Standard
>	Tb	159		ug/L			1222564	1261827	1	Standard
	Tl	205	**0.029**	ug/L	0.001	3	17	979	5	Standard
	Pb	208	**0.009**	ug/L	0.000	5	261	634	4	Standard

AVZ9 : 88595

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV2
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 13:26:50
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	72277	1	Standard
Cl	37		mg/L			5416204	5797574	1	Standard
> Sc	45		ug/L			1335545	1338506	1	Standard
Cr	52	51.828	ug/L	1.233	2	33387	1146491	2	Standard
Cr	53	50.302	ug/L	1.333	2	221	129671	0	Standard
Mn	55	51.189	ug/L	1.161	2	582	1566626	2	Standard
> Ge-1	72		ug/L			52065	53536	2	KED
Co	59	49.030	ug/L	1.612	3	7	195391	1	KED
Ni	60	48.938	ug/L	0.998	2	3	55468	0	KED
Ni	62	49.855	ug/L	0.707	1	1	8682	0	KED
Cu	63	50.863	ug/L	3.021	5	34	150705	3	KED
Cu	65	49.749	ug/L	0.770	1	21	71880	0	KED
Zn	66	50.236	ug/L	1.951	3	125	17458	1	KED
Zn	67	49.996	ug/L	2.326	4	15	2830	2	KED
Zn	68	51.191	ug/L	1.167	2	96	13462	1	KED
As	75	49.254	ug/L	1.757	3	3	10634	1	KED
Se-1	78	48.251	ug/L	1.831	3	10	1149	2	KED
Y	89		ug/L			834388	865984	2	Standard
Kr	83		ug/L			100	103	15	Standard
> In-1	115		ug/L			16218	16651	0	KED
Mo	98	50.439	ug/L	0.310	0	6	43644	0	KED
Cd	111	50.800	ug/L	0.806	1	1	12281	1	KED
Cd	114	49.695	ug/L	0.746	1	1	31018	1	KED
> In	115		ug/L			1082385	1128690	0	Standard
Ag	107	48.378	ug/L	0.650	1	52	933610	0	Standard
Sb	121	51.587	ug/L	1.124	2	44	751378	1	Standard
Sb	123	50.801	ug/L	0.401	0	39	569335	1	Standard
Ba	135	50.304	ug/L	1.013	2	30	224475	1	Standard
Ba	137	50.170	ug/L	0.433	0	46	390164	1	Standard
> Tb	159		ug/L			1222564	1265363	1	Standard
Tl	205	49.493	ug/L	1.206	2	17	1653268	3	Standard
Pb	208	52.169	ug/L	1.004	1	261	2220211	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB2
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 13:34:26
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	71939	1	Standard
	Cl	37		mg/L			5416204	5561884	1	Standard
>	Sc	45		ug/L			1335545	1324945	1	Standard
	Cr	52	0.084	ug/L	0.070	83	33387	34909	4	Standard
	Cr	53	0.005	ug/L	0.007	139	221	232	7	Standard
	Mn	55	0.039	ug/L	0.001	3	582	1767	1	Standard
>	Ge-1	72		ug/L			52065	53798	1	KED
	Co	59	0.001	ug/L	0.001	139	7	11	44	KED
	Ni	60	0.012	ug/L	0.002	18	3	16	13	KED
	Ni	62	0.018	ug/L	0.016	91	1	4	65	KED
	Cu	63	0.261	ug/L	0.016	6	34	813	4	KED
	Cu	65	0.258	ug/L	0.036	14	21	396	11	KED
	Zn	66	0.133	ug/L	0.043	32	125	175	7	KED
	Zn	67	0.133	ug/L	0.340	255	15	24	80	KED
	Zn	68	0.124	ug/L	0.038	30	96	132	6	KED
	As	75	0.011	ug/L	0.008	77	3	5	28	KED
	Se-1	78	0.067	ug/L	0.047	70	10	11	8	KED
	Y	89		ug/L			834388	838525	1	Standard
	Kr	83		ug/L			100	88	8	Standard
>	In-1	115		ug/L			16218	16600	3	KED
	Mo	98	0.052	ug/L	0.010	18	6	51	12	KED
	Cd	111	0.001	ug/L	0.005	373	1	1	69	KED
	Cd	114	0.002	ug/L	0.004	185	1	3	73	KED
>	In	115		ug/L			1082385	1105080	1	Standard
	Ag	107	0.001	ug/L	0.001	52	52	80	17	Standard
	Sb	121	0.059	ug/L	0.008	14	44	882	12	Standard
	Sb	123	0.058	ug/L	0.001	1	39	673	2	Standard
	Ba	135	-0.001	ug/L	0.002	337	30	28	30	Standard
	Ba	137	-0.001	ug/L	0.001	200	46	41	28	Standard
>	Tb	159		ug/L			1222564	1256644	2	Standard
	Tl	205	0.015	ug/L	0.001	5	17	499	7	Standard
	Pb	208	0.015	ug/L	0.001	6	261	885	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 MB1 SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 13:39:24
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	78521	2	Standard
Cl	37		mg/L			5416204	5612117	3	Standard
> Sc	45		ug/L			1335545	1356741	0	Standard
Cr	52	0.076	ug/L	0.004	5	33387	35581	0	Standard
Cr	53	0.004	ug/L	0.004	89	221	235	4	Standard
Mn	55	0.003	ug/L	0.001	28	582	700	4	Standard
> Ge-1	72		ug/L			52065	53031	3	KED
Co	59	0.001	ug/L	0.001	61	7	13	28	KED
Ni	60	0.011	ug/L	0.005	44	3	15	34	KED
Ni	62	0.015	ug/L	0.020	134	1	3	86	KED
Cu	63	0.006	ug/L	0.004	76	34	52	24	KED
Cu	65	-0.000	ug/L	0.008	2421	21	21	53	KED
Zn	66	-0.161	ug/L	0.027	16	125	73	13	KED
Zn	67	-0.040	ug/L	0.047	118	15	13	20	KED
Zn	68	-0.196	ug/L	0.059	29	96	47	31	KED
As	75	0.004	ug/L	0.005	126	3	4	26	KED
Se-1	78	-0.044	ug/L	0.120	271	10	9	33	KED
Y	89		ug/L			834388	845343	0	Standard
Kr	83		ug/L			100	92	5	Standard
> In-1	115		ug/L			16218	16966	3	KED
Mo	98	0.047	ug/L	0.012	24	6	47	18	KED
Cd	111	-0.003	ug/L	0.002	76	1	0	86	KED
Cd	114	0.002	ug/L	0.002	97	1	3	35	KED
> In	115		ug/L			1082385	1140027	1	Standard
Ag	107	0.001	ug/L	0.000	47	52	66	6	Standard
Sb	121	0.030	ug/L	0.002	7	44	495	8	Standard
Sb	123	0.032	ug/L	0.003	10	39	403	9	Standard
Ba	135	0.005	ug/L	0.004	76	30	53	32	Standard
Ba	137	0.005	ug/L	0.001	13	46	88	6	Standard
> Tb	159		ug/L			1222564	1263758	2	Standard
Tl	205	0.010	ug/L	0.000	4	17	357	6	Standard
Pb	208	0.004	ug/L	0.001	16	261	460	7	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 MB2 REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 13:44:16
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	77896	7	Standard
Cl	37		mg/L			5416204	5643603	2	Standard
> Sc	45		ug/L			1335545	1392177	3	Standard
Cr	52	0.113	ug/L	0.055	48	33387	37300	0	Standard
Cr	53	0.043	ug/L	0.002	3	221	345	3	Standard
Mn	55	0.031	ug/L	0.000	0	582	1604	3	Standard
> Ge-1	72		ug/L			52065	54281	1	KED
Co	59	0.001	ug/L	0.000	28	7	12	9	KED
Ni	60	0.040	ug/L	0.008	19	3	49	16	KED
Ni	62	0.043	ug/L	0.035	81	1	8	68	KED
Cu	63	0.397	ug/L	0.007	1	34	1229	2	KED
Cu	65	0.373	ug/L	0.007	1	21	568	3	KED
Zn	66	-0.021	ug/L	0.028	132	125	123	8	KED
Zn	67	0.178	ug/L	0.094	52	15	26	18	KED
Zn	68	-0.021	ug/L	0.056	271	96	95	17	KED
As	75	0.009	ug/L	0.006	67	3	5	24	KED
Se-1	78	0.035	ug/L	0.098	277	10	11	20	KED
Y	89		ug/L			834388	878832	2	Standard
Kr	83		ug/L			100	78	24	Standard
> In-1	115		ug/L			16218	17055	2	KED
Mo	98	0.061	ug/L	0.017	27	6	60	23	KED
Cd	111	0.001	ug/L	0.008	719	1	1	124	KED
Cd	114	-0.001	ug/L	0.002	117	1	0	114	KED
> In	115		ug/L			1082385	1146371	3	Standard
Ag	107	0.005	ug/L	0.000	9	52	144	2	Standard
Sb	121	0.031	ug/L	0.002	5	44	508	5	Standard
Sb	123	0.027	ug/L	0.002	6	39	352	5	Standard
Ba	135	0.092	ug/L	0.007	7	30	448	3	Standard
Ba	137	0.097	ug/L	0.008	8	46	817	6	Standard
> Tb	159		ug/L			1222564	1286522	2	Standard
Tl	205	0.017	ug/L	0.001	4	17	599	7	Standard
Pb	208	0.010	ug/L	0.001	5	261	713	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 AQDUP REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 13:49:07
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	83840	3	Standard
Cl	37		mg/L			5416204	5700885	0	Standard
> Sc	45		ug/L			1335545	1411517	1	Standard
Cr	52	0.394	ug/L	0.052	13	33387	44194	1	Standard
Cr	53	0.368	ug/L	0.009	2	221	1233	0	Standard
Mn	55	7.145	ug/L	0.218	3	582	231072	1	Standard
> Ge-1	72		ug/L			52065	54649	0	KED
Co	59	0.119	ug/L	0.013	10	7	493	11	KED
Ni	60	0.541	ug/L	0.030	5	3	629	5	KED
Ni	62	0.503	ug/L	0.065	12	1	90	13	KED
Cu	63	0.524	ug/L	0.014	2	34	1623	2	KED
Cu	65	0.525	ug/L	0.025	4	21	797	4	KED
Zn	66	5.764	ug/L	0.106	1	125	2162	1	KED
Zn	67	5.562	ug/L	0.234	4	15	336	4	KED
Zn	68	5.557	ug/L	0.140	2	96	1582	2	KED
As	75	0.028	ug/L	0.012	44	3	9	27	KED
Se-1	78	0.013	ug/L	0.052	417	10	10	11	KED
Y	89		ug/L			834388	871716	2	Standard
Kr	83		ug/L			100	109	12	Standard
> In-1	115		ug/L			16218	17528	1	KED
Mo	98	0.440	ug/L	0.037	8	6	407	8	KED
Cd	111	0.001	ug/L	0.008	881	1	1	124	KED
Cd	114	0.000	ug/L	0.002	442	1	2	55	KED
> In	115		ug/L			1082385	1169300	0	Standard
Ag	107	0.002	ug/L	0.002	115	52	88	41	Standard
Sb	121	0.045	ug/L	0.002	4	44	720	4	Standard
Sb	123	0.044	ug/L	0.003	7	39	557	7	Standard
Ba	135	0.392	ug/L	0.021	5	30	1847	5	Standard
Ba	137	0.389	ug/L	0.004	1	46	3184	0	Standard
> Tb	159		ug/L			1222564	1302098	3	Standard
Tl	205	0.011	ug/L	0.000	4	17	389	7	Standard
Pb	208	0.124	ug/L	0.002	1	261	5703	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 AQ REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 13:53:59
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	81813	4	Standard
	Cl	37		mg/L			5416204	5559878	1	Standard
>	Sc	45		ug/L			1335545	1416351	3	Standard
	Cr	52	**0.412**	ug/L	0.102	24	33387	44753	4	Standard
	Cr	53	**0.361**	ug/L	0.008	2	221	1217	2	Standard
	Mn	55	**7.292**	ug/L	0.492	6	582	236361	3	Standard
>	Ge-1	72		ug/L			52065	54276	0	KED
	Co	59	**0.121**	ug/L	0.004	3	7	497	3	KED
	Ni	60	**0.531**	ug/L	0.025	4	3	613	4	KED
	Ni	62	**0.607**	ug/L	0.029	4	1	108	4	KED
	Cu	63	**0.595**	ug/L	0.019	3	34	1825	3	KED
	Cu	65	**0.579**	ug/L	0.025	4	21	869	4	KED
	Zn	66	**6.245**	ug/L	0.211	3	125	2316	3	KED
	Zn	67	**6.104**	ug/L	0.529	8	15	365	8	KED
	Zn	68	**5.715**	ug/L	0.098	1	96	1613	1	KED
	As	75	**0.043**	ug/L	0.009	21	3	13	15	KED
	Se-1	78	**0.002**	ug/L	0.087	3931	10	10	19	KED
	Y	89		ug/L			834388	916411	3	Standard
	Kr	83		ug/L			100	89	22	Standard
>	In-1	115		ug/L			16218	17510	2	KED
	Mo	98	**0.456**	ug/L	0.013	2	6	421	3	KED
	Cd	111	**0.002**	ug/L	0.000	9	1	1		KED
	Cd	114	**0.001**	ug/L	0.002	159	1	2	49	KED
>	In	115		ug/L			1082385	1180241	3	Standard
	Ag	107	**0.001**	ug/L	0.001	98	52	73	19	Standard
	Sb	121	**0.041**	ug/L	0.003	6	44	675	2	Standard
	Sb	123	**0.041**	ug/L	0.001	2	39	517	2	Standard
	Ba	135	**0.400**	ug/L	0.015	3	30	1901	6	Standard
	Ba	137	**0.407**	ug/L	0.017	4	46	3354	2	Standard
>	Tb	159		ug/L			1222564	1311801	2	Standard
	Tl	205	**0.005**	ug/L	0.001	19	17	198	17	Standard
	Pb	208	**0.131**	ug/L	0.008	6	261	6064	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 AQSPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 13:58:51
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	85078	3	Standard
Cl	37		mg/L			5416204	5756253	3	Standard
> Sc	45		ug/L			1335545	1467116	2	Standard
Cr	52	25.716	ug/L	0.844	3	33387	641705	0	Standard
Cr	53	25.656	ug/L	0.986	3	221	72604	2	Standard
Mn	55	32.399	ug/L	1.030	3	582	1086627	1	Standard
> Ge-1	72		ug/L			52065	55441	0	KED
Co	59	25.324	ug/L	0.536	2	7	104564	2	KED
Ni	60	25.785	ug/L	0.385	1	3	30273	1	KED
Ni	62	25.838	ug/L	0.508	1	1	4661	1	KED
Cu	63	26.979	ug/L	0.366	1	34	82868	1	KED
Cu	65	26.648	ug/L	0.799	2	21	39896	3	KED
Zn	66	74.012	ug/L	1.696	2	125	26585	1	KED
Zn	67	69.636	ug/L	1.217	1	15	4078	1	KED
Zn	68	72.806	ug/L	0.842	1	96	19789	1	KED
As	75	22.118	ug/L	0.418	1	3	4949	1	KED
Se-1	78	62.883	ug/L	0.542	0	10	1549	1	KED
Y	89		ug/L			834388	944223	3	Standard
Kr	83		ug/L			100	110	16	Standard
> In-1	115		ug/L			16218	17948	1	KED
Mo	98	0.452	ug/L	0.048	10	6	429	12	KED
Cd	111	22.473	ug/L	0.535	2	1	5855	0	KED
Cd	114	22.618	ug/L	1.102	4	1	15209	2	KED
> In	115		ug/L			1082385	1183230	1	Standard
Ag	107	25.781	ug/L	0.952	3	52	521486	2	Standard
Sb	121	0.043	ug/L	0.002	3	44	704	2	Standard
Sb	123	0.043	ug/L	0.003	5	39	546	4	Standard
Ba	135	25.531	ug/L	0.621	2	30	119438	1	Standard
Ba	137	25.358	ug/L	0.368	1	46	206755	2	Standard
> Tb	159		ug/L			1222564	1338627	2	Standard
Tl	205	25.214	ug/L	0.531	2	17	890752	2	Standard
Pb	208	26.064	ug/L	0.736	2	261	1173351	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 ADUP SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 14:06:26
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	80646	2	Standard
	Cl	37		mg/L			5416204	5817060	2	Standard
⌈>	Sc	45		ug/L			1335545	1533831	0	Standard
|	Cr	52	**14.694**	ug/L	0.175	1	33387	399952	0	Standard
|	Cr	53	**14.376**	ug/L	0.331	2	221	42657	1	Standard
⌊	Mn	55	**224.264**	ug/L	2.113	0	582	7862855	0	Standard
⌈>	Ge-1	72		ug/L			52065	52814	2	KED
|	Co	59	**8.798**	ug/L	0.310	3	7	34593	2	KED
|	Ni	60	**15.463**	ug/L	0.323	2	3	17291	1	KED
|	Ni	62	**15.871**	ug/L	0.455	2	1	2727	2	KED
|	Cu	63	**19.829**	ug/L	0.339	1	34	58015	1	KED
|	Cu	65	**19.514**	ug/L	0.262	1	21	27828	1	KED
|	Zn	66	**45.453**	ug/L	2.233	4	125	15592	2	KED
|	Zn	67	**46.572**	ug/L	1.187	2	15	2604	3	KED
|	Zn	68	**47.592**	ug/L	0.908	1	96	12355	2	KED
|	As	75	**4.886**	ug/L	0.154	3	3	1044	1	KED
⌊	Se-1	78	**1.586**	ug/L	0.114	7	10	47	6	KED
	Y	89		ug/L			834388	1378275	1	Standard
	Kr	83		ug/L			100	212	5	Standard
⌈>	In-1	115		ug/L			16218	16782	1	KED
|	Mo	98	**0.331**	ug/L	0.015	4	6	295	5	KED
|	Cd	111	**0.055**	ug/L	0.015	28	1	14	24	KED
⌊	Cd	114	**0.051**	ug/L	0.008	16	1	34	15	KED
⌈>	In	115		ug/L			1082385	1111273	2	Standard
|	Ag	107	**0.084**	ug/L	0.002	2	52	1657	0	Standard
|	Sb	121	**0.022**	ug/L	0.001	2	44	360	0	Standard
|	Sb	123	**0.020**	ug/L	0.003	15	39	255	10	Standard
|	Ba	135	**52.318**	ug/L	2.113	4	30	229739	2	Standard
⌊	Ba	137	**52.554**	ug/L	1.866	3	46	402139	1	Standard
⌈>	Tb	159		ug/L			1222564	1294923	1	Standard
|	Tl	205	**0.082**	ug/L	0.003	3	17	2834	4	Standard
⌊	Pb	208	**6.064**	ug/L	0.179	2	261	264375	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 A SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 14:11:18
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	78657	4	Standard
	Cl	37		mg/L			5416204	5820466	0	Standard
>	Sc	45		ug/L			1335545	1501686	0	Standard
	Cr	52	16.128	ug/L	0.430	2	33387	426117	2	Standard
	Cr	53	16.141	ug/L	0.134	0	221	46867	1	Standard
	Mn	55	240.605	ug/L	4.270	1	582	8258938	1	Standard
>	Ge-1	72		ug/L			52065	52861	1	KED
	Co	59	9.623	ug/L	0.094	0	7	37890	1	KED
	Ni	60	17.516	ug/L	0.119	0	3	19609	0	KED
	Ni	62	17.816	ug/L	0.403	2	1	3064	1	KED
	Cu	63	22.057	ug/L	0.822	3	34	64582	2	KED
	Cu	65	21.129	ug/L	0.303	1	21	30164	2	KED
	Zn	66	48.456	ug/L	1.138	2	125	16640	2	KED
	Zn	67	49.987	ug/L	2.749	5	15	2795	4	KED
	Zn	68	48.673	ug/L	2.072	4	96	12643	3	KED
	As	75	5.367	ug/L	0.131	2	3	1147	1	KED
	Se-1	78	1.425	ug/L	0.372	26	10	43	18	KED
	Y	89		ug/L			834388	1353521	1	Standard
	Kr	83		ug/L			100	202	0	Standard
>	In-1	115		ug/L			16218	16543	1	KED
	Mo	98	0.325	ug/L	0.027	8	6	286	6	KED
	Cd	111	0.082	ug/L	0.007	8	1	20	9	KED
	Cd	114	0.081	ug/L	0.005	6	1	52	6	KED
>	In	115		ug/L			1082385	1094841	1	Standard
	Ag	107	0.111	ug/L	0.007	6	52	2125	4	Standard
	Sb	121	0.016	ug/L	0.003	17	44	277	12	Standard
	Sb	123	0.015	ug/L	0.003	16	39	203	14	Standard
	Ba	135	54.326	ug/L	0.891	1	30	235124	0	Standard
	Ba	137	53.321	ug/L	1.960	3	46	402055	2	Standard
>	Tb	159		ug/L			1222564	1275274	1	Standard
	Tl	205	0.079	ug/L	0.004	5	17	2661	4	Standard
	Pb	208	6.617	ug/L	0.236	3	261	283948	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 ASPK SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 14:16:09
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	77110	0	Standard
	Cl	37		mg/L			5416204	5851358	1	Standard
>	Sc	45		ug/L			1335545	1560031	1	Standard
	Cr	52	**41.566**	ug/L	1.174	2	33387	1079099	1	Standard
	Cr	53	**41.218**	ug/L	1.279	3	221	123883	1	Standard
	Mn	55	**241.214**	ug/L	8.633	3	582	8598591	2	Standard
>	Ge-1	72		ug/L			52065	53148	4	KED
	Co	59	**34.877**	ug/L	1.689	4	7	137870	1	KED
	Ni	60	**43.777**	ug/L	2.729	6	3	49191	2	KED
	Ni	62	**45.139**	ug/L	3.670	8	1	7790	4	KED
	Cu	63	**49.471**	ug/L	1.970	3	34	145480	0	KED
	Cu	65	**49.359**	ug/L	2.062	4	21	70737	0	KED
	Zn	66	**130.574**	ug/L	6.182	4	125	44811	0	KED
	Zn	67	**131.250**	ug/L	6.827	5	15	7345	1	KED
	Zn	68	**128.293**	ug/L	5.795	4	96	33314	0	KED
	As	75	**29.963**	ug/L	1.077	3	3	6421	0	KED
	Se-1	78	**77.107**	ug/L	3.046	3	10	1817	0	KED
	Y	89		ug/L			834388	1365816	2	Standard
	Kr	83		ug/L			100	201	6	Standard
>	In-1	115		ug/L			16218	16697	2	KED
	Mo	98	**0.453**	ug/L	0.009	2	6	399	4	KED
	Cd	111	**25.584**	ug/L	0.816	3	1	6199	1	KED
	Cd	114	**25.281**	ug/L	0.711	2	1	15818	1	KED
>	In	115		ug/L			1082385	1107184	2	Standard
	Ag	107	**21.292**	ug/L	1.176	5	52	402741	2	Standard
	Sb	121	**0.017**	ug/L	0.002	9	44	295	7	Standard
	Sb	123	**0.019**	ug/L	0.001	5	39	245	2	Standard
	Ba	135	**85.934**	ug/L	2.479	2	30	375974	0	Standard
	Ba	137	**83.097**	ug/L	2.446	2	46	633575	1	Standard
>	Tb	159		ug/L			1222564	1259840	4	Standard
	Tl	205	**25.102**	ug/L	0.444	1	17	834246	2	Standard
	Pb	208	**35.577**	ug/L	0.516	1	261	1506724	2	Standard

AVZ9 : 98605

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 MB1SPK SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 14:22:05
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	78183	5	Standard
Cl	37		mg/L			5416204	5810182	2	Standard
> Sc	45		ug/L			1335545	1394488	3	Standard
Cr	52	25.974	ug/L	0.745	2	33387	615702	1	Standard
Cr	53	25.151	ug/L	0.588	2	221	67653	1	Standard
Mn	55	25.866	ug/L	0.537	2	582	824961	3	Standard
> Ge-1	72		ug/L			52065	53533	2	KED
Co	59	24.720	ug/L	0.659	2	7	98515	1	KED
Ni	60	26.105	ug/L	0.921	3	3	29579	1	KED
Ni	62	25.898	ug/L	1.400	5	1	4508	3	KED
Cu	63	26.549	ug/L	0.353	1	34	78725	1	KED
Cu	65	26.341	ug/L	0.626	2	21	38061	0	KED
Zn	66	81.490	ug/L	2.934	3	125	28239	2	KED
Zn	67	79.306	ug/L	1.401	1	15	4481	1	KED
Zn	68	80.046	ug/L	3.348	4	96	20986	2	KED
As	75	24.540	ug/L	0.722	2	3	5300	1	KED
Se-1	78	78.163	ug/L	3.519	4	10	1855	2	KED
Y	89		ug/L			834388	876755	2	Standard
Kr	83		ug/L			100	106	10	Standard
> In-1	115		ug/L			16218	16850	2	KED
Mo	98	0.011	ug/L	0.002	14	6	16	6	KED
Cd	111	25.359	ug/L	0.647	2	1	6202	0	KED
Cd	114	24.999	ug/L	0.728	2	1	15784	0	KED
> In	115		ug/L			1082385	1161687	1	Standard
Ag	107	25.434	ug/L	0.490	1	52	505221	2	Standard
Sb	121	0.009	ug/L	0.001	9	44	175	5	Standard
Sb	123	0.005	ug/L	0.002	44	39	99	27	Standard
Ba	135	24.729	ug/L	0.678	2	30	113563	1	Standard
Ba	137	24.536	ug/L	0.395	1	46	196368	0	Standard
> Tb	159		ug/L			1222564	1263772	0	Standard
Tl	205	26.449	ug/L	1.382	5	17	882161	5	Standard
Pb	208	27.347	ug/L	1.580	5	261	1162064	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 MB2SPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 14:26:56
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	81484	3	Standard
Cl	37		mg/L			5416204	5758246	2	Standard
> Sc	45		ug/L			1335545	1408792	2	Standard
Cr	52	24.816	ug/L	0.551	2	33387	596033	1	Standard
Cr	53	24.306	ug/L	0.184	0	221	66084	1	Standard
Mn	55	25.354	ug/L	0.408	1	582	816871	0	Standard
> Ge-1	72		ug/L			52065	53929	2	KED
Co	59	24.247	ug/L	1.029	4	7	97311	1	KED
Ni	60	25.228	ug/L	0.752	2	3	28802	2	KED
Ni	62	26.015	ug/L	0.833	3	1	4562	0	KED
Cu	63	26.111	ug/L	1.111	4	34	77955	1	KED
Cu	65	25.011	ug/L	0.836	3	21	36399	0	KED
Zn	66	77.319	ug/L	1.298	1	125	27007	2	KED
Zn	67	74.609	ug/L	2.561	3	15	4247	1	KED
Zn	68	73.926	ug/L	3.624	4	96	19527	2	KED
As	75	23.772	ug/L	0.431	1	3	5173	0	KED
Se-1	78	73.738	ug/L	2.967	4	10	1764	3	KED
Y	89		ug/L			834388	875265	1	Standard
Kr	83		ug/L			100	108	15	Standard
> In-1	115		ug/L			16218	17125	0	KED
Mo	98	0.010	ug/L	0.008	76	6	16	43	KED
Cd	111	23.614	ug/L	0.316	1	1	5872	1	KED
Cd	114	23.756	ug/L	0.490	2	1	15251	2	KED
> In	115		ug/L			1082385	1153295	0	Standard
Ag	107	25.415	ug/L	0.136	0	52	501201	0	Standard
Sb	121	0.009	ug/L	0.002	16	44	187	12	Standard
Sb	123	0.005	ug/L	0.000	3	39	98	1	Standard
Ba	135	24.401	ug/L	0.186	0	30	111276	0	Standard
Ba	137	24.348	ug/L	0.367	1	46	193483	1	Standard
> Tb	159		ug/L			1222564	1289300	1	Standard
Tl	205	25.361	ug/L	1.394	5	17	862590	4	Standard
Pb	208	26.467	ug/L	1.121	4	261	1147227	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV3
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 14:32:53
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens	Intens. RSD	Mode
	C	13		ug/L			69959	71689	2	Standard
	Cl	37		mg/L			5416204	5955308	0	Standard
>	Sc	45		ug/L			1335545	1366263	0	Standard
	Cr	52	50.045	ug/L	1.205	2	33387	1131108	1	Standard
	Cr	53	49.647	ug/L	0.757	1	221	130672	0	Standard
	Mn	55	50.183	ug/L	0.881	1	582	1567619	0	Standard
>	Ge-1	72		ug/L			52065	52967	1	KED
	Co	59	49.125	ug/L	1.531	3	7	193729	2	KED
	Ni	60	49.248	ug/L	0.678	1	3	55243	2	KED
	Ni	62	51.267	ug/L	0.749	1	1	8833	1	KED
	Cu	63	49.956	ug/L	0.741	1	34	146553	1	KED
	Cu	65	49.901	ug/L	0.528	1	21	71341	0	KED
	Zn	66	50.585	ug/L	0.752	1	125	17399	1	KED
	Zn	67	53.448	ug/L	0.674	1	15	2994	1	KED
	Zn	68	49.609	ug/L	1.784	3	96	12909	2	KED
	As	75	49.478	ug/L	0.496	1	3	10574	1	KED
	Se-1	78	49.138	ug/L	2.520	5	10	1158	3	KED
	Y	89		ug/L			834388	881155	2	Standard
	Kr	83		ug/L			100	106	12	Standard
>	In-1	115		ug/L			16218	16901	1	KED
	Mo	98	48.238	ug/L	1.328	2	6	42357	1	KED
	Cd	111	49.755	ug/L	1.484	2	1	12207	1	KED
	Cd	114	49.785	ug/L	1.396	2	1	31538	2	KED
>	In	115		ug/L			1082385	1108454	1	Standard
	Ag	107	49.477	ug/L	1.656	3	52	937484	2	Standard
	Sb	121	52.677	ug/L	1.367	2	44	753303	0	Standard
	Sb	123	52.098	ug/L	1.526	2	39	573223	1	Standard
	Ba	135	51.399	ug/L	1.336	2	30	225188	0	Standard
	Ba	137	51.046	ug/L	0.628	1	46	389779	0	Standard
>	Tb	159		ug/L			1222564	1277717	1	Standard
	Tl	205	48.704	ug/L	1.263	2	17	1642608	3	Standard
	Pb	208	52.171	ug/L	0.726	1	261	2241656	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB3
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 14:40:29
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	74733	3	Standard
	Cl	37		mg/L			5416204	5661280	1	Standard
>	Sc	45		ug/L			1335545	1333624	0	Standard
	Cr	52	0.062	ug/L	0.024	39	33387	34655	1	Standard
	Cr	53	0.002	ug/L	0.007	340	221	226	8	Standard
	Mn	55	0.044	ug/L	0.001	3	582	1916	1	Standard
>	Ge-1	72		ug/L			52065	51847	0	KED
	Co	59	0.002	ug/L	0.001	46	7	13	20	KED
	Ni	60	0.013	ug/L	0.002	14	3	17	11	KED
	Ni	62	0.023	ug/L	0.029	125	1	5	94	KED
	Cu	63	0.360	ug/L	0.022	6	34	1068	5	KED
	Cu	65	0.354	ug/L	0.020	5	21	516	4	KED
	Zn	66	0.097	ug/L	0.069	71	125	157	14	KED
	Zn	67	0.036	ug/L	0.078	218	15	17	24	KED
	Zn	68	0.084	ug/L	0.058	69	96	117	13	KED
	As	75	0.005	ug/L	0.011	201	3	4	48	KED
	Se-1	78	0.113	ug/L	0.062	54	10	12	11	KED
	Y	89		ug/L			834388	835396	2	Standard
	Kr	83		ug/L			100	100	13	Standard
>	In-1	115		ug/L			16218	16457	2	KED
	Mo	98	0.043	ug/L	0.011	25	6	43	18	KED
	Cd	111	0.003	ug/L	0.004	150	1	1	50	KED
	Cd	114	0.004	ug/L	0.001	38	1	4	23	KED
>	In	115		ug/L			1082385	1117029	0	Standard
	Ag	107	0.001	ug/L	0.000	57	52	65	9	Standard
	Sb	121	0.026	ug/L	0.002	6	44	419	4	Standard
	Sb	123	0.023	ug/L	0.001	3	39	293	3	Standard
	Ba	135	-0.002	ug/L	0.002	127	30	24	35	Standard
	Ba	137	0.001	ug/L	0.000	41	46	54	5	Standard
>	Tb	159		ug/L			1222564	1240685	2	Standard
	Tl	205	0.011	ug/L	0.001	6	17	375	8	Standard
	Pb	208	0.014	ug/L	0.001	4	261	863	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWY4 MB REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 14:46:12
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	76576	6	Standard
Cl	37		mg/L			5416204	5498569	2	Standard
> Sc	45		ug/L			1335545	1391280	3	Standard
Cr	52	0.072	ug/L	0.041	57	33387	36368	2	Standard
Cr	53	0.013	ug/L	0.001	5	221	266	4	Standard
Mn	55	0.015	ug/L	0.001	8	582	1093	2	Standard
> Ge-1	72		ug/L			52065	52607	0	KED
Co	59	0.002	ug/L	0.001	69	7	14	32	KED
Ni	60	0.009	ug/L	0.007	81	3	12	60	KED
Ni	62	0.004	ug/L	0.000	2	1	1		KED
Cu	63	0.017	ug/L	0.003	17	34	83	9	KED
Cu	65	0.023	ug/L	0.007	29	21	53	18	KED
Zn	66	-0.072	ug/L	0.076	106	125	102	25	KED
Zn	67	-0.072	ug/L	0.098	135	15	12	45	KED
Zn	68	-0.071	ug/L	0.028	39	96	79	9	KED
As	75	-0.000	ug/L	0.002	1329	3	3	15	KED
Se-1	78	0.125	ug/L	0.135	107	10	13	24	KED
Y	89		ug/L			834388	877825	2	Standard
Kr	83		ug/L			100	90	11	Standard
> In-1	115		ug/L			16218	17012	0	KED
Mo	98	0.044	ug/L	0.009	19	6	46	16	KED
Cd	111	0.004	ug/L	0.006	163	1	2	65	KED
Cd	114	0.002	ug/L	0.003	207	1	2	71	KED
> In	115		ug/L			1082385	1140228	3	Standard
Ag	107	0.002	ug/L	0.000	10	52	92	6	Standard
Sb	121	0.011	ug/L	0.000	3	44	210	4	Standard
Sb	123	0.012	ug/L	0.003	26	39	179	23	Standard
Ba	135	0.000	ug/L	0.003	1374	30	33	35	Standard
Ba	137	0.001	ug/L	0.002	246	46	55	32	Standard
> Tb	159		ug/L			1222564	1280442	1	Standard
Tl	205	0.018	ug/L	0.001	7	17	612	8	Standard
Pb	208	0.003	ug/L	0.000	13	261	419	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AXA1 MB REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 14:51:04
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	77315	2	Standard
	Cl	37		mg/L			5416204	5532722	0	Standard
⌈>	Sc	45		ug/L			1335545	1368735	1	Standard
|	Cr	52	**0.117**	ug/L	0.025	21	33387	36781	0	Standard
|	Cr	53	**0.009**	ug/L	0.003	30	221	251	3	Standard
⌊	Mn	55	**0.037**	ug/L	0.002	4	582	1768	1	Standard
⌈>	Ge-1	72		ug/L			52065	53814	5	KED
|	Co	59	**0.001**	ug/L	0.001	143	7	11	44	KED
|	Ni	60	**0.005**	ug/L	0.004	73	3	9	52	KED
|	Ni	62	**-0.000**	ug/L	0.006	1541	1	1	86	KED
|	Cu	63	**0.013**	ug/L	0.003	23	34	74	8	KED
|	Cu	65	**0.013**	ug/L	0.005	36	21	41	21	KED
|	Zn	66	**-0.109**	ug/L	0.079	72	125	92	29	KED
|	Zn	67	**-0.001**	ug/L	0.087	7449	15	16	35	KED
|	Zn	68	**-0.063**	ug/L	0.058	93	96	83	17	KED
|	As	75	**-0.004**	ug/L	0.003	64	3	2	20	KED
⌊	Se-1	78	**-0.027**	ug/L	0.011	40	10	9	2	KED
	Y	89		ug/L			834388	856078	1	Standard
	Kr	83		ug/L			100	92	2	Standard
⌈>	In-1	115		ug/L			16218	17422	0	KED
|	Mo	98	**0.013**	ug/L	0.005	35	6	19	22	KED
|	Cd	111	**0.001**	ug/L	0.002	247	1	1	34	KED
⌊	Cd	114	**-0.002**	ug/L	0.002	97	1	0	122	KED
⌈>	In	115		ug/L			1082385	1132853	0	Standard
|	Ag	107	**0.002**	ug/L	0.001	49	52	88	19	Standard
|	Sb	121	**0.006**	ug/L	0.001	20	44	140	12	Standard
|	Sb	123	**0.007**	ug/L	0.001	16	39	118	11	Standard
|	Ba	135	**0.001**	ug/L	0.003	246	30	37	36	Standard
⌊	Ba	137	**0.000**	ug/L	0.001	2124	46	48	15	Standard
⌈>	Tb	159		ug/L			1222564	1281468	2	Standard
|	Tl	205	**0.007**	ug/L	0.001	11	17	247	11	Standard
⌊	Pb	208	**0.003**	ug/L	0.000	12	261	382	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWY5 MB REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 14:55:56
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	73868	6	Standard
	Cl	37		mg/L			5416204	5544828	0	Standard
>	Sc	45		ug/L			1335545	1377287	1	Standard
	Cr	52	0.048	ug/L	0.018	37	33387	35489	1	Standard
	Cr	53	0.015	ug/L	0.002	14	221	267	2	Standard
	Mn	55	0.033	ug/L	0.003	8	582	1636	6	Standard
>	Ge-1	72		ug/L			52065	52733	0	KED
	Co	59	0.007	ug/L	0.004	59	7	36	46	KED
	Ni	60	0.010	ug/L	0.006	61	3	13	47	KED
	Ni	62	0.030	ug/L	0.026	87	1	6	69	KED
	Cu	63	0.109	ug/L	0.018	16	34	354	13	KED
	Cu	65	0.107	ug/L	0.016	14	21	173	13	KED
	Zn	66	0.053	ug/L	0.058	108	125	145	13	KED
	Zn	67	0.065	ug/L	0.123	187	15	19	33	KED
	Zn	68	0.055	ug/L	0.063	115	96	111	13	KED
	As	75	0.006	ug/L	0.011	169	3	4	47	KED
	Se-1	78	0.145	ug/L	0.069	47	10	13	11	KED
	Y	89		ug/L			834388	868535	0	Standard
	Kr	83		ug/L			100	92	6	Standard
>	In-1	115		ug/L			16218	16580	1	KED
	Mo	98	0.005	ug/L	0.002	46	6	11	17	KED
	Cd	111	0.002	ug/L	0.004	154	1	1	50	KED
	Cd	114	0.002	ug/L	0.007	427	1	2	142	KED
>	In	115		ug/L			1082385	1141029	0	Standard
	Ag	107	0.005	ug/L	0.001	19	52	158	12	Standard
	Sb	121	0.006	ug/L	0.001	8	44	140	5	Standard
	Sb	123	0.005	ug/L	0.002	37	39	102	22	Standard
	Ba	135	0.012	ug/L	0.002	13	30	88	8	Standard
	Ba	137	0.012	ug/L	0.002	15	46	139	10	Standard
>	Tb	159		ug/L			1222564	1272506	1	Standard
	Tl	205	0.010	ug/L	0.001	7	17	340	5	Standard
	Pb	208	0.008	ug/L	0.001	16	261	635	9	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWY5 A REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 15:00:47

Rf Zn

Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	79236	4	Standard
Cl	37		mg/L			5416204	5837932	0	Standard
> Sc	45		ug/L			1335545	1495038	0	Standard
Cr	52	7.973	ug/L	0.405	5	33387	228623	4	Standard
Cr	53	8.272	ug/L	0.573	6	221	24038	7	Standard
Mn	55	130.033	ug/L	3.430	2	582	4444015	2	Standard
> Ge-1	72		ug/L			52065	54244	1	KED
Co	59	2.613	ug/L	0.037	1	7	10561	2	KED
Ni	60	5.598	ug/L	1.333	23	3	6419	22	KED
Ni	62	5.455	ug/L	1.018	18	1	962	17	KED
Cu	63	174.294	ug/L	1.692	0	34	523523	0	KED
Cu	65	173.927	ug/L	4.189	2	21	254556	0	KED
Zn	66	528.155	ug/L	17.739	3	125	184756	1	KED
Zn	67	492.008	ug/L	11.891	2	15	28088	0	KED
Zn	68	488.335	ug/L	10.301	2	96	129288	2	KED
As	75	0.146	ug/L	0.015	10	3	35	10	KED
Se-1	78	0.307	ug/L	0.031	10	10	17	5	KED
Y	89		ug/L			834388	1035049	3	Standard
Kr	83		ug/L			100	213	62	Standard
> In-1	115		ug/L			16218	17057	3	KED
Mo	98	3.424	ug/L	0.064	1	6	3040	2	KED
Cd	111	0.014	ug/L	0.006	42	1	4	34	KED
Cd	114	0.014	ug/L	0.008	54	1	11	49	KED
> In	115		ug/L			1082385	1141349	2	Standard
Ag	107	0.040	ug/L	0.007	18	52	838	14	Standard
Sb	121	0.134	ug/L	0.013	9	44	2023	6	Standard
Sb	123	0.139	ug/L	0.002	1	39	1621	1	Standard
Ba	135	1.202	ug/L	0.016	1	30	5455	2	Standard
Ba	137	1.254	ug/L	0.014	1	46	9908	1	Standard
> Tb	159		ug/L			1222564	1291228	2	Standard
Tl	205	0.034	ug/L	0.002	5	17	1163	3	Standard
Pb	208	0.289	ug/L	0.007	2	261	12820	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWZ0 A REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 15:05:39
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	168732	2	Standard
Cl	37		mg/L			5416204	5881550	1	Standard
> Sc	45		ug/L			1335545	1350246	1	Standard
Cr	52	2.012	ug/L	0.028	1	33387	77333	1	Standard
Cr	53	1.619	ug/L	0.038	2	221	4427	0	Standard
Mn	55	62.419	ug/L	0.344	0	582	1927013	1	Standard
> Ge-1	72		ug/L			52065	43525	0	KED
Co	59	0.755	ug/L	0.041	5	7	2452	4	KED
Ni	60	8.538	ug/L	0.301	3	3	7870	2	KED
Ni	62	8.360	ug/L	0.146	1	1	1184	2	KED
Cu	63	0.896	ug/L	0.037	4	34	2188	3	KED
Cu	65	0.861	ug/L	0.035	4	21	1028	3	KED
Zn	66	3.578	ug/L	0.144	4	125	1109	4	KED
Zn	67	4.119	ug/L	0.011	0	15	201	0	KED
Zn	68	3.784	ug/L	0.177	4	96	883	3	KED
As	75	0.175	ug/L	0.015	8	3	33	6	KED
Se-1	78	0.243	ug/L	0.127	52	10	13	18	KED
Y	89		ug/L			834388	865917	2	Standard
Kr	83		ug/L			100	152	11	Standard
> In-1	115		ug/L			16218	14557	0	KED
Mo	98	1.987	ug/L	0.066	3	6	1509	2	KED
Cd	111	0.065	ug/L	0.013	20	1	14	19	KED
Cd	114	0.063	ug/L	0.011	17	1	36	17	KED
> In	115		ug/L			1082385	984284	2	Standard
Ag	107	0.006	ug/L	0.001	18	52	147	14	Standard
Sb	121	0.161	ug/L	0.007	4	44	2080	3	Standard
Sb	123	0.157	ug/L	0.008	5	39	1569	3	Standard
Ba	135	11.473	ug/L	0.170	1	30	44661	0	Standard
Ba	137	11.105	ug/L	0.324	2	46	75309	0	Standard
> Tb	159		ug/L			1222564	1166376	1	Standard
Tl	205	0.004	ug/L	0.000	12	17	134	11	Standard
Pb	208	0.138	ug/L	0.005	3	261	5651	2	Standard

AVZ9:68614

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AXA1 A REN
Sample Dil Factor: 10
Comments:
Sample Date/Time: Friday, March 04, 2016 15:11:34
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	124399	1	Standard
	Cl	37		mg/L			5416204	5721559	1	Standard
>	Sc	45		ug/L			1335545	1333232	1	Standard
	Cr	52	77.894	ug/L	1.170	1	33387	1699481	1	Standard
	Cr	53	77.052	ug/L	1.659	2	221	197800	2	Standard
	Mn	55	27.474	ug/L	1.337	4	582	837523	3	Standard
>	Ge-1	72		ug/L			52065	50840	1	KED
	Co	59	0.430	ug/L	0.030	7	7	1633	5	KED
	Ni	60	3.378	ug/L	0.143	4	3	3638	2	KED
	Ni	62	3.550	ug/L	0.160	4	1	588	6	KED
	Cu	63	6.227	ug/L	0.211	3	34	17559	1	KED
	Cu	65	6.157	ug/L	0.294	4	21	8464	3	KED
	Zn	66	105.304	ug/L	1.555	1	125	34631	0	KED
	Zn	67	97.232	ug/L	0.691	0	15	5216	1	KED
	Zn	68	99.038	ug/L	3.134	3	96	24644	1	KED
	As	75	0.102	ug/L	0.010	9	3	24	9	KED
	Se-1	78	0.166	ug/L	0.061	36	10	13	11	KED
	Y	89		ug/L			834388	856325	2	Standard
	Kr	83		ug/L			100	100	6	Standard
>	In-1	115		ug/L			16218	16708	2	KED
	Mo	98	0.712	ug/L	0.037	5	6	624	2	KED
	Cd	111	0.829	ug/L	0.052	6	1	202	4	KED
	Cd	114	0.885	ug/L	0.037	4	1	556	2	KED
>	In	115		ug/L			1082385	1076125	2	Standard
	Ag	107	0.138	ug/L	0.010	7	52	2592	5	Standard
	Sb	121	0.203	ug/L	0.009	4	44	2865	1	Standard
	Sb	123	0.211	ug/L	0.010	4	39	2289	2	Standard
	Ba	135	4.413	ug/L	0.094	2	30	18796	0	Standard
	Ba	137	4.442	ug/L	0.137	3	46	32965	2	Standard
>	Tb	159		ug/L			1222564	1229581	1	Standard
	Tl	205	0.003	ug/L	0.000	10	17	116	8	Standard
	Pb	208	0.138	ug/L	0.001	0	261	5970	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWY4 A REN
Sample Dil Factor: 10
Comments:
Sample Date/Time: Friday, March 04, 2016 15:16:26

Del

Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	378731	2	Standard
Cl	37		mg/L			5416204	5767765	2	Standard
> Sc	45		ug/L			1335545	1367917	2	Standard
Cr	52	**5.713**	ug/L	0.460	8	33387	159453	4	Standard
Cr	53	**4.082**	ug/L	0.177	4	221	10959	2	Standard
Mn	55	**41.477**	ug/L	1.446	3	582	1296898	2	Standard
> Ge-1	72		ug/L			52065	49819	1	KED
Co	59	**0.664**	ug/L	0.030	4	7	2470	3	KED
Ni	60	**8.672**	ug/L	0.273	3	3	9148	1	KED
Ni	62	**8.754**	ug/L	0.421	4	1	1419	3	KED
Cu	63	**2.208**	ug/L	0.069	3	34	6121	1	KED
Cu	65	**2.208**	ug/L	0.064	2	21	2989	4	KED
Zn	66	**120.074**	ug/L	3.595	2	125	38671	1	KED
Zn	67	**109.356**	ug/L	2.386	2	15	5745	1	KED
Zn	68	**113.201**	ug/L	3.065	2	96	27589	1	KED
As	75	**0.062**	ug/L	0.005	7	3	15	6	KED
Se-1	78	**0.165**	ug/L	0.150	90	10	13	23	KED
Y	89		ug/L			834388	863729	1	Standard
Kr	83		ug/L			100	116	1	Standard
> In-1	115		ug/L			16218	16014	2	KED
Mo	98	**0.309**	ug/L	0.095	30	6	262	27	KED
Cd	111	**0.347**	ug/L	0.009	2	1	81	5	KED
Cd	114	**0.343**	ug/L	0.036	10	1	207	10	KED
> In	115		ug/L			1082385	1061999	3	Standard
Ag	107	**0.004**	ug/L	0.001	22	52	128	16	Standard
Sb	121	**0.091**	ug/L	0.001	1	44	1294	3	Standard
Sb	123	**0.089**	ug/L	0.007	8	39	975	5	Standard
Ba	135	**9.477**	ug/L	0.311	3	30	39796	2	Standard
Ba	137	**9.441**	ug/L	0.373	3	46	69059	0	Standard
> Tb	159		ug/L			1222564	1217721	2	Standard
Tl	205	**0.001**	ug/L	0.000	37	17	53	28	Standard
Pb	208	**0.084**	ug/L	0.001	1	261	3692	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWY4 MBSPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 15:22:21
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	75963	4	Standard
	Cl	37		mg/L			5416204	6005435	2	Standard
⌈>	Sc	45		ug/L			1335545	1309157	1	Standard
|	Cr	52	25.974	ug/L	0.363	1	33387	578294	1	Standard
|	Cr	53	25.986	ug/L	0.863	3	221	65621	1	Standard
⌊	Mn	55	26.861	ug/L	0.536	1	582	804373	2	Standard
⌈>	Ge-1	72		ug/L			52065	50874	1	KED
|	Co	59	25.122	ug/L	0.586	2	7	95175	2	KED
|	Ni	60	25.627	ug/L	0.614	2	3	27605	1	KED
|	Ni	62	26.081	ug/L	0.442	1	1	4316	0	KED
|	Cu	63	26.931	ug/L	0.100	0	34	75902	0	KED
|	Cu	65	26.042	ug/L	0.839	3	21	35764	1	KED
|	Zn	66	80.015	ug/L	1.045	1	125	26363	0	KED
|	Zn	67	76.424	ug/L	5.504	7	15	4104	6	KED
|	Zn	68	75.511	ug/L	1.956	2	96	18827	1	KED
|	As	75	23.792	ug/L	0.299	1	3	4885	0	KED
⌊	Se-1	78	73.792	ug/L	0.897	1	10	1666	1	KED
	Y	89		ug/L			834388	851426	1	Standard
	Kr	83		ug/L			100	100	10	Standard
⌈>	In-1	115		ug/L			16218	16568	2	KED
|	Mo	98	0.007	ug/L	0.011	169	6	12	74	KED
|	Cd	111	24.145	ug/L	1.019	4	1	5805	2	KED
⌊	Cd	114	23.994	ug/L	0.841	3	1	14894	1	KED
⌈>	In	115		ug/L			1082385	1103904	1	Standard
|	Ag	107	26.520	ug/L	0.330	1	52	500623	2	Standard
|	Sb	121	0.004	ug/L	0.001	17	44	102	9	Standard
|	Sb	123	0.005	ug/L	0.000	8	39	93	6	Standard
|	Ba	135	25.204	ug/L	0.318	1	30	110005	0	Standard
⌊	Ba	137	25.315	ug/L	0.354	1	46	192540	0	Standard
⌈>	Tb	159		ug/L			1222564	1245069	1	Standard
|	Tl	205	25.950	ug/L	1.207	4	17	852416	3	Standard
⌊	Pb	208	27.472	ug/L	0.906	3	261	1150031	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AXA1 MBSPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 15:27:13
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	76051	4	Standard
Cl	37		mg/L			5416204	5901881	2	Standard
> Sc	45		ug/L			1335545	1301520	0	Standard
Cr	52	25.940	ug/L	0.472	1	33387	574246	1	Standard
Cr	53	25.569	ug/L	0.285	1	221	64219	1	Standard
Mn	55	26.357	ug/L	0.219	0	582	784694	1	Standard
> Ge-1	72		ug/L			52065	51952	0	KED
Co	59	24.608	ug/L	0.392	1	7	95204	1	KED
Ni	60	25.149	ug/L	0.584	2	3	27671	2	KED
Ni	62	24.929	ug/L	0.520	2	1	4214	2	KED
Cu	63	25.193	ug/L	0.203	0	34	72512	0	KED
Cu	65	25.301	ug/L	0.344	1	21	35494	1	KED
Zn	66	76.550	ug/L	2.380	3	125	25762	2	KED
Zn	67	73.773	ug/L	1.054	1	15	4048	1	KED
Zn	68	71.289	ug/L	1.580	2	96	18158	1	KED
As	75	23.528	ug/L	0.206	0	3	4933	0	KED
Se-1	78	72.474	ug/L	0.231	0	10	1671	0	KED
Y	89		ug/L			834388	830068	1	Standard
Kr	83		ug/L			100	97	4	Standard
> In-1	115		ug/L			16218	16537	1	KED
Mo	98	0.008	ug/L	0.007	88	6	13	43	KED
Cd	111	24.476	ug/L	0.905	3	1	5875	2	KED
Cd	114	23.393	ug/L	0.573	2	1	14498	0	KED
> In	115		ug/L			1082385	1085401	1	Standard
Ag	107	27.478	ug/L	0.409	1	52	509950	0	Standard
Sb	121	0.003	ug/L	0.000	7	44	90	3	Standard
Sb	123	0.003	ug/L	0.001	25	39	73	10	Standard
Ba	135	25.768	ug/L	0.210	0	30	110588	0	Standard
Ba	137	25.689	ug/L	0.465	1	46	192105	0	Standard
> Tb	159		ug/L			1222564	1254912	2	Standard
Tl	205	25.965	ug/L	0.441	1	17	859928	2	Standard
Pb	208	27.048	ug/L	0.432	1	261	1141662	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWY5 MBSPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 15:32:04
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			69959	75143	3	Standard
Cl	37		mg/L			5416204	6060565	3	Standard
> Sc	45		ug/L			1335545	1312727	0	Standard
Cr	52	24.677	ug/L	0.958	3	33387	552555	3	Standard
Cr	53	24.565	ug/L	0.512	2	221	62233	1	Standard
Mn	55	25.324	ug/L	0.923	3	582	760387	3	Standard
> Ge-1	72		ug/L			52065	51614	1	KED
Co	59	24.123	ug/L	0.478	1	7	92723	2	KED
Ni	60	24.738	ug/L	0.552	2	3	27036	2	KED
Ni	62	24.012	ug/L	0.929	3	1	4031	2	KED
Cu	63	25.338	ug/L	0.716	2	34	72435	1	KED
Cu	65	25.072	ug/L	0.904	3	21	34926	1	KED
Zn	66	75.553	ug/L	0.343	0	125	25264	1	KED
Zn	67	71.409	ug/L	3.976	5	15	3890	3	KED
Zn	68	72.858	ug/L	2.823	3	96	18427	1	KED
As	75	22.784	ug/L	0.575	2	3	4745	0	KED
Se-1	78	69.718	ug/L	1.316	1	10	1597	1	KED
Y	89		ug/L			834388	829313	1	Standard
Kr	83		ug/L			100	99	3	Standard
> In-1	115		ug/L			16218	16650	2	KED
Mo	98	0.004	ug/L	0.005	126	6	10	40	KED
Cd	111	22.991	ug/L	0.877	3	1	5555	1	KED
Cd	114	23.102	ug/L	0.820	3	1	14416	3	KED
> In	115		ug/L			1082385	1126348	1	Standard
Ag	107	25.657	ug/L	1.509	5	52	493874	4	Standard
Sb	121	0.002	ug/L	0.001	27	44	79	10	Standard
Sb	123	0.003	ug/L	0.001	26	39	71	12	Standard
Ba	135	24.324	ug/L	0.415	1	30	108320	1	Standard
Ba	137	23.878	ug/L	1.096	4	46	185233	3	Standard
> Tb	159		ug/L			1222564	1251618	1	Standard
Tl	205	25.158	ug/L	0.517	2	17	831108	2	Standard
Pb	208	26.066	ug/L	0.593	2	261	1097343	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV4
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 15:38:01
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	66124	3	Standard
	Cl	37		mg/L			5416204	5847740	2	Standard
>	Sc	45		ug/L			1335545	1280996	0	Standard
	Cr	52	51.779	ug/L	1.281	2	33387	1096145	1	Standard
	Cr	53	50.691	ug/L	0.723	1	221	125085	0	Standard
	Mn	55	50.705	ug/L	1.336	2	582	1485121	2	Standard
>	Ge-1	72		ug/L			52065	50612	1	KED
	Co	59	49.399	ug/L	0.807	1	7	186187	1	KED
	Ni	60	49.834	ug/L	1.127	2	3	53408	1	KED
	Ni	62	49.904	ug/L	1.511	3	1	8215	1	KED
	Cu	63	51.537	ug/L	1.050	2	34	144469	2	KED
	Cu	65	49.956	ug/L	0.572	1	21	68248	0	KED
	Zn	66	50.025	ug/L	0.349	0	125	16445	1	KED
	Zn	67	51.537	ug/L	3.033	5	15	2758	5	KED
	Zn	68	52.333	ug/L	0.630	1	96	13011	1	KED
	As	75	50.054	ug/L	0.645	1	3	10221	0	KED
	Se-1	78	50.159	ug/L	0.604	1	10	1130	1	KED
	Y	89		ug/L			834388	834138	3	Standard
	Kr	83		ug/L			100	85	15	Standard
>	In-1	115		ug/L			16218	16011	3	KED
	Mo	98	49.374	ug/L	2.165	4	6	41042	1	KED
	Cd	111	50.326	ug/L	1.789	3	1	11690	0	KED
	Cd	114	49.243	ug/L	2.765	5	1	29531	4	KED
>	In	115		ug/L			1082385	1103739	2	Standard
	Ag	107	48.516	ug/L	2.418	4	52	914755	2	Standard
	Sb	121	52.036	ug/L	1.491	2	44	740820	0	Standard
	Sb	123	51.687	ug/L	1.831	3	39	566093	1	Standard
	Ba	135	51.568	ug/L	1.393	2	30	224921	0	Standard
	Ba	137	50.656	ug/L	1.330	2	46	385033	0	Standard
>	Tb	159		ug/L			1222564	1269569	0	Standard
	Tl	205	48.876	ug/L	1.001	2	17	1637749	2	Standard
	Pb	208	51.546	ug/L	1.593	3	261	2200759	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB4
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 15:45:37
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			69959	68832	3	Standard
	Cl	37		mg/L			5416204	5563508	3	Standard
>	Sc	45		ug/L			1335545	1253849	0	Standard
	Cr	52	0.077	ug/L	0.065	84	33387	32896	3	Standard
	Cr	53	-0.000	ug/L	0.001	509	221	207	0	Standard
	Mn	55	0.054	ug/L	0.004	7	582	2084	5	Standard
>	Ge-1	72		ug/L			52065	51780	1	KED
	Co	59	0.001	ug/L	0.001	137	7	10	40	KED
	Ni	60	0.017	ug/L	0.006	31	3	22	26	KED
	Ni	62	0.004	ug/L	0.011	293	1	1	100	KED
	Cu	63	0.452	ug/L	0.022	4	34	1331	4	KED
	Cu	65	0.402	ug/L	0.004	1	21	582	0	KED
	Zn	66	0.167	ug/L	0.058	34	125	180	11	KED
	Zn	67	0.176	ug/L	0.111	63	15	25	24	KED
	Zn	68	0.103	ug/L	0.081	78	96	121	16	KED
	As	75	-0.001	ug/L	0.007	476	3	3	45	KED
	Se-1	78	-0.012	ug/L	0.063	526	10	9	15	KED
	Y	89		ug/L			834388	813161	3	Standard
	Kr	83		ug/L			100	79	16	Standard
>	In-1	115		ug/L			16218	16080	3	KED
	Mo	98	0.025	ug/L	0.007	26	6	27	20	KED
	Cd	111	0.002	ug/L	0.009	563	1	1	124	KED
	Cd	114	0.005	ug/L	0.005	91	1	5	57	KED
>	In	115		ug/L			1082385	1103660	1	Standard
	Ag	107	0.000	ug/L	0.000	171	52	59	14	Standard
	Sb	121	0.020	ug/L	0.002	9	44	325	8	Standard
	Sb	123	0.020	ug/L	0.000	0	39	259	1	Standard
	Ba	135	-0.002	ug/L	0.002	97	30	20	45	Standard
	Ba	137	0.002	ug/L	0.001	32	46	60	5	Standard
>	Tb	159		ug/L			1222564	1257578	1	Standard
	Tl	205	0.007	ug/L	0.001	13	17	242	10	Standard
	Pb	208	0.015	ug/L	0.001	9	261	916	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Blank
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 15:52:15
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L				65389	2	Standard
	Cl	37		mg/L				5638032	2	Standard
⌈>	Sc	45		ug/L				1280152	0	Standard
|	Cr	52		ug/L				32985	1	Standard
|	Cr	53		ug/L				204	7	Standard
⌊	Mn	55		ug/L				1641	2	Standard
⌈>	Ge-1	72		ug/L				51063	1	KED
|	Co	59		ug/L				15	57	KED
|	Ni	60		ug/L				17	22	KED
|	Ni	62		ug/L				1	86	KED
|	Cu	63		ug/L				1029	5	KED
|	Cu	65		ug/L				521	10	KED
|	Zn	66		ug/L				133	12	KED
|	Zn	67		ug/L				19	48	KED
|	Zn	68		ug/L				90	13	KED
|	As	75		ug/L				2	26	KED
⌊	Se-1	78		ug/L				11	28	KED
	Y	89		ug/L				806732	1	Standard
	Kr	83		ug/L				85	8	Standard
⌈>	In-1	115		ug/L				15859	0	KED
|	Mo	98		ug/L				15	26	KED
|	Cd	111		ug/L				0	173	KED
⌊	Cd	114		ug/L				2	123	KED
⌈>	In	115		ug/L				1112031	1	Standard
|	Ag	107		ug/L				62	16	Standard
|	Sb	121		ug/L				156	8	Standard
|	Sb	123		ug/L				105	11	Standard
|	Ba	135		ug/L				23	40	Standard
⌊	Ba	137		ug/L				45	30	Standard
⌈>	Tb	159		ug/L				1221778	0	Standard
|	Tl	205		ug/L				116	15	Standard
⌊	Pb	208		ug/L				755	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV5
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 15:57:07
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			65389	70011	6	Standard
Cl	37		mg/L			5638032	5733902	2	Standard
> Sc	45		ug/L			1280152	1293299	0	Standard
Cr	52	51.036	ug/L	1.501	2	32985	1092236	2	Standard
Cr	53	50.642	ug/L	1.258	2	204	126155	1	Standard
Mn	55	50.582	ug/L	1.882	3	1641	1496665	3	Standard
> Ge-1	72		ug/L			51063	51072	1	KED
Co	59	50.593	ug/L	0.562	1	15	192407	0	KED
Ni	60	49.355	ug/L	0.566	1	17	53388	0	KED
Ni	62	51.946	ug/L	1.843	3	1	8628	1	KED
Cu	63	52.075	ug/L	1.134	2	1029	148271	0	KED
Cu	65	50.058	ug/L	1.600	3	521	69503	2	KED
Zn	66	50.821	ug/L	1.316	2	133	16862	0	KED
Zn	67	52.760	ug/L	1.005	1	19	2854	1	KED
Zn	68	51.453	ug/L	0.541	1	90	12906	1	KED
As	75	50.513	ug/L	0.333	0	2	10408	1	KED
Se-1	78	50.407	ug/L	1.703	3	11	1147	3	KED
Y	89		ug/L			806732	803105	0	Standard
Kr	83		ug/L			85	92	6	Standard
> In-1	115		ug/L			15859	15784	3	KED
Mo	98	49.799	ug/L	1.802	3	15	40832	2	KED
Cd	111	51.398	ug/L	2.363	4	0	11768	1	KED
Cd	114	50.176	ug/L	2.170	4	2	29663	1	KED
> In	115		ug/L			1112031	1104484	2	Standard
Ag	107	49.355	ug/L	0.928	1	62	931796	0	Standard
Sb	121	51.364	ug/L	1.333	2	156	731950	0	Standard
Sb	123	51.010	ug/L	1.032	2	105	559281	0	Standard
Ba	135	50.733	ug/L	0.961	1	23	221472	1	Standard
Ba	137	49.733	ug/L	1.859	3	45	378206	1	Standard
> Tb	159		ug/L			1221778	1269153	1	Standard
Tl	205	48.220	ug/L	1.493	3	116	1615837	4	Standard
Pb	208	50.517	ug/L	0.740	1	755	2156830	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB5
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 16:04:44
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			65389	65015	1	Standard
Cl	37		mg/L			5638032	5420111	3	Standard
> Sc	45		ug/L			1280152	1253948	3	Standard
Cr	52	0.007	ug/L	0.058	846	32985	32425	1	Standard
Cr	53	0.002	ug/L	0 009	430	204	205	8	Standard
Mn	55	0.002	ug/L	0.002	107	1641	1671	1	Standard
> Ge-1	72		ug/L			51063	51551	1	KED
Co	59	-0.001	ug/L	0.001	53	15	10	28	KED
Ni	60	0.006	ug/L	0.002	41	17	24	12	KED
Ni	62	0.011	ug/L	0.013	114	1	3	69	KED
Cu	63	0.024	ug/L	0.017	71	1029	1107	3	KED
Cu	65	-0.011	ug/L	0.022	195	521	511	7	KED
Zn	66	-0.034	ug/L	0.023	67	133	123	5	KED
Zn	67	0.032	ug/L	0.041	129	19	21	10	KED
Zn	68	0.030	ug/L	0.053	178	90	99	12	KED
As	75	0.009	ug/L	0.005	52	2	4	21	KED
Se-1	78	0.086	ug/L	0.038	44	11	13	6	KED
Y	89		ug/L			806732	807368	2	Standard
Kr	83		ug/L			85	81	20	Standard
> In-1	115		ug/L			15859	15293	2	KED
Mo	98	0.031	ug/L	0.014	46	15	39	30	KED
Cd	111	0.004	ug/L	0.005	115	0	1	69	KED
Cd	114	0.000	ug/L	0.004	1251	2	2	90	KED
> In	115		ug/L			1112031	1098178	1	Standard
Ag	107	0.000	ug/L	0.001	550	62	64	17	Standard
Sb	121	0.026	ug/L	0.003	9	156	517	6	Standard
Sb	123	0.025	ug/L	0.004	17	105	372	11	Standard
Ba	135	0.001	ug/L	0.001	106	23	27	17	Standard
Ba	137	0.000	ug/L	0.001	1648	45	45	21	Standard
> Tb	159		ug/L			1221778	1233987	2	Standard
Tl	205	0.008	ug/L	0.001	7	116	368	3	Standard
Pb	208	-0.000	ug/L	0.002	477	755	747	7	Standard

AVZ3 : 0062H

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWY5 A REN
Sample Dil Factor: 5 Zn
Comments:
Sample Date/Time: Friday, March 04, 2016 16:09:54
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc RSD	Blank Intens.	Meas Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	71714	4	Standard
	Cl	37		mg/L			5638032	5412943	1	Standard
>	Sc	45		ug/L			1280152	1326471	1	Standard
	Cr	52	3.530	ug/L	0.280	7	32985	109237	3	Standard
	Cr	53	3.620	ug/L	0.248	6	204	9451	7	Standard
	Mn	55	56.115	ug/L	2.380	4	1641	1702340	2	Standard
>	Ge-1	72		ug/L			51063	51565	0	KED
	Co	59	1.022	ug/L	0.043	4	15	3940	4	KED
	Ni	60	1.705	ug/L	0.109	6	17	1879	5	KED
	Ni	62	1.821	ug/L	0.062	3	1	306	2	KED
	Cu	63	72.210	ug/L	0.957	1	1029	207237	1	KED
	Cu	65	71.480	ug/L	2.032	2	521	99987	2	KED
	Zn	66	230.596	ug/L	3.630	1	133	76790	1	KED
	Zn	67	211.188	ug/L	4.559	2	19	11478	2	KED
	Zn	68	214.671	ug/L	7.865	3	90	54073	3	KED
	As	75	0.064	ug/L	0.014	21	2	16	17	KED
	Se-1	78	0.057	ug/L	0.140	244	11	13	24	KED
	Y	89		ug/L			806732	859131	3	Standard
	Kr	83		ug/L			85	103	22	Standard
>	In-1	115		ug/L			15859	16029	2	KED
	Mo	98	1.392	ug/L	0.086	6	15	1175	5	KED
	Cd	111	0.015	ug/L	0.007	44	0	4	35	KED
	Cd	114	0.000	ug/L	0.002	884	2	2	40	KED
>	In	115		ug/L			1112031	1142345	1	Standard
	Ag	107	0.013	ug/L	0.000	3	62	313	3	Standard
	Sb	121	0.058	ug/L	0.002	2	156	1008	3	Standard
	Sb	123	0.059	ug/L	0.005	8	105	779	6	Standard
	Ba	135	0.501	ug/L	0.018	3	23	2288	4	Standard
	Ba	137	0.485	ug/L	0.006	1	45	3863	0	Standard
>	Tb	159		ug/L			1221778	1278255	2	Standard
	Tl	205	0.023	ug/L	0.001	2	116	889	0	Standard
	Pb	208	0.119	ug/L	0.006	4	755	5895	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWY4 A REN
Sample Dil Factor: 5
Comments:
Sample Date/Time: Friday, March 04, 2016 16:14:45
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	710374	4	Standard
	Cl	37		mg/L			5638032	5685941	1	Standard
⌈>	Sc	45		ug/L			1280152	1389899	1	Standard
|	Cr	52	11.465	ug/L	0 234	2	32985	291483	2	Standard
|	Cr	53	8.269	ug/L	0.181	2	204	22323	2	Standard
⌊	Mn	55	84.046	ug/L	2.352	2	1641	2671202	1	Standard
⌈>	Ge-1	72		ug/L			51063	46600	1	KED
|	Co	59	1.437	ug/L	0.050	3	15	4997	2	KED
|	Ni	60	18.696	ug/L	0.542	2	17	18458	0	KED
|	Ni	62	18.497	ug/L	0.361	1	1	2804	1	KED
|	Cu	63	4.122	ug/L	0.166	4	1029	11571	1	KED
|	Cu	65	4.145	ug/L	0.123	2	521	5688	2	KED
|	Zn	66	233.519	ug/L	6.621	2	133	70260	2	KED
|	Zn	67	219.904	ug/L	7.367	3	19	10795	1	KED
|	Zn	68	221.393	ug/L	2.883	1	90	50396	1	KED
|	As	75	0.103	ug/L	0.014	13	2	21	13	KED
⌊	Se-1	78	0.213	ug/L	0.095	44	11	15	11	KED
	Y	89		ug/L			806732	886487	0	Standard
	Kr	83		ug/L			85	115	21	Standard
⌈>	In-1	115		ug/L			15859	15310	2	KED
|	Mo	98	0.702	ug/L	0.025	3	15	574	5	KED
|	Cd	111	0.669	ug/L	0.086	12	0	149	11	KED
⌊	Cd	114	0.714	ug/L	0.007	0	2	412	2	KED
⌈>	In	115		ug/L			1112031	1052063	0	Standard
|	Ag	107	0.006	ug/L	0.001	25	62	160	16	Standard
|	Sb	121	0.173	ug/L	0.001	0	156	2491	0	Standard
|	Sb	123	0.179	ug/L	0.010	5	105	1969	5	Standard
|	Ba	135	18.810	ug/L	0.235	1	23	78248	0	Standard
⌊	Ba	137	18.709	ug/L	0.419	2	45	135633	1	Standard
⌈>	Tb	159		ug/L			1221778	1209486	1	Standard
|	Tl	205	0.001	ug/L	0.000	66	116	134	8	Standard
⌊	Pb	208	0.164	ug/L	0.004	2	755	7426	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 B SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 16:22:21
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	73834	1	Standard
	Cl	37		mg/L			5638032	5757718	1	Standard
>	Sc	45		ug/L			1280152	1469459	3	Standard
	Cr	52	15.546	ug/L	1.034	6	32985	403806	2	Standard
	Cr	53	15.118	ug/L	0.655	4	204	42915	1	Standard
	Mn	55	205.131	ug/L	11.441	5	1641	6883074	2	Standard
>	Ge-1	72		ug/L			51063	50870	1	KED
	Co	59	8.820	ug/L	0.166	1	15	33424	1	KED
	Ni	60	15.971	ug/L	0.393	2	17	17218	1	KED
	Ni	62	16.186	ug/L	0.331	2	1	2680	3	KED
	Cu	63	18.095	ug/L	0.539	2	1029	51982	1	KED
	Cu	65	17.892	ug/L	0.784	4	521	25071	2	KED
	Zn	66	40.974	ug/L	2.175	5	133	13565	4	KED
	Zn	67	42.704	ug/L	1.375	3	19	2305	4	KED
	Zn	68	42.527	ug/L	1.940	4	90	10636	3	KED
	As	75	4.545	ug/L	0.118	2	2	935	3	KED
	Se-1	78	1.326	ug/L	0.353	26	11	41	18	KED
	Y	89		ug/L			806732	1324163	0	Standard
	Kr	83		ug/L			85	199	11	Standard
>	In-1	115		ug/L			15859	16086	2	KED
	Mo	98	0.272	ug/L	0.029	10	15	243	10	KED
	Cd	111	0.037	ug/L	0.009	25	0	9	21	KED
	Cd	114	0.044	ug/L	0.018	40	2	29	39	KED
>	In	115		ug/L			1112031	1105158	1	Standard
	Ag	107	0.048	ug/L	0.007	13	62	965	11	Standard
	Sb	121	0.001	ug/L	0.001	78	156	168	6	Standard
	Sb	123	0.003	ug/L	0.001	28	105	143	7	Standard
	Ba	135	52.123	ug/L	0.593	1	23	227749	1	Standard
	Ba	137	51.390	ug/L	1.222	2	45	391229	1	Standard
>	Tb	159		ug/L			1221778	1270314	1	Standard
	Tl	205	0.066	ug/L	0.002	2	116	2344	4	Standard
	Pb	208	2.292	ug/L	0.015	0	755	98659	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 C SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 16:27:12
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			65389	82068	1	Standard
Cl	37		mg/L			5638032	5717466	1	Standard
> Sc	45		ug/L			1280152	1467394	0	Standard
Cr	52	17.010	ug/L	0.370	2	32985	438285	1	Standard
Cr	53	17.383	ug/L	0.184	1	204	49295	1	Standard
Mn	55	152.643	ug/L	4.045	2	1641	5121111	2	Standard
> Ge-1	72		ug/L			51063	50959	0	KED
Co	59	7.585	ug/L	0.072	0	15	28798	1	KED
Ni	60	15.267	ug/L	0.110	0	17	16492	0	KED
Ni	62	14.847	ug/L	0.379	2	1	2462	2	KED
Cu	63	21.012	ug/L	0.097	0	1029	60322	0	KED
Cu	65	21.242	ug/L	0.343	1	521	29732	1	KED
Zn	66	41.227	ug/L	0.982	2	133	13678	2	KED
Zn	67	41.532	ug/L	1.258	3	19	2246	3	KED
Zn	68	42.191	ug/L	0.849	2	90	10576	1	KED
As	75	5.807	ug/L	0.157	2	2	1196	2	KED
Se-1	78	1.328	ug/L	0.071	5	11	41	4	KED
Y	89		ug/L			806732	1264030	0	Standard
Kr	83		ug/L			85	188	5	Standard
> In-1	115		ug/L			15859	15781	0	KED
Mo	98	0.485	ug/L	0.025	5	15	413	5	KED
Cd	111	0.074	ug/L	0.015	20	0	17	19	KED
Cd	114	0.074	ug/L	0.026	35	2	45	33	KED
> In	115		ug/L			1112031	1080089	1	Standard
Ag	107	0.088	ug/L	0.006	6	62	1686	5	Standard
Sb	121	0.001	ug/L	0.002	187	156	168	18	Standard
Sb	123	0.002	ug/L	0.001	21	105	128	4	Standard
Ba	135	52.195	ug/L	1.084	2	23	222868	1	Standard
Ba	137	51.626	ug/L	0.927	1	45	384117	0	Standard
> Tb	159		ug/L			1221778	1273734	1	Standard
Tl	205	0.069	ug/L	0.002	2	116	2450	2	Standard
Pb	208	4.165	ug/L	0.111	2	755	179139	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 D SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 16:32:04
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	76787	5	Standard
	Cl	37		mg/L			5638032	5675274	1	Standard
⌈>	Sc	45		ug/L			1280152	1445362	1	Standard
|	Cr	52	16.374	ug/L	0.344	2	32985	416906	0	Standard
|	Cr	53	16.043	ug/L	0.252	1	204	44823	0	Standard
⌊	Mn	55	159.065	ug/L	2.286	1	1641	5256333	0	Standard
⌈>	Ge-1	72		ug/L			51063	51284	1	KED
|	Co	59	7.527	ug/L	0.112	1	15	28755	0	KED
|	Ni	60	14.830	ug/L	0.164	1	17	16120	0	KED
|	Ni	62	14.884	ug/L	0.210	1	1	2484	0	KED
|	Cu	63	17.396	ug/L	0.156	0	1029	50435	1	KED
|	Cu	65	17.630	ug/L	0.362	2	521	24928	3	KED
|	Zn	66	38.987	ug/L	0.616	1	133	13022	0	KED
|	Zn	67	39.977	ug/L	0.816	2	19	2177	3	KED
|	Zn	68	39.242	ug/L	0.643	1	90	9905	0	KED
|	As	75	3.526	ug/L	0.201	5	2	731	4	KED
⌊	Se-1	78	1.322	ug/L	0.197	14	11	41	11	KED
	Y	89		ug/L			806732	1222267	1	Standard
	Kr	83		ug/L			85	180	12	Standard
⌈>	In-1	115		ug/L			15859	16071	1	KED
|	Mo	98	0.163	ug/L	0.023	14	15	152	13	KED
|	Cd	111	0.049	ug/L	0.007	13	0	12	12	KED
⌊	Cd	114	0.039	ug/L	0.015	40	2	25	34	KED
⌈>	In	115		ug/L			1112031	1098848	0	Standard
|	Ag	107	0.060	ug/L	0.002	3	62	1188	3	Standard
|	Sb	121	-0.002	ug/L	0.000	27	156	131	4	Standard
|	Sb	123	-0.001	ug/L	0.001	112	105	95	10	Standard
|	Ba	135	43.312	ug/L	0.669	1	23	188157	1	Standard
⌊	Ba	137	42.434	ug/L	0.688	1	45	321246	1	Standard
⌈>	Tb	159		ug/L			1221778	1269215	0	Standard
|	Tl	205	0.074	ug/L	0.001	1	116	2602	1	Standard
⌊	Pb	208	2.957	ug/L	0.125	4	755	126984	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 E SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 16:36:55
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	72753	2	Standard
	Cl	37		mg/L			5638032	5623048	4	Standard
⌈>	Sc	45		ug/L			1280152	1410959	1	Standard
|	Cr	52	14.869	ug/L	0.342	2	32985	372936	1	Standard
|	Cr	53	14.569	ug/L	0.342	2	204	39769	3	Standard
⌊	Mn	55	145.687	ug/L	4.572	3	1641	4701313	4	Standard
⌈>	Ge-1	72		ug/L			51063	51433	2	KED
|	Co	59	6.359	ug/L	0.237	3	15	24357	1	KED
|	Ni	60	12.766	ug/L	0.497	3	17	13912	1	KED
|	Ni	62	12.832	ug/L	0.313	2	1	2147	0	KED
|	Cu	63	14.362	ug/L	0.529	3	1029	41917	1	KED
|	Cu	65	14.348	ug/L	0.560	3	521	20427	1	KED
|	Zn	66	35.535	ug/L	1.687	4	133	11910	3	KED
|	Zn	67	35.910	ug/L	1.010	2	19	1962	2	KED
|	Zn	68	35.346	ug/L	1.050	2	90	8953	0	KED
|	As	75	3.126	ug/L	0.036	1	2	651	3	KED
⌊	Se-1	78	1.042	ug/L	0.515	49	11	35	34	KED
	Y	89		ug/L			806732	1150635	1	Standard
	Kr	83		ug/L			85	163	5	Standard
⌈>	In-1	115		ug/L			15859	15928	3	KED
|	Mo	98	0.699	ug/L	0.105	15	15	592	11	KED
|	Cd	111	0.065	ug/L	0.015	23	0	15	21	KED
⌊	Cd	114	0.057	ug/L	0.018	31	2	36	26	KED
⌈>	In	115		ug/L			1112031	1100615	1	Standard
|	Ag	107	0.057	ug/L	0.001	2	62	1131	3	Standard
|	Sb	121	-0.004	ug/L	0.001	20	156	95	14	Standard
|	Sb	123	-0.001	ug/L	0.000	37	105	90	5	Standard
|	Ba	135	38.789	ug/L	0.764	1	23	168797	2	Standard
⌊	Ba	137	38.464	ug/L	1.379	3	45	291566	1	Standard
⌈>	Tb	159		ug/L			1221778	1275702	1	Standard
|	Tl	205	0.055	ug/L	0.001	2	116	1967	0	Standard
⌊	Pb	208	3.650	ug/L	0.041	1	755	157327	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 F SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 16:41:47
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	72754	3	Standard
	Cl	37		mg/L			5638032	5608288	7	Standard
>	Sc	45		ug/L			1280152	1408907	1	Standard
	Cr	52	14.939	ug/L	0.458	3	32985	373957	1	Standard
	Cr	53	14.724	ug/L	0.336	2	204	40129	3	Standard
	Mn	55	147.298	ug/L	3.523	2	1641	4746190	3	Standard
>	Ge-1	72		ug/L			51063	51433	2	KED
	Co	59	6.561	ug/L	0.229	3	15	25135	2	KED
	Ni	60	12.270	ug/L	0.415	3	17	13377	2	KED
	Ni	62	12.801	ug/L	0.346	2	1	2142	1	KED
	Cu	63	13.444	ug/L	0.381	2	1029	39318	2	KED
	Cu	65	13.787	ug/L	0.425	3	521	19654	1	KED
	Zn	66	34.552	ug/L	1.289	3	133	11587	2	KED
	Zn	67	35.733	ug/L	1.604	4	19	1952	3	KED
	Zn	68	34.917	ug/L	0.262	0	90	8849	1	KED
	As	75	2.956	ug/L	0.109	3	2	615	1	KED
	Se-1	78	1.183	ug/L	0.257	21	11	38	16	KED
	Y	89		ug/L			806732	1139701	1	Standard
	Kr	83		ug/L			85	150	4	Standard
>	In-1	115		ug/L			15859	15369	2	KED
	Mo	98	0.188	ug/L	0.018	9	15	165	7	KED
	Cd	111	0.054	ug/L	0.008	15	0	12	15	KED
	Cd	114	0.047	ug/L	0.010	21	2	29	17	KED
>	In	115		ug/L			1112031	1102848	3	Standard
	Ag	107	0.042	ug/L	0.004	9	62	847	8	Standard
	Sb	121	-0.003	ug/L	0.001	20	156	117	6	Standard
	Sb	123	-0.001	ug/L	0.001	96	105	88	17	Standard
	Ba	135	35.285	ug/L	1.065	3	23	153763	0	Standard
	Ba	137	34.257	ug/L	1.123	3	45	260148	0	Standard
>	Tb	159		ug/L			1221778	1273572	2	Standard
	Tl	205	0.055	ug/L	0.002	3	116	1985	2	Standard
	Pb	208	3.466	ug/L	0.105	3	755	149187	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 G SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 16:46:38
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			65389	73927	6	Standard
Cl	37		mg/L			5638032	5644210	2	Standard
> Sc	45		ug/L			1280152	1431340	1	Standard
Cr	52	20.695	ug/L	0.989	4	32985	512061	3	Standard
Cr	53	20.326	ug/L	0.952	4	204	56182	4	Standard
Mn	55	192.315	ug/L	3.590	1	1641	6292610	0	Standard
> Ge-1	72		ug/L			51063	50538	0	KED
Co	59	8.021	ug/L	0.130	1	15	30200	1	KED
Ni	60	16.766	ug/L	0.300	1	17	17961	2	KED
Ni	62	16.689	ug/L	0.660	3	1	2745	4	KED
Cu	63	22.243	ug/L	0.475	2	1029	63262	1	KED
Cu	65	22.254	ug/L	0.321	1	521	30869	2	KED
Zn	66	143.023	ug/L	1.825	1	133	46728	0	KED
Zn	67	137.187	ug/L	2.352	1	19	7313	1	KED
Zn	68	140.658	ug/L	2.640	1	90	34762	2	KED
As	75	4.033	ug/L	0.101	2	2	824	2	KED
Se-1	78	1.286	ug/L	0.075	5	11	40	3	KED
Y	89		ug/L			806732	1224435	2	Standard
Kr	83		ug/L			85	185	5	Standard
> In-1	115		ug/L			15859	16269	1	KED
Mo	98	0.673	ug/L	0.041	6	15	584	4	KED
Cd	111	0.128	ug/L	0.029	22	0	30	20	KED
Cd	114	0.154	ug/L	0.019	12	2	96	12	KED
> In	115		ug/L			1112031	1098447	0	Standard
Ag	107	0.119	ug/L	0.002	1	62	2303	2	Standard
Sb	121	0.000	ug/L	0.000	957	156	154	3	Standard
Sb	123	0.001	ug/L	0.001	100	105	117	11	Standard
Ba	135	68.580	ug/L	0.425	0	23	297820	0	Standard
Ba	137	67.981	ug/L	0.702	1	45	514474	1	Standard
> Tb	159		ug/L			1221778	1274570	1	Standard
Tl	205	0.065	ug/L	0.002	3	116	2304	3	Standard
Pb	208	18.792	ug/L	0.510	2	755	806042	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 H SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 16:51:30
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			65389	73905	2	Standard
Cl	37		mg/L			5638032	5751302	2	Standard
> Sc	45		ug/L			1280152	1409361	2	Standard
Cr	52	**14.114**	ug/L	0.034	0	32985	355493	2	Standard
Cr	53	**14.196**	ug/L	0.429	3	204	38688	1	Standard
Mn	55	**154.786**	ug/L	3.751	2	1641	4989073	4	Standard
> Ge-1	72		ug/L			51063	51842	1	KED
Co	59	**7.346**	ug/L	0.054	0	15	28374	1	KED
Ni	60	**13.616**	ug/L	0.385	2	17	14960	1	KED
Ni	62	**14.034**	ug/L	0.150	1	1	2367	1	KED
Cu	63	**14.726**	ug/L	0.545	3	1029	43302	1	KED
Cu	65	**14.745**	ug/L	0.174	1	521	21155	0	KED
Zn	66	**40.647**	ug/L	0.688	1	133	13718	1	KED
Zn	67	**42.108**	ug/L	1.097	2	19	2316	2	KED
Zn	68	**40.638**	ug/L	0.778	1	90	10365	0	KED
As	75	**2.258**	ug/L	0.069	3	2	474	2	KED
Se-1	78	**1.316**	ug/L	0.236	17	11	42	13	KED
Y	89		ug/L			806732	1163131	3	Standard
Kr	83		ug/L			85	179	2	Standard
> In-1	115		ug/L			15859	15906	1	KED
Mo	98	**0.224**	ug/L	0.041	18	15	200	17	KED
Cd	111	**0.043**	ug/L	0.011	26	0	10	24	KED
Cd	114	**0.045**	ug/L	0.014	31	2	29	27	KED
> In	115		ug/L			1112031	1114223	1	Standard
Ag	107	**0.046**	ug/L	0.002	3	62	944	4	Standard
Sb	121	**-0.004**	ug/L	0.001	37	156	101	19	Standard
Sb	123	**-0.002**	ug/L	0.000	15	105	85	4	Standard
Ba	135	**46.577**	ug/L	1.828	3	23	205123	2	Standard
Ba	137	**46.242**	ug/L	0.635	1	45	354957	0	Standard
> Tb	159		ug/L			1221778	1276637	0	Standard
Tl	205	**0.064**	ug/L	0.002	2	116	2264	2	Standard
Pb	208	**3.962**	ug/L	0.076	1	755	170865	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 I SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 16:56:22
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			65389	71044	2	Standard
Cl	37		mg/L			5638032	5636579	1	Standard
Sc	45		ug/L			1280152	1417197	1	Standard
Cr	52	17.171	ug/L	0.131	0	32985	426947	1	Standard
Cr	53	16.889	ug/L	0.390	2	204	46251	1	Standard
Mn	55	184.104	ug/L	0.142	0	1641	5965522	1	Standard
Ge-1	72		ug/L			51063	51535	0	KED
Co	59	7.839	ug/L	0.138	1	15	30102	2	KED
Ni	60	16.138	ug/L	0.327	2	17	17629	2	KED
Ni	62	17.093	ug/L	0.269	1	1	2866	2	KED
Cu	63	17.005	ug/L	0.337	1	1029	49568	2	KED
Cu	65	16.510	ug/L	0.030	0	521	23487	0	KED
Zn	66	40.784	ug/L	1.003	2	133	13684	1	KED
Zn	67	41.778	ug/L	0.745	1	19	2285	2	KED
Zn	68	40.096	ug/L	1.054	2	90	10168	2	KED
As	75	3.506	ug/L	0.094	2	2	731	3	KED
Se-1	78	1.210	ug/L	0.299	24	11	39	16	KED
Y	89		ug/L			806732	1181624	0	Standard
Kr	83		ug/L			85	181	13	Standard
In-1	115		ug/L			15859	16029	3	KED
Mo	98	0.302	ug/L	0.031	10	15	267	7	KED
Cd	111	0.076	ug/L	0.037	47	0	18	46	KED
Cd	114	0.077	ug/L	0.012	15	2	48	15	KED
In	115		ug/L			1112031	1085794	2	Standard
Ag	107	0.077	ug/L	0.006	7	62	1488	7	Standard
Sb	121	-0.002	ug/L	0.000	8	156	119	5	Standard
Sb	123	-0.002	ug/L	0.001	41	105	84	8	Standard
Ba	135	40.160	ug/L	0.523	1	23	172363	1	Standard
Ba	137	39.455	ug/L	0.737	1	45	295064	1	Standard
Tb	159		ug/L			1221778	1281838	1	Standard
Tl	205	0.060	ug/L	0.003	4	116	2160	5	Standard
Pb	208	6.528	ug/L	0.145	2	755	282220	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV6
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 17:03:58
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	69187	1	Standard
	Cl	37		mg/L			5638032	5756094	2	Standard
>	Sc	45		ug/L			1280152	1289440	2	Standard
	Cr	52	51.861	ug/L	2.209	4	32985	1105641	2	Standard
	Cr	53	51.729	ug/L	1.807	3	204	128428	1	Standard
	Mn	55	51.510	ug/L	2.402	4	1641	1518888	2	Standard
>	Ge-1	72		ug/L			51063	51060	1	KED
	Co	59	50.103	ug/L	1.847	3	15	190464	2	KED
	Ni	60	50.911	ug/L	0.945	1	17	55057	0	KED
	Ni	62	51.147	ug/L	0.347	0	1	8497	1	KED
	Cu	63	51.211	ug/L	0.735	1	1029	145839	2	KED
	Cu	65	50.895	ug/L	0.727	1	521	70641	0	KED
	Zn	66	51.002	ug/L	0.879	1	133	16920	1	KED
	Zn	67	52.870	ug/L	0.281	0	19	2859	1	KED
	Zn	68	51.352	ug/L	0.558	1	90	12878	0	KED
	As	75	50.266	ug/L	0.626	1	2	10354	0	KED
	Se-1	78	50.468	ug/L	1.502	2	11	1149	3	KED
	Y	89		ug/L			806732	796404	1	Standard
	Kr	83		ug/L			85	85	10	Standard
>	In-1	115		ug/L			15859	15927	1	KED
	Mo	98	49.258	ug/L	0.676	1	15	40773	0	KED
	Cd	111	50.162	ug/L	0.475	0	0	11598	0	KED
	Cd	114	49.337	ug/L	1.311	2	2	29450	1	KED
>	In	115		ug/L			1112031	1098133	1	Standard
	Ag	107	50.461	ug/L	2.253	4	62	947124	3	Standard
	Sb	121	52.221	ug/L	0.693	1	156	740136	1	Standard
	Sb	123	52.109	ug/L	1.207	2	105	568130	1	Standard
	Ba	135	51.433	ug/L	0.891	1	23	223272	1	Standard
	Ba	137	50.829	ug/L	1.731	3	45	384447	2	Standard
>	Tb	159		ug/L			1221778	1246862	3	Standard
	Tl	205	48.798	ug/L	0.339	0	116	1605899	2	Standard
	Pb	208	51.845	ug/L	0.498	0	755	2173864	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB6
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 17:11:34
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	65521	2	Standard
	Cl	37		mg/L			5638032	5525566	1	Standard
⌈>	Sc	45		ug/L			1280152	1261689	0	Standard
|	Cr	52	0.062	ug/L	0.012	19	32985	33774	1	Standard
|	Cr	53	0.002	ug/L	0.008	333	204	207	8	Standard
⌊	Mn	55	0.011	ug/L	0.001	11	1641	1923	1	Standard
⌈>	Ge-1	72		ug/L			51063	51880	2	KED
|	Co	59	-0.001	ug/L	0.001	169	15	12	37	KED
|	Ni	60	-0.001	ug/L	0.006	747	17	17	40	KED
|	Ni	62	0.019	ug/L	0.013	68	1	4	49	KED
|	Cu	63	0.086	ug/L	0.019	22	1029	1293	5	KED
|	Cu	65	0.069	ug/L	0.016	23	521	626	2	KED
|	Zn	66	0.061	ug/L	0.073	121	133	156	14	KED
|	Zn	67	0.027	ug/L	0.171	625	19	21	44	KED
|	Zn	68	0.045	ug/L	0.055	120	90	103	11	KED
|	As	75	0.004	ug/L	0.002	54	2	3	15	KED
⌊	Se-1	78	-0.001	ug/L	0.093	10204	11	11	17	KED
	Y	89		ug/L			806732	808364	3	Standard
	Kr	83		ug/L			85	99	18	Standard
⌈>	In-1	115		ug/L			15859	15737	0	KED
|	Mo	98	0.030	ug/L	0.005	17	15	40	10	KED
|	Cd	111	0.003	ug/L	0.005	171	0	1	86	KED
⌊	Cd	114	0.001	ug/L	0.007	610	2	3	131	KED
⌈>	In	115		ug/L			1112031	1113074	1	Standard
|	Ag	107	0.001	ug/L	0.001	149	62	74	24	Standard
|	Sb	121	0.025	ug/L	0.001	5	156	514	3	Standard
|	Sb	123	0.023	ug/L	0.002	10	105	357	7	Standard
|	Ba	135	0.001	ug/L	0.001	131	23	26	14	Standard
⌊	Ba	137	0.000	ug/L	0.001	325	45	46	12	Standard
⌈>	Tb	159		ug/L			1221778	1230381	1	Standard
|	Tl	205	0.006	ug/L	0.000	7	116	311	4	Standard
⌊	Pb	208	-0.000	ug/L	0.001	8217	755	760	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWX1 MB REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 17:16:35
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	77391	4	Standard
	Cl	37		mg/L			5638032	5501156	1	Standard
>	Sc	45		ug/L			1280152	1317352	1	Standard
	Cr	52	0.112	ug/L	0.070	62	32985	36323	4	Standard
	Cr	53	0.019	ug/L	0.005	23	204	260	5	Standard
	Mn	55	-0.009	ug/L	0.002	25	1641	1410	3	Standard
>	Ge-1	72		ug/L			51063	52512	2	KED
	Co	59	0.001	ug/L	0.000	75	15	17	6	KED
	Ni	60	-0.008	ug/L	0.003	35	17	9	34	KED
	Ni	62	0.018	ug/L	0.013	70	1	4	49	KED
	Cu	63	-0.271	ug/L	0.010	3	1029	269	7	KED
	Cu	65	-0.294	ug/L	0.004	1	521	120	4	KED
	Zn	66	0.445	ug/L	0.063	14	133	288	7	KED
	Zn	67	0.426	ug/L	0.046	10	19	43	8	KED
	Zn	68	0.392	ug/L	0.049	12	90	193	3	KED
	As	75	0.012	ug/L	0.001	11	2	5	5	KED
	Se-1	78	-0.056	ug/L	0.018	32	11	10	6	KED
	Y	89		ug/L			806732	823287	3	Standard
	Kr	83		ug/L			85	90	6	Standard
>	In-1	115		ug/L			15859	15939	2	KED
	Mo	98	0.032	ug/L	0.009	27	15	42	18	KED
	Cd	111	0.010	ug/L	0.004	40	0	2	33	KED
	Cd	114	-0.001	ug/L	0.004	260	2	1	129	KED
>	In	115		ug/L			1112031	1133103	0	Standard
	Ag	107	0.005	ug/L	0.001	27	62	154	15	Standard
	Sb	121	0.001	ug/L	0.000	22	156	177	2	Standard
	Sb	123	0.005	ug/L	0.002	49	105	161	16	Standard
	Ba	135	0.023	ug/L	0.004	15	23	126	13	Standard
	Ba	137	0.026	ug/L	0.003	12	45	248	10	Standard
>	Tb	159		ug/L			1221778	1304535	2	Standard
	Tl	205	0.007	ug/L	0 001	12	116	370	6	Standard
	Pb	208	-0.006	ug/L	0.001	21	755	533	13	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 J SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 17:21:27
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	76036	1	Standard
	Cl	37		mg/L			5638032	5683736	1	Standard
⌈>	Sc	45		ug/L			1280152	1427839	0	Standard
|	Cr	52	18.912	ug/L	0.457	2	32985	470043	2	Standard
|	Cr	53	18.952	ug/L	0.247	1	204	52271	1	Standard
⌊	Mn	55	169.544	ug/L	4.814	2	1641	5535173	2	Standard
⌈>	Ge-1	72		ug/L			51063	51610	1	KED
|	Co	59	7.748	ug/L	0.200	2	15	29787	1	KED
|	Ni	60	14.826	ug/L	0.020	0	17	16221	1	KED
|	Ni	62	15.309	ug/L	0.367	2	1	2571	1	KED
|	Cu	63	18.390	ug/L	0.644	3	1029	53595	3	KED
|	Cu	65	18.211	ug/L	0.241	1	521	25889	0	KED
|	Zn	66	41.301	ug/L	0.967	2	133	13875	2	KED
|	Zn	67	42.856	ug/L	1.339	3	19	2347	4	KED
|	Zn	68	41.485	ug/L	0.971	2	90	10533	2	KED
|	As	75	4.275	ug/L	0.096	2	2	892	3	KED
⌊	Se-1	78	1.317	ug/L	0.273	20	11	41	15	KED
	Y	89		ug/L			806732	1225847	0	Standard
	Kr	83		ug/L			85	176	11	Standard
⌈>	In-1	115		ug/L			15859	15704	2	KED
|	Mo	98	0.263	ug/L	0.040	15	15	230	12	KED
|	Cd	111	0.075	ug/L	0.020	26	0	17	24	KED
⌊	Cd	114	0.064	ug/L	0.024	37	2	39	33	KED
⌈>	In	115		ug/L			1112031	1097155	1	Standard
|	Ag	107	0.068	ug/L	0.001	2	62	1345	3	Standard
|	Sb	121	0.000	ug/L	0.000	73	156	159	1	Standard
|	Sb	123	0.002	ug/L	0.001	35	105	122	5	Standard
|	Ba	135	44.011	ug/L	0.418	0	23	190896	0	Standard
⌊	Ba	137	43.948	ug/L	0.955	2	45	332150	0	Standard
⌈>	Tb	159		ug/L			1221778	1287696	1	Standard
|	Tl	205	0.070	ug/L	0.003	3	116	2516	3	Standard
⌊	Pb	208	3.702	ug/L	0.074	2	755	161062	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 K SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 17:26:18
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	72761	3	Standard
	Cl	37		mg/L			5638032	5538979	2	Standard
⌈>	Sc	45		ug/L			1280152	1419460	1	Standard
|	Cr	52	14.962	ug/L	0.353	2	32985	377284	1	Standard
|	Cr	53	14.809	ug/L	0.426	2	204	40640	1	Standard
⌊	Mn	55	167.049	ug/L	3.765	2	1641	5420276	0	Standard
⌈>	Ge-1	72		ug/L			51063	51326	0	KED
|	Co	59	7.324	ug/L	0.104	1	15	28008	1	KED
|	Ni	60	13.538	ug/L	0.341	2	17	14733	3	KED
|	Ni	62	15.043	ug/L	1.165	7	1	2511	7	KED
|	Cu	63	16.532	ug/L	0.241	1	1029	48018	0	KED
|	Cu	65	16.175	ug/L	0.198	1	521	22928	1	KED
|	Zn	66	39.331	ug/L	0.170	0	133	13148	0	KED
|	Zn	67	41.461	ug/L	1.014	2	19	2258	2	KED
|	Zn	68	41.229	ug/L	1.105	2	90	10413	3	KED
|	As	75	4.128	ug/L	0.124	3	2	857	2	KED
⌊	Se-1	78	1.301	ug/L	0.056	4	11	41	2	KED
	Y	89		ug/L			806732	1189830	0	Standard
	Kr	83		ug/L			85	182	7	Standard
⌈>	In-1	115		ug/L			15859	15610	3	KED
|	Mo	98	0.229	ug/L	0.012	5	15	201	7	KED
|	Cd	111	0.058	ug/L	0.015	26	0	13	24	KED
⌊	Cd	114	0.056	ug/L	0.017	31	2	34	26	KED
⌈>	In	115		ug/L			1112031	1101609	0	Standard
|	Ag	107	0.064	ug/L	0.004	5	62	1272	4	Standard
|	Sb	121	-0.002	ug/L	0.002	92	156	131	17	Standard
|	Sb	123	0.001	ug/L	0.001	155	105	113	10	Standard
|	Ba	135	42.314	ug/L	1.305	3	23	184281	2	Standard
⌊	Ba	137	42.281	ug/L	0.458	1	45	320928	1	Standard
⌈>	Tb	159		ug/L			1221778	1284081	0	Standard
|	Tl	205	0.069	ug/L	0.002	3	116	2444	3	Standard
⌊	Pb	208	3.101	ug/L	0.099	3	755	134681	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 L SWN
Sample Dil Factor: 20 RR Pb
Comments:
Sample Date/Time: Friday, March 04, 2016 17:31:10
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	78789	3	Standard
	Cl	37		mg/L			5638032	5641556	0	Standard
⌈>	Sc	45		ug/L			1280152	1462975	0	Standard
|	Cr	52	53.093	ug/L	1.620	3	32985	1284082	3	Standard
|	Cr	53	52.958	ug/L	0.889	1	204	149243	1	Standard
⌊	Mn	55	339.430	ug/L	10.992	3	1641	11352993	3	Standard
⌈>	Ge-1	72		ug/L			51063	50707	1	KED
|	Co	59	10.254	ug/L	0.344	3	15	38731	3	KED
|	Ni	60	31.450	ug/L	0.187	0	17	33787	1	KED
|	Ni	62	31.631	ug/L	0.908	2	1	5217	1	KED
|	Cu	63	60.330	ug/L	1.531	2	1029	170390	1	KED
|	Cu	65	59.548	ug/L	1.609	2	521	81993	2	KED
|	Zn	66	261.178	ug/L	1.514	0	133	85512	1	KED
|	Zn	67	247.272	ug/L	4.441	1	19	13210	1	KED
|	Zn	68	253.847	ug/L	5.522	2	90	62863	1	KED
|	As	75	14.376	ug/L	0.339	2	2	2943	2	KED
⌊	Se-1	78	1.891	ug/L	0.414	21	11	53	16	KED
	Y	89		ug/L			806732	1284017	4	Standard
	Kr	83		ug/L			85	205	2	Standard
⌈>	In-1	115		ug/L			15859	15761	1	KED
|	Mo	98	2.149	ug/L	0.073	3	15	1775	2	KED
|	Cd	111	0.783	ug/L	0.053	6	0	179	5	KED
⌊	Cd	114	0.766	ug/L	0.063	8	2	454	8	KED
⌈>	In	115		ug/L			1112031	1092046	1	Standard
|	Ag	107	0.867	ug/L	0.019	2	62	16239	0	Standard
|	Sb	121	0.086	ug/L	0.002	2	156	1360	0	Standard
|	Sb	123	0.087	ug/L	0.007	7	105	1045	5	Standard
|	Ba	135	66.073	ug/L	2.772	4	23	285133	2	Standard
⌊	Ba	137	65.104	ug/L	0.942	1	45	489758	0	Standard
⌈>	Tb	159		ug/L			1221778	1284740	1	Standard
|	Tl	205	0.074	ug/L	0.002	3	116	2626	4	Standard
⌊	Pb	208	533.455	ug/L	8.371	1	755	23048230	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 M SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 17:36:01
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	74782	2	Standard
	Cl	37		mg/L			5638032	5750404	2	Standard
⌈>	Sc	45		ug/L			1280152	1421946	1	Standard
|	Cr	52	16.706	ug/L	0.487	2	32985	417846	3	Standard
|	Cr	53	16.901	ug/L	0.278	1	204	46443	0	Standard
⌊	Mn	55	163.776	ug/L	4.206	2	1641	5324913	2	Standard
⌈>	Ge-1	72		ug/L			51063	52608	2	KED
|	Co	59	6.786	ug/L	0.118	1	15	26594	0	KED
|	Ni	60	13.853	ug/L	0.587	4	17	15441	2	KED
|	Ni	62	14.050	ug/L	0.445	3	1	2404	1	KED
|	Cu	63	15.636	ug/L	0.596	3	1029	46584	1	KED
|	Cu	65	15.547	ug/L	0.466	2	521	22599	0	KED
|	Zn	66	45.620	ug/L	2.181	4	133	15599	2	KED
|	Zn	67	43.890	ug/L	0.240	0	19	2449	2	KED
|	Zn	68	44.604	ug/L	1.865	4	90	11531	1	KED
|	As	75	2.646	ug/L	0.105	3	2	563	2	KED
⌊	Se-1	78	1.439	ug/L	0.141	9	11	45	9	KED
	Y	89		ug/L			806732	1221589	1	Standard
	Kr	83		ug/L			85	158	9	Standard
⌈>	In-1	115		ug/L			15859	15699	2	KED
|	Mo	98	0.339	ug/L	0.011	3	15	292	2	KED
|	Cd	111	0.046	ug/L	0.015	32	0	11	30	KED
⌊	Cd	114	0.035	ug/L	0.010	29	2	22	24	KED
⌈>	In	115		ug/L			1112031	1098591	1	Standard
|	Ag	107	0.075	ug/L	0.005	6	62	1470	4	Standard
|	Sb	121	0.001	ug/L	0.001	56	156	167	3	Standard
|	Sb	123	0.002	ug/L	0.001	30	105	129	4	Standard
|	Ba	135	37.062	ug/L	1.039	2	23	160933	1	Standard
⌊	Ba	137	37.440	ug/L	1.024	2	45	283305	0	Standard
⌈>	Tb	159		ug/L			1221778	1306860	0	Standard
|	Tl	205	0.047	ug/L	0.004	8	116	1747	6	Standard
⌊	Pb	208	23.843	ug/L	0.917	3	755	1048356	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 N SWN
Sample Dil Factor: 20 RR Pb
Comments:
Sample Date/Time: Friday, March 04, 2016 17:42:12
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	78553	2	Standard
	Cl	37		mg/L			5638032	5669610	3	Standard
⌈>	Sc	45		ug/L			1280152	1522346	0	Standard
|	Cr	52	54.593	ug/L	1.527	2	32985	1372647	2	Standard
|	Cr	53	53.368	ug/L	1.569	2	204	156478	2	Standard
⌊	Mn	55	372.773	ug/L	5.500	1	1641	12972577	1	Standard
⌈>	Ge-1	72		ug/L			51063	49943	1	KED
|	Co	59	11.166	ug/L	0.327	2	15	41546	3	KED
|	Ni	60	36.017	ug/L	0.795	2	17	38101	1	KED
|	Ni	62	35.821	ug/L	1.219	3	1	5819	2	KED
|	Cu	63	63.350	ug/L	1.738	2	1029	176179	2	KED
|	Cu	65	62.831	ug/L	0.468	0	521	85185	1	KED
|	Zn	66	276.952	ug/L	4.342	1	133	89288	0	KED
|	Zn	67	260.732	ug/L	3.418	1	19	13718	1	KED
|	Zn	68	266.576	ug/L	5.445	2	90	65013	1	KED
|	As	75	15.636	ug/L	0.313	2	2	3151	0	KED
⌊	Se-1	78	2.032	ug/L	0.493	24	11	56	17	KED
	Y	89		ug/L			806732	1340248	1	Standard
	Kr	83		ug/L			85	213	12	Standard
⌈>	In-1	115		ug/L			15859	16002	4	KED
|	Mo	98	2.399	ug/L	0.061	2	15	2009	2	KED
|	Cd	111	0.784	ug/L	0.043	5	0	182	4	KED
⌊	Cd	114	0.742	ug/L	0.065	8	2	446	5	KED
⌈>	In	115		ug/L			1112031	1098938	1	Standard
|	Ag	107	0.908	ug/L	0.010	1	62	17123	0	Standard
|	Sb	121	0.097	ug/L	0.004	3	156	1527	3	Standard
|	Sb	123	0.094	ug/L	0.005	5	105	1125	3	Standard
|	Ba	135	59.658	ug/L	0.592	0	23	259171	0	Standard
⌊	Ba	137	60.064	ug/L	1.418	2	45	454710	2	Standard
⌈>	Tb	159		ug/L			1221778	1292507	0	Standard
|	Tl	205	0.077	ug/L	0.003	4	116	2765	4	Standard
⌊	Pb	208	495.463	ug/L	11.164	2	755	21535481	3	Standard

AVZ9 : 88642

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 O SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 17:48:08
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	76590	5	Standard
	Cl	37		mg/L			5638032	5627061	1	Standard
⌈>	Sc	45		ug/L			1280152	1459529	2	Standard
|	Cr	52	18.523	ug/L	0.281	1	32985	471299	1	Standard
|	Cr	53	18.534	ug/L	0.539	2	204	52244	2	Standard
⌊	Mn	55	186.626	ug/L	1.906	1	1641	6228782	3	Standard
⌈>	Ge-1	72		ug/L			51063	52028	2	KED
|	Co	59	9.946	ug/L	0.424	4	15	38521	1	KED
|	Ni	60	23.251	ug/L	0.562	2	17	25623	0	KED
|	Ni	62	23.261	ug/L	0.810	3	1	3936	2	KED
|	Cu	63	22.502	ug/L	1.180	5	1029	65822	2	KED
|	Cu	65	22.819	ug/L	0.552	2	521	32562	2	KED
|	Zn	66	120.940	ug/L	3.245	2	133	40683	1	KED
|	Zn	67	114.322	ug/L	4.628	4	19	6276	3	KED
|	Zn	68	117.133	ug/L	7.592	6	90	29782	3	KED
|	As	75	3.210	ug/L	0.180	5	2	675	2	KED
⌊	Se-1	78	1.639	ug/L	0.307	18	11	49	12	KED
	Y	89		ug/L			806732	1255932	1	Standard
	Kr	83		ug/L			85	174	9	Standard
⌈>	In-1	115		ug/L			15859	15957	2	KED
|	Mo	98	0.374	ug/L	0.050	13	15	326	13	KED
|	Cd	111	0.273	ug/L	0.025	8	0	63	6	KED
⌊	Cd	114	0.265	ug/L	0.052	19	2	160	18	KED
⌈>	In	115		ug/L			1112031	1088161	2	Standard
|	Ag	107	0.099	ug/L	0.004	4	62	1906	2	Standard
|	Sb	121	0.009	ug/L	0.001	14	156	275	6	Standard
|	Sb	123	0.013	ug/L	0.003	22	105	247	16	Standard
|	Ba	135	34.279	ug/L	0.993	2	23	147404	0	Standard
⌊	Ba	137	33.533	ug/L	1.661	4	45	251188	2	Standard
⌈>	Tb	159		ug/L			1221778	1292457	1	Standard
|	Tl	205	0.074	ug/L	0.001	1	116	2638	0	Standard
⌊	Pb	208	10.569	ug/L	0.353	3	755	460108	3	Standard

AVZ9 : 68643

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 P SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, March 04, 2016 17:52:59
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	74693	5	Standard
	Cl	37		mg/L			5638032	5532167	1	Standard
⌈>	Sc	45		ug/L			1280152	1426206	0	Standard
|	Cr	52	15.496	ug/L	0.910	5	32985	391245	4	Standard
|	Cr	53	15.147	ug/L	0.416	2	204	41772	2	Standard
⌊	Mn	55	163.654	ug/L	5.607	3	1641	5335781	2	Standard
⌈>	Ge-1	72		ug/L			51063	51971	2	KED
|	Co	59	8.560	ug/L	0.366	4	15	33119	2	KED
|	Ni	60	17.118	ug/L	0.457	2	17	18850	2	KED
|	Ni	62	17.203	ug/L	0.995	5	1	2906	2	KED
|	Cu	63	15.365	ug/L	0.499	3	1029	45247	2	KED
|	Cu	65	14.876	ug/L	0.726	4	521	21376	2	KED
|	Zn	66	55.769	ug/L	1.685	3	133	18814	2	KED
|	Zn	67	55.607	ug/L	2.750	4	19	3059	4	KED
|	Zn	68	55.760	ug/L	0.906	1	90	14221	1	KED
|	As	75	2.910	ug/L	0.042	1	2	612	1	KED
⌊	Se-1	78	1.355	ug/L	0.301	22	11	43	18	KED
	Y	89		ug/L			806732	1231872	1	Standard
	Kr	83		ug/L			85	179	7	Standard
⌈>	In-1	115		ug/L			15859	16012	3	KED
|	Mo	98	0.178	ug/L	0.010	5	15	164	6	KED
|	Cd	111	0.057	ug/L	0.004	7	0	13	3	KED
⌊	Cd	114	0.047	ug/L	0.013	27	2	30	25	KED
⌈>	In	115		ug/L			1112031	1107219	1	Standard
|	Ag	107	0.052	ug/L	0.006	11	62	1038	9	Standard
|	Sb	121	-0.001	ug/L	0.001	52	156	140	4	Standard
|	Sb	123	0.001	ug/L	0.001	176	105	112	11	Standard
|	Ba	135	34.148	ug/L	0.281	0	23	149476	0	Standard
⌊	Ba	137	34.125	ug/L	0.979	2	45	260261	1	Standard
⌈>	Tb	159		ug/L			1221778	1296680	1	Standard
|	Tl	205	0.065	ug/L	0.002	2	116	2343	2	Standard
⌊	Pb	208	2.319	ug/L	0.075	3	755	101892	2	Standard

AVZ9 : 006H4

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWX1 A REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 17:58:55
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	78492	2	Standard
	Cl	37		mg/L			5638032	5754629	1	Standard
⌈>	Sc	45		ug/L			1280152	1382148	1	Standard
|	Cr	52	6.134	ug/L	0.289	4	32985	171631	3	Standard
|	Cr	53	5.907	ug/L	0.033	0	204	15923	1	Standard
⌊	Mn	55	55.661	ug/L	1.988	3	1641	1759837	2	Standard
⌈>	Ge-1	72		ug/L			51063	52115	1	KED
|	Co	59	1.054	ug/L	0.051	4	15	4104	3	KED
|	Ni	60	3.545	ug/L	0.174	4	17	3928	3	KED
|	Ni	62	3.964	ug/L	0.524	13	1	673	12	KED
|	Cu	63	50.091	ug/L	0.702	1	1029	145584	0	KED
|	Cu	65	49.305	ug/L	1.182	2	521	69855	0	KED
|	Zn	66	132.434	ug/L	4.233	3	133	44616	1	KED
|	Zn	67	124.217	ug/L	3.398	2	19	6829	2	KED
|	Zn	68	125.289	ug/L	3.493	2	90	31927	1	KED
|	As	75	0.094	ug/L	0.009	9	2	22	7	KED
⌊	Se-1	78	0.094	ug/L	0.071	76	11	14	10	KED
	Y	89		ug/L			806732	897563	1	Standard
	Kr	83		ug/L			85	109	11	Standard
⌈>	In-1	115		ug/L			15859	16249	0	KED
|	Mo	98	5.173	ug/L	0.191	3	15	4383	3	KED
|	Cd	111	0.016	ug/L	0.006	38	0	4	32	KED
⌊	Cd	114	0.016	ug/L	0.016	100	2	12	80	KED
⌈>	In	115		ug/L			1112031	1129358	0	Standard
|	Ag	107	0.048	ug/L	0.001	1	62	987	1	Standard
|	Sb	121	0.134	ug/L	0.003	1	156	2115	1	Standard
|	Sb	123	0.139	ug/L	0.009	6	105	1667	6	Standard
|	Ba	135	0.804	ug/L	0.019	2	23	3615	2	Standard
⌊	Ba	137	0.831	ug/L	0.025	3	45	6510	2	Standard
⌈>	Tb	159		ug/L			1221778	1301459	0	Standard
|	Tl	205	0.026	ug/L	0.001	2	116	1007	3	Standard
⌊	Pb	208	0.191	ug/L	0.002	1	755	9184	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWX1 MBSPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 18:04:50
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	74171	1	Standard
	Cl	37		mg/L			5638032	5531864	1	Standard
⌈>	Sc	45		ug/L			1280152	1290508	1	Standard
|	Cr	52	26.656	ug/L	0.709	2	32985	585093	1	Standard
|	Cr	53	25.965	ug/L	0.194	0	204	64648	1	Standard
⌊	Mn	55	26.831	ug/L	0.769	2	1641	793286	4	Standard
⌈>	Ge-1	72		ug/L			51063	52989	2	KED
|	Co	59	24.348	ug/L	0.165	0	15	96082	2	KED
|	Ni	60	24.799	ug/L	1.110	4	17	27824	2	KED
|	Ni	62	24.778	ug/L	0.666	2	1	4270	0	KED
|	Cu	63	25.433	ug/L	0.602	2	1029	75665	0	KED
|	Cu	65	25.864	ug/L	0.458	1	521	37515	0	KED
|	Zn	66	75.258	ug/L	1.630	2	133	25838	1	KED
|	Zn	67	72.581	ug/L	2.690	3	19	4064	2	KED
|	Zn	68	72.005	ug/L	1.855	2	90	18694	0	KED
|	As	75	22.981	ug/L	0.691	3	2	4913	2	KED
⌊	Se-1	78	70.191	ug/L	3.625	5	11	1652	3	KED
	Y	89		ug/L			806732	817780	0	Standard
	Kr	83		ug/L			85	81	20	Standard
⌈>	In-1	115		ug/L			15859	15810	2	KED
|	Mo	98	0.004	ug/L	0.003	70	15	19	10	KED
|	Cd	111	24.764	ug/L	0.379	1	0	5684	2	KED
⌊	Cd	114	23.982	ug/L	0.400	1	2	14213	2	KED
⌈>	In	115		ug/L			1112031	1131795	1	Standard
|	Ag	107	26.317	ug/L	0.939	3	62	509133	2	Standard
|	Sb	121	-0.006	ug/L	0.000	7	156	69	10	Standard
|	Sb	123	-0.003	ug/L	0.002	60	105	75	24	Standard
|	Ba	135	25.313	ug/L	0.794	3	23	113247	1	Standard
⌊	Ba	137	25.275	ug/L	0.408	1	45	197131	2	Standard
⌈>	Tb	159		ug/L			1221778	1276947	1	Standard
|	Tl	205	24.945	ug/L	0.529	2	116	840988	3	Standard
⌊	Pb	208	25.925	ug/L	0.176	0	755	1113937	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV7
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 18:10:46
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	69086	5	Standard
	Cl	37		mg/L			5638032	5741520	1	Standard
⌈>	Sc	45		ug/L			1280152	1294864	1	Standard
|	Cr	52	51.948	ug/L	1.135	2	32985	1112403	0	Standard
|	Cr	53	52.130	ug/L	1.219	2	204	130005	1	Standard
⌊	Mn	55	52.430	ug/L	2.000	3	1641	1552892	2	Standard
⌈>	Ge-1	72		ug/L			51063	50338	0	KED
|	Co	59	50.152	ug/L	0.779	1	15	187999	1	KED
|	Ni	60	51.681	ug/L	0.647	1	17	55108	1	KED
|	Ni	62	52.616	ug/L	1.501	2	1	8616	2	KED
|	Cu	63	51.919	ug/L	1.272	2	1029	145731	2	KED
|	Cu	65	51.308	ug/L	1.779	3	521	70203	2	KED
|	Zn	66	52.816	ug/L	0.964	1	133	17270	1	KED
|	Zn	67	54.487	ug/L	0.871	1	19	2905	1	KED
|	Zn	68	51.224	ug/L	1.708	3	90	12664	3	KED
|	As	75	51.249	ug/L	0.596	1	2	10408	0	KED
⌊	Se-1	78	50.710	ug/L	1.462	2	11	1138	2	KED
	Y	89		ug/L			806732	802454	1	Standard
	Kr	83		ug/L			85	96	19	Standard
⌈>	In-1	115		ug/L			15859	15877	1	KED
|	Mo	98	49.157	ug/L	0.893	1	15	40563	1	KED
|	Cd	111	50.364	ug/L	0.479	0	0	11609	0	KED
⌊	Cd	114	48.801	ug/L	1.057	2	2	29041	1	KED
⌈>	In	115		ug/L			1112031	1103534	1	Standard
|	Ag	107	52.970	ug/L	2.493	4	62	998961	3	Standard
|	Sb	121	51.454	ug/L	0.903	1	156	732768	0	Standard
|	Sb	123	51.509	ug/L	0.404	0	105	564449	1	Standard
|	Ba	135	52.074	ug/L	1.253	2	23	227144	1	Standard
⌊	Ba	137	50.754	ug/L	1.025	2	45	385809	0	Standard
⌈>	Tb	159		ug/L			1221778	1285660	2	Standard
|	Tl	205	48.843	ug/L	1.552	3	116	1656867	2	Standard
⌊	Pb	208	50.539	ug/L	2.024	4	755	2184658	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB7
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 18:18:23
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	64470	3	Standard
	Cl	37		mg/L			5638032	5504668	4	Standard
>	Sc	45		ug/L			1280152	1271552	1	Standard
	Cr	52	0.090	ug/L	0.043	48	32985	34587	1	Standard
	Cr	53	0.010	ug/L	0.010	103	204	226	8	Standard
	Mn	55	0.001	ug/L	0.002	404	1641	1645	3	Standard
>	Ge-1	72		ug/L			51063	50710	1	KED
	Co	59	-0.001	ug/L	0.001	62	15	9	34	KED
	Ni	60	-0.000	ug/L	0.002	422	17	17	11	KED
	Ni	62	0.023	ug/L	0.006	27	1	5	21	KED
	Cu	63	-0.006	ug/L	0.007	115	1029	1005	1	KED
	Cu	65	0.000	ug/L	0.019	3966	521	518	3	KED
	Zn	66	-0.073	ug/L	0.039	53	133	109	10	KED
	Zn	67	-0.045	ug/L	0.095	213	19	17	29	KED
	Zn	68	-0.034	ug/L	0.064	187	90	81	21	KED
	As	75	0.011	ug/L	0.006	52	2	4	22	KED
	Se-1	78	0.012	ug/L	0.121	997	11	11	21	KED
	Y	89		ug/L			806732	804241	5	Standard
	Kr	83		ug/L			85	80	9	Standard
>	In-1	115		ug/L			15859	15714	4	KED
	Mo	98	0.015	ug/L	0.009	62	15	27	23	KED
	Cd	111	0.012	ug/L	0.015	132	0	3	105	KED
	Cd	114	0.006	ug/L	0.009	159	2	5	89	KED
>	In	115		ug/L			1112031	1110605	2	Standard
	Ag	107	-0.000	ug/L	0.000	162	62	57	15	Standard
	Sb	121	0.047	ug/L	0.007	14	156	834	10	Standard
	Sb	123	0.051	ug/L	0.005	9	105	665	6	Standard
	Ba	135	-0.001	ug/L	0.001	45	23	18	11	Standard
	Ba	137	0.000	ug/L	0.000	264	45	46	9	Standard
>	Tb	159		ug/L			1221778	1241987	2	Standard
	Tl	205	0.004	ug/L	0.001	19	116	240	7	Standard
	Pb	208	0.001	ug/L	0.001	135	755	805	3	Standard

AVZ3 : 08SH8

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWY6 MB REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 18:23:15
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	73881	2	Standard
	Cl	37		mg/L			5638032	5512787	1	Standard
⌈>	Sc	45		ug/L			1280152	1299668	1	Standard
|	Cr	52	0.143	ug/L	0.044	30	32985	36472	2	Standard
|	Cr	53	0.022	ug/L	0.013	59	204	264	13	Standard
⌊	Mn	55	-0.013	ug/L	0.002	18	1641	1281	5	Standard
⌈>	Ge-1	72		ug/L			51063	51664	1	KED
|	Co	59	-0.000	ug/L	0.001	220	15	13	20	KED
|	Ni	60	-0.004	ug/L	0.004	101	17	13	37	KED
|	Ni	62	0.008	ug/L	0.007	91	1	2	43	KED
|	Cu	63	-0.330	ug/L	0.006	1	1029	97	17	KED
|	Cu	65	-0.332	ug/L	0.002	0	521	64	2	KED
|	Zn	66	0.002	ug/L	0.058	3780	133	135	13	KED
|	Zn	67	-0.076	ug/L	0.159	208	19	15	55	KED
|	Zn	68	0.029	ug/L	0.020	71	90	99	3	KED
|	As	75	0.005	ug/L	0.006	115	2	3	33	KED
⌊	Se-1	78	-0.006	ug/L	0.034	592	11	11	4	KED
	Y	89		ug/L			806732	816291	3	Standard
	Kr	83		ug/L			85	86	10	Standard
⌈>	In-1	115		ug/L			15859	16013	2	KED
|	Mo	98	0.029	ug/L	0.008	28	15	39	17	KED
|	Cd	111	-0.001	ug/L	0.002	171	0	0	173	KED
⌊	Cd	114	0.000	ug/L	0.002	407	2	2	44	KED
⌈>	In	115		ug/L			1112031	1134644	1	Standard
|	Ag	107	0.002	ug/L	0.001	39	62	100	15	Standard
|	Sb	121	0.011	ug/L	0.001	6	156	325	3	Standard
|	Sb	123	0.012	ug/L	0.000	3	105	247	1	Standard
|	Ba	135	0.004	ug/L	0.003	87	23	40	34	Standard
⌊	Ba	137	0.004	ug/L	0.001	32	45	79	12	Standard
⌈>	Tb	159		ug/L			1221778	1289357	3	Standard
|	Tl	205	0.004	ug/L	0.000	10	116	273	4	Standard
⌊	Pb	208	0.001	ug/L	0.000	66	755	826	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWN2 A REN
Sample Dil Factor: 10
Comments:
Sample Date/Time: Friday, March 04, 2016 18:28:07
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	70794	3	Standard
	Cl	37		mg/L			5638032	5625384	0	Standard
>	Sc	45		ug/L			1280152	1326068	1	Standard
	Cr	52	2.209	ug/L	0.120	5	32985	81145	1	Standard
	Cr	53	2.330	ug/L	0.040	1	204	6154	0	Standard
	Mn	55	21762.258	ug/L	445.087	2	1641	659474799	0	Standard
>	Ge-1	72		ug/L			51063	42930	3	KED
	Co	59	1.727	ug/L	0.072	4	15	5530	1	KED
	Ni	60	1.518	ug/L	0.030	1	17	1394	1	KED
	Ni	62	1.472	ug/L	0.131	8	1	206	11	KED
	Cu	63	0.723	ug/L	0.053	7	1029	2580	1	KED
	Cu	65	0.746	ug/L	0.027	3	521	1302	2	KED
	Zn	66	6.627	ug/L	0.404	6	133	1944	4	KED
	Zn	67	11.600	ug/L	0.662	5	19	540	5	KED
	Zn	68	10.036	ug/L	0.879	8	90	2174	5	KED
	As	75	406.501	ug/L	15.354	3	2	70339	0	KED
	Se-1	78	0.272	ug/L	0.126	46	11	15	18	KED
	Y	89		ug/L			806732	764307	2	Standard
	Kr	83		ug/L			85	163	6	Standard
>	In-1	115		ug/L			15859	13658	2	KED
	Mo	98	0.457	ug/L	0.018	3	15	337	2	KED
	Cd	111	0.068	ug/L	0.002	2	0	13	3	KED
	Cd	114	0.046	ug/L	0.021	45	2	25	41	KED
>	In	115		ug/L			1112031	907969	2	Standard
	Ag	107	0.014	ug/L	0.002	18	62	261	15	Standard
	Sb	121	0.272	ug/L	0.005	1	156	3311	0	Standard
	Sb	123	0.265	ug/L	0.003	1	105	2479	2	Standard
	Ba	135	83.015	ug/L	1.964	2	23	297888	0	Standard
	Ba	137	82.079	ug/L	0.198	0	45	513420	1	Standard
>	Tb	159		ug/L			1221778	1140815	2	Standard
	Tl	205	0.008	ug/L	0.000	4	116	346	3	Standard
	Pb	208	1.460	ug/L	0.025	1	755	56699	3	Standard

AVZ9 : 00655

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWN2 C REN
Sample Dil Factor: 5
Comments:
Sample Date/Time: Friday, March 04, 2016 18:35:42

As only

Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	78116	3	Standard
	Cl	37		mg/L			5638032	5657861	3	Standard
⌈>	Sc	45		ug/L			1280152	1410595	2	Standard
|	Cr	52	**0.568**	ug/L	0.067	11	32985	49186	1	Standard
|	Cr	53	**0.680**	ug/L	0.025	3	204	2070	4	Standard
⌊	Mn	55	**748.972**	ug/L	18.922	2	1641	24144448	1	Standard
⌈>	Ge-1	72		ug/L			51063	51894	0	KED
|	Co	59	**0.655**	ug/L	0.006	0	15	2547	1	KED
|	Ni	60	**0.445**	ug/L	0.004	0	17	507	1	KED
|	Ni	62	**0.485**	ug/L	0.074	15	1	83	15	KED
|	Cu	63	**-0.316**	ug/L	0.005	1	1029	137	10	KED
|	Cu	65	**-0.321**	ug/L	0.004	1	521	81	7	KED
|	Zn	66	**0.974**	ug/L	0.065	6	133	462	5	KED
|	Zn	67	**4.043**	ug/L	0.788	19	19	240	17	KED
|	Zn	68	**3.155**	ug/L	0.236	7	90	890	6	KED
|	As	75	**161.824**	ug/L	2.265	1	2	33875	0	KED
⌊	Se-1	78	**0.020**	ug/L	0.077	393	11	12	13	KED
	Y	89		ug/L			806732	841117	0	Standard
	Kr	83		ug/L			85	111	11	Standard
⌈>	In-1	115		ug/L			15859	15746	2	KED
|	Mo	98	**0.154**	ug/L	0.036	23	15	141	19	KED
|	Cd	111	**0.007**	ug/L	0.007	93	0	2	65	KED
⌊	Cd	114	**0.002**	ug/L	0.000	6	2	3	3	KED
⌈>	In	115		ug/L			1112031	1126876	0	Standard
|	Ag	107	**0.002**	ug/L	0.001	56	62	97	19	Standard
|	Sb	121	**0.111**	ug/L	0.001	0	156	1777	0	Standard
|	Sb	123	**0.113**	ug/L	0.007	6	105	1368	5	Standard
|	Ba	135	**31.533**	ug/L	0.562	1	23	140495	1	Standard
⌊	Ba	137	**31.491**	ug/L	0.555	1	45	244519	1	Standard
⌈>	Tb	159		ug/L			1221778	1321333	2	Standard
|	Tl	205	**0.001**	ug/L	0.000	30	116	165	5	Standard
⌊	Pb	208	**-0.002**	ug/L	0.001	46	755	710	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWN7 E REN
Sample Dil Factor: 5 As
Comments:
Sample Date/Time: Friday, March 04, 2016 18:41:38
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	82264	3	Standard
	Cl	37		mg/L			5638032	6961448	3	Standard
>	Sc	45		ug/L			1280152	1373155	1	Standard
	Cr	52	**8.489**	ug/L	0.205	2	32985	222390	1	Standard
	Cr	53	**8.893**	ug/L	0.193	2	204	23698	0	Standard
	Mn	55	**414.816**	ug/L	8.958	2	1641	13019853	2	Standard
>	Ge-1	72		ug/L			51063	51309	1	KED
	Co	59	**0.055**	ug/L	0.006	11	15	224	8	KED
	Ni	60	**1.103**	ug/L	0 019	1	17	1216	1	KED
	Ni	62	**1.152**	ug/L	0.036	3	1	193	4	KED
	Cu	63	**-0.044**	ug/L	0.017	37	1029	907	3	KED
	Cu	65	**-0.058**	ug/L	0.021	36	521	443	6	KED
	Zn	66	**0.836**	ug/L	0.089	10	133	410	6	KED
	Zn	67	**1.576**	ug/L	0.174	11	19	104	7	KED
	Zn	68	**1.252**	ug/L	0.033	2	90	404	2	KED
	As	75	**226.879**	ug/L	4.712	2	2	46947	0	KED
	Se-1	78	**0.206**	ug/L	0.111	53	11	16	16	KED
	Y	89		ug/L			806732	803544	1	Standard
	Kr	83		ug/L			85	83	6	Standard
>	In-1	115		ug/L			15859	15421	1	KED
	Mo	98	**0.135**	ug/L	0.012	9	15	123	9	KED
	Cd	111	**0.004**	ug/L	0.009	205	0	1	124	KED
	Cd	114	**-0.000**	ug/L	0.002	497	2	2	55	KED
>	In	115		ug/L			1112031	1102157	2	Standard
	Ag	107	**0.001**	ug/L	0.000	41	62	84	13	Standard
	Sb	121	**0.189**	ug/L	0.011	5	156	2837	3	Standard
	Sb	123	**0.185**	ug/L	0.010	5	105	2126	6	Standard
	Ba	135	**6.241**	ug/L	0.140	2	23	27208	1	Standard
	Ba	137	**6.011**	ug/L	0.041	0	45	45680	1	Standard
>	Tb	159		ug/L			1221778	1316135	2	Standard
	Tl	205	**0.002**	ug/L	0.001	27	116	198	9	Standard
	Pb	208	**0.005**	ug/L	0.001	24	755	1046	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWN7 D REN As
Sample Dil Factor: 5
Comments:
Sample Date/Time: Friday, March 04, 2016 18:46:29
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	80263	4	Standard
	Cl	37		mg/L			5638032	6887004	3	Standard
⌈>	Sc	45		ug/L			1280152	1372728	0	Standard
|	Cr	52	8.369	ug/L	0.117	1	32985	219695	1	Standard
|	Cr	53	8.635	ug/L	0.353	4	204	23018	4	Standard
⌊	Mn	55	409.959	ug/L	3.986	0	1641	12865528	1	Standard
⌈>	Ge-1	72		ug/L			51063	50718	0	KED
|	Co	59	0.054	ug/L	0.002	4	15	218	4	KED
|	Ni	60	1.071	ug/L	0.060	5	17	1167	4	KED
|	Ni	62	1.046	ug/L	0.119	11	1	173	12	KED
|	Cu	63	-0.064	ug/L	0.014	22	1029	841	5	KED
|	Cu	65	-0.086	ug/L	0.012	14	521	400	3	KED
|	Zn	66	0.860	ug/L	0.089	10	133	413	6	KED
|	Zn	67	1.479	ug/L	0.189	12	19	98	9	KED
|	Zn	68	1.340	ug/L	0.102	7	90	421	5	KED
|	As	75	226.326	ug/L	4.752	2	2	46299	1	KED
⌊	Se-1	78	0.046	ug/L	0.102	224	11	12	18	KED
	Y	89		ug/L			806732	808644	1	Standard
	Kr	83		ug/L			85	95	27	Standard
⌈>	In-1	115		ug/L			15859	15684	3	KED
|	Mo	98	0.128	ug/L	0.013	10	15	119	8	KED
|	Cd	111	0.006	ug/L	0.000	4	0	1		KED
⌊	Cd	114	-0.005	ug/L	0.003	64	2	0	389	KED
⌈>	In	115		ug/L			1112031	1114481	1	Standard
|	Ag	107	0.001	ug/L	0.000	54	62	79	11	Standard
|	Sb	121	0.168	ug/L	0.008	4	156	2573	3	Standard
|	Sb	123	0.171	ug/L	0.008	4	105	1993	2	Standard
|	Ba	135	6.042	ug/L	0.098	1	23	26637	0	Standard
⌊	Ba	137	6.018	ug/L	0.096	1	45	46237	0	Standard
⌈>	Tb	159		ug/L			1221778	1310323	3	Standard
|	Tl	205	0.001	ug/L	0.001	40	116	175	15	Standard
⌊	Pb	208	0.002	ug/L	0.001	55	755	883	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWY6 A REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 18:54:05
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	83277	3	Standard
	Cl	37		mg/L			5638032	6897737	1	Standard
>	Sc	45		ug/L			1280152	1399212	1	Standard
	Cr	52	1.512	ug/L	0.098	6	32985	69977	1	Standard
	Cr	53	2.255	ug/L	0.070	3	204	6289	2	Standard
	Mn	55	0.660	ug/L	0.035	5	1641	22885	3	Standard
>	Ge-1	72		ug/L			51063	51762	0	KED
	Co	59	0.013	ug/L	0.002	16	15	65	13	KED
	Ni	60	0.784	ug/L	0.032	4	17	877	3	KED
	Ni	62	0.795	ug/L	0.139	17	1	135	17	KED
	Cu	63	5.092	ug/L	0.126	2	1029	15638	2	KED
	Cu	65	5.036	ug/L	0.141	2	521	7563	2	KED
	Zn	66	1.430	ug/L	0.146	10	133	612	7	KED
	Zn	67	1.545	ug/L	0.184	11	19	104	10	KED
	Zn	68	1.620	ug/L	0.046	2	90	500	2	KED
	As	75	0.113	ug/L	0.016	13	2	26	12	KED
	Se-1	78	0.007	ug/L	0.123	1762	11	12	23	KED
	Y	89		ug/L			806732	862637	2	Standard
	Kr	83		ug/L			85	86	3	Standard
>	In-1	115		ug/L			15859	16438	2	KED
	Mo	98	0.431	ug/L	0.005	1	15	384	2	KED
	Cd	111	0.013	ug/L	0.012	90	0	3	75	KED
	Cd	114	0.000	ug/L	0.006	1311	2	2	140	KED
>	In	115		ug/L			1112031	1142184	0	Standard
	Ag	107	0.006	ug/L	0.002	27	62	183	18	Standard
	Sb	121	0.078	ug/L	0.003	3	156	1313	3	Standard
	Sb	123	0.079	ug/L	0.004	4	105	1001	5	Standard
	Ba	135	0.980	ug/L	0.013	1	23	4449	0	Standard
	Ba	137	0.957	ug/L	0.009	0	45	7572	0	Standard
>	Tb	159		ug/L			1221778	1318286	2	Standard
	Tl	205	0.008	ug/L	0.001	8	116	419	6	Standard
	Pb	208	0.075	ug/L	0.002	2	755	4146	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AWY6 MBSPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, March 04, 2016 19:01:40
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	81126	1	Standard
	Cl	37		mg/L			5638032	5925723	1	Standard
>	Sc	45		ug/L			1280152	1331811	2	Standard
	Cr	52	27.371	ug/L	0.409	1	32985	619129	2	Standard
	Cr	53	27.480	ug/L	0.764	2	204	70567	0	Standard
	Mn	55	28.187	ug/L	0.694	2	1641	859863	3	Standard
>	Ge-1	72		ug/L			51063	53647	2	KED
	Co	59	25.192	ug/L	0.741	2	15	100614	0	KED
	Ni	60	25.931	ug/L	0.706	2	17	29465	0	KED
	Ni	62	25.976	ug/L	1.530	5	1	4530	3	KED
	Cu	63	26.343	ug/L	0.936	3	1029	79307	2	KED
	Cu	65	25.851	ug/L	0.876	3	521	37957	1	KED
	Zn	66	79.185	ug/L	1.258	1	133	27525	2	KED
	Zn	67	73.227	ug/L	2.501	3	19	4152	2	KED
	Zn	68	75.667	ug/L	0.846	1	90	19891	1	KED
	As	75	23.904	ug/L	0.815	3	2	5173	1	KED
	Se-1	78	72.376	ug/L	0.999	1	11	1725	1	KED
	Y	89		ug/L			806732	816223	1	Standard
	Kr	83		ug/L			85	97	11	Standard
>	In-1	115		ug/L			15859	16510	1	KED
	Mo	98	0.005	ug/L	0.010	205	15	20	42	KED
	Cd	111	25.345	ug/L	0.685	2	0	6073	1	KED
	Cd	114	24.576	ug/L	0.551	2	2	15208	0	KED
>	In	115		ug/L			1112031	1150313	0	Standard
	Ag	107	27.736	ug/L	0.284	1	62	545559	0	Standard
	Sb	121	-0.004	ug/L	0.002	42	156	107	21	Standard
	Sb	123	-0.002	ug/L	0.002	98	105	91	20	Standard
	Ba	135	25.872	ug/L	0.177	0	23	117671	0	Standard
	Ba	137	26.077	ug/L	0.480	1	45	206683	1	Standard
>	Tb	159		ug/L			1221778	1284567	0	Standard
	Tl	205	25.716	ug/L	1.234	4	116	871935	4	Standard
	Pb	208	26.901	ug/L	0.811	3	755	1162631	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 L SWN
Sample Dil Factor: 50 Pb
Comments:
Sample Date/Time: Friday, March 04, 2016 19:07:36
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	73405	1	Standard
	Cl	37		mg/L			5638032	5778907	1	Standard
>	Sc	45		ug/L			1280152	1380370	0	Standard
	Cr	52	23.254	ug/L	0.669	2	32985	550590	2	Standard
	Cr	53	23.347	ug/L	0 330	1	204	62200	1	Standard
	Mn	55	148.322	ug/L	2.245	1	1641	4681470	1	Standard
>	Ge-1	72		ug/L			51063	53390	2	KED
	Co	59	4.034	ug/L	0.226	5	15	16040	3	KED
	Ni	60	12.690	ug/L	0.302	2	17	14359	0	KED
	Ni	62	12.512	ug/L	0.298	2	1	2175	5	KED
	Cu	63	24.418	ug/L	1.403	5	1029	73190	2	KED
	Cu	65	24.295	ug/L	0.916	3	521	35529	2	KED
	Zn	66	108.129	ug/L	4.217	3	133	37336	2	KED
	Zn	67	102.438	ug/L	4.755	4	19	5770	2	KED
	Zn	68	103.132	ug/L	4.377	4	90	26929	1	KED
	As	75	5.758	ug/L	0.151	2	2	1242	2	KED
	Se-1	78	0.687	ug/L	0.223	32	11	28	16	KED
	Y	89		ug/L			806732	1018815	3	Standard
	Kr	83		ug/L			85	128	14	Standard
>	In-1	115		ug/L			15859	16615	1	KED
	Mo	98	0.848	ug/L	0.043	5	15	748	4	KED
	Cd	111	0.346	ug/L	0.014	3	0	84	3	KED
	Cd	114	0.282	ug/L	0.024	8	2	178	9	KED
>	In	115		ug/L			1112031	1173902	0	Standard
	Ag	107	0.329	ug/L	0.005	1	62	6672	1	Standard
	Sb	121	0.029	ug/L	0.002	8	156	606	5	Standard
	Sb	123	0.029	ug/L	0.004	12	105	453	8	Standard
	Ba	135	26.362	ug/L	0.381	1	23	122358	1	Standard
	Ba	137	25.762	ug/L	0.557	2	45	208368	1	Standard
>	Tb	159		ug/L			1221778	1334612	2	Standard
	Tl	205	0.027	ug/L	0.002	6	116	1089	6	Standard
	Pb	208	213.320	ug/L	9 970	4	755	9566094	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: AVZ9 N SWN
Sample Dil Factor: 50 Pb
Comments:
Sample Date/Time: Friday, March 04, 2016 19:12:27
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	75337	2	Standard
	Cl	37		mg/L			5638032	5788597	0	Standard
⌈>	Sc	45		ug/L			1280152	1393142	2	Standard
|	Cr	52	24.804	ug/L	0.541	2	32985	590229	2	Standard
|	Cr	53	24.542	ug/L	0.301	1	204	65993	3	Standard
⌊	Mn	55	167.970	ug/L	6.114	3	1641	5346953	0	Standard
⌈>	Ge-1	72		ug/L			51063	53069	0	KED
|	Co	59	4.350	ug/L	0.145	3	15	17203	2	KED
|	Ni	60	14.104	ug/L	0.302	2	17	15866	1	KED
|	Ni	62	14.295	ug/L	0.552	3	1	2468	3	KED
|	Cu	63	24.998	ug/L	0.441	1	1029	74525	0	KED
|	Cu	65	24.321	ug/L	0.232	0	521	35371	0	KED
|	Zn	66	111.303	ug/L	2.534	2	133	38212	1	KED
|	Zn	67	106.084	ug/L	2.406	2	19	5942	1	KED
|	Zn	68	107.766	ug/L	0.855	0	90	27986	0	KED
|	As	75	6.296	ug/L	0.194	3	2	1350	2	KED
⌊	Se-1	78	0.658	ug/L	0.185	28	11	27	15	KED
	Y	89		ug/L			806732	1026013	0	Standard
	Kr	83		ug/L			85	133	7	Standard
⌈>	In-1	115		ug/L			15859	16496	2	KED
|	Mo	98	0.948	ug/L	0.091	9	15	829	9	KED
|	Cd	111	0.326	ug/L	0.023	6	0	78	4	KED
⌊	Cd	114	0.349	ug/L	0.030	8	2	218	9	KED
⌈>	In	115		ug/L			1112031	1149017	1	Standard
|	Ag	107	0.361	ug/L	0.012	3	62	7154	2	Standard
|	Sb	121	0.036	ug/L	0.002	5	156	689	3	Standard
|	Sb	123	0.036	ug/L	0.001	2	105	518	2	Standard
|	Ba	135	24.396	ug/L	0.329	1	23	110826	0	Standard
⌊	Ba	137	24.012	ug/L	0.528	2	45	190097	1	Standard
⌈>	Tb	159		ug/L			1221778	1324901	0	Standard
|	Tl	205	0.030	ug/L	0.001	4	116	1177	4	Standard
⌊	Pb	208	197.421	ug/L	6.474	3	755	8794883	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV8
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 19:20:04
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	70673	8	Standard
	Cl	37		mg/L			5638032	5717783	1	Standard
>	Sc	45		ug/L			1280152	1309428	2	Standard
	Cr	52	53.477	ug/L	1.108	2	32985	1157015	1	Standard
	Cr	53	53.807	ug/L	1.146	2	204	135676	0	Standard
	Mn	55	53.841	ug/L	1.722	3	1641	1612453	1	Standard
>	Ge-1	72		ug/L			51063	53806	2	KED
	Co	59	48.895	ug/L	1.274	2	15	195835	0	KED
	Ni	60	49.674	ug/L	1.561	3	17	56584	0	KED
	Ni	62	50.418	ug/L	0.676	1	1	8824	2	KED
	Cu	63	50.909	ug/L	2.301	4	1029	152656	2	KED
	Cu	65	49.287	ug/L	1.429	2	521	72077	0	KED
	Zn	66	49.674	ug/L	2.013	4	133	17361	2	KED
	Zn	67	51.256	ug/L	2.075	4	19	2920	1	KED
	Zn	68	51.089	ug/L	1.735	3	90	13494	0	KED
	As	75	49.378	ug/L	1.353	2	2	10714	0	KED
	Se-1	78	47.251	ug/L	0.546	1	11	1134	2	KED
	Y	89		ug/L			806732	834313	2	Standard
	Kr	83		ug/L			85	122	8	Standard
>	In-1	115		ug/L			15859	16125	1	KED
	Mo	98	48.960	ug/L	0.406	0	15	41032	1	KED
	Cd	111	50.959	ug/L	1.162	2	0	11928	1	KED
	Cd	114	50.178	ug/L	1.024	2	2	30325	0	KED
>	In	115		ug/L			1112031	1140473	0	Standard
	Ag	107	53.289	ug/L	0.220	0	62	1039192	0	Standard
	Sb	121	51.894	ug/L	0.746	1	156	763943	1	Standard
	Sb	123	50.599	ug/L	0.487	0	105	573062	1	Standard
	Ba	135	51.718	ug/L	0.713	1	23	233188	1	Standard
	Ba	137	51.329	ug/L	0.713	1	45	403320	1	Standard
>	Tb	159		ug/L			1221778	1309316	0	Standard
	Tl	205	48.828	ug/L	2.052	4	116	1687345	4	Standard
	Pb	208	50.645	ug/L	1.476	2	755	2230250	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB8
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, March 04, 2016 19:27:40
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nominSeKED_UCT_CrShort.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\030416a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			65389	71540	1	Standard
	Cl	37		mg/L			5638032	5739830	1	Standard
>	Sc	45		ug/L			1280152	1287027	1	Standard
	Cr	52	0.130	ug/L	0.033	25	32985	35849	1	Standard
	Cr	53	0.014	ug/L	0.006	43	204	240	5	Standard
	Mn	55	0.010	ug/L	0.002	24	1641	1933	2	Standard
>	Ge-1	72		ug/L			51063	52324	1	KED
	Co	59	0.000	ug/L	0.001	1884	15	15	30	KED
	Ni	60	0.004	ug/L	0.005	145	17	22	26	KED
	Ni	62	0.011	ug/L	0.017	154	1	3	91	KED
	Cu	63	0.008	ug/L	0.008	98	1029	1078	2	KED
	Cu	65	-0.019	ug/L	0.015	78	521	507	5	KED
	Zn	66	-0.055	ug/L	0.019	34	133	118	6	KED
	Zn	67	-0.008	ug/L	0.075	905	19	19	20	KED
	Zn	68	-0.056	ug/L	0.042	74	90	78	14	KED
	As	75	0.013	ug/L	0.008	57	2	5	30	KED
	Se-1	78	-0.014	ug/L	0.126	930	11	11	26	KED
	Y	89		ug/L			806732	829468	2	Standard
	Kr	83		ug/L			85	92	2	Standard
>	In-1	115		ug/L			15859	15951	2	KED
	Mo	98	0.023	ug/L	0.007	33	15	34	16	KED
	Cd	111	0.001	ug/L	0.004	296	0	0	100	KED
	Cd	114	0.002	ug/L	0.009	396	2	3	136	KED
>	In	115		ug/L			1112031	1140493	1	Standard
	Ag	107	0.000	ug/L	0.001	3087	62	64	14	Standard
	Sb	121	0.049	ug/L	0.004	7	156	878	7	Standard
	Sb	123	0.048	ug/L	0.003	5	105	655	3	Standard
	Ba	135	-0.001	ug/L	0.001	185	23	21	20	Standard
	Ba	137	-0.000	ug/L	0.002	589	45	43	45	Standard
>	Tb	159		ug/L			1221778	1296567	3	Standard
	Tl	205	0.002	ug/L	0.001	26	116	203	7	Standard
	Pb	208	0.001	ug/L	0.001	115	755	849	8	Standard

ANALYTICAL RESOURCES INCORPORATED

Metals Data Review Checklist

Method: ICP ICP-MS GFA (CVA)

Analysis Date: 3/2/16

	Analyst MH 3/2/16	Peer 3-2-16	Comment
Logbook:			
Analyst, Date, Method info	✓	✓	
Sample ID's	✓	✓	
Standard/QC solution ID's recorded	✓	✓	
Prep codes	✓	✓	
Dilution factors	✓	✓	
Crossouts/Corrections/Deletions	✓	✓	
Calibration:			
Blank & Standard intensities	✓	✓	
Standard deviations	✓	✓	
Curve fit	✓	✓	
Calibration Verification:			
ICV/CCV	✓	✓	
ICB/CCB	✓	✓	
Samples:			
RSD's & SD's	✓	✓	
Internal Standards	✓	✓	
Carry-over	✓	✓	
Method QC:			
CRI/CRA	✓	✓	
ICSA/ICSAB	–	–	
Post Spikes/Serial Dilutions	–	–	
Analytic Spikes	–	–	
Matrix QC:			
SRM/LCS	✓	✓	
Matrix Spikes	✓	✓	
Matrix Duplicates	✓	✓	
Method Blanks	✓	✓	
Data Distribution:			
Requested elements/isotope identified	✓	✓	
Correct samples identified for distribution	✓	✓	
Raw data match distributed data	✓	✓	
Data filename correct	✓	✓	
Necessary Analysts Notes and CAF's	–	–	

Mercury Analysis Log

Analyst: MH

Instrument: CETAC

Date: 3/2/16

Page: 1 of 1

ARI Sample ID	Prep Code	Dilution	QC Data (ppb)	Comments	
STD 0.0	TWM	1x			
0.1					
0.5					
1.0					
2.0					
5.0					
10.0					
ICV			8.07	%R = 101 ; Begin CLP	✓
ICB			-0.08		✓
CCV1			3.95	%R = 99	✓
CCB1			-0.02		✓
CRA			0.09		✓
AV79 MB2			0.01		✓
" MB2SPK			1.99	%R = 100%	✓
" AQ			-0.01		
" AQDUP			0.01	NO RPD ; undetected	✓
" AQSPK			1.03	%R = 103	✓
CCV 2			3.97	%R = 99	✓
CCB 2			-0.01	END CLP	✓
~~AWR2 MB~~ CCV3			3.93	%R = 98	✓
~~A~~ CCB3	TWM		-0.01		✓
AWR2 MB ~~ADUP~~	LEM		0.01		✓
" A			0.00		
" ADUP			0.01	No RPD; Undetected	✓
" ASPK			3.75	%R = 115	✓
AWR3 MB			-0.01		✓
" A	LEM				
CCV4	TWM		4.01	%R = 4.01	✓
CCB4		1x	-0.01		✓
		MA 5/2/16			

MH 3/2/16

Chemical/Reagent ID:

10% $SnCl_2$: E0329

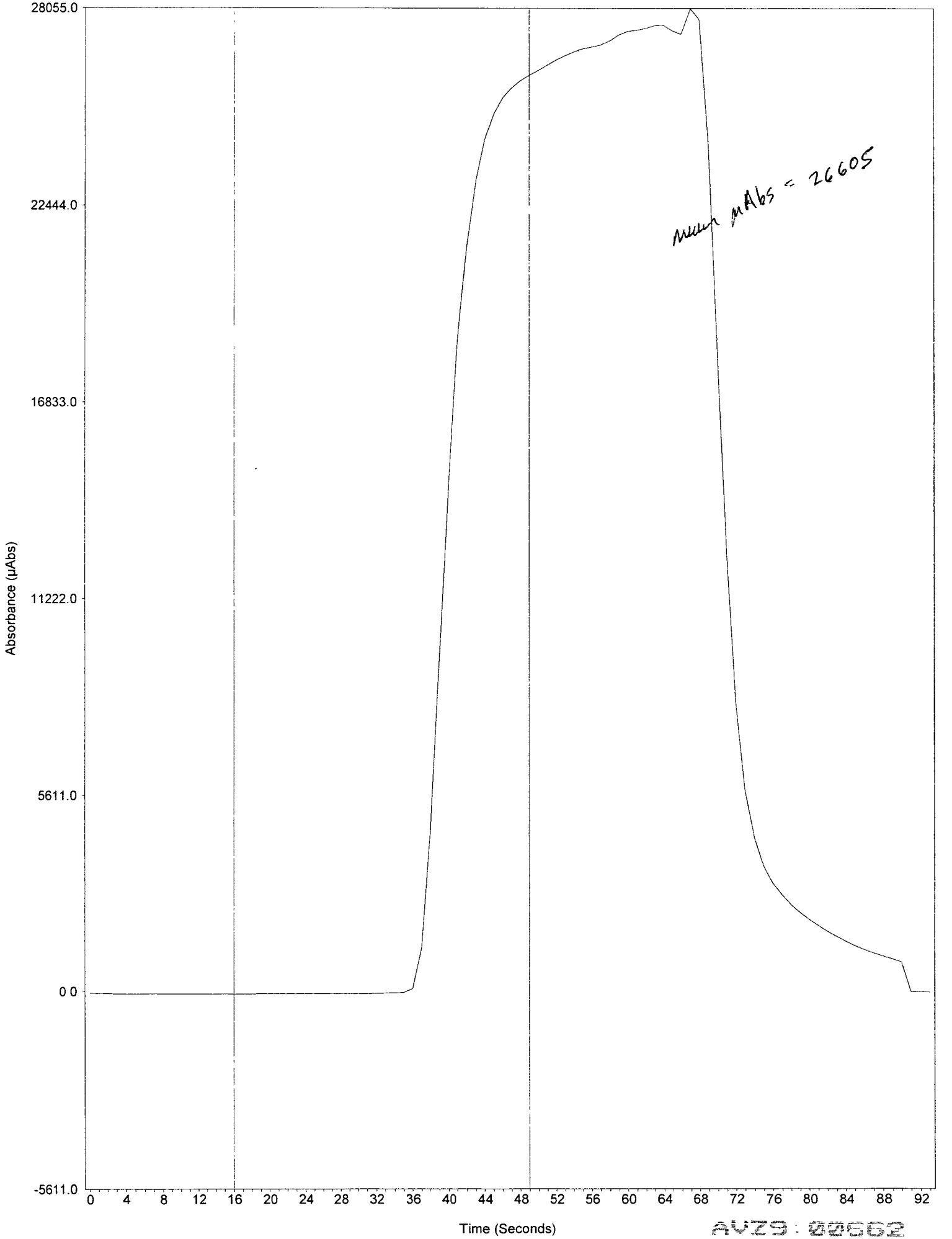
14% $NH_2OH/NaCl$: E0263

Standard ID:

Standard: 3071-3

ICV/CCV: D0176

Std Tube 6 03/02/2016, 10:48 AM



CETAC Hg Analysis Report - 16030200.DB - Wednesday, March 02, 2016, 11:42:08 AM

Analyst
Date Started Wednesday, March 02, 2016, 10:48:02
Worksheet ARI 10ppb CALIB
Comment

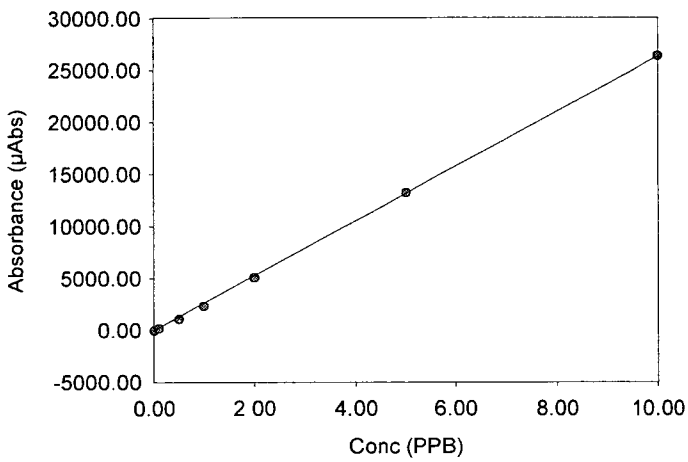
* All concentrations are dilution corrected.

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
Std Tube 6	02-Mar-2016, 10:48	10.00	0.86	26600.00	1 00	

Information about this calibration could not be retrieved from the Master File

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
Calibration Zero	02-Mar-2016, 10:50	0.00	11.30	-23.10	1.00	
Standard #1	02-Mar-2016, 10:52	0.10	1.28	204.00	1.00	
Standard #2	02-Mar-2016, 10:53	0.50	0.55	1080.00	1.00	
Standard #3	02-Mar-2016, 10:55	1.00	0.38	2330.00	1.00	
Standard #4	02-Mar-2016, 10:56	2 00	0.43	5050.00	1.00	
Standard #5	02-Mar-2016, 10:58	5 00	0.54	13200.00	1.00	
Standard #6	02-Mar-2016, 11:00	10.00	0.56	26400.00	1 00	

Calibration Data



Int.	0.000
Slope	2631.981
Correlation	0.99982

TWM

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
ICV	02-Mar-2016, 11:04	8.07	0.51	21200.00	1.00	Begin CLP
ICB	02-Mar-2016, 11:08	-0.08	1.32	-213.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
QC Standard	02-Mar-2016, 11 10	3.95	0.78	10400.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
QC Blank	02-Mar-2016, 11:11	-0.02	9.54	-57.90	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
CRA	02-Mar-2016, 11.13	0.09	0.62	233.00	1.00	
AVZ9 MB2 TWM	02-Mar-2016, 11:14	0.01	21.70	15.40	1 00	
AVZ9 MB2SPK TWM	02-Mar-2016, 11:16	1.99	0.82	5230.00	1.00	
AVZ9 AQ TWM	02-Mar-2016, 11:18	-0 01	6.27	-26.00	1.00	
AVZ9 AQDUP TWM	02-Mar-2016, 11:19	0.01	3.53	23.10	1.00	
AVZ9 AQSPK TWM	02-Mar-2016, 11:21	1.03	0.86	2700.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
QC Standard	02-Mar-2016, 11:22	3 97	0.55	10400.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
QC Blank	02-Mar-2016, 11:24	-0.01	5.34	-29 30	1.00	END CLP

AVZ9 : 00663

CETAC Hg Analysis Report - 16030200.DB - Wednesday, March 02, 2016, 11:42:09 AM

Analyst	
Date Created:	Thursday, July 13, 2000
Worksheet	ARI 10ppb CALIB
Comment	
Sip Duration (Sec.):	30
Rinse Duration (Sec.):	60
Read Delay:	49
Integration Time/Replicate:	1.40
# of Replicates:	4
# of Repeats:	1
Baseline Correction Enabled:	True
Baseline Point 1 Start Time:	10
Baseline Point 1 End Time:	16
2-Point Baseline Corr. Enabled:	False
Baseline Point 2 Start Time:	
Baseline Point 2 End Time:	
Gas Flow (ml/min):	180
Calibration Algorithm:	Linear, Zero Intercept
Recalibration Frequency:	0
Reslope Frequency:	0
Reslope Standard:	5
Calibration Standard #1 Conc.:	0 10 PPB
Calibration Standard #2 Conc.:	0.50 PPB
Calibration Standard #3 Conc.:	1 00 PPB
Calibration Standard #4 Conc.:	2 00 PPB
Calibration Standard #5 Conc.:	5.00 PPB
Calibration Standard #6 Conc.:	10 00 PPB
QC Enabled:	True
QC-RSD Enabled:	True
Limit Condition & Error Action:	If %RSD > 5.0%, if µAbs. > 1500, Flag and Continue
QC-Std Enabled:	True
Limit Condition & Error Action:	If outside 80% .. 120%,Stop
QC-Blank Enabled:	True
Limit Condition & Error Action:	If outside -100 .. 100,Stop

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Mercury Standard Prep Log

MH 3/24/16

Prep Code: SMM
Analyst: MH
Bath Temp: 94°C
Start Time: 900
Instrument: CETAC
Date: 2/23/16
End Time: 930

Standard ID	Stock ID	Volume Added (mL)	Final Volume (mL)	Standard Conc. (µg/L)	Number Made
STD0	—	0.00	50.0	0.0	3
STD1	3071-2	0.01		0.1	2
STD2		0.05		0.5	2
STD3		0.10		1.0	2
STD4		0.20		2.0	2
STD5		0.50		5.0	2
STD6		1.00		10.0	2
CRA		0.01		0.1	1
ICB/CCB	—	0.00		0.0	3
ICV/LCS	D0176	0.08		8.0	2
CCV		0.04	50.0	4.0	3

Chemical/Reagent ID:

HNO_3: D4652 H_2SO_4: D2685 HCl: —
5% $K_2S_2O_8$: D4750 5% $KMnO_4$: D4751

Prep Code: TWM
Analyst: MH
Bath Temp: 94°C
20.0 mL digested
Start Time: 1100
Instrument: CETAC
Date: 3/1/16
End Time: 1300

Standard ID	Stock ID	Volume Added (mL)	Final Volume (mL)	Standard Conc. (µg/L)	Number Made
STD0	—	0.00	100.0	0.0	
STD1	3071-3	0.01		0.1	
STD2		0.05		0.5	
STD3		0.10		1.0	
STD4		0.20		2.0	
STD5		0.50		5.0	
STD6		1.00		10.0	
CRA		0.01		0.1	
ICB/CCB	—	0.00		0.0	
ICV/LCS	D0176	0.16		3/16 ~~0.8~~ 8.0	
CCV		0.08	100.0	4.0	

Chemical/Reagent ID:

HNO_3: D4652 H_2SO_4: D2685 HCl: —
5% $K_2S_2O_8$: D4750 5% $KMnO_4$: D4751

AVZ9 00665

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Mercury Digestion Log

Prep Code: TWM
Matrix: water
Analyst: MH
Date: 3/2/16
Bath Temp: 94°C
Start Time: 900
End Time: 1100

ARI Sample ID	Sample Bottle #	pH<2	Initial ~~Weight (g)~~ Volume (mL)	Final Volume (mL)	# $KMnO_4$ Aliquots	CLP	Comments
AVZ9 AQ	5	✓	20.0	20.0	5/5 1	Y	
" AQDUP	5	✓			1		
" AQSPK	5	✓			1		
" MB2	—	—			1		
"MB2SPK	—	—	20.0	20.0	1	Y	
			MH 3/2/16				

Chemical/Reagent ID:

HNO_3: D4652
H_2SO_4: D2695
HCl: —
5% $K_2S_2O_8$: D4750
5% $KMnO_4$: D4751
Digest Tube Lot: 1509104

AVZ9 : 00666

ANALYTICAL RESOURCES INCORPORATED

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA

Analysis Date: 3/4/16

	Analyst AEK 3/4/16	Peer 3-4-16	Comment
Logbook:			
Analyst, Date, Method info	✓	—	
Sample ID's	✓	—	
Standard/QC solution ID's recorded	✓	—	
Prep codes	✓	—	
Dilution factors	✓	—	
Crossouts/Corrections/Deletions	✓	—	
Calibration:			
Blank & Standard intensities	✓	—	
Standard deviations	✓	—	
Curve fit	✓	—	
Calibration Verification:			
ICV/CCV	✓	—	
ICB/CCB	✓	—	
Samples:			
RSD's & SD's	✓	—	
Internal Standards	✓	—	
Carry-over	✓	—	
Method QC:			
CRI/CRA	✓	—	
ICSA/ICSAB	—	—	
Post Spikes/Serial Dilutions	—	—	
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	✓	—	
Matrix Spikes	✓	—	
Matrix Duplicates	✓	—	
Method Blanks	✓	—	
Data Distribution:			
Requested elements/isotope identified	✓	—	
Correct samples identified for distribution	✓	—	
Raw data match distributed data	✓	—	
Data filename correct	✓	—	
Necessary Analysts Notes and CAF's	✓	—	See Yellow

AVZ9 : 00607

Mercury Analysis Log

Analyst: MH

Instrument: CETAC

Date: 3/4/16

Page: 1 of 3

ARI Sample ID	Prep Code	Dilution	QC Data (ppb)	Comments	
STD 0.0	SMM	1x			
" 0.1					
" 0.5					
" 1.0					
" 2.0					
" 5.0					
" 10.0					
ICV			8.58	Begin CLP ; %R = 107	✓
ICB			-0.08		✓
CCV1			3.98	%R = 100	✓
CCB1			-0.03		✓
CRA			0.10		✓
AWM2 MB1			-0.01		✓
" MB1SPK			2.07	%R = 104	✓
" A			0.20		
" ADUP			0.21	Diff < 0.1	✓
" ASPK			1.18	%R = 98	✓
" B					
" C					
" D					
" E					
CCV2			3.66	%R = 92	✓
CCB2			-0.04		✓
AWN6 A					
" B					
AWQ4 MB1			-0.00		X
" MB1SPK			1.97	%R = 99	X
" O			0.22		X
" ODUP	↓	↓	1.19	Diff > 0.1 Hg C	X
" OSPK	SMM	1x	1.18	% R = 96	X

Chemical/Reagent ID:
10% $SnCl_2$: E0329

14% $NH_2OH/NaCl$: E0263

Standard ID:
Standard: 3070-4

ICV/CCV: D0176

AVZ9 00668

Mercury Analysis Log

Analyst: MH

Instrument: CVAA

Date: 3/4/16

Page: 2 of 3

ARI Sample ID	Prep Code	Dilution	QC Data (ppb)	Comments
AV29 MB1	SMM	1x	-0.02	✓
" MB1SPK			1.93	%R = 96 ✓
" A ~~CCV3~~			0.08	
MH 3/4/16 ~~CCB3~~ CCV3			3.81	% R = 95 ✓
~~AV29 A~~ CCB3			-0.03	✓
AV29 ADUP			0.11	Diff < 0.1 ✓
" ASPK			1.09	% R = 109 ✓
" B			0.05	
" C			0.18	
" D				
" E				
" F				
" G				
" H				
" I				
CCV 4			3.69	%R = 92 ✓
CCB 4			-0.03	✓
AV29 J				
" K				
" L				
" M				
" N				
" O				
" P				
CCV 5			3.83	%R = 96 ✓
CCB 5	SMM	1x	-0.04	✓
			MH 3/4/16	

Chemical/Reagent ID:

10% $SnCl_2$: E0329

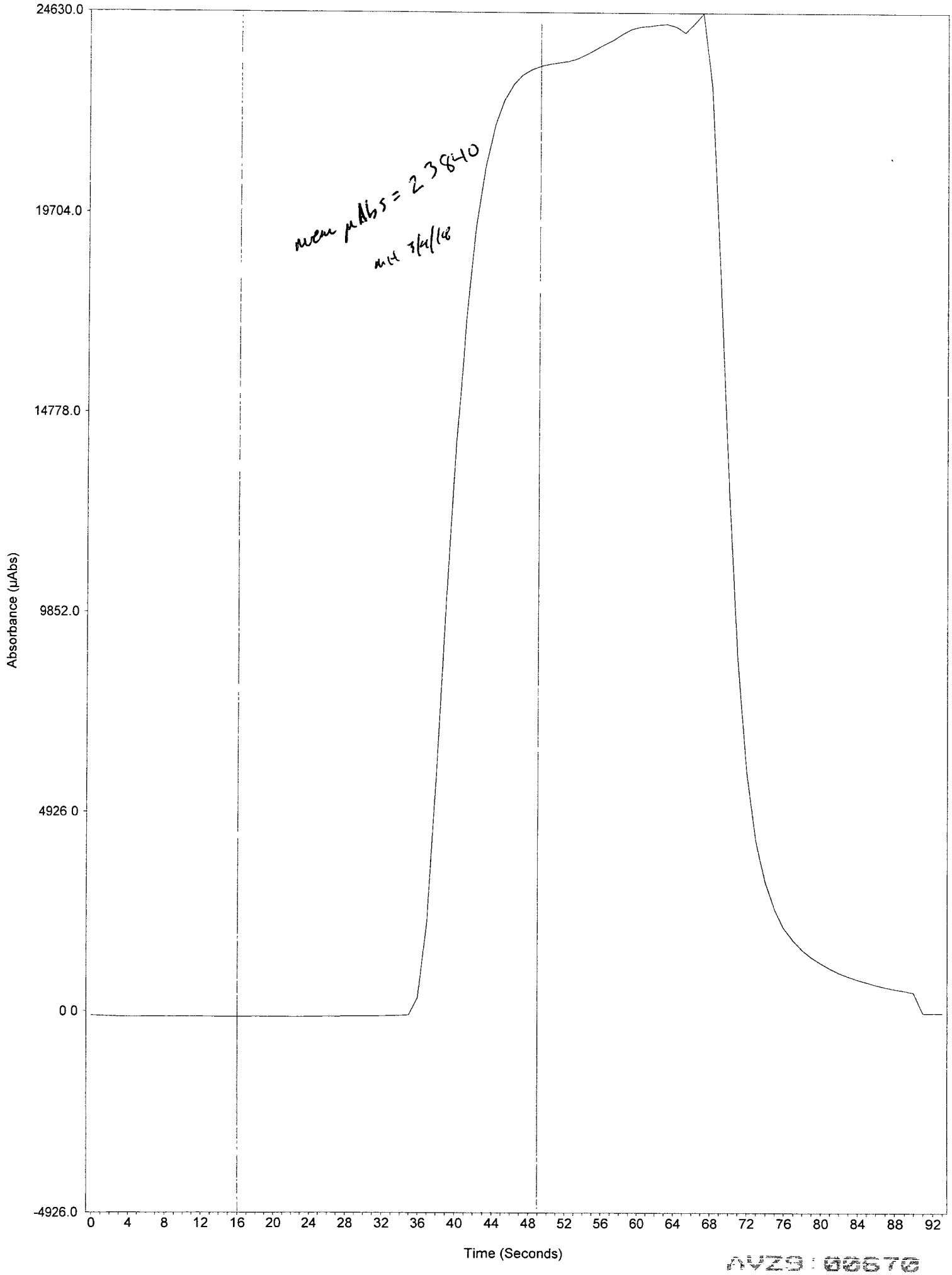
14% $NH_2OH/NaCl$: E0263

Standard ID:

Standard: 3071-4

ICV/CCV: D0176

Std Tube 6 03/04/2016, 10:18 AM



AVZ9 : 00670

CETAC Hg Analysis Report - 16030400.DB - Friday, March 04, 2016, 1:04:35 PM

Analyst
Date Started Friday, March 04, 2016, 10:17.31
Worksheet ARI 10ppb CALIB
Comment

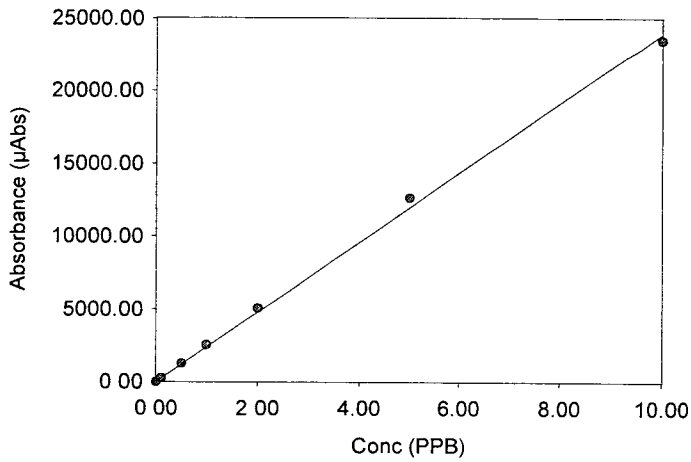
* All concentrations are dilution corrected.

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
Std Tube 6	04-Mar-2016, 10:17	10.00	0.41	23600.00	1 00	

Information about this calibration could not be retrieved from the Master File

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
Calibration Zero	04-Mar-2016, 10:19	0.00	133 00	3.47	1.00	
Standard #1	04-Mar-2016, 10:21	0 10	2.36	271.00	1.00	
Standard #2	04-Mar-2016, 10.23	0.50	0.10	1270 00	1.00	
Standard #3	04-Mar-2016, 10:24	1.00	0.50	2560 00	1.00	
Standard #4	04-Mar-2016, 10:26	2.00	0.37	5090.00	1 00	
Standard #5	04-Mar-2016, 10:28	5.00	0.56	12700.00	1.00	
Standard #6	04-Mar-2016, 10:29	10.00	0.64	23500 00	1.00	

Calibration Data



Int.	0.000
Slope	2394.199
Correlation	0.99916

TWM
SMM

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
ICV	04-Mar-2016, 10:32	8 58	0.56	20500.00	1.00	Begin CCP
ICB	04-Mar-2016, 10:34	-0.08	1.41	-194.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
QC Standard	04-Mar-2016, 10:35	3.98	0.14	9540.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
QC Blank	04-Mar-2016, 10:37	-0.03	6.19	-81.90	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
CRA	04-Mar-2016, 10:39	0.10	0.60	238.00	1.00	
AWM2 MB1 SMM	04-Mar-2016, 10:40	-0.01	7.03	-31.40	1.00	
AWM2 MB1SPK SMM	04-Mar-2016, 10:42	2 07	0.53	4970.00	1.00	
AWM2 A SMM	04-Mar-2016, 10.43	0.20	0.52	468.00	1.00	
AWM2 ADUP SMM	04-Mar-2016, 10:45	0.21	0.29	509.00	1.00	
AWM2 ASPK SMM	04-Mar-2016, 10:47	1.18	0.12	2820.00	1.00	
AWM2 B SMM	04-Mar-2016, 10:48	0.39	0.32	928.00	1.00	
AWM2 C SMM	04-Mar-2016, 10:50	0.19	0.69	458.00	1.00	
AWM2 D SMM	04-Mar-2016, 10:51	9.58	0.42	22900.00	1.00	
AWM2 E SMM	04-Mar-2016, 10:53	0.23	1.23	549 00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
QC Standard	04-Mar-2016, 10:55	3.66	0.50	8760.00	1.00	

CETAC Hg Analysis Report - 16030400.DB - Friday, March 04, 2016, 1:04:35 PM

Analyst
Date Started Friday, March 04, 2016, 10:56 51
Worksheet ARI 10ppb CALIB
Comment

* All concentrations are dilution corrected.

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
QC Blank	04-Mar-2016, 10:56	-0.04	1.84	-91.10	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
AWN6 A SMM	04-Mar-2016, 10:58	0.05	2.65	126 00	1.00	
AWN6 B SMM	04-Mar-2016, 11:00	0.25	0.48	608.00	1.00	
AWQ4 MB1 SMM	04-Mar-2016, 11:01	-0.00	88.20	-4.15	1.00	
AWQ4 MB1SPK SMM	04-Mar-2016, 11:03	1.97	0.31	4720.00	1.00	
AWQ4 O SMM	04-Mar-2016, 11.04	0.22	2.02	528.00	1 00	
AWQ4 ODUP SMM	04-Mar-2016, 11:06	1.19	0.76	2840.00	1.00	
AWQ4 OSPK SMM	04-Mar-2016, 11:08	1.18	0.12	2830.00	1.00	
AVZ9 MB1 SMM	04-Mar-2016, 11:09	-0.02	1.11	-45 70	1.00	
AVZ9 MB1SPK SMM	04-Mar-2016, 11:11	1.93	0.52	4620 00	1.00	
AVZ9 A SMM	04-Mar-2016, 11:12	0 08	3.08	191.00	1.00	

Void

X RPD High

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
QC Standard	04-Mar-2016, 11:14	3.81	0.26	9110.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
QC Blank	04-Mar-2016, 11:16	-0.03	1.54	-83.40	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
AVZ9 ADUP SMM	04-Mar-2016, 11:17	0.11	0 71	273 00	1.00	
AVZ9 ASPK SMM	04-Mar-2016, 11:19	1.09	0 48	2610.00	1.00	
AVZ9 B SMM	04-Mar-2016, 11:21	0.05	1.36	123.00	1.00	
AVZ9 C SMM	04-Mar-2016, 11:22	0.18	1.06	424.00	1.00	
AVZ9 D SMM	04-Mar-2016, 11:24	0 12	0.75	288.00	1.00	
AVZ9 E SMM	04-Mar-2016, 11:25	0.11	1.62	254.00	1.00	
AVZ9 F SMM	04-Mar-2016, 11:27	0.15	0.82	355.00	1.00	
AVZ9 G SMM	04-Mar-2016, 11:29	0 48	0.06	1140.00	1.00	
AVZ9 H SMM	04-Mar-2016, 11:30	0.06	3.05	142.00	1 00	
AVZ9 I SMM	04-Mar-2016, 11:32	0.07	1.17	160 00	1 00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
QC Standard	04-Mar-2016, 11:34	3.69	2 54	8840.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
QC Blank	04-Mar-2016, 11.35	-0.03	2.49	-69.80	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
AVZ9 J SMM	04-Mar-2016, 11:37	0.13	1 40	318.00	1.00	
AVZ9 K SMM	04-Mar-2016, 11:39	0.13	2.05	311.00	1.00	
AVZ9 L SMM	04-Mar-2016, 11:40	0.80	0.44	1900.00	1.00	
AVZ9 M SMM	04-Mar-2016, 11:42	0.06	4.32	133.00	1.00	
AVZ9 N SMM	04-Mar-2016, 11:44	0.67	0.75	1600.00	1.00	
AVZ9 O SMM	04-Mar-2016, 11:45	0.16	0 66	390.00	1.00	
AVZ9 P SMM	04-Mar-2016, 11:47	0.05	2 85	111.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
QC Standard	04-Mar-2016, 11:48	3.83	0 71	9170.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
QC Blank	04-Mar-2016, 11.50	-0.04	1 55	-84.50	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
~~AWQ4 O SMM~~	~~04-Mar-2016, 11:52~~	~~0.25~~	~~0 76~~	~~593.00~~	~~1.00~~	
AWQ4 ODUP SMM	~~04-Mar-2016, 11:54~~	~~0.17~~	~~0.54~~	~~2800.00~~	~~1.00~~	
AWQ4 OSPK SMM	~~04-Mar-2016, 11:55~~	~~0.13~~	~~0.53~~	~~2790.00~~	~~1.00~~	
AWM2 D SMM	~~04-Mar-2016, 11.57~~	~~9.18~~	~~0.67~~	~~5490.00~~	~~1.00~~	

Void

RPD High X

3-4-16

~~AVZ9 : 88572~~

CETAC Hg Analysis Report - 16030400.DB - Friday, March 04, 2016, 1:04:35 PM

Analyst	
Date Created:	Thursday, July 13, 2000
Worksheet	ARI 10ppb CALIB
Comment	
Sip Duration (Sec.):	30
Rinse Duration (Sec.):	60
Read Delay:	49
Integration Time/Replicate:	1.40
# of Replicates:	4
# of Repeats:	1
Baseline Correction Enabled:	True
Baseline Point 1 Start Time:	10
Baseline Point 1 End Time:	16
2-Point Baseline Corr. Enabled:	False
Baseline Point 2 Start Time:	
Baseline Point 2 End Time:	
Gas Flow (ml/min):	180
Calibration Algorithm:	Linear, Zero Intercept
Recalibration Frequency:	0
Reslope Frequency:	0
Reslope Standard:	5
Calibration Standard #1 Conc.:	0.10 PPB
Calibration Standard #2 Conc.:	0.50 PPB
Calibration Standard #3 Conc.:	1.00 PPB
Calibration Standard #4 Conc.:	2.00 PPB
Calibration Standard #5 Conc.:	5.00 PPB
Calibration Standard #6 Conc.:	10.00 PPB
QC Enabled:	True
QC-RSD Enabled:	True
Limit Condition & Error Action:	If %RSD > 5.0%, if µAbs. > 1500, Flag and Continue
QC-Std Enabled:	True
Limit Condition & Error Action:	If outside 80% .. 120%,Stop
QC-Blank Enabled:	True
Limit Condition & Error Action:	If outside -100 .. 100,Stop

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Mercury Standard Prep Log

Prep Code: SRM
Instrument: CETAC
Analyst: MA
Date: 3/4/16
Bath Temp: 94°C
Start Time: 900
End Time: 930

Standard ID	Stock ID	Volume Added (mL)	Final Volume (mL)	Standard Conc. (µg/L)	Number Made
STD0	–	0.00	50.0	0.0	3
STD1	3071-4	0.01		0.1	2
STD2		0.05		0.5	2
STD3		0.10		1.0	2
STD4		0.20		2.0	2
STD5		0.50		5.0	2
STD6		1.00		10.0	2
CRA		0.01		0.1	1
ICB/CCB	–	0.00		0.0	3
ICV/LCS	D0176	0.08		8.0	2
CCV		0.04	50.0	4.0	3

Chemical/Reagent ID:

HNO_3: D4652
H_2SO_4: D2685
HCl: –
5% $K_2S_2O_8$: D4750
5% $KMnO_4$: D4751

Prep Code:
Instrument:
Analyst:
Date:
Bath Temp:
Start Time:
End Time:

MA 3/4/16

Standard ID	Stock ID	Volume Added (mL)	Final Volume (mL)	Standard Conc. (µg/L)	Number Made
STD0		0.00			
STD1					
STD2		0.05			
STD3		0.10			
STD4		0.20			
STD5		0.50			
STD6		1.00			
CRA					
ICB/CCB		0.00			
ICV/LCS					
CCV					

Chemical/Reagent ID:

HNO_3:
H_2SO_4:
HCl:
5% $K_2S_2O_8$:
5% $KMnO_4$:

AVZ9 006T4

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Mercury Digestion Log

Prep Code: SMM
Matrix: Soil
Analyst: MB
Date: 3/1/16
Bath Temp: 95°C
Start Time: 1355
End Time: 1425

ARI Sample ID	Sample Bottle #	pH<2	Initial Weight (g) ~~Volume (mL)~~	Final Volume (mL)	# $KMnO_4$ Aliquots	CLP	Comments
AVZ9 A	1	–	0.674	50.0	1	Y	
" ADUP		–	0.676				
" ASPK		–	0.679				
" B		–	0.618				
" C		–	0.678				
" D		–	0.641				
" E		–	0.615				
" F		–	0.608				
" G		–	0.692				
" H		–	0.612				
" I		–	0.616				
" J		–	0.607				
" K		–	0.650				
" L		–	0.638				
" M		–	0.617				
" N		–	0.608				
" O		–	0.615				
" P		–	0.667				
" MB1	–	–	–				
" MB1SPK	–	–	–			Y	
AWP1 A	2	–	0.278		3/7	N	
" B	2	–	0.281				
" C	2	–	0.255				
" MB	–	–	–				
" MBSPK	–	–	–	50.0	1	N	

Chemical/Reagent ID:

HNO_3: D4652
H_2SO_4: D2685
HCl: –
5% $K_2S_2O_8$: E0464
5% $KMnO_4$: D4751
Digest Tube Lot: 1504103

General Chemistry Raw Data
Analyst Notes and Raw Data

ARI Job ID: AVZ9

2-16-16 UW

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET

SOLIDS *(dry at 104 (12-24 hr) then combust at 550 (30 min))*

DATE: 2/15/2016
ANALYST: UW

Instrumentation ***Drying Ovens:*** 12 ***Analytical Balance:*** 1123230597
Muffle Furnace:

Batch drying time
record times as mm/dd/yy hh:mm
2/15/2016 17:50 date/time in oven
2/16/2016 9:50 date/time out
elapsed hrs = 16.0

TS (%) calculated as:
Final dry wt (g) = (Dry Wt - Tare Wt)
TS = (Final Dry Wt)/ (grams Sample-Tare)

TVS (mg/kg dry wt) calculated as:
Final ash wt (g) = (min ash wt - tare wt)
*TVS (mg/kg) = [(Dry wt-Ash wt)/ (dry weight)] *1,000,000*
if ash wt > dry wt, "Chk for Err"
*if dry wt-ash wt < 0.001 g, "< (1/dry wt)*1,000,000*

	Cal Weight ID	CV-02	CV-02	CV-02	CV-02				CV-02	CV-02			
	Date & Time	2/15/16 17:00	2/15/16 16.45	2/16/16 10:20									
Cal Wt (g)	10.0000	10.0000	9.9999	9.9999									
	record weights to 4 places	*Cal OK!*	*Cal OK!*	*Cal OK!*									

SAMPLE ID	DISH #	SAMPLE (grams)	TARE WT (grams)	DRY WT 104C (grams) 1			dry Wt (g)	TS (%)	ASH WT 550C (grams) 1	2		Ash Wt (g)	TVS (mg/kg)	(%)
Blank			1.0813	1.0812			0.00							
AVZ9 A1		7.1251	1.1127	6.4001			5.29	**87.94%**						
AVZ9 A1 dup		9.4663	1.1155	8.3845			7.27	**87.05%**						
							RPD =	1.02%				RPD =	NA	
AVZ9 A1 trp		9.6926	1.1088	8.5487			7.44	**86.67%**						
							RSD =	0.75%				RSD =	NA	
AVZ9 B1		8.1358	1.1070	7.1292			6.02	**85.68%**						
AVZ9 C1		7.6898	1.1080	6.0802			4.97	**75.54%**						
AVZ9 D1		8.9906	1.1031	7.4631			6.36	**80.63%**						
AVZ9 E1		8.4507	1.1134	7.1817			6.07	**82.70%**						
AVZ9 F1		9.7520	1.0629	8.3725			7.31	**84.12%**						
AVZ9 G1		9.1774	1.0869	7.6335			6.55	**80.92%**						
AVZ9 H1		8.4949	1.0778	7.3383			6.26	**84.41%**						
AVZ9 I1		8.9692	1.0839	7.5815			6.50	**82.40%**						
AVZ9 J1		8.3561	1.1068	6.9538			5.85	**80.66%**						
AVZ9 K1		8.7547	1.1111	7.2377			6.13	**80.15%**						
AVZ9 L1		8.4876	1.0918	6.5858			5.49	**74.29%**						
AVZ9 M1		9.4138	1.0868	7.7161			6.63	**79.61%**						
AVZ9 N1		9.7483	1.0942	7.5286			6.43	**74.35%**						
AVZ9 O1		9.1431	1.0622	8.1037			7.04	**87.14%**						
AVZ9 P1		7.7440	1.0894	6.6106			5.52	**82.97%**						

Analytical Resources, Incorporated
Analytical Chemists and Consultants

TOTAL / VOLATILE SOLIDS (TS/TVS) BENCHSHEET

Analyst:	W	Date:	2-15-16	Oven ID:	12	Muffle ID:		Balance ID:	1123230597
Time in Oven:	17:50			Time Out of Oven:		9:50	Elapsed Time (> 12 Hrs):		

Dry at 104 °C (12-24 hrs) then combust at 550 °C for 30 min. Record Weights to 4 places

TS (%) calculated as:
Final Dry Weight (g) = (Dry Weight – Tare Weight)
TS = (Final Dry Weight) / (Grams Sample – Tare Weight)

TVS (mg/kg dry weight) calculated as:
Final Ash Weight (g) = (Minimum Ash Weight – Tare Weight)
TVS (mg/kg) = [(Dry Weight – Ash Weight) / (Dry Weight) * 1,000,000
If Ash Weight > Dry Weight then "Check for Error"
If Dry Weight – Ash Weight < 0.001 < (1/Dry Weight) * 1,000,000

	Cal Weight ID	CV-02	CV-02	CV-02	CV-02	CV-02		CV-02	CV-02	CV-02
	Date & Time:	2-15-16 17:00	2-15-16 16:45	2-16-16 10:20						
	Cal Weight (10.0000):	10.0000 W	9.9999 W	9.9999 W						
Sample ID	Dish #	Sample	Tare	Dry Weight 104°C			Dry Weight	Ash Weight 550°C		
				1	2	3	grams	1	2	3
BLANK	1	—	1.0813	1.0812						
AV29 A1	2	7.1251	1.1127	6.4001						
A1 dup	3	9.4663	1.1155	8.3845						
A1 trp	4	9.6926	1.1088	8.5487						
B1	5	8.1358	1.1070	7.1292						
C1	6	7.6898	1.1080	6.0802						
D1	7	8.9906	1.1031	7.4631						
E1	8	8.4507	1.1134	7.1817						
F1	9	9.7520	1.0629	8.3725						
G1	10	9.1774	1.0869	7.6335						
H1	11	8.4949	1.0778	7.3383						
I1	12	8.9692	1.0839	7.5815						
J1	13	8.3561	1.1068	6.9538						
K1	14	8.7547	1.1111	7.2377						
L1	15	8.4876	1.0918	6.5858						
M1	16	9.4138	1.0868	7.7161						
N1	17	9.7483	1.0942	7.5286						
O1	18	9.1431	1.0622	~~8.107~~ ① W						
P1	19	7.7440	1.0894	6.6106						
	2-15-16									
	W									

① 8.1037 W 2-16-16

6053F

01941

Revision 002
12/28/09

2-18-16 UW

TOC Solids Prep Log

Drying at 70ºC and acid purging to remove inorganic carbon prior to TOC analysis

Balance ID: Mettler Toledo (XS205 DU) SN 123230597

Standard Reference material: **NIST 1941 B**

KHP Spike Standard: **E000260** **47.05%** carbon

70C Prep Date: 2/15/16 16:30
Analyst: UW
Acidification Date 2/17/2016 14:30
Analyst: UW
Hydrochloric Acid ID:
Phosphoric Acid ID: **D009733**

Sample ID	Initial 70 Sample Prep						Acidification for IC removal				
ARI #	matrix spike (grams KHP)	Tare Wt. (g)	Wet wt. (g)	70ºC dry wt	70C % Solids	Efferv Test + / -	vial tare	70C sample + tare	70C sample	Post Treatment (g)	Acidified sample (g)
Method Blank		12.9719	13.3361	13.3359	99.95%		12.9719	13.3359	*0.3640*	13.6349	0.6630
DQL spike (200)		12.8570	13.3393	13.3391	99.96%		12.8570	13.3391	*0.4821*	13.4938	0.6368
AVZ9 A1		12.8334	16.0872	15.6850	87.64%		12.8992	13.5285	*0.6293*	13.6128	0.7136
AVZ9 A1 dup		12.9110	15.9544	15.5730	87.47%		12.8903	13.5137	*0.6234*	13.5970	0.7067
AVZ9 A1 trip		12.9555	17.1143	16.6225	88.17%		12.8587	13.5696	*0.7109*	13.6550	0.7963
AVZ9 A1 ms	0.2024	12.8554	16.8951	16.5732	87.02%	Wet Wt 4.0397 g	12.9039	13.4871	*0.5832*	13.5656	0.6617
AVZ9 B1		12.8939	17.1429	16.5669	86.44%		12.8316	13.3925	*0.5609*	13.4718	0.6402
AVZ9 C1		12.8912	18.1434	16.8621	75.60%		12.8034	13.2413	*0.4379*	13.3244	0.5210
AVZ9 D1		12.9133	18.2329	17.2055	80.69%		12.7767	13.2125	*0.4358*	13.2929	0.5162
AVZ9 E1		12.9403	17.2957	16.5078	81.91%		12.9090	13.4672	*0.5582*	13.5542	0.6452
AVZ9 F1		12.8837	17.8836	17.0762	83.85%		12.9087	13 4473	*0.5386*	13.5327	0.6240
AVZ9 G1		12.9171	18.5713	17.5198	81.40%		12.8518	13.3436	*0.4918*	13.4302	0.5784
AVZ9 H1		12.8924	17.9162	17.1385	84.52%		12.8644	13.5163	*0.6519*	13.5943	0.7299
AVZ9 I1		12.9226	18.5020	17.5063	82.15%		12.9044	13.3641	*0.4597*	13.4830	0.5786
AVZ9 J1		12.8729	18.8637	17.6915	80.43%		12.8634	13.4164	*0.5530*	13.5041	0.6407
AVZ9 K1		12.8784	19.3555	18.0813	80.33%		12.9173	13.3837	*0.4664*	13.4651	0.5478
AVZ9 L1		12.7854	20.2747	18.3069	73.73%		12.8507	13.2571	*0.4064*	13.3388	0.4881
AVZ9 M1		12.9255	17.9275	16.9611	80.68%		12.9620	13.3698	*0.4078*	13.4488	0.4868
AVZ9 N1		12.7948	20.1873	18.2971	74.43%		12.9033	13.4671	*0.5638*	13 5420	0.6387
AVZ9 O1		12.9000	18 8603	18.0264	86.01%		12.9725	13.4380	*0.4655*	13.5255	0.5530
AVZ9 P1		12.9223	18.3993	17.5613	84.70%		12.8615	13.4818	*0.6203*	13.6192	0.7577

16:30

TS 70 C Benchsheet

Drying at 70 °C and acid purging to remove inorganic carbon

Balance ID: Mettler Toledo (XS205 DU) SN 123230597
KHP Spike Standard ID: E000260
Phosphoric Acid ID: D004733

70C Prep Date: 2-15-16
Analyst: W
Acidification Date: 2-17-16 14:30
Analyst: W

Initial 70 Sample Prep							Acidification Prep			
Sample ID		Tare Wt. (g)	Wet wt. (g)	matrix spike (g KHP)	70°C dry wt	Sample Descriptions	vial tare (g)	70C Sample + tare (g)	Efferv Test ±	Post Treatment(g)
2-15-16	MB	12.9719	13.3361		13.3359		12.9719	13.3359	—	13.6349
2-15-16	DQL	12.8570	13.3393		13.3391		12.8570	13.3391	—	13.4938
AV29	A1	12.8334	16.0872		15.6850	Sediment	12.8992	13.5285	—	13.6128
	A1dup	12.9110	15.9544		15.5730		12.8903	13.5137	—	13.5970
	A1 tap	12.9555	17.1143		16.6225		12.8587	13.5696	—	13.6550
	A1 ms	12.8554	16.8951	0.2024	16.5732		12.9039	13.4871	—	13.5656
	B1	12.8939	17.1429		16.5669		12.8316	13.3925	—	13.4718
	C1	12.8912	18.1434		16.8621		12.8034	13.2413	—	13.3244
	D1	12.9133	18.2329		17.2055		12.7767	13.2125	—	13.2929
	E1	12.9403	17.2957		16.5078		12.9090	13.4672	—	13.5542
	F1	12.8837	17.8836		17.0762		12.9087	13.4473	—	13.5327
	G1	12.9171	18.5713		17.5198		12.8518	13.3436	—	13.4302
	H1	12.8924	17.9162		17.1385		12.8644	13.5163	—	13.5943
	I1	12.9226	18.5020		17.5063		12.9044	13.3641	—	13.4830
	J1	12.8729	18.8637		17.6915		12.8634	13.4164	—	13.5041
	K1	12.8784	19.3555		18.0813		12.9173	13.3837	—	13.4651
	L1	12.7854	20.2747		18.3069		12.8507	13.2571	—	13.3388
	M1	12.9255	17.9275		16.9611		12.9620	13.3698	—	13.4488
	N1	12.7948	20.1873		18.2971		12.9033	13.4671	—	13.5420
	O1	12.9000	18.8603		18.0264		12.9725	13.4380	—	13.5255
	P1	12.9223	18.3993		17.5613		12.8615	13.4818	—	13.6192

2-15-16
W

W 2-23-16

TOC, Solids Data Analysis

Mode (TOC or TC): TOC | DATE: 2/22/2015 7:02

Instrument: 183 Boat Module, Apollo 1 | *Balance ID:* Mettler XS204 B146454145 | ANALYST: KE

Standards

							dilution		ppm
Verification Standard	Source:	*E000062 / E000550*	*Conc:*	5,000	*ppm*	10	*mL to*	50	1,000
Standard Reference Material	Source:	*NIST 1941B*	Prep Date	12/10/2015		70°C dry wt (g):			0.7639
Element ID # D005299	*Conc:*	29,900	*ppm*	Status:	OK	Acidified dry wt (g)			0.8388
KHP Spiking Standard:	Source:	*C003462*	*47.051%*	*% Carbon*					

Calibration Data *Cal Curve ID:* 1-26-16 APOLLO 1 *Curve Date:* 01/26/16 *CalCrv Std:* D005316

40 µL injections of designated standard Status: OK *Conc:* 5,000 *ppm*

Curve Range : 200 *to* 2,500 *mg/kg =* 8 *to* 100 *µg Carbon*

Silica Blanks (for dilution) *Evaluation: Mean <0 5 * Low Curve Point and replicate RSD <25%*

	Replicate determinations (mg/kg)									Mean	RSD	test

Sample Data *"C corr" (with dilution) = ("C obs" - (Mean silica Blank * %Silica)) * Dilution Factor*

			Prep Data		Dilution Data				Combustion Data			
Sample ID	TS 104 (Total Solids at 104 °C)	TS 70 (Total Solids at 70 °C)	70C dried sample (g)	acidified, dried sample (g)	Sample wt. (mg)	Final wt. (mg)	Added Silica (%)	Dilution Factor	Burn wt. (mg)	TOC obs (mg/kg)	TOC 70 C ppm	TOC 104C %C Comments
ICV									40.0	915	915	*91.50%*
Blank									40.0	27.67	28	*Blank OK*
NIST 1941B	100.00%	96.20%	0.7639	0.8388				1.00	1.9	30272	33,240	*111.2 %Rec*
AVP2 A2	77.61%	81.02%	0.4612	0.5713				1.00	0.6	15952	19,760	*2.06*
~~AVP2 B2~~	~~56.51%~~	~~91.20%~~	~~0.4966~~	~~0.5960~~			-	~~1.00~~	~~1.0~~	~~37226~~	~~44,677~~	~~7.21~~
AVV8 A1	22.01%	34.95%	0.3182	0.4236				1.00	0.7	68562	91,272	*14.5*
AVR0 I 1	92.07%	91.61%	0.3838	0.4639				1.00	32.5	1828	2,210	*0.22*
~~AVR0 J 1~~	~~90.36%~~	~~86.48%~~	~~0.5024~~	~~0.5391~~			-	~~1.00~~	~~33.3~~	~~3285~~	~~3,525~~	***Offscale, dilute***
AVR0 J 1	90.36%	86.48%	0.5024	0.5391				1.00	21.3	3190	3,423	*0.328*
AVR0 K1	96.90%	96.55%	0.4197	0.4561				1.00	35.6	596	648	*0.0645*
AVR0 L1	96.45%	96.59%	0.5012	0.5373				1.00	32.4	665	713	*0.0714*
AVR0 M1	94.33%	94.22%	0.5711	0.6109				1.00	36.4	627	671	*0.067*
ICV									40.0	912	912	*91.20%*
Blank									40.0	-3.29	-3	*Blank OK*
AVR0 N1	96.71%	95.82%	0.4391	0.4763				1.00	26.4	319	346	*0.0343*
AVR0 O1	96.19%	96.23%	0.5005	0.5390				1.00	33.1	325	350	*0.035*
AVR0 P1	96.94%	96.71%	0.5950	0.6610				1.00	33.0	586	651	*0.0649*
AVR0 Q1	92.05%	91.44%	0.4796	0.5514				1.00	34.4	923	1,061	*0.105*

Sample Data *"C corr" (with dilution) = ("C obs" - (Mean silica Blank * %Silica)) * Dilution Factor*

Sample ID	TS 104 (Total Solids at 104 °C)	TS 70 (Total Solids at 70 °C)	Prep Data: 70C dried sample (g)	Prep Data: acidified, dried sample (g)	Dilution Data: Sample wt. (mg)	Dilution Data: Final wt. (mg)	Dilution Data: Added Silica (%)	Dilution Data: Dilution Factor	Combustion Data: Burn wt. (mg)	Combustion Data: TOC obs (mg/kg)	Combustion Data: TOC 70 C ppm	TOC 104C %C Comments
AVR0 R1	92.19%	91.00%	0.5648	0.6003				1.00	33.6	645	686	*0.0677*
AVR0 S1	97.14%	97.06%	0.5663	0.6045				1.00	37.5	404	431	*0.0431*
~~AVP2 B2~~	~~56.51%~~	~~91.20%~~	~~0.4966~~	~~0.5960~~			-	~~1.00~~	~~1.1~~	~~17348~~	~~20,820~~	~~***RERUN***~~
~~AVZ9 B1~~	~~65.68%~~	~~86.44%~~	~~0.5609~~	~~0.6402~~			-	~~1.00~~	~~2.8~~	~~490~~	~~559~~	***Low, increase wt***
AVZ9 B1	65.68%	86.44%	0.5609	0.6402				1.00	31.6	722	824	*0.108*
AVZ9 C1	75.54%	75.60%	0.4379	0.5210				1.00	4.8	10100	12,017	*1.200*
ICV									40.0	1078	1,078	*107.80%*
Blank									40.0	3.85	4	*Blank OK*
AVZ9 D1	80.63%	80.69%	0.4358	0.5162				1.00	4.5	2236	2,649	*0.265*
AVZ9 E1	82.70%	81.91%	0.5582	0.6452				1.00	4.7	1777	2,054	*0.203*
~~AVZ9 F1~~	~~84.12%~~	~~93.85%~~	~~0.5386~~	~~0.6240~~			-	~~1.00~~	~~8.5~~	~~465~~	~~539~~	***Low, increase wt***
AVZ9 F1	84.12%	93.85%	0.5386	0.6240				1.00	34.4	482	558	*0.0623*
~~AVZ9 G1~~	~~80.92%~~	~~81.40%~~	~~0.4918~~	~~0.5784~~			-	~~1.00~~	~~5.0~~	~~1439~~	~~1,692~~	***Low, increase wt***
AVZ9 G1	80.92%	81.40%	0.4918	0.5784				1.00	32.9	554	652	*0.0655*
~~ICV~~									~~40.0~~	~~858~~	~~858~~	~~*85.80%*~~
~~ICV~~									~~40.0~~	~~865~~	~~865~~	*86.50%*
ICV									40.0	994	994	*99.40%*
Blank									40.0	-0.01	0	*Blank OK*

TOC Solids Instrument Run Log

DATE: 2-22-16

ANALYST: (N) 7102

Mode:	TOC
Instrument:	Apollo #1, Boat Module #1
Balance ID:	Mettler XS204 B146454145

Calibration Data

Cal Curve ID: 2-18-16 ~~Cal~~ Boatcal

Curve Date: 2/18/16

CalCrv Std: D005~~3316~~286 (1)

Conc: 5,000 ppm S316

40 µL injections of designated standard

Curve Range

200	to	2,500	mg/kg
8	to	100	µg Carbon

Verification Standard

Source: E00286

Conc: 5,000 ppm

10 mL to 50

1,000 ppm

Standard Reference Material

Source: Nist 1941 B

Element ID: D005299

Prep Date: 12-10-15

Conc: 33,510 ppm

KHP Spiking Standard:

Source: C003462

47.1% % Carbon

Silica Blanks (for dilution)

Replicates (mg/kg)

(1) 2-22-16 (N)

Sample Data

Sample ID	Dilution Data: Sample wt. (mg)	Dilution Data: Final wt. (mg)	Combustion Data: Burn wt. (mg)	Combustion Data: Comments
ICV			40	
Blank			40	
Nist 1941 B			1.9	
AVP2 A2			0.6	
↓ B2			1.0	Rerun? ts Low Pressure
AVV8 A1			0.7	
AVRO I1			32.5	
J1			33.3	offscale
J1			21.3	OK
K1			35.6	
L1			32.4	
M1			36.4	
CCV			40	
CCB			40	
AVRO N1			26.4	
O1			33.1	
P1			33.0	
Q1			34.4	
R1			33.6	
S1			37.5	
AVP2 B2			1.1	Re Setup (FS) 70°
AVZ9 B1			2.8	Low Run
B1			31.6	
C1			4.8	
CCV			40	
CCB			40	
AVZ9 D1			4.5	
E1			4.7	
F1			8.5	Low Run
F1			34.4	
G1			5.0	
G1			32.9	
CCV			~~40~~ 40	
CCB			40	
	2-22-16 (N)			

2-22-16

Detailed Analysis Report Print Date/Time: 2016/02/23 9:24:53

Sample ID: ICV/CCV BOAT Mode: TOC
Method: Boat Sampler Filename: 02220651
Cal. Curve: 2-18-16 BOAT CAL Timestamp: 2016/02/22 06:55
Operator ID: TRINA Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	914.7360	36.5894	8593944	2.502	3.501	168

Sample ID: ICB/CCB BOAT Mode: TOC
Method: Boat Sampler Filename: 02220658
Cal. Curve: 2-18-16 BOAT CAL Timestamp: 2016/02/22 07:00
Operator ID: TRINA Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	27.6714	1.1069	362395	2.708	3.701	63

Sample ID: NIST 1941 B Mode: TOC
Method: Boat Sampler Filename: 02220707
Cal. Curve: 2-18-16 BOAT CAL Timestamp: 2016/02/22 07:12
Operator ID: TRINA Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	30271.9043	57.5166	13448808	2.983	3.981	282

Last Message: Out of Calibration

Sample ID: AVP2 A2 Mode: TOC
Method: Boat Sampler Filename: 02220717
Cal. Curve: 2-18-16 BOAT CAL Timestamp: 2016/02/22 07:22
Operator ID: TRINA Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	15951.5586	9.5709	2325963	3.012	4.010	269

Last Message: Out of Calibration

Sample ID: AVP2 B2 Mode: TOC
Method: Boat Sampler Filename: 02220727
Cal. Curve: 2-18-16 BOAT CAL Timestamp: 2016/02/22 07:38
Operator ID: TRINA Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	37225.5742	37.2256	8741520	2.850	6.617	360

Last Message: Out of Calibration

Sample ID: AVV8 A1 Mode: TOC
Method: Boat Sampler Filename: 02220757
Cal. Curve: 2-18-16 BOAT CAL Timestamp: 2016/02/22 08:04
Operator ID: TRINA Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	68562.1953	47.9935	11239564	3.203	4.201	292

Last Message: Out of Calibration

Sample ID: AVR0 I 1 Mode: TOC

AVZ9 : 06684

Sample ID: AVZ9 D1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02221305
Timestamp: 2016/02/22 13:11
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2235.7620	10.0609	2334020	3.276	4.275	286

Sample ID: AVZ9 D1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02221314
Timestamp: 2016/02/22 13:19
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1776.9397	8.3516	1937479	3.351	4.350	253

Sample ID: AVZ9 F1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02221322
Timestamp: 2016/02/22 13:29
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	464.6908	3.9499	916325	3.195	4.192	203

Sample ID: AVZ9 F1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02221333
Timestamp: 2016/02/22 13:40
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	482.0896	16.5839	3847270	3.196	4.793	361

Last Message: Max Integration Time Reached

Sample ID: AVZ9 G1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02221344
Timestamp: 2016/02/22 13:48
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1438.8257	7.1941	1668955	3.320	4.318	218

Sample ID: AVZ9 G1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02221354
Timestamp: 2016/02/22 14:01
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	553.8168	18.2206	4226962	3.298	4.479	360

Last Message: Max Integration Time Reached

Sample ID: ICV/CCV BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

2-22-16

Mode: TOC
Filename: 02221402
Timestamp: 2016/02/22 14:07
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	857.7231	34.3089	8064891	3.000	3.999	218

Last Message: Out of Calibration

Sample ID: ICV/CCV BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02221410
Timestamp: 2016/02/22 14:14
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	865.1346	34.6054	8133667	2.937	3.937	171

Last Message: Out of Calibration

Sample ID: ICV/CCV BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02221417
Timestamp: 2016/02/22 14:21
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	994.3666	39.7747	9332880	3.043	4.041	158

Sample ID: ICB/CCB BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02221433
Timestamp: 2016/02/22 14:35
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-0.0146	-0.0006	105481	3.065	4.057	49

AV29 : 66586

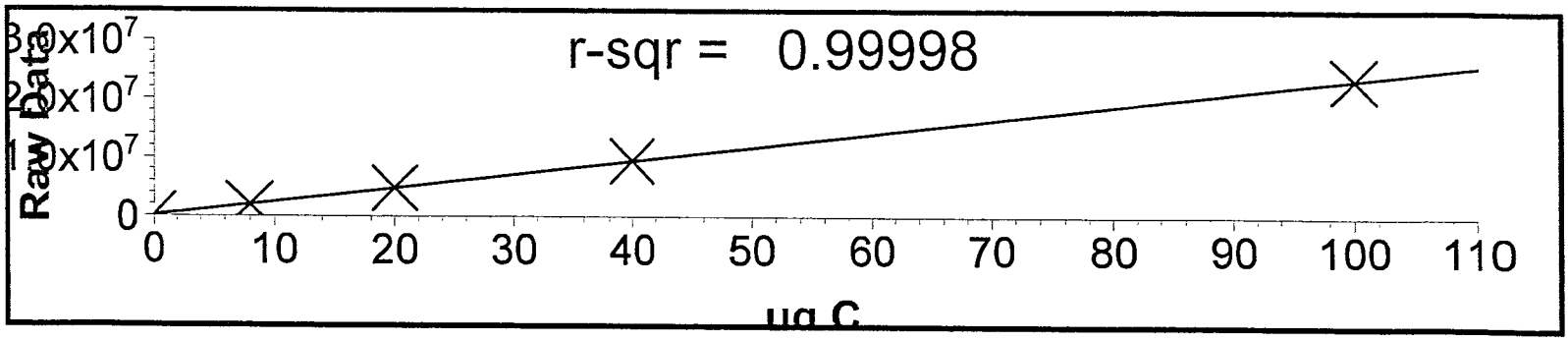
2-18-15 (h)

Calibration Report Print Date/Time: 2016/02/18 7:52:09

Cal. Curve ID: 2-18-16 BOAT CAL
Created: 2016/02/18 07:51
Calibration Factor (m): 2.320e+05
Y Intercept (b): 105616
r-squared: 0.99998

Standard ID	Y Raw Data	X Expected ug C	Measured ug C	Message	Date & Time
DI Water	68066	0.000	-0.162	Low Sample De	2016/02/18 06:04
200 ppm	1938770	8.000	7.902		2016/02/18 06:18
500 ppm	4766629	20.000	20.092		2016/02/18 06:32
1000 ppm	9454307	40.000	40.298		2016/02/18 07:30
2500 ppm	23274374	100.000	99.870		2016/02/18 07:46

AV29 : 00037


r-sqr = 0.99998
Raw Data
3.0x10^7
2.0x10^7
1.0x10^7
0
0
10
20
30
40
50
60
70
80
90
100
110
ug C

AVZ9 : 00688

Detailed Analysis Report Print Date/Time: 2016/02/18 8:16:35

Sample ID: DI Water
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180551
Timestamp: 2016/02/18 06:04
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			94486	3.149	4.139	57
2			49797	3.114	3.185	120
3			59913	3.272	3.391	120

Last Message: Low Sample Detected
<<<Statistics>>> Mean: 68065 Std Dev: 23433 RSD: 34.43

Sample ID: 200 ppm
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180605
Timestamp: 2016/02/18 06:18
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			1885659	3.361	4.360	103
2			1932818	3.392	4.391	126
3			1997832	3.158	4.158	129

<<<Statistics>>> Mean: 1938770 Std Dev: 56323 RSD: 2.91

Sample ID: 500 ppm
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180619
Timestamp: 2016/02/18 06:32
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			4777163	3.276	4.274	173
2			4871364	3.447	4.446	168
3			4651360	3.466	4.466	146

<<<Statistics>>> Mean: 4766629 Std Dev: 110380 RSD: 2.32

Sample ID: 1000 ppm
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180713
Timestamp: 2016/02/18 07:30
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			9596774	3.299	4.296	236
2			9367255	3.662	4.661	212
3			9398891	3.728	4.728	200

<<<Statistics>>> Mean: 9454307 Std Dev: 124390 RSD: 1.32

Sample ID: 2500 ppm
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180731
Timestamp: 2016/02/18 07:46
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			22733008	3.480	4.763	360
2			23127572	18.617	19.588	81
3			23962536	5.631	6.627	176

Last Message: Max Integration Time Reached
<<<Statistics>>> Mean: 23274374 Std Dev: 627772 RSD: 2.70

AVZ9 : 00589

Sample ID: ICV/CCV BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180754
Timestamp: 2016/02/18 07:59
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1027.1451	41.0858	9637050	3.580	4.578	219

2-18-16 ok to extra

Sample ID: ICB/CCB BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180802
Timestamp: 2016/02/18 08:04
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-6.3844	-0.2554	46372	3.748	4.742	50

Sample ID: ICB/CCB BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180805
Timestamp: 2016/02/18 08:09
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-5.5451	-0.2218	54160	3.605	3.710	120

Last Message: Low Sample Detected

W 2-24-16

TOC, Solids Data Analysis

Mode (TOC or TC): TOC | DATE: 2/23/2016 6:34

Instrument: 183 Boat Module, Apollo 1 | *Balance ID:* Mettler XS204 B146454145 | ANALYST: KE

Standards

							dilution		ppm
Verification Standard	Source:	*EOOO550*	*Conc:*	5,000	*ppm*	10	*mL to*	50	1,000
Standard Reference Material	Source:	*NIST 1941B*	Prep Date	12/10/2015		70°C dry wt (g):			0.7639
Element ID # D005299	*Conc:*	29,900	*ppm*	Status:	OK	Acidified dry wt (g)			0.8388
KHP Spiking Standard:	Source:	*C003462*	*47.051%*	*% Carbon*					

Calibration Data *Cal Curve ID:* 2-18-16 APOLLO 1 *Curve Date:* 02/18/16 *CalCrv Std:* D005316

40 µL injections of designated standard Status: OK *Conc:* 5,000 *ppm*

Curve Range : 200 *to* 2,500 *mg/kg* = 8 *to* 100 *µg Carbon*

Silica Blanks (for dilution) *Evaluation: Mean <0.5 * Low Curve Point and replicate RSD <25%*

	Replicate determinations (mg/kg)									Mean	RSD	test

Sample Data *"C corr" (with dilution) = ("C obs" - (Mean silica Blank * %Silica)) * Dilution Factor*

Sample ID	TS 104 (Total Solids at 104 °C)	TS 70 (Total Solids at 70 °C)	Prep Data: 70C dried sample (g)	Prep Data: acidified, dried sample (g)	Dilution Data: Sample wt. (mg)	Dilution Data: Final wt. (mg)	Dilution Data: Added Silica (%)	Dilution Data: Dilution Factor	Combustion Data: Burn wt. (mg)	Combustion Data: TOC obs (mg/kg)	Combustion Data: TOC 70 C ppm	TOC 104C %C Comments
~~ICV~~									~~40.0~~	~~581~~	~~581~~	~~58.10%~~
ICV									40.0	960	960	*96.00%*
Blank									40.0	-8.88	-9	*Blank OK*
~~NIST 1941B~~	~~100.00%~~	~~96.20%~~	~~0.7639~~	~~0.8388~~			-	~~1.00~~	~~2.1~~	~~21~~	~~23~~	***BOAT BURN***
NIST 1941B	100.00%	96.20%	0.7639	0.8388				1.00	2.1	28649	31,458	*105.2 %Rec*
Method Blank	100.00%	99.95%	0.3640	0.6630				1.00	54.9	13.14	24	*Low, increase wt*
DQL	100.00%	99.96%	0.4821	0.6368				1.00	55.1	139	184	*Low, increase wt*
AVZ9 A1	87.94%	87.64%	0.6293	0.7136				1.00	46.4	812	921	*0.0918*
AVZ9 A1dup	87.94%	87.47%	0.6234	0.7067				1.00	45.7	1257	1,425	*0.1420*
AVZ9 A1trip	87.94%	88.17%	0.7109	0.7963				1.00	45.6	1081	1,211	*0.1210*
~~AVZ9 A1~~	~~87.94%~~	~~87.64%~~	~~0.6293~~	~~0.7136~~			-	~~1.00~~	~~45.3~~	~~751~~	~~852~~	~~0.0849~~
~~AVZ9 A1ms~~	~~87.94%~~	~~87.02%~~	~~0.5832~~	~~0.6617~~			-	~~1.00~~	~~14.9~~	~~11421~~	~~12,958~~	***Offscale, dilute***
~~Sample ms~~	~~0.2024~~	~~g KHP =~~	~~99.96~~	~~mg C to~~	~~4.0397~~	~~g wet wt =~~	~~28435~~	~~mg/kg 70C~~	~~2.814~~	~~%C at 104C~~	~~42.3 %~~	~~#VALUE!~~
~~AVZ9 A1ms~~	~~87.94%~~	~~87.02%~~	~~0.5832~~	~~0.6617~~			-	~~1.00~~	~~4.8~~	~~23314~~	~~26,452~~	***Offscale, dilute***
~~Sample ms~~	~~0.2024~~	~~g KHP =~~	~~99.96~~	~~mg C to~~	~~4.0397~~	~~g wet wt =~~	~~28435~~	~~mg/kg 70C~~	~~2.814~~	~~%C at 104C~~	~~89.8 %~~	~~#VALUE!~~
ICV									40.0	907	907	*90.70%*
Blank									40.0	5.69	6	*Blank OK*
AVZ9 A1ms	87.94%	87.02%	0.5832	0.6617				1.00	1.4	31608	35,863	*3.55*

Sample Data *"C corr" (with dilution) = ("C obs" - (Mean silica Blank * %Silica)) * Dilution Factor*

Sample ID	TS 104 (Total Solids at 104 °C)	TS 70 (Total Solids at 70 °C)	Prep Data: 70C dried sample (g)	Prep Data: acidified, dried sample (g)	Dilution Data: Sample wt. (mg)	Dilution Data: Final wt. (mg)	Dilution Data: Added Silica (%)	Dilution Data: Dilution Factor	Combustion Data: Burn wt. (mg)	Combustion Data: TOC obs (mg/kg)	Combustion Data: TOC 70 C ppm	TOC 104C %C Comments
Sample ms	0.2024	*g KHP =*	**99.96**	*mg C to*	**4.0397**	*g wet wt =*	28435	*mg/kg 70C*	2.814	*%C at 104C*	*123 %*	*123 %*
AVZ9 I 1	82.40%	82.15%	0.4597	0.5786				1.00	28.7	779	980	*0.0978*
AVZ9 J 1	80.66%	80.43%	0.5530	0.6407				1.00	33.7	1021	1,183	*0.1180*
AVZ9 K1	80.15%	80.33%	0.4664	0.5478				1.00	33.8	1425	1,674	*0.1680*
~~AVZ9 L1~~	~~74.29%~~	~~73.73%~~	~~0.4064~~	~~0.4881~~			-	~~1.00~~	~~32.3~~	~~11047~~	~~13,268~~	***Offscale, dilute***
AVZ9 L1	74.29%	73.73%	0.4064	0.4881				1.00	8.6	6865	8,245	*0.818*
~~AVZ9 M1~~	~~79.61%~~	~~80.68%~~	~~0.4078~~	~~0.4868~~			-	~~1.00~~	~~34.8~~	~~6203~~	~~7,405~~	***Offscale, dilute***
~~AVZ9 M1~~	~~79.61%~~	~~80.68%~~	~~0.4078~~	~~0.4868~~			-	~~1.00~~	~~10.5~~	~~761~~	~~908~~	***Low, increase wt***
AVZ9 M1	79.61%	80.68%	0.4078	0.4868				1.00	17.3	849	1,013	*0.103*
~~AVZ9 N1~~	~~74.35%~~	~~74.43%~~	~~0.5638~~	~~0.6387~~			-	~~1.00~~	~~34.5~~	~~6667~~	~~7,553~~	***Offscale, dilute***
ICV									40.0	906	906	*90.60%*
Blank									40.0	-5.51	-6	*Blank OK*
AVZ9 N1	74.35%	74.43%	0.5638	0.6387				1.00	12.4	6141	6,957	*0.6960*
AVZ9 O1	87.14%	86.01%	0.4655	0.5530				1.00	48.3	423	503	*0.0496*
AVZ9 P1	82.97%	84.70%	0.6203	0.7577				1.00	37.8	375	458	*0.0468*
ICV									40.0	950	950	*95.00%*
Blank									40.0	-6.85	-7	*Blank OK*

TOC Solids Instrument Run Log

(1) 2-23-16 (W)

DATE: 2-23-16

ANALYST: (W) 6:34

Mode:	TOC
Instrument:	Apollo #1, Boat Module #1
Balance ID:	Mettler XS204 B146454145

Calibration Data

Cal Curve ID: 2-18-16 Boatcal
Curve Date: 2/18/16
CalCrv Std: D005316
Conc: 5,000 ppm
40 µL injections of designated standard

Curve Range

200	to	2,500	mg/kg
8	to	100	µg Carbon

Verification Standard

Source: E00286
Conc: 5,000 ppm
10 mL to 50
1,000 ppm

Standard Reference Material

Source: Nist 1941 B
Element ID: D005299
Prep Date: 12-10-16
Conc: 33,510 ppm

KHP Spiking Standard:

Source: C003462
47.1% % Carbon

Silica Blanks (for dilution)

Replicates (mg/kg)

Sample Data

Sample ID	Dilution Data: Sample wt. (mg)	Dilution Data: Final wt. (mg)	Combustion Data: Burn wt. (mg)	Combustion Data: Comments
ICV			40	40
Blank			40	
Nist 1941B		(2.1)	2.1	(2.1) Boat Burn
MB AVZ9			54.9	
DDL ↓			55.1	
AVZ9 A1			46.4	
OD A1			45.7	
HP A1			45.6	
A1		(1)	~~55.3~~	45.3
MS A			14.9	offscale
↓ MS A'			4.8	offscale
CCV			40	
CCB			40	
AVZ9 MS A'			1.4	
I'			28.7	
J'			33.7	
K'			33.8	
L1			~~32.3~~	offscale
L'			8.6	
M'			34.8	offscale
M'			10.5	low Run
M'			17.3	
N'			34.5	offscale
↓		2-23	15	(W)
CCV			40	
CCB			40	
AVZ9 N'		(1)	~~12.2~~	12.4
O'		(1)	~~23.9~~	~~24.3~~ ~~14.8~~ 2
↓ P'		(1)	~~13.9~~	37.8
CCV			40	
CCB			40	
		2-23	15	(W)

AVZ9 00533

2-23-16 (h)

Detailed Analysis Report Print Date/Time: 2016/02/23 14:24:13

Sample ID: ICV/CCV BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02230610
Timestamp: 2016/02/23 06:17
Sample Type: Cal. Verification

2-23-16 (h)

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	581.1349	23.2454	5498280	3.192	331.187	43

Last Message: Out of Calibration

Sample ID: ICV/CCV BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02230623
Timestamp: 2016/02/23 06:27
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	959.9071	38.3963	9013112	3.624	4.622	152

Sample ID: ICB/CCB BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02230629
Timestamp: 2016/02/23 06:32
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-8.8814	-0.3553	23201	3.406	3.338	120

Last Message: Low Sample Detected

Sample ID: NIST 1941 B
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02230635
Timestamp: 2016/02/23 06:40
Sample Type: Sample

Boat Burn 2-23-16 (h)

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	20.8704	0.0438	10168	3.464	3.463	120

Last Message: Low Sample Detected

Sample ID: NIST 1941 B
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02230647
Timestamp: 2016/02/23 06:52
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	28648.9668	60.1628	13957083	3.260	4.256	255

Sample ID: AVZ9 MB
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02230657
Timestamp: 2016/02/23 06:59
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	13.1408	0.7214	167363	3.412	4.411	51

Sample ID: AVZ9 DQL
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL

Mode: TOC
Filename: 02230705
Timestamp: 2016/02/23 07:08

AVZ9 00554

Operator ID: TRINA Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	139.3575	7.6786	1781346	3.193	4.192	137

Sample ID: AVZ9 A1 Mode: TOC
Method: Boat Sampler Filename: 02230714
Cal. Curve: 2-18-16 BOAT CAL Timestamp: 2016/02/23 07:21
Operator ID: TRINA Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	812.2332	37.6876	8743093	3.291	4.956	360

Last Message: Max Integration Time Reached

Sample ID: AVZ9 A1 Mode: TOC
Method: Boat Sampler Filename: 02230725
Cal. Curve: 2-18-16 BOAT CAL Timestamp: 2016/02/23 07:33
Operator ID: TRINA Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1256.5022	57.4222	13321277	3.043	6.618	360

Last Message: Max Integration Time Reached

Sample ID: AVZ9 A1 Mode: TOC
Method: Boat Sampler Filename: 02230759
Cal. Curve: 2-18-16 BOAT CAL Timestamp: 2016/02/23 08:06
Operator ID: TRINA Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1080.9288	49.2904	11434794	2.983	5.800	361

Last Message: Max Integration Time Reached

Sample ID: AVZ9 A1 Mode: TOC
Method: Boat Sampler Filename: 02230814
Cal. Curve: 2-18-16 BOAT CAL Timestamp: 2016/02/23 08:21
Operator ID: TRINA Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	750.9282	34.0170	7891563	3.186	4.739	361

Last Message: Max Integration Time Reached

Sample ID: AVZ9 A1 MS Mode: TOC
Method: Boat Sampler Filename: 02230927
Cal. Curve: 2-18-16 BOAT CAL Timestamp: 2016/02/23 09:40
Operator ID: TRINA Sample Type: Sample

offscal 2-23-16

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	11421.0303	170.1733	39478256	2.947	3.946	348

Last Message: Over-range

Sample ID: AVZ9 A1 MS Mode: TOC
Method: Boat Sampler Filename: 02230945
Cal. Curve: 2-18-16 BOAT CAL Timestamp: 2016/02/23 09:58
Operator ID: TRINA Sample Type: Sample

LAW

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	23314.3594	111.9089	25961580	2.923	3.921	245

Last Message: Over-range

Sample ID: ICV/CCV BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA
Mode: TOC
Filename: 02231002
Timestamp: 2016/02/23 10:07
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	907.1453	36.2858	8523507	3.063	4.063	246

Sample ID: ICB/CCB BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA
Mode: TOC
Filename: 02231010
Timestamp: 2016/02/23 10:13
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5.6914	0.2277	158430	3.021	4.017	73

Sample ID: AVZ9 AVZ9 A' ms
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA
Mode: TOC
Filename: 02231030
Timestamp: 2016/02/23 10:34
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	31607.7773	44.2509	10265696	3.164	4.163	148

Sample ID: AVZ9 I 1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA
Mode: TOC
Filename: 02231039
Timestamp: 2016/02/23 10:46
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	778.6622	22.3476	5184387	3.160	6.321	360

Last Message: Max Integration Time Reached

Sample ID: AVZ9 J1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA
Mode: TOC
Filename: 02231112
Timestamp: 2016/02/23 11:19
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1021.2353	34.4156	7984029	3.288	6.043	361

Last Message: Max Integration Time Reached

Sample ID: AVZ9 K1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA
Mode: TOC
Filename: 02231121
Timestamp: 2016/02/23 11:28
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1425.3553	48.1770	11176511	3.362	8.191	360

Last Message: Max Integration Time Reached

AVZ9 : 88696

Sample ID: AVZ9 L1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02231131
Timestamp: 2016/02/23 11:38
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	11046.9805	257.3946	59712588	3.234	25.461	360

Last Message: Max Integration Time Reached

Sample ID: AVZ9 L1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02231145
Timestamp: 2016/02/23 11:52
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6865.1958	59.0407	13696758	3.115	8.131	360

Last Message: Max Integration Time Reached

Sample ID: AVZ9 M1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02231155
Timestamp: 2016/02/23 12:02
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6202.8804	215.8602	50077088	2.965	11.206	360

Last Message: Over-range

Sample ID: AVZ9 M1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02231206
Timestamp: 2016/02/23 12:13
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	760.5264	7.9855	1852550	3.060	4.059	326

Sample ID: AVZ9 M1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02231218
Timestamp: 2016/02/23 12:25
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	848.8414	14.6850	3406740	2.958	4.341	360

Last Message: Max Integration Time Reached

Sample ID: AVZ9 N1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02231227
Timestamp: 2016/02/23 12:34
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6666.8140	230.0051	53358528	3.011	13.395	360

Last Message: Over-range

AVZ9 : 66697

Sample ID: ICV/CCV BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02231239
Timestamp: 2016/02/23 12:42
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	906.3758	36.2550	8516365	3.008	4.007	115

Sample ID: ICB/CCB BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02231258
Timestamp: 2016/02/23 13:03
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-5.5054	-0.2202	54529	2.718	2.849	120

Last Message: Low Sample Detected

Sample ID: AVZ9 N1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02231322
Timestamp: 2016/02/23 13:29
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6140.9434	76.1477	17665388	2.812	7.120	361

Last Message: Max Integration Time Reached

Sample ID: AVZ9 O1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02231337
Timestamp: 2016/02/23 13:48
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	423.0956	20.3932	4730989	2.707	4.048	361

Last Message: Max Integration Time Reached

Sample ID: AVZ9 P1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02231359
Timestamp: 2016/02/23 14:08
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	375.3757	14.1892	3291731	2.681	4.240	360

Last Message: Max Integration Time Reached

Sample ID: ICV/CCV BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02231410
Timestamp: 2016/02/23 14:15
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	950.3558	38.0142	8924480	2.577	3.575	186

Sample ID: ICV/CCV BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02231416
Timestamp: 2016/02/23 14:18
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-6.8500	-0.2740	42051	2.691	3.686	45

Last Message: Out of Calibration

AVZ9 : 00699

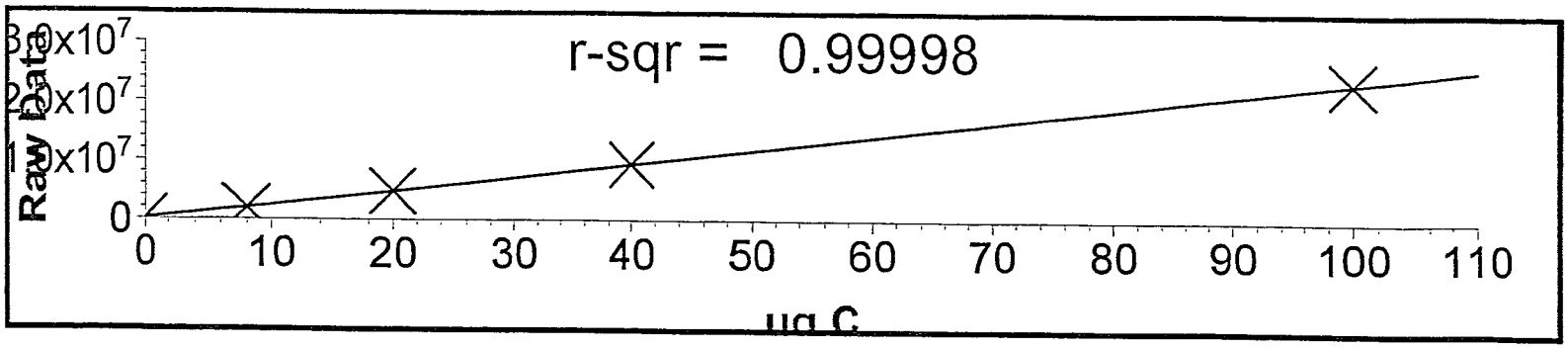
2-18-15 (h)

Calibration Report Print Date/Time: 2016/02/18 7:52:09

Cal. Curve ID: 2-18-16 BOAT CAL
Created: 2016/02/18 07:51
Calibration Factor (m): 2.320e+05
Y Intercept (b): 105616
r-squared: 0.99998

Standard ID	Y Raw Data	X Expected ug C	Measured ug C	Message	Date & Time
DI Water	68066	0.000	-0.162	Low Sample De	2016/02/18 06:04
200 ppm	1938770	8.000	7.902		2016/02/18 06:18
500 ppm	4766629	20.000	20.092		2016/02/18 06:32
1000 ppm	9454307	40.000	40.298		2016/02/18 07:30
2500 ppm	23274374	100.000	99.870		2016/02/18 07:46

AV29 00700


r-sqr = 0.99998
Raw Data
3.0x10^7
2.0x10^7
1.0x10^7
0
0
10
20
30
40
50
60
70
80
90
100
110
ug C

AVZ9:86701

Detailed Analysis Report Print Date/Time: 2016/02/18 8:16:35

Sample ID: DI Water
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180551
Timestamp: 2016/02/18 06:04
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			94486	3.149	4.139	57
2			49797	3.114	3.185	120
3			59913	3.272	3.391	120

Last Message: Low Sample Detected
<<<Statistics>>> Mean: 68065 Std Dev: 23433 RSD: 34.43

Sample ID: 200 ppm
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180605
Timestamp: 2016/02/18 06:18
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			1885659	3.361	4.360	103
2			1932818	3.392	4.391	126
3			1997832	3.158	4.158	129

<<<Statistics>>> Mean: 1938770 Std Dev: 56323 RSD: 2.91

Sample ID: 500 ppm
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180619
Timestamp: 2016/02/18 06:32
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			4777163	3.276	4.274	173
2			4871364	3.447	4.446	168
3			4651360	3.466	4.466	146

<<<Statistics>>> Mean: 4766629 Std Dev: 110380 RSD: 2.32

Sample ID: 1000 ppm
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180713
Timestamp: 2016/02/18 07:30
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			9596774	3.299	4.296	236
2			9367255	3.662	4.661	212
3			9398891	3.728	4.728	200

<<<Statistics>>> Mean: 9454307 Std Dev: 124390 RSD: 1.32

Sample ID: 2500 ppm
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180731
Timestamp: 2016/02/18 07:46
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			22733008	3.480	4.763	360
2			23127572	18.617	19.588	81
3			23962536	5.631	6.627	176

Last Message: Max Integration Time Reached
<<<Statistics>>> Mean: 23274374 Std Dev: 627772 RSD: 2.70

AVZ9 . 68T62

Sample ID: ICV/CCV BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180754
Timestamp: 2016/02/18 07:59
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1027.1451	41.0858	9637050	3.580	4.578	219

Sample ID: ICB/CCB BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

2-18-16 ok but extra

Mode: TOC
Filename: 02180802
Timestamp: 2016/02/18 08:04
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-6.3844	-0.2554	46372	3.748	4.742	50

Sample ID: ICB/CCB BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180805
Timestamp: 2016/02/18 08:09
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-5.5451	-0.2218	54160	3.605	3.710	120

Last Message: Low Sample Detected

AVZ9 : 08783

W 2-25-16

TOC, Solids Data Analysis

Mode (TOC or TC): TOC | DATE: 2/24/2016 6:35

Instrument: **183 Boat Module, Apollo 1** | *Balance ID:* **Mettler XS204 B146454145** | ANALYST: KE

Standards

						dilution			ppm
Verification Standard	Source:	***E000550***	*Conc:*	**5,000**	*ppm*	10	*mL to*	50	**1,000**
Standard Reference Material	Source:	***NIST 1941B***	Prep Date	**12/10/2015**		70°C dry wt (g):			**0.7639**
Element ID # **D005299**	*Conc:*	**29,900**	*ppm*	Status:	**OK**	Acidified dry wt (g)			**0.8388**
KHP Spiking Standard:	Source:	***C003462***	*47.051%*	*% Carbon*					

Calibration Data

Cal Curve ID: **2-18-16 APOLLO 1** | *Curve Date:* **02/18/16** | *CalCrv Std:* **D005316**

40 µL injections of designated standard | Status: **OK** | *Conc:* **5,000** *ppm*

Curve Range : 200 *to* 2,500 *mg/kg =* **8** *to* **100** *µg Carbon*

Silica Blanks (for dilution)

*Evaluation: Mean <0.5 * Low Curve Point and replicate RSD <25%*

Replicate determinations (mg/kg)									Mean	RSD	test
12.5	18.3	22.4	13.3						14.7	21.3%	*OK*

Sample Data

*"C corr" (with dilution) = ("C obs" - (Mean silica Blank * %Silica)) * Dilution Factor*

			Prep Data		Dilution Data				Combustion Data			
Sample ID	TS 104 (Total Solids at 104 °C)	TS 70 (Total Solids at 70 °C)	70C dried sample (g)	acidified, dried sample (g)	Sample wt. (mg)	Final wt. (mg)	Added Silica (%)	Dilution Factor	Burn wt. (mg)	TOC obs (mg/kg)	TOC 70 C ppm	TOC 104C %C Comments
ICV									40.0	923	923	*92.30%*
Blank									40.0	-3.89	-4	*Blank OK*
NIST 1941B	100.00%	96.20%	0.7639	0.8388				1.00	2.3	31420	34,501	*115.4 %Rec*
Silica Blanks 1	100.00%	100.00%	1	1				1.00	83.2	12.53	13	*Low, increase wt*
Silica Blanks 2	100.00%	100.00%	1	1				1.00	84.1	18.32	18	*Low, increase wt*
Silica Blanks 3	100.00%	100.00%	1	1				1.00	84.4	22.36	22	*Low, increase wt*
Silica Blanks 4	100.00%	100.00%	1	1				1.00	90.8	13.32	13	*Low, increase wt*
MB 2/17/16	100.00%	100.22%	0.2788	0.3636				1.00	87.6	37.22	49	*Low, increase wt*
DQL 2/17/16	100.00%	100.03%	0.3766	0.4629				1.00	83.1	136	167	*0.0167*
AWC1 A1	26.97%	25.73%	0.1475	0.2595	87.9	832.6	89.44%	9.47	3.4	8680	144,429	*13.8*
AVZ9 H1	84.41%	84.52%	0.6519	0.7299				1.00	35.1	482	540	*0.054*
MB 2/12/16	100.00%	100.00%	0.3577	0.4742				1.00	88.4	14.86	20	*Low, increase wt*
ICV									40.0	958	958	*95.80%*
Blank									40.0	0.05	0	*Blank OK*
DQL 2/12/16	100.00%	100.00%	0.5043	0.5969				1.00	84.1	124	147	*0.0147*
AVP2 B2	56.51%	58.09%	0.3473	0.4292				1.00	0.9	59450	73,469	*7.55*
AVX6 A1	97.60%	97.72%	0.4613	0.5837				1.00	1.2	26800	33,911	*3.40*
AVX6 A1dup	97.60%	97.72%	0.3804	0.4880				1.00	1.2	27927	35,826	*3.59*

Sample Data		"C corr" (with dilution) = ("C obs" - (Mean silica Blank * %Silica)) * Dilution Factor											
			Prep Data		Dilution Data				Combustion Data				
Sample ID	TS 104 (Total Solids at 104 °C)	TS 70 (Total Solids at 70 °C)	70C dried sample (g)	acidified, dried sample (g)	Sample wt. (mg)	Final wt. (mg)	Added Silica (%)	Dilution Factor	Burn wt. (mg)	TOC obs (mg/kg)	TOC 70 C ppm	TOC 104C %C	Comments
~~AVX6 A1trip~~	~~97.60%~~	~~97.73%~~	~~0.3750~~	~~0.4933~~			-	~~1.00~~	~~1.3~~	~~18981~~	~~24,969~~		***LATE INJECT***
~~AVX6 A1trip~~	~~97.60%~~	~~97.73%~~	~~0.3750~~	~~0.4933~~			-	~~1.00~~	~~1.3~~	~~34350~~	~~45,186~~		~~*4.52*~~
AVX6 A1trip	97.60%	97.73%	0.3750	0.4933				1.00	1.2	32379	42,593		*4.27*
~~AVX6 A1ms~~	~~97.60%~~	~~97.71%~~	~~0.5151~~	~~0.6333~~			-	~~1.00~~	~~0.7~~	~~38046~~	~~46,776~~		~~*4.68*~~
~~*Sample ms*~~	~~0.2066~~	~~*g KHP =*~~	~~**97.21**~~	~~*mg C to*~~	~~**2.8668**~~	~~*g wet wt =*~~	~~34703~~	~~*mg/kg 70C*~~	~~3.474~~	~~*%C at 104C*~~	~~*37.1 %*~~	~~*36.8 %*~~	
AVX6 A1ms	97.60%	97.71%	0.5151	0.6333				1.00	1.1	45144	55,503		*5.56*
Sample ms	0.2066	*g KHP =*	**97.21**	*mg C to*	**2.8668**	*g wet wt =*	34703	*mg/kg 70C*	3.474	*%C at 104C*	*62.2 %*	*62.2 %*	
~~AVX6 B1~~	~~97.43%~~	~~97.45%~~	~~0.3708~~	~~0.4877~~			-	~~1.00~~	~~0.8~~	~~6031~~	~~7,932~~		***Low, increase wt***
ICV									40.0	950	950		*95.00%*
~~Blank~~									~~40.0~~	~~986~~	~~986~~		***SAMPLE-RERUN***
Blank									40.0	86.08	86		*Blank OK*

TOC Solids Instrument Run Log

DATE: 2-24-16

ANALYST: (W) 6:35

Mode:	TOC
Instrument:	Apollo #1, Boat Module #1
Balance ID:	Mettler XS204 B146454145

Calibration Data

Cal Curve ID: 2-18-16 Boatcal

Curve Date: 2/18/16

CalCrv Std: D005316

Conc: 5,000 ppm

40 µL injections of designated standard

Curve Range

200	to	2,500	mg/kg
8	to	100	µg Carbon

Verification Standard

Source: E00286 AWX6

Conc: 5,000 ppm

10 mL to 50

1,000 ppm

Standard Reference Material

Source: Nist 1941 B

Element ID: D005299

Prep Date: 12-10-16

Conc: 33,510 ppm

KHP Spiking Standard:

Source: C003462

47.1% % Carbon

Silica Blanks (for dilution)

Replicates (mg/kg)		

(*) Sample AWX6 was in Boat when Blank was injected Brown 2-24-16 (W)

(1) 2-23-16 (W)

Sample Data

Sample ID	Dilution Data: Sample wt. (mg)	Dilution Data: Final wt. (mg)	Combustion Data: Burn wt. (mg)	Comments	
ICV			40		
Blank			40		
Nist 1941 B			2.3		
~~SB~~ SB 1			83.2		
2			84.1		
3			84.4		
4			90.8		
MB 2-17-16			87.6		
DQL			83.1		
AWC1 · A'	87.9	832.6	3.4		
AV29 · H'			35.1		
MB 2-12-16			88.4		
CCW			40		
CCB			40		
DQL 2-12-16			84.1		
AVP2 ~~AK~~	B	(1)	~~1.2~~ (1) 120.9		
~~AWC6~~ A'			1.2		1
pp ~~4~~ (1) A'			1.2	~~Lots in Jack Rabbit~~ (1)	2
tp (1) A'			1.3	Lot in Jack Rabbit	3
tp (1) A'		(1)	~~1.2~~ 1.3		4
tp (1) A'			~~0.7~~ 1.2	~~Low~~	5
~~m~~ A'		(1)	~~0.7~~ 1.1	Low	6
(1) ~~B~~ A'	ms	(1)	~~0.8~~ 1.1		7
B'			0.8	Low	
CCW			40		
CCB			(*) ~~40~~ 40		
~~AWC1~~ (1) B'			~~2.8~~		
~~AWC6~~ B'			~~0.8~~ (1)		
~~AWX6 B'~~			2.8		
~~CCW~~					
~~CCB~~					
~~AWX6 B'~~			~~2.8~~		
~~CCW~~			~~40~~		
~~CCB~~			~~40~~		
		2-24-16 (W)			

AVZ9 00785

2-24-16

Detailed Analysis Report Print Date/Time: 2016/02/24 13:44:24

Sample ID: ICV/CCV BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA
Mode: TOC
Filename: 02240624
Timestamp: 2016/02/24 06:27
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	922.9454	36.9178	8670124	2.764	3.762	141

Sample ID: ICB/CCB BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA
Mode: TOC
Filename: 02240632
Timestamp: 2016/02/24 06:34
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-3.8868	-0.1555	69549	3.107	4.100	55

Sample ID: NIST 1941 B
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA
Mode: TOC
Filename: 02240703
Timestamp: 2016/02/24 07:09
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	31420.0312	72.2661	16764895	3.369	4.368	331

Sample ID: SB 1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA
Mode: TOC
Filename: 02240719
Timestamp: 2016/02/24 07:22
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	12.5284	1.0424	241815	3.536	4.533	64

Sample ID: SB 2
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA
Mode: TOC
Filename: 02240737
Timestamp: 2016/02/24 07:39
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	18.3221	1.5409	357468	3.600	4.594	69

Sample ID: SB 3
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA
Mode: TOC
Filename: 02240810
Timestamp: 2016/02/24 08:22
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	22.3599	1.8872	437803	3.831	4.823	70

Sample ID: SB 4
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA
Mode: TOC
Filename: 02240836
Timestamp: 2016/02/24 08:38
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	13.3199	1.2094	280577	3.905	4.904	65

AV20 : 06707

Sample ID: MB 2-17-16
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02240906
Timestamp: 2016/02/24 09:09
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	37.2152	3.2600	756294	3.699	4.695	102

Sample ID: DQL 2-17-16
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02240911
Timestamp: 2016/02/24 09:25
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	135.9279	11.2956	2620452	3.873	4.873	143

Sample ID: AWC1 A1 (Diluted)
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02240928
Timestamp: 2016/02/24 09:34
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	8679.9609	29.5119	6846413	3.792	4.790	286

Sample ID: AVZ9 H1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02240939
Timestamp: 2016/02/24 09:49
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	482.3039	16.9289	3927302	4.007	5.072	361

Last Message: Max Integration Time Reached

Sample ID: AVZ9 H1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02240955
Timestamp: 2016/02/24 10:00
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	14.8643	1.3140	304834	4.022	5.021	69

Sample ID: ICV/CCV BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02241003
Timestamp: 2016/02/24 10:10
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	957.7826	38.3113	8993397	3.976	4.974	292

Sample ID: ICB/CCB BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02241011
Timestamp: 2016/02/24 10:14
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	0.0544	0.0022	106121	4.008	4.352	120

Last Message: Low Sample Detected

Sample ID: DQL 2-12-16
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02241021
Timestamp: 2016/02/24 10:25
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	123.8022	10.4118	2415410	4.093	5.092	147

Sample ID: AVP2 B2
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02241031
Timestamp: 2016/02/24 10:39
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	28450.3672	25.6053	5940141	4.106	6.803	360

Last Message: Max Integration Time Reached

Sample ID: AVX6 A1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02241048
Timestamp: 2016/02/24 10:55
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	26799.5254	32.1594	7460617	4.168	5.684	360

Last Message: Max Integration Time Reached

Sample ID: AVX6 A1 DP
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02241111
Timestamp: 2016/02/24 11:18
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	27926.7695	33.5121	7774426	4.177	5.987	360

Last Message: Max Integration Time Reached

Sample ID: AVX6 A1 TP
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02241121
Timestamp: 2016/02/24 11:28
Sample Type: Sample

2-4-16

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	18981.1152	24.6755	5724420	4.020	5.088	360

Last Message: Max Integration Time Reached

Sample ID: AVX6 A1 HP
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02241132
Timestamp: 2016/02/24 11:39
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	34350.3242	44.6554	10359543	3.882	6.429	361

Last Message: Max Integration Time Reached

Sample ID: AVX6 A1 HP
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02241144
Timestamp: 2016/02/24 11:51
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	32378.5234	38.8542	9013733	3.817	6.111	360

Last Message: Max Integration Time Reached

Sample ID: AVX6 A1 MS
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

2-24-16 D

Mode: TOC
Filename: 02241154
Timestamp: 2016/02/24 12:00
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	38045.6094	26.6319	6178300	3.690	4.688	309

Sample ID: AVX6 A1 MS
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02241204
Timestamp: 2016/02/24 12:11
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	45143.8594	49.6582	11520140	3.686	4.927	360

Last Message: Max Integration Time Reached

Sample ID: AVX6 B1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Low Run 02/25/16
2-24-16 D

Mode: TOC
Filename: 02241219
Timestamp: 2016/02/24 12:23
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6031.4077	4.8251	1119374	3.544	4.543	186

Sample ID: ICV/CCV BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02241238
Timestamp: 2016/02/24 12:43
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	950.3997	38.0160	8924887	3.523	4.520	263

Sample ID: ICB/CCB BOAT ICV
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

2-24-16 D

Mode: TOC
Filename: 02241246
Timestamp: 2016/02/24 12:48
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	985.6297	39.4252	9251805	3.568	91.997	67

Last Message: Out of Calibration

Sample ID: ICB/CCB BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL

Mode: TOC
Filename: 02241256
Timestamp: 2016/02/24 13:03

AVZ9 : 88710

Operator ID: TRINA Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	86.0756	3.4430	904358	3.391	4.547	360

Last Message: Max Integration Time Reached

Sample ID: AVX6 B1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02241307
Timestamp: 2016/02/24 13:14
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	24951.0117	57.3873	13313198	3.185	8.215	360

Last Message: Max Integration Time Reached

Sample ID: AVX6 B1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02241318
Timestamp: 2016/02/24 13:25
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	32819.6523	26.2557	6091025	3.299	7.940	361

Last Message: Max Integration Time Reached

Sample ID: AVX6 B1
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02241333
Timestamp: 2016/02/24 13:40
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	866.4713	34.6589	8040454	3.072	5.223	361

Last Message: Max Integration Time Reached

AVZ9 . 08711

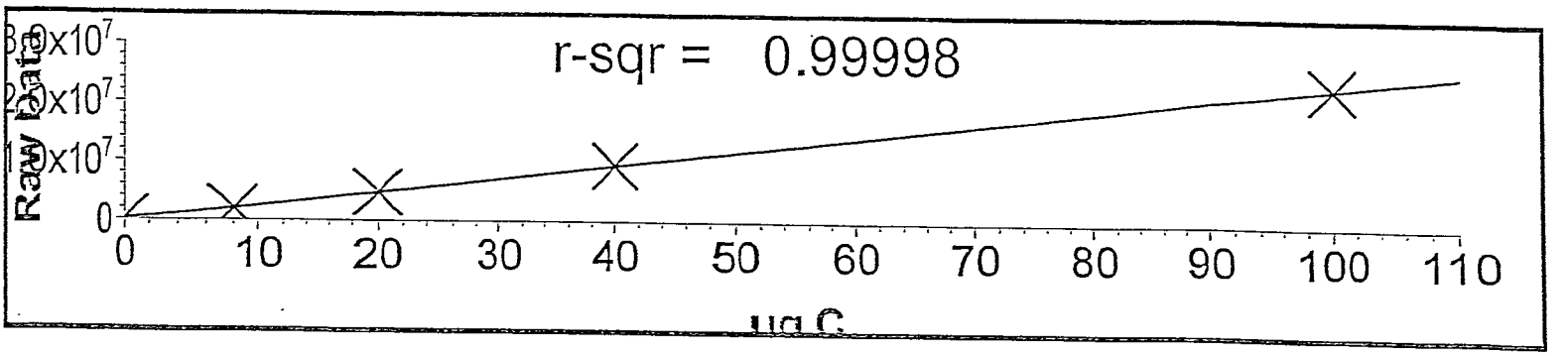
2-18-15 (4)

Calibration Report Print Date/Time: 2016/02/18 7:52:09

Cal. Curve ID: 2-18-16 BOAT CAL
Created: 2016/02/18 07:51
Calibration Factor (m): 2.320e+05
Y Intercept (b): 105616
r-squared: 0.99998

Standard ID	Y Raw Data	X Expected ug C	Measured ug C	Message	Date & Time
DI Water	68066	0.000	-0.162	Low Sample De	2016/02/18 06:04
200 ppm	1938770	8.000	7.902		2016/02/18 06:18
500 ppm	4766629	20.000	20.092		2016/02/18 06:32
1000 ppm	9454307	40.000	40.298		2016/02/18 07:30
2500 ppm	23274374	100.000	99.870		2016/02/18 07:46

AVZ9:08712


r-sqr = 0.99998
Raw Data
3.0x10^7
2.0x10^7
1.0x10^7
0
0
10
20
30
40
50
60
70
80
90
100
110
ug C

Detailed Analysis Report Print Date/Time: 2016/02/18 8:16:35

Sample ID: DI Water
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180551
Timestamp: 2016/02/18 06:04
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			94486	3.149	4.139	57
2			49797	3.114	3.185	120
3			59913	3.272	3.391	120

Last Message: Low Sample Detected
<<<Statistics>>> Mean: 68065 Std Dev: 23433 RSD: 34.43

Sample ID: 200 ppm
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180605
Timestamp: 2016/02/18 06:18
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			1885659	3.361	4.360	103
2			1932818	3.392	4.391	126
3			1997832	3.158	4.158	129

<<<Statistics>>> Mean: 1938770 Std Dev: 56323 RSD: 2.91

Sample ID: 500 ppm
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180619
Timestamp: 2016/02/18 06:32
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			4777163	3.276	4.274	173
2			4871364	3.447	4.446	168
3			4651360	3.466	4.466	146

<<<Statistics>>> Mean: 4766629 Std Dev: 110380 RSD: 2.32

Sample ID: 1000 ppm
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180713
Timestamp: 2016/02/18 07:30
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			9596774	3.299	4.296	236
2			9367255	3.662	4.661	212
3			9398891	3.728	4.728	200

<<<Statistics>>> Mean: 9454307 Std Dev: 124390 RSD: 1.32

Sample ID: 2500 ppm
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180731
Timestamp: 2016/02/18 07:46
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			22733008	3.480	4.763	360
2			23127572	18.617	19.588	81
3			23962536	5.631	6.627	176

Last Message: Max Integration Time Reached
<<<Statistics>>> Mean: 23274374 Std Dev: 627772 RSD: 2.70

AVZ5 : 00714

Sample ID: ICV/CCV BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180754
Timestamp: 2016/02/18 07:59
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1027.1451	41.0858	9637050	3.580	4.578	219

Sample ID: ICB/CCB BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

2-18-15 ok but extra

Mode: TOC
Filename: 02180802
Timestamp: 2016/02/18 08:04
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-6.3844	-0.2554	46372	3.748	4.742	50

Sample ID: ICB/CCB BOAT
Method: Boat Sampler
Cal. Curve: 2-18-16 BOAT CAL
Operator ID: TRINA

Mode: TOC
Filename: 02180805
Timestamp: 2016/02/18 08:09
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-5.5451	-0.2218	54160	3.605	3.710	120

Last Message: Low Sample Detected

AVZ3 : 88715