



Analytical Resources, LLC
Analytical Chemists and Consultants

26 June 2023

Ali Judkins
Anchor QEA, LLC
1201 3rd Ave, Suite 2600
Seattle, WA 98101

RE: AOC4 UR Phase 3

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
23D0577

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclosed Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Susan Dunnihoo, Director, Client Services

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



1 of 2

23300577

CHAIN-OF-CUSTODY/TEST REQUEST FORM

Page 2
No 3265

Project/Client Name: Acrylic Phase 3
 Project Number: 160007-02.01
 Contact Name: Amara Vandenberg
 Sampled By: Windward

Ship to: ARI
 Attn: Sue Dinnihoe
 Shipping Date: 12/9/2022
 Shipper: Palmer
 Airbill Number: ---
 Form filled out by: AV/RL
 Turnaround requested: Std

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Active	Test(s) Requested (check test(s) required)						Comments / Instructions (Jar tag number(s))
12/7/22	0756	LDW22-SC778A	3	Sediment	X							
	0756	LDW22-SC778B	3		X							
	0809	LDW22-SC779K	3		X							
	0809	LDW22-SC779L	3		X							
	0809	LDW22-SC779M	3		X							
	0852	LDW22-SC777T	3		X							
		LDW22-SC777K	3		X							
		LDW22-SC777L	3		X							
	0852	LDW22-SC777M	3		X							
	0958	LDW22-SC759A	3		X							
	1144	LDW22-ITC09H	4		X							
12/9/22	1144	LDW22-ITC09I	4	Sediment	X							
Total Number of Containers			38	Purchase Order / Statement of Work # APT-110222-ACRY-ARI								

1) Released by: <u>Amara Vandenberg</u> Signature: <u>[Signature]</u> Company: <u>Windward</u> Date/Time: <u>12/9/2022 16:15</u>	1) Rec'd by: <u>YAREO</u> Signature: <u>[Signature]</u> Company: <u>YA YA SAFETY</u> Date/Time: <u>12/9/22 4:15AM</u>	2) Released by: <u>YAREO</u> Signature: <u>[Signature]</u> Company: <u>YA YA SAFETY</u> Date/Time: <u>12/9/22 16:40</u>	2) Rec'd by: <u>[Signature]</u> Signature: <u>[Signature]</u> Company: <u>ARI LLC</u> Date/Time: <u>12/9/2022 16:40</u>
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* Distribution: White copies accompany shipment; yellow retained by consignee.



200 1st Ave W, Suite 500
 Seattle, WA 98119
 206.378.1364

To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

2 of 2

23D0577/230d577

CHAIN-OF-CUSTODY/TEST REQUEST FORM

Tier 2

NS 3268

Project/Client Name: ARL LLC Phase 3
 Project Number: 180067-02-04
 Contact Name: Anna Vandenberg
 Sampled By: Windward

Ship to: ARL
 Attn: Sue Dumblaw
 Shipping Date: 12/19/22
 Shipper: Acquirer
 Airbill Number: ---
 Form filled out by: AVIBW
 Turnaround requested: Std

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required)						Comments / Instructions (jar tag numbers)
					Archeve						
12/19/22	1240	LDW22-17814A	3	Sediment	X						
	↓	LDW22-17814B	3		X						
	↓	LDW22-17814C	3		X						
	1240	LDW22-17814D	3		X						
	1245	LDW22-SC767A	3		X						
	↓	LDW22-SC767B	3		X						
	↓	LDW22-SC767C	3		X						
	↓	LDW22-SC767D	3		X						
	↓	LDW22-SC767E	3		X						
	1245	LDW22-SC767F	3		Sediment	X					
Total Number of Containers			30	Purchase Order / Statement of Work # <u>APT-110222-ARL-ARL</u>							

1) Released by: <u>Anna Vandenberg</u> Print name: <u>Anna Vandenberg</u> Signature: <u>[Signature]</u> Company: <u>Windward</u> Date/Time: <u>12/19/22 16:15</u>	1) Rec'd by: <u>YARE</u> Print name: <u>YARE</u> Signature: <u>[Signature]</u> Company: <u>YA YA SAFETY</u> Date/Time: <u>12/19/22 4:15</u>	2) Released by: <u>YARE</u> Print name: <u>YARE</u> Signature: <u>[Signature]</u> Company: <u>YA YA SAFETY</u> Date/Time: <u>12/19/22 16:40</u>	2) Rec'd by: <u>[Signature]</u> Print name: <u>[Signature]</u> Signature: <u>[Signature]</u> Company: <u>AR, LLC</u> Date/Time: <u>12/19/22 16:40</u>
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To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

22LD156/23D0577

CHAIN-OF-CUSTODY/TEST REQUEST FORM

No 3430

Project/Client Name: LDW AOC4 UR Phase 3
 Project Number: 18C067-02.04
 Contact Name: Amara Vanderhoff
 Sampled By: Windward

Ship to: ARI
 Attn: Sue Dunnehee
 Shipper: courier
 Form filled out by: S. Replinger
 Shipping Date: 12-7-2022
 Airbill Number: ---
 Turnaround requested: Std.

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required)					Comments / Instructions (Jar tag numbers)
					PCBs	TOC / Total Solids	Archie	Mercury		
12-7-2022	1000	LDW22-SS797	3	Sediment	X	X	X			
	1010	LDW22-17797	3	↓	X	X	X			
	1040	LDW22-SS812	3		X	X	X	X		
	1105	LDW22-SS794	3		X	X	X			
	1110	LDW22- SS 17794	3		X	X	X			
Total Number of Containers			15		Purchase Order / Statement of Work #					

1) Released by: Print name: <u>THOMAS</u> Signature: <u>[Signature]</u> Company: <u>WINDWARD</u> Date/Time: <u>12/07/22 1640</u>	1) Rec'd by: <u>YARED</u> Company: <u>YA YA SAFETY</u> Date/Time: <u>12/07/22 4:40</u>	2) Released by: Print name: <u>YARED</u> Signature: <u>[Signature]</u> Company: <u>YA YA SAFETY</u> Date/Time: <u>12/07/22 17:07</u>	2) Rec'd by: <u>R-</u> Company: <u>ARI</u> Date/Time: <u>3/7/22 17:07</u>
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To be completed by Laboratory upon sample receipt:

Date of receipt: <u>12/07/22</u>	Laboratory W.O. #: <u>226016</u>
Condition upon receipt: <u>Good</u>	Time of receipt: <u>17:07</u>
Cooler temperature: <u>2.2°C</u>	Received by: <u>Susan M. [Signature]</u>

22L0156 / 2300577

TIER 2

NO 3286

1 of 3

CHAIN-OF-CUSTODY/TEST REQUEST FORM

Project/Client Name: ADCM UR Phase 3
 Project Number: 180067-02.04
 Contact Name: Amara Vandervort
 Sampled By: Windward

Ship to: AKL
 Attn: Sue Dunne/KOC
 Shipper: Conner
 Form filled out by: AV/BQ
 Shipping Date: 12/7/2022
 Airbill Number: ---
 Turnaround requested: Std

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Archive	Test(s) Requested (check test(s) required)						Comments / Instructions (jar tag number(s))
12/6/22	12:04	LDW22-SC768M	3	Sediment	X							
	14:06	LDW22-SC764A	3		X							
		LDW22-SC764B	3		X							
		LDW22-SC764C	3		X							
		LDW22-SC764D	3		X							
12/6/22	14:06	LDW22-SC764O	3		X							
12/7/22	09:10	LDW22- SC764	4		X							
12/7/22	09:20	LDW22-SC755A	3		X							
		LDW22-SC755B	3		X							
		LDW22-SC755K	3		X							
		LDW22-SC755L	3		X							
12/7/22	9:20	LDW22-SC755M	3	Sediment	X							
Total Number of Containers			37	Purchase Order / Statement of Work # <u>APJ-110222-ADCM-AKL</u>								

1) Released by:		1) Rec'd by:		2) Released by:		2) Rec'd by:	
Print name: <u>THAN DO</u>	<u>YARED</u>	Print name: <u>YARED</u>	<u>R-</u>	Print name: <u>YARED</u>	<u>SCOB</u>	Print name: <u>YARED</u>	<u>R-</u>
Signature: <u>[Signature]</u>	<u>[Signature]</u>	Signature: <u>[Signature]</u>	<u>[Signature]</u>	Signature: <u>[Signature]</u>	<u>[Signature]</u>	Signature: <u>[Signature]</u>	<u>[Signature]</u>
Company: <u>Windward</u>	<u>YA YA SAFETY</u>	Company: <u>YA YA SAFETY</u>	<u>YA YA SAFETY</u>	Company: <u>YA YA SAFETY</u>	<u>YA YA SAFETY</u>	Company: <u>ARI</u>	<u>ARI</u>
Date/Time: <u>12/7/2022 14:40</u>	<u>12/7/22 4:40</u>	Date/Time: <u>12/7/22 4:40</u>	<u>12/7/22 4:40</u>	Date/Time: <u>12/7/22 4:40</u>	<u>12/7/22 4:40</u>	Date/Time: <u>12/7/22 17:00</u>	<u>17:00</u>

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To be completed by Laboratory upon sample receipt:

Date of receipt: <u>12/07/22</u>	Laboratory W.O. #: <u>22L0156</u>
Condition upon receipt: <u>GOOD</u>	Time of receipt: <u>17:00</u>
Cooler temperature: <u>2.35°C</u>	Received by: <u>[Signature]</u>

22L4156/2300577

2 of 3

CHAIN-OF-CUSTODY/TEST REQUEST FORM

Tier 2
No 3290

Project/Client Name: ADCU UR Phase 3
 Project Number: 180067-02.04
 Contact Name: Amara VanderVort
 Sampled By: Windward

Ship to: ARL
 Attn: Sue Dammico
 Shipper: Courier
 Form filled out by: AV/BR
 Shipping Date: 12/7/2022
 Airbill Number: —
 Turnaround requested: Std

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required)						Comments / Instructions (for tag numbers)
					ARL						
12/7/22	9:20	LDW22-SC755N	3	Sediment	X						
	10:08	LDW22-SC753L	3		X						
	10:08	LDW22-SC753M	3		X						
	10:08	LDW22-SC753N	3		X						
	1056	LDW22-SC751A	3		X						
		LDW22-SC751B	3		X						
		LDW22-SC751C	3		X						
		LDW22-SC751L	3		X						
		LDW22-SC751M	3		X						
		1056	LDW22-SC751N	3		X					
	1330	LDW22-SC760I	3		X						
12/7/22	1322	LDW22-SC763A	3	Sediment	X						
Total Number of Containers			36	Purchase Order / Statement of Work # <u>APJ-110222-4004-ARL</u>							

1) Released by: Print name: <u>THOM DO</u> Signature: <u>[Signature]</u> Company: <u>Windward</u> Date/Time: <u>12/7/2022 16:40</u>	1) Rec'd by: <u>YARED</u> Company: <u>YA YA SAFETY</u> Date/Time: <u>12/7/22 4:40</u>	2) Released by: Print name: <u>YARED</u> Signature: <u>[Signature]</u> Company: <u>YA YA</u> Date/Time: <u>12/7/22 17:07</u>	2) Rec'd by: <u>Rw</u> Company: <u>ARI</u> Date/Time: <u>12/7/22 18:27</u>
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To be completed by Laboratory upon sample receipt:

Date of receipt: <u>12/10/22</u>	Laboratory W.O. #: <u>22L0456</u>
Condition upon receipt: <u>good</u>	Time of receipt: <u>17:07</u>
Cooler temperature: <u>2.452</u>	Received by: <u>Ramon m...</u>

3 of 3

22LD156/0300577

CHAIN-OF-CUSTODY/TEST REQUEST FORM

Tier 2
No 3253

Project/Client Name: AWY ULR Phase 3
 Project Number: 60067-02.04
 Contact Name: Annara Vanderhoff
 Sampled By: W. Vanderhoff

Ship to: ARL
 Attn: Sue Dunnihee
 Shipper: Courier
 Form filled out by: AV/BR
 Shipping Date: 12/7/2022
 Airbill Number: ---
 Turnaround requested: Std

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Analyte	Test(s) Requested (check test(s) required)						Comments / Instructions (for tag numbers)
12/7/22	1322	LDW22-SC763B	3	Sediment	X							
12/7/22	1322	LDW22-SC763C	3	Sediment	X							
12/7/22	1322	LDW22-SC763D	3	Sediment	X							
		LDW22-SC763E	3	/								
		SC763F	3									
		SC763G	2									
		SC763H	3									
12/7/22	1322	LDW22-SC763I	3									

Total Number of Containers: 23 Purchase Order / Statement of Work # APJ-110222-AWY-ARL

1) Released by:		1) Rec'd by:		2) Released by:		2) Rec'd by:	
Print name: <u>THOMAS DO</u>		Print name: <u>YAREE</u>		Print name: <u>YAREE</u>		Print name: <u>ARL</u>	
Signature: <u>[Signature]</u>		Signature: <u>[Signature]</u>		Signature: <u>[Signature]</u>		Signature: <u>[Signature]</u>	
Company: <u>Windward</u>		Company: <u>YA YA SAFETY</u>		Company: <u>YA YA SAFETY</u>		Company: <u>ARL</u>	
Date/Time: <u>12/7/2022 1640</u>		Date/Time: <u>12/7/22 4:40</u>		Date/Time: <u>12/7/22 17:07</u>		Date/Time: <u>12/7/22 17:07</u>	

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To be completed by Laboratory upon sample receipt:

Date of receipt: <u>12/07/22</u>	Laboratory W.O. #: <u>226096</u>
Condition upon receipt: <u>good</u>	Time of receipt: <u>17:02</u>
Cooler temperature: <u>24.82</u>	Received by: <u>[Signature]</u>

1 of 4 2160014/2300577
CHAIN-OF-CUSTODY/TEST REQUEST FORM Archive NS 4041
 Project/Client Name: Tuwamish AOC4 Ship to: ARI
 Project Number: 180067-02 02 Attn: Sue Dunnington Shipping Date: 6/30/21
 Contact Name: Amara Vandervort Shipper: Courier Airbill Number: _____
 Sampled By: Windward Form filled out by: Brendi Gumbert Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required)						Comments / Instructions (jar tag number(s))
					Archive						
6/30/21	09:12	LDW21-SC565D	3	Sediment	X						
		LDW21-SC565E	3		X						
		LDW21-SC565F	3		X						
		LDW21-SC565G	3		X						
		LDW21-SC565H	3		X						
		LDW21-SC565I	3		X						
		LDW21-SC565J	3		X						
		LDW21-SC565K	3		X						
		LDW21-SC565L	3		X						
		LDW21-SC565M	3		X						
		LDW21-SC565N	3		X						
Total Number of Containers				Purchase Order / Statement of Work # <u>CLF-052021-ARI</u>							
1) Released by: <u>A Vandervort</u>			1) Rec'd by: <u>[Signature]</u>			2) Released by:			2) Rec'd by:		
Print name: <u>A Vandervort</u>			Company: <u>ARI</u>			Print name:			Company:		
Signature: <u>[Signature]</u>			Date/Time: <u>6/30/21 1741</u>			Signature:			Date/Time:		
Company: <u>Windward</u>						Company:			Date/Time:		

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To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

2 of 4 210004/0304577

archive

CHAIN-OF-CUSTODY/TEST REQUEST FORM

No 2021

Project/Client Name: Duwamish Army
 Project Number: 180067-02.02
 Contact Name: Amara Vanderhoff
 Sampled By: Windward

Ship to: ARI
 Attn: Sue Dunnington
 Shipper: Courier
 Form filled out by: Brandi Quilist
 Shipping Date: 6/30/21
 Airbill Number:
 Turnaround requested: Std

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Archive	Test(s) Requested (check test(s) required)						Comments / Instructions (for tag numbers)
6/30/2021	11:00	LDW21-SC629E	3	Sediment	X							
		LDW21-SC629G	3	Sediment	X							
		LDW21-SC629I	3	Sediment	X							
		LDW21-SC629K	3	Sediment	X							
		LDW21-SC629L	3	Sediment	X							
		LDW21-SC629G51	1	Sediment	X							
		LDW21-SC629G52	1	Sediment	X							
	13:45	LDW21-SC572F	3		X							
		LDW21-SC572G	3		X							
		LDW21-SC572H	3		X							
		LDW21-SC572I	3		X							
		LDW21-SC572J	3		X							
Total Number of Containers			Purchase Order / Statement of Work # CLF-052021-ARI									

1) Released by: <u>A Vanderhoff</u> Print name: <u>A Vanderhoff</u> Signature: <u>[Signature]</u> Company: <u>Windward</u> Date/Time: <u>6/30/21 1741</u>	1) Rec'd by: <u>[Signature]</u> Print name: <u>[Name]</u> Signature: <u>[Signature]</u> Company: <u>ARI</u> Date/Time: <u>6/30/21 1741</u>	2) Released by: _____ Print name: _____ Signature: _____ Company: _____ Date/Time: _____	2) Rec'd by: _____ Print name: _____ Signature: _____ Company: _____ Date/Time: _____
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To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

3 of 4 211-0044/2304577

ARCHIVE
CHAIN-OF-CUSTODY/TEST REQUEST FORM

Project/Client Name: Dunwoody/AC04
 Project Number: 16067-02-02
 Contact Name: Amara Vandervort
 Sampled By: Windward

Ship to: ARI
 Attn: Sue Buttrick Shipping Date: 6/30/21
 Shipper: Courier Airbill Number: _____
 Form filled out by: Brandi Quintist Turnaround requested: Std

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Archive	Test(s) Requested (check test(s) required)						Comments / Instructions (for tag number(s))
6/29/2021	13:45	LDW21-SC572 E	3	Sediment	X							
6/29/2021	13:45	LDW21-SC572 L	3	Sediment	X							
	14:40	LDW21-SC572										
	15:00	LDW21-SC576 B	4		X							
		LDW21-SC576 C	4		X							
		LDW21-SC576 D	4		X							
		LDW21-SC576 E	4		X							
		LDW21-SC576 F	4		X							
		LDW21-SC576 G	4		X							
		LDW21-SC576 H	4		X							
		LDW21-SC576 I	4		X							
6/30/2021	15:00	LDW21-SC576 J	4		X							
Total Number of Containers			Purchase Order / Statement of Work # <u>CLF-052021-ARI</u>									
1) Released by: <u>A Vandervort</u> Print name: <u>A Vandervort</u> Signature: <u>A Vandervort</u> Company: <u>Windward</u> Date/Time: <u>6/30/21 1741</u>			1) Rec'd by: <u>[Signature]</u> Company: <u>ARI</u> Date/Time: <u>6/30/21 1741</u>			2) Released by: _____ Print name: _____ Signature: _____ Company: _____ Date/Time: _____			2) Rec'd by: _____ Company: _____ Date/Time: _____			

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To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

4 of 4 216-0014/2300577

Archive

CHAIN-OF-CUSTODY/TEST REQUEST FORM

NS 0000

Project/Client Name: Duwamish Area
 Project Number: 180067-02.02
 Contact Name: Amana Vandervort
 Sampled By: Woodward

Ship to: AR1
 Attn: Sue Dunnington
 Shipper: Courier
 Shipping Date: 6/30/21
 Airbill Number:
 Form filled out by: Brandi Quinlan
 Turnaround requested: Std

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Archive	Test(s) Requested (check test(s) required)						Comments / Instructions (for tag number(s))
6/30/2021	15:00	LDW21-SC576K	4	Sediment	X							
6/30/2021	15:00	LDW21-SC576L	4	↓	X							
6/30/2021	15:00	LDW21-SC576M	4		X							
Total Number of Containers			Purchase Order / Statement of Work # (LF-052021-AR1)									
1) Released by: A Vandervort Print name: A Vandervort Signature: [Signature] Company: Woodward Date/Time: 6/30/21 1741			1) Rec'd by: [Signature] Company: AR1 Date/Time: 6/30/21 1741			2) Released by:			2) Rec'd by:			
Print name:			Print name:			Print name:			Print name:			
Signature:			Signature:			Signature:			Signature:			
Company:			Company:			Company:			Company:			
Date/Time:			Date/Time:			Date/Time:			Date/Time:			

* Distribution: White copies accompany shipment, yellow retained by consignor.



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To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

Additional AOC4 analysis

Amara Vandervort <amarav@windwardenv.com>

Tue 4/18/2023 11:57 AM

To: Sue Dunnihoo <lmsadm@arilabs.com>

Cc: Ali Judkins <ajudkins@anchorqea.com>

Hello,

The client and EPA have decided to request the following additional AOC4 analyses, please.

Location	Sample ID	Date Collected	ARI Login WO ID	PCBs	TOC
572	LDW21-SC572J	6/30/2021	21G0014-23	x	x
572	LDW21-SC572K	6/30/2021	21G0014-24	x	x
572	LDW21-SC572L	6/30/2021	21G0014-25	x	x
760	LDW22-SC760I	12/7/22 1330	22L0156-29	x	x
777	LDW22-SC777J	12/9/22 0852	22L0254-06	x	x
777	LDW22-SC777K	12/9/22 0852	22L0254-07	x	x
777	LDW22-SC777L	12/9/22 0852	22L0254-08	x	x
777	LDW22-SC777M	12/9/22 0852	22L0254-09	x	x
778	LDW22-SC778G	12/9/22 0756	22L0254-02	x	x

Amara Vandervort

Associate

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Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Edward Project Name: Accy OR Phase 2
 COC No(s): 7205, 7268 Delivered by: Fed-Ex UPS Courier Hand Delivered Other:
 Assigned ARI Job No: 7210234/2304577 Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the 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)

Time: 1640 0.4 0.5 7.4 5.1
 If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 7049798
 Cooler Accepted by: TCS Date: 12/09/22 Time: 1640

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 Raggies Foam Block Paper Other: _____
 Was sufficient ice used (if appropriate)? NA YES NO
 How were bottles sealed in plastic bags? Individually Grouped Not
 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
 Were all VOC vials free of air bubbles? NA YES
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI: NA
 Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: BRANDEN Date: 12/12/22 Time: 8:31 Labels checked by: FLB
 ** 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:		



Cooler Receipt Form

ARI Client: Wendell Archer
 COC No(s): 4041, 4049, 4047, 4046
 Assigned ARI Job No: 2160014/2300577

Project Name: Lower Danmish 4004
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No: _____

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the 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)

Time: 1814 9.9 2.9 5.0 5.5 25.7 20.1
 If cooler temperature is out of compliance fill out form 00070F Temp Gun ID# D00 SP06

Cooler Accepted by: [Signature] Date: 06/30/06 Time: 1741

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
 How were bottles sealed in plastic bags? Individually Grouped Not
 Did all bottles arrive in good condition (unbroken)? Yes 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 _____
 Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: [Signature] Date: 07/01/2006 Time: 1206 Labels checked by: [Signature]

**** 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:

Check run out of ice for Archer samples in cooler #5 & #6

By: [Signature] Date: 06/30/06



Cooler Temperature Compliance Form

ARI Work Order: 2160014/2300577

Cooler#:	<u>5</u>	Temperature(°C):	<u>25.7</u>
Sample ID	Bottle Count	Bottle Type	
<u>LDW21-SC577I</u>	<u>3</u>	<u>All containers</u>	
<u>LDW21-SC577K</u>	<u>3</u>	<u>"</u>	
<u>LDW21-SC577L</u>	<u>3</u>	<u>"</u>	
<u>LDW21-SC577R</u>	<u>3 4</u>	<u>"</u>	
<u>LDW21-SC577C</u>	<u>3 4</u>	<u>"</u>	
<u>LDW21-SC577M</u>	<u>3 4</u>	<u>"</u>	
<u>LDW21-SC577E</u>	<u>3 4</u>	<u>"</u>	
<u>LDW21-SC577F</u>	<u>3 4</u>	<u>"</u>	

Cooler#:	<u>6</u>	Temperature(°C):	<u>26.1</u>
Sample ID	Bottle Count	Bottle Type	
<u>LDW21-SC576K</u>	<u>4</u>	<u>All containers</u>	
<u>LDW21-SC576L</u>	<u>4</u>	<u>"</u>	
<u>LDW21-SC576M</u>	<u>4</u>	<u>"</u>	

Cooler#:	<u>5 cont.</u>	Temperature(°C):	<u>25.4</u>
Sample ID	Bottle Count	Bottle Type	
<u>LDW21-SC576G</u>	<u>4</u>	<u>All containers</u>	
<u>LDW21-SC576H</u>	<u>4</u>	<u>"</u>	
<u>LDW21-SC576J</u>	<u>4</u>	<u>"</u>	
<u>LDW21-SC576J</u>	<u>4</u>	<u>"</u>	

Cooler#:		Temperature(°C):	
Sample ID	Bottle Count	Bottle Type	

Completed by: JK Date: 08/26/2014 Time: 1:14

00070F



Anchor QEA, LLC
1201 3rd Ave, Suite 2600
Seattle, WA 98101

Project: AOC4 UR Phase 3
Project Number: 180067-02.04
Project Manager: Ali Judkins

Reported:
06/26/2023 18:20

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
23D0577-01	LDW22-SC778G	Solid	12/09/22 07:56	12/09/22 16:40
23D0577-02	LDW22-SC777J	Solid	12/09/22 08:52	12/09/22 16:40
23D0577-03	LDW22-SC777K	Solid	12/09/22 08:52	12/09/22 16:40
23D0577-04	LDW22-SC777L	Solid	12/09/22 08:52	12/09/22 16:40
23D0577-05	LDW22-SC777M	Solid	12/09/22 08:52	12/09/22 16:40
23D0577-06	LDW22-SC760I	Solid	12/07/22 13:30	12/09/22 16:40
23D0577-07	LDW21-SC572J	Solid	06/30/21 13:45	12/09/22 16:40
23D0577-08	LDW21-SC572K	Solid	06/30/21 13:45	12/09/22 16:40
23D0577-09	LDW21-SC572L	Solid	06/30/21 13:45	12/09/22 16:40



Anchor QEA, LLC
1201 3rd Ave, Suite 2600
Seattle WA, 98101

Project: AOC4 UR Phase 3
Project Number: 180067-02.04
Project Manager: Ali Judkins

Reported:
26-Jun-2023 18:20

Case Narrative

Client: Anchor QEA, LLC
Project: AOC4 UR Phase 3
Work Order: 23D0577

Sample receipt

Samples as listed on the preceding page(s) were pulled from frozen archive per instructions on April 18, 2023, and logged under ARI work order 23D0577. For details regarding sample receipt, please refer to the original Cooler Receipt Forms.

PCB Aroclors - EPA Method SW8082A

Several samples had exceeded the one year holding time at the time of the request and have been "H"-flagged noting the deviation.

SLE0436-ICV1 failed low for aroclor 1254 on the ZB35 column. Any associated data is reported with ZB5 as the primary. SLE0436-ICV2 failed high for aroclor 1660 on the ZB5 column, and all associated results are reported from the ZB35 column as primary. The recovery for tetrachlorometaxylene (TCMX) was high of limits for SLE0436-CCV3. As TCMX is used as an indicator of blow down and is not required by the method, no corrective action was taken.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within limits.

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD) were within advisory control limits.

Results that have been "P1"-flagged indicate a greater than 40% difference between the results on the two analytical columns, attributed to interference from the matrix.

The analyst noted identification of aroclors were made using the best possible fit, as there were miscellaneous interfering peaks throughout the runs inflating results and obscuring patterns.

Wet Chemistry (TOC)

The sample(s) were prepared and analyzed outside of the recommended holding times for frozen samples and results are "H"-flagged, noting the deviation.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The reference material (SRM) percent recoveries were within control limits.

The batch BLF0522 matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits, reported under work order 23D0136.



QUALIFIERS AND NOTES

<u>Qualifier</u>	<u>Definition</u>
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
P1	The reported value is greater than 40% difference between the concentrations determined on two GC columns where applicable.
J	Estimated concentration value detected below the reporting limit.
H	Hold time violation - Hold time was exceeded.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference



ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, LLC SDG: 23D0577
 Client: Anchor QEA, LLC
 Project: AOC4 UR Phase 3
 Matrix: Solid Laboratory ID: 23D0577-01 A File ID: 05262320ECD7.D
 Sampled: 12/09/22 07:56 Prepared: 05/02/23 16:52 Analyzed: 05/26/23 19:34
 % Solids: 62.51 Preparation: EPA 3546 (Microwave) Initial/Final: 20.02 g Wet / 2.5 mL
 Batch: BLD0718 Sequence: SLE0436 Calibration: GE00022
 Instrument: ECD7 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	2	1	8.6	1.6	4.0	
11097-69-1	Aroclor 1254	2	1	8.2	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	32.7	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	7.9907	5.99	75.0	40 - 126	
<i>Tetrachlorometaxylene</i>	1	7.9907	4.15	51.9	44 - 120	
<i>Decachlorobiphenyl</i>	2	7.9907	5.82	72.8	40 - 126	
<i>Tetrachlorometaxylene</i>	2	7.9907	5.17	64.7	44 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262320ECD7.D
Data file 2: /230526.b/230526.b/05262320ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23D0577-01
Client ID:
Injection Date: 26-MAY-2023 19:34
Report Date: 05/30/2023 08:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response	on col	on col		
5.741	-0.004	173373	5.623	-0.008	114413	20.8	25.9	21.9	Tetrachloro-m-xylene
13.830	-0.011	133657	14.060	-0.008	152594	30.0	29.1	3.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	554605	-7.8
Hexabromobiphenyl	876625	446115	-49.1

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	321579	-7.9
Hexabromobiphenyl	652984	369042	-43.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	---			0.0	1	---			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	
CollAve: <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	
CollAve: <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	
CollAve: <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	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1248	1	8.379	-0.021	3704	26.2	1	8.247	-0.014	16691	109.1	
Aroclor-1248	2	8.504	-0.021	8805	23.9	2	8.652	-0.016	5500	34.0	
Aroclor-1248	3	8.929	-0.017	18574	26.3	3	9.087	-0.034	3763	19.9	
Aroclor-1248	4	9.232	-0.008	15203	42.2	4	9.563	0.016	1972	8.7	
Total CollAve (4 peaks):				29.6	Total Col2Ave (4 peaks):				42.9	RPD = 37	
Corrected Ave (3 peaks):				25.5	Corrected Ave (3 peaks):				20.9	RPD = 20	
Aroclor-1254	1	9.232	-0.019	15203	26.7	1	9.387	-0.013	9707	39.7	
Aroclor-1254	2	9.305	-0.018	6229	24.3	2	9.480	-0.015	7161	49.3	
Aroclor-1254	3	9.598	-0.015	5050	13.7	3	9.905	-0.015	3653	18.4	
Aroclor-1254	4	9.729	-0.024	24292	33.7	4	10.083	0.010	13372	30.9	
Aroclor-1254	5	10.055	-0.012	34774	79.9	5	10.307	-0.015	28862	67.3	
Total CollAve (5 peaks):				35.7	Total Col2Ave (5 peaks):				41.2	RPD = 14	
Corrected Ave (4 peaks):				24.6	Corrected Ave (4 peaks):				34.6	RPD = 34	
Aroclor-1260	1	10.978	-0.015	39375	166.9	1	11.591	-0.015	26683	136.1	
Aroclor-1260	2	11.293	-0.018	26049	111.9	2	11.853	-0.021	71026	138.5	
Aroclor-1260	3	11.663	-0.022	72890	125.0	3	12.371	-0.018	30419	239.4	
Aroclor-1260	4	12.064	-0.027	27301	95.6	4	12.436	-0.020	48322	141.1	
Aroclor-1260	5	12.179	-0.015	28355	227.7	NS	---			---	
Total CollAve (5 peaks):				145.4	Total Col2Ave (4 peaks):				163.8	RPD = 12	
Corrected Ave (4 peaks):				124.9	Corrected Ave (3 peaks):				138.6	RPD = 10	
Aroclor-1262	1	---			0.0	1	---			0.0	
Aroclor-1262	2	---			0.0	2	---			0.0	
Aroclor-1262	3	---			0.0	3	---			0.0	
Aroclor-1262	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1268	1	---			0.0	1	---			0.0	
Aroclor-1268	2	---			0.0	2	---			0.0	
Aroclor-1268	3	---			0.0	3	---			0.0	
Aroclor-1268	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						

Total PCB Area Col1 (5.845 - 13.741) = 958587 Col1 Total PCB = 0.2 ppm*
Total PCB Area Col2 (5.731 - 13.969) = 803386 Col2 Total PCB = 0.2 ppm*

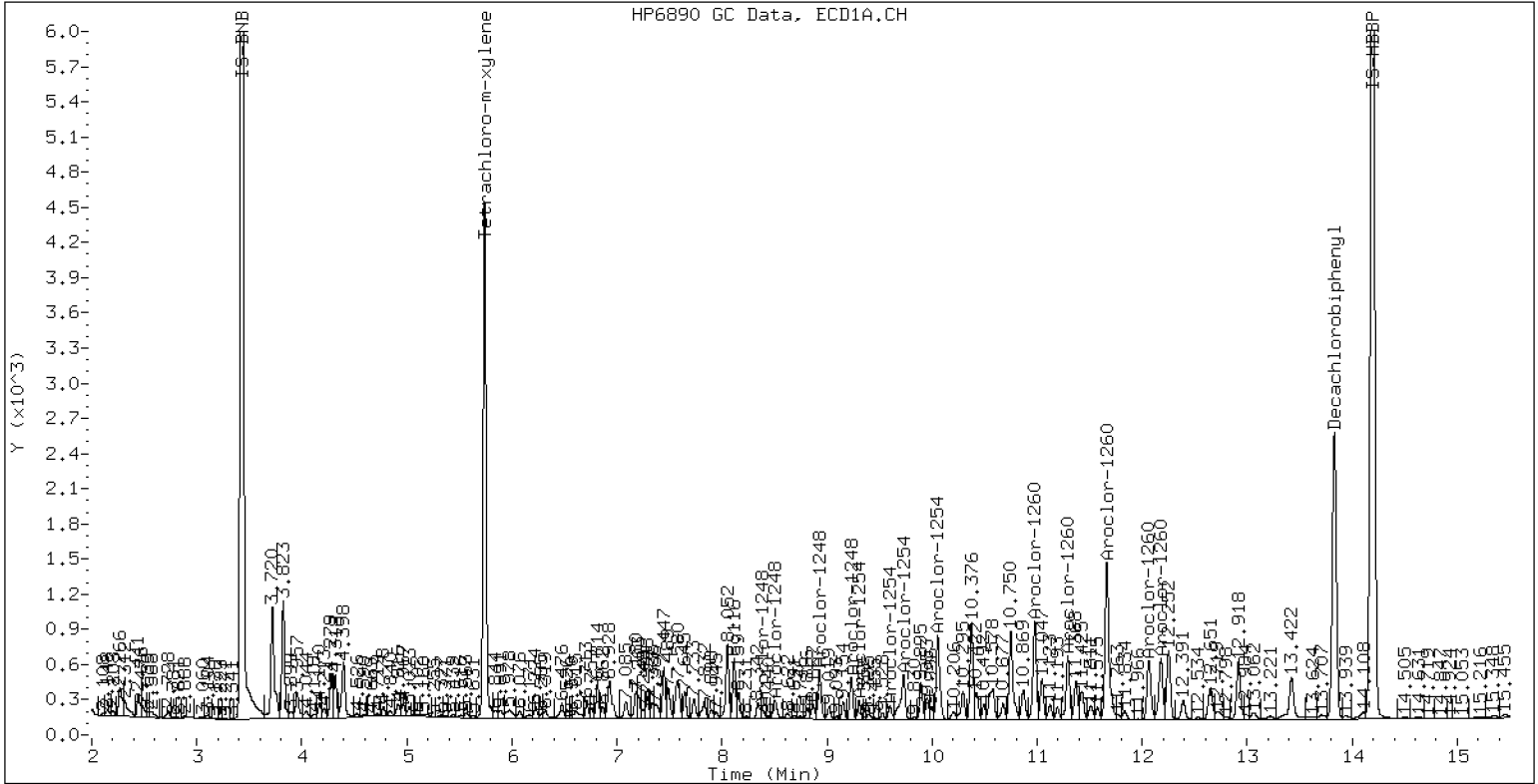
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 23D0577-01

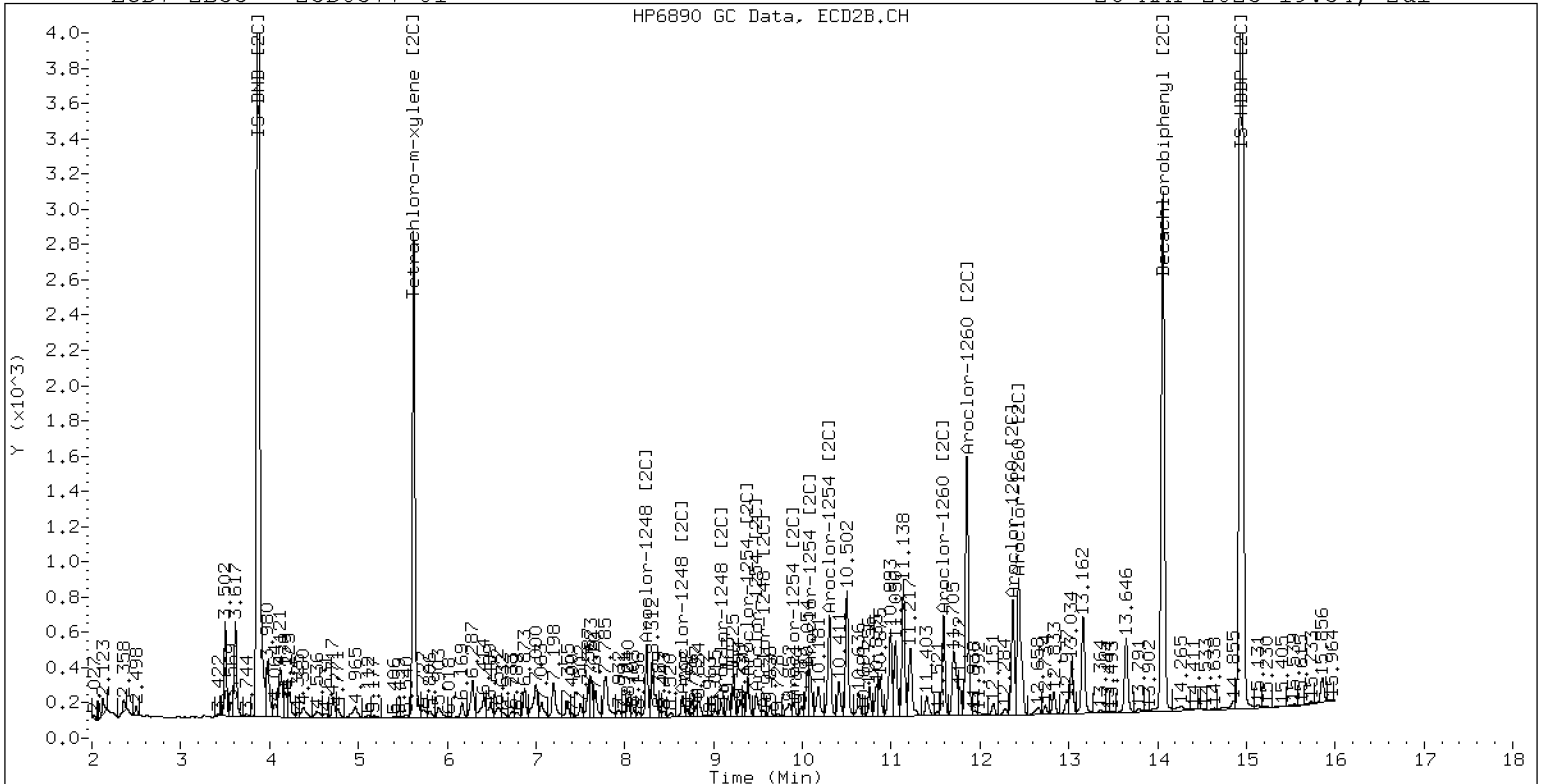
26-MAY-2023 19:34, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 23D0577-01

26-MAY-2023 19:34, 2ul



ZB-35 Manual Integration: NO



ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: <u>Analytical Resources, LLC</u>	SDG: <u>23D0577</u>	
Client: <u>Anchor QEA, LLC</u>		
Project: <u>AOC4 UR Phase 3</u>		
Matrix: <u>Solid</u>	Laboratory ID: <u>23D0577-02 A</u>	File ID: <u>05262321ECD7.D</u>
Sampled: <u>12/09/22 08:52</u>	Prepared: <u>05/02/23 16:52</u>	Analyzed: <u>05/26/23 19:55</u>
% Solids: <u>66.54</u>	Preparation: <u>EPA 3546 (Microwave)</u>	Initial/Final: <u>18.81 g Wet / 2.5 mL</u>
Batch: <u>BLD0718</u>	Sequence: <u>SLE0436</u>	Calibration: <u>GE00022</u>
Instrument: <u>ECD7</u>	Column 1: <u>ZB5</u>	Column 2: <u>ZB35</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	2.0	1.6	4.0	J
11097-69-1	Aroclor 1254	2	1	4.0	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	25.7	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	7.9897	6.24	78.1	40 - 126	
<i>Tetrachlorometaxylene</i>	1	7.9897	4.42	55.4	44 - 120	
<i>Decachlorobiphenyl</i>	2	7.9897	6.03	75.5	40 - 126	
<i>Tetrachlorometaxylene</i>	2	7.9897	5.18	64.8	44 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262321ECD7.D
Data file 2: /230526.b/230526.b/05262321ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23D0577-02
Client ID:
Injection Date: 26-MAY-2023 19:55
Report Date: 05/30/2023 08:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.740	-0.004	183183	5.623	-0.008	121362	22.2	25.9	15.6	Tetrachloro-m-xylene
13.832	-0.010	143483	14.060	-0.008	162505	31.2	30.2	3.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	549067	-8.7
Hexabromobiphenyl	876625	459985	-47.5

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	340500	-2.5
Hexabromobiphenyl	652984	378987	-42.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	---			0.0	1	---			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	
CollAve: <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	
CollAve: <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	
CollAve: <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	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1248	1	8.351	-0.049	1595	11.4	1	8.247	-0.014	1303	8.0	
Aroclor-1248	2	8.502	-0.022	1573	4.3	2	8.657	-0.011	907	5.3	
Aroclor-1248	3	8.931	-0.014	4888	7.0	3	9.091	-0.031	565	2.8	
Aroclor-1248	4	9.233	-0.007	6032	16.9	4	9.560	0.014	871	3.6	
Total CollAve (4 peaks):				9.9	Total Col2Ave (4 peaks):				4.9	RPD = 67*	
Corrected Ave (3 peaks):				7.6	Corrected Ave (3 peaks):				3.9	RPD = 64*	
Aroclor-1254	1	9.233	-0.017	6032	10.7	1	9.387	-0.013	4088	15.8	
Aroclor-1254	2	9.304	-0.019	1709	6.7	2	9.480	-0.015	2121	13.8	
Aroclor-1254	3	9.600	-0.013	1813	5.0	3	9.907	-0.012	1222	5.8	
Aroclor-1254	4	9.729	-0.024	4769	6.7	4	10.085	0.012	12339	27.0	
Aroclor-1254	5	10.055	-0.011	22091	51.3	5	10.309	-0.013	17379	38.3	
Total CollAve (5 peaks):				16.1	Total Col2Ave (5 peaks):				20.1	RPD = 22	
Corrected Ave (4 peaks):				7.3	Corrected Ave (4 peaks):				15.6	RPD = 73*	
Aroclor-1260	1	10.978	-0.016	32160	132.2	1	11.591	-0.015	20025	99.5	
Aroclor-1260	2	11.292	-0.018	19903	82.9	2	11.854	-0.020	59713	113.4	
Aroclor-1260	3	11.664	-0.021	61962	103.1	3	12.371	-0.018	24885	190.7	
Aroclor-1260	4	12.064	-0.027	21881	74.3	4	12.436	-0.019	39022	111.0	
Aroclor-1260	5	12.179	-0.014	22734	177.1	NS	---			----	
Total CollAve (5 peaks):				113.9	Total Col2Ave (4 peaks):				128.7	RPD = 12	
Corrected Ave (4 peaks):				98.1	Corrected Ave (3 peaks):				108.0	RPD = 10	
Aroclor-1262	1	---			0.0	1	---			0.0	
Aroclor-1262	2	---			0.0	2	---			0.0	
Aroclor-1262	3	---			0.0	3	---			0.0	
Aroclor-1262	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1268	1	---			0.0	1	---			0.0	
Aroclor-1268	2	---			0.0	2	---			0.0	
Aroclor-1268	3	---			0.0	3	---			0.0	
Aroclor-1268	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						

Total PCB Area Col1 (5.845 - 13.741) = 574265 Col1 Total PCB = 0.1 ppm*
Total PCB Area Col2 (5.731 - 13.969) = 503113 Col2 Total PCB = 0.1 ppm*

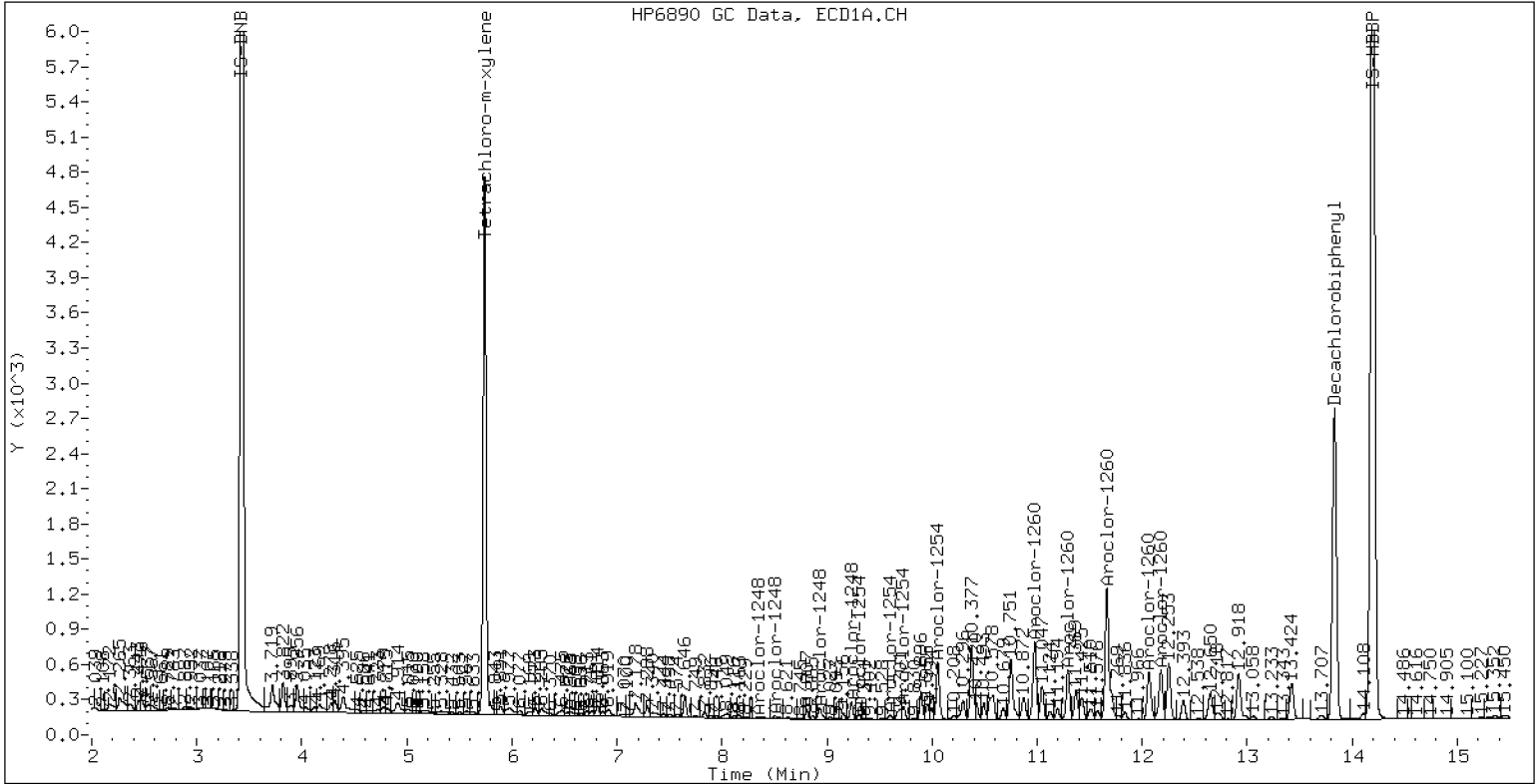
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 23D0577-02

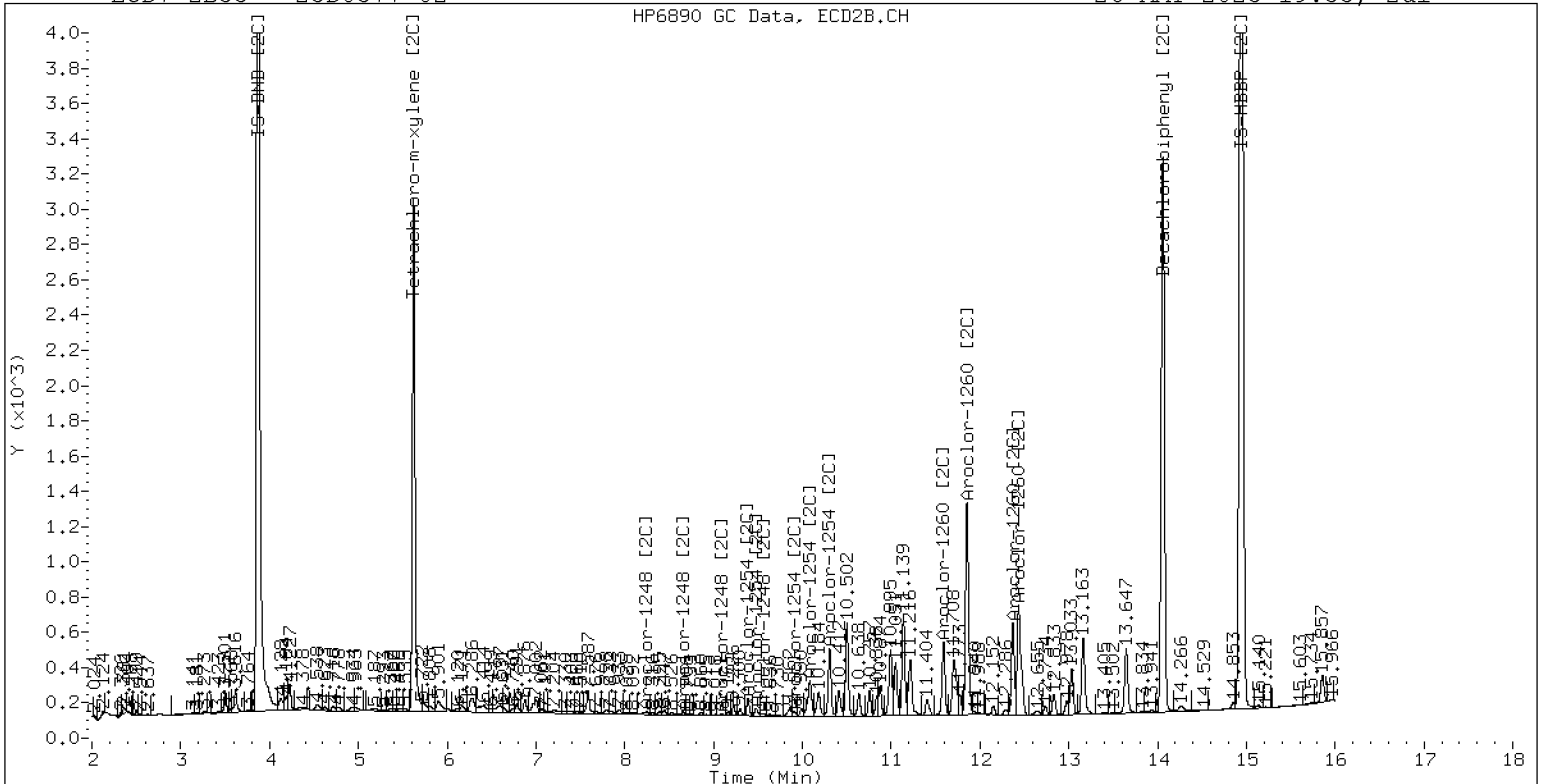
26-MAY-2023 19:55, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 23D0577-02

26-MAY-2023 19:55, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262322ECD7.D
Data file 2: /230526.b/230526.b/05262322ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23D0577-03
Client ID:
Injection Date: 26-MAY-2023 20:16
Report Date: 05/30/2023 08:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.741	-0.004	183451	5.624	-0.007	122537	22.6	25.8	13.1	Tetrachloro-m-xylene
13.830	-0.011	161990	14.061	-0.008	175167	30.3	28.8	5.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	538799	-10.4
Hexabromobiphenyl	876625	534872	-39.0

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	345390	-1.1
Hexabromobiphenyl	652984	427834	-34.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	---			0.0	1	---			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	
CollAve: <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	
CollAve: <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	
CollAve: <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	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1248	1	8.372	-0.028	1317	9.6	1	8.248	-0.012	433	2.6	
Aroclor-1248	2	8.508	-0.017	1438	4.0	2	8.659	-0.008	884	5.1	
Aroclor-1248	3	8.932	-0.013	3796	5.5	3	9.094	-0.027	325	1.6	
Aroclor-1248	4	9.235	-0.005	4193	12.0	4	9.567	0.020	592	2.4	
Total CollAve (4 peaks):				7.8	Total Col2Ave (4 peaks):				2.9	RPD = 90*	
Corrected Ave (3 peaks):				6.4	Corrected Ave (3 peaks):				2.2	RPD = 97*	
Aroclor-1254	1	9.235	-0.016	4193	7.6	1	9.389	-0.010	2660	10.1	
Aroclor-1254	2	9.306	-0.017	1498	6.0	2	9.482	-0.013	1516	9.7	
Aroclor-1254	3	9.602	-0.011	1167	3.3	3	9.908	-0.011	701	3.3	
Aroclor-1254	4	9.732	-0.020	3522	5.0	4	10.087	0.013	6742	14.5	
Aroclor-1254	5	10.056	-0.011	14428	34.1	5	10.310	-0.012	10865	23.6	
Total CollAve (5 peaks):				11.2	Total Col2Ave (5 peaks):				12.3	RPD = 9	
Corrected Ave (4 peaks):				5.5	Corrected Ave (4 peaks):				9.4	RPD = 53*	
Aroclor-1260	1	10.978	-0.015	18365	64.9	1	11.593	-0.013	10312	45.4	
Aroclor-1260	2	11.293	-0.018	11328	40.6	2	11.855	-0.019	30002	50.5	
Aroclor-1260	3	11.665	-0.020	25379	36.3	3	12.347	-0.042	35217	29.1	
Aroclor-1260	4	12.065	-0.026	11792	34.4	4	12.438	-0.017	18575	46.8	
Aroclor-1260	5	12.180	-0.014	12542	84.0	NS	---			----	
Total CollAve (5 peaks):				52.1	Total Col2Ave (4 peaks):				95.4	RPD = 59*	
Corrected Ave (4 peaks):				44.1	Corrected Ave (3 peaks):				47.6	RPD = 8	
Aroclor-1262	1	---			0.0	1	---			0.0	
Aroclor-1262	2	---			0.0	2	---			0.0	
Aroclor-1262	3	---			0.0	3	---			0.0	
Aroclor-1262	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1268	1	---			0.0	1	---			0.0	
Aroclor-1268	2	---			0.0	2	---			0.0	
Aroclor-1268	3	---			0.0	3	---			0.0	
Aroclor-1268	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						

Total PCB Area Col1 (5.845 - 13.741) = 428977 Col1 Total PCB = 0.1 ppm*
Total PCB Area Col2 (5.731 - 13.969) = 310827 Col2 Total PCB = 0.1 ppm*

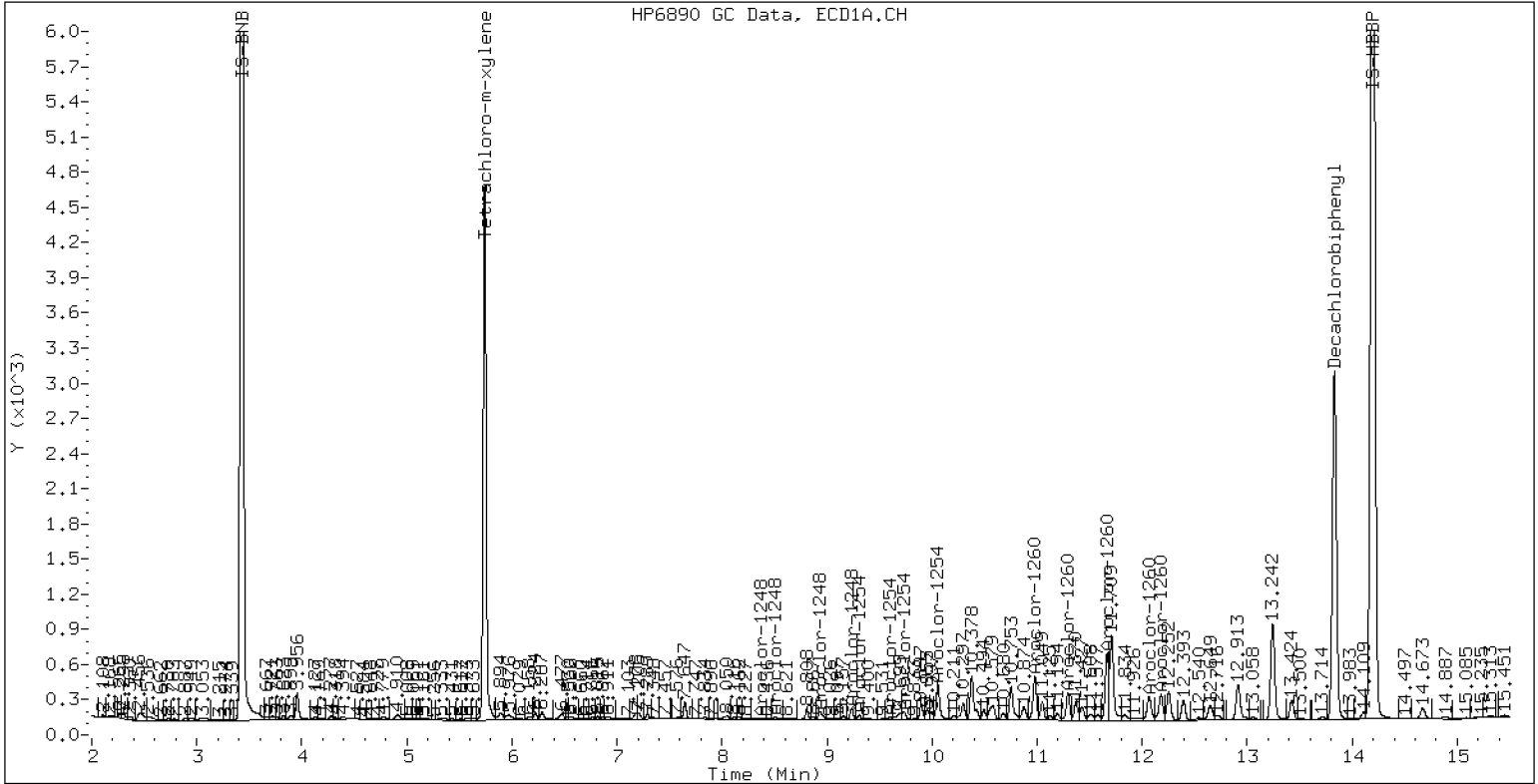
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 23D0577-03

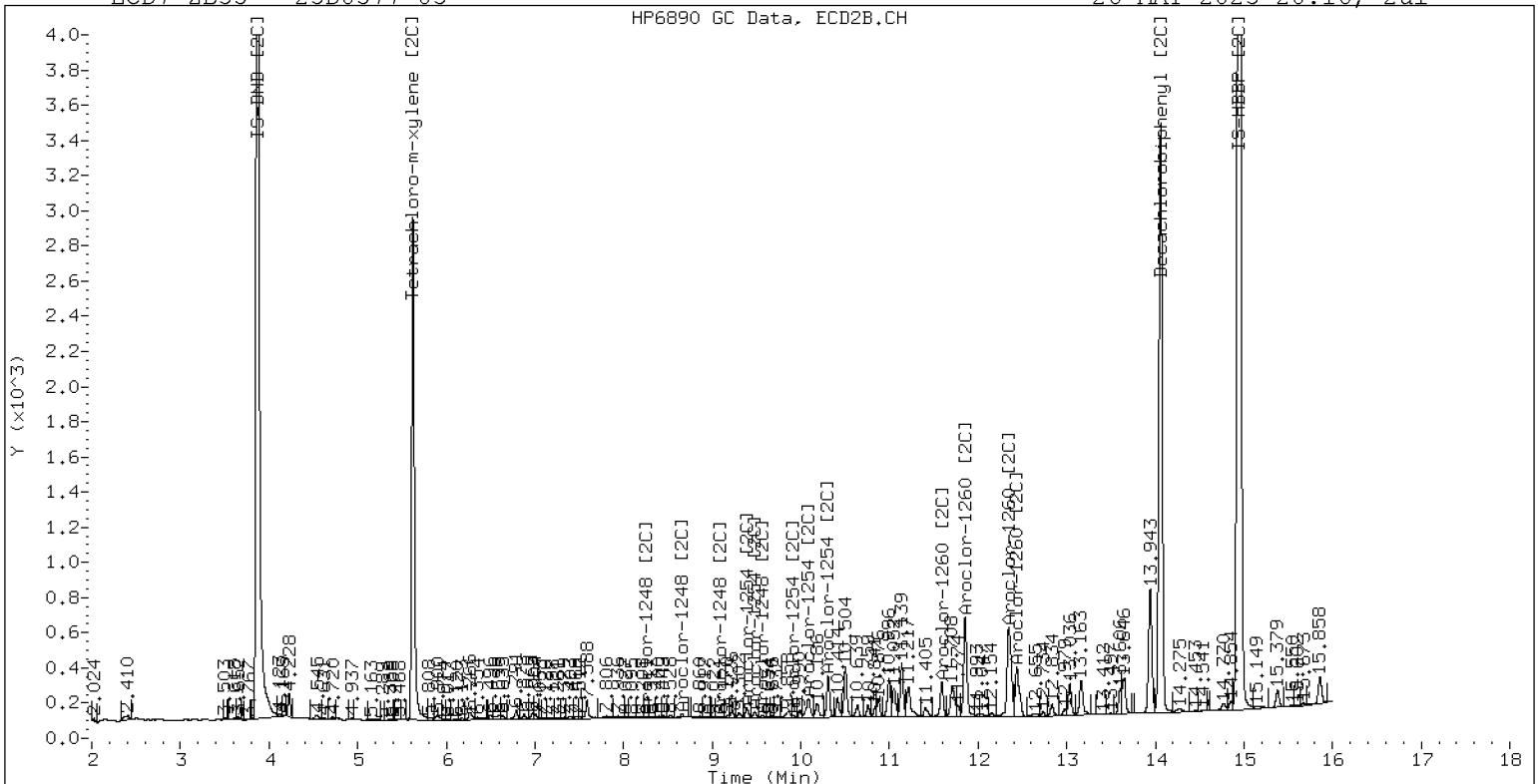
26-MAY-2023 20:16, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 23D0577-03

26-MAY-2023 20:16, 2ul



ZB-35 Manual Integration: NO



ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: <u>Analytical Resources, LLC</u>	SDG: <u>23D0577</u>
Client: <u>Anchor QEA, LLC</u>	
Project: <u>AOC4 UR Phase 3</u>	
Matrix: <u>Solid</u>	Laboratory ID: <u>23D0577-04 A</u>
	File ID: <u>05262323ECD7.D</u>
Sampled: <u>12/09/22 08:52</u>	Prepared: <u>05/02/23 16:52</u>
	Analyzed: <u>05/26/23 20:37</u>
% Solids: <u>67.98</u>	Preparation: <u>EPA 3546 (Microwave)</u>
	Initial/Final: <u>18.44 g Wet / 2.5 mL</u>
Batch: <u>BLD0718</u>	Sequence: <u>SLE0436</u>
	Calibration: <u>GE00022</u>
Instrument: <u>ECD7</u>	Column 1: <u>ZB5</u>
	Column 2: <u>ZB35</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	4.0	1.6	4.0	U
11097-69-1	Aroclor 1254	2	1	3.4	1.6	4.0	J
11096-82-5	Aroclor 1260	1	1	17.9	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	7.9773	6.49	81.3	40 - 126	
<i>Tetrachlorometaxylene</i>	1	7.9773	4.89	61.3	44 - 120	
<i>Decachlorobiphenyl</i>	2	7.9773	6.15	77.0	40 - 126	
<i>Tetrachlorometaxylene</i>	2	7.9773	5.67	71.1	44 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262323ECD7.D
Data file 2: /230526.b/230526.b/05262323ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23D0577-04
Client ID:
Injection Date: 26-MAY-2023 20:37
Report Date: 05/30/2023 08:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.741	-0.004	207003	5.624	-0.008	138015	24.5	28.4	14.8	Tetrachloro-m-xylene
13.831	-0.011	172610	14.060	-0.008	184688	32.5	30.8	5.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	560198	-6.9
Hexabromobiphenyl	876625	531037	-39.4

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	352682	1.0
Hexabromobiphenyl	652984	422033	-35.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	---			0.0	1	---			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	
CollAve: <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	
CollAve: <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	
CollAve: <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	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1248	1	8.437	0.037	567	4.0	1	8.248	-0.013	515	3.1	
Aroclor-1248	2	8.542	0.017	1269	3.4	2	8.659	-0.009	953	5.4	
Aroclor-1248	3	8.932	-0.013	5342	7.5	3	9.090	-0.031	328	1.6	
Aroclor-1248	4	9.234	-0.006	6181	17.0	4	9.563	0.016	965	3.9	
Total CollAve (4 peaks):				8.0	Total Col2Ave (4 peaks):				3.5	RPD = 78*	
Corrected Ave (3 peaks):				5.0	Corrected Ave (3 peaks):				2.8	RPD = 54*	
Aroclor-1254	1	9.234	-0.017	6181	10.7	1	9.389	-0.011	3599	13.4	
Aroclor-1254	2	9.306	-0.017	2359	9.1	2	9.482	-0.013	1958	12.3	
Aroclor-1254	3	9.601	-0.012	1830	4.9	3	9.908	-0.012	886	4.1	
Aroclor-1254	4	9.732	-0.021	4900	6.7	4	10.085	0.012	10338	21.8	
Aroclor-1254	5	10.054	-0.012	22251	50.6	5	10.309	-0.013	16336	34.7	
Total CollAve (5 peaks):				16.4	Total Col2Ave (5 peaks):				17.3	RPD = 5	
Corrected Ave (4 peaks):				7.9	Corrected Ave (4 peaks):				12.9	RPD = 48*	
Aroclor-1260	1	10.979	-0.015	31104	110.8	1	11.592	-0.014	16696	74.5	
Aroclor-1260	2	11.293	-0.018	19270	69.5	2	11.854	-0.019	51770	88.3	
Aroclor-1260	3	11.665	-0.020	46666	67.2	3	12.349	-0.040	50844	356.0	
Aroclor-1260	4	12.065	-0.026	20596	60.6	4	12.436	-0.019	32942	84.1	
Aroclor-1260	5	12.179	-0.015	20933	141.2	NS	---			---	
Total CollAve (5 peaks):				89.9	Total Col2Ave (4 peaks):				149.2	RPD = 50*	
Corrected Ave (4 peaks):				77.0	Corrected Ave (3 peaks):				82.3	RPD = 7	
Aroclor-1262	1	---			0.0	1	---			0.0	
Aroclor-1262	2	---			0.0	2	---			0.0	
Aroclor-1262	3	---			0.0	3	---			0.0	
Aroclor-1262	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1268	1	---			0.0	1	---			0.0	
Aroclor-1268	2	---			0.0	2	---			0.0	
Aroclor-1268	3	---			0.0	3	---			0.0	
Aroclor-1268	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						

Total PCB Area Col1 (5.845 - 13.741) = 708193 Col1 Total PCB = 0.1 ppm*
Total PCB Area Col2 (5.731 - 13.969) = 482980 Col2 Total PCB = 0.1 ppm*

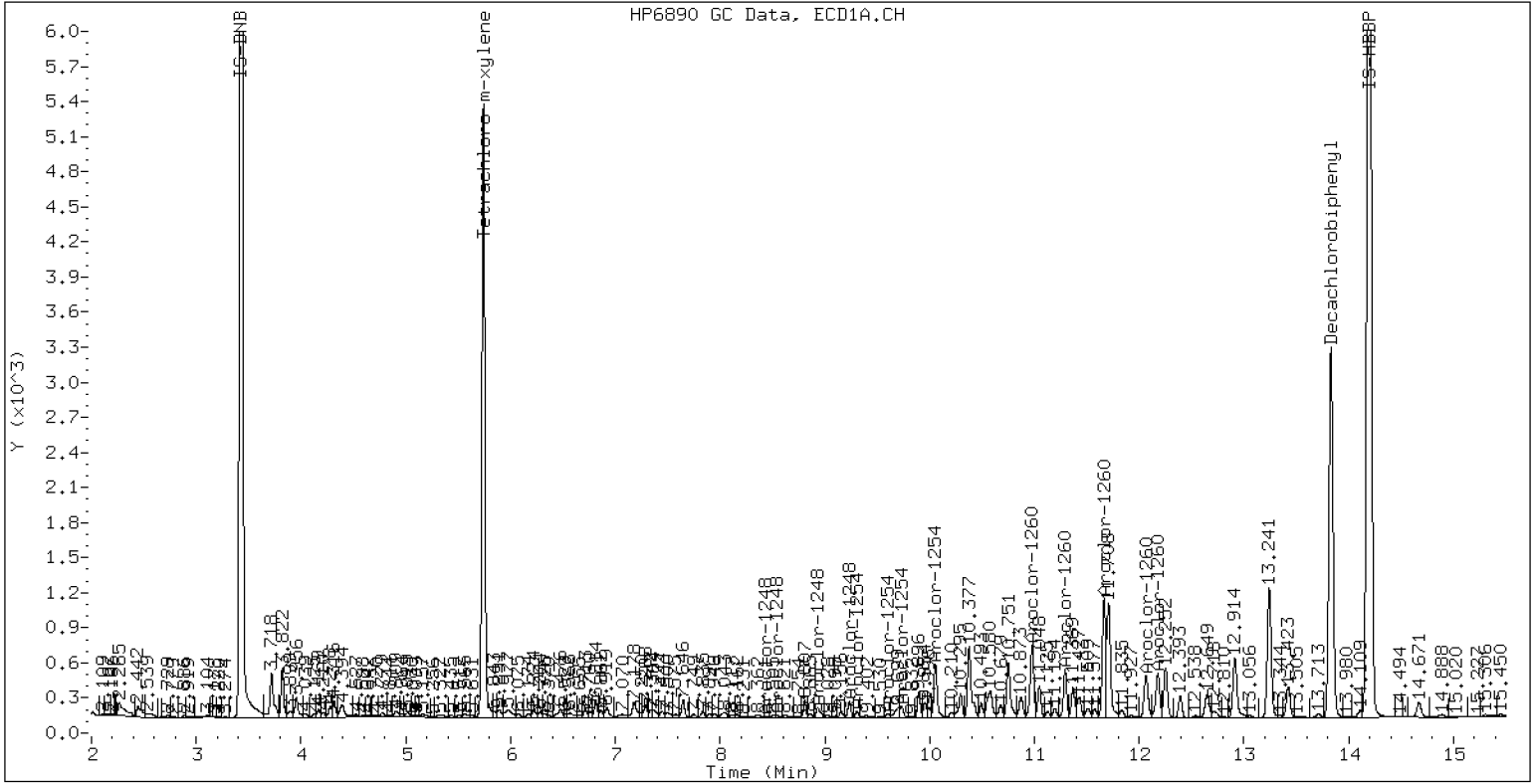
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 23D0577-04

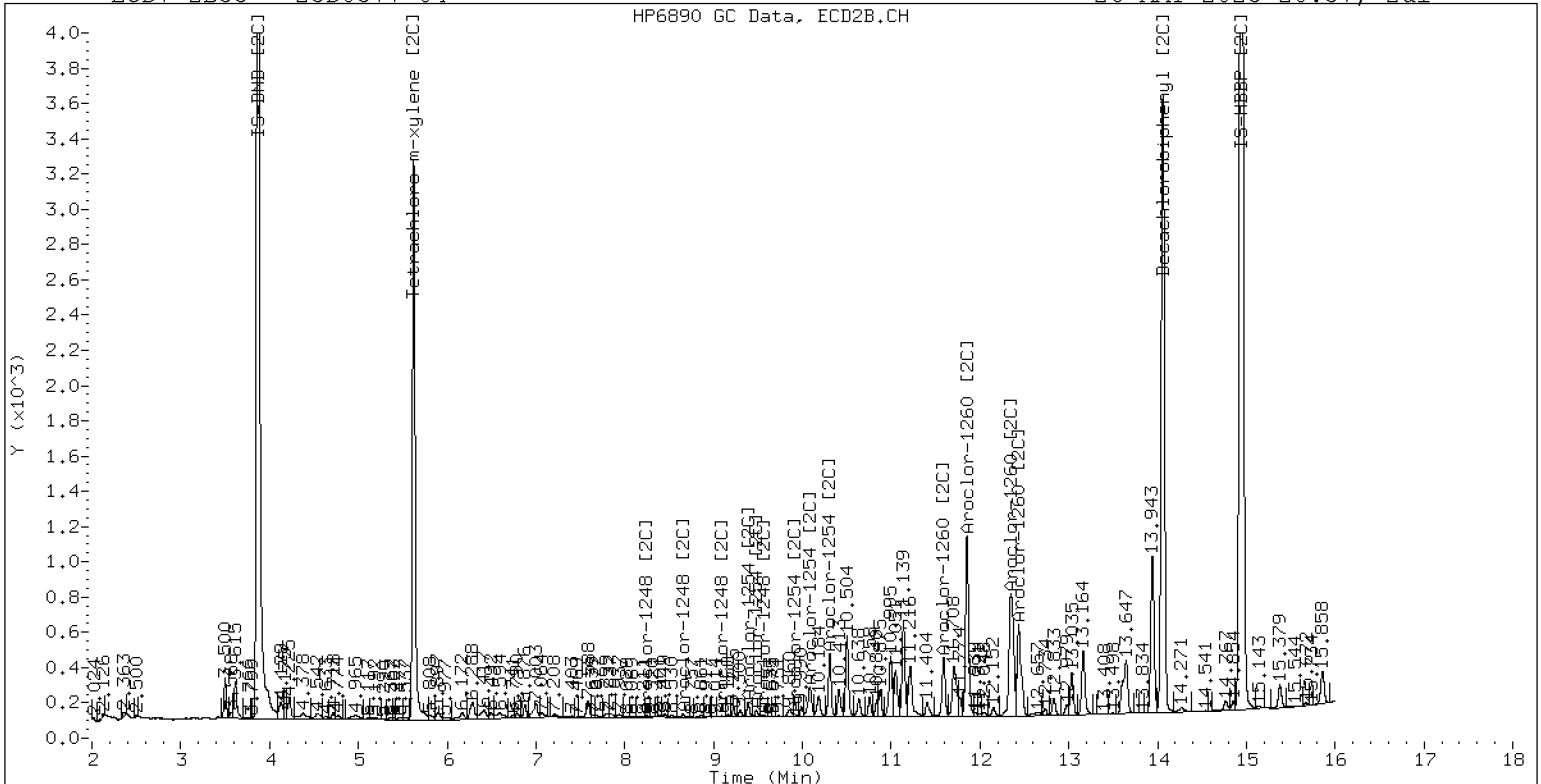
26-MAY-2023 20:37, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 23D0577-04

26-MAY-2023 20:37, 2ul



ZB-35 Manual Integration: NO



LDW22-SC777M

Dual Column

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: <u>Analytical Resources, LLC</u>	SDG: <u>23D0577</u>	
Client: <u>Anchor QEA, LLC</u>		
Project: <u>AOC4 UR Phase 3</u>		
Matrix: <u>Solid</u>	Laboratory ID: <u>23D0577-05 A</u>	File ID: <u>05262324ECD7.D</u>
Sampled: <u>12/09/22 08:52</u>	Prepared: <u>05/02/23 16:52</u>	Analyzed: <u>05/26/23 20:58</u>
% Solids: <u>69.46</u>	Preparation: <u>EPA 3546 (Microwave)</u>	Initial/Final: <u>18.05 g Wet / 2.5 mL</u>
Batch: <u>BLD0718</u>	Sequence: <u>SLE0436</u>	Calibration: <u>GE00022</u>
Instrument: <u>ECD7</u>	Column 1: <u>ZB5</u>	Column 2: <u>ZB35</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	3.6	1.6	4.0	J
11097-69-1	Aroclor 1254	2	1	8.7	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	55.3	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	7.9761	6.72	84.3	40 - 126	
<i>Tetrachlorometaxylene</i>	1	7.9761	4.79	60.1	44 - 120	
<i>Decachlorobiphenyl</i>	2	7.9761	6.43	80.7	40 - 126	
<i>Tetrachlorometaxylene</i>	2	7.9761	5.87	73.6	44 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262324ECD7.D
Data file 2: /230526.b/230526.b/05262324ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23D0577-05
Client ID:
Injection Date: 26-MAY-2023 20:58
Report Date: 05/30/2023 08:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response	on col	on col		
5.741	-0.003	202426	5.624	-0.007	135133	24.0	29.4	20.2	Tetrachloro-m-xylene
13.831	-0.010	169948	14.060	-0.009	185924	33.7	32.3	4.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	558998	-7.1
Hexabromobiphenyl	876625	504830	-42.4
Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	333555	-4.5
Hexabromobiphenyl	652984	405757	-37.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	---			0.0	1	---			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	
CollAve: <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	
CollAve: <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	
CollAve: <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	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1248	1	8.348	-0.052	2586	18.1	1	8.248	-0.013	809	5.1	
Aroclor-1248	2	8.504	-0.021	1916	5.2	2	8.658	-0.010	954	5.7	
Aroclor-1248	3	8.931	-0.014	8615	12.1	3	9.090	-0.031	414	2.1	
Aroclor-1248	4	9.233	-0.006	13460	37.0	4	9.565	0.018	1482	6.3	
Total CollAve (4 peaks):				18.1	Total Col2Ave (4 peaks):				4.8	RPD = 116*	
Corrected Ave (3 peaks):				11.8	Corrected Ave (3 peaks):				4.3	RPD = 93*	
Aroclor-1254	1	9.233	-0.017	13460	23.4	1	9.388	-0.012	9387	37.0	
Aroclor-1254	2	9.306	-0.017	5179	20.1	2	9.480	-0.015	4295	28.5	
Aroclor-1254	3	9.601	-0.013	2199	5.9	3	9.908	-0.012	1538	7.5	
Aroclor-1254	4	9.731	-0.022	8631	11.9	4	10.085	0.012	25528	56.9	
Aroclor-1254	5	10.055	-0.011	50425	114.9	5	10.309	-0.013	39096	87.9	
Total CollAve (5 peaks):				35.2	Total Col2Ave (5 peaks):				43.6	RPD = 21	
Corrected Ave (4 peaks):				15.3	Corrected Ave (4 peaks):				32.5	RPD = 72*	
Aroclor-1260	1	10.978	-0.016	71604	268.2	1	11.591	-0.015	43811	203.3	
Aroclor-1260	2	11.293	-0.018	49732	188.8	2	11.853	-0.021	135633	240.6	
Aroclor-1260	3	11.664	-0.021	152271	230.8	3	12.370	-0.019	59646	427.0	
Aroclor-1260	4	12.065	-0.026	53743	166.3	4	12.436	-0.020	89852	238.6	
Aroclor-1260	5	12.179	-0.014	47630	338.0	NS	---			----	
Total CollAve (5 peaks):				238.4	Total Col2Ave (4 peaks):				277.4	RPD = 15	
Corrected Ave (4 peaks):				213.5	Corrected Ave (3 peaks):				227.5	RPD = 6	
Aroclor-1262	1	---			0.0	1	---			0.0	
Aroclor-1262	2	---			0.0	2	---			0.0	
Aroclor-1262	3	---			0.0	3	---			0.0	
Aroclor-1262	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1268	1	---			0.0	1	---			0.0	
Aroclor-1268	2	---			0.0	2	---			0.0	
Aroclor-1268	3	---			0.0	3	---			0.0	
Aroclor-1268	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						

Total PCB Area Col1 (5.845 - 13.741) = 1155357 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.731 - 13.969) = 954775 Col2 Total PCB = 0.2 ppm*

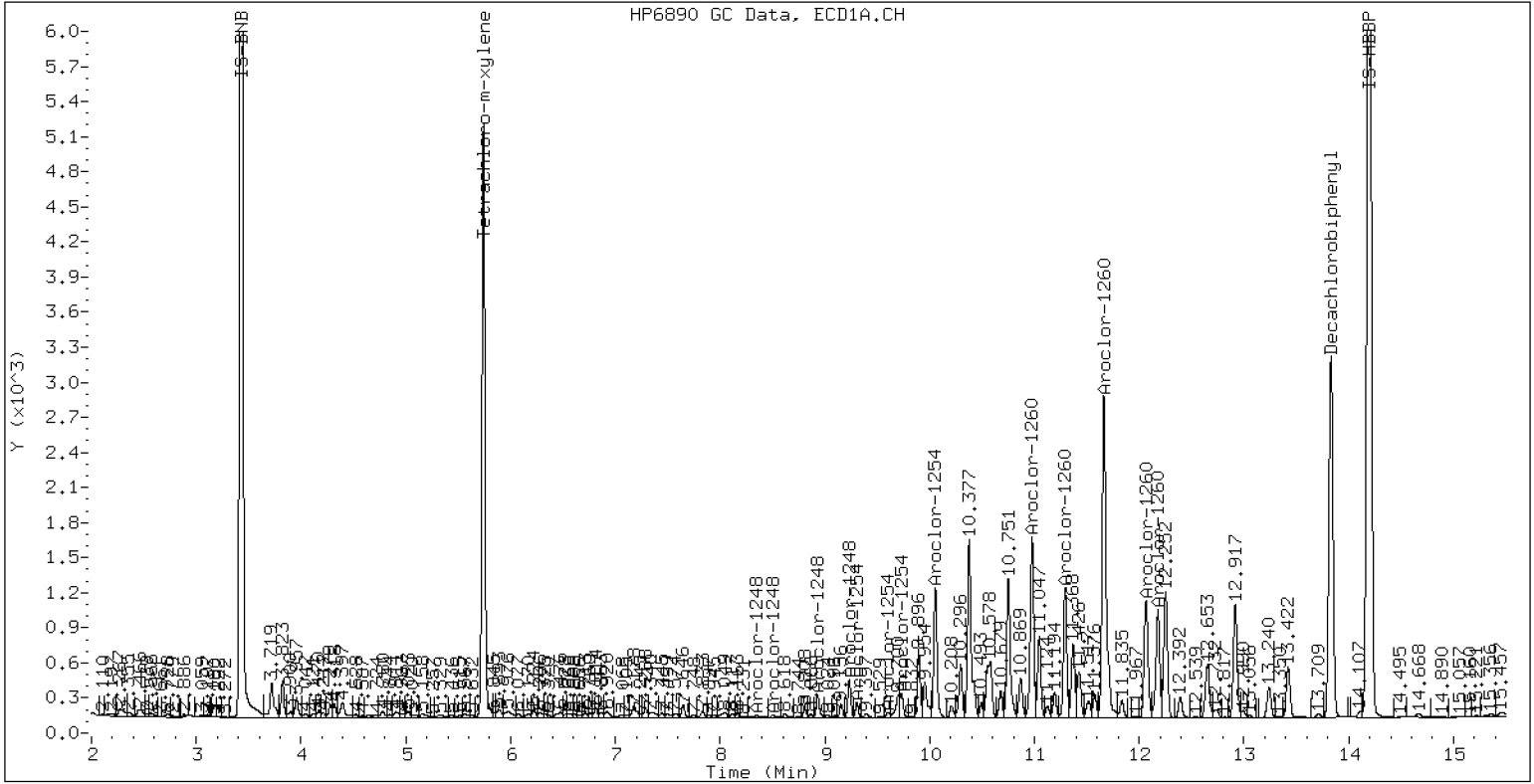
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 23D0577-05

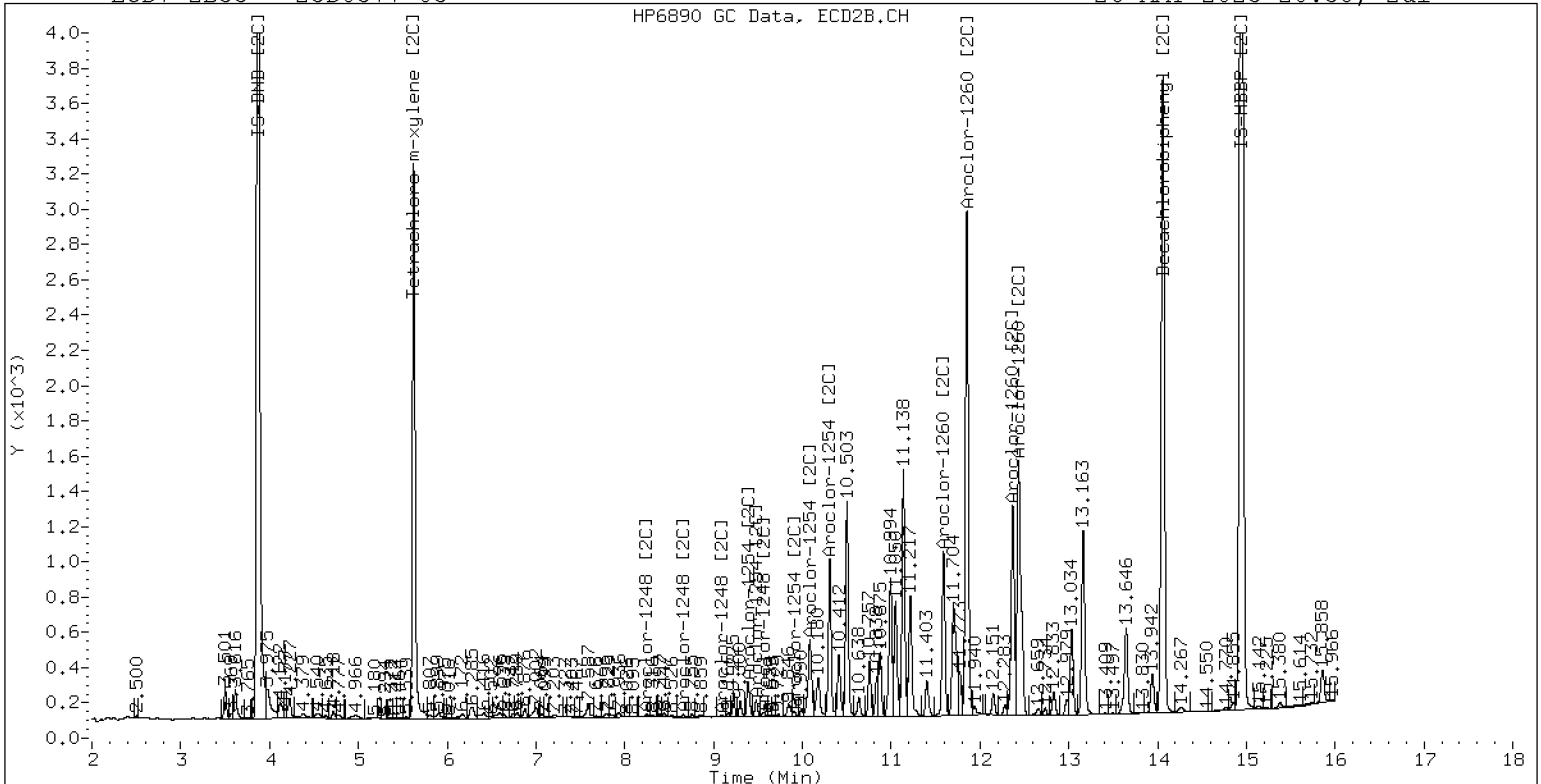
26-MAY-2023 20:58, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 23D0577-05

26-MAY-2023 20:58, 2ul



ZB-35 Manual Integration: NO



Dual Column

LDW22-SC760I

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: <u>Analytical Resources, LLC</u>	SDG: <u>23D0577</u>	
Client: <u>Anchor QEA, LLC</u>		
Project: <u>AOC4 UR Phase 3</u>		
Matrix: <u>Solid</u>	Laboratory ID: <u>23D0577-06 A</u>	File ID: <u>05262325ECD7.D</u>
Sampled: <u>12/07/22 13:30</u>	Prepared: <u>05/02/23 16:52</u>	Analyzed: <u>05/26/23 21:18</u>
% Solids: <u>76.60</u>	Preparation: <u>EPA 3546 (Microwave)</u>	Initial/Final: <u>16.34 g Wet / 2.5 mL</u>
Batch: <u>BLD0718</u>	Sequence: <u>SLE0436</u>	Calibration: <u>GE00022</u>
Instrument: <u>ECD7</u>	Column 1: <u>ZB5</u>	Column 2: <u>ZB35</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	12.0	1.6	4.0	
11097-69-1	Aroclor 1254	1	1	16.0	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	8.1	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	7.9895	6.76	84.6	40 - 126	
<i>Tetrachlorometaxylene</i>	1	7.9895	5.99	75.0	44 - 120	
<i>Decachlorobiphenyl</i>	2	7.9895	7.27	91.0	40 - 126	
<i>Tetrachlorometaxylene</i>	2	7.9895	6.20	77.6	44 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262325ECD7.D
 Data file 2: /230526.b/230526.b/05262325ECD7.D
 Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
 Compound Sublist: PCB.sub
 Instrument, Inj. Vol.: ecd7.i, 2ul
 Quant Method: Internal Std

ARI ID: 23D0577-06
 Client ID:
 Injection Date: 26-MAY-2023 21:18
 Report Date: 05/30/2023 08:50
 Matrix: NONE
 Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	-0.003	306368	5.627	-0.004	170932	30.0	31.1	3.5	Tetrachloro-m-xylene
13.834	-0.008	281932	14.065	-0.004	274690	33.9	36.4	7.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	678381	12.8
Hexabromobiphenyl	876625	833679	-4.9
Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	400094	14.5
Hexabromobiphenyl	652984	531692	-18.6

* Standard Areas taken from Initial Cal Level 3
 Initial Calibration Date: 05-MAY-2023
 <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	---			0.0	1	---			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	
CollAve: <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	
CollAve: <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	
CollAve: <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	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1248	1	8.394	-0.006	8662	50.0	1	8.253	-0.007	14412	75.7	
Aroclor-1248	2	8.515	-0.010	15342	34.1	2	8.660	-0.008	10181	50.6	
Aroclor-1248	3	8.935	-0.010	46624	53.9	3	9.102	-0.019	10110	42.9	
Aroclor-1248	4	9.237	-0.003	45272	102.6	4	9.572	0.026	2853	10.1	
Total CollAve (4 peaks):				60.2	Total Col2Ave (4 peaks):				44.8	RPD = 29	
Corrected Ave (3 peaks):				46.0	Corrected Ave (3 peaks):				34.5	RPD = 28	
Aroclor-1254	1	9.237	-0.013	45272	64.9	1	9.395	-0.005	21773	71.6	
Aroclor-1254	2	9.313	-0.011	22684	72.4	2	9.488	-0.007	17431	96.5	
Aroclor-1254	3	9.608	-0.005	23553	52.3	3	9.913	-0.007	9367	38.0	
Aroclor-1254	4	9.739	-0.014	64737	73.4	4	10.064	-0.009	39805	74.0	
Aroclor-1254	5	10.062	-0.004	72825	136.8	5	10.312	-0.010	45327	85.0	
Total CollAve (5 peaks):				80.0	Total Col2Ave (5 peaks):				73.0	RPD = 9	
Corrected Ave (4 peaks):				65.8	Corrected Ave (4 peaks):				67.2	RPD = 2	
Aroclor-1260	1	10.984	-0.010	16769	38.0	1	11.599	-0.007	15482	54.8	
Aroclor-1260	2	11.301	-0.010	13423	30.9	2	11.861	-0.013	23634	32.0	
Aroclor-1260	3	11.671	-0.014	33520	30.8	3	12.378	-0.011	7751	42.3	
Aroclor-1260	4	12.073	-0.018	17313	32.4	4	12.443	-0.013	16775	34.0	
Aroclor-1260	5	12.185	-0.008	7416	31.9	NS	---			----	
Total CollAve (5 peaks):				32.8	Total Col2Ave (4 peaks):				40.8	RPD = 22	
Corrected Ave (4 peaks):				31.5	Corrected Ave (3 peaks):				36.1	RPD = 14	
Aroclor-1262	1	---			0.0	1	---			0.0	
Aroclor-1262	2	---			0.0	2	---			0.0	
Aroclor-1262	3	---			0.0	3	---			0.0	
Aroclor-1262	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1268	1	---			0.0	1	---			0.0	
Aroclor-1268	2	---			0.0	2	---			0.0	
Aroclor-1268	3	---			0.0	3	---			0.0	
Aroclor-1268	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						

Total PCB Area Col1 (5.845 - 13.741) = 970787 Col1 Total PCB = 0.1 ppm*
Total PCB Area Col2 (5.731 - 13.969) = 590799 Col2 Total PCB = 0.1 ppm*

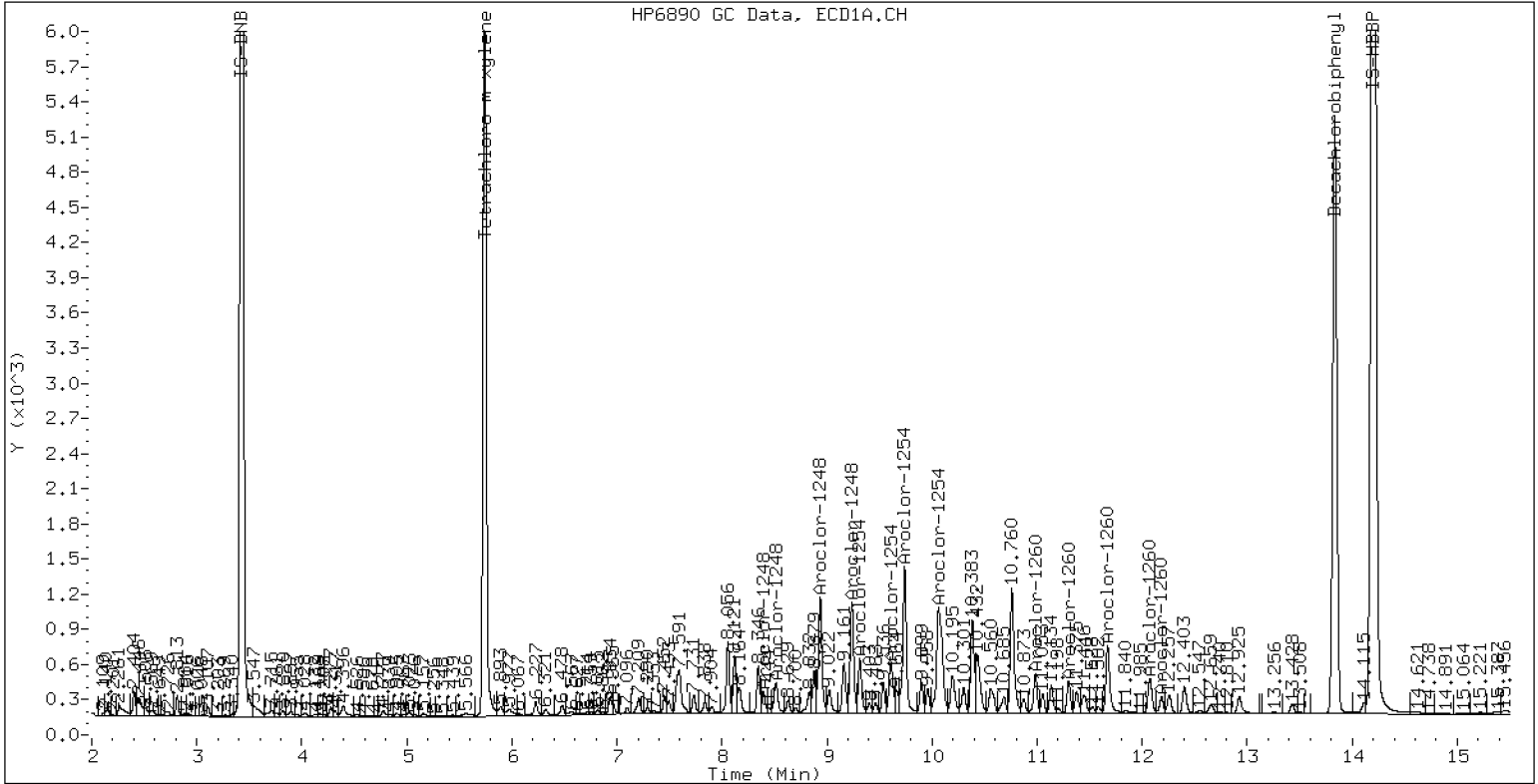
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 23D0577-06

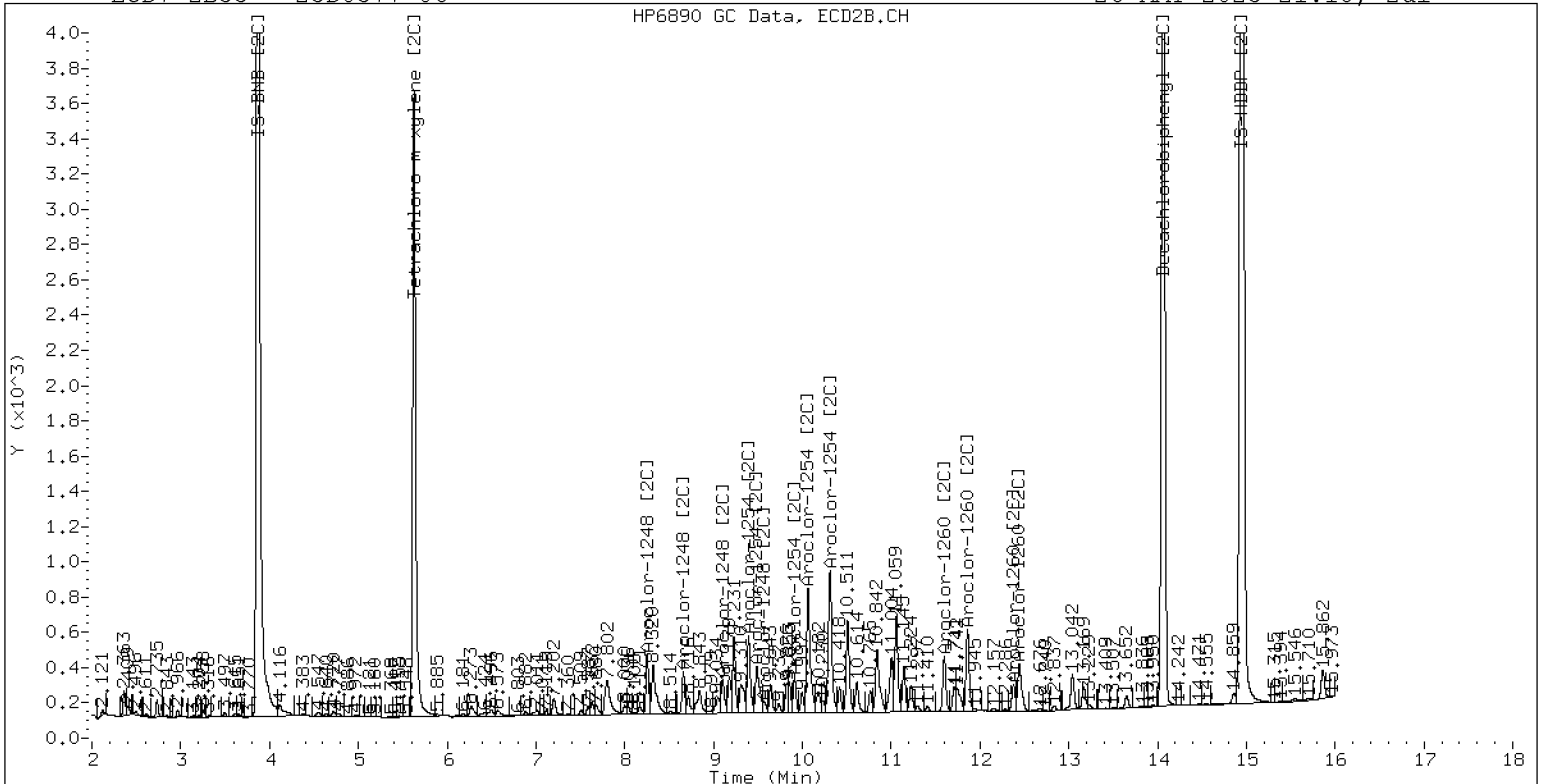
26-MAY-2023 21:18, 2u1



ZB-5 Manual Integration: NO

ECD7-ZB35 23D0577-06

26-MAY-2023 21:18, 2u1



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262328ECD7.D
Data file 2: /230526.b/230526.b/05262328ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23D0577-07
Client ID:
Injection Date: 26-MAY-2023 22:21
Report Date: 05/30/2023 08:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.741	-0.003	219773	5.624	-0.007	141152	25.2	28.8	13.4	Tetrachloro-m-xylene
13.831	-0.010	192271	14.061	-0.008	198880	32.5	31.1	4.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	579039	-3.7
Hexabromobiphenyl	876625	591756	-32.5

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	355826	1.9
Hexabromobiphenyl	652984	449875	-31.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	---			0.0	1	---			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	
CollAve: <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	
CollAve: <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	
CollAve: <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	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1248	1	8.436	0.036	383	2.6	1	8.248	-0.012	497	2.9	
Aroclor-1248	2	8.543	0.018	737	1.9	2	8.657	-0.010	677	3.8	
Aroclor-1248	3	8.933	-0.013	4105	5.6	3	9.093	-0.029	550	2.6	
Aroclor-1248	4	9.235	-0.005	4655	12.4	4	9.564	0.018	784	3.1	
Total CollAve (4 peaks):				5.6	Total Col2Ave (4 peaks):				3.1	RPD = 57*	
Corrected Ave (3 peaks):				3.4	Corrected Ave (3 peaks):				2.9	RPD = 15	
Aroclor-1254	1	9.235	-0.016	4655	7.8	1	9.390	-0.010	2824	10.4	
Aroclor-1254	2	9.306	-0.017	1707	6.4	2	9.482	-0.013	1767	11.0	
Aroclor-1254	3	9.605	-0.009	1237	3.2	3	9.909	-0.011	745	3.4	
Aroclor-1254	4	9.732	-0.021	7699	10.2	4	10.086	0.013	6713	14.0	
Aroclor-1254	5	10.055	-0.011	15039	33.1	5	10.309	-0.012	11674	24.6	
Total CollAve (5 peaks):				12.1	Total Col2Ave (5 peaks):				12.7	RPD = 4	
Corrected Ave (4 peaks):				6.9	Corrected Ave (4 peaks):				9.7	RPD = 34	
Aroclor-1260	1	10.978	-0.015	19644	62.8	1	11.592	-0.014	10291	43.1	
Aroclor-1260	2	11.293	-0.018	11070	35.8	2	11.855	-0.018	30071	48.1	
Aroclor-1260	3	11.665	-0.020	33878	43.8	3	12.372	-0.017	13215	85.3	
Aroclor-1260	4	12.065	-0.026	12245	32.3	4	12.438	-0.018	19631	47.0	
Aroclor-1260	5	12.180	-0.013	13531	81.9	NS	---			----	
Total CollAve (5 peaks):				51.3	Total Col2Ave (4 peaks):				55.9	RPD = 8	
Corrected Ave (4 peaks):				43.7	Corrected Ave (3 peaks):				46.1	RPD = 5	
Aroclor-1262	1	---			0.0	1	---			0.0	
Aroclor-1262	2	---			0.0	2	---			0.0	
Aroclor-1262	3	---			0.0	3	---			0.0	
Aroclor-1262	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1268	1	---			0.0	1	---			0.0	
Aroclor-1268	2	---			0.0	2	---			0.0	
Aroclor-1268	3	---			0.0	3	---			0.0	
Aroclor-1268	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						

Total PCB Area Col1 (5.845 - 13.741) = 367896 Col1 Total PCB = 0.1 ppm*
Total PCB Area Col2 (5.731 - 13.969) = 295777 Col2 Total PCB = 0.1 ppm*

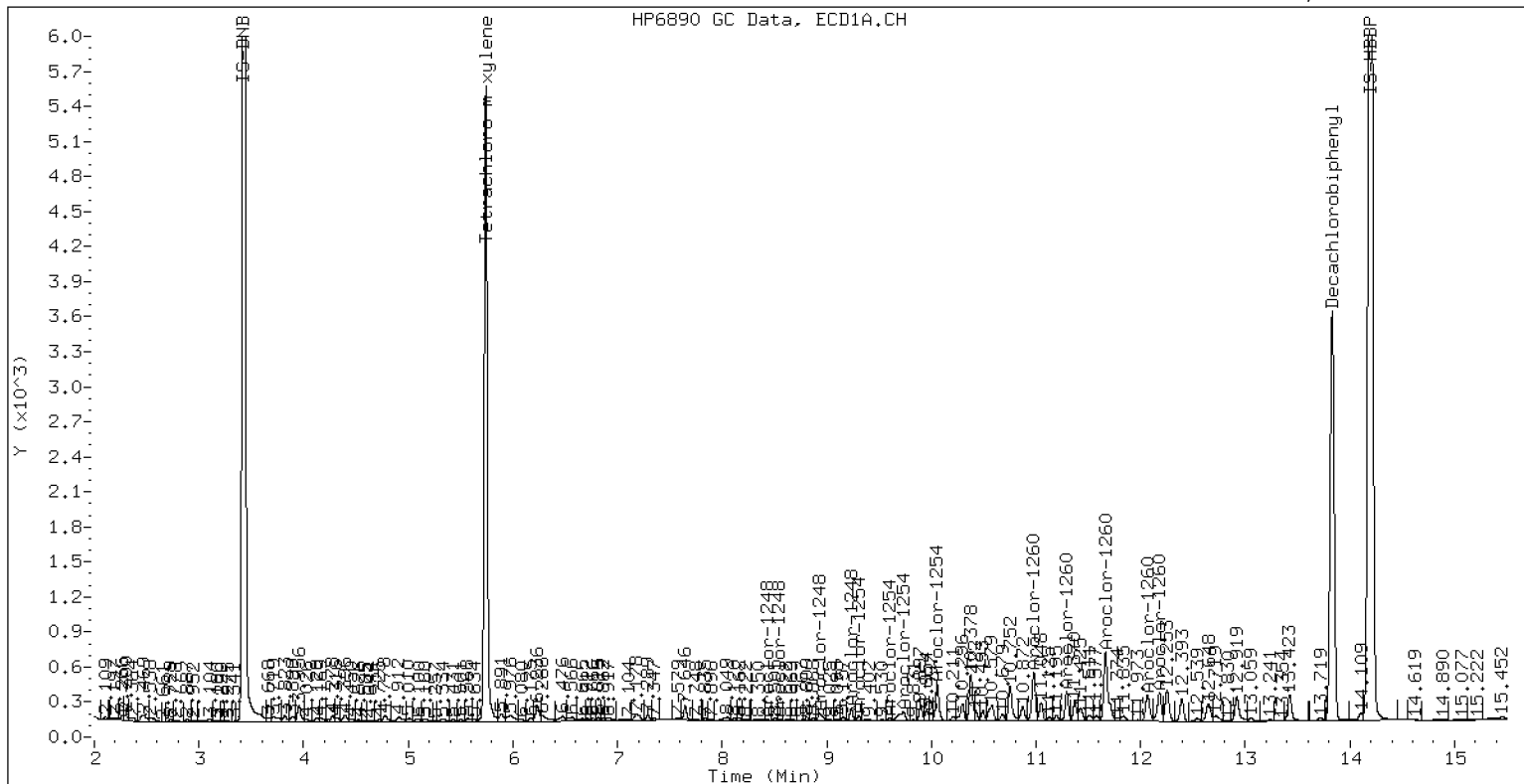
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 23D0577-07

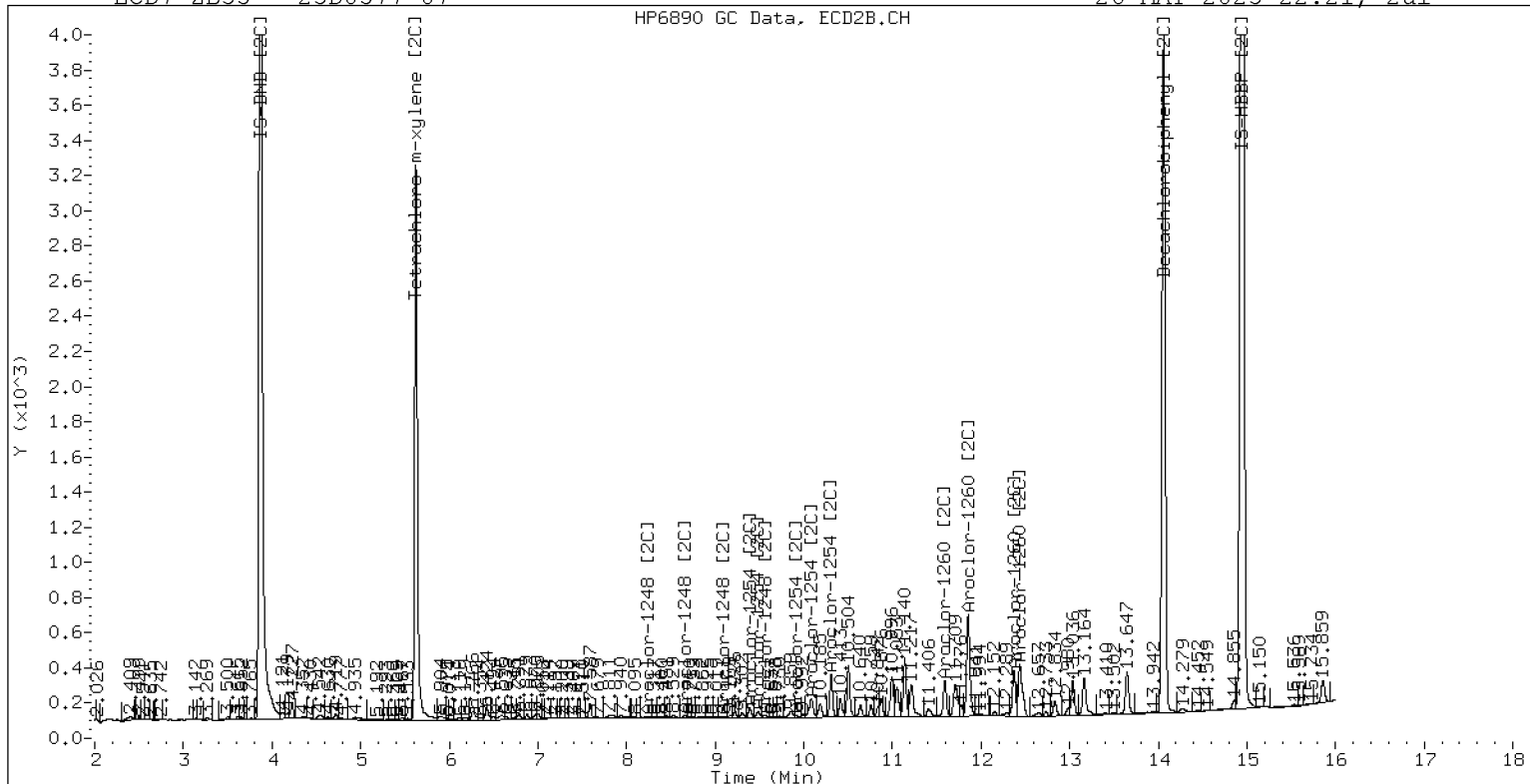
26-MAY-2023 22:21, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 23D0577-07

26-MAY-2023 22:21, 2ul



ZB-35 Manual Integration: NO



Dual Column

LDW21-SC572K

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: <u>Analytical Resources, LLC</u>		SDG: <u>23D0577</u>
Client: <u>Anchor QEA, LLC</u>		
Project: <u>AOC4 UR Phase 3</u>		
Matrix: <u>Solid</u>	Laboratory ID: <u>23D0577-08 A</u>	File ID: <u>05262329ECD7.D</u>
Sampled: <u>06/30/21 13:45</u>	Prepared: <u>05/02/23 16:52</u>	Analyzed: <u>05/26/23 22:42</u>
% Solids: <u>70.93</u>	Preparation: <u>EPA 3546 (Microwave)</u>	Initial/Final: <u>17.65 g Wet / 2.5 mL</u>
Batch: <u>BLD0718</u>	Sequence: <u>SLE0436</u>	Calibration: <u>GE00022</u>
Instrument: <u>ECD7</u>	Column 1: <u>ZB5</u>	Column 2: <u>ZB35</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	H, U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	H, U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	H, U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	H, U
12672-29-6	Aroclor 1248	1	1	4.0	1.6	4.0	H, U
11097-69-1	Aroclor 1254	2	1	2.8	1.6	4.0	H, J
11096-82-5	Aroclor 1260	1	1	11.1	0.6	4.0	H

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	7.9878	6.65	83.3	40 - 126	
<i>Tetrachlorometaxylene</i>	1	7.9878	5.17	64.8	44 - 120	
<i>Decachlorobiphenyl</i>	2	7.9878	6.34	79.4	40 - 126	
<i>Tetrachlorometaxylene</i>	2	7.9878	6.06	75.8	44 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262329ECD7.D ARI ID: 23D0577-08
Data file 2: /230526.b/230526.b/05262329ECD7.D Client ID:
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m Injection Date: 26-MAY-2023 22:42
Compound Sublist: PCB.sub Report Date: 05/30/2023 08:50
Instrument, Inj. Vol.: ecd7.i, 2ul Matrix: NONE
Quant Method: Internal Std Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.741	-0.004	233224	5.625	-0.006	144158	25.9	30.3	15.7	Tetrachloro-m-xylene
13.832	-0.010	202384	14.061	-0.008	205988	33.3	31.7	4.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	597617	-0.6
Hexabromobiphenyl	876625	608400	-30.6

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	345487	-1.1
Hexabromobiphenyl	652984	456916	-30.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	---			0.0	1	---			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	
CollAve: <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	
CollAve: <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	
CollAve: <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	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1248	1	8.437	0.037	529	3.5	1	8.249	-0.012	648	3.9	
Aroclor-1248	2	8.543	0.018	1100	2.8	2	8.658	-0.010	573	3.3	
Aroclor-1248	3	8.933	-0.012	4105	5.4	3	9.095	-0.027	413	2.0	
Aroclor-1248	4	9.234	-0.005	4469	11.5	4	9.564	0.018	761	3.1	
Total CollAve (4 peaks):				5.8	Total Col2Ave (4 peaks):				3.1	RPD = 60*	
Corrected Ave (3 peaks):				3.9	Corrected Ave (3 peaks):				2.8	RPD = 32	
Aroclor-1254	1	9.234	-0.016	4469	7.3	1	9.390	-0.010	2680	10.2	
Aroclor-1254	2	9.306	-0.017	1620	5.9	2	9.483	-0.012	1508	9.7	
Aroclor-1254	3	9.605	-0.009	1392	3.5	3	9.861	-0.059	2597	12.2	
Aroclor-1254	4	9.732	-0.021	3894	5.0	4	10.086	0.013	6329	13.6	
Aroclor-1254	5	10.055	-0.011	15430	32.9	5	10.310	-0.012	11041	24.0	
Total CollAve (5 peaks):				10.9	Total Col2Ave (5 peaks):				13.9	RPD = 24	
Corrected Ave (4 peaks):				5.4	Corrected Ave (4 peaks):				11.4	RPD = 71*	
Aroclor-1260	1	10.979	-0.015	20691	64.3	1	11.592	-0.013	9921	40.9	
Aroclor-1260	2	11.294	-0.016	13381	42.1	2	11.855	-0.019	30413	47.9	
Aroclor-1260	3	11.665	-0.020	39186	49.3	3	12.373	-0.016	13028	82.8	
Aroclor-1260	4	12.067	-0.024	14630	37.6	4	12.439	-0.017	19563	46.1	
Aroclor-1260	5	12.180	-0.014	14218	83.7	NS	---			----	
Total CollAve (5 peaks):				55.4	Total Col2Ave (4 peaks):				54.4	RPD = 2	
Corrected Ave (4 peaks):				48.3	Corrected Ave (3 peaks):				45.0	RPD = 7	
Aroclor-1262	1	---			0.0	1	---			0.0	
Aroclor-1262	2	---			0.0	2	---			0.0	
Aroclor-1262	3	---			0.0	3	---			0.0	
Aroclor-1262	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1268	1	---			0.0	1	---			0.0	
Aroclor-1268	2	---			0.0	2	---			0.0	
Aroclor-1268	3	---			0.0	3	---			0.0	
Aroclor-1268	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						

Total PCB Area Col1 (5.845 - 13.741) = 455320 Col1 Total PCB = 0.1 ppm*
Total PCB Area Col2 (5.731 - 13.969) = 293045 Col2 Total PCB = 0.1 ppm*

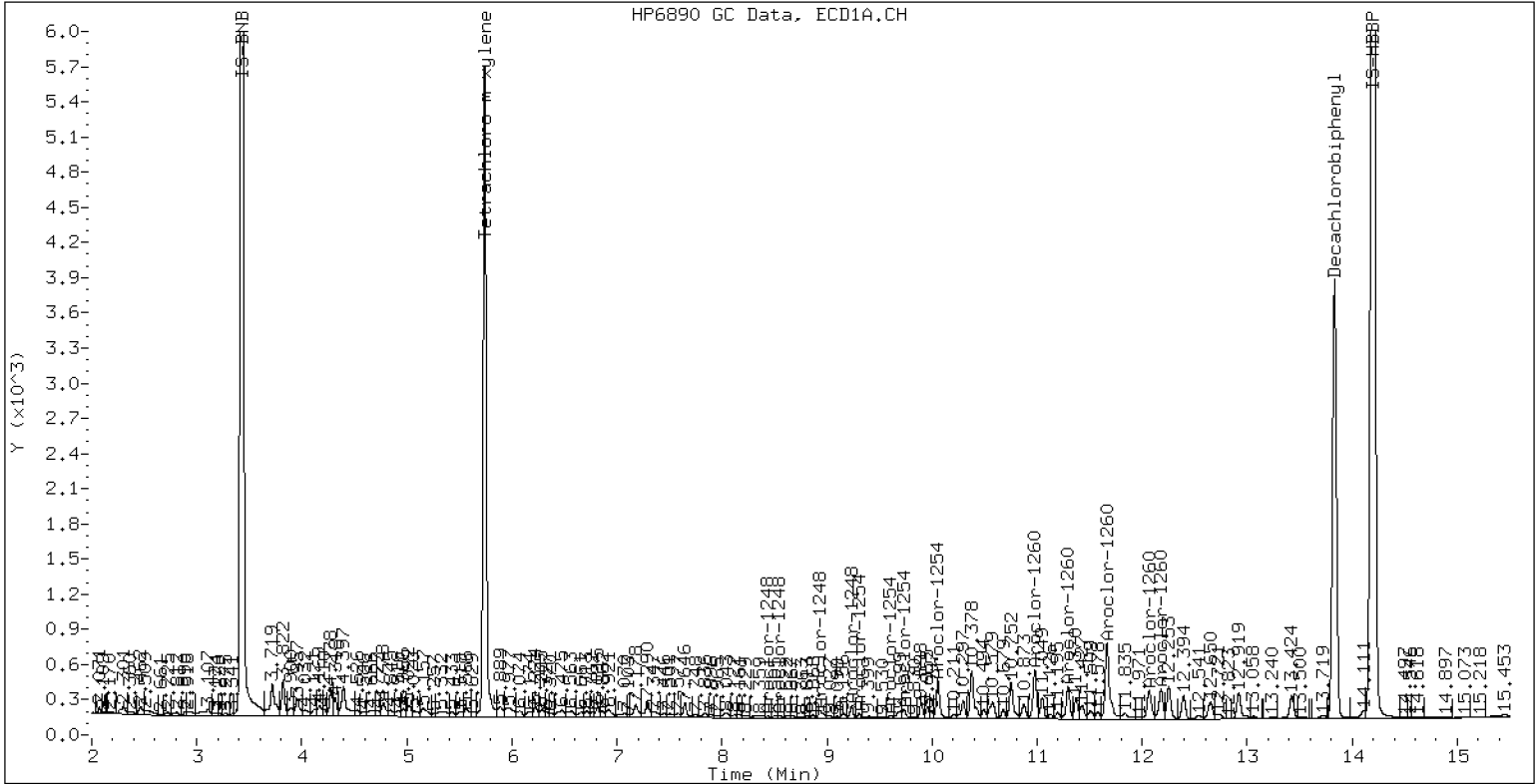
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 23D0577-08

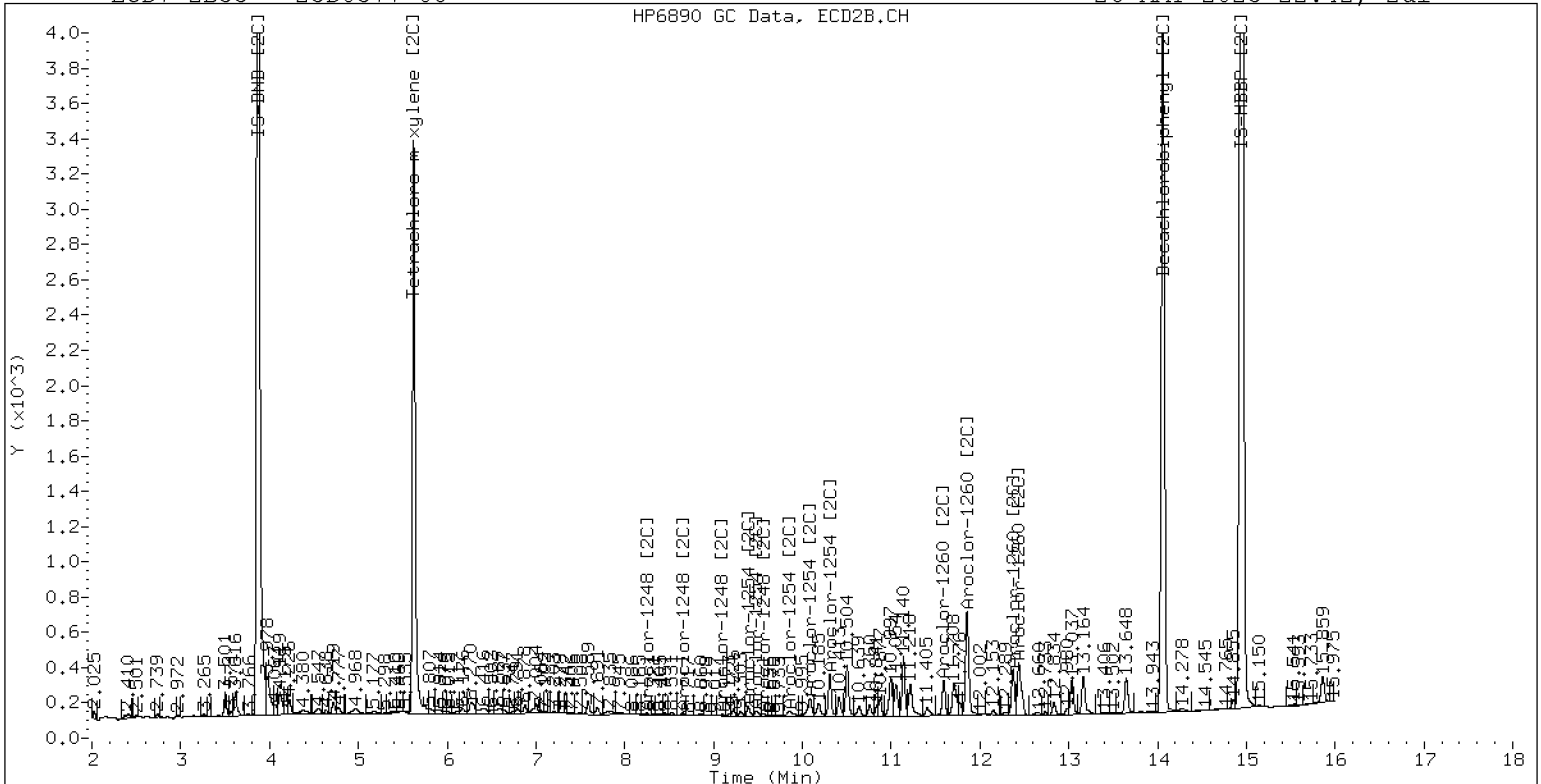
26-MAY-2023 22:42, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 23D0577-08

26-MAY-2023 22:42, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262330ECD7.D
Data file 2: /230526.b/230526.b/05262330ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23D0577-09
Client ID:
Injection Date: 26-MAY-2023 23:03
Report Date: 05/30/2023 08:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.741	-0.003	218975	5.624	-0.007	138095	24.4	29.0	17.2	Tetrachloro-m-xylene
13.830	-0.011	194846	14.061	-0.008	200608	32.7	31.4	4.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	595280	-1.0
Hexabromobiphenyl	876625	596131	-32.0

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	345828	-1.0
Hexabromobiphenyl	652984	449663	-31.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	---			0.0	1	---			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	
CollAve: <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	
CollAve: <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	
CollAve: <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	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1248	1	8.436	0.036	1034	6.8	1	8.249	-0.012	1052	6.4	
Aroclor-1248	2	8.505	-0.020	2913	7.4	2	8.657	-0.010	391	2.2	
Aroclor-1248	3	8.932	-0.013	7008	9.2	3	9.094	-0.027	451	2.2	
Aroclor-1248	4	9.235	-0.005	10946	28.3	4	9.567	0.020	1369	5.6	
Total CollAve (4 peaks):				12.9	Total Col2Ave (4 peaks):				4.1	RPD = 103*	
Corrected Ave (3 peaks):				7.8	Corrected Ave (3 peaks):				3.4	RPD = 80*	
Aroclor-1254	1	9.235	-0.016	10946	17.9	1	9.389	-0.011	6733	25.6	
Aroclor-1254	2	9.307	-0.016	5114	18.6	2	9.481	-0.013	3569	22.9	
Aroclor-1254	3	9.603	-0.010	2251	5.7	3	9.909	-0.011	1152	5.4	
Aroclor-1254	4	9.733	-0.020	8632	11.2	4	10.085	0.012	17561	37.8	
Aroclor-1254	5	10.055	-0.011	40374	86.4	5	10.310	-0.012	29311	63.6	
Total CollAve (5 peaks):				28.0	Total Col2Ave (5 peaks):				31.0	RPD = 10	
Corrected Ave (4 peaks):				13.3	Corrected Ave (4 peaks):				22.9	RPD = 53*	
Aroclor-1260	1	10.979	-0.014	57244	181.6	1	11.592	-0.014	29912	125.3	
Aroclor-1260	2	11.292	-0.018	34685	111.5	2	11.854	-0.019	91534	146.5	
Aroclor-1260	3	11.665	-0.020	106459	136.6	3	12.373	-0.016	37609	243.0	
Aroclor-1260	4	12.066	-0.025	39269	102.9	4	12.439	-0.017	59822	143.4	
Aroclor-1260	5	12.180	-0.013	37154	223.3	NS	---			----	
Total CollAve (5 peaks):				151.2	Total Col2Ave (4 peaks):				164.5	RPD = 8	
Corrected Ave (4 peaks):				133.2	Corrected Ave (3 peaks):				138.4	RPD = 4	
Aroclor-1262	1	---			0.0	1	---			0.0	
Aroclor-1262	2	---			0.0	2	---			0.0	
Aroclor-1262	3	---			0.0	3	---			0.0	
Aroclor-1262	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						
Aroclor-1268	1	---			0.0	1	---			0.0	
Aroclor-1268	2	---			0.0	2	---			0.0	
Aroclor-1268	3	---			0.0	3	---			0.0	
Aroclor-1268	4	---			0.0	4	---			0.0	
CollAve: <3 Quant Peaks					Col2Ave: <3 Quant Peaks						

Total PCB Area Col1 (5.845 - 13.741) = 937535 Col1 Total PCB = 0.1 ppm*
Total PCB Area Col2 (5.731 - 13.969) = 709541 Col2 Total PCB = 0.2 ppm*

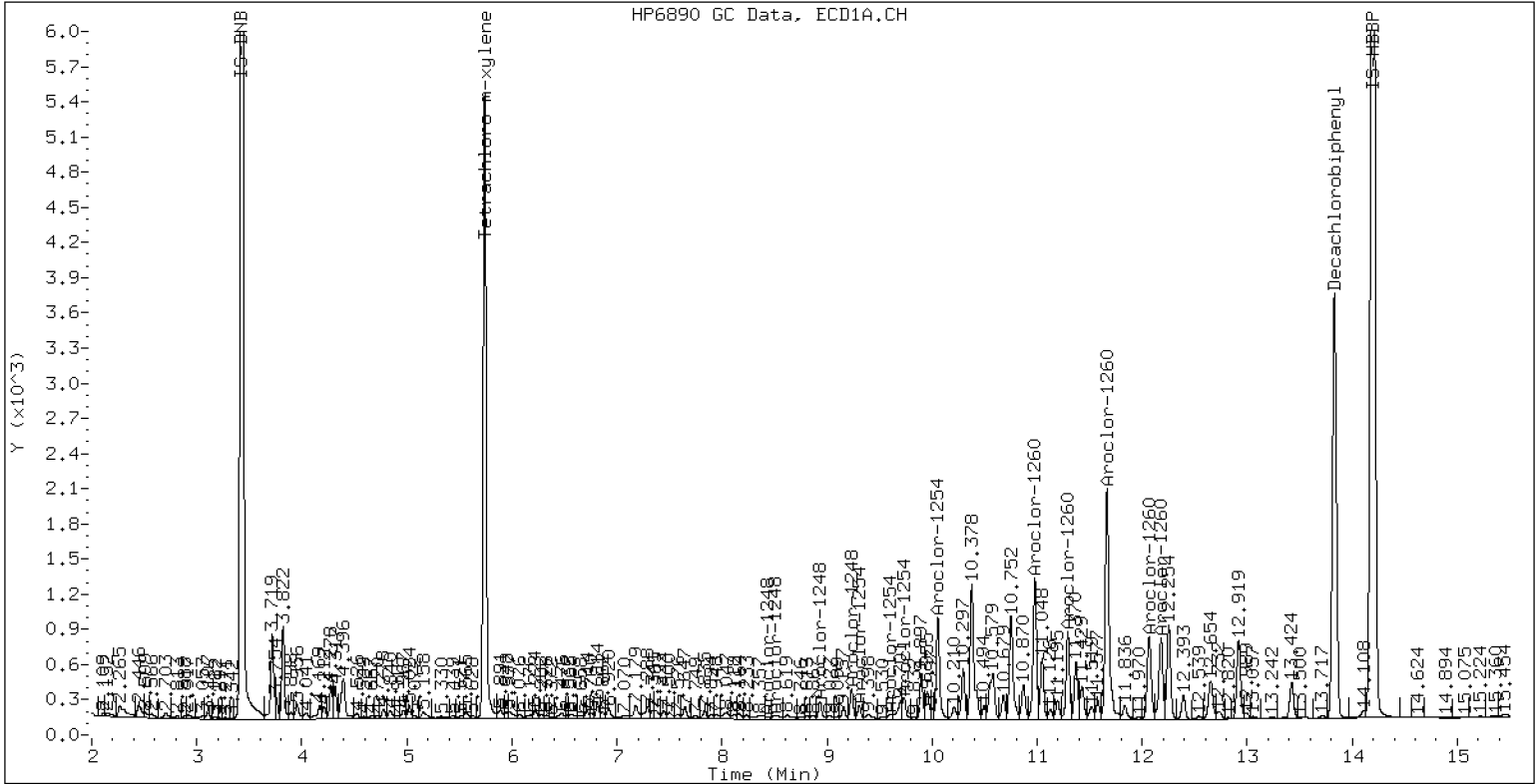
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 23D0577-09

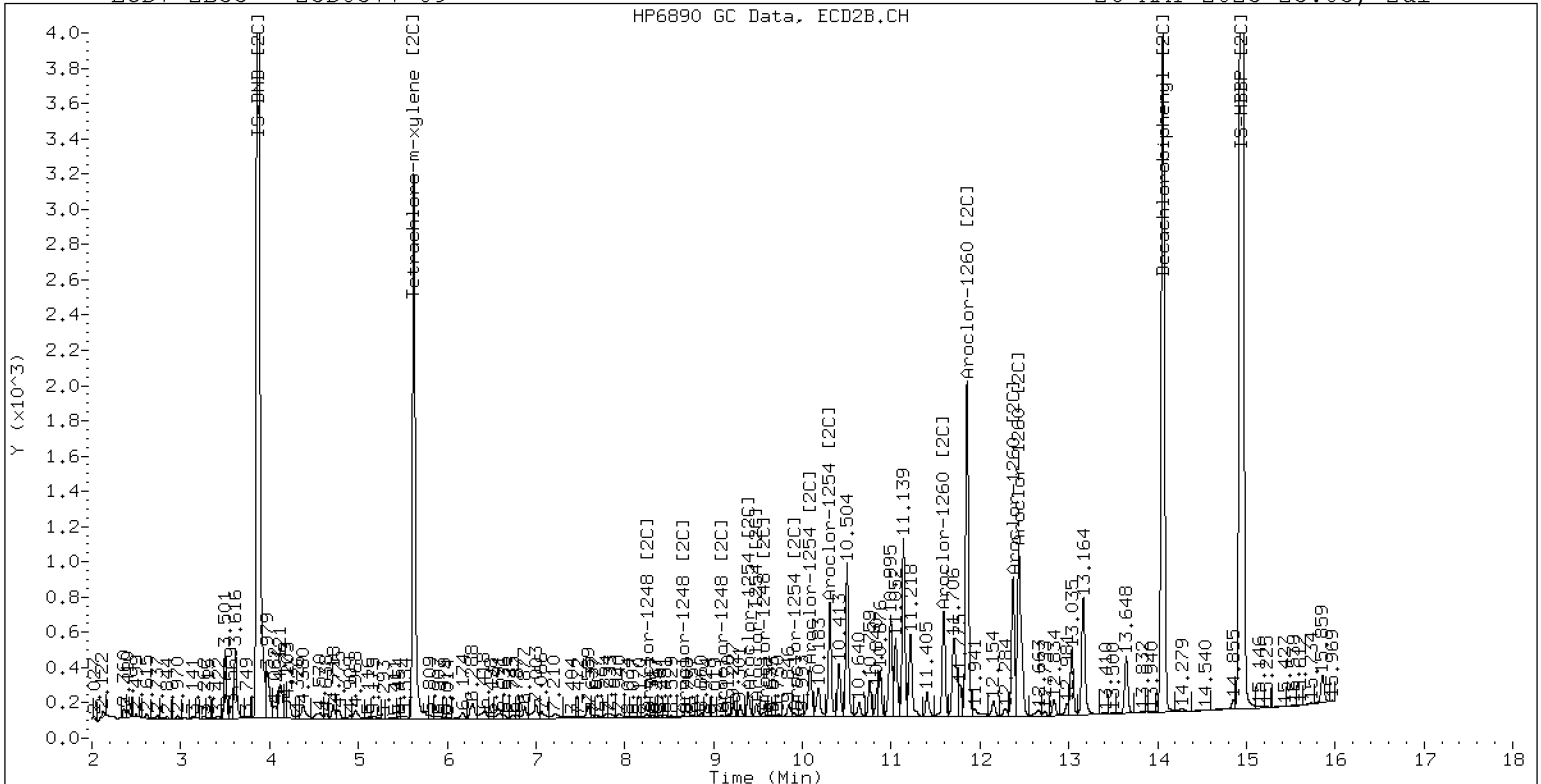
26-MAY-2023 23:03, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 23D0577-09

26-MAY-2023 23:03, 2ul





Batch: BLD0718

Prepared using: EPA 3546 (Microwave)

8082A PCB Solid 4 in Solid (Version:)

8082A PCB Solid 4 in Solid (Version:7 Aroclors)

Matrix: Solid

Date Prepared: 5/2/23

Balance ID: 13146462614

Set Up By: CTO 4/26/23

WO Comments

23D0577: <G> BPR Project batch as much as possible </G> <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM H002055, SIM RM H010158, PCB RM J006840-43, 7935-36, MS/MSD </E>
<H>BPR J006840-43, 7935-36 Dup </H> Yes some samples outside hold

The following standards may be missing from this batch!

Designator	Description
QLS 5	QLS Spike

Analysis: 8082A PCB Solid 4

Lab Number & Container	% Solids	Initial (g)		(REQ) Acid C/U (5mL)	(REQ) Sulfur C/U (5mL)	(REQ) Silica Gel C/U (2:5)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
		Target Dry: 12.5 (Wet)	Actual						
23D0577-01 A	62.5	(20.00)	20.42	5mL	5mL	2mL	2.5	1.0	
23D0577-02 A	66.5	(18.79)	18.81	5mL	5mL	2mL	2.5	1.0	
23D0577-03 A	66.7	(18.73)	18.74	5mL	5mL	2mL	2.5	1.0	
23D0577-04 A	68.0	(18.39)	18.44	5mL	5mL	2mL	2.5	1.0	
23D0577-05 A	69.5	(18.00)	18.05	5mL	5mL	2mL	2.5	1.0	
23D0577-06 A	76.6	(16.32)	16.34	5mL	5mL	2mL	2.5	1.0	
23D0577-07 A	68.8	(18.17)	18.17	5mL	5mL	2mL	2.5	1.0	
23D0577-08 A	70.9	(17.62)	17.65	5mL	5mL	2mL	2.5	1.0	
23D0577-09 A	70.9	(17.63)	17.63	5mL	5mL	2mL	2.5	1.0	

Batch QC

Lab Number	% Solids	Initial (g)		(REQ) Acid C/U (5mL)	(REQ) Sulfur C/U (5mL)	(REQ) Silica Gel C/U (2:5)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
		Target Dry: 12.5 (Wet)	Actual						
BLD0718-BLK1	100.0	(12.50)	12.54	5mL	5mL	2mL	2.5	1.0	(10g Actual Wt.)
BLD0718-BS1	100.0	(12.50)	12.54	5mL	5mL	2mL	2.5	1.0	(10g Actual Wt.)
BLD0718-BSD1	100.0	(12.50)	12.54	5mL	5mL	2mL	2.5	1.0	(10g Actual Wt.)
BLD0718-MS1	76.6	(16.32)	16.32	5mL	5mL	2mL	2.5	1.0	Use 23D0577-06
BLD0718-MSD1	76.6	(16.32)	16.32	5mL	5mL	2mL	2.5	1.0	Use 23D0577-06
BLD0718-SRM1	100.0	(12.50) ^(2.50)	2.54	5mL	5mL	2mL	2.5	1.0	Use K003528

+1g DI WATER

Client verified By: [Signature] 5/2/23

Date

Preparation Reviewed By: [Signature] 5/26/23

Date

Extraction Date and Time: 5/2/23 16:52



Batch: BLD0718

Prepared using: EPA 3546 (Microwave)

8082A PCB Solid 4 in Solid (Version:)

8082A PCB Solid 4 in Solid (Version:7 Aroclors)

WO Comments

23D0577: <G> BPR Project batch as much as possible </G> <C> BPR SRM, MS, DUP </C> <M> BPR PS, MS/MSD </M> <E> BPR 8270E RM H002055, SIM RM
H010158, PCB RM J006840-43, 7935-36, MS/MSD </E>
<H> BPR J006840-43, 7935-36 Dup </H> Yes some samples outside hold

Prep Steps

Reagents Used

Surrogates & Spike Standards Used

Microwave	Station/Reagent	Standard ID
G 1 2 3 05/10/23 Analyst/Date	Microwave	
	Analyst: <i>MB/G</i> Date: <i>05/10/23</i>	
KD 100°C Hexane Exchange (2 X 20 mL) 1 2 3 4 5 6 RT 5/29 Analyst/Date	Neutral Glass Wool	<i>L003992</i>
	1:1 Hexane/Acetone	<i>L004534</i>
	Hexane	<i>L003500</i>
	Anhydrous Sodium Sulfate	<i>L004406</i>
1 2 3 4 5 6 RT 5/29 Analyst/Date	KD	
	Analyst: <i>RT</i> Date: <i>5/29/23</i>	
TurboVap Pre Cleanups 1 2 3 4 5 NKW 5/26/23 Analyst/Date	Anhydrous Sodium Sulfate	<i>L004406</i>
	Hexane	<i>L003500</i>
	Vialing	
TurboVap Post Cleanups 1 2 (3) 4 5 NKW 5/26/23 Analyst/Date	Analyst: <i>NKW</i> Date: <i>5/26/23</i>	
	Hexane	<i>L003500</i>
	Concentrated Sulfuric Acid	<i>L005399</i>
	Silica Gel (SPE) Darts	<i>L003133</i>
Vialing NKW 5/26/23 Analyst/Date	Sodium Sulfite	<i>L002437</i>
	Tetrabutylammonium hydrogensulfate (TBAS)	<i>L005773</i>

Type	Vial ID / Standard ID	Vol uL	Analyst	Witness
Surrogate	N L003667	50µL		
2µg/mL	Exp Date: <i>7/21/23</i>		<i>GT</i>	<i>MB</i>
Spike	1 L001587	63µL		
20µg/mL	Exp Date: <i>8/13/23</i>		<i>G</i>	<i>MB</i>

MANUALLY ENTER EXPIRATION DATES!

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator in the Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).



Batch: BLD0718

Prepared using: EPA 3546 (Microwave)

8082A PCB Solid 4 in Solid (Version:)

8082A PCB Solid 4 in Solid (Version:7 Aroclors)

WO Comments

23D0577: <G> BPR Project batch as much as possible </G> <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM H002055, SIM RM H010158, PCB RM J006840-43, 7935-36, MS/MSD </E> <H>BPR J006840-43, 7935-36 Dup </H> Yes some samples outside hold

Prep Instructions

SPECIAL INSTRUCTIONS:

1. Weigh soil/sed into beakers-lightly dry with sodium sulfate.
2. Transfer to microwave vessel(s). Note: (do not fill vessels more than 2/3rd full. Some samples may require two vessels).
3. Add 1:1 Hexane/Acetone 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 R-05 15 minutes. Re-homogenize while cool.
7. Decant 1:1 Hex/Ace into Erlenmeyer flask with sodium sulfate in bottom and funnel with neutral glasswool plug.
8. Re-homogenize and rinse with 1:1 Hexane/Acetone.
9. Let cool and decant solvent then empty the soil into the funnel and rinse with Hexane.
10. KD on 100° bath.
11. Exchange (2 X with 20mL) Hexane.
12. TurboVap.
13. Clean-ups.
14. TurboVap.
15. Vial with Hexane.

A. Need Total Solids Y / N

B. Archive/Freeze Y / N



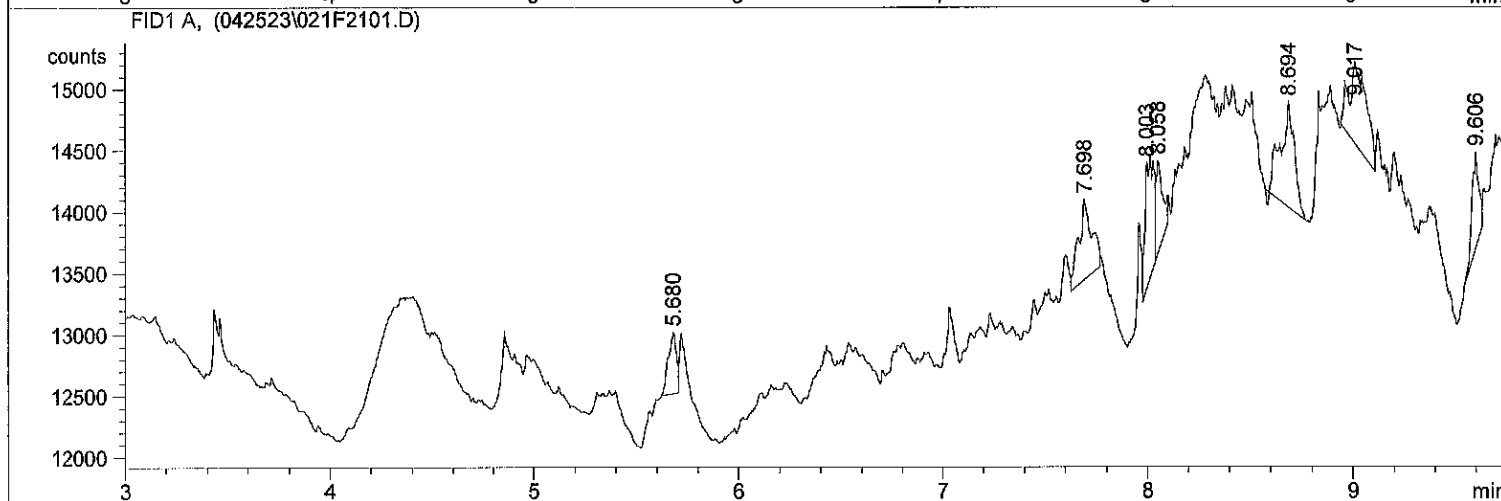
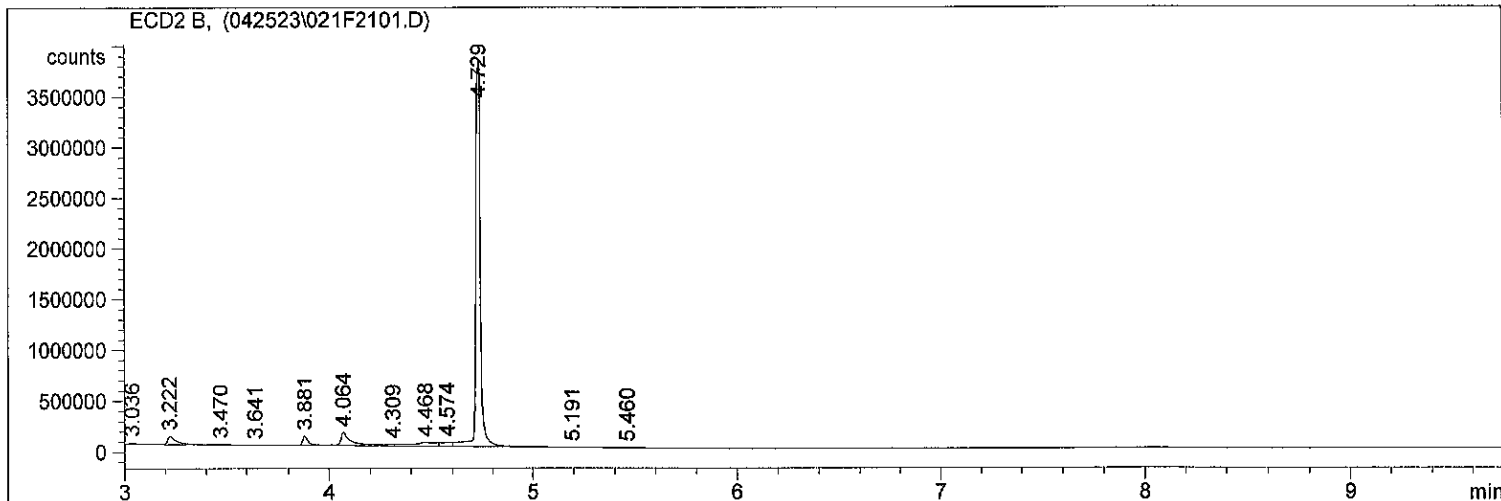
Extraction Parameter: PCB Extraction Batch BLD0718

Total Solids Batch: BLD0679 Work Order(s): 23D0577

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input checked="" type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)= <u>01-09</u>	<u>CR 4/25/23</u>
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input checked="" type="checkbox"/> Previously Frozen = <u>01-09</u>	<u>CR 4/25/23</u>
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input checked="" type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input checked="" type="checkbox"/> Share Samples Y / <u>N</u>	<u>CR 4/25/23</u>
<input checked="" type="checkbox"/> Multiple Jars Y / <u>N</u>	<u>CR 4/25/23</u>
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	

=====
Injection Date : 4/25/2023 5:01:30 PM Seq. Line : 21
Sample Name : 23D0577 01 Location : Vial 21
Acq. Operator : CR Inj : 1
 Inj Volume : 1 µl

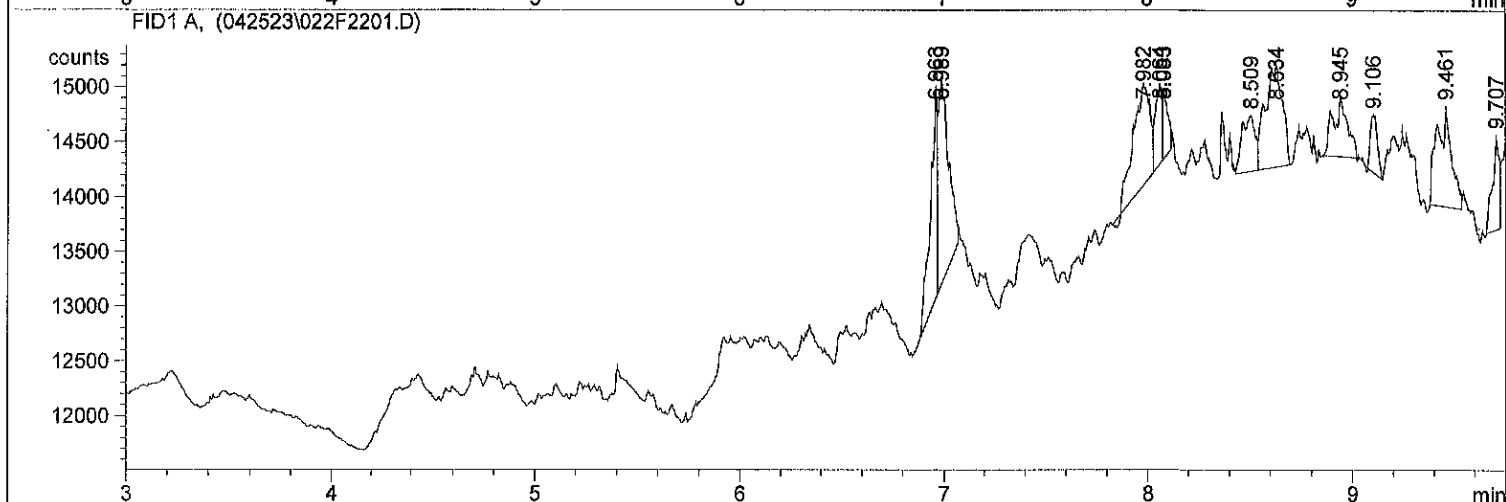
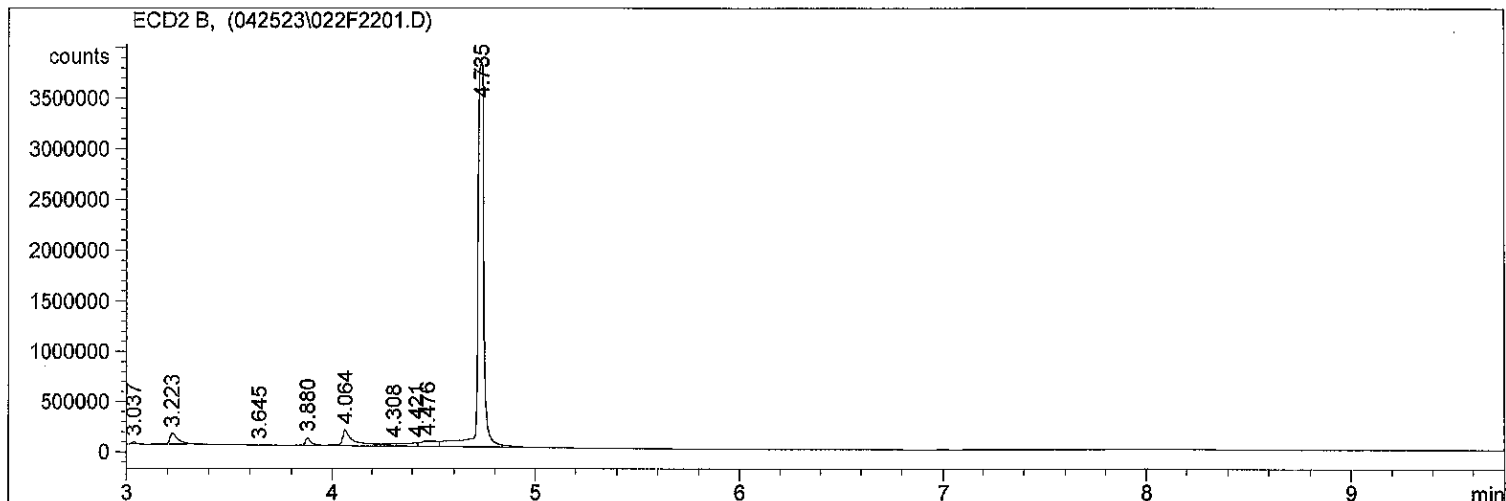
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Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD
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*** End of Report ***

=====
Injection Date : 4/25/2023 5:15:44 PM Seq. Line : 22
Sample Name : 23D0577 02 Location : Vial 22
Acq. Operator : CR Inj : 1
 Inj Volume : 1 µl

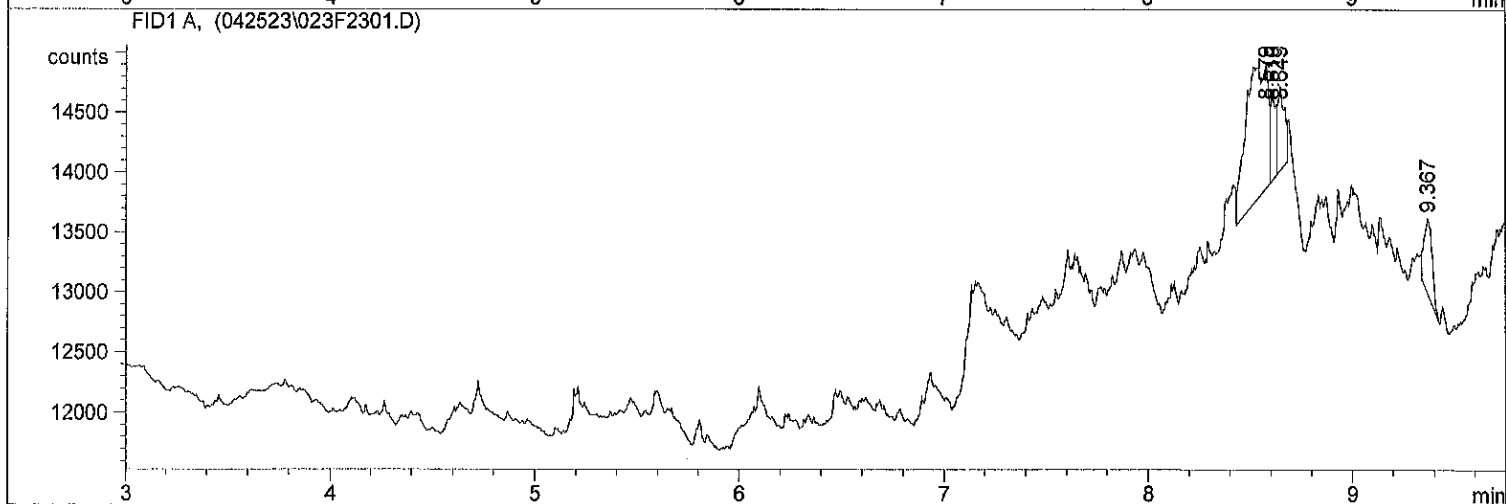
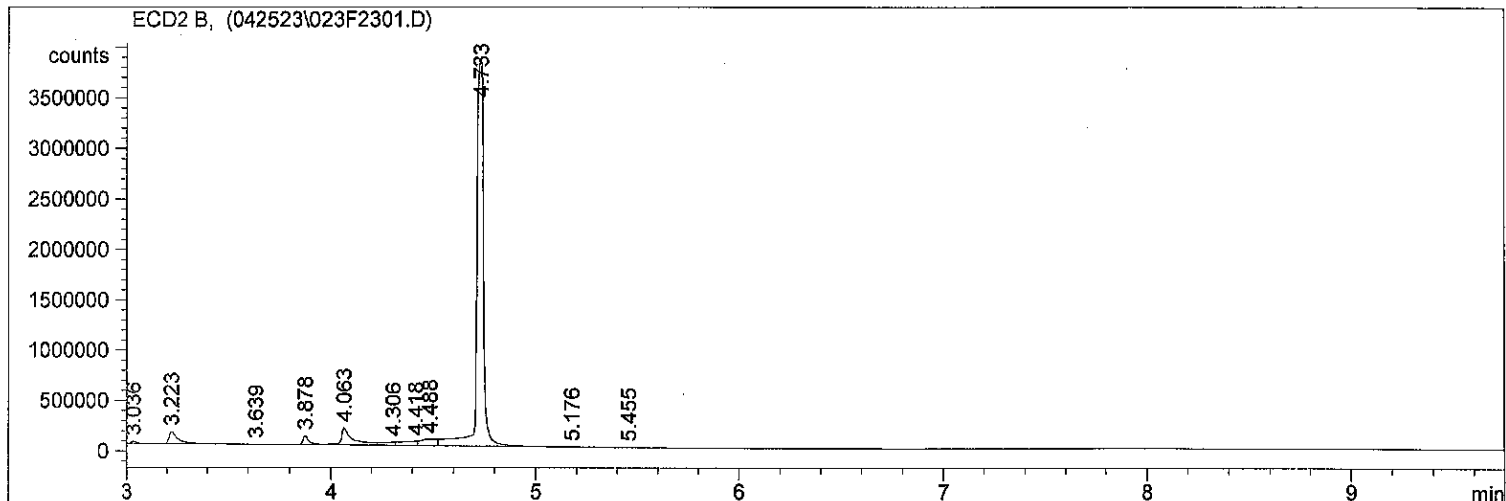
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Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD
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*** End of Report ***

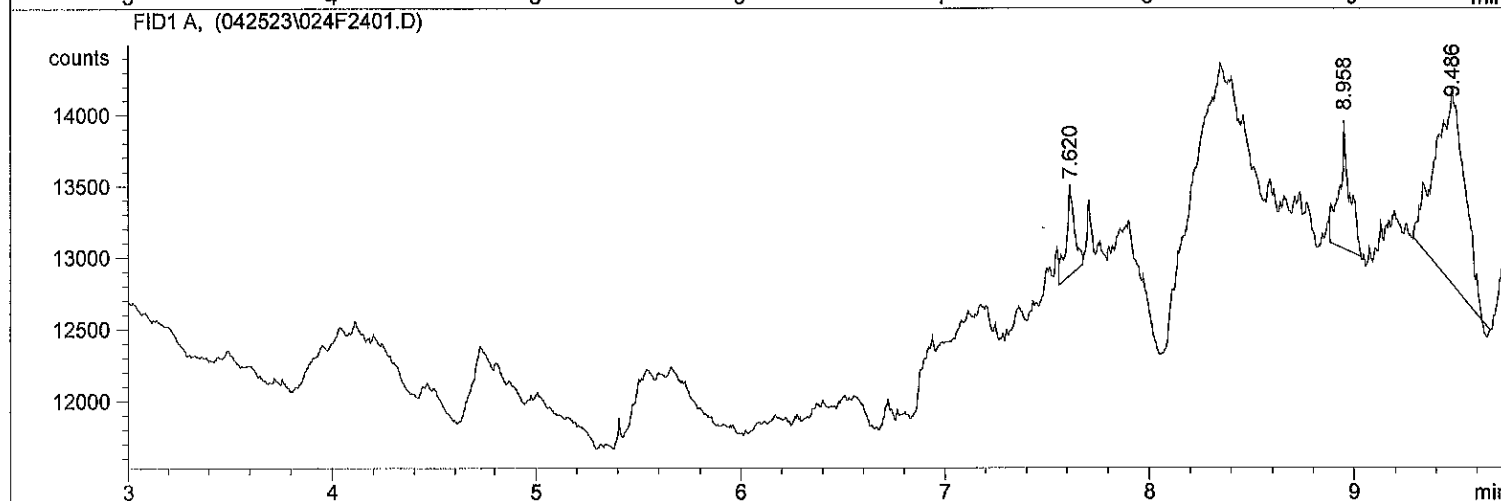
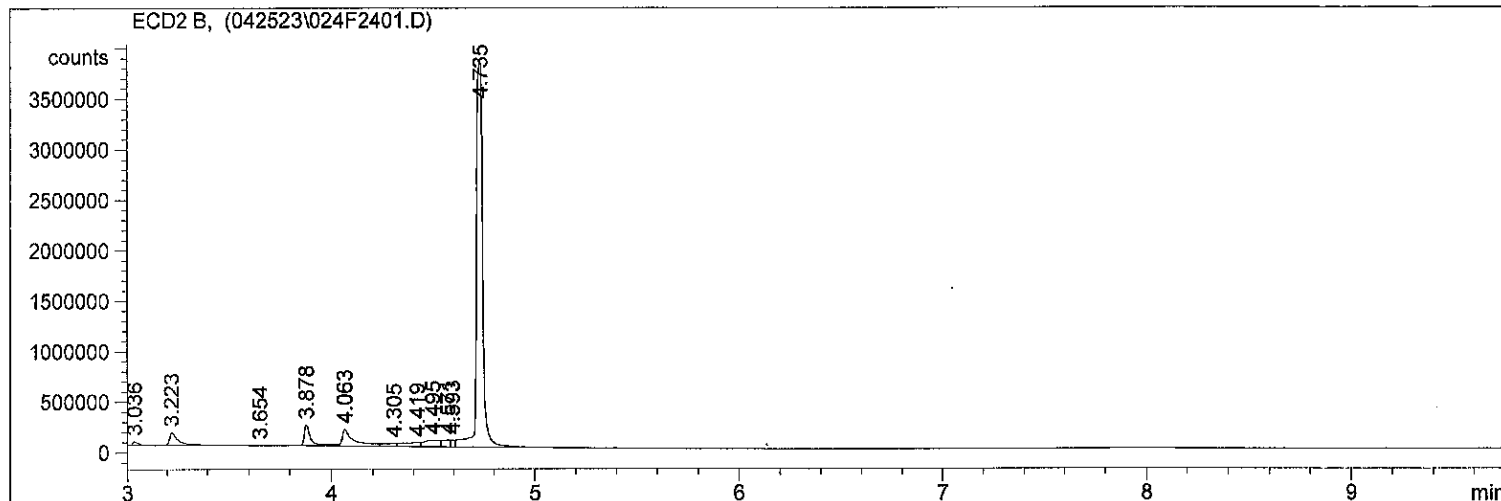
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Injection Date : 4/25/2023 5:29:38 PM Seq. Line : 23
Sample Name : 23D0577 03 Location : Vial 23
Acq. Operator : CR Inj : 1
 Inj Volume : 1 µl

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Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD
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*** End of Report ***

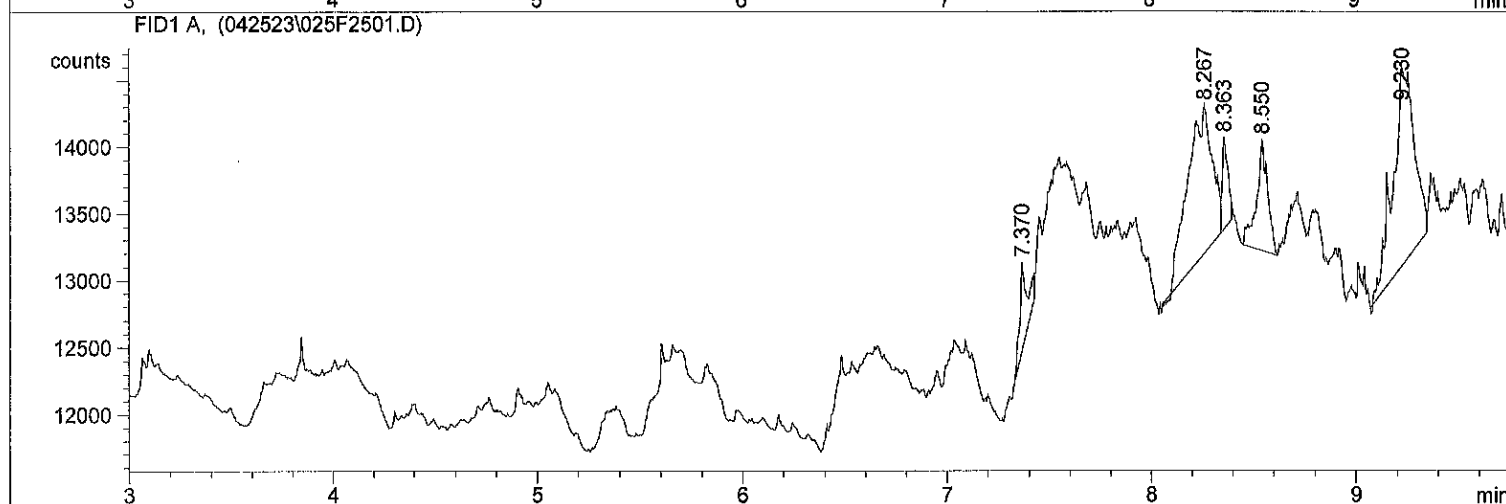
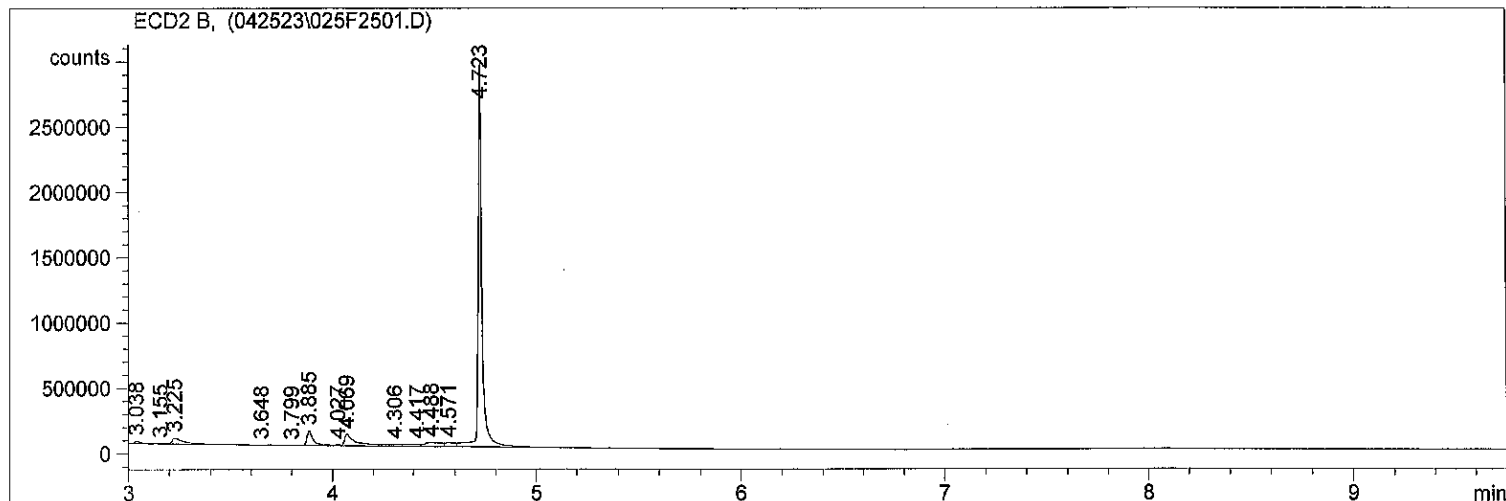
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Injection Date : 4/25/2023 5:43:58 PM Seq. Line : 24
Sample Name : 23D0577 04 Location : Vial 24
Acq. Operator : CR Inj : 1
 Inj Volume : 1 µl
Sequence File : C:\HPCHEM\1\SEQUENCE\042523.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD
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*** End of Report ***

=====
Injection Date : 4/25/2023 5:57:47 PM Seq. Line : 25
Sample Name : 23D0577 05 Location : Vial 25
Acq. Operator : CR Inj : 1
 Inj Volume : 1 µl

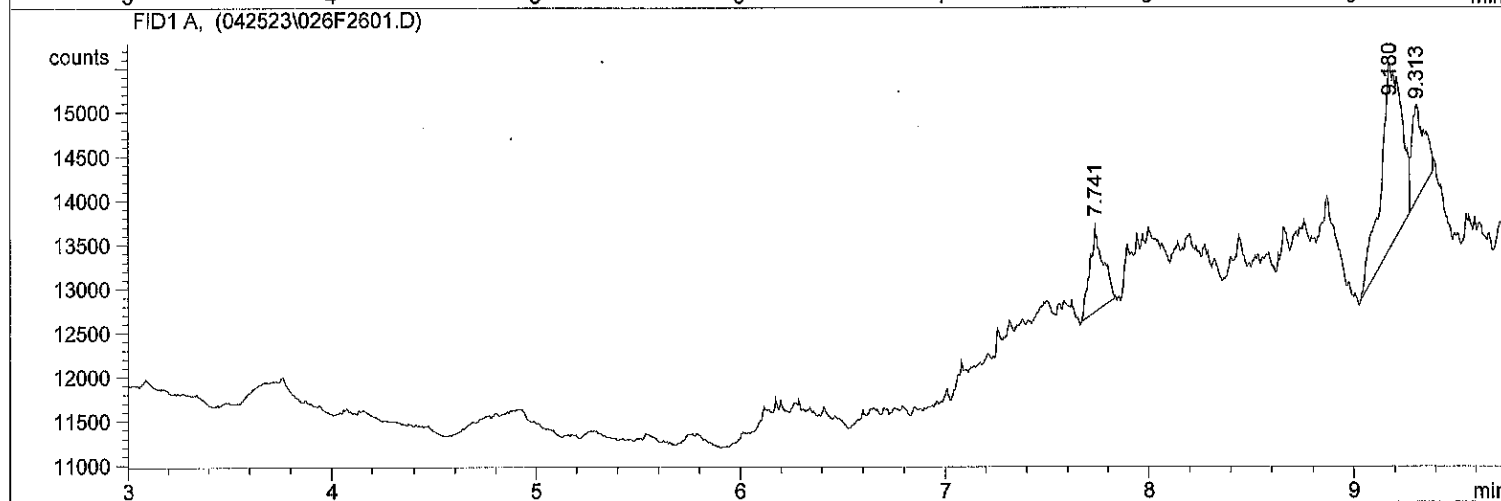
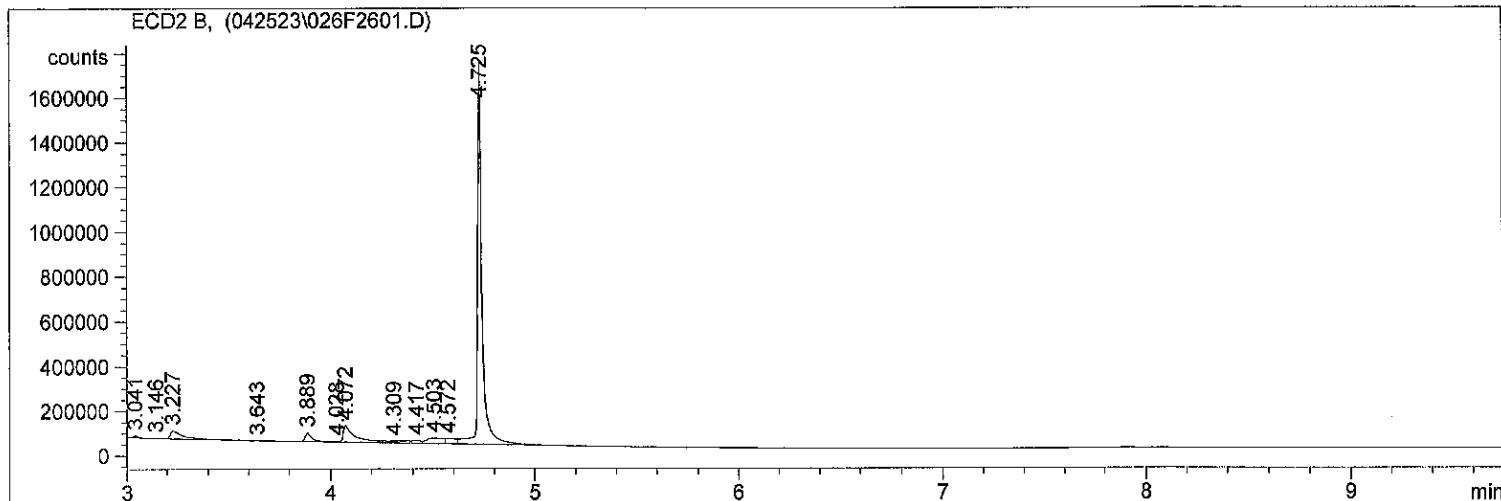
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Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD
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*** End of Report ***

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Injection Date : 4/25/2023 6:12:03 PM Seq. Line : 26
Sample Name : 23D0577 06 Location : Vial 26
Acq. Operator : CR Inj : 1
 Inj Volume : 1 µl

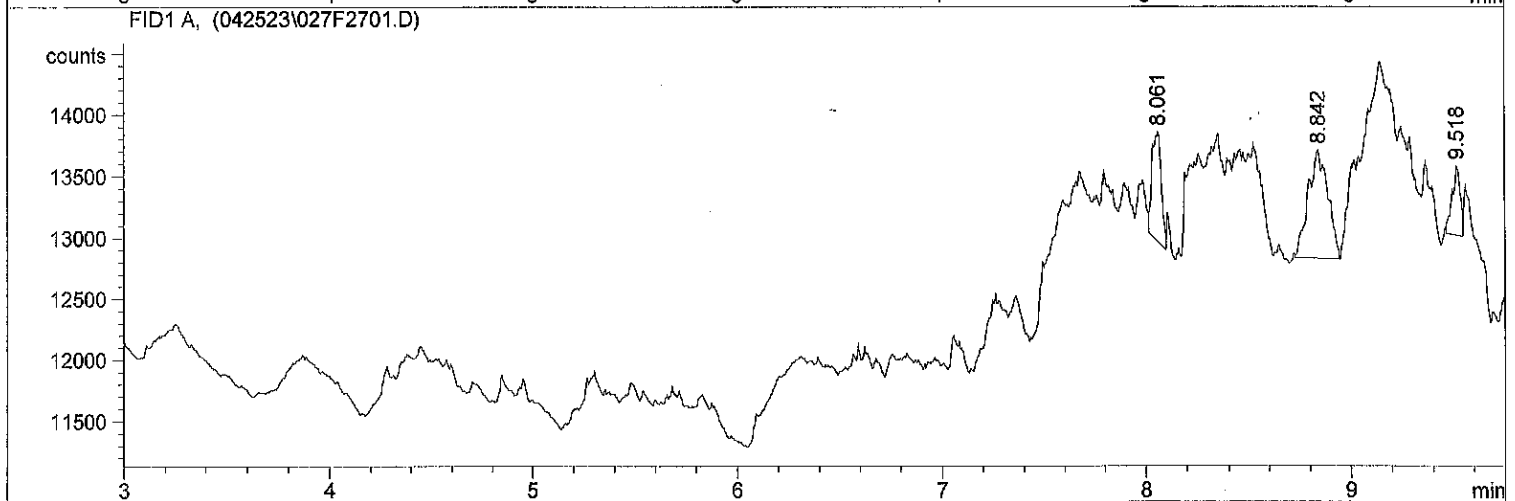
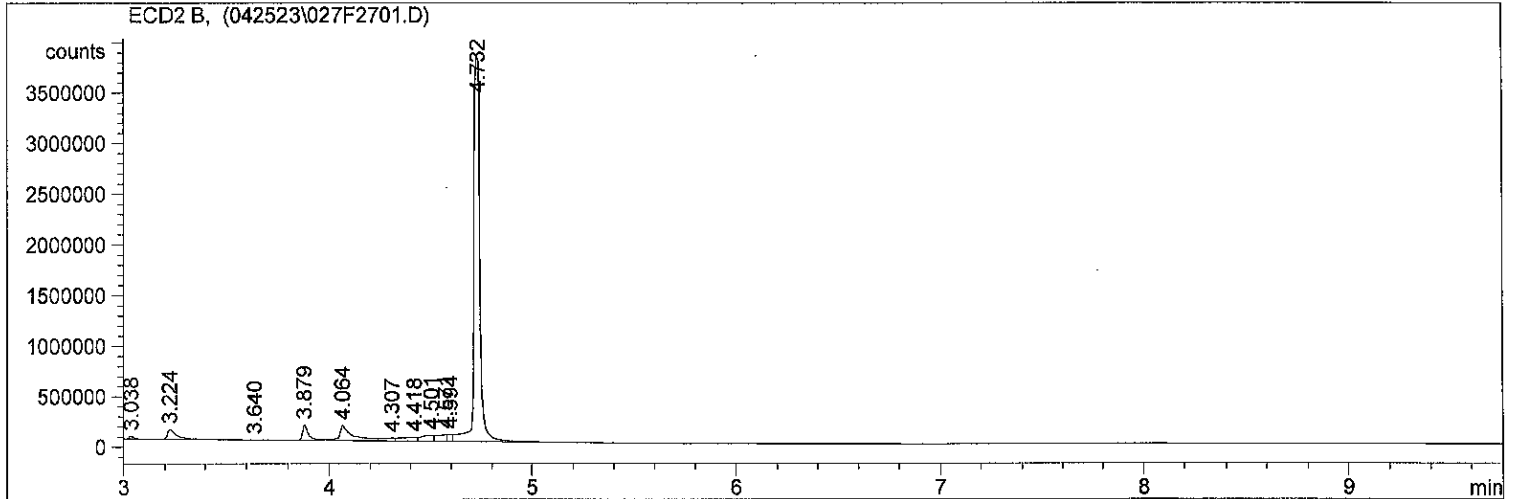
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Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD
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*** End of Report ***

=====
Injection Date : 4/25/2023 6:25:58 PM Seq. Line : 27
Sample Name : 23D0577 07 Location : Vial 27
Acq. Operator : CR Inj : 1
 Inj Volume : 1 µl

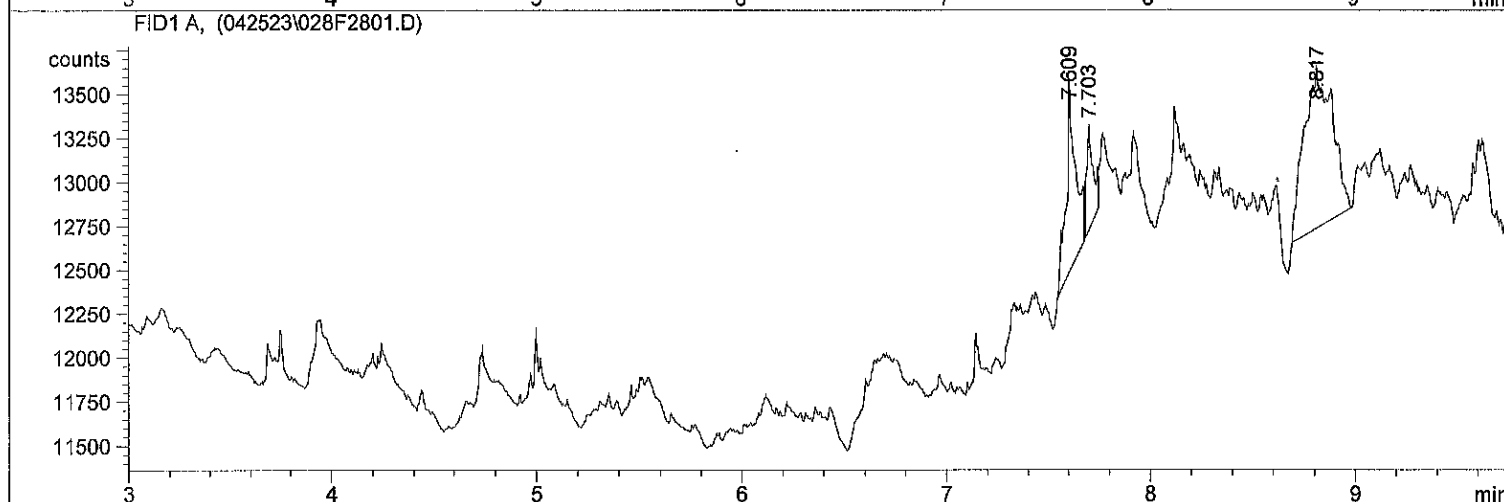
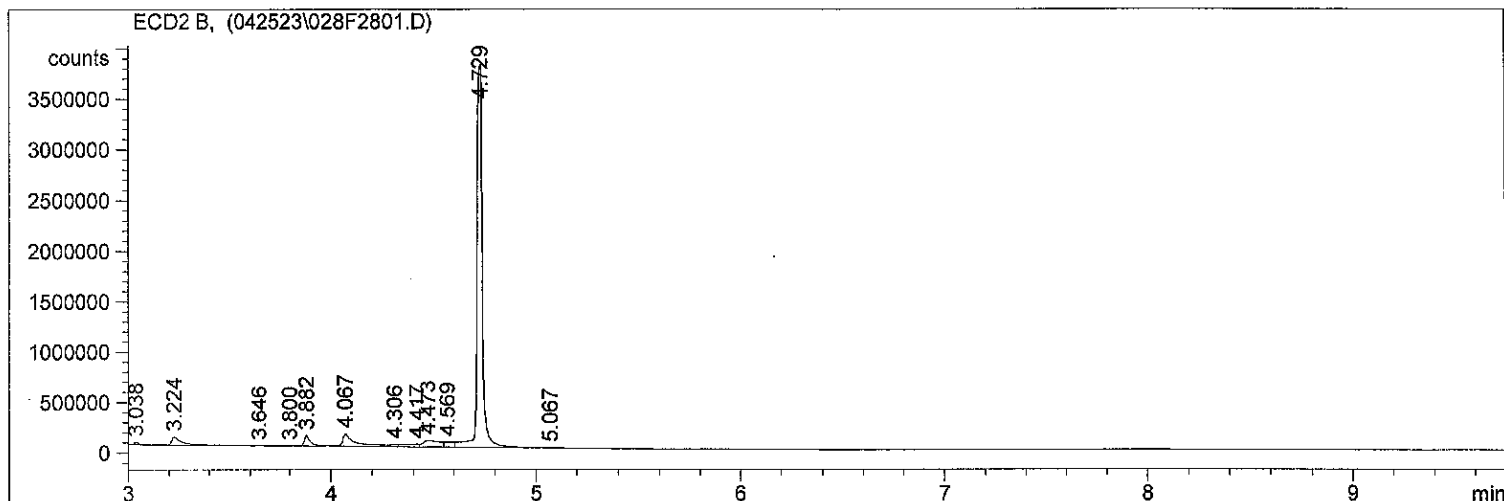
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Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD
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*** End of Report ***

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Injection Date : 4/25/2023 6:40:14 PM Seq. Line : 28
Sample Name : 23D0577 08 Location : Vial 28
Acq. Operator : CR Inj : 1
 Inj Volume : 1 µl

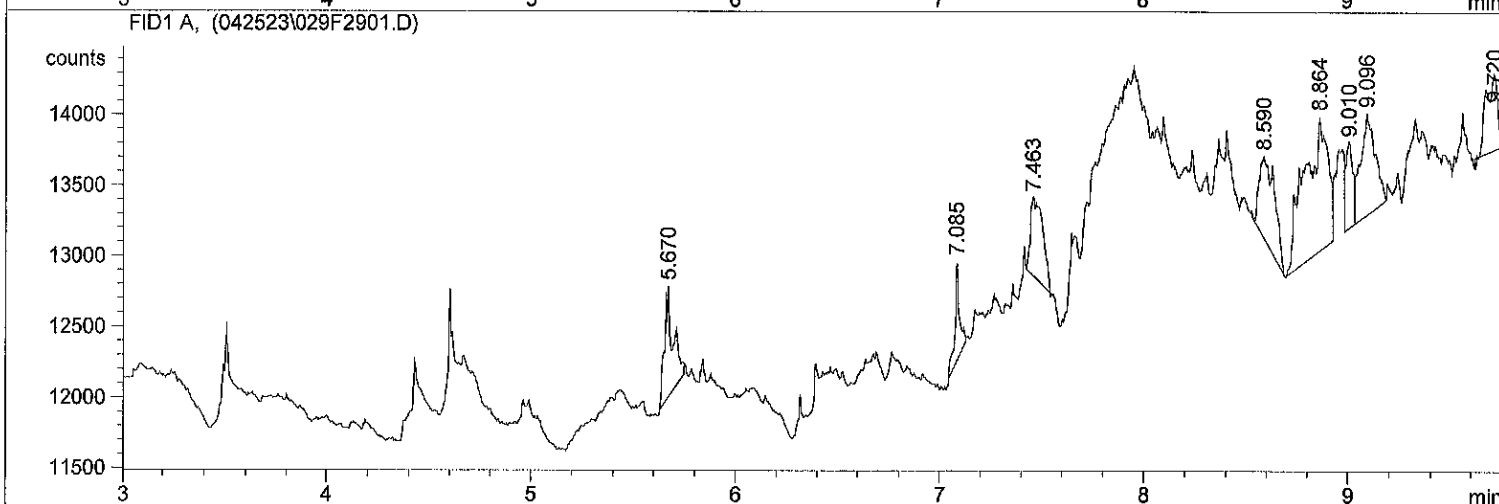
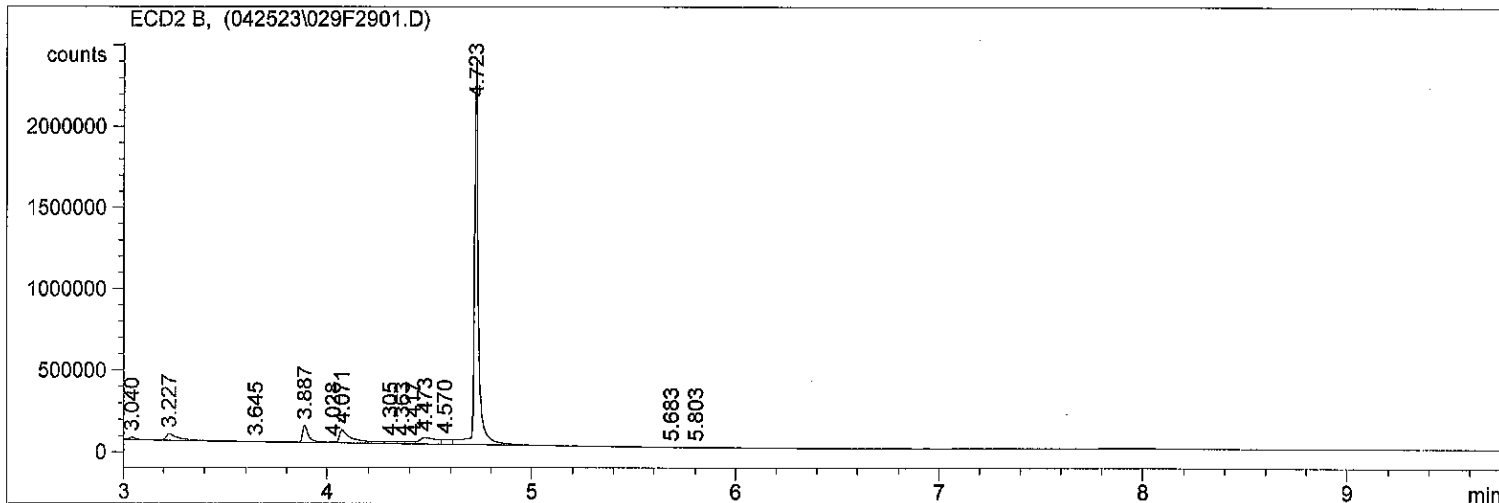
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Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD
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*** End of Report ***

=====
Injection Date : 4/25/2023 6:54:02 PM Seq. Line : 29
Sample Name : 23D0577 09 Location : Vial 29
Acq. Operator : CR Inj : 1
 Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\042523.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD
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*** End of Report ***



CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Cleanup Batch: CLE0230

Cleanup Type: Sulfuric Acid

Cleanup Method: EPA 3665 Sulfuric Acid Cleanup - uL

Analysis: EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW22-SC777K	23D0577-03	05262322ECD7.D	05/26/2023	
LDW22-SC777J	23D0577-02	05262321ECD7.D	05/26/2023	
LDW21-SC572L	23D0577-09	05262330ECD7.D	05/26/2023	
LCS	BLD0718-BS1	05262317ECD7.D	05/26/2023	
LDW21-SC572K	23D0577-08	05262329ECD7.D	05/26/2023	
LDW22-SC760I	23D0577-06	05262325ECD7.D	05/26/2023	
Reference	BLD0718-SRM1	05262319ECD7.D	05/26/2023	
Matrix Spike Dup	BLD0718-MSD1	05262327ECD7.D	05/26/2023	
LCS Dup	BLD0718-BSD1	05262318ECD7.D	05/26/2023	
Blank	BLD0718-BLK1	05262316ECD7.D	05/26/2023	
LDW22-SC777L	23D0577-04	05262323ECD7.D	05/26/2023	
LDW22-SC777M	23D0577-05	05262324ECD7.D	05/26/2023	
LDW22-SC778G	23D0577-01	05262320ECD7.D	05/26/2023	
LDW21-SC572J	23D0577-07	05262328ECD7.D	05/26/2023	
Matrix Spike	BLD0718-MS1	05262326ECD7.D	05/26/2023	



CLEANUP BENCH SHEET

CLE0230

Matrix: Solid

Cleanup using: Organics - EPA 3665 Sulfuric Acid Cleanup - uL

Printed: 5/26/2023 12:49:17PM

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23D0577-01	A	LDW22-SC778G	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-02	A	LDW22-SC777J	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-03	A	LDW22-SC777K	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-04	A	LDW22-SC777L	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-05	A	LDW22-SC777M	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-06	A	LDW22-SC760I	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-07	A	LDW21-SC572J	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-08	A	LDW21-SC572K	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-09	A	LDW21-SC572L	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
BLD0718-BLK1	-	Blank	-	2.5	2.5	-	5/26/2023	NRB	
BLD0718-BS1	-	LCS	-	2.5	2.5	-	5/26/2023	NRB	
BLD0718-BSD1	-	LCS Dup	-	2.5	2.5	-	5/26/2023	NRB	
BLD0718-MS1	-	Matrix Spike	-	2.5	2.5	-	5/26/2023	NRB	
BLD0718-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	5/26/2023	NRB	
BLD0718-SRM1	-	Reference	-	2.5	2.5	-	5/26/2023	NRB	



CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Cleanup Batch: CLE0231

Cleanup Type: Sulfur

Cleanup Method: EPA 3660B Sulfur Cleanup - uL

Analysis: EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-SC572L	23D0577-09	05262330ECD7.D	05/26/2023	
LDW22-SC777K	23D0577-03	05262322ECD7.D	05/26/2023	
Matrix Spike Dup	BLD0718-MSD1	05262327ECD7.D	05/26/2023	
LCS Dup	BLD0718-BSD1	05262318ECD7.D	05/26/2023	
Matrix Spike	BLD0718-MS1	05262326ECD7.D	05/26/2023	
Blank	BLD0718-BLK1	05262316ECD7.D	05/26/2023	
Reference	BLD0718-SRM1	05262319ECD7.D	05/26/2023	
LCS	BLD0718-BS1	05262317ECD7.D	05/26/2023	
LDW21-SC572J	23D0577-07	05262328ECD7.D	05/26/2023	
LDW22-SC760I	23D0577-06	05262325ECD7.D	05/26/2023	
LDW22-SC777J	23D0577-02	05262321ECD7.D	05/26/2023	
LDW22-SC778G	23D0577-01	05262320ECD7.D	05/26/2023	
LDW22-SC777M	23D0577-05	05262324ECD7.D	05/26/2023	
LDW22-SC777L	23D0577-04	05262323ECD7.D	05/26/2023	
LDW21-SC572K	23D0577-08	05262329ECD7.D	05/26/2023	



CLEANUP BENCH SHEET

CLE0231

Matrix: Solid

Cleanup using: Organics - EPA 3660B Sulfur Cleanup - uL

Printed: 5/26/2023 12:49:41PM

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23D0577-01	A	LDW22-SC778G	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-02	A	LDW22-SC777J	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-03	A	LDW22-SC777K	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-04	A	LDW22-SC777L	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-05	A	LDW22-SC777M	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-06	A	LDW22-SC760I	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-07	A	LDW21-SC572J	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-08	A	LDW21-SC572K	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-09	A	LDW21-SC572L	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
BLD0718-BLK1	-	Blank	-	2.5	2.5	-	5/26/2023	NRB	
BLD0718-BS1	-	LCS	-	2.5	2.5	-	5/26/2023	NRB	
BLD0718-BSD1	-	LCS Dup	-	2.5	2.5	-	5/26/2023	NRB	
BLD0718-MS1	-	Matrix Spike	-	2.5	2.5	-	5/26/2023	NRB	
BLD0718-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	5/26/2023	NRB	
BLD0718-SRM1	-	Reference	-	2.5	2.5	-	5/26/2023	NRB	



CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Cleanup Batch: CLE0232

Cleanup Type: Silica Gel

Cleanup Method: EPA 3630C Silica Gel Cleanup - uL

Analysis: EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW22-SC760I	23D0577-06	05262325ECD7.D	05/26/2023	
Matrix Spike Dup	BLD0718-MSD1	05262327ECD7.D	05/26/2023	
Matrix Spike	BLD0718-MS1	05262326ECD7.D	05/26/2023	
LCS Dup	BLD0718-BSD1	05262318ECD7.D	05/26/2023	
LCS	BLD0718-BS1	05262317ECD7.D	05/26/2023	
Blank	BLD0718-BLK1	05262316ECD7.D	05/26/2023	
LDW22-SC778G	23D0577-01	05262320ECD7.D	05/26/2023	
LDW22-SC777M	23D0577-05	05262324ECD7.D	05/26/2023	
LDW22-SC777L	23D0577-04	05262323ECD7.D	05/26/2023	
Reference	BLD0718-SRM1	05262319ECD7.D	05/26/2023	
LDW22-SC777J	23D0577-02	05262321ECD7.D	05/26/2023	
LDW21-SC572L	23D0577-09	05262330ECD7.D	05/26/2023	
LDW21-SC572K	23D0577-08	05262329ECD7.D	05/26/2023	
LDW21-SC572J	23D0577-07	05262328ECD7.D	05/26/2023	
LDW22-SC777K	23D0577-03	05262322ECD7.D	05/26/2023	



CLEANUP BENCH SHEET

CLE0232

Matrix: Solid

Cleanup using: Organics - EPA 3630C Silica Gel Cleanup - uL

Printed: 5/26/2023 12:50:07PM

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23D0577-01	A	LDW22-SC778G	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-02	A	LDW22-SC777J	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-03	A	LDW22-SC777K	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-04	A	LDW22-SC777L	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-05	A	LDW22-SC777M	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-06	A	LDW22-SC760I	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-07	A	LDW21-SC572J	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-08	A	LDW21-SC572K	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
23D0577-09	A	LDW21-SC572L	A 01	2.5	2.5	8082A PCB Solid 4	5/26/2023	NRB	
BLD0718-BLK1	-	Blank	-	2.5	2.5	-	5/26/2023	NRB	
BLD0718-BS1	-	LCS	-	2.5	2.5	-	5/26/2023	NRB	
BLD0718-BSD1	-	LCS Dup	-	2.5	2.5	-	5/26/2023	NRB	
BLD0718-MS1	-	Matrix Spike	-	2.5	2.5	-	5/26/2023	NRB	
BLD0718-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	5/26/2023	NRB	
BLD0718-SRM1	-	Reference	-	2.5	2.5	-	5/26/2023	NRB	



Form I
METHOD BLANK DATA SHEET
EPA 8082A

Blank

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>23D0577</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>AOC4 UR Phase 3</u>
Matrix:	<u>Solid</u>	Laboratory ID:	<u>BLD0718-BLK1</u>
Sampled:	<u>N/A</u>	Prepared:	<u>05/02/23 16:52</u>
Solids:		Preparation:	<u>EPA 3546 (Microwave)</u>
Batch:	<u>BLD0718</u>	Sequence:	<u>SLE0436</u>
Instrument:	<u>ECD7</u>	Column:	<u>ZB5</u>
		File ID:	<u>05262316ECD7.D</u>
		Analyzed:	<u>05/26/23 18:11</u>
		Initial/Final:	<u>12.5 g / 2.5 mL</u>
		Calibration:	<u>GE00022</u>
		Cleanups:	<u>Silica Gel, Sulfur, Sulfuric Acid</u>

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg wet)	Q	DL	RL
12674-11-2	Aroclor 1016	1	4.0	U	1.6	4.0
11104-28-2	Aroclor 1221	1	4.0	U	1.6	4.0
11141-16-5	Aroclor 1232	1	4.0	U	1.6	4.0
53469-21-9	Aroclor 1242	1	4.0	U	1.6	4.0
12672-29-6	Aroclor 1248	1	4.0	U	1.6	4.0
11097-69-1	Aroclor 1254	1	4.0	U	1.6	4.0
11096-82-5	Aroclor 1260	1	4.0	U	0.6	4.0

SURROGATES	ADDED: (ug/kg wet)	FOUND: (ug/kg wet)	% REC	QC LIMITS	Q
Decachlorobiphenyl	8.0000	7.27	90.9	40 - 126	
Tetrachlorometaxylene	8.0000	6.00	75.0	44 - 120	
Decachlorobiphenyl [2C]	8.0000	7.23	90.4	40 - 126	
Tetrachlorometaxylene [2C]	8.0000	5.91	73.9	44 - 120	

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262316ECD7.D
Data file 2: /230526.b/230526.b/05262316ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BLD0718-BLK1
Client ID:
Injection Date: 26-MAY-2023 18:11
Report Date: 05/30/2023 08:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.743	-0.002	314450	5.629	-0.002	168603	30.0	29.6	1.4	Tetrachloro-m-xylene
13.839	-0.002	391543	14.067	-0.002	358699	36.3	36.2	0.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	696199	15.7
Hexabromobiphenyl	876625	1078440	23.0

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	414486	18.7
Hexabromobiphenyl	652984	698683	7.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			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
CollAve: <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
CollAve: <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
CollAve: <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
CollAve: <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
CollAve: <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
CollAve: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	---			0.0	1	---			0.0
Aroclor-1260	2	---			0.0	2	---			0.0
Aroclor-1260	3	---			0.0	3	---			0.0
Aroclor-1260	4	---			0.0	4	---			0.0
Aroclor-1260	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
CollAve: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
CollAve: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				

Total PCB Area Coll (5.845 - 13.741) = 64387

Coll Total PCB = 0.0 ppm*

Total PCB Area Col2 (5.731 - 13.969) = 27009 Col2 Total PCB = 0.0 ppm*

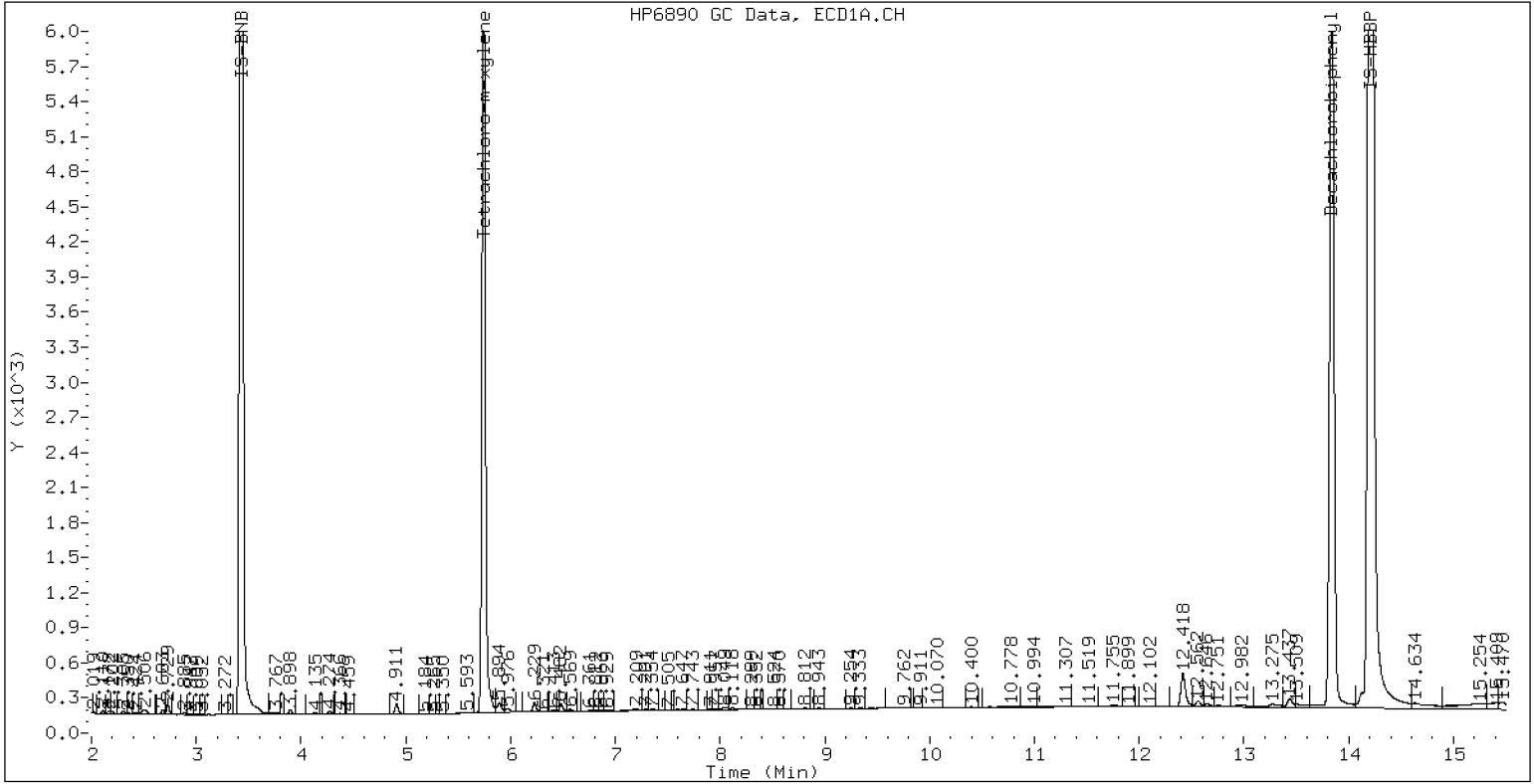
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 BLD0718-BLK1

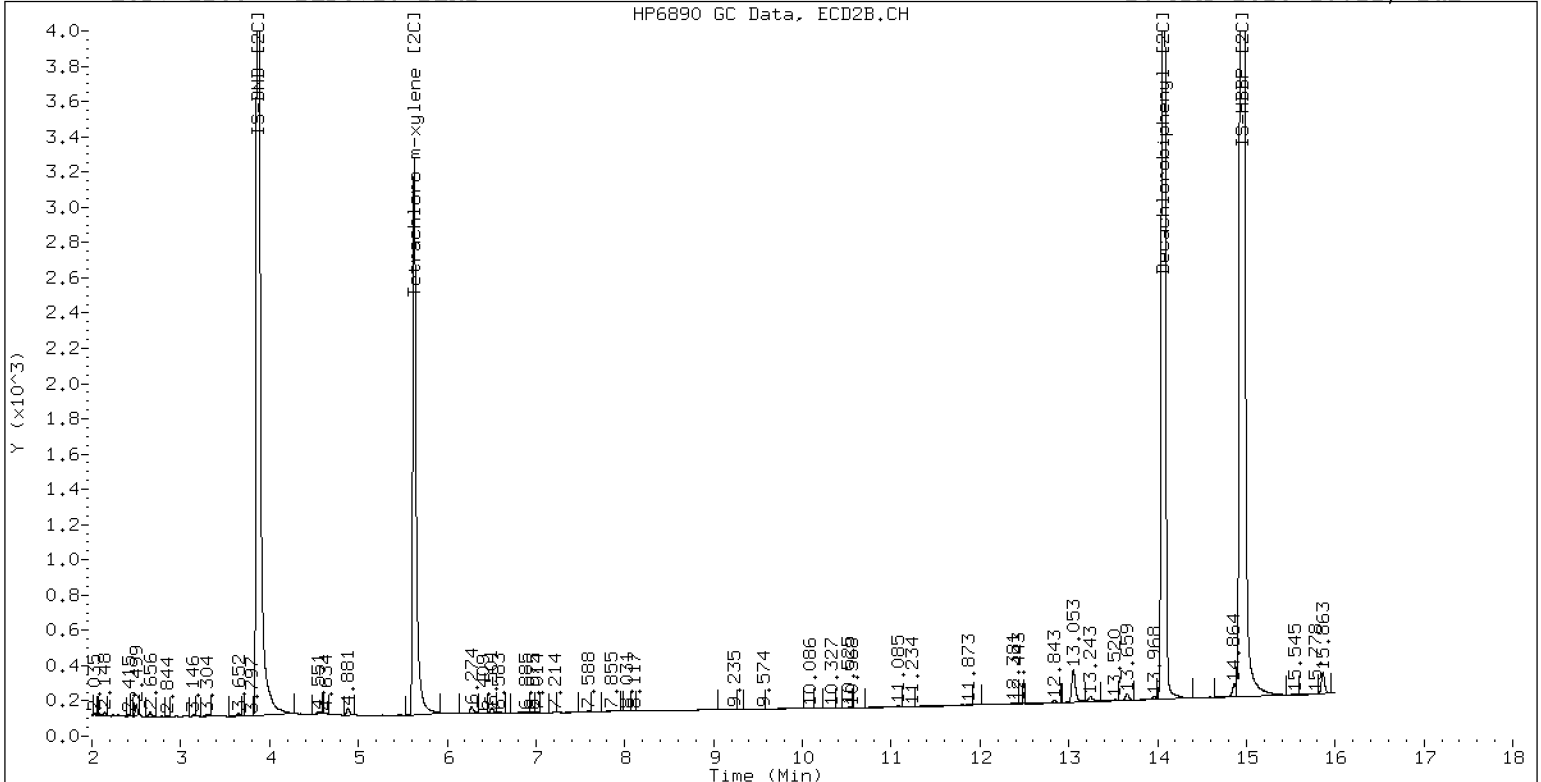
26-MAY-2023 18:11, 2u1



ZB-5 Manual Integration: NO

ECD7-ZB35 BLD0718-BLK1

26-MAY-2023 18:11, 2u1



ZB-35 Manual Integration: NO



LCS / LCS DUPLICATE RECOVERY
EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Matrix: Solid

Analyzed: 05/26/23 18:32

Batch: BLD0718

Laboratory ID: BLD0718-BS1

Preparation: EPA 3546 (Microwave)

Sequence Name: LCS

Initial/Final: 12.5 g / 2.5 mL

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Aroclor 1016	101	83.6		82.9	56 - 120
Aroclor 1260 [2C]	101	94.5		93.7	58 - 120

* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/kg wet)	LCSD CONCENTRATION (ug/kg wet)	Q	LCSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Aroclor 1016	101	82.5		81.9	1.28	30	56 - 120
Aroclor 1260 [2C]	101	87.8		87.1	7.30	30	58 - 120

* Indicates values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262317ECD7.D
Data file 2: /230526.b/230526.b/05262317ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BLD0718-BS1
Client ID:
Injection Date: 26-MAY-2023 18:32
Report Date: 05/30/2023 08:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.742	-0.003	296503	5.629	-0.002	151533	28.2	26.8	4.9	Tetrachloro-m-xylene
13.839	-0.003	394639	14.068	-0.001	361694	33.0	35.6	7.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	698491	16.1
Hexabromobiphenyl	876625	1198338	36.7

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	410614	17.6
Hexabromobiphenyl	652984	715746	9.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.212	-0.001	108361	400.7	1	7.202	-0.003	85914	369.6	
Aroclor-1016	2	7.592	-0.003	379562	448.8	2	7.804	-0.010	205714	415.3	
Aroclor-1016	3	7.732	-0.003	157807	403.6	3	8.004	-0.009	85814	392.8	
Aroclor-1016	4	8.396	-0.003	67543	418.7	4	8.257	-0.005	65166	375.5	
Total CollAve (4 peaks):				418.0	Total Col2Ave (4 peaks):				388.3	RPD = 7	
Corrected Ave (3 peaks):				407.7	Corrected Ave (3 peaks):				379.3	RPD = 7	
Aroclor-1221	1	4.664	0.000	612	12.5	1	4.886	-0.008	755	24.9	
Aroclor-1221	2	6.068	-0.001	12843	130.3	2	6.244	-0.001	7939	126.5	
Aroclor-1221	3	6.320	-0.000	66008	282.0	3	6.570	-0.002	35950	364.1	
Total CollAve (3 peaks):				141.6	Total Col2Ave (3 peaks):				171.8	RPD = 19	
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks						
Aroclor-1232	1	4.664	0.000	612	18.7	1	4.886	-0.008	755	47.4	
Aroclor-1232	2	6.068	-0.001	12843	188.6	2	7.202	-0.002	85914	942.4	
Aroclor-1232	3	7.592	-0.002	379562	1170.1	3	7.804	-0.010	205714	1123.3	
Aroclor-1232	4	8.521	-0.006	150903	1086.9	4	8.663	-0.006	66216	1248.5	
Total CollAve (4 peaks):				616.1	Total Col2Ave (4 peaks):				840.4	RPD = 31	
Corrected Ave (3 peaks):				431.4	Corrected Ave (3 peaks):				704.3	RPD = 48*	
Aroclor-1242	1	7.212	-0.001	108361	492.3	1	7.202	-0.003	85914	468.2	
Aroclor-1242	2	7.592	-0.002	379562	544.2	2	7.804	-0.011	205714	526.9	
Aroclor-1242	3	8.396	-0.003	67543	500.7	3	9.111	-0.016	12688	101.4	
Aroclor-1242	4	8.521	-0.004	150903	483.4	4	9.536	-0.019	4981	33.0	
Total CollAve (4 peaks):				505.2	Total Col2Ave (4 peaks):				282.4	RPD = 57*	
Corrected Ave (3 peaks):				492.1	Corrected Ave (3 peaks):				200.9	RPD = 84*	
Aroclor-1248	1	8.396	-0.004	67543	378.9	1	8.257	-0.004	65166	333.6	
Aroclor-1248	2	8.521	-0.004	150903	325.7	2	8.663	-0.005	66216	320.9	
Aroclor-1248	3	8.938	-0.007	147600	165.7	3	9.111	-0.011	12688	52.5	
Aroclor-1248	4	9.243	0.003	128976	284.0	4	9.536	-0.011	4981	17.2	
Total CollAve (4 peaks):				288.5	Total Col2Ave (4 peaks):				181.0	RPD = 46*	
Corrected Ave (3 peaks):				258.4	Corrected Ave (3 peaks):				130.2	RPD = 66*	
Aroclor-1254	1	9.243	-0.007	128976	179.7	1	9.400	-0.000	61067	195.7	
Aroclor-1254	2	---			0.0	2	9.536	0.041	4981	26.9	
Aroclor-1254	3	9.610	-0.003	25332	54.7	3	9.920	-0.000	13491	53.4	
Aroclor-1254	4	9.748	-0.005	73134	80.6	4	10.095	0.022	134232	243.2	
Aroclor-1254	5	10.064	-0.002	339454	619.2	5	10.320	-0.002	172999	316.0	
Total CollAve (4 peaks):				233.5	Total Col2Ave (5 peaks):				167.0	RPD = 33	
Corrected Ave (3 peaks):				105.0	Corrected Ave (4 peaks):				129.8	RPD = 21	
Aroclor-1260	1	10.990	-0.004	267828	422.7	1	11.603	-0.003	177064	465.8	
Aroclor-1260	2	11.306	-0.004	273415	437.2	2	11.866	-0.007	438016	440.5	
Aroclor-1260	3	11.680	-0.005	659786	421.3	3	12.385	-0.004	127098	515.8	
Aroclor-1260	4	12.082	-0.009	354472	462.1	4	12.450	-0.006	310087	466.9	
Aroclor-1260	5	12.189	-0.004	140533	420.1	NS	---			----	
Total CollAve (5 peaks):				432.7	Total Col2Ave (4 peaks):				472.3	RPD = 9	
Corrected Ave (4 peaks):				425.3	Corrected Ave (3 peaks):				457.7	RPD = 7	
Aroclor-1262	1	10.769	-0.009	542086	999.9	1	11.148	-0.005	168388	290.3	
Aroclor-1262	2	12.189	-0.006	140533	184.3	2	11.603	-0.002	177064	362.0	
Aroclor-1262	3	12.264	-0.005	168444	205.5	3	12.385	-0.001	127098	237.8	
Aroclor-1262	4	12.932	-0.007	152231	227.9	4	12.450	-0.006	310087	356.0	
Total CollAve (4 peaks):				404.4	Total Col2Ave (4 peaks):				311.5	RPD = 26	
Corrected Ave (3 peaks):				205.9	Corrected Ave (3 peaks):				294.7	RPD = 35	
Aroclor-1268	1	12.189	-0.007	140533	73.5	1	12.385	0.000	127098	93.8	
Aroclor-1268	2	12.264	-0.004	168444	88.7	2	12.450	-0.003	310087	212.9	
Aroclor-1268	3	12.668	0.020	75043	49.2	3	12.841	-0.002	8584	6.9	
Aroclor-1268	4	13.434	-0.003	47665	10.9	4	13.657	-0.006	36950	9.2	
Total CollAve (4 peaks):				55.6	Total Col2Ave (4 peaks):				80.7	RPD = 37	

Corrected Ave (3 peaks): 44.5 Corrected Ave (3 peaks): 36.7 RPD = 19

Total PCB Area Col1 (5.845 - 13.741) = 7289824 Col1 Total PCB = 0.9 ppm*

Total PCB Area Col2 (5.731 - 13.969) = 4168108 Col2 Total PCB = 0.8 ppm*

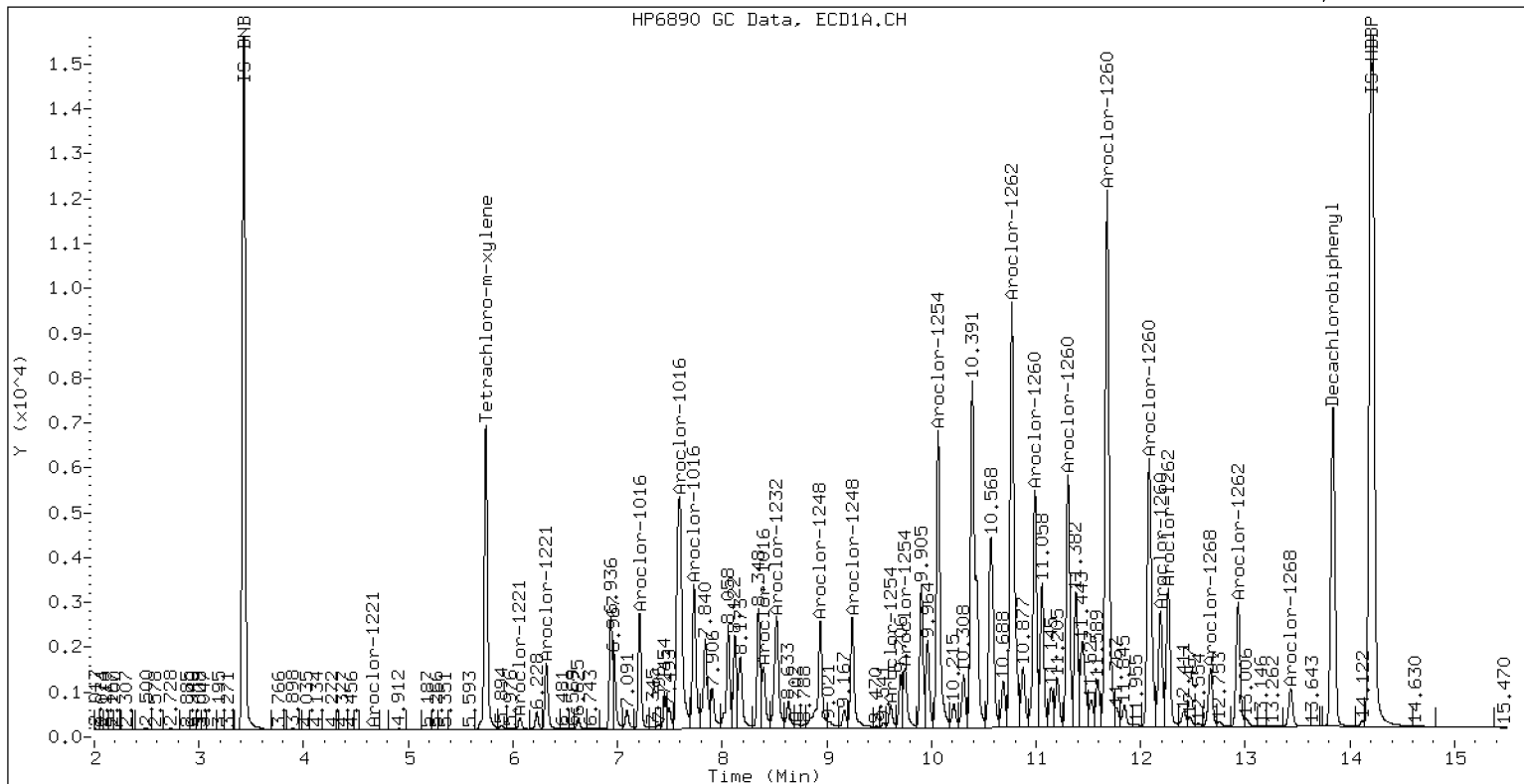
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 BLD0718-BS1

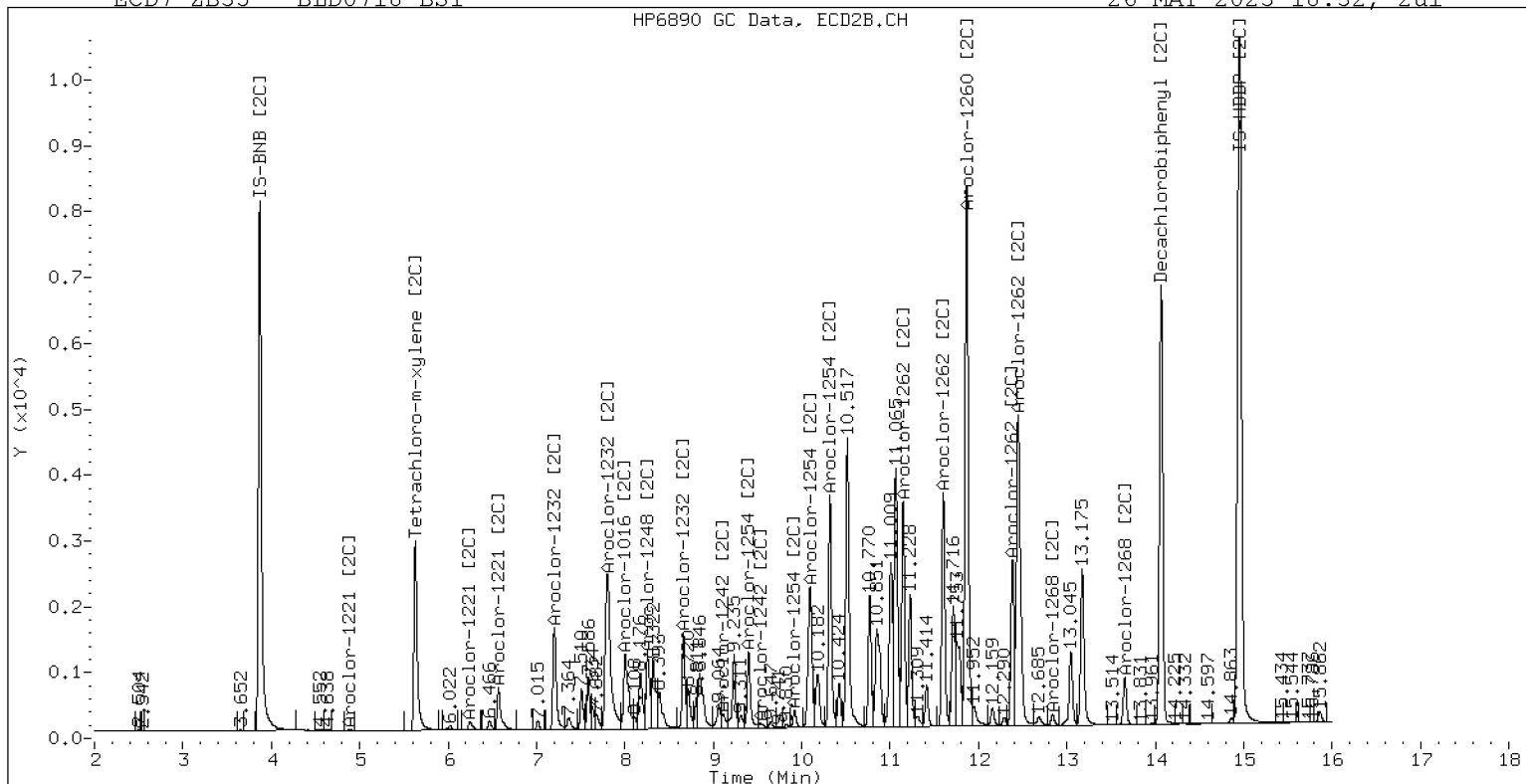
26-MAY-2023 18:32, 2u1



ZB-5 Manual Integration: NO

ECD7-ZB35 BLD0718-BS1

26-MAY-2023 18:32, 2u1



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262318ECD7.D
Data file 2: /230526.b/230526.b/05262318ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BLD0718-BSD1
Client ID:
Injection Date: 26-MAY-2023 18:52
Report Date: 05/30/2023 08:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.743	-0.002	344268	5.629	-0.002	175103	31.8	30.4	4.3	Tetrachloro-m-xylene
13.838	-0.003	426579	14.067	-0.002	390208	33.8	36.2	6.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	719616	19.6
Hexabromobiphenyl	876625	1264220	44.2

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	418373	19.8
Hexabromobiphenyl	652984	759430	16.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.212	-0.001	112087	402.3	1	7.203	-0.003	88739	374.7
Aroclor-1016	2	7.593	-0.002	387101	444.3	2	7.806	-0.008	209700	415.5
Aroclor-1016	3	7.732	-0.002	160085	397.4	3	8.003	-0.010	86736	389.6
Aroclor-1016	4	8.396	-0.003	67574	406.6	4	8.257	-0.005	66054	373.5
Total CollAve (4 peaks):				412.7		Total Col2Ave (4 peaks):				388.3 RPD = 6
Corrected Ave (3 peaks):				402.1		Corrected Ave (3 peaks):				379.3 RPD = 6
Aroclor-1221	1	4.664	0.000	741	14.6	1	4.883	-0.012	1843	59.7
Aroclor-1221	2	6.068	-0.001	13690	134.8	2	6.244	-0.001	8399	131.3
Aroclor-1221	3	6.320	-0.000	69154	286.7	3	6.570	-0.002	38104	378.8
Total CollAve (3 peaks):				145.4		Total Col2Ave (3 peaks):				189.9 RPD = 27
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.664	0.000	741	22.0	1	4.883	-0.011	1843	113.6
Aroclor-1232	2	6.068	-0.002	13690	195.2	2	7.203	-0.002	88739	955.3
Aroclor-1232	3	7.593	-0.001	387101	1158.3	3	7.806	-0.009	209700	1123.8
Aroclor-1232	4	8.520	-0.006	150655	1053.2	4	8.663	-0.006	65657	1215.0
Total CollAve (4 peaks):				607.2		Total Col2Ave (4 peaks):				851.9 RPD = 34
Corrected Ave (3 peaks):				423.5		Corrected Ave (3 peaks):				730.9 RPD = 53*
Aroclor-1242	1	7.212	0.000	112087	494.3	1	7.203	-0.002	88739	474.6
Aroclor-1242	2	7.593	-0.001	387101	538.7	2	7.806	-0.010	209700	527.2
Aroclor-1242	3	8.396	-0.003	67574	486.2	3	9.112	-0.015	12236	96.0
Aroclor-1242	4	8.520	-0.004	150655	468.4	4	9.535	-0.019	4962	32.3
Total CollAve (4 peaks):				496.9		Total Col2Ave (4 peaks):				282.5 RPD = 55*
Corrected Ave (3 peaks):				483.0		Corrected Ave (3 peaks):				200.9 RPD = 82*
Aroclor-1248	1	8.396	-0.004	67574	367.9	1	8.257	-0.004	66054	331.9
Aroclor-1248	2	8.520	-0.005	150655	315.6	2	8.663	-0.005	65657	312.3
Aroclor-1248	3	8.938	-0.007	151912	165.5	3	9.112	-0.010	12236	49.7
Aroclor-1248	4	9.244	0.004	126917	271.2	4	9.535	-0.012	4962	16.8
Total CollAve (4 peaks):				280.1		Total Col2Ave (4 peaks):				177.7 RPD = 45*
Corrected Ave (3 peaks):				250.8		Corrected Ave (3 peaks):				126.2 RPD = 66*
Aroclor-1254	1	9.244	-0.007	126917	171.6	1	9.400	-0.000	60503	190.3
Aroclor-1254	2	---	---	0.0	0.0	2	9.535	0.040	4962	26.3
Aroclor-1254	3	9.610	-0.003	24752	51.8	3	9.920	0.001	13320	51.7
Aroclor-1254	4	9.747	-0.006	72125	77.1	4	10.096	0.023	132571	235.8
Aroclor-1254	5	10.065	-0.002	334253	591.8	5	10.320	-0.002	170480	305.6
Total CollAve (4 peaks):				223.1		Total Col2Ave (5 peaks):				161.9 RPD = 32
Corrected Ave (3 peaks):				100.2		Corrected Ave (4 peaks):				126.0 RPD = 23
Aroclor-1260	1	10.989	-0.004	268165	401.1	1	11.602	-0.004	176078	436.6
Aroclor-1260	2	11.307	-0.004	274441	416.0	2	11.865	-0.008	432752	410.2
Aroclor-1260	3	11.679	-0.006	683394	413.6	3	12.385	-0.005	124426	476.0
Aroclor-1260	4	12.083	-0.008	350658	433.3	4	12.450	-0.006	305343	433.3
Aroclor-1260	5	12.190	-0.004	140755	398.9	NS	---	---	---	---
Total CollAve (5 peaks):				412.6		Total Col2Ave (4 peaks):				439.0 RPD = 6
Corrected Ave (4 peaks):				407.4		Corrected Ave (3 peaks):				426.7 RPD = 5
Aroclor-1262	1	10.770	-0.009	536132	937.4	1	11.149	-0.004	167508	272.2
Aroclor-1262	2	12.190	-0.005	140755	175.0	2	11.602	-0.003	176078	339.3
Aroclor-1262	3	12.265	-0.004	169465	196.0	3	12.385	-0.002	124426	219.4
Aroclor-1262	4	12.932	-0.007	150585	213.7	4	12.450	-0.006	305343	330.4
Total CollAve (4 peaks):				380.5		Total Col2Ave (4 peaks):				290.3 RPD = 27
Corrected Ave (3 peaks):				194.9		Corrected Ave (3 peaks):				274.0 RPD = 34
Aroclor-1268	1	12.190	-0.006	140755	69.8	1	12.385	-0.000	124426	86.6
Aroclor-1268	2	12.265	-0.003	169465	84.6	2	12.450	-0.002	305343	197.6
Aroclor-1268	3	12.668	0.020	74645	46.3	3	12.839	-0.004	8478	6.4
Aroclor-1268	4	13.433	-0.004	47577	10.3	4	13.657	-0.007	36519	8.6
Total CollAve (4 peaks):				52.8		Total Col2Ave (4 peaks):				74.8 RPD = 35

Corrected Ave (3 peaks): 42.2 Corrected Ave (3 peaks): 33.9 RPD = 22

Total PCB Area Col1 (5.845 - 13.741) = 7280856 Col1 Total PCB = 0.9 ppm*

Total PCB Area Col2 (5.731 - 13.969) = 4148295 Col2 Total PCB = 0.8 ppm*

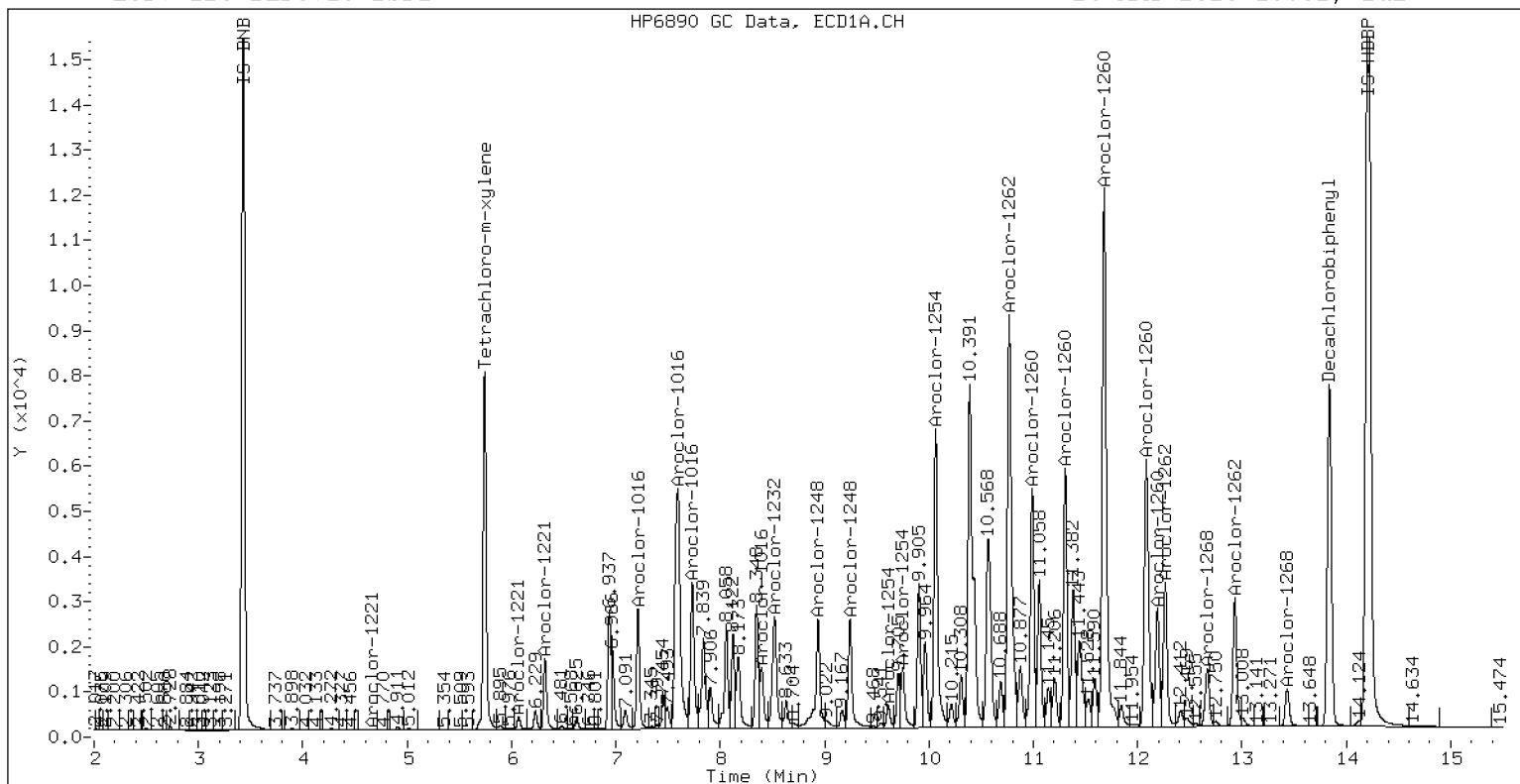
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 BLD0718-BSD1

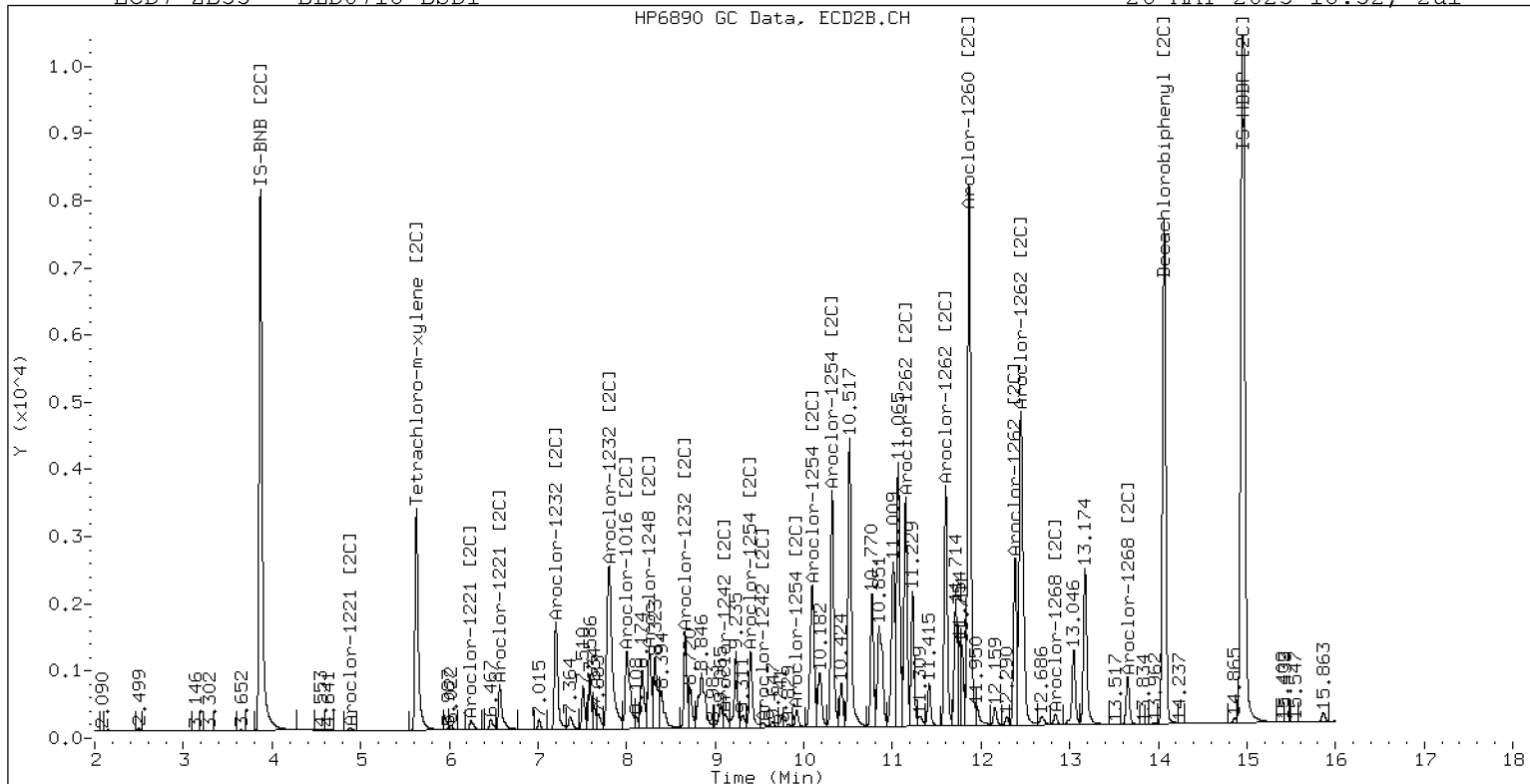
26-MAY-2023 18:52, 2u1



ZB-5 Manual Integration: NO

ECD7-ZB35 BLD0718-BSD1

26-MAY-2023 18:52, 2u1



ZB-35 Manual Integration: NO



MS / MS DUPLICATE RECOVERY
EPA 8082A

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>23D0577</u>
Client:	<u>Anchor OEA, LLC</u>	Project:	<u>AOC4 UR Phase 3</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>05/26/23 21:39</u>
Batch:	<u>BLD0718</u>	Laboratory ID:	<u>BLD0718-MS1</u>
Preparation:	<u>EPA 3546 (Microwave)</u>	Sequence Name:	<u>Matrix Spike</u>
Initial/Final:	<u>16.32 g / 2.5 mL</u>	Source Sample:	<u>LDW22-SC760I</u>

COMPOUND	SPIKE ADDED (ug/kg dry)	SAMPLE CONCENTRATION (ug/kg dry)	Q	MS CONCENTRATION (ug/kg dry)	Q	MS % REC. #	QC LIMITS REC.
Aroclor 1016	101	ND	U	76.8		76.2	56 - 120
Aroclor 1260 [2C]	101	8.1		88.6		79.7	58 - 120

* Values outside of QC limits

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.



MS / MS DUPLICATE RECOVERY
EPA 8082A

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>23D0577</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>AOC4 UR Phase 3</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>05/26/23 22:00</u>
Batch:	<u>BLD0718</u>	Laboratory ID:	<u>BLD0718-MSD1</u>
Preparation:	<u>EPA 3546 (Microwave)</u>	Sequence Name:	<u>Matrix Spike Dup</u>
Initial/Final:	<u>16.32 g / 2.5 mL</u>	Source Sample:	<u>LDW22-SC760I</u>

COMPOUND	SPIKE ADDED (ug/kg dry)	MSD CONCENTRATION (ug/kg dry)	Q	MSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Aroclor 1016	101	84.4		83.7	9.38	30	56 - 120
Aroclor 1260 [2C]	101	95.5		86.5	7.50	30	58 - 120

* Values outside of QC limits

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262326ECD7.D
Data file 2: /230526.b/230526.b/05262326ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BLD0718-MS1
Client ID:
Injection Date: 26-MAY-2023 21:39
Report Date: 05/30/2023 08:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response	on col	on col		
5.741	-0.003	303928	5.626	-0.005	164551	29.2	30.8	5.4	Tetrachloro-m-xylene
13.835	-0.007	294199	14.063	-0.005	282024	33.2	33.6	1.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	690806	14.9
Hexabromobiphenyl	876625	888272	1.3
Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	387959	11.1
Hexabromobiphenyl	652984	591188	-9.5

* Standard Areas taken from Initial Cal Level 3

Initial Calibration Date: 05-MAY-2023

<- 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	7.211	-0.002	97597	364.9	1	7.200	-0.005	82257	374.6
Aroclor-1016	2	7.590	-0.005	345073	412.6	2	7.799	-0.014	193720	413.9
Aroclor-1016	3	7.729	-0.005	133155	344.4	3	7.998	-0.015	76403	370.1
Aroclor-1016	4	8.394	-0.004	66132	414.5	4	8.253	-0.008	65750	401.0
Total CollAve (4 peaks):				384.1		Total Col2Ave (4 peaks):				389.9 RPD = 1
Corrected Ave (3 peaks):				373.9		Corrected Ave (3 peaks):				381.9 RPD = 2
Aroclor-1221	1	4.664	0.000	508	10.5	1	4.882	-0.012	1089	38.1
Aroclor-1221	2	6.067	-0.002	12600	129.3	2	6.242	-0.003	8753	147.6
Aroclor-1221	3	6.319	-0.001	63054	272.4	3	6.567	-0.004	35513	380.7
Total CollAve (3 peaks):				137.4		Total Col2Ave (3 peaks):				188.8 RPD = 32
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.664	0.000	508	15.7	1	4.882	-0.012	1089	72.4
Aroclor-1232	2	6.067	-0.002	12600	187.1	2	7.200	-0.004	82257	954.9
Aroclor-1232	3	7.590	-0.005	345073	1075.6	3	7.799	-0.015	193720	1119.5
Aroclor-1232	4	8.517	-0.010	124210	904.6	4	8.659	-0.010	65052	1298.1
Total CollAve (4 peaks):				545.8		Total Col2Ave (4 peaks):				861.2 RPD = 45*
Corrected Ave (3 peaks):				369.1		Corrected Ave (3 peaks):				715.6 RPD = 64*
Aroclor-1242	1	7.211	-0.002	97597	448.4	1	7.200	-0.005	82257	474.4
Aroclor-1242	2	7.590	-0.004	345073	500.3	2	7.799	-0.016	193720	525.2
Aroclor-1242	3	8.394	-0.004	66132	495.7	3	9.100	-0.026	20460	173.0
Aroclor-1242	4	8.517	-0.008	124210	402.3	4	9.571	0.017	3050	21.4
Total CollAve (4 peaks):				461.7		Total Col2Ave (4 peaks):				298.5 RPD = 43*
Corrected Ave (3 peaks):				448.8		Corrected Ave (3 peaks):				223.0 RPD = 67*
Aroclor-1248	1	8.394	-0.006	66132	375.1	1	8.253	-0.007	65750	356.2
Aroclor-1248	2	8.517	-0.008	124210	271.1	2	8.659	-0.008	65052	333.7
Aroclor-1248	3	8.935	-0.010	124731	141.5	3	9.100	-0.021	20460	89.5
Aroclor-1248	4	9.238	-0.002	130919	291.4	4	9.571	0.025	3050	11.1
Total CollAve (4 peaks):				269.8		Total Col2Ave (4 peaks):				197.6 RPD = 31
Corrected Ave (3 peaks):				234.7		Corrected Ave (3 peaks):				144.8 RPD = 47*
Aroclor-1254	1	9.238	-0.012	130919	184.4	1	9.393	-0.006	66556	225.8
Aroclor-1254	2	9.312	-0.011	29521	92.5	2	9.487	-0.008	23815	136.0
Aroclor-1254	3	9.604	-0.009	43936	95.9	3	9.912	-0.008	20058	84.0
Aroclor-1254	4	9.738	-0.015	162309	180.8	4	10.082	0.009	130328	250.0
Aroclor-1254	5	10.060	-0.006	295745	545.5	5	10.313	-0.009	173989	336.3
Total CollAve (5 peaks):				219.8		Total Col2Ave (5 peaks):				206.4 RPD = 6
Corrected Ave (4 peaks):				138.4		Corrected Ave (4 peaks):				173.9 RPD = 23
Aroclor-1260	1	10.984	-0.010	186223	396.5	1	11.597	-0.009	140841	448.6
Aroclor-1260	2	11.300	-0.010	188221	406.0	2	11.859	-0.014	337796	411.3
Aroclor-1260	3	11.671	-0.014	452122	389.4	3	12.378	-0.011	100588	494.3
Aroclor-1260	4	12.073	-0.017	248191	436.5	4	12.442	-0.014	228872	417.2
Aroclor-1260	5	12.184	-0.009	95577	385.5	NS	---			----
Total CollAve (5 peaks):				402.8		Total Col2Ave (4 peaks):				442.8 RPD = 9
Corrected Ave (4 peaks):				394.4		Corrected Ave (3 peaks):				425.7 RPD = 8
Aroclor-1262	1	10.761	-0.017	394815	982.5	1	11.144	-0.010	130806	273.1
Aroclor-1262	2	12.184	-0.010	95577	169.1	2	11.597	-0.008	140841	348.6
Aroclor-1262	3	12.258	-0.012	114093	187.8	3	12.378	-0.008	100588	227.8
Aroclor-1262	4	12.924	-0.014	105557	213.2	4	12.442	-0.014	228872	318.1
Total CollAve (4 peaks):				388.2		Total Col2Ave (4 peaks):				291.9 RPD = 28
Corrected Ave (3 peaks):				190.1		Corrected Ave (3 peaks):				273.0 RPD = 36
Aroclor-1268	1	12.184	-0.011	95577	67.5	1	12.378	-0.007	100588	89.9
Aroclor-1268	2	12.258	-0.010	114093	81.1	2	12.442	-0.011	228872	190.3
Aroclor-1268	3	12.661	0.013	52421	46.3	3	12.835	-0.008	6968	6.8
Aroclor-1268	4	13.428	-0.010	30734	9.5	4	13.652	-0.012	28266	8.6
Total CollAve (4 peaks):				51.1		Total Col2Ave (4 peaks):				73.9 RPD = 36

Corrected Ave (3 peaks): 41.1 Corrected Ave (3 peaks): 35.1 RPD = 16

Total PCB Area Col1 (5.845 - 13.741) = 5920100 Col1 Total PCB = 0.8 ppm*

Total PCB Area Col2 (5.731 - 13.969) = 3687400 Col2 Total PCB = 0.8 ppm*

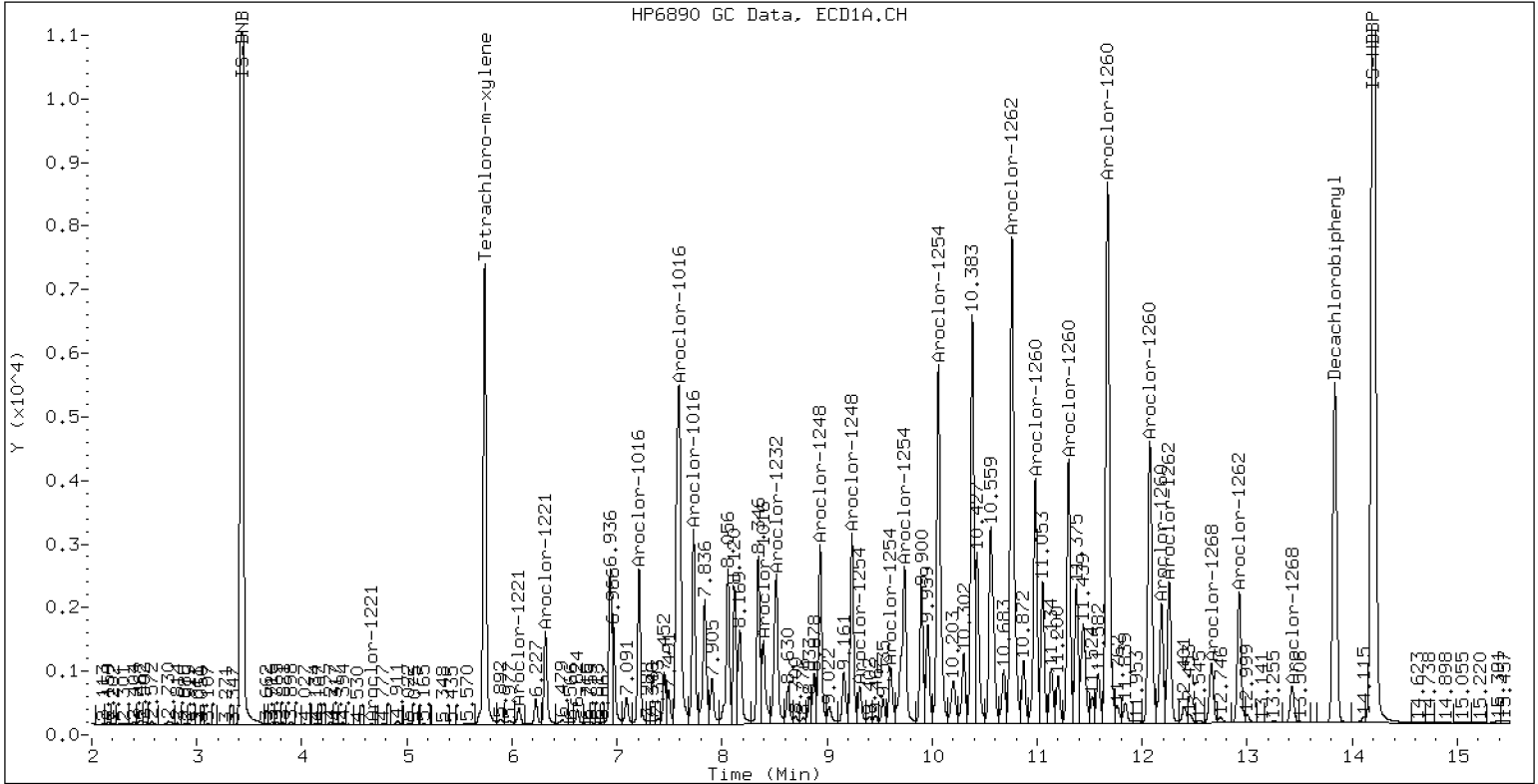
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 BLD0718-MS1

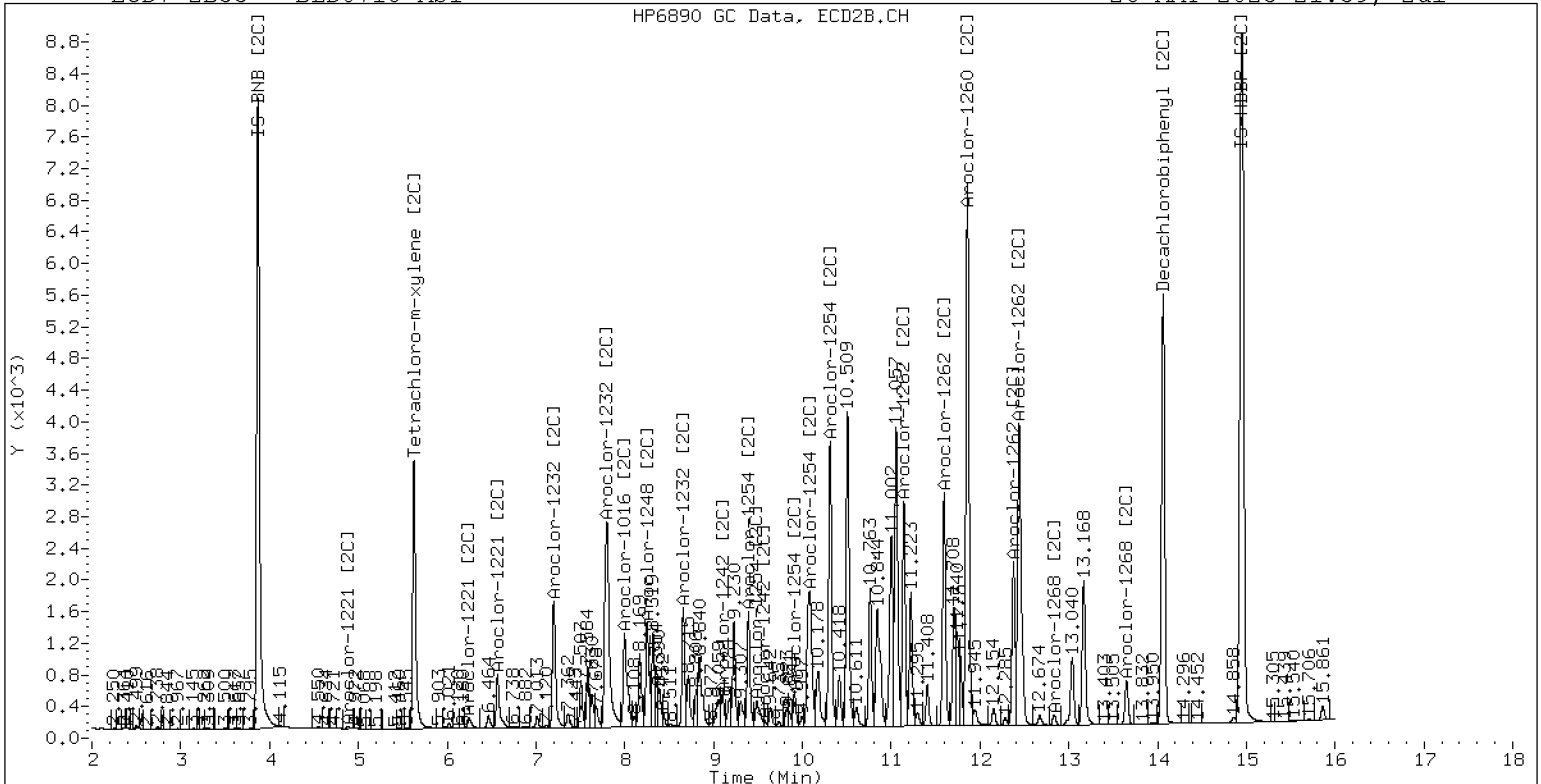
26-MAY-2023 21:39, 2u1



ZB-5 Manual Integration: NO

ECD7-ZB35 BLD0718-MS1

26-MAY-2023 21:39, 2u1



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262327ECD7.D
Data file 2: /230526.b/230526.b/05262327ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BLD0718-MSD1
Client ID:
Injection Date: 26-MAY-2023 22:00
Report Date: 05/30/2023 08:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.744	-0.001	313450	5.629	-0.002	164192	28.9	31.3	7.9	Tetrachloro-m-xylene
13.834	-0.007	311499	14.063	-0.005	293769	34.5	34.3	0.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	719259	19.6
Hexabromobiphenyl	876625	903540	3.1

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	381038	9.1
Hexabromobiphenyl	652984	602310	-7.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.211	-0.002	140342	503.9	1	7.202	-0.003	102220	473.9
Aroclor-1016	2	7.591	-0.004	373009	428.3	2	7.801	-0.013	210371	457.7
Aroclor-1016	3	7.730	-0.004	143910	357.5	3	7.999	-0.014	81659	402.8
Aroclor-1016	4	8.394	-0.005	66083	397.9	4	8.254	-0.008	66527	413.1
Total CollAve (4 peaks):				421.9		Total Col2Ave (4 peaks):				436.9 RPD = 3
Corrected Ave (3 peaks):				394.5		Corrected Ave (3 peaks):				424.5 RPD = 7
Aroclor-1221	1	4.667	0.003	658	13.0	1	4.884	-0.010	2771	98.6
Aroclor-1221	2	6.068	-0.001	14558	143.4	2	6.298	0.053	41647	715.0
Aroclor-1221	3	6.321	0.000	69655	289.0	3	6.569	-0.003	44283	483.3
Total CollAve (3 peaks):				148.5		Total Col2Ave (3 peaks):				432.3 RPD = 98*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.667	0.003	658	19.5	1	4.884	-0.010	2771	187.5
Aroclor-1232	2	6.068	-0.001	14558	207.6	2	7.202	-0.002	102220	1208.2
Aroclor-1232	3	7.591	-0.004	373009	1116.7	3	7.801	-0.014	210371	1237.9
Aroclor-1232	4	8.516	-0.011	126165	882.5	4	8.659	-0.010	65709	1335.1
Total CollAve (4 peaks):				556.6		Total Col2Ave (4 peaks):				992.2 RPD = 56*
Corrected Ave (3 peaks):				369.9		Corrected Ave (3 peaks):				877.9 RPD = 81*
Aroclor-1242	1	7.211	-0.002	140342	619.2	1	7.202	-0.003	102220	600.3
Aroclor-1242	2	7.591	-0.003	373009	519.4	2	7.801	-0.015	210371	580.7
Aroclor-1242	3	8.394	-0.005	66083	475.7	3	9.100	-0.026	18550	159.7
Aroclor-1242	4	8.516	-0.009	126165	392.5	4	9.570	0.016	2325	16.6
Total CollAve (4 peaks):				501.7		Total Col2Ave (4 peaks):				339.3 RPD = 39
Corrected Ave (3 peaks):				462.5		Corrected Ave (3 peaks):				252.3 RPD = 59*
Aroclor-1248	1	8.394	-0.006	66083	360.0	1	8.254	-0.007	66527	367.0
Aroclor-1248	2	8.516	-0.009	126165	264.5	2	8.659	-0.008	65709	343.2
Aroclor-1248	3	8.935	-0.011	121596	132.5	3	9.100	-0.021	18550	82.6
Aroclor-1248	4	9.237	-0.003	128942	275.7	4	9.570	0.024	2325	8.6
Total CollAve (4 peaks):				258.2		Total Col2Ave (4 peaks):				200.4 RPD = 25
Corrected Ave (3 peaks):				224.2		Corrected Ave (3 peaks):				144.8 RPD = 43*
Aroclor-1254	1	9.237	-0.013	128942	174.4	1	9.393	-0.007	65822	227.4
Aroclor-1254	2	9.312	-0.011	23869	71.9	2	9.486	-0.008	20763	120.7
Aroclor-1254	3	9.604	-0.009	40512	84.9	3	9.913	-0.007	19431	82.8
Aroclor-1254	4	9.738	-0.015	154948	165.8	4	10.082	0.009	127705	249.4
Aroclor-1254	5	10.060	-0.006	300784	532.8	5	10.314	-0.008	177266	348.9
Total CollAve (5 peaks):				205.9		Total Col2Ave (5 peaks):				205.8 RPD = 0
Corrected Ave (4 peaks):				124.2		Corrected Ave (4 peaks):				170.1 RPD = 31
Aroclor-1260	1	10.984	-0.009	197358	413.1	1	11.597	-0.009	147371	460.7
Aroclor-1260	2	11.300	-0.010	200864	426.0	2	11.859	-0.014	365621	437.0
Aroclor-1260	3	11.671	-0.014	533531	451.8	3	12.377	-0.012	119682	577.2
Aroclor-1260	4	12.073	-0.018	265466	459.0	4	12.442	-0.014	242804	434.4
Aroclor-1260	5	12.184	-0.009	101999	404.4	NS	---			----
Total CollAve (5 peaks):				430.9		Total Col2Ave (4 peaks):				477.3 RPD = 10
Corrected Ave (4 peaks):				423.8		Corrected Ave (3 peaks):				444.0 RPD = 5
Aroclor-1262	1	10.760	-0.019	429948	1051.9	1	11.144	-0.010	135572	277.8
Aroclor-1262	2	12.184	-0.010	101999	177.4	2	11.597	-0.008	147371	358.0
Aroclor-1262	3	12.258	-0.011	122110	197.6	3	12.377	-0.009	119682	266.1
Aroclor-1262	4	12.924	-0.015	120474	239.2	4	12.442	-0.014	242804	331.2
Total CollAve (4 peaks):				416.5		Total Col2Ave (4 peaks):				308.3 RPD = 30
Corrected Ave (3 peaks):				204.8		Corrected Ave (3 peaks):				291.7 RPD = 35
Aroclor-1268	1	12.184	-0.011	101999	70.8	1	12.377	-0.008	119682	105.0
Aroclor-1268	2	12.258	-0.010	122110	85.3	2	12.442	-0.011	242804	198.1
Aroclor-1268	3	12.660	0.012	56106	48.7	3	12.835	-0.008	7428	7.1
Aroclor-1268	4	13.428	-0.009	34748	10.6	4	13.650	-0.013	34586	10.3
Total CollAve (4 peaks):				53.9		Total Col2Ave (4 peaks):				80.1 RPD = 39

Corrected Ave (3 peaks): 43.4 Corrected Ave (3 peaks): 40.8 RPD = 6

Total PCB Area Col1 (5.845 - 13.741) = 6537938 Col1 Total PCB = 0.8 ppm*

Total PCB Area Col2 (5.731 - 13.969) = 4028159 Col2 Total PCB = 0.9 ppm*

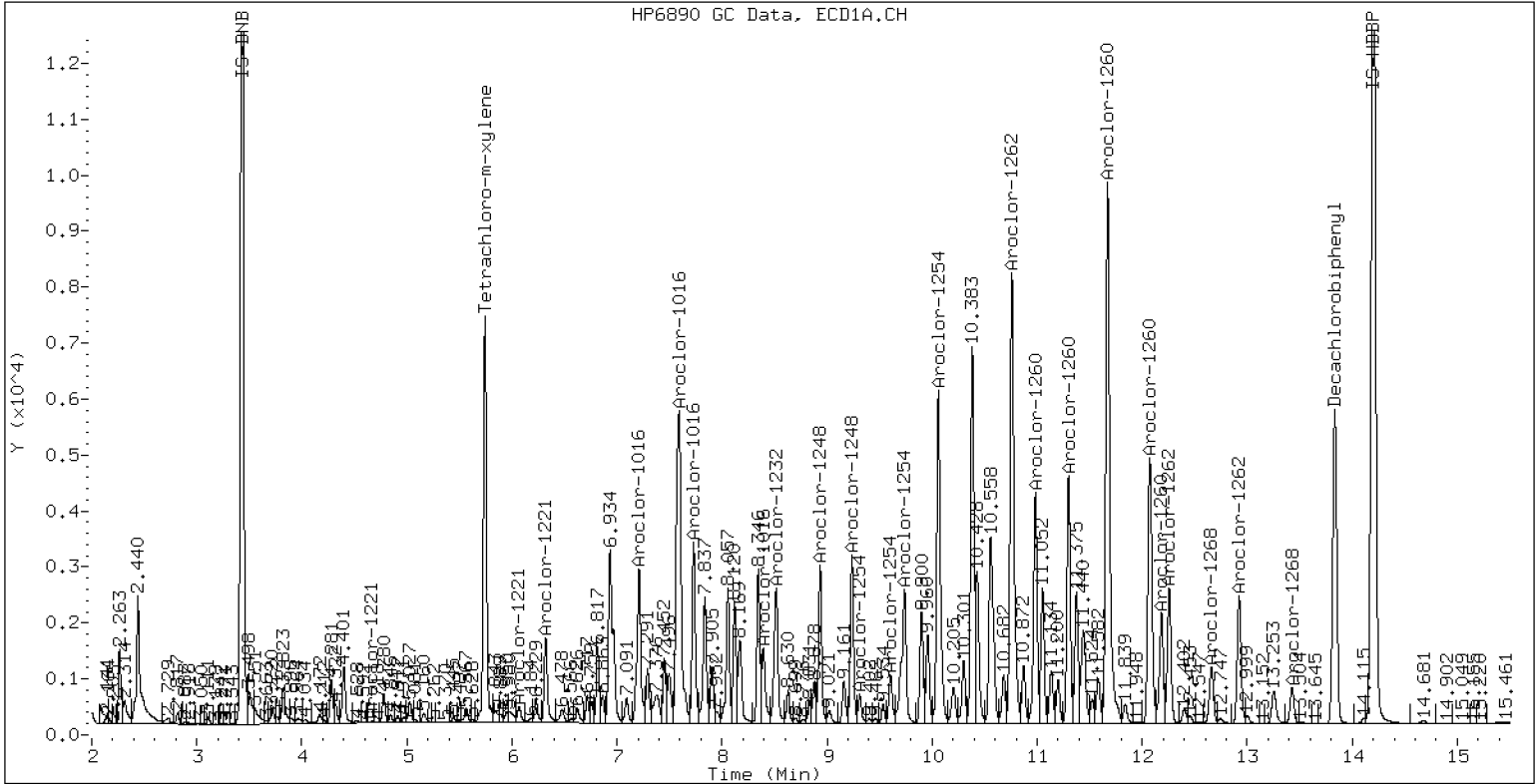
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 BLD0718-MSD1

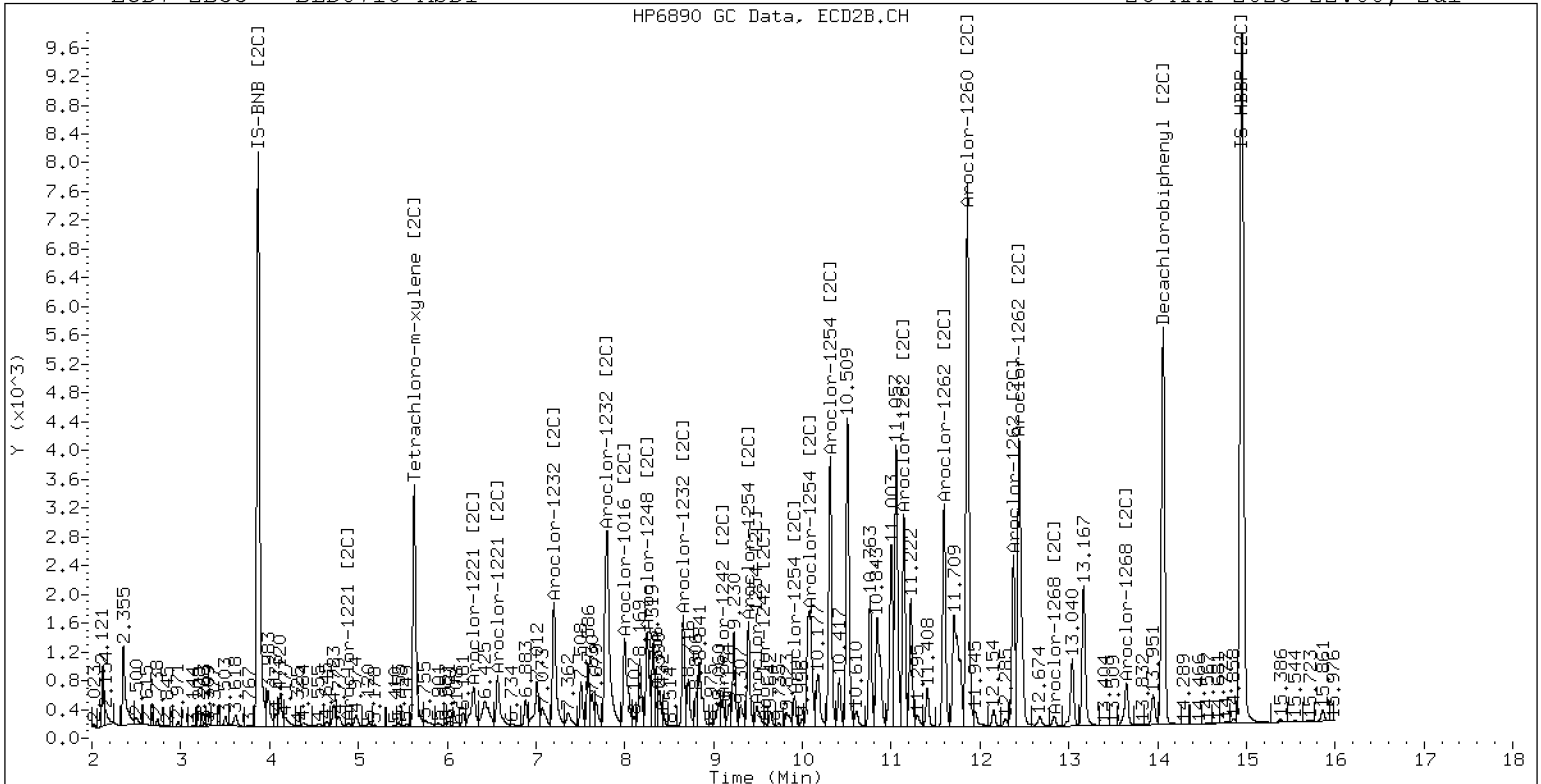
26-MAY-2023 22:00, 2u1



ZB-5 Manual Integration: NO

ECD7-ZB35 BLD0718-MSD1

26-MAY-2023 22:00, 2u1



ZB-35 Manual Integration: NO



STANDARD REFERENCE MATERIAL RECOVERY

EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Matrix: Solid

Laboratory ID: BLD0718-SRM1

Batch: BLD0718

Initial/Final: 2.5 g / 2.5 mL

Preparation: EPA 3546 (Microwave)

Analyzed: 05/26/2023 19:13

Standard ID: K003528

Expires: 04/12/2023

Standard Lot#: PSRM0151

Description: Puget Sound reference-SRM

ANALYTE	TRUE (ug/kg wet)	FOUND (ug/kg wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Aroclor 1260	108.00	111	2.9	20.0		103	38 - 167
Aroclor 1260 [2C]	108.00	136	2.9	20.0		126	38 - 167

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262319ECD7.D
Data file 2: /230526.b/230526.b/05262319ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BLD0718-SRM1
Client ID:
Injection Date: 26-MAY-2023 19:13
Report Date: 05/30/2023 08:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col		ZB5	ZB35	RPD	Compound/Flag		
RT	Shift	Response	RT	Shift	Response				
5.742	-0.002	294317	5.628	-0.003	160779	28.2	29.3	3.6	Tetrachloro-m-xylene
13.833	-0.008	279706	14.062	-0.006	261066	32.9	31.7	3.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	692239	15.1
Hexabromobiphenyl	876625	851839	-2.8

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	399211	14.3
Hexabromobiphenyl	652984	580494	-11.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.182	-0.031	9423	35.2	1	7.207	0.002	4346	19.2	
Aroclor-1016	2	7.591	-0.004	10983	13.1	2	7.803	-0.011	9808	20.4	
Aroclor-1016	3	7.733	-0.001	5097	13.2	3	7.998	-0.014	2240	10.5	
Aroclor-1016	4	8.395	-0.004	5063	31.7	4	8.253	-0.009	7283	43.2	
Total CollAve (4 peaks):				23.3	Total Col2Ave (4 peaks):				23.3	RPD = 0	
Corrected Ave (3 peaks):				19.3	Corrected Ave (3 peaks):				16.7	RPD = 14	
Aroclor-1221	1	4.718	0.055	2082	42.8	1	4.880	-0.014	4180	142.0	
Aroclor-1221	2	6.094	0.025	585	6.0	2	6.294	0.049	6694	109.7	
Aroclor-1221	3	6.325	0.005	1958	8.4	3	6.583	0.011	1885	19.6	
Total CollAve (3 peaks):				19.1	Total Col2Ave (3 peaks):				90.4	RPD = 130*	
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks						
Aroclor-1232	1	4.718	0.055	2082	64.2	1	4.880	-0.014	4180	270.0	
Aroclor-1232	2	6.094	0.025	585	8.7	2	7.207	0.003	4346	49.0	
Aroclor-1232	3	7.591	-0.004	10983	34.2	3	7.803	-0.012	9808	55.1	
Aroclor-1232	4	8.514	-0.012	9138	66.4	4	8.659	-0.010	5829	113.0	
Total CollAve (4 peaks):				43.4	Total Col2Ave (4 peaks):				121.8	RPD = 95*	
Corrected Ave (3 peaks):				35.7	Corrected Ave (3 peaks):				72.4	RPD = 68*	
Aroclor-1242	1	7.182	-0.031	9423	43.2	1	7.207	0.002	4346	24.4	
Aroclor-1242	2	7.591	-0.003	10983	15.9	2	7.803	-0.013	9808	25.8	
Aroclor-1242	3	8.395	-0.004	5063	37.9	3	9.098	-0.029	7445	61.2	
Aroclor-1242	4	8.514	-0.010	9138	29.5	4	9.518	-0.037	6546	44.6	
Total CollAve (4 peaks):				31.6	Total Col2Ave (4 peaks):				39.0	RPD = 21	
Corrected Ave (3 peaks):				27.8	Corrected Ave (3 peaks):				31.6	RPD = 13	
Aroclor-1248	1	8.395	-0.005	5063	28.7	1	8.253	-0.007	7283	38.3	
Aroclor-1248	2	8.514	-0.011	9138	19.9	2	8.659	-0.009	5829	29.1	
Aroclor-1248	3	8.935	-0.010	26513	30.0	3	9.098	-0.024	7445	31.7	
Aroclor-1248	4	9.236	-0.003	38096	84.6	4	9.518	-0.029	6546	23.2	
Total CollAve (4 peaks):				40.8	Total Col2Ave (4 peaks):				30.6	RPD = 29	
Corrected Ave (3 peaks):				26.2	Corrected Ave (3 peaks):				28.0	RPD = 7	
Aroclor-1254	1	9.236	-0.014	38096	53.5	1	9.392	-0.008	21215	69.9	
Aroclor-1254	2	9.311	-0.012	13160	41.2	2	9.487	-0.007	6194	34.4	
Aroclor-1254	3	9.606	-0.007	22825	49.7	3	9.910	-0.009	10227	41.6	
Aroclor-1254	4	9.737	-0.016	52188	58.0	4	10.064	-0.009	40604	75.7	
Aroclor-1254	5	10.059	-0.008	83713	154.1	5	10.312	-0.010	53397	100.3	
Total CollAve (5 peaks):				71.3	Total Col2Ave (5 peaks):				64.4	RPD = 10	
Corrected Ave (4 peaks):				50.6	Corrected Ave (4 peaks):				55.4	RPD = 9	
Aroclor-1260	1	10.982	-0.012	49224	109.3	1	11.595	-0.011	40411	131.1	
Aroclor-1260	2	11.295	-0.016	40866	91.9	2	11.857	-0.016	93791	116.3	
Aroclor-1260	3	11.667	-0.018	137159	123.2	3	12.373	-0.016	36301	181.7	
Aroclor-1260	4	12.069	-0.022	66322	121.6	4	12.441	-0.015	61586	114.3	
Aroclor-1260	5	12.182	-0.012	25958	109.2	NS	---			----	
Total CollAve (5 peaks):				111.0	Total Col2Ave (4 peaks):				135.8	RPD = 20	
Corrected Ave (4 peaks):				108.0	Corrected Ave (3 peaks):				120.6	RPD = 11	
Aroclor-1262	1	10.757	-0.021	112061	290.8	1	11.142	-0.012	35285	75.0	
Aroclor-1262	2	12.182	-0.013	25958	47.9	2	11.595	-0.010	40411	101.9	
Aroclor-1262	3	12.256	-0.013	32089	55.1	3	12.373	-0.013	36301	83.7	
Aroclor-1262	4	12.921	-0.018	36593	77.1	4	12.441	-0.015	61586	87.2	
Total CollAve (4 peaks):				117.7	Total Col2Ave (4 peaks):				86.9	RPD = 30	
Corrected Ave (3 peaks):				60.0	Corrected Ave (3 peaks):				82.0	RPD = 31	
Aroclor-1268	1	12.182	-0.014	25958	19.1	1	12.373	-0.012	36301	33.0	
Aroclor-1268	2	12.256	-0.012	32089	23.8	2	12.441	-0.012	61586	52.1	
Aroclor-1268	3	12.659	0.011	15755	14.5	3	12.836	-0.007	1957	1.9	
Aroclor-1268	4	13.426	-0.011	7634	2.5	4	13.649	-0.015	12516	3.9	
Total CollAve (4 peaks):				15.0	Total Col2Ave (4 peaks):				22.7	RPD = 41*	

Corrected Ave (3 peaks): 12.0 Corrected Ave (3 peaks): 12.9 RPD = 7

Total PCB Area Col1 (5.845 - 13.741) = 1433208 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.731 - 13.969) = 961851 Col2 Total PCB = 0.2 ppm*

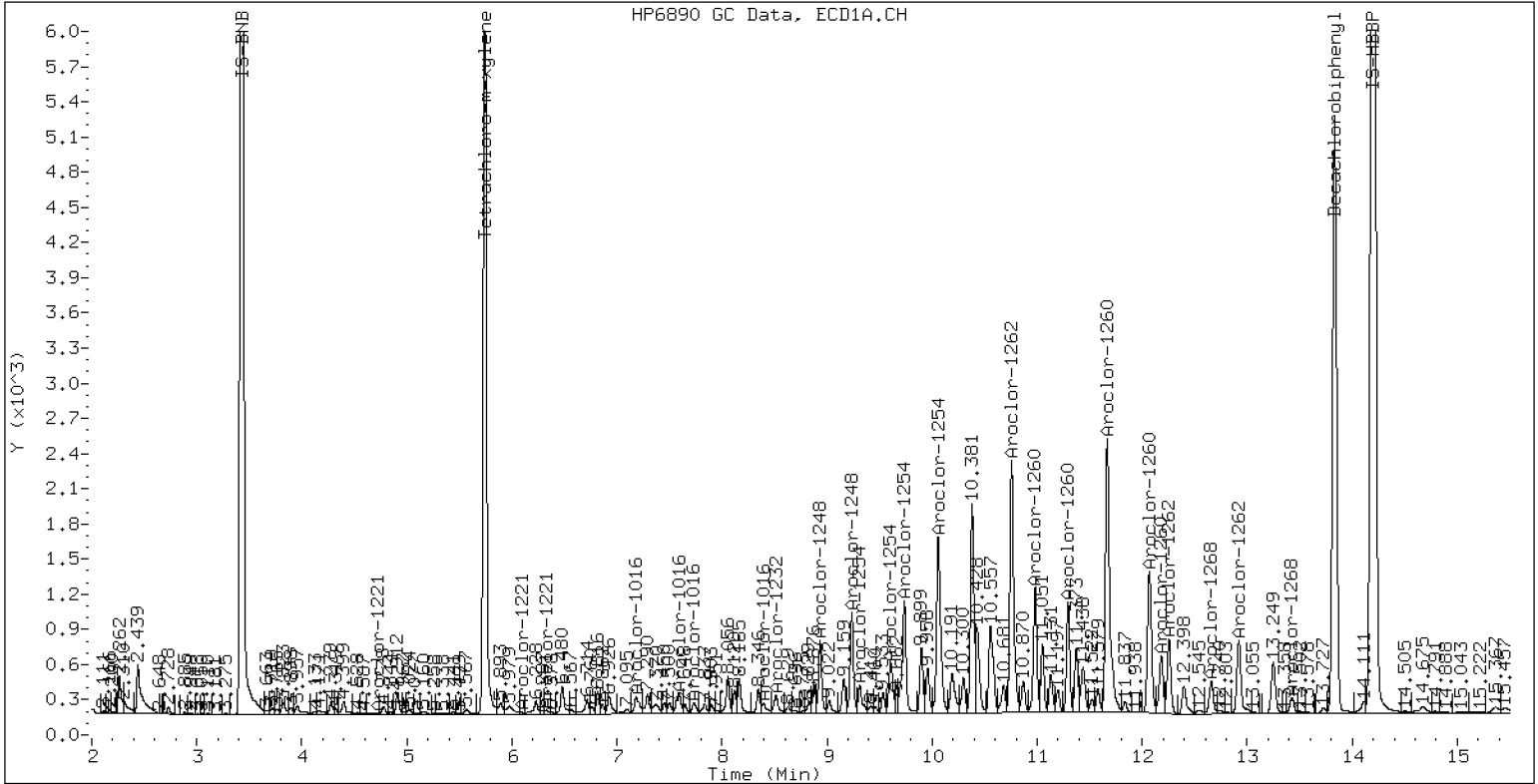
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 BLD0718-SRM1

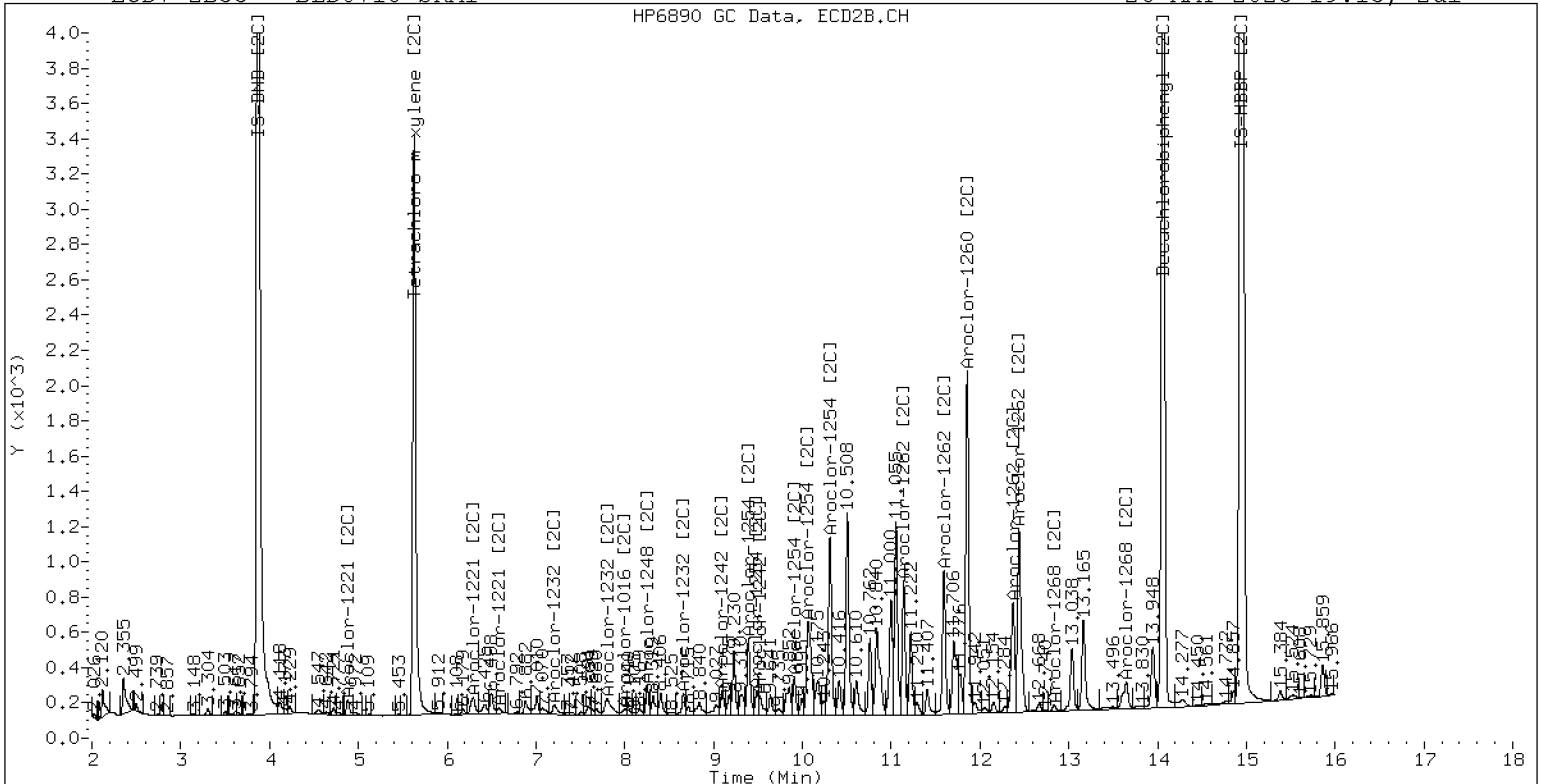
26-MAY-2023 19:13, 2u1



ZB-5 Manual Integration: NO

ECD7-ZB35 BLD0718-SRM1

26-MAY-2023 19:13, 2u1



ZB-35 Manual Integration: NO



INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23D0577
Client:	Anchor QEA, LLC	Project:	AOC4 UR Phase 3
Calibration:	GE00022	Instrument:	ECD7
Calibration Date:	05/05/2023	Column (1):	ZB5

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Aroclor 1016	250	0.0494162	20	4.532998E-02	50	4.853547E-02	1000	0.0432727	100	5.300612E-02	500	4.707631E-02
Aroclor-1016 (1)	250	3.137838E-02	20	3.258869E-02	50	3.226345E-02	1000	2.592113E-02	100	3.461726E-02	500	2.908922E-02
Aroclor-1016 (2)	250	0.1020916	20	8.781887E-02	50	0.0941758	1000	0.0925401	100	0.1052028	500	9.933727E-02
Aroclor-1016 (3)	250	4.518712E-02	20	0.0437516	50	4.849089E-02	1000	3.826082E-02	100	5.093761E-02	500	4.204761E-02
Aroclor-1016 (4)	250	0.0190077	20	1.716078E-02	50	1.921174E-02	1000	1.636875E-02	100	2.126675E-02	500	1.783115E-02
Aroclor 1260	250	5.260043E-02	20	5.628385E-02	50	5.196241E-02	1000	4.766185E-02	100	5.558896E-02	500	0.0504862
Aroclor-1260 (1)	250	4.229749E-02	20	4.580229E-02	50	0.0418668	1000	0.0383433	100	4.489466E-02	500	4.061411E-02
Aroclor-1260 (2)	250	4.189449E-02	20	4.433945E-02	50	4.114713E-02	1000	3.831045E-02	100	4.437556E-02	500	4.042893E-02
Aroclor-1260 (3)	250	0.1051013	20	0.1116982	50	0.1043382	1000	9.463532E-02	100	0.1111587	500	0.1004267
Aroclor-1260 (4)	250	0.0516917	20	5.459749E-02	50	4.999767E-02	1000	0.0472006	100	5.381565E-02	500	0.0499592
Aroclor-1260 (5)	250	2.201717E-02	20	2.498183E-02	50	2.246226E-02	1000	1.981958E-02	100	2.370029E-02	500	2.100203E-02
Decachlorobiphenyl	40	0.7794462	3.2	0.8975218	8	0.8371499	160	0.7050808	16	0.8485148	80	0.7271303
Tetrachlorometaxylene	40	1.226686	3.2	1.21049	8	1.182524	160	1.140526	16	1.29993	80	1.168782



INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23D0577
Client:	Anchor QEA, LLC	Project:	AOC4 UR Phase 3
Calibration:	GE00022	Instrument:	ECD7
Calibration Date:	05/05/2023	Column (1):	ZB5

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor 1016	0.0477728	7.1			RSD (20)	
Aroclor-1016 (1)	3.097636E-02	9.9			RSD (20)	
Aroclor-1016 (2)	9.686107E-02	6.7			RSD (20)	
Aroclor-1016 (3)	4.477928E-02	10.1			RSD (20)	
Aroclor-1016 (4)	1.847448E-02	9.4			RSD (20)	
Aroclor 1221		0.0			RSD (20)	
Aroclor-1221 (1)		0.0			RSD (20)	
Aroclor-1221 (2)		0.0			RSD (20)	
Aroclor-1221 (3)		0.0			RSD (20)	
Aroclor 1232		0.0			RSD (20)	
Aroclor-1232 (1)		0.0			RSD (20)	
Aroclor-1232 (2)		0.0			RSD (20)	
Aroclor-1232 (3)		0.0			RSD (20)	
Aroclor-1232 (4)		0.0			RSD (20)	
Aroclor 1242		0.0			RSD (20)	
Aroclor-1242 (1)		0.0			RSD (20)	
Aroclor-1242 (2)		0.0			RSD (20)	
Aroclor-1242 (3)		0.0			RSD (20)	
Aroclor-1242 (4)		0.0			RSD (20)	
Aroclor 1248		0.0			RSD (20)	
Aroclor-1248 (1)		0.0			RSD (20)	
Aroclor-1248 (2)		0.0			RSD (20)	
Aroclor-1248 (3)		0.0			RSD (20)	
Aroclor-1248 (4)		0.0			RSD (20)	
Aroclor 1254		0.0			RSD (20)	
Aroclor-1254 (1)		0.0			RSD (20)	
Aroclor-1254 (2)		0.0			RSD (20)	
Aroclor-1254 (3)		0.0			RSD (20)	
Aroclor-1254 (4)		0.0			RSD (20)	
Aroclor-1254 (5)		0.0			RSD (20)	
Aroclor 1260	5.243062E-02	6.1			RSD (20)	



INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23D0577
Client:	Anchor QEA, LLC	Project:	AOC4 UR Phase 3
Calibration:	GE00022	Instrument:	ECD7
Calibration Date:	05/05/2023	Column (1):	ZB5

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor-1260 (1)	4.230311E-02	6.5			RSD (20)	
Aroclor-1260 (2)	4.174934E-02	5.6			RSD (20)	
Aroclor-1260 (3)	0.1045597	6.2			RSD (20)	
Aroclor-1260 (4)	5.121039E-02	5.4			RSD (20)	
Aroclor-1260 (5)	2.233053E-02	8.3			RSD (20)	
Aroclor 1262		0.0			RSD (20)	
Aroclor-1262 (1)		0.0			RSD (20)	
Aroclor-1262 (2)		0.0			RSD (20)	
Aroclor-1262 (3)		0.0			RSD (20)	
Aroclor-1262 (4)		0.0			RSD (20)	
Aroclor 1268		0.0			RSD (20)	
Aroclor-1268 (1)		0.0			RSD (20)	
Aroclor-1268 (2)		0.0			RSD (20)	
Aroclor-1268 (3)		0.0			RSD (20)	
Aroclor-1268 (4)		0.0			RSD (20)	
Decachlorobiphenyl	0.7991406	9.4			RSD (20)	
Tetrachlorometaxylene	1.204823	4.6			RSD (20)	



INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23D0577
Client:	Anchor QEA, LLC	Project:	AOC4 UR Phase 3
Calibration:	GE00022	Instrument:	ECD7
Calibration Date:	05/05/2023	Column (2):	ZB35

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Aroclor 1016 [2C]	250	5.431445E-02	20	5.755321E-02	50	5.623255E-02	1000	4.860069E-02	100	5.851589E-02	500	5.204411E-02
Aroclor-1016 (1) [2C]	250	4.442671E-02	20	5.158091E-02	50	4.743051E-02	1000	3.802133E-02	100	4.866225E-02	500	4.159498E-02
Aroclor-1016 (2) [2C]	250	9.745237E-02	20	9.849733E-02	50	9.560411E-02	1000	9.038411E-02	100	0.1018298	500	9.528017E-02
Aroclor-1016 (3) [2C]	250	4.229758E-02	20	4.378709E-02	50	4.462224E-02	1000	3.801497E-02	100	4.621674E-02	500	0.0404581
Aroclor-1016 (4) [2C]	250	3.308114E-02	20	3.634753E-02	50	3.727334E-02	1000	2.798232E-02	100	3.735476E-02	500	3.084311E-02
Aroclor 1260 [2C]	250	6.505764E-02	20	6.569768E-02	50	6.337683E-02	1000	5.893668E-02	100	6.768726E-02	500	6.232632E-02
Aroclor-1260 (1) [2C]	250	4.278892E-02	20	4.543978E-02	50	4.273243E-02	1000	3.816214E-02	100	4.503751E-02	500	4.075974E-02
Aroclor-1260 (2) [2C]	250	0.1137836	20	0.1128173	50	0.1108523	1000	0.1019853	100	0.1191905	500	0.1081464
Aroclor-1260 (3) [2C]	250	2.779854E-02	20	2.783171E-02	50	2.651547E-02	1000	2.742971E-02	100	2.791113E-02	500	2.774857E-02
Aroclor-1260 (4) [2C]	250	0.0758595	20	7.670195E-02	50	7.340713E-02	1000	6.816956E-02	100	7.860987E-02	500	7.265057E-02
Decachlorobiphenyl [2C]	40	1.183432	3.2	1.044344	8	1.074026	160	1.130044	16	1.220049	80	1.164189
Tetrachlorometaxylene [2C]	40	1.130537	3.2	1.090766	8	1.076407	160	1.045589	16	1.181288	80	1.078696



INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23D0577
Client:	Anchor QEA, LLC	Project:	AOC4 UR Phase 3
Calibration:	GE00022	Instrument:	ECD7
Calibration Date:	05/05/2023	Column (2):	ZB35

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Aroclor 1221 [2C]							250	1.245566E-02				
Aroclor-1221 (1) [2C]							250	5.90099E-03				
Aroclor-1221 (2) [2C]							250	1.222989E-02				
Aroclor-1221 (3) [2C]							250	1.923608E-02				
Aroclor 1232 [2C]									250	1.671987E-02		
Aroclor-1232 (1) [2C]									250	3.102529E-03		
Aroclor-1232 (2) [2C]									250	0.0177626		
Aroclor-1232 (3) [2C]									250	3.568085E-02		
Aroclor-1232 (4) [2C]									250	1.033351E-02		
Aroclor 1242 [2C]	250	4.139652E-02										
Aroclor-1242 (1) [2C]	250	0.0357524										
Aroclor-1242 (2) [2C]	250	0.0760619										
Aroclor-1242 (3) [2C]	250	2.438456E-02										
Aroclor-1242 (4) [2C]	250	2.938723E-02										
Aroclor 1248 [2C]			250	4.547256E-02								
Aroclor-1248 (1) [2C]			250	3.805793E-02								
Aroclor-1248 (2) [2C]			250	4.020106E-02								
Aroclor-1248 (3) [2C]			250	4.712363E-02								
Aroclor-1248 (4) [2C]			250	5.650761E-02								
Aroclor 1254 [2C]					250	0.0720677						
Aroclor-1254 (1) [2C]					250	6.078104E-02						
Aroclor-1254 (2) [2C]					250	3.610738E-02						
Aroclor-1254 (3) [2C]					250	4.926631E-02						
Aroclor-1254 (4) [2C]					250	0.1075138						
Aroclor-1254 (5) [2C]					250	0.1066699						
Aroclor 1262 [2C]							250	6.915026E-02				
Aroclor-1262 (1) [2C]							250	0.0648231				
Aroclor-1262 (2) [2C]							250	5.467008E-02				



INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23D0577
Client:	Anchor QEA, LLC	Project:	AOC4 UR Phase 3
Calibration:	GE00022	Instrument:	ECD7
Calibration Date:	05/05/2023	Column (2):	ZB35

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor 1016 [2C]	5.454348E-02	6.8			RSD (20)	
Aroclor-1016 (1) [2C]	4.528611E-02	10.9			RSD (20)	
Aroclor-1016 (2) [2C]	9.650798E-02	4.0			RSD (20)	
Aroclor-1016 (3) [2C]	4.256612E-02	7.0			RSD (20)	
Aroclor-1016 (4) [2C]	0.0338137	11.4			RSD (20)	
Aroclor 1221 [2C]		0.0			RSD (20)	
Aroclor-1221 (1) [2C]		0.0			RSD (20)	
Aroclor-1221 (2) [2C]		0.0			RSD (20)	
Aroclor-1221 (3) [2C]		0.0			RSD (20)	
Aroclor 1232 [2C]		0.0			RSD (20)	
Aroclor-1232 (1) [2C]		0.0			RSD (20)	
Aroclor-1232 (2) [2C]		0.0			RSD (20)	
Aroclor-1232 (3) [2C]		0.0			RSD (20)	
Aroclor-1232 (4) [2C]		0.0			RSD (20)	
Aroclor 1242 [2C]		0.0			RSD (20)	
Aroclor-1242 (1) [2C]		0.0			RSD (20)	
Aroclor-1242 (2) [2C]		0.0			RSD (20)	
Aroclor-1242 (3) [2C]		0.0			RSD (20)	
Aroclor-1242 (4) [2C]		0.0			RSD (20)	
Aroclor 1248 [2C]		0.0			RSD (20)	
Aroclor-1248 (1) [2C]		0.0			RSD (20)	
Aroclor-1248 (2) [2C]		0.0			RSD (20)	
Aroclor-1248 (3) [2C]		0.0			RSD (20)	
Aroclor-1248 (4) [2C]		0.0			RSD (20)	
Aroclor 1254 [2C]		0.0			RSD (20)	
Aroclor-1254 (1) [2C]		0.0			RSD (20)	
Aroclor-1254 (2) [2C]		0.0			RSD (20)	
Aroclor-1254 (3) [2C]		0.0			RSD (20)	
Aroclor-1254 (4) [2C]		0.0			RSD (20)	
Aroclor-1254 (5) [2C]		0.0			RSD (20)	
Aroclor 1260 [2C]	6.384707E-02	4.8			RSD (20)	



INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23D0577
Client:	Anchor QEA, LLC	Project:	AOC4 UR Phase 3
Calibration:	GE00022	Instrument:	ECD7
Calibration Date:	05/05/2023	Column (2):	ZB35

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor-1260 (1) [2C]	4.248675E-02	6.4			RSD (20)	
Aroclor-1260 (2) [2C]	0.1111292	5.2			RSD (20)	
Aroclor-1260 (3) [2C]	2.753919E-02	1.9			RSD (20)	
Aroclor-1260 (4) [2C]	7.423309E-02	5.0			RSD (20)	
Aroclor 1262 [2C]		0.0			RSD (20)	
Aroclor-1262 (1) [2C]		0.0			RSD (20)	
Aroclor-1262 (2) [2C]		0.0			RSD (20)	
Aroclor-1262 (3) [2C]		0.0			RSD (20)	
Aroclor-1262 (4) [2C]		0.0			RSD (20)	
Aroclor 1268 [2C]		0.0			RSD (20)	
Aroclor-1268 (1) [2C]		0.0			RSD (20)	
Aroclor-1268 (2) [2C]		0.0			RSD (20)	
Aroclor-1268 (3) [2C]		0.0			RSD (20)	
Aroclor-1268 (4) [2C]		0.0			RSD (20)	
Decachlorobiphenyl [2C]	1.136014	5.9			RSD (20)	
Tetrachlorometaxylene [2C]	1.100547	4.4			RSD (20)	



ANALYSIS SEQUENCE

SLE0079

Instrument: ECD7
Calibration ID: GE00022

Printed: 5/6/2023 11:44:56AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SLE0079-CAL1	QC		1		L000856	L000844		
SLE0079-CAL2	QC		2		L000859	L000844		
SLE0079-CAL3	QC		3		L000858	L000844		
SLE0079-CAL4	QC		4		L000731	L000844		
SLE0079-CAL5	QC		5		L000857	L000844		
SLE0079-CAL6	QC		6		L000855	L000844		
SLE0079-CAL7	QC		7		L000860	L000844		
SLE0079-CAL8	QC		8		L000861	L000844		
SLE0079-CAL9	QC		9		L000862	L000844		
SLE0079-CALA	QC		10		L004996	L000844		
SLE0079-CALB	QC		11		L004997	L000844		
SLE0079-SCV1	QC		12		L002065	L000844		
SLE0079-SCV2	QC		13		L003970	L000844		
SLE0079-SCV3	QC		14		L002066	L000844		
SLE0079-SCV4	QC		15		L002067	L000844		
SLE0079-SCV5	QC		16		L002068	L000844		
SLE0079-SCV6	QC		17		L002069	L000844		

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	05-MAY-2023	23:06	05052320ECD7.D	1	IB	
2	05-MAY-2023	23:26	05052321ECD7.D	1	0.25PPMAR1660	
3	05-MAY-2023	23:47	05052322ECD7.D	1	0.02PPMAR1660	
4	06-MAY-2023	00:08	05052323ECD7.D	1	0.05PPMAR1660	
5	06-MAY-2023	00:29	05052324ECD7.D	1	1.0PPMAR1660	
6	06-MAY-2023	00:50	05052325ECD7.D	1	0.1PPMAR1660	
7	06-MAY-2023	01:11	05052326ECD7.D	1	0.5PPMAR1660	
8	06-MAY-2023	01:31	05052327ECD7.D	1	0.25PPMAR1242	
9	06-MAY-2023	01:52	05052328ECD7.D	1	0.25PPMAR1248	
10	06-MAY-2023	02:13	05052329ECD7.D	1	0.25PPMAR1254	
11	06-MAY-2023	02:34	05052330ECD7.D	1	0.25PPMAR2162	
12	06-MAY-2023	02:55	05052331ECD7.D	1	0.25PPMAR3268	
13	06-MAY-2023	03:16	05052332ECD7.D	1	AR1660SCV	
14	06-MAY-2023	03:36	05052333ECD7.D	1	AR1242SCV	
15	06-MAY-2023	03:57	05052334ECD7.D	1	AR1248SCV	
16	06-MAY-2023	04:18	05052335ECD7.D	1	AR1254SCV	
17	06-MAY-2023	04:39	05052336ECD7.D	1	AR2162SCV	
18	06-MAY-2023	05:00	05052337ECD7.D	1	AR3268SCV	
19	06-MAY-2023	05:21	05052338ECD7.D	1	DDTS	
20	06-MAY-2023	05:41	05052339ECD7.D	1	DDT BD	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b

ARI Job No.: Method: PCB.m Instrument: ecd7.i Date: 05-MAY-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1548	05052301ECD7.D			1	NO MANUAL INTEGRATION
1609	05052302ECD7.D			1	NO MANUAL INTEGRATION
1711	05052303ECD7.D			1	NO MANUAL INTEGRATION
1732	05052304ECD7.D			1	NO MANUAL INTEGRATION
1753	05052305ECD7.D			1	NO MANUAL INTEGRATION
1814	05052306ECD7.D			1	NO MANUAL INTEGRATION
1835	05052307ECD7.D			1	NO MANUAL INTEGRATION
1856	05052308ECD7.D			1	NO MANUAL INTEGRATION
1916	05052309ECD7.D			1	NO MANUAL INTEGRATION
1937	05052310ECD7.D			1	NO MANUAL INTEGRATION
1958	05052311ECD7.D			1	NO MANUAL INTEGRATION
2019	05052312ECD7.D			1	NO MANUAL INTEGRATION
2040	05052313ECD7.D			1	NO MANUAL INTEGRATION
2101	05052314ECD7.D			1	NO MANUAL INTEGRATION
2121	05052315ECD7.D			1	NO MANUAL INTEGRATION
2142	05052316ECD7.D			1	NO MANUAL INTEGRATION
2203	05052317ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2224	05052318ECD7.D			1	NO MANUAL INTEGRATION
2245	05052319ECD7.D			1	NO MANUAL INTEGRATION
2306	05052320ECD7.D	IB		1	NO MANUAL INTEGRATION
2326	05052321ECD7.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
2347	05052322ECD7.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
0008	05052323ECD7.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
0029	05052324ECD7.D	1.0PPMAR1660		1	NO MANUAL INTEGRATION
0050	05052325ECD7.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
0111	05052326ECD7.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
0131	05052327ECD7.D	0.25PPMAR1242		1	NO MANUAL INTEGRATION
0152	05052328ECD7.D	0.25PPMAR1248		1	NO MANUAL INTEGRATION
0213	05052329ECD7.D	0.25PPMAR1254		1	NO MANUAL INTEGRATION
0234	05052330ECD7.D	0.25PPMAR2162		1	NO MANUAL INTEGRATION
0255	05052331ECD7.D	0.25PPMAR3268		1	NO MANUAL INTEGRATION
0316	05052332ECD7.D	AR1660SCV		1	NO MANUAL INTEGRATION
0336	05052333ECD7.D	AR1242SCV		1	NO MANUAL INTEGRATION
0357	05052334ECD7.D	AR1248SCV		1	NO MANUAL INTEGRATION
0418	05052335ECD7.D	AR1254SCV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0439	05052336ECD7.D	AR2162SCV		1	NO MANUAL INTEGRATION
0500	05052337ECD7.D	AR3268SCV		1	NO MANUAL INTEGRATION
0521	05052338ECD7.D	DDTS		1	NO MANUAL INTEGRATION
0541	05052339ECD7.D	DDT BD		1	NO MANUAL INTEGRATION
1548	05052301ECD7.D	RINSE		1	NO MANUAL INTEGRATION
1609	05052302ECD7.D	RINSE		1	NO MANUAL INTEGRATION
1711	05052303ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1732	05052304ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1753	05052305ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1814	05052306ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1835	05052307ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1856	05052308ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1916	05052309ECD7.D	RINSE		1	NO MANUAL INTEGRATION
1937	05052310ECD7.D	RINSE		1	NO MANUAL INTEGRATION
1958	05052311ECD7.D	RINSE		1	NO MANUAL INTEGRATION
2019	05052312ECD7.D	RINSE		1	NO MANUAL INTEGRATION
2040	05052313ECD7.D	RINSE		1	NO MANUAL INTEGRATION
2101	05052314ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b\230505.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2121	05052315ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
2142	05052316ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
2203	05052317ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
2224	05052318ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
2245	05052319ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
2306	05052320ECD7.D	IB		1	NO MANUAL INTEGRATION
2326	05052321ECD7.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
2347	05052322ECD7.D	0.02PPMAR1660		1	Aroclor-1016 [2C],
0008	05052323ECD7.D	0.05PPMAR1660		1	Aroclor-1016 [2C],
0029	05052324ECD7.D	1.0PPMAR1660		1	NO MANUAL INTEGRATION
0050	05052325ECD7.D	0.1PPMAR1660		1	Aroclor-1016 [2C],
0111	05052326ECD7.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
0132	05052327ECD7.D	0.25PPMAR1242		1	Aroclor-1242 [2C],
0152	05052328ECD7.D	0.25PPMAR1248		1	NO MANUAL INTEGRATION
0213	05052329ECD7.D	0.25PPMAR1254		1	NO MANUAL INTEGRATION
0234	05052330ECD7.D	0.25PPMAR2162		1	NO MANUAL INTEGRATION
0255	05052331ECD7.D	0.25PPMAR3268		1	NO MANUAL INTEGRATION
0316	05052332ECD7.D	AR1660SCV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b\230505.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0336	05052333ECD7.D	AR1242SCV		1	Aroclor-1242 [2C],
0357	05052334ECD7.D	AR1248SCV		1	NO MANUAL INTEGRATION
0418	05052335ECD7.D	AR1254SCV		1	NO MANUAL INTEGRATION
0439	05052336ECD7.D	AR2162SCV		1	NO MANUAL INTEGRATION
0500	05052337ECD7.D	AR3268SCV		1	NO MANUAL INTEGRATION
0521	05052338ECD7.D	DDTS		1	NO MANUAL INTEGRATION
0541	05052339ECD7.D	DDT BD		1	NO MANUAL INTEGRATION

Security Status Report

Date: 06-May-2023 09:12

05052320ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052321ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052322ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052323ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052324ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052325ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052326ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052327ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052328ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052329ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052330ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052331ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052332ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052333ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052334ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052335ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052336ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052337ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052338ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052339ECD7.D	Data Locked	richardl, 06-May-2023 09:12

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 05:21
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m
 Last Edit : 06-May-2023 09:04 ecd7.i
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem4\ecd7.i\230505.b\05052322ECD7.D
 Level 2: \\target\share\chem4\ecd7.i\230505.b\05052323ECD7.D
 Level 3: \\target\share\chem4\ecd7.i\230505.b\05052325ECD7.D
 Level 4: \\target\share\chem4\ecd7.i\230505.b\05052321ECD7.D
 Level 5: \\target\share\chem4\ecd7.i\230505.b\05052326ECD7.D
 Level 6: \\target\share\chem4\ecd7.i\230505.b\05052324ECD7.D
 Level 7: \\target\share\chem4\ecd7.i\230505.b\05052331ECD7.D
 Level 8: \\target\share\chem4\ecd7.i\230505.b\05052338ECD7.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
2 Aroclor-1221(1)	0.00563	0.000e+00					0.00563	0.000
(2)	0.01129						0.01129	0.000
(3)	0.02681						0.02681	0.000
3 Aroclor-1242(1)	0.02521						0.02521	0.000
(2)	0.07988						0.07988	0.000
(3)	0.01545						0.01545	0.000
(4)	0.03576						0.03576	0.000
4 Aroclor-1232(1)	0.00375						0.00375	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 05:21
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m
 Last Edit : 06-May-2023 09:04 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						
(2)	++++ 0.00780	++++ ++++	++++ ++++	++++ ++++	++++ ++++	++++ ++++	0.00780	0.000
(3)	++++ 0.03715	++++ ++++	++++ ++++	++++ ++++	++++ ++++	++++ ++++	0.03715	0.000
(4)	++++ 0.01590	++++ ++++	++++ ++++	++++ ++++	++++ ++++	++++ ++++	0.01590	0.000
7 Aroclor-1016(1)	0.03259 ++++	0.03226 ++++	0.03462	0.03138	0.02909	0.02592	0.03098	9.876
(2)	0.08782 ++++	0.09418 ++++	0.10520	0.10209	0.09934	0.09254	0.09686	6.702
(3)	0.04375 ++++	0.04849 ++++	0.05094	0.04519	0.04205	0.03826	0.04478	10.130
(4)	0.01716 ++++	0.01921 ++++	0.02127	0.01901	0.01783	0.01637	0.01847	9.437
6 Aroclor-1248(1)	++++ 0.02042	++++ ++++	++++	++++	++++	++++	0.02042	0.000
(2)	++++ 0.05306	++++ ++++	++++	++++	++++	++++	0.05306	0.000
(3)	++++ 0.10205	++++ ++++	++++	++++	++++	++++	0.10205	0.000
(4)	++++ 0.05202	++++ ++++	++++	++++	++++	++++	0.05202	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 05:21
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m
 Last Edit : 06-May-2023 09:04 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
8 Aroclor-1254 (1)	0.08222	0.000e+00					0.08222	0.000
(2)	0.03694						0.03694	0.000
(3)	0.05308						0.05308	0.000
(4)	0.10397						0.10397	0.000
(5)	0.06279						0.06279	0.000
9 Aroclor-1260 (1)	0.04580	0.04187	0.04489	0.04230	0.04061	0.03834	0.04230	6.490
(2)	0.04434	0.04115	0.04438	0.04189	0.04043	0.03831	0.04175	5.623
(3)	0.11170	0.10434	0.11116	0.10510	0.10043	0.09464	0.10456	6.204
(4)	0.05460	0.05000	0.05382	0.05169	0.04996	0.04720	0.05121	5.355
(5)	0.02498	0.02246	0.02370	0.02202	0.02100	0.01982	0.02233	8.279
10 Aroclor-1262 (1)	0.03619						0.03619	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 05:21
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m
 Last Edit : 06-May-2023 09:04 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
(2)	0.05090	0.000e+00					0.05090	0.000
(3)	0.05471						0.05471	0.000
(4)	0.04459						0.04459	0.000
11 Aroclor-1268(1)	0.12759						0.12759	0.000
(2)	0.12671						0.12671	0.000
(3)	0.10191						0.10191	0.000
(4)	0.29098						0.29098	0.000
42 2,4-DDE		636					636	0.000
43 2,4-DDD		1208					1208	0.000
44 2,4-DDT								
46 4,4-DDE		1492					1492	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 05:21
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m
 Last Edit : 06-May-2023 09:04 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
47 4,4-DDD	+++++	+++++ 708	+++++	+++++	+++++	+++++	708	0.000
48 4,4-DDT	+++++	+++++ 630	+++++	+++++	+++++	+++++	630	0.000
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
1 Tetrachloro-m-xylene	1.21049	1.18252	1.29993	1.22669	1.16878	1.14053	1.20482	4.619
13 Decachlorobiphenyl	0.89752	0.83715	0.84851	0.77945	0.72713	0.70508	0.79914	9.361

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 02:55
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m\PCB2.m
 Last Edit : 06-May-2023 11:14 ecd7.i
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem4\ecd7.i\230505.b\230505.b\05052322ECD7.D
 Level 2: \\target\share\chem4\ecd7.i\230505.b\230505.b\05052323ECD7.D
 Level 3: \\target\share\chem4\ecd7.i\230505.b\230505.b\05052325ECD7.D
 Level 4: \\target\share\chem4\ecd7.i\230505.b\230505.b\05052321ECD7.D
 Level 5: \\target\share\chem4\ecd7.i\230505.b\230505.b\05052326ECD7.D
 Level 6: \\target\share\chem4\ecd7.i\230505.b\230505.b\05052324ECD7.D
 Level 7: \\target\share\chem4\ecd7.i\230505.b\230505.b\05052331ECD7.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
1 Aroclor-1221 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00590	0.000
(2)	0.01223						0.01223	0.000
(3)	0.01924						0.01924	0.000
4 Aroclor-1232 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00310	0.000
(2)	0.01776						0.01776	0.000
(3)	0.03568						0.03568	0.000
(4)	0.01033						0.01033	0.000
3 Aroclor-1242 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	0.03575	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 02:55
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m\PCB2.m
 Last Edit : 06-May-2023 11:14 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
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.07606	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.02438	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.02939	0.000
6 Aroclor-1248 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	0.03806	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.04020	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.04712	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.05651	0.000
7 Aroclor-1016 [2C] (1)	0.05158	0.04743	0.04866	0.04443	0.04159	0.03802	0.04529	10.942
(2)	0.09850	0.09560	0.10183	0.09745	0.09528	0.09038	0.09651	3.959
(3)	0.04379	0.04462	0.04622	0.04230	0.04046	0.03801	0.04257	6.991
(4)	0.03635	0.03727	0.03735	0.03308	0.03084	0.02798	0.03381	11.400

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 02:55
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m\PCB2.m
 Last Edit : 06-May-2023 11:14 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	250.000 Level 7	RRF	% RSD
8 Aroclor-1254 [2C] (1)	++++ 0.06078	++++	++++	++++	++++	++++		0.06078	0.000
(2)	++++ 0.03611	++++	++++	++++	++++	++++		0.03611	0.000
(3)	++++ 0.04927	++++	++++	++++	++++	++++		0.04927	0.000
(4)	++++ 0.10751	++++	++++	++++	++++	++++		0.10751	0.000
(5)	++++ 0.10667	++++	++++	++++	++++	++++		0.10667	0.000
10 Aroclor-1262 [2C] (1)	++++ 0.06482	++++	++++	++++	++++	++++		0.06482	0.000
(2)	++++ 0.05467	++++	++++	++++	++++	++++		0.05467	0.000
(3)	++++ 0.05974	++++	++++	++++	++++	++++		0.05974	0.000
(4)	++++ 0.09737	++++	++++	++++	++++	++++		0.09737	0.000
9 Aroclor-1260 [2C] (1)	0.04544 ++++	0.04273	0.04504	0.04279	0.04076	0.03816		0.04249	6.408
(2)	0.11282 ++++	0.11085	0.11919	0.11378	0.10815	0.10199		0.11113	5.208

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 02:55
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m\PCB2.m
 Last Edit : 06-May-2023 11:14 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
(3)	0.02783 +++++	0.02652	0.02791	0.02780	0.02775	0.02743	0.02754	1.918
(4)	0.07670 +++++	0.07341	0.07861	0.07586	0.07265	0.06817	0.07423	4.962
11 Aroclor-1268 [2C] (1)	+++++ 0.15139	+++++	+++++	+++++	+++++	+++++	0.15139	0.000
(2)	+++++ 0.16276	+++++	+++++	+++++	+++++	+++++	0.16276	0.000
(3)	+++++ 0.13938	+++++	+++++	+++++	+++++	+++++	0.13938	0.000
(4)	+++++ 0.44675	+++++	+++++	+++++	+++++	+++++	0.44675	0.000
41 2,4-DDE [2C]	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
42 2,4-DDD [2C]	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
44 4,4-DDE [2C]	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
45 4,4-DDD/2,4-DDT [2C]	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
46 4,4-DDT [2C]	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 02:55
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m\PCB2.m
 Last Edit : 06-May-2023 11:14 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
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
\$ 2 Tetrachloro-m-xylene [2C]	1.09077	1.07641	1.18129	1.13054	1.07870	1.04559	1.10055	4.376
\$ 13 Decachlorobiphenyl [2C]	1.04434	1.07403	1.22005	1.18343	1.16419	1.13004	1.13601	5.890

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\230505.b
Inst ID: ecd7.i

ID: RT01 RT02 RT03 RT04 RT05 RT06
FILENAME: 05052321ECD7 05052322ECD7 05052323ECD7 05052324ECD7 05052325ECD7 05052326ECD7
INJ. DATE: 05-MAY-2023 05-MAY-2023 06-MAY-2023 06-MAY-2023 06-MAY-2023 06-MAY-2023
INJ. TIME: 23:26 23:47 00:08 00:29 00:50 01:11

Table with 11 columns: Compound, RT01, RT02, RT03, RT04, RT05, RT06, EXPEC RT, RT WINDOW, AVG RT, STD DEV. Rows include various chemical compounds like IS-BNB, Tetrachloro-m-xylene, Aroclor-1221, etc.

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230505.b\PCB.m
 Batch File: \\target\share\chem4\ecd7.i\230505.b
 Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	10.243	10.143-10.343	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.706	10.606-10.806	+++++	+++++
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\230505.b\PCB.m\PCB2.m
Batch File: \\target\share\chem4\ecd7.i\230505.b\230505.b
Inst ID: ecd7.i

ID: RT01 RT02 RT03 RT04 RT05 RT06 RT07
FILENAME: 05052320ECD7 05052321ECD7 05052322ECD7 05052323ECD7 05052324ECD7 05052325ECD7 05052326ECD7
INJ. DATE: 05-MAY-2023 05-MAY-2023 05-MAY-2023 06-MAY-2023 06-MAY-2023 06-MAY-2023 06-MAY-2023
INJ. TIME: 23:06 23:26 23:47 00:08 00:29 00:50 01:11

Table with columns: Compound, RT01, RT02, RT03, RT04, RT05, RT06, RT07, EXPEC RT, RT WINDOW, AVG RT, STD DEV. Rows include compounds like 40 IS-BNB, 2 Tetrachloro-m-xylene, 1 Aroclor-1221, etc.

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230505.b\PCB.m\PCB2.m
 Batch File: \\target\share\chem4\ecd7.i\230505.b\230505.b
 Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
46 4,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.046	10.946-11.146	+++++	+++++
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.703	1.603-1.803	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.178	7.078-7.278	+++++	+++++

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052320ECD7.D
Data file 2: /230505.b/230505.b/05052320ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: IB
Client ID:
Injection Date: 05-MAY-2023 23:06
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	0.000	296285	5.629	0.001	163258	35.5	37.4	5.3	Tetrachloro-m-xylene
13.841	0.001	288612	14.070	0.002	318424	35.7	37.3	4.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	554412	-7.8
Hexabromobiphenyl	876625	809662	-7.6

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	317324	-9.2
Hexabromobiphenyl	652984	600612	-8.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			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
CollAve: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.272	0.027	1585	32.7
Aroclor-1221	3	---			0.0	3	6.588	0.017	408	5.3
CollAve: <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
CollAve: <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
CollAve: <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
CollAve: <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
CollAve: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	10.995	0.002	1624	3.8	1	---			0.0
Aroclor-1260	2	11.305	-0.005	1450	3.4	2	---			0.0
Aroclor-1260	3	11.770	0.084	3781	3.6	3	---			0.0
Aroclor-1260	4	12.138	0.048	1272	2.5	4	---			0.0
Aroclor-1260	5	12.271	0.078	413	1.8	NS	---			----
Total CollAve (5 peaks):					3.0	Col2Ave: <3 Quant Peaks				
Aroclor-1262	1	10.800	0.021	2445	6.7	1	---			0.0
Aroclor-1262	2	12.271	0.077	413	0.8	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	12.989	0.050	944	2.1	4	---			0.0
Total CollAve (3 peaks):					3.2	Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	12.271	0.076	413	0.3	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	12.649	0.001	2092	2.0	3	12.847	0.004	632	0.6
Aroclor-1268	4	13.443	0.006	5651	1.9	4	13.663	-0.001	2018	0.6
Total CollAve (3 peaks):					1.4	Col2Ave: <3 Quant Peaks				
Total PCB Area Coll1 (5.842 - 13.740) =					65805	Coll1 Total PCB = 0.0 ppm*				

Total PCB Area Col2 (5.728 - 13.968) = 16664 Col2 Total PCB = 0.0 ppm*

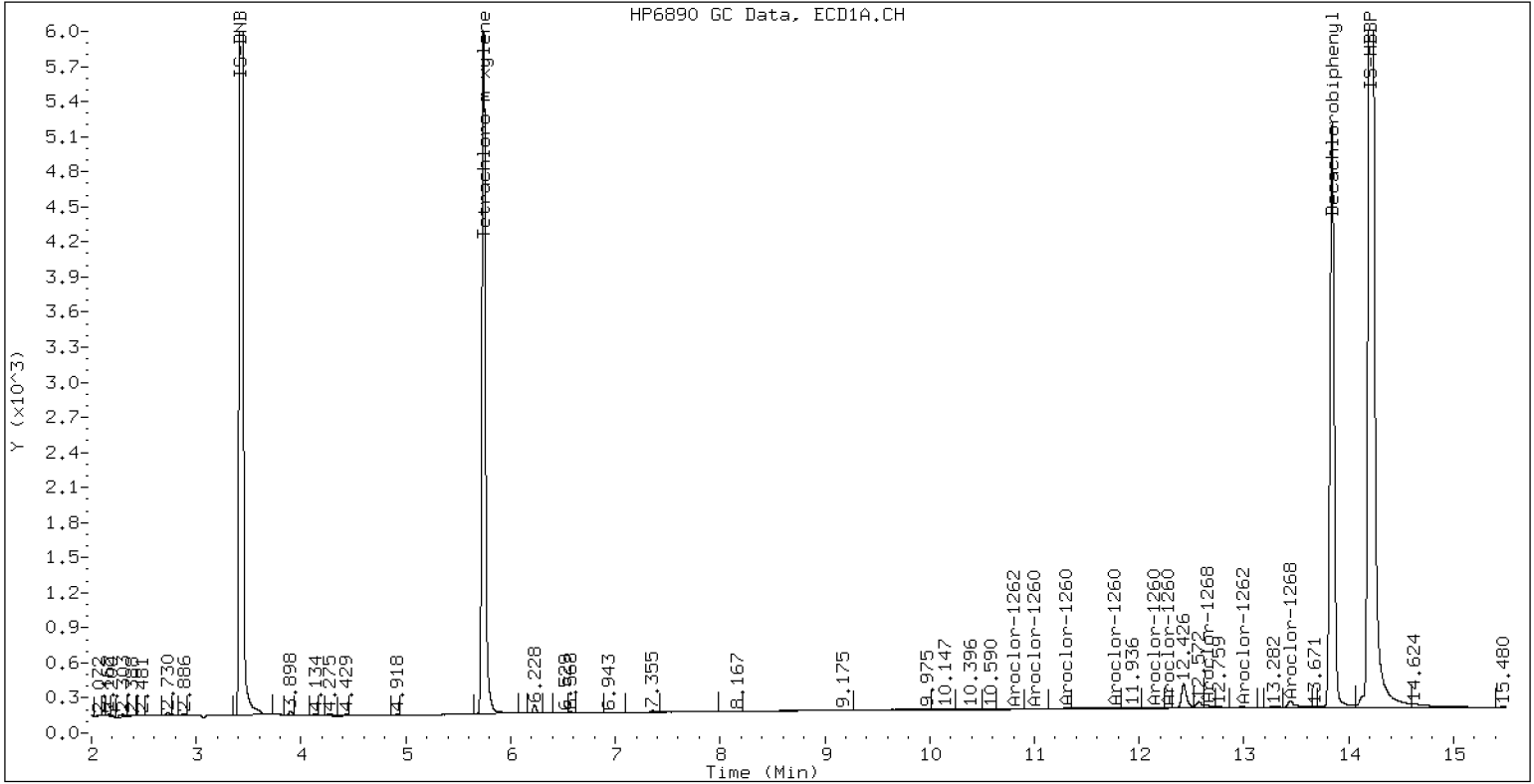
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 IB

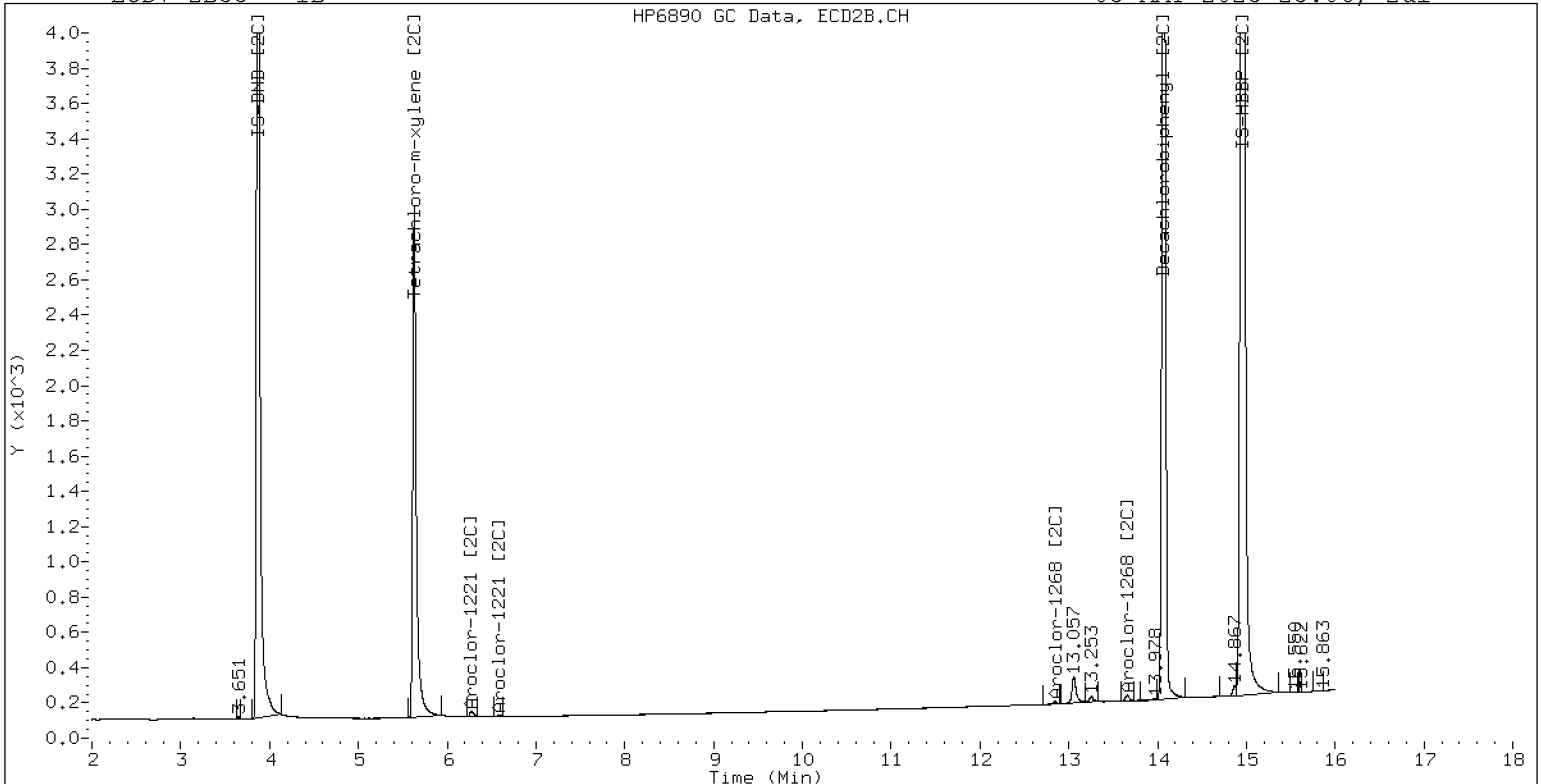
05-MAY-2023 23:06, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 IB

05-MAY-2023 23:06, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052321ECD7.D
 Data file 2: /230505.b/230505.b/05052321ECD7.D
 Method: \\target\share\chem4\ecd7.i\230505.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: 05-MAY-2023 23:26
 Report Date: 05/06/2023 11:30
 Matrix: NONE
 Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.743	0.001	368910	5.629	0.000	197442	40.7	41.1	0.9	Tetrachloro-m-xylene
13.841	0.001	341641	14.070	0.002	386381	39.0	41.7	6.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	601474	0.0
Hexabromobiphenyl	876625	876625	0.0
Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	349289	0.0
Hexabromobiphenyl	652984	652984	0.0

* Standard Areas taken from Initial Cal Level 3
 Initial Calibration Date: 05-MAY-2023
 <- 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	7.213	0.001	58979	253.2	1	7.204	-0.000	48493	245.3
Aroclor-1016	2	7.595	0.001	191892	263.5	2	7.811	0.003	106372	252.4
Aroclor-1016	3	7.735	0.002	84934	252.3	3	8.010	0.004	46169	248.4
Aroclor-1016	4	8.399	0.001	35727	257.2	4	8.260	0.001	36109	244.6
Total CollAve (4 peaks):				256.6		Total Col2Ave (4 peaks):				247.7 RPD = 4
Corrected Ave (3 peaks):				254.2		Corrected Ave (3 peaks):				246.1 RPD = 3
CalAmt %D:				2.6		CalAmt %D:				-0.9
Aroclor-1260	1	10.995	0.002	115872	250.0	1	11.605	-0.000	87314	251.8
Aroclor-1260	2	11.312	0.002	114768	250.9	2	11.872	-0.000	232184	256.0
Aroclor-1260	3	11.687	0.001	287920	251.3	3	12.389	0.001	56725	252.4
Aroclor-1260	4	12.091	0.002	141607	252.3	4	12.456	0.000	154797	255.5
Aroclor-1260	5	12.195	0.002	60315	246.5	NS	---			----
Total CollAve (5 peaks):				250.2		Total Col2Ave (4 peaks):				253.9 RPD = 1
Corrected Ave (4 peaks):				249.7		Corrected Ave (3 peaks):				253.2 RPD = 1
CalAmt %D:				0.1		CalAmt %D:				1.6

Total PCB Area Coll (5.842 - 13.740) = 3355836 Coll Total PCB = 0.5 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 2087295 Col2 Total PCB = 0.5 ppm*

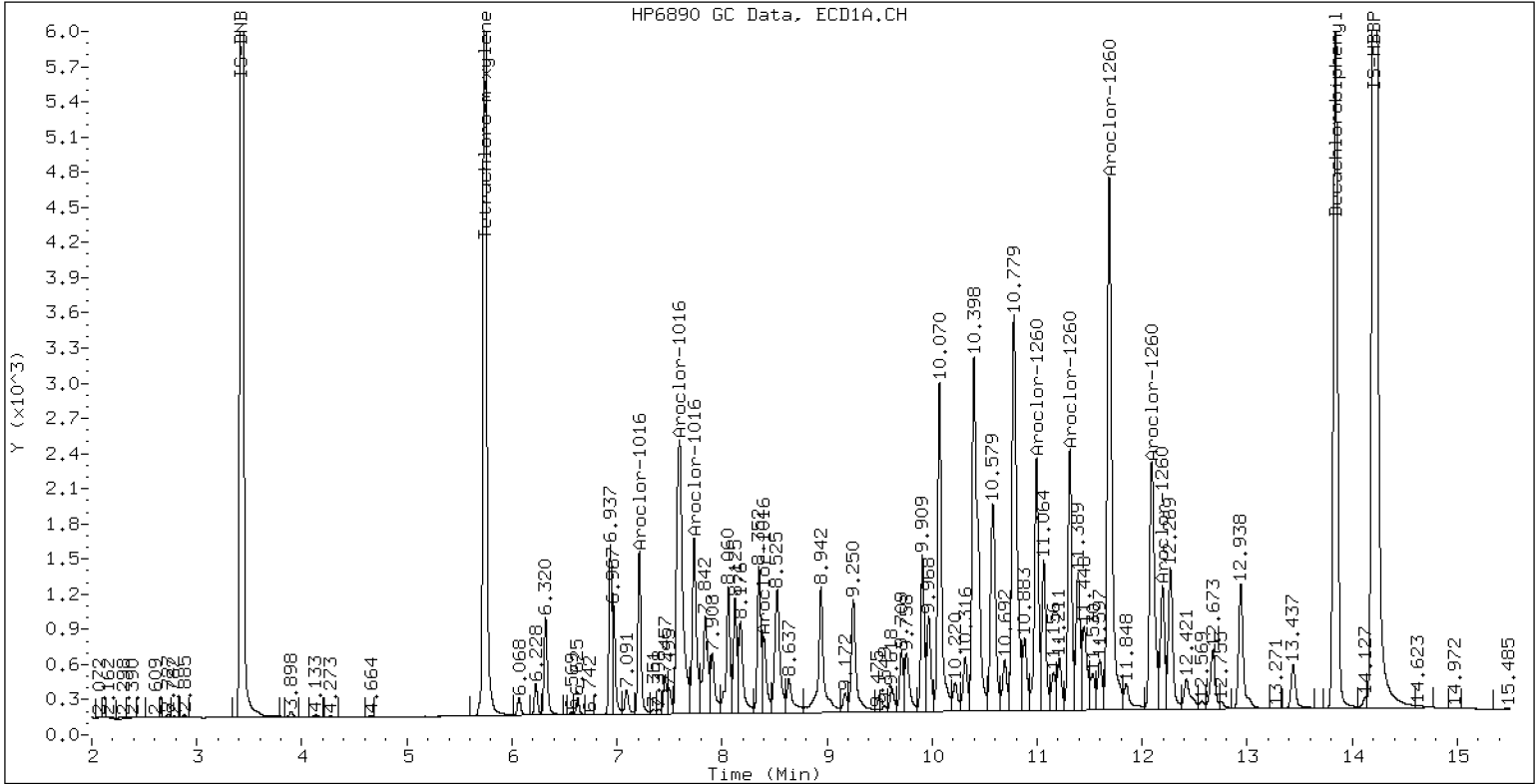
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1660

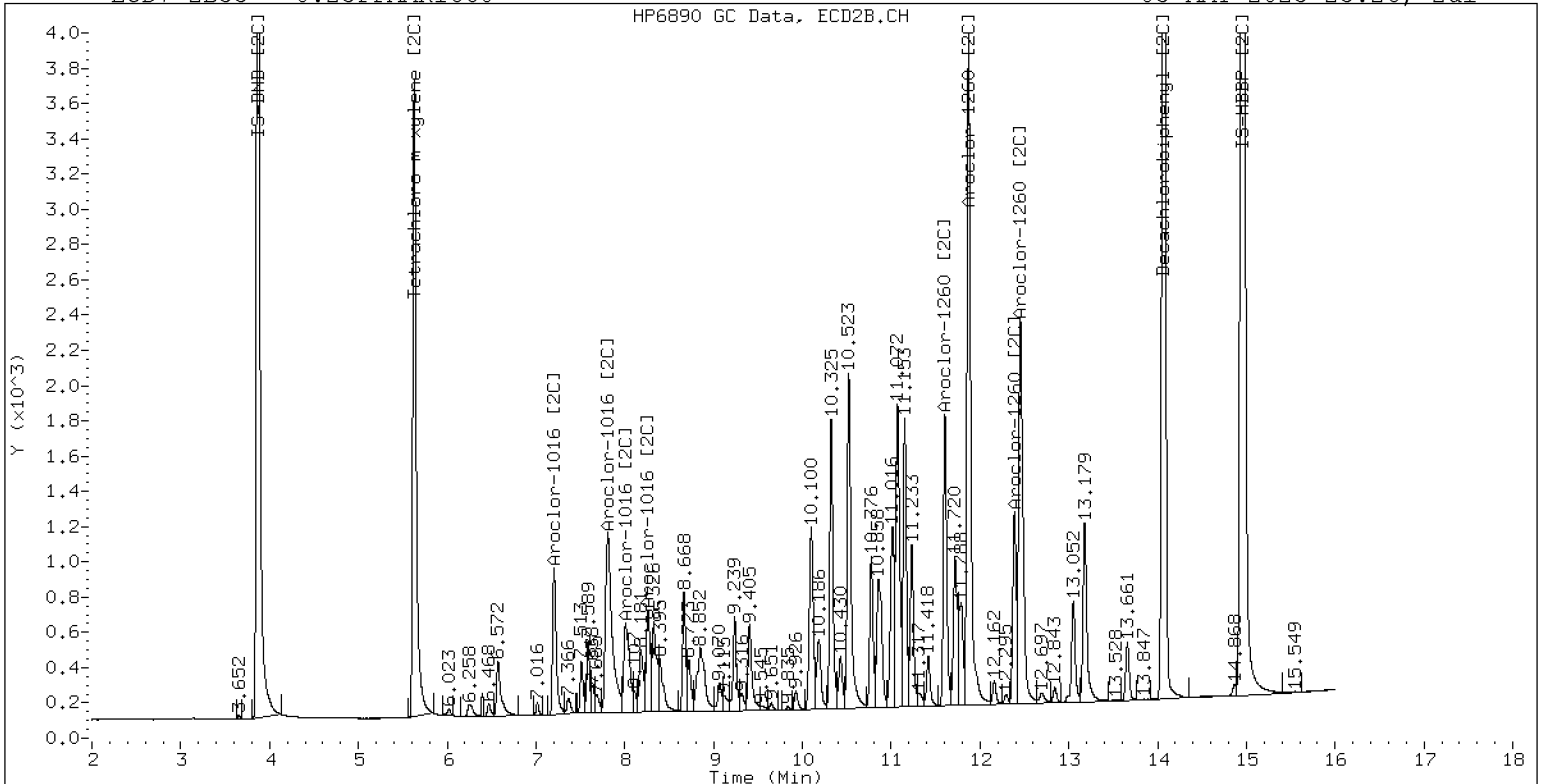
05-MAY-2023 23:26, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1660

05-MAY-2023 23:26, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052322ECD7.D
Data file 2: /230505.b/230505.b/05052322ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.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: 05-MAY-2023 23:47
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	-0.000	28836	5.630	0.002	14779	3.2	3.2	1.4	Tetrachloro-m-xylene
13.843	0.002	31610	14.071	0.002	27131	3.6	2.9	20.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	595544	-1.0
Hexabromobiphenyl	876625	880480	0.4
Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	338730	-3.0
Hexabromobiphenyl	652984	649475	-0.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	0.001	4852	21.0	1	7.206	0.002	4368	22.8
Aroclor-1016	2	7.595	0.001	13075	18.1	2	7.819	0.012	8341	20.4
Aroclor-1016	3	7.737	0.004	6514	19.5	3	8.043	0.038	3708	20.6
Aroclor-1016	4	8.400	0.002	2555	18.6	4	8.261	0.002	3078	21.5
Total CollAve (4 peaks):				19.3		Total Col2Ave (4 peaks):				21.3 RPD = 10
Corrected Ave (3 peaks):				18.8		Corrected Ave (3 peaks):				20.8 RPD = 10
CalAmt %D:				-3.4		CalAmt %D:				6.6
Aroclor-1260	1	10.998	0.005	10082	21.7	1	11.610	0.004	7378	21.4
Aroclor-1260	2	11.316	0.006	9760	21.2	2	11.878	0.006	18318	20.3
Aroclor-1260	3	11.694	0.008	24587	21.4	3	12.392	0.004	4519	20.2
Aroclor-1260	4	12.098	0.008	12018	21.3	4	12.461	0.006	12454	20.7
Aroclor-1260	5	12.198	0.005	5499	22.4	NS	---			----
Total CollAve (5 peaks):				21.6		Total Col2Ave (4 peaks):				20.6 RPD = 4
Corrected Ave (4 peaks):				21.4		Corrected Ave (3 peaks):				20.4 RPD = 5
CalAmt %D:				8.0		CalAmt %D:				3.2

Total PCB Area Coll (5.842 - 13.740) = 294199 Coll Total PCB = 0.0 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 173796 Col2 Total PCB = 0.0 ppm*

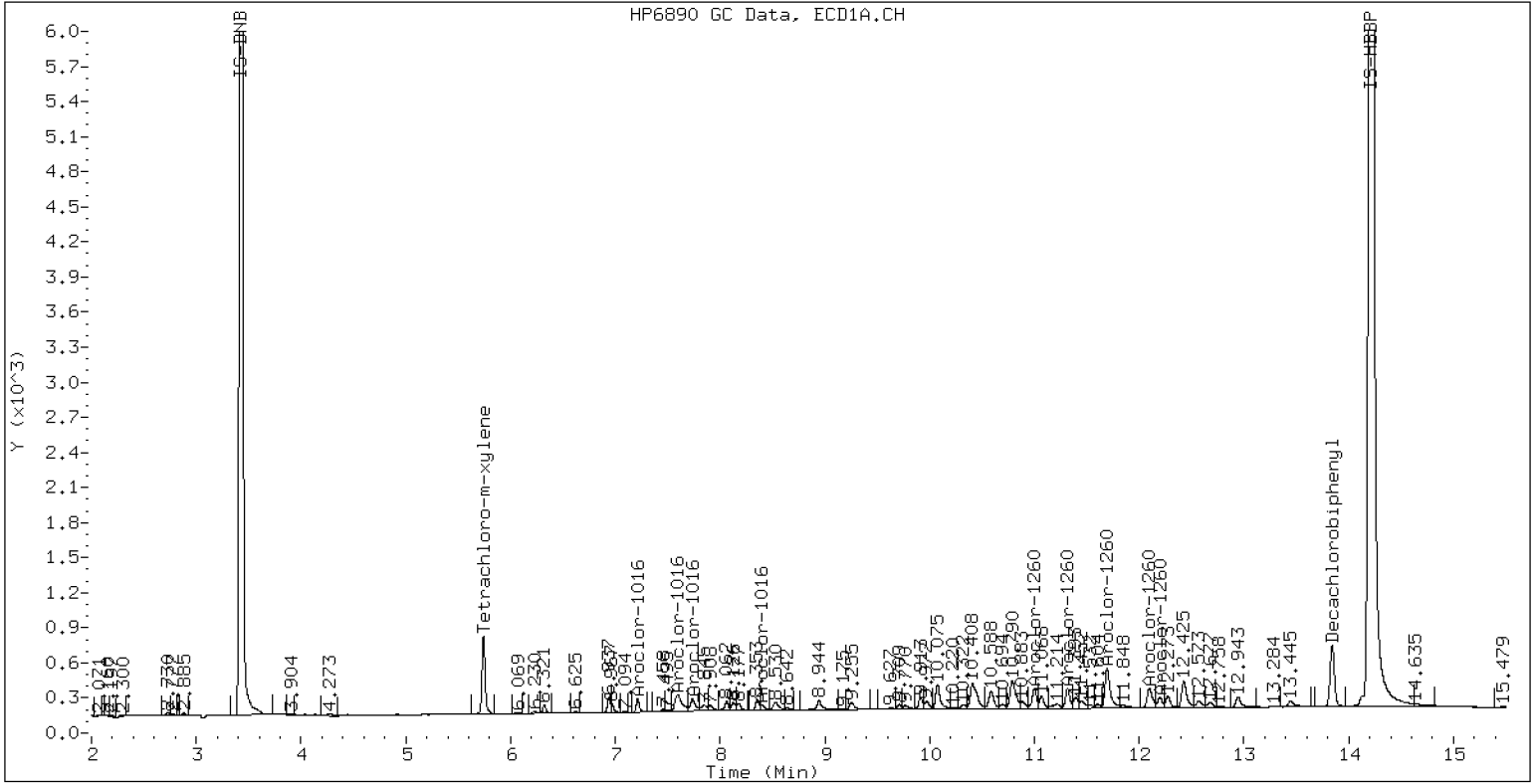
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.02PPMAR1660

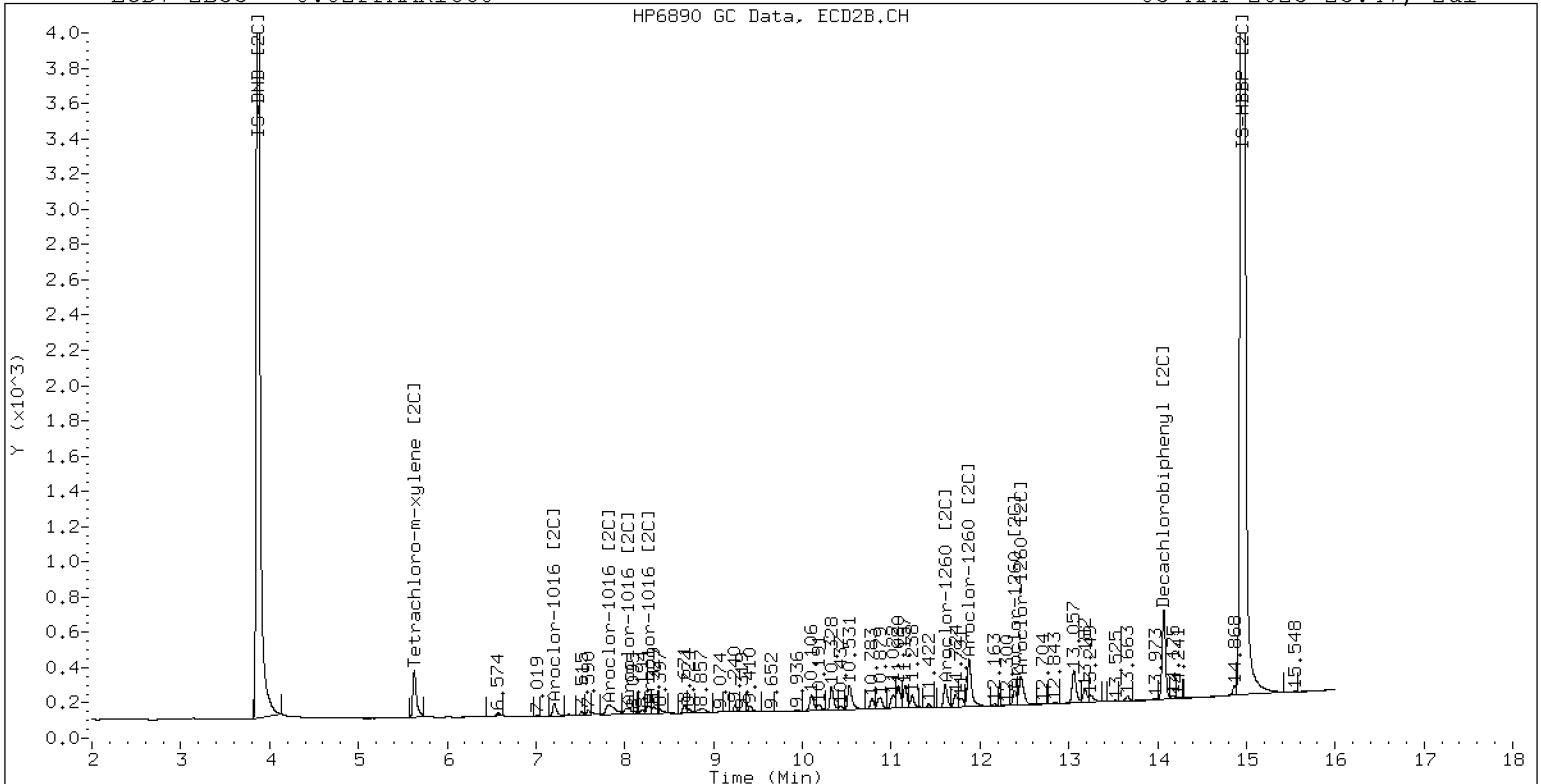
05-MAY-2023 23:47, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.02PPMAR1660

05-MAY-2023 23:47, 2ul

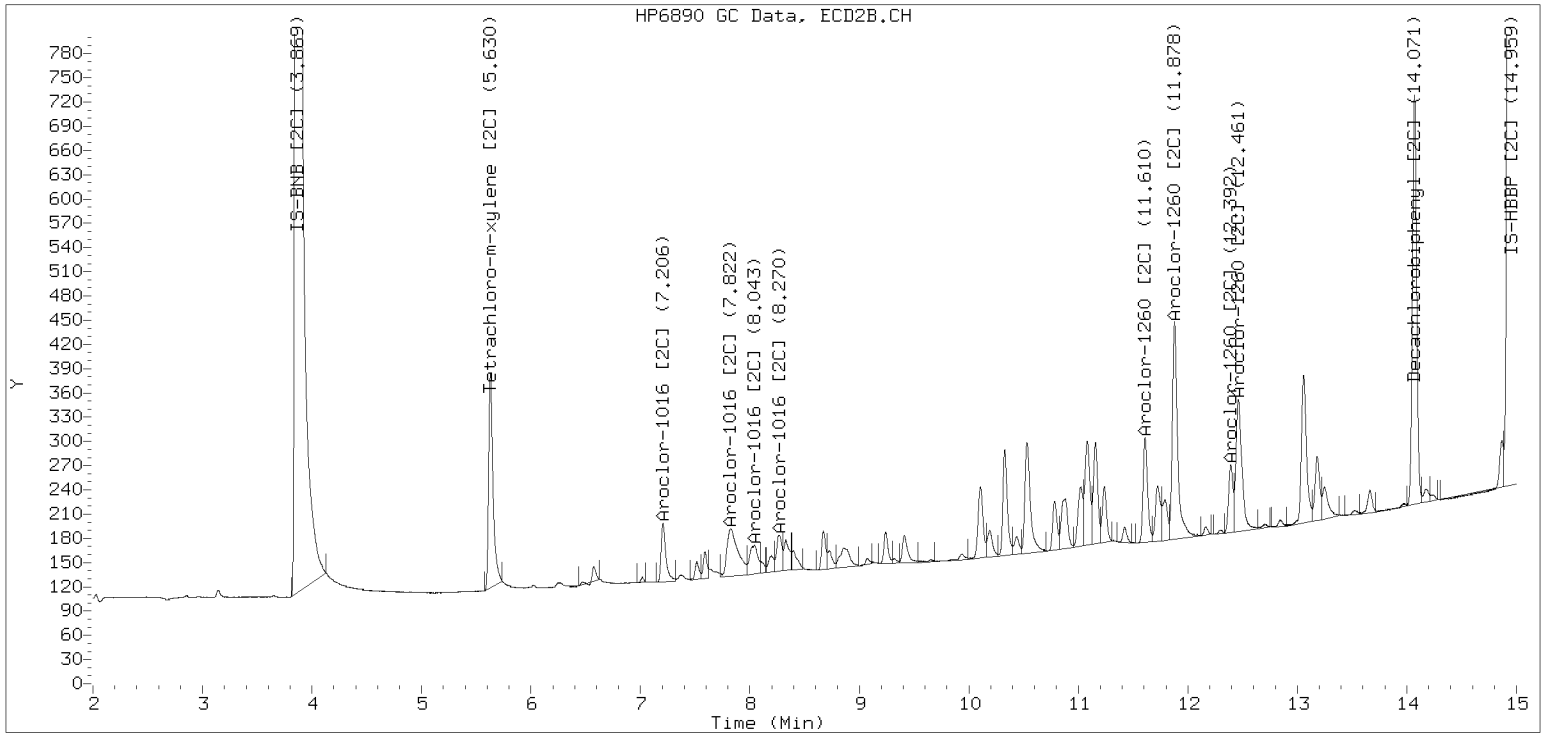


ZB-35 Manual Integration: YES

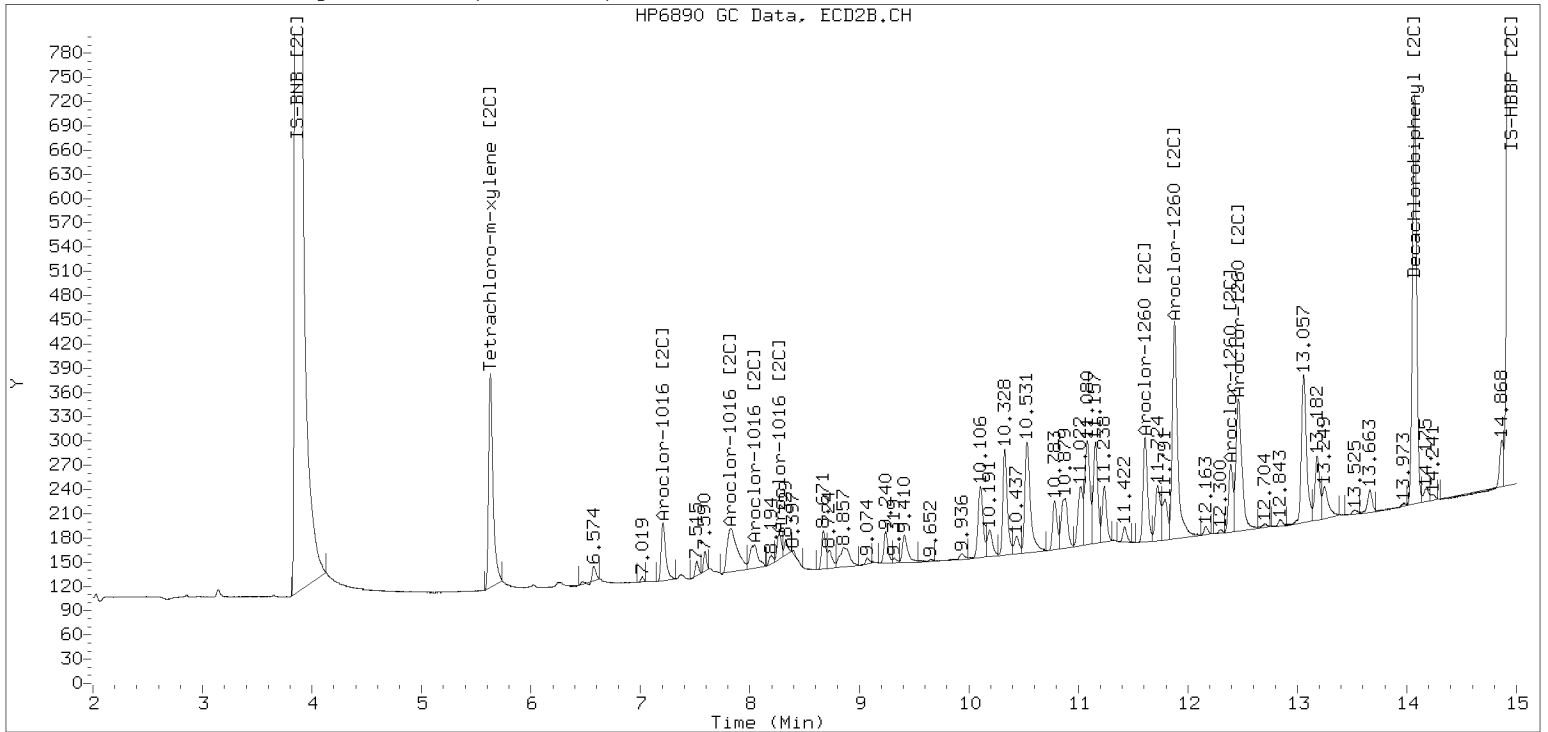
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230505.b/230505.b/05052322ECD7.D Injection Date: 05-MAY-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052323ECD7.D
 Data file 2: /230505.b/230505.b/05052323ECD7.D
 Method: \\target\share\chem4\ecd7.i\230505.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: 06-MAY-2023 00:08
 Report Date: 05/06/2023 11:30
 Matrix: NONE
 Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.741	-0.001	72149	5.630	0.001	37778	7.9	7.8	0.3	Tetrachloro-m-xylene
13.843	0.002	75564	14.070	0.002	71601	8.4	7.6	10.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	610127	1.4
Hexabromobiphenyl	876625	902634	3.0

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	350964	0.5
Hexabromobiphenyl	652984	666660	2.1

* Standard Areas taken from Initial Cal Level 3
 Initial Calibration Date: 05-MAY-2023
 <- 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	7.214	0.001	12303	52.1	1	7.205	0.001	10404	52.4	
Aroclor-1016	2	7.595	0.000	35912	48.6	2	7.821	0.013	20971	49.5	
Aroclor-1016	3	7.736	0.003	18491	54.1	3	8.016	0.010	9788	52.4	
Aroclor-1016	4	8.400	0.002	7326	52.0	4	8.264	0.005	8176	55.1	
Total CollAve (4 peaks):				51.7	Total Col2Ave (4 peaks):				52.4	RPD = 1	
Corrected Ave (3 peaks):				50.9	Corrected Ave (3 peaks):				51.4	RPD = 1	
CalAmt %D:				3.4	CalAmt %D:				4.7		
Aroclor-1260	1	10.998	0.005	23619	49.5	1	11.609	0.003	17805	50.3	
Aroclor-1260	2	11.316	0.006	23213	49.3	2	11.876	0.004	46188	49.9	
Aroclor-1260	3	11.693	0.007	58862	49.9	3	12.391	0.003	11048	48.1	
Aroclor-1260	4	12.096	0.006	28206	48.8	4	12.460	0.004	30586	49.4	
Aroclor-1260	5	12.197	0.004	12672	50.3	NS	---			----	
Total CollAve (5 peaks):				49.6	Total Col2Ave (4 peaks):				49.4	RPD = 0	
Corrected Ave (4 peaks):				49.4	Corrected Ave (3 peaks):				49.2	RPD = 0	
CalAmt %D:				-0.9	CalAmt %D:				-1.1		

Total PCB Area Coll (5.842 - 13.740) = 697433 Coll Total PCB = 0.1 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 429325 Col2 Total PCB = 0.1 ppm*

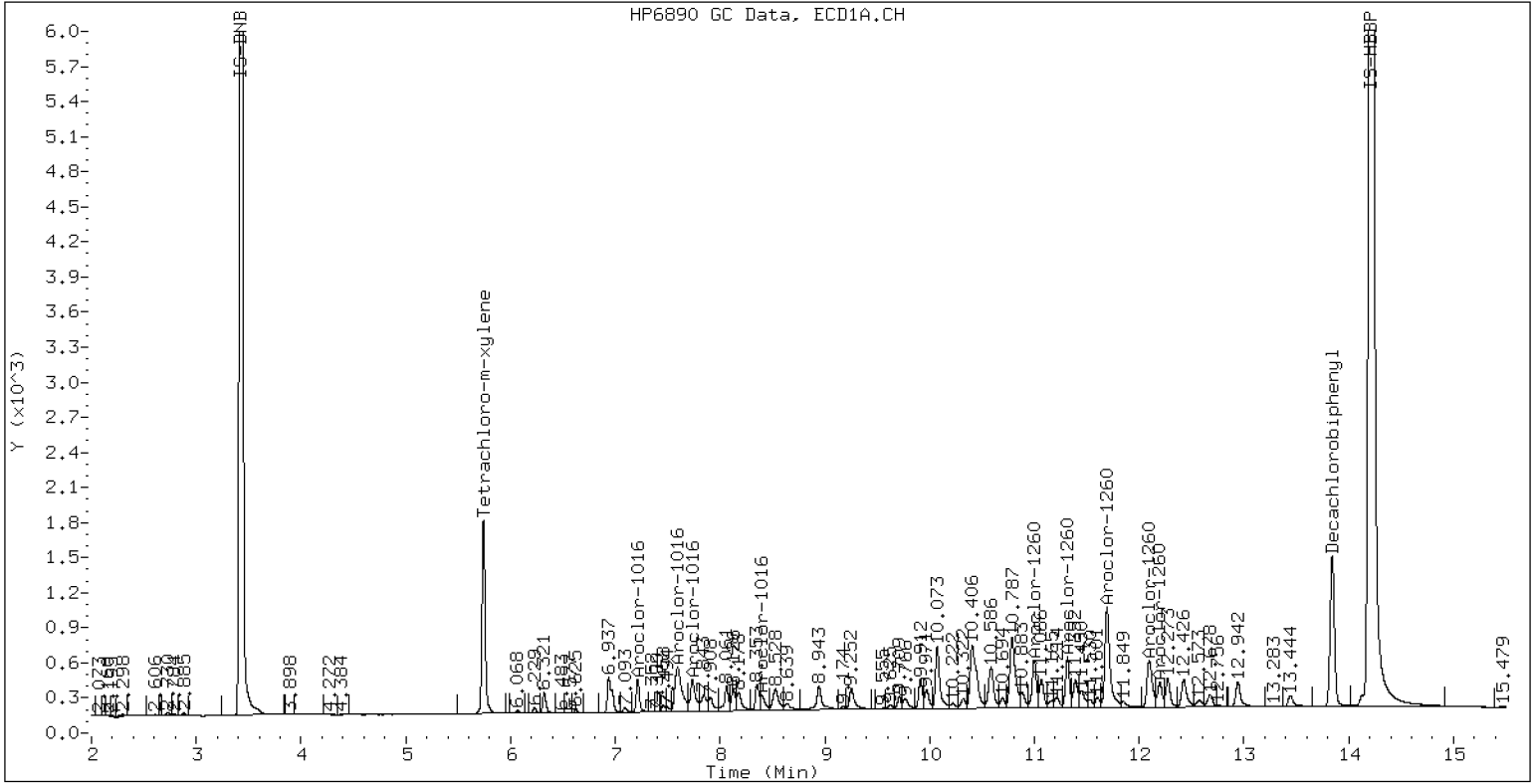
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.05PPMAR1660

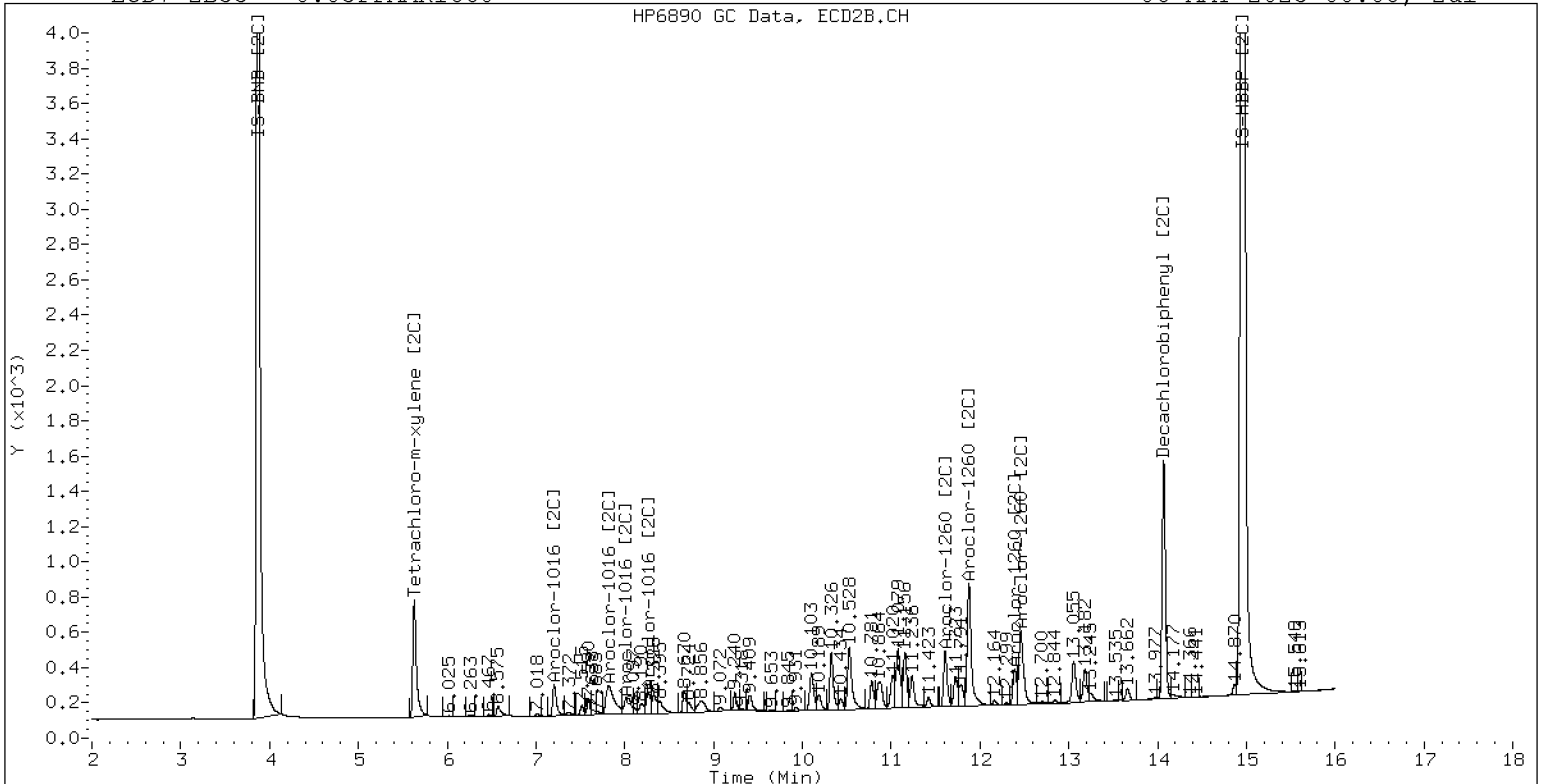
06-MAY-2023 00:08, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.05PPMAR1660

06-MAY-2023 00:08, 2ul

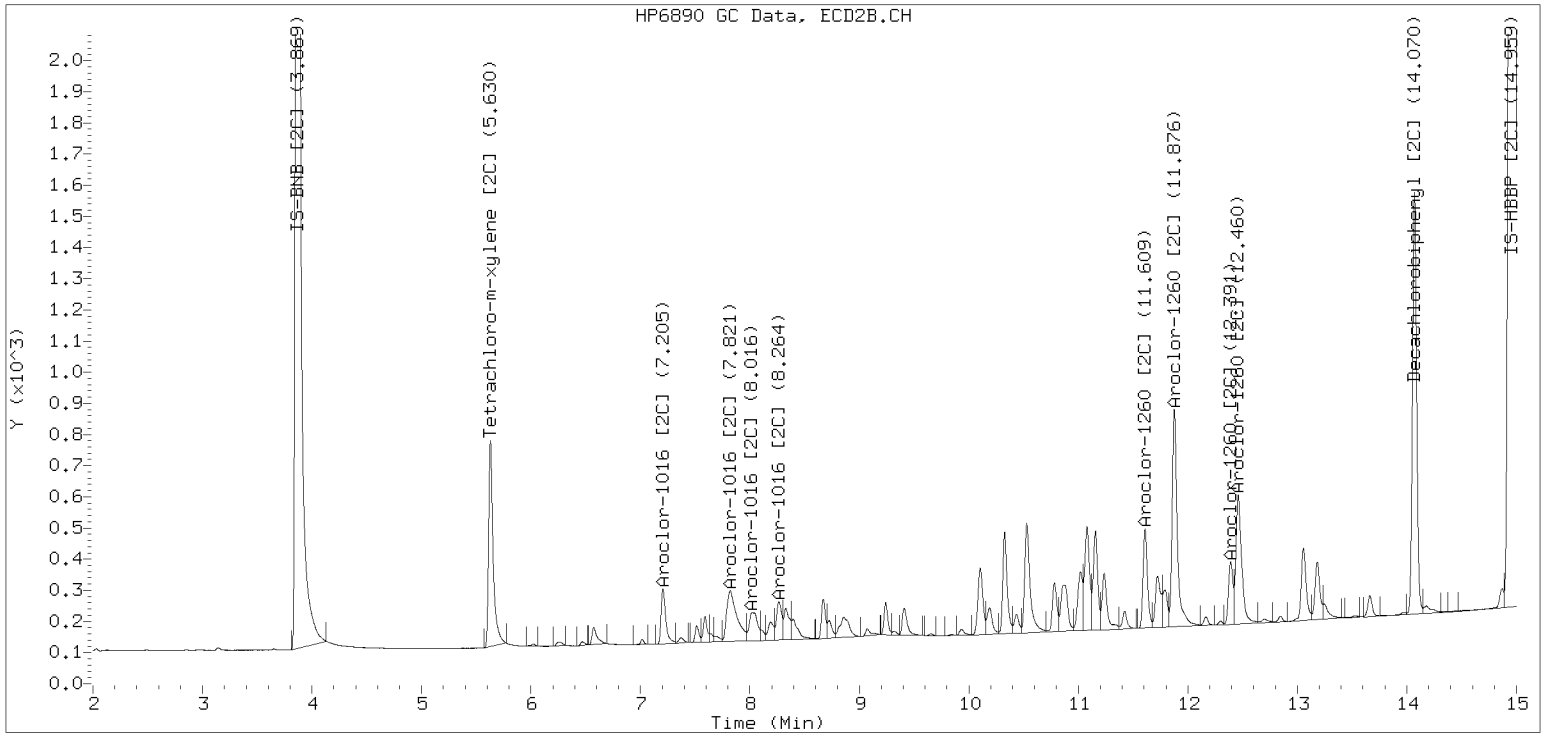


ZB-35 Manual Integration: YES

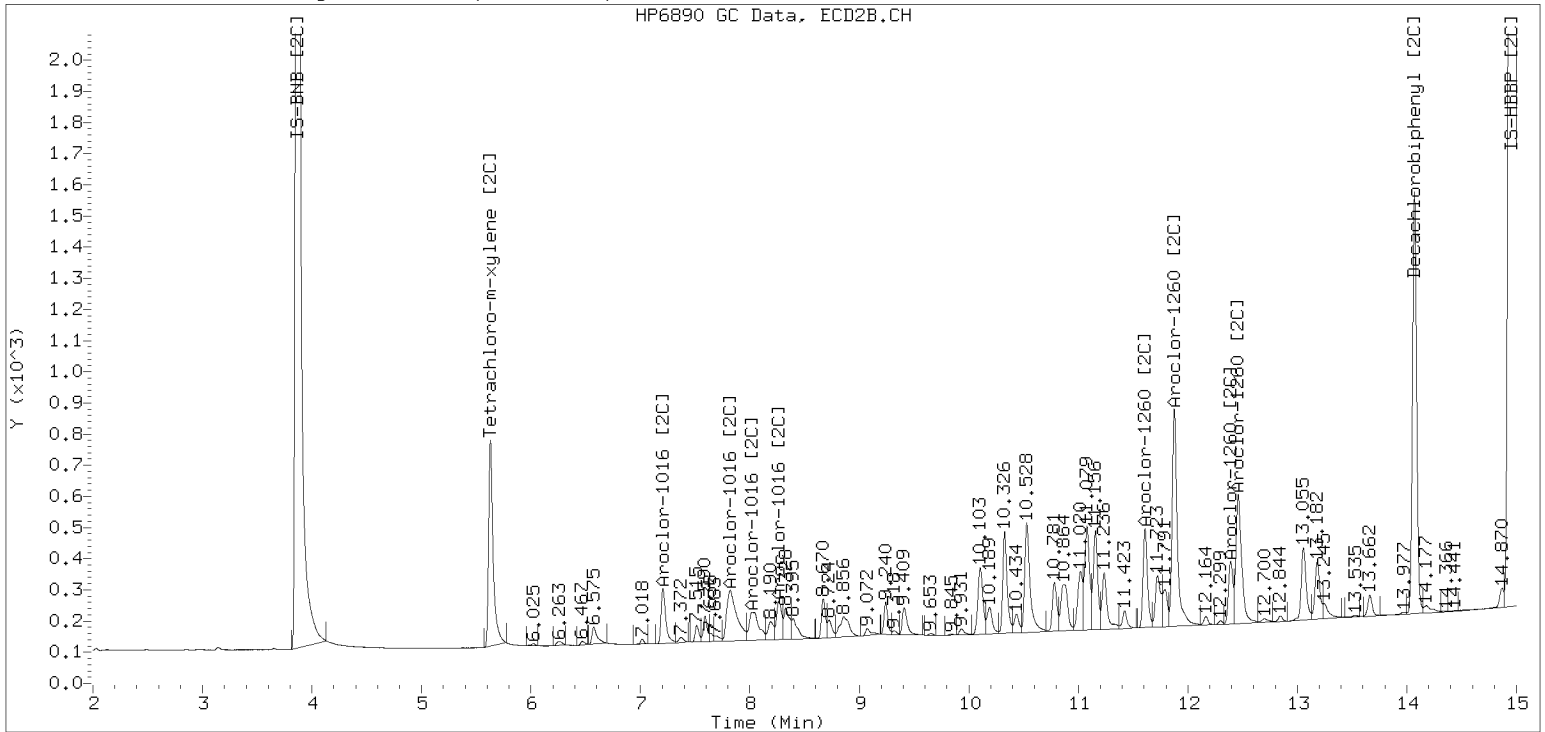
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230505.b/230505.b/05052323ECD7.D Injection Date: 06-MAY-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052324ECD7.D
 Data file 2: /230505.b/230505.b/05052324ECD7.D
 Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
 Compound Sublist: AR1660.sub
 Instrument, Inj. Vol.: ecd7.i, 2ul
 Quant Method: Internal Std

ARI ID: 1.0PPMAR1660
 Client ID:
 Injection Date: 06-MAY-2023 00:29
 Report Date: 05/06/2023 11:30
 Matrix: NONE
 Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.746	0.004	1354956	5.627	-0.001	709704	151.5	152.0	0.4	Tetrachloro-m-xylene
13.842	0.002	1208957	14.071	0.002	1442827	141.2	159.2	12.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	594005	-1.2
Hexabromobiphenyl	876625	857318	-2.2

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	339380	-2.8
Hexabromobiphenyl	652984	638394	-2.2

* Standard Areas taken from Initial Cal Level 3
 Initial Calibration Date: 05-MAY-2023
 <- 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	7.213	0.000	192466	836.8	1	7.203	-0.001	161296	839.6
Aroclor-1016	2	7.595	0.000	687116	955.4	2	7.804	-0.003	383432	936.5
Aroclor-1016	3	7.732	-0.000	284089	854.4	3	8.002	-0.003	161269	893.1
Aroclor-1016	4	8.397	-0.001	121539	886.0	4	8.257	-0.002	118708	827.5
Total CollAve (4 peaks):				883.2		Total Col2Ave (4 peaks):				874.2 RPD = 1
Corrected Ave (3 peaks):				859.1		Corrected Ave (3 peaks):				853.4 RPD = 1
CalAmt %D:				-11.7		CalAmt %D:				-12.6
Aroclor-1260	1	10.992	-0.001	410905	906.4	1	11.604	-0.002	304531	898.2
Aroclor-1260	2	11.309	-0.001	410553	917.6	2	11.869	-0.003	813835	917.7
Aroclor-1260	3	11.683	-0.003	1014157	905.1	3	12.387	-0.001	218887	996.0
Aroclor-1260	4	12.087	-0.003	505824	921.7	4	12.453	-0.003	543988	918.3
Aroclor-1260	5	12.193	-0.001	212396	887.6	NS	---			----
Total CollAve (5 peaks):				907.7		Total Col2Ave (4 peaks):				932.6 RPD = 3
Corrected Ave (4 peaks):				904.2		Corrected Ave (3 peaks):				911.4 RPD = 1
CalAmt %D:				-9.2		CalAmt %D:				-6.7

Total PCB Area Coll (5.842 - 13.740) = 11665793 Coll Total PCB = 1.8 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 7382788 Col2 Total PCB = 1.8 ppm*

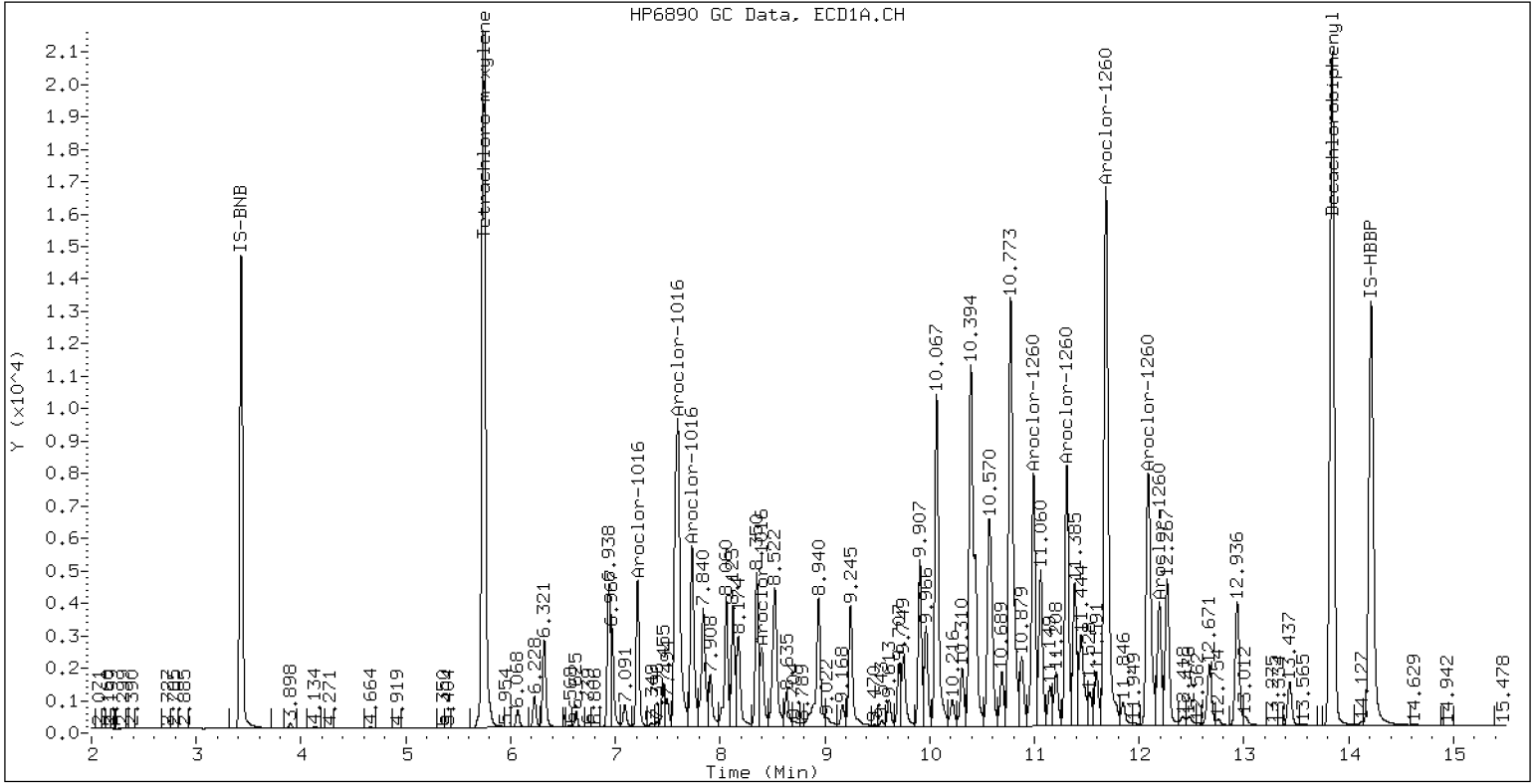
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 1.0PPMAR1660

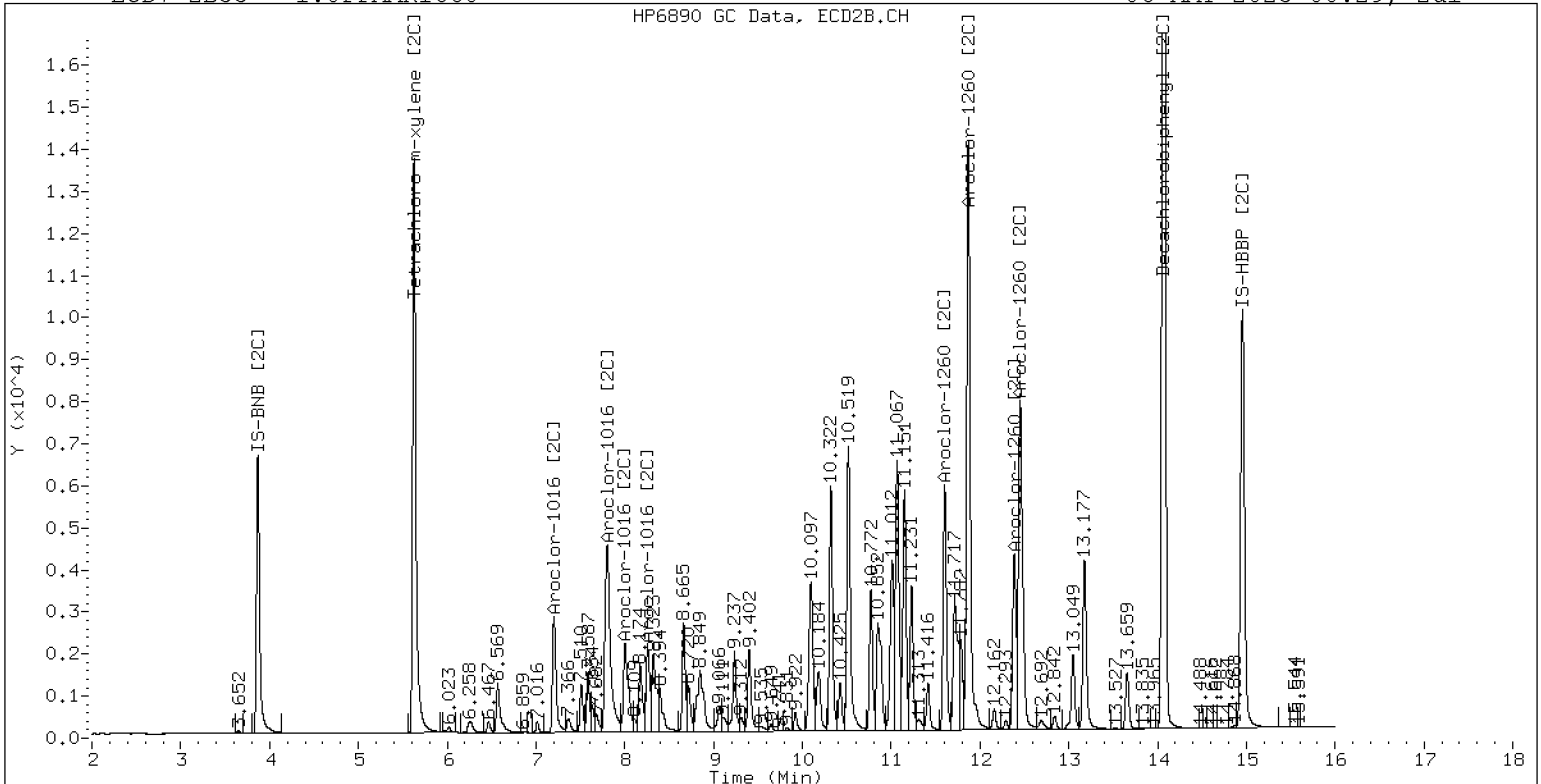
06-MAY-2023 00:29, 2u1



ZB-5 Manual Integration: NO

ECD7-ZB35 1.0PPMAR1660

06-MAY-2023 00:29, 2u1



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052325ECD7.D
Data file 2: /230505.b/230505.b/05052325ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.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: 06-MAY-2023 00:50
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col		ZB5	ZB35	RPD	Compound/Flag	
RT	Shift Response	RT	Shift Response	on col	on col			
5.741	-0.001	166260	0.000	87721	17.3	17.2	0.5	Tetrachloro-m-xylene
13.841	0.000	162151	0.001	170994	17.0	17.2	1.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	639496	6.3
Hexabromobiphenyl	876625	955499	9.0

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	371294	6.3
Hexabromobiphenyl	652984	700767	7.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.212	-0.000	27672	111.8	1	7.204	0.000	22585	107.5
Aroclor-1016	2	7.595	0.000	84096	108.6	2	7.815	0.008	47261	105.5
Aroclor-1016	3	7.735	0.002	40718	113.8	3	8.012	0.007	21450	108.6
Aroclor-1016	4	8.399	0.001	17000	115.1	4	8.262	0.003	17337	110.5
Total CollAve (4 peaks):				112.3		Total Col2Ave (4 peaks):				108.0 RPD = 4
Corrected Ave (3 peaks):				111.4		Corrected Ave (3 peaks):				107.2 RPD = 4
CalAmt %D:				12.3		CalAmt %D:				8.0
Aroclor-1260	1	10.995	0.002	53621	106.1	1	11.608	0.002	39451	106.0
Aroclor-1260	2	11.313	0.003	53001	106.3	2	11.874	0.002	104406	107.3
Aroclor-1260	3	11.690	0.004	132765	106.3	3	12.391	0.003	24449	101.4
Aroclor-1260	4	12.093	0.003	64276	105.1	4	12.457	0.002	68859	105.9
Aroclor-1260	5	12.196	0.003	28307	106.1	NS	---			----
Total CollAve (5 peaks):				106.0		Total Col2Ave (4 peaks):				105.1 RPD = 1
Corrected Ave (4 peaks):				105.9		Corrected Ave (3 peaks):				104.4 RPD = 1
CalAmt %D:				6.0		CalAmt %D:				5.1

Total PCB Area Coll (5.842 - 13.740) = 1580756 Coll Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 950746 Col2 Total PCB = 0.2 ppm*

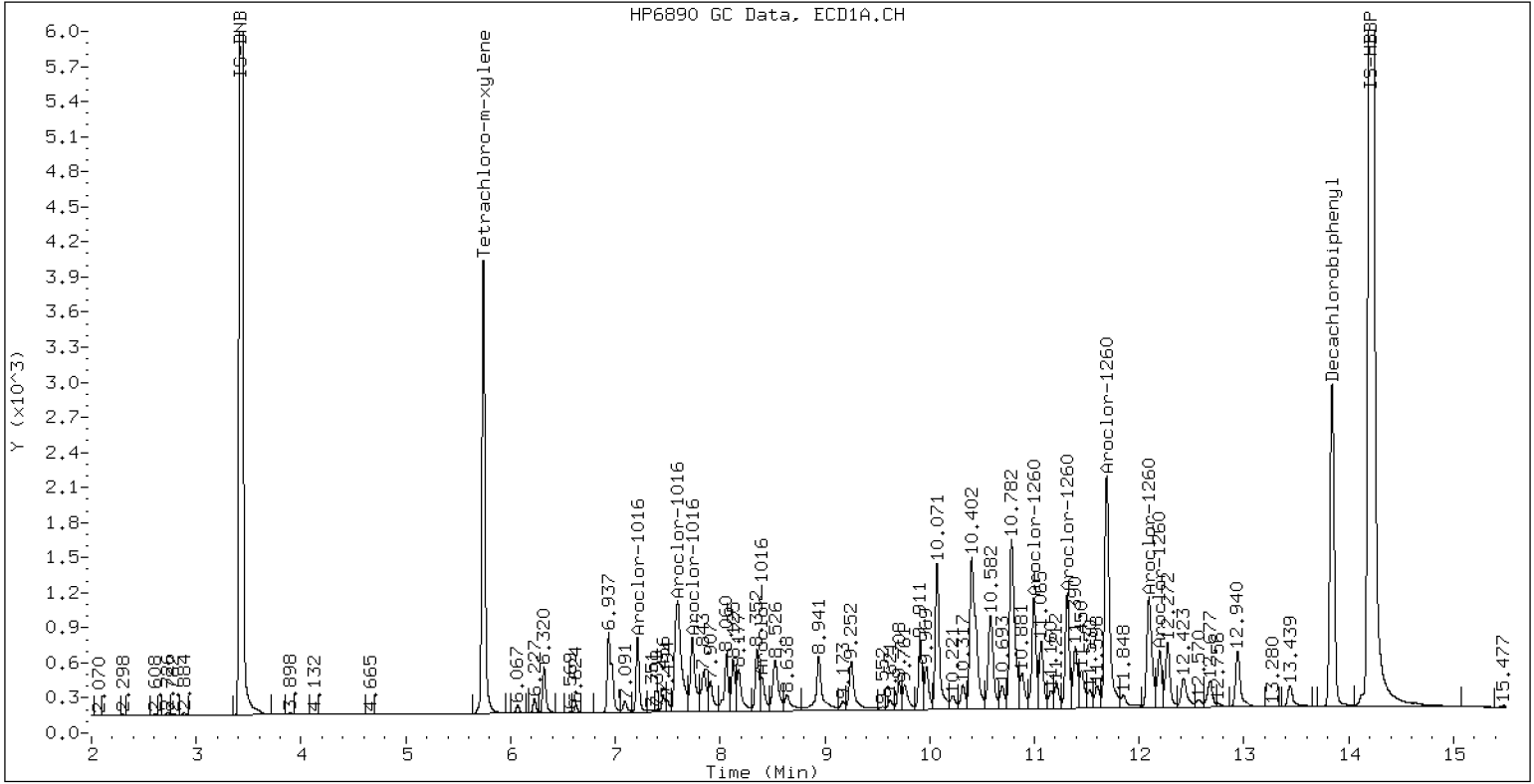
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.1PPMAR1660

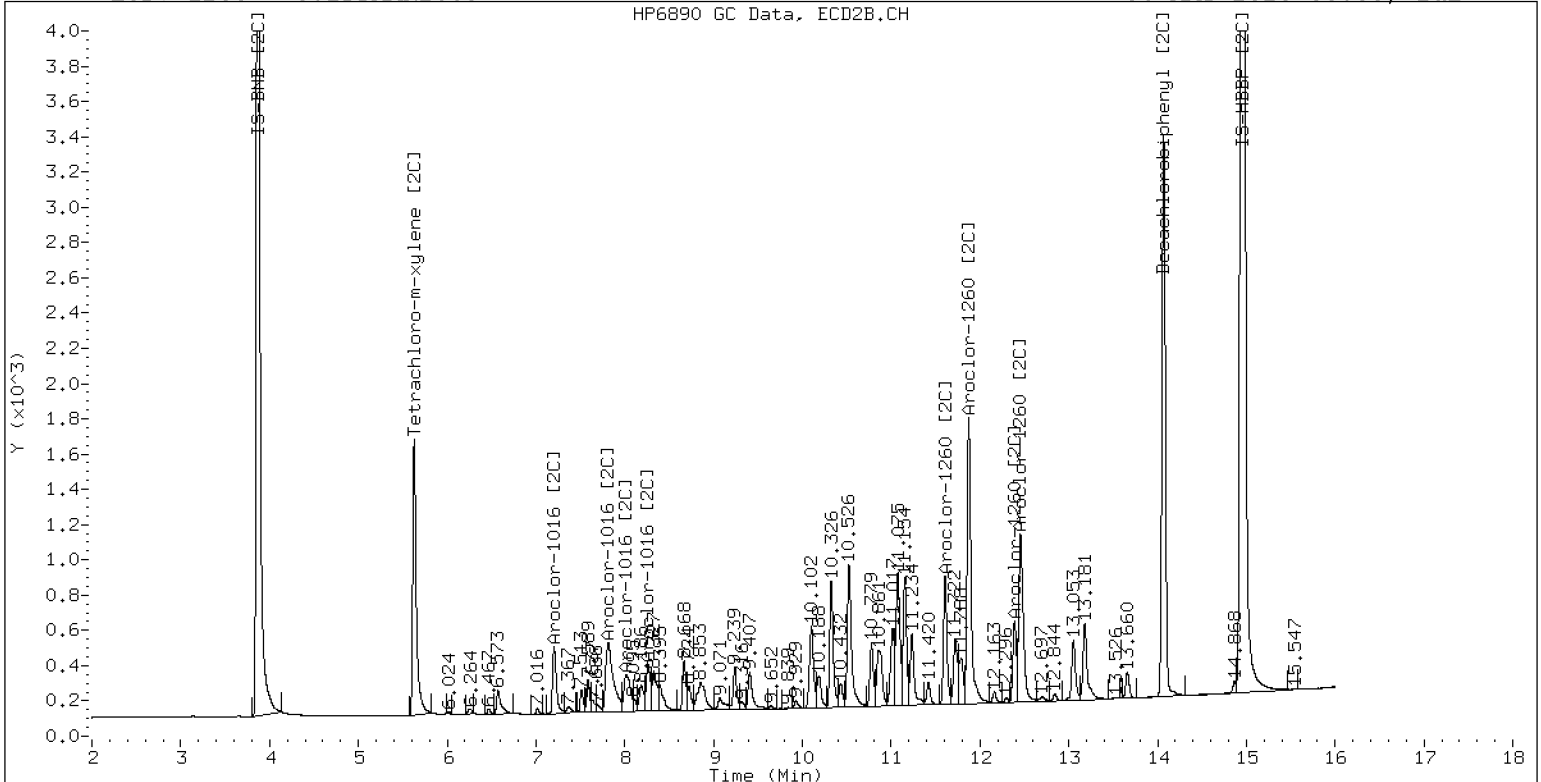
06-MAY-2023 00:50, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.1PPMAR1660

06-MAY-2023 00:50, 2ul

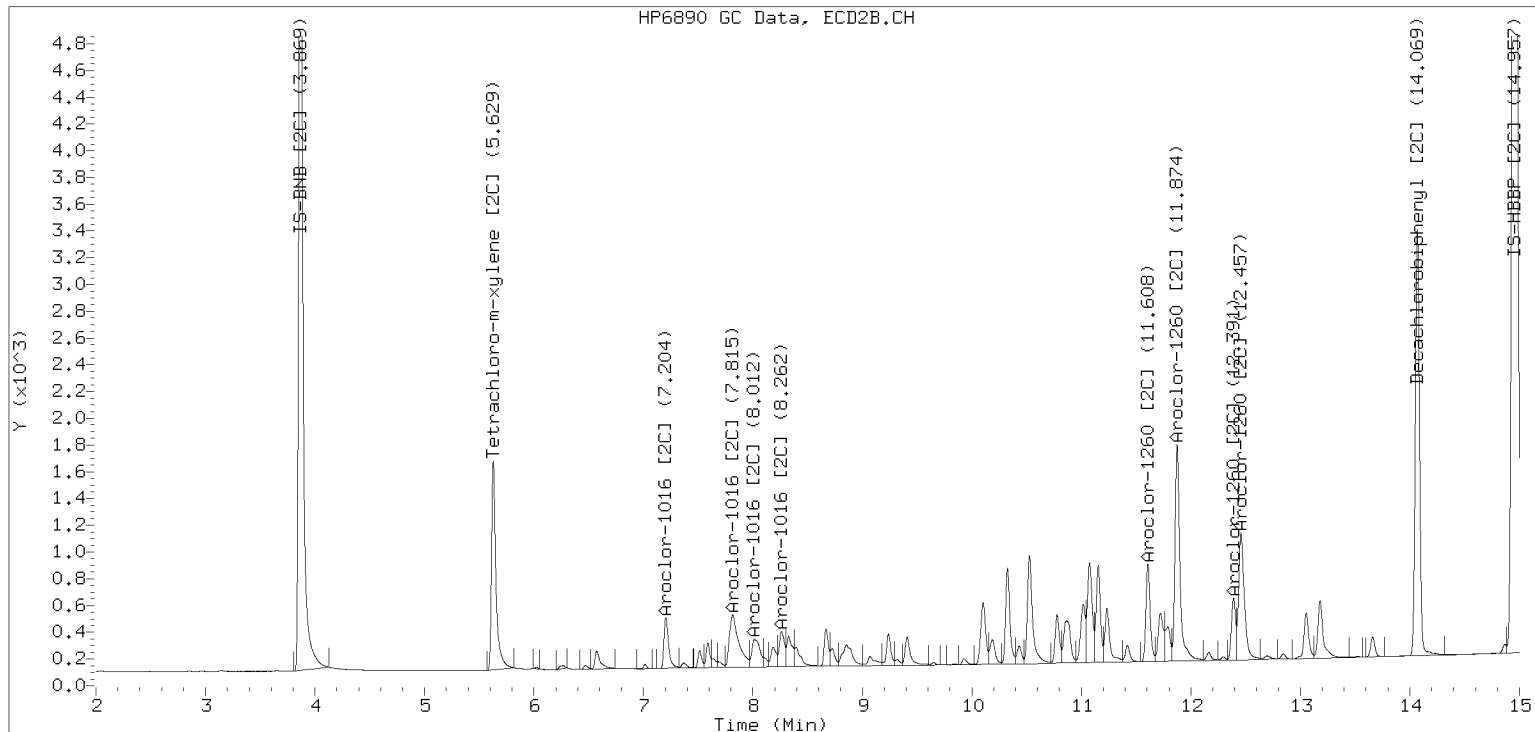


ZB-35 Manual Integration: YES

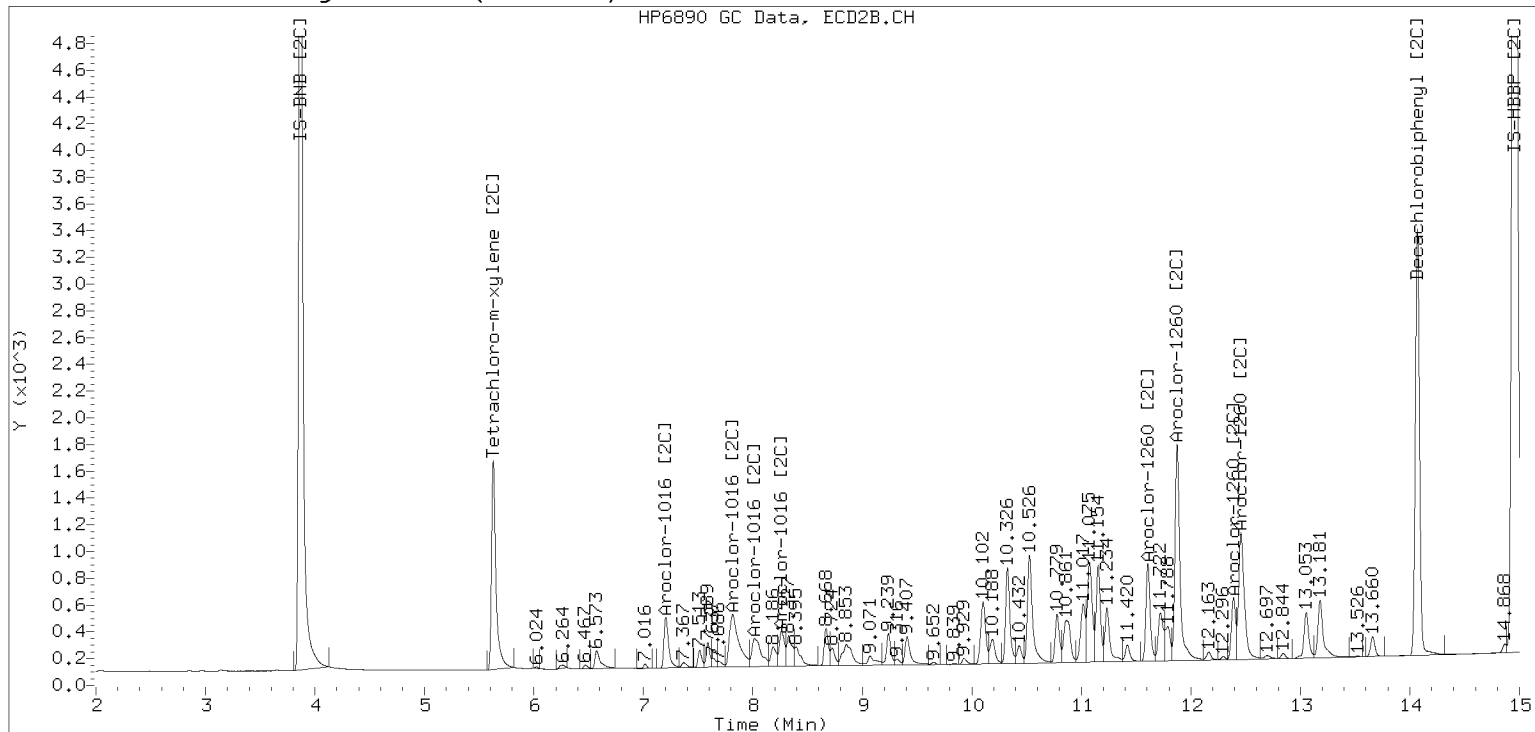
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230505.b/230505.b/05052325ECD7.D Injection Date: 06-MAY-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052326ECD7.D
 Data file 2: /230505.b/230505.b/05052326ECD7.D
 Method: \\target\share\chem4\ecd7.i\230505.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: 06-MAY-2023 01:11
 Report Date: 05/06/2023 11:30
 Matrix: NONE
 Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.743	0.001	726106	5.629	0.000	386361	77.6	78.4	1.0	Tetrachloro-m-xylene
13.842	0.002	662159	14.070	0.002	782852	72.8	82.0	11.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	621250	3.3
Hexabromobiphenyl	876625	910647	3.9

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	358174	2.5
Hexabromobiphenyl	652984	672444	3.0

* Standard Areas taken from Initial Cal Level 3
 Initial Calibration Date: 05-MAY-2023
 <- 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	7.212	0.000	112948	469.5	1	7.204	0.000	93114	459.2	
Aroclor-1016	2	7.594	0.000	385708	512.8	2	7.808	0.000	213293	493.6	
Aroclor-1016	3	7.733	0.000	163263	469.5	3	8.006	0.000	90569	475.2	
Aroclor-1016	4	8.398	0.000	69235	482.6	4	8.259	0.000	69045	456.1	
Total CollAve (4 peaks):				483.6		Total Col2Ave (4 peaks):				471.0	RPD = 3
Corrected Ave (3 peaks):				473.9		Corrected Ave (3 peaks):				463.5	RPD = 2

CalAmt %D: -3.3

CalAmt %D: -5.8

Aroclor-1260	1	10.993	0.000	231157	480.0	1	11.606	0.000	171304	479.7	
Aroclor-1260	2	11.310	0.000	230103	484.2	2	11.872	0.000	454515	486.6	
Aroclor-1260	3	11.686	0.000	571583	480.2	3	12.388	0.000	116621	503.8	
Aroclor-1260	4	12.090	0.000	284345	487.8	4	12.455	0.000	305334	489.3	
Aroclor-1260	5	12.193	0.000	119534	470.3	NS	---			----	
Total CollAve (5 peaks):				480.5		Total Col2Ave (4 peaks):				489.8	RPD = 2
Corrected Ave (4 peaks):				478.7		Corrected Ave (3 peaks):				485.2	RPD = 1

CalAmt %D: -3.9

CalAmt %D: -2.0

Total PCB Area Coll (5.842 - 13.740) = 6615607 Coll Total PCB = 1.0 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 4121423 Col2 Total PCB = 1.0 ppm*

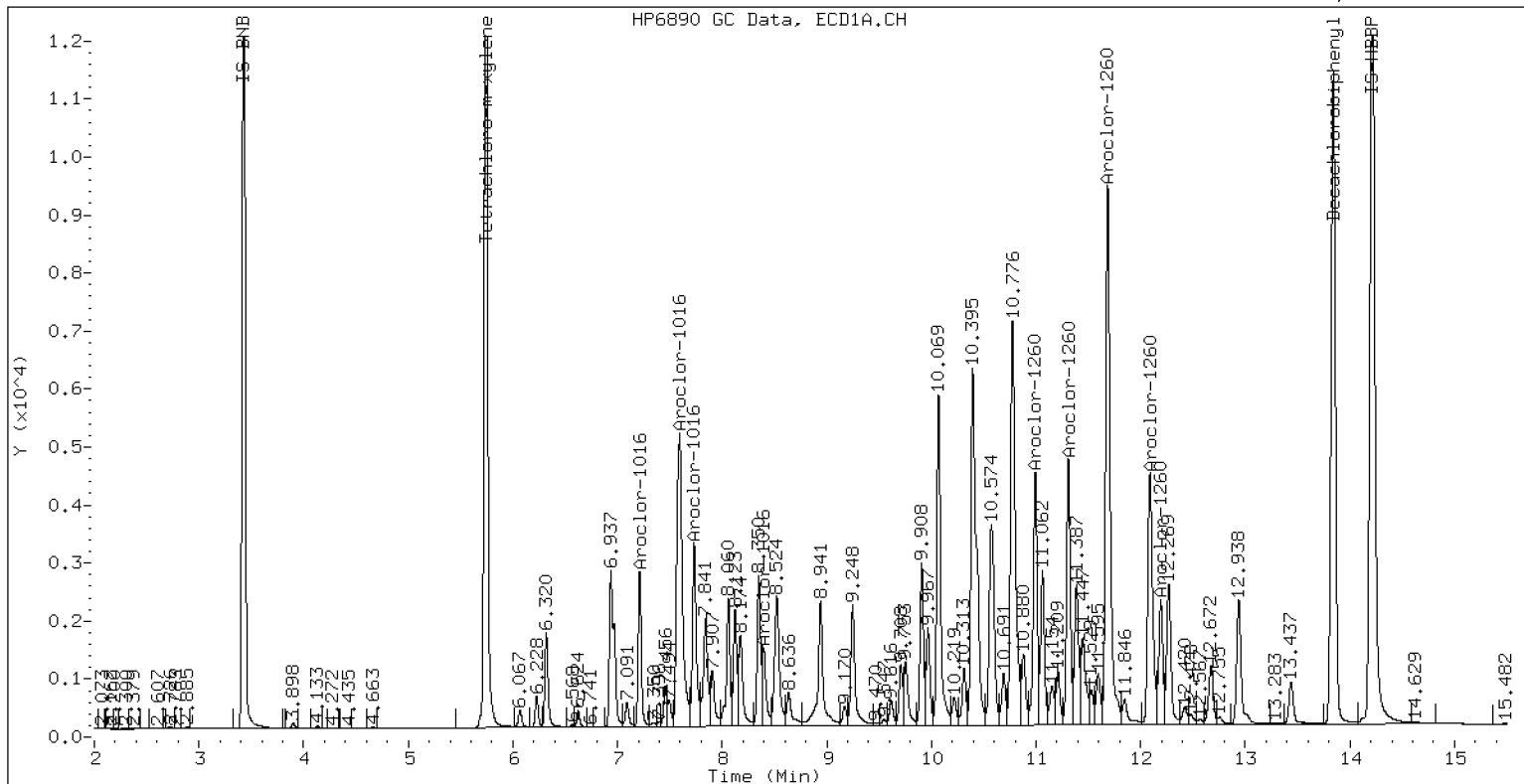
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.5PPMAR1660

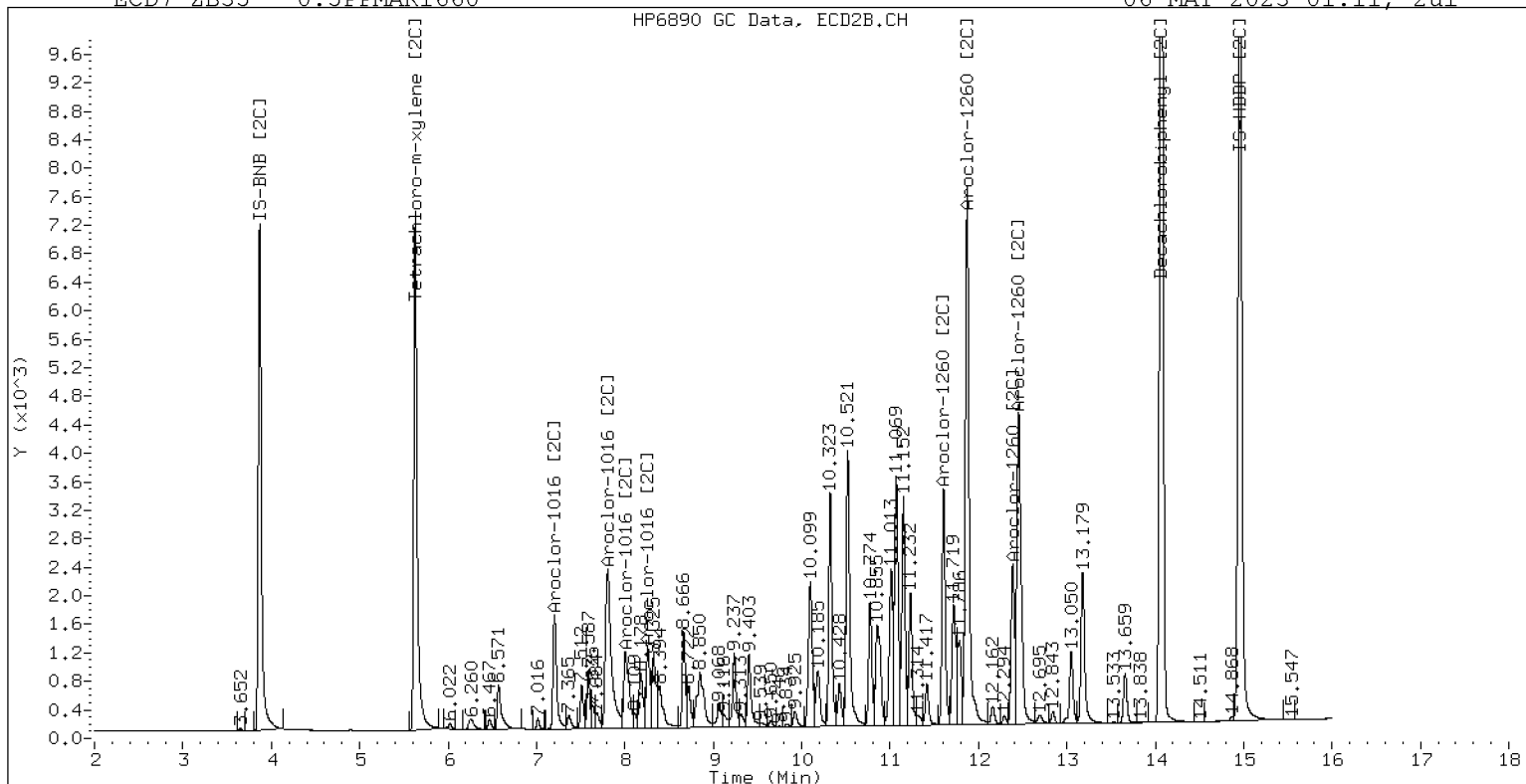
06-MAY-2023 01:11, 2u1



ZB-5 Manual Integration: NO

ECD7-ZB35 0.5PPMAR1660

06-MAY-2023 01:11, 2u1



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052327ECD7.D
Data file 2: /230505.b/230505.b/05052327ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1242
Client ID:
Injection Date: 06-MAY-2023 01:31
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	-0.000	447397	5.627	-0.001	235808	47.5	47.6	0.3	Tetrachloro-m-xylene
13.842	0.001	336070	14.068	0.000	375985	36.4	38.8	6.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	625349	4.0
Hexabromobiphenyl	876625	923197	5.3

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	359808	3.0
Hexabromobiphenyl	652984	683116	4.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1242	1	7.212	0.000	49262	250.0	1	7.203	0.000	40200	250.0
Aroclor-1242	2	7.595	0.000	156103	250.0	2	7.812	0.000	85524	250.0
Aroclor-1242	3	8.398	0.000	30193	250.0	3	9.123	0.000	27418	250.0
Aroclor-1242	4	8.525	0.000	69876	250.0	4	9.550	0.000	33043	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 (5.842 - 13.740) = 1203666 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 643088 Col2 Total PCB = 0.1 ppm*

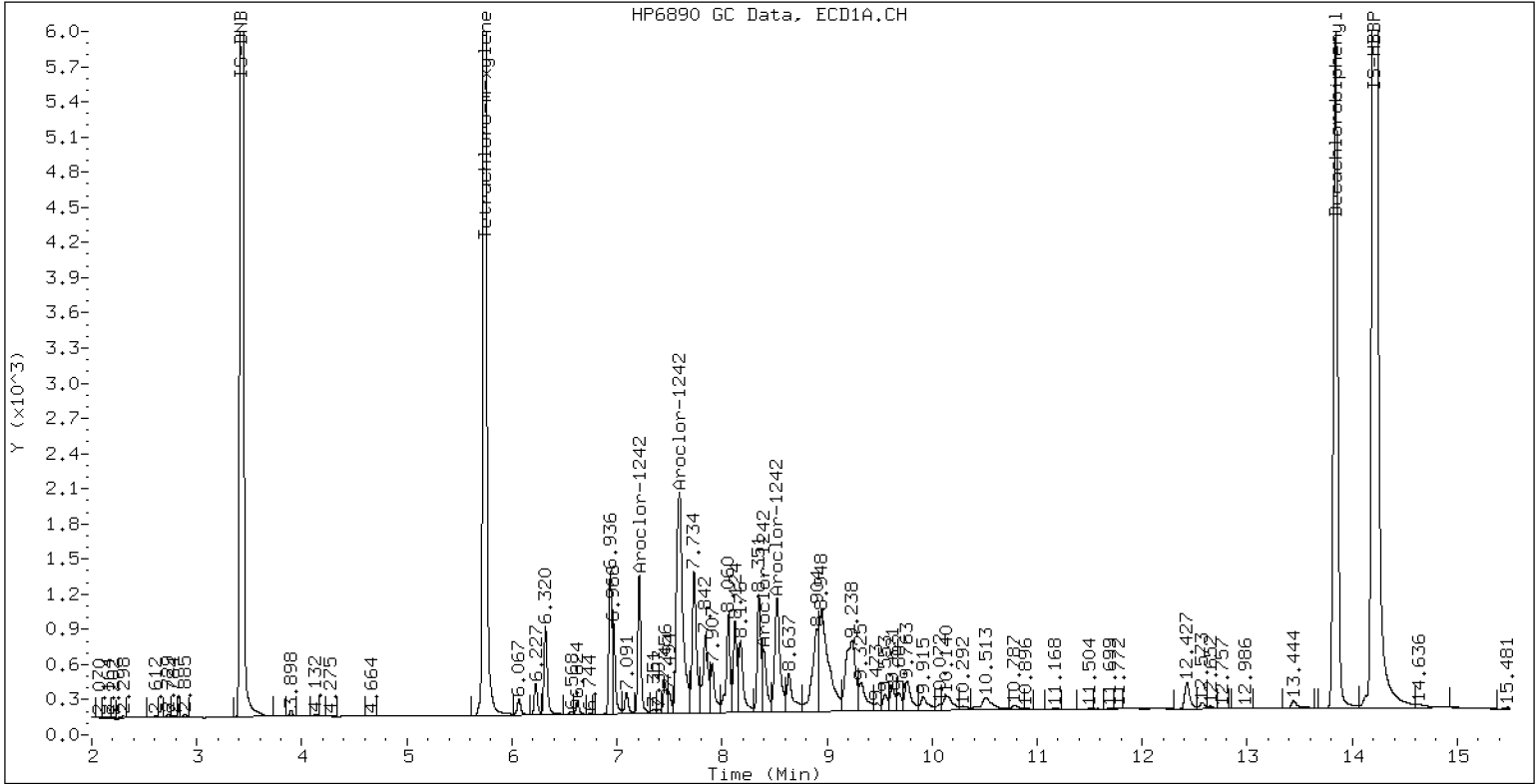
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1242

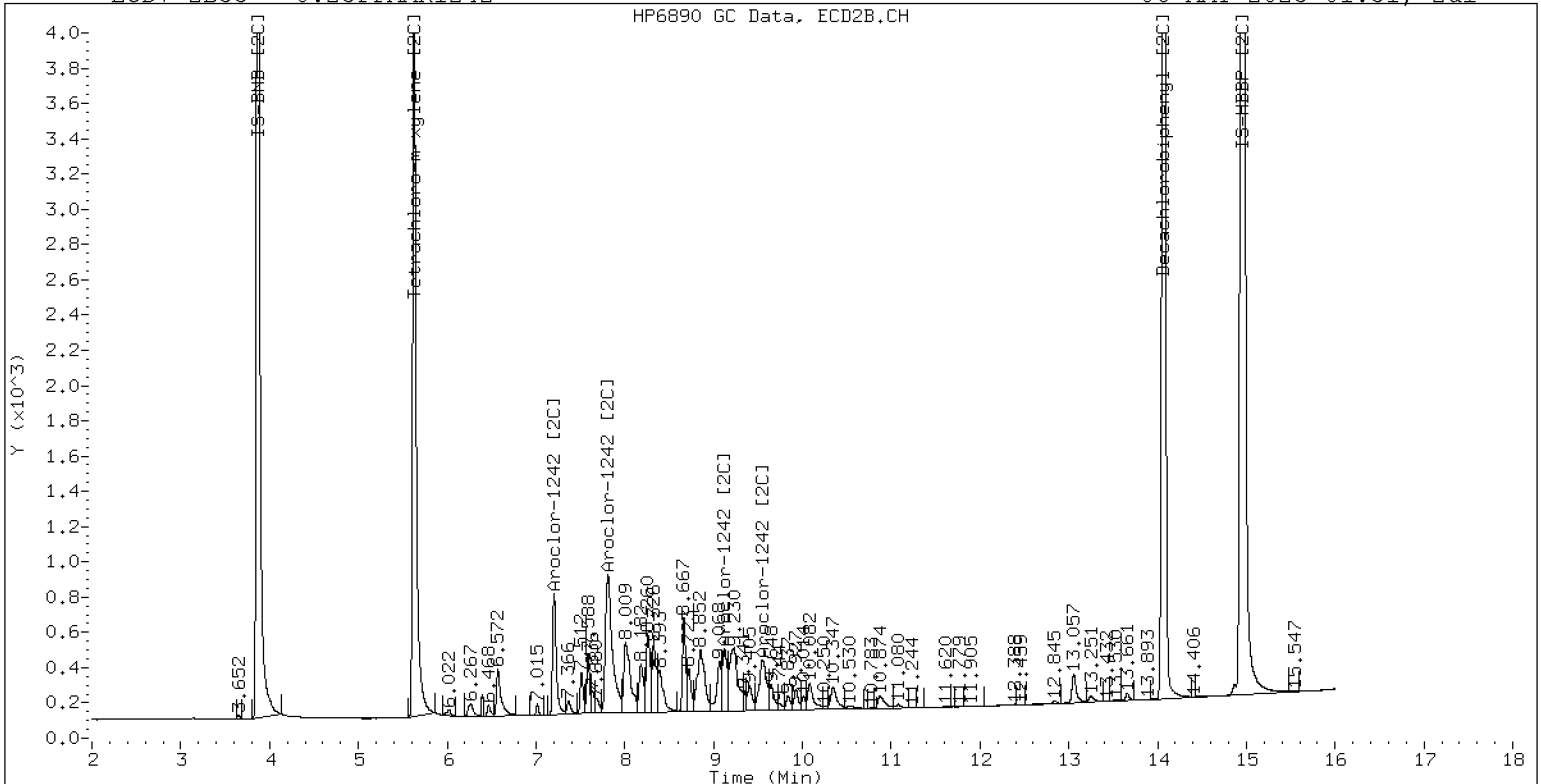
06-MAY-2023 01:31, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1242

06-MAY-2023 01:31, 2ul

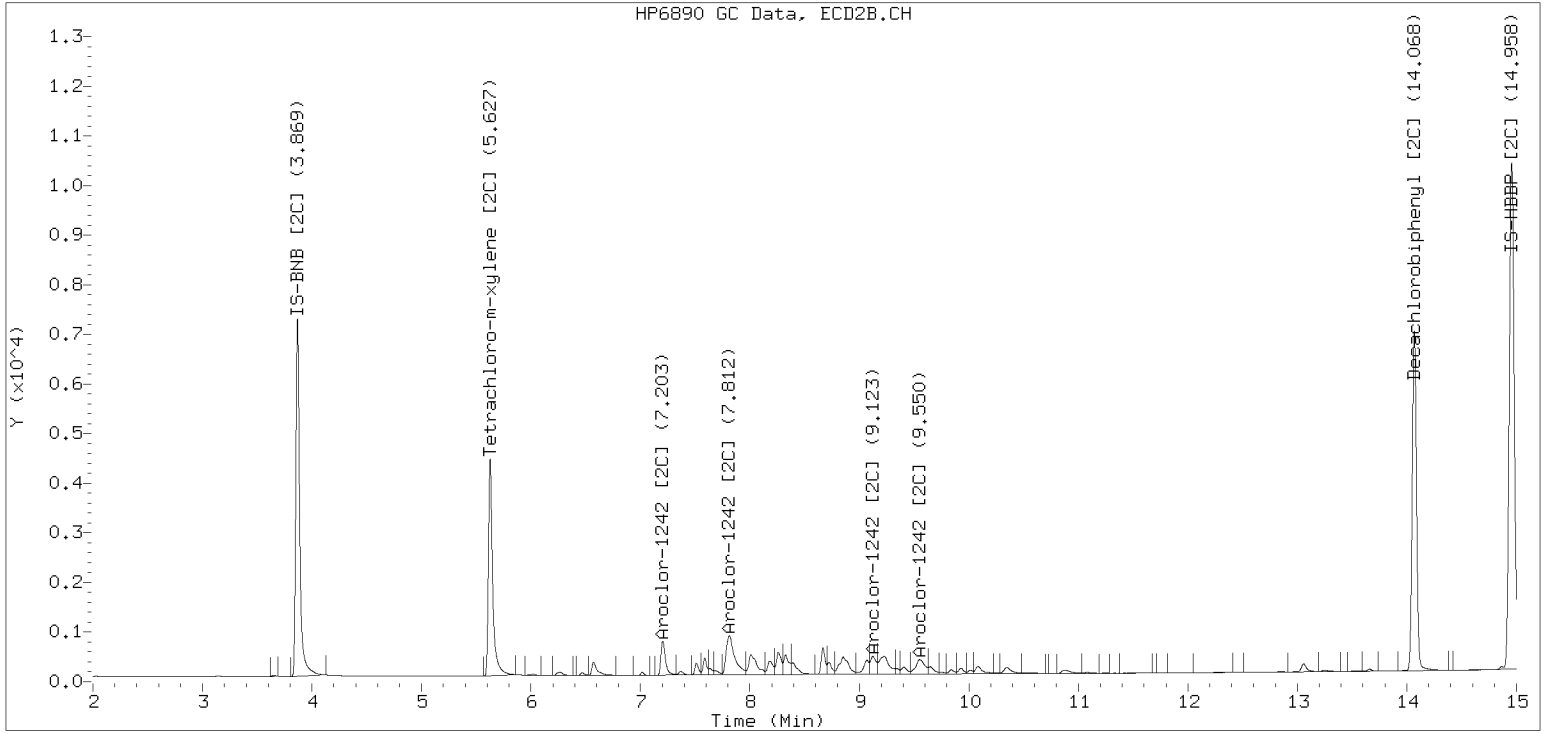


ZB-35 Manual Integration: YES

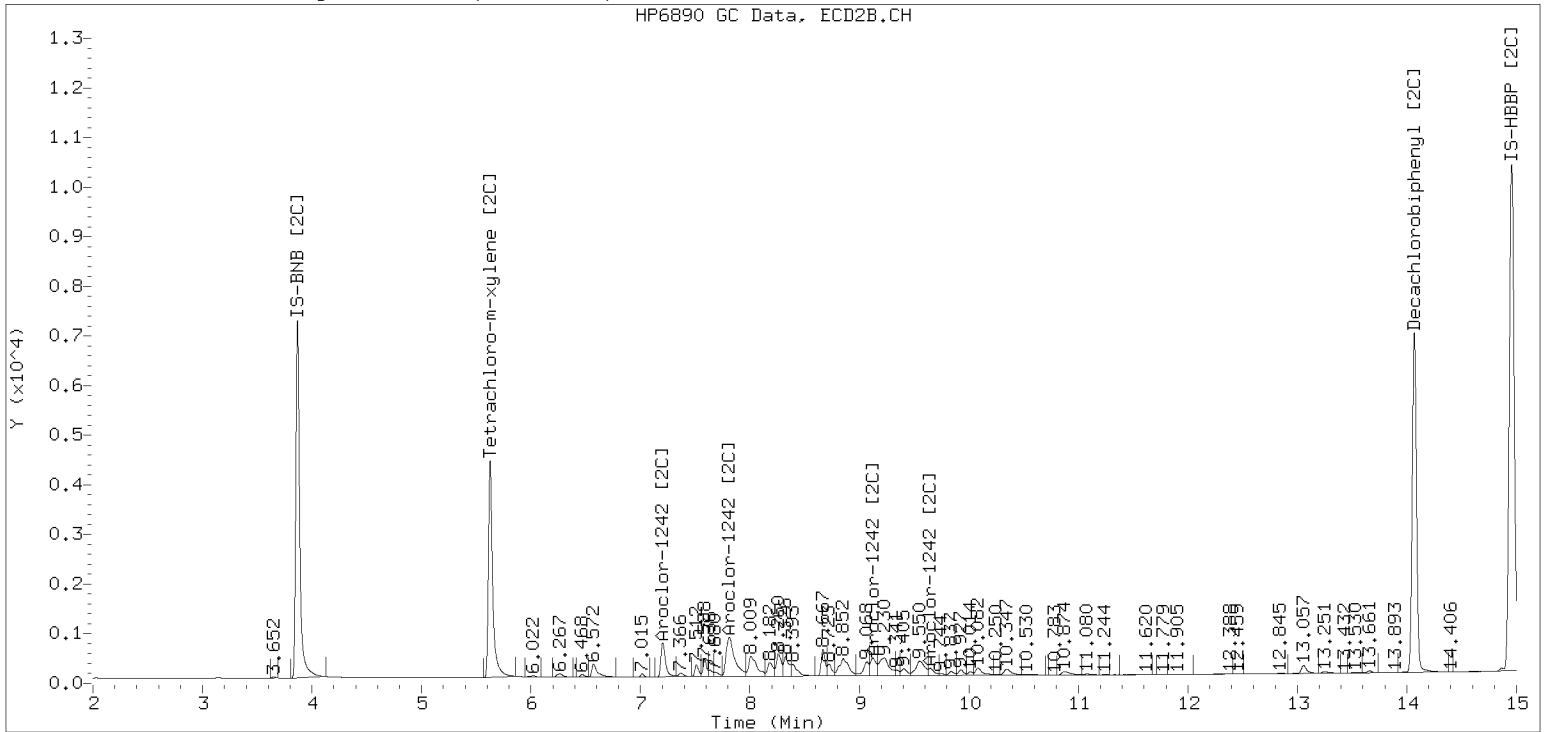
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230505.b/230505.b/05052327ECD7.D Injection Date: 06-MAY-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052328ECD7.D
Data file 2: /230505.b/230505.b/05052328ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1248
Client ID:
Injection Date: 06-MAY-2023 01:52
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.741	-0.001	363354	5.628	-0.000	193087	38.8	39.5	1.9	Tetrachloro-m-xylene
13.843	0.003	347513	14.070	0.002	386262	38.0	40.3	5.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	621905	3.4
Hexabromobiphenyl	876625	915805	4.5

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	354920	1.6
Hexabromobiphenyl	652984	674778	3.3

* Standard Areas taken from Initial Cal Level 3

Initial Calibration Date: 05-MAY-2023

<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1248	1	8.399	0.000	39684	250.0	1	8.260	0.000	42211	250.0
Aroclor-1248	2	8.524	0.000	103126	250.0	2	8.667	0.000	44588	250.0
Aroclor-1248	3	8.944	0.000	198327	250.0	3	9.120	0.000	52266	250.0
Aroclor-1248	4	9.243	0.000	101099	250.0	4	9.546	0.000	62674	250.0
Total CollAve (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 Coll (5.842 - 13.740) = 1607435 Coll Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 866525 Col2 Total PCB = 0.2 ppm*

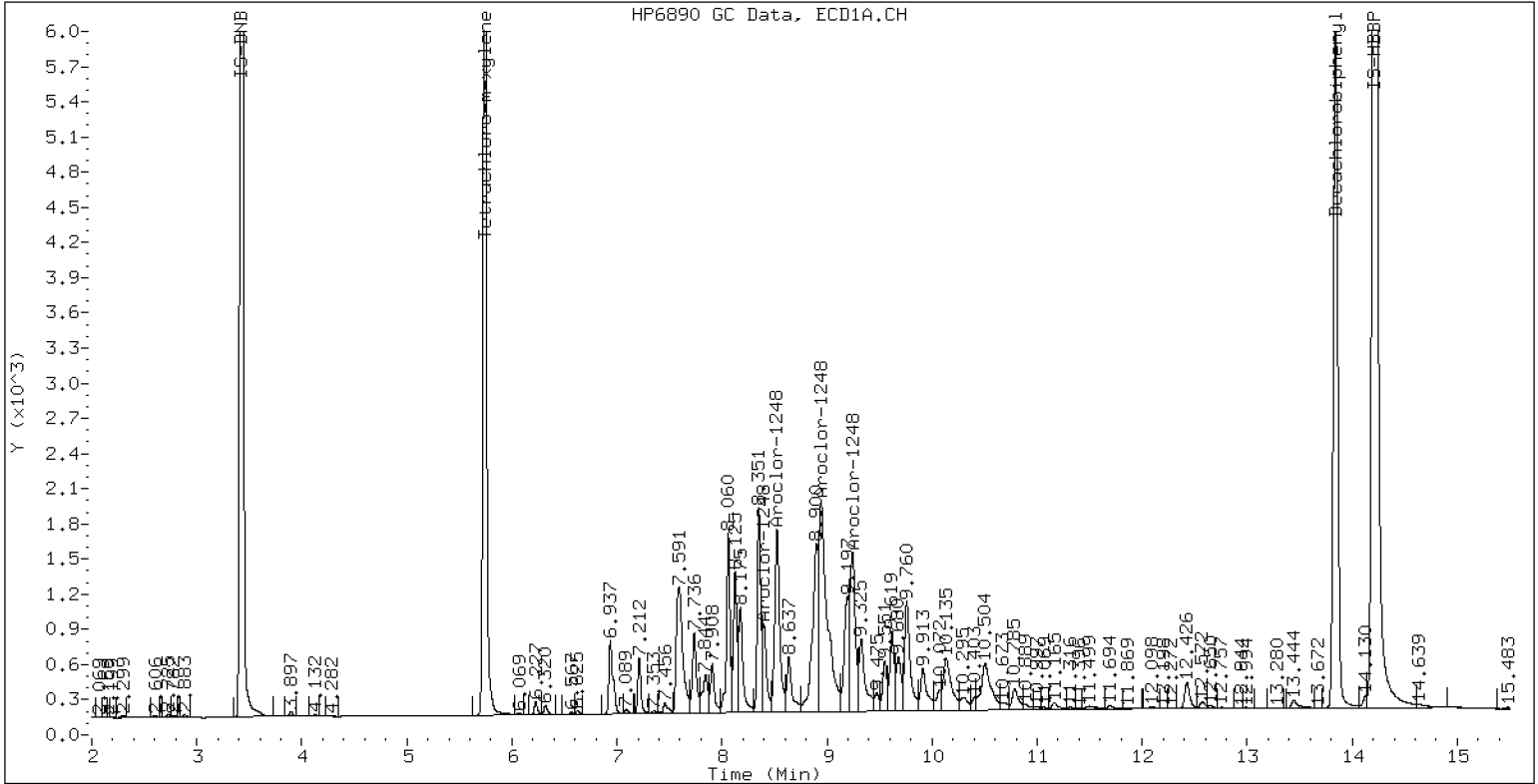
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1248

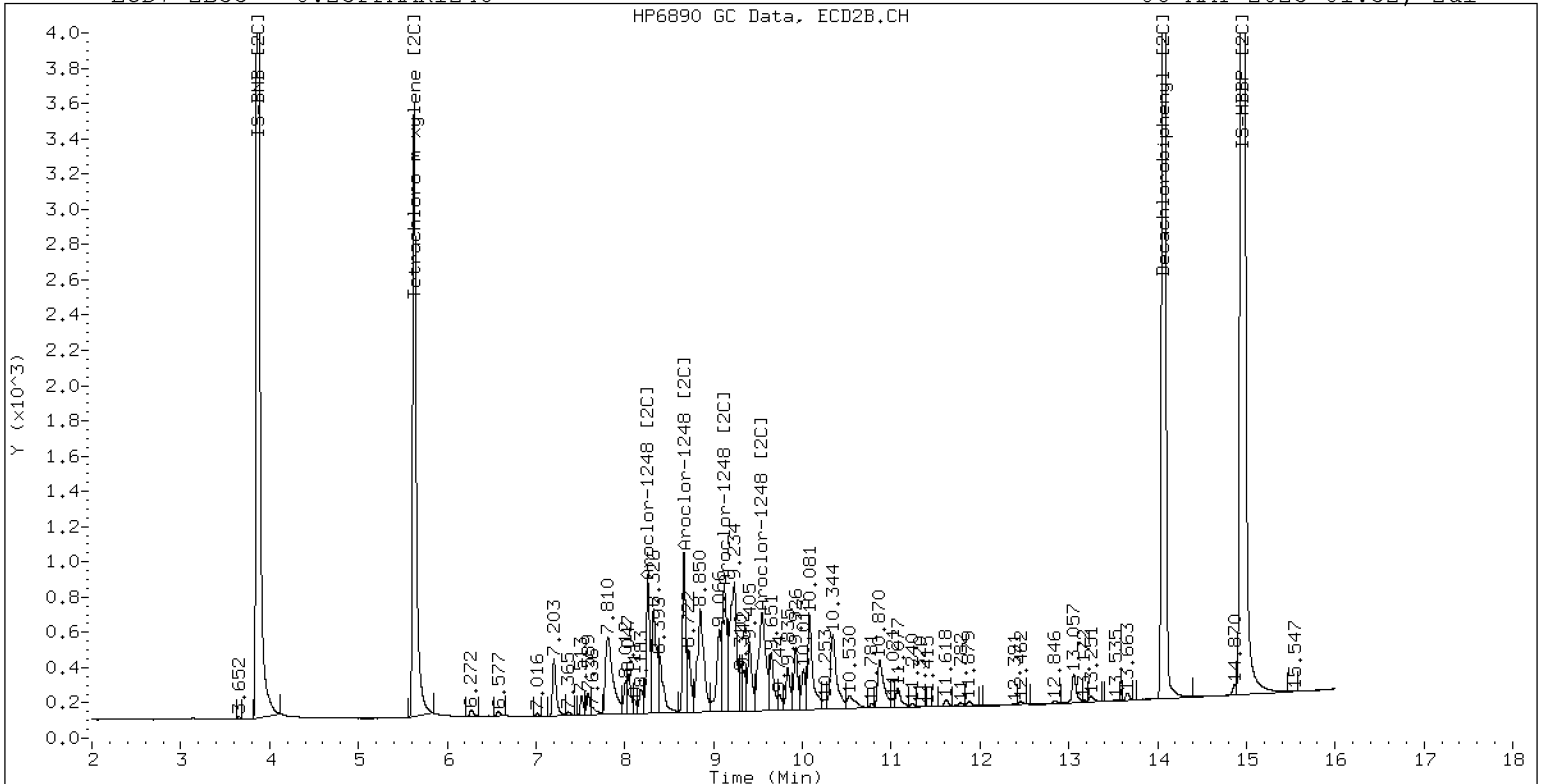
06-MAY-2023 01:52, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1248

06-MAY-2023 01:52, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052329ECD7.D
Data file 2: /230505.b/230505.b/05052329ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1254
Client ID:
Injection Date: 06-MAY-2023 02:13
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	0.000	357984	5.629	0.001	190255	37.8	38.5	1.8	Tetrachloro-m-xylene
13.842	0.002	347079	14.071	0.002	385540	37.4	39.8	6.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	628765	4.5
Hexabromobiphenyl	876625	929076	6.0

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	359470	2.9
Hexabromobiphenyl	652984	682882	4.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023

<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1254	1	9.246	0.000	161557	250.0	1	9.404	0.000	68278	250.0	
Aroclor-1254	2	9.325	0.000	72588	250.0	2	9.499	0.000	40561	250.0	
Aroclor-1254	3	9.618	0.000	104295	250.0	3	9.924	0.000	55343	250.0	
Aroclor-1254	4	9.756	0.000	204288	250.0	4	10.078	0.000	120775	250.0	
Aroclor-1254	5	10.126	0.000	123377	250.0	5	10.328	0.000	119827	250.0	
Total CollAve (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 Coll (5.842 - 13.740) = 2115446 Coll Total PCB = 0.3 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 1173654 Col2 Total PCB = 0.3 ppm*

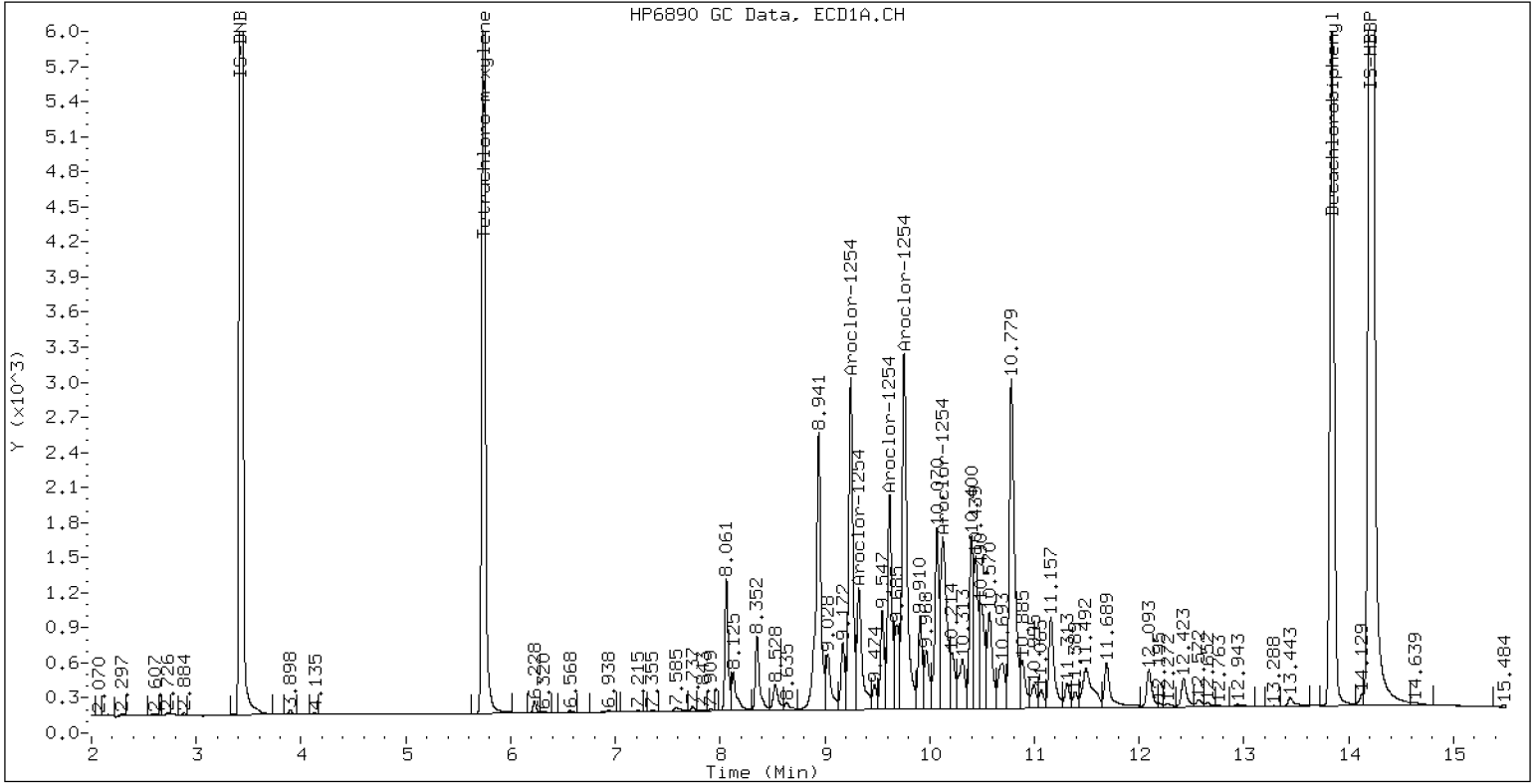
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1254

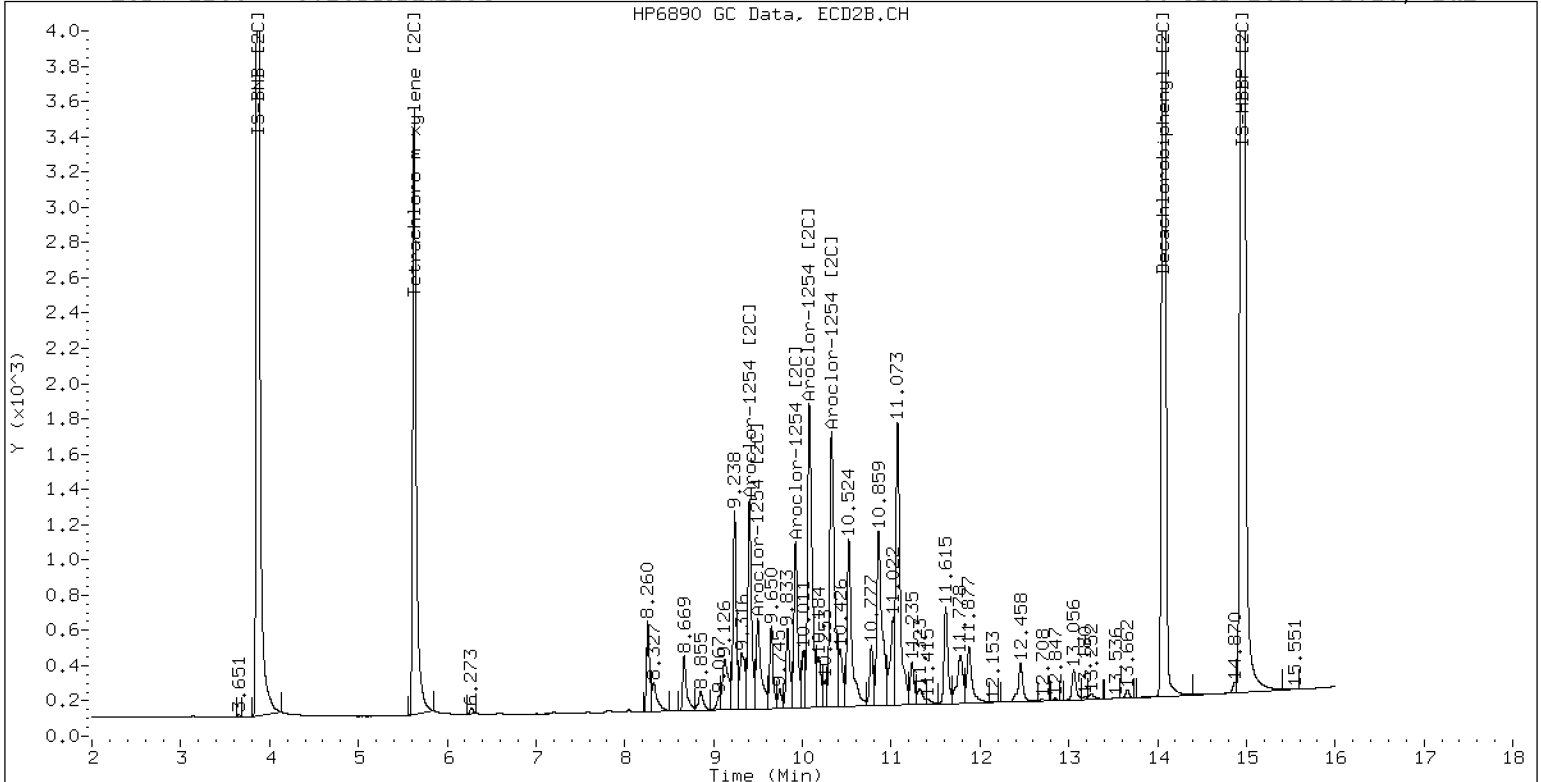
06-MAY-2023 02:13, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1254

06-MAY-2023 02:13, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052330ECD7.D
Data file 2: /230505.b/230505.b/05052330ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR2162
Client ID:
Injection Date: 06-MAY-2023 02:34
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	-0.000	379099	5.628	0.000	200082	39.7	40.8	2.7	Tetrachloro-m-xylene
13.842	0.001	358012	14.071	0.003	396142	38.1	40.5	6.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	634497	5.5
Hexabromobiphenyl	876625	940541	7.3
Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	356713	2.1
Hexabromobiphenyl	652984	688599	5.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1221	1	4.663	0.000	11156	250.0	1	4.894	0.000	6578	250.0	
Aroclor-1221	2	6.069	0.000	22382	250.0	2	6.245	0.000	13633	250.0	
Aroclor-1221	3	6.321	0.000	53161	250.0	3	6.572	0.000	21443	250.0	
Total CollAve (3 peaks):				250.0	Total Col2Ave (3 peaks):				250.0	RPD = 0	
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks						

Aroclor-1262	1	10.779	0.000	106373	250.0	1	11.153	0.000	139491	250.0	
Aroclor-1262	2	12.195	0.000	149596	250.0	2	11.605	0.000	117643	250.0	
Aroclor-1262	3	12.269	0.000	160810	250.0	3	12.386	0.000	128556	250.0	
Aroclor-1262	4	12.939	0.000	131044	250.0	4	12.456	0.000	209520	250.0	
Total CollAve (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 Coll (5.842 - 13.740) = 2742242 Coll Total PCB = 0.4 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 1852573 Col2 Total PCB = 0.4 ppm*

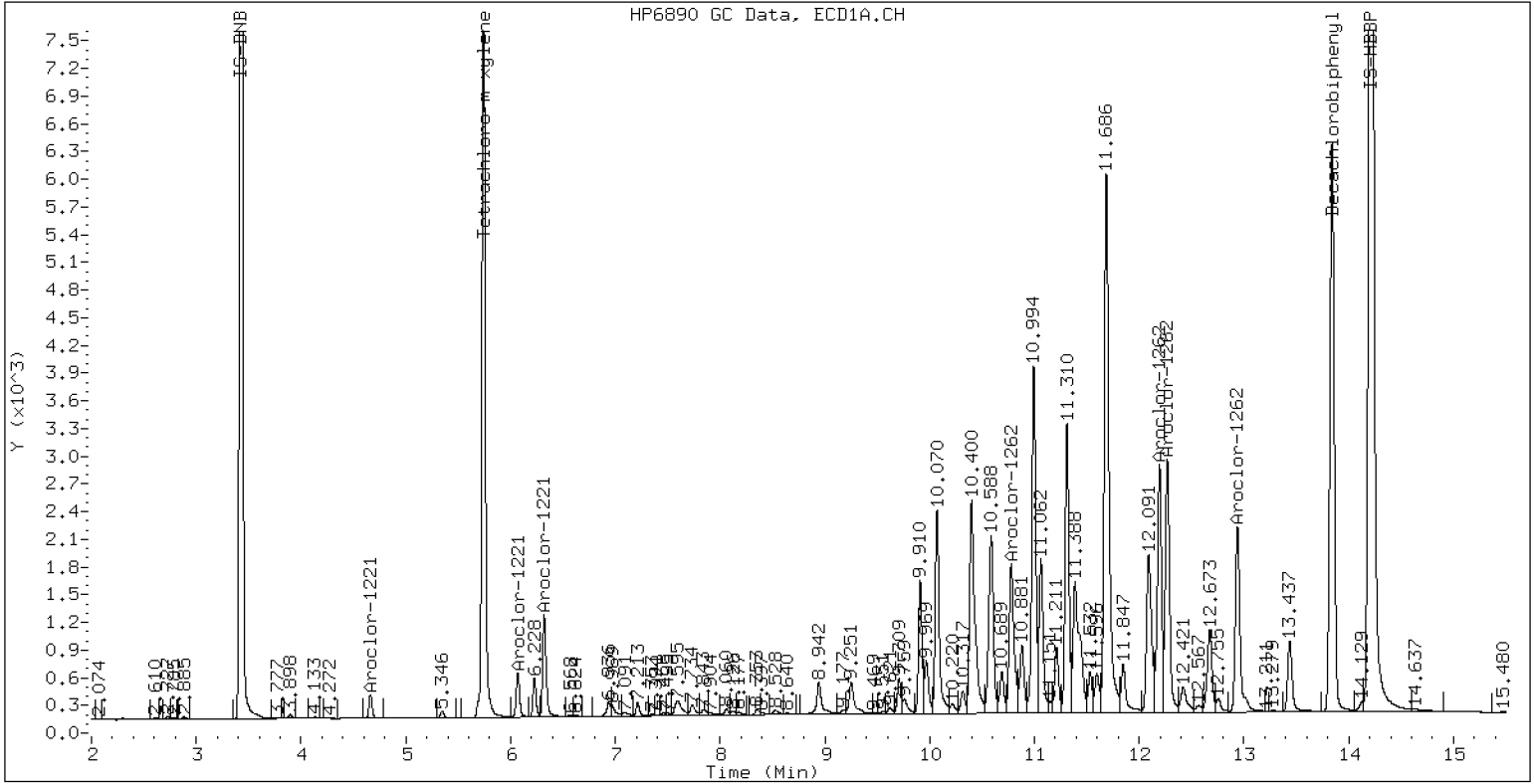
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR2162

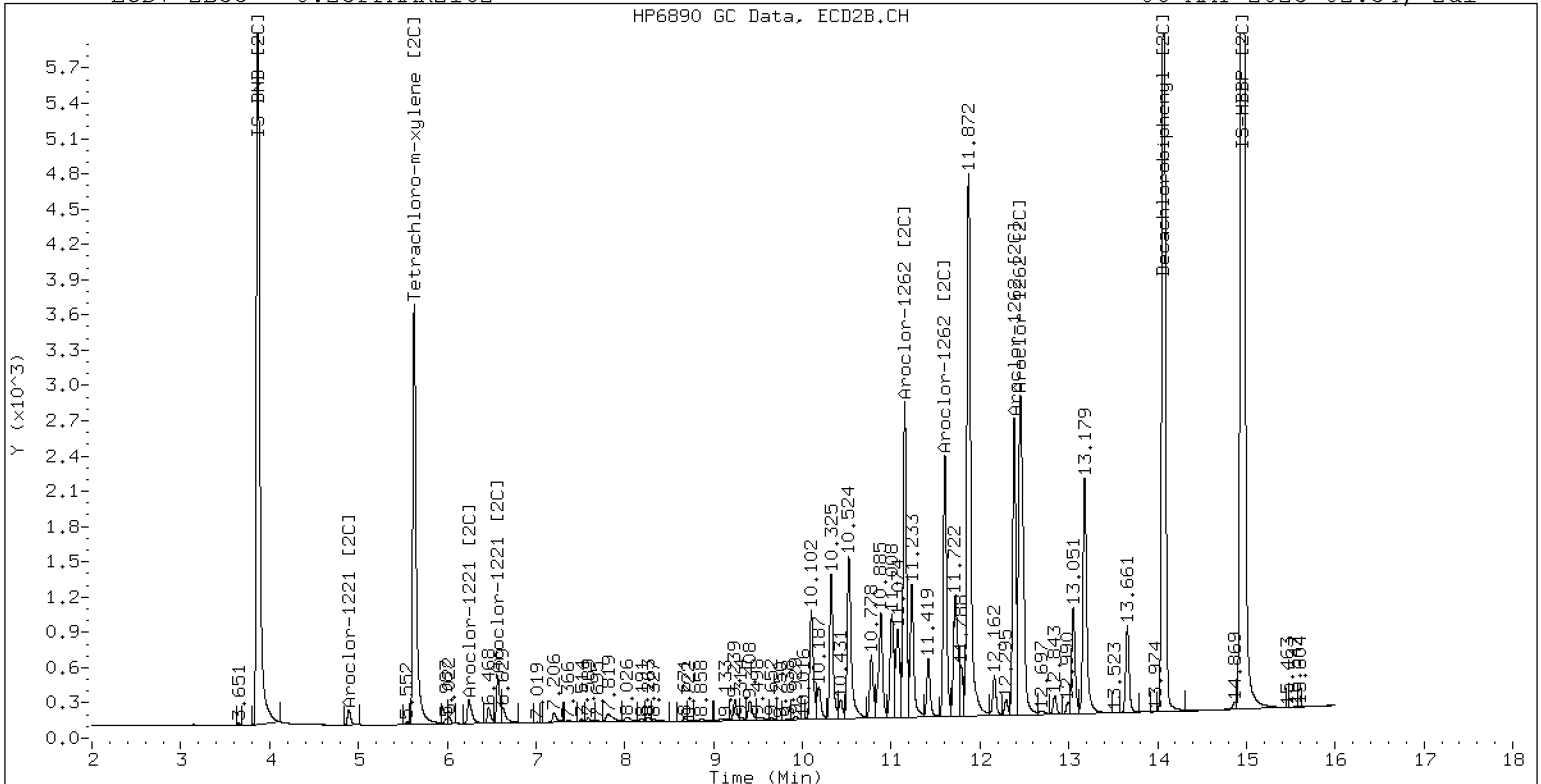
06-MAY-2023 02:34, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR2162

06-MAY-2023 02:34, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052331ECD7.D
Data file 2: /230505.b/230505.b/05052331ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR3268
Client ID:
Injection Date: 06-MAY-2023 02:55
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	0.000	378314	5.628	0.000	200538	38.9	40.3	3.4	Tetrachloro-m-xylene
13.840	0.000	502472	14.068	0.000	573501	52.2	57.3	9.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	644974	7.2
Hexabromobiphenyl	876625	963091	9.9

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	361821	3.6
Hexabromobiphenyl	652984	704753	7.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1232	1	4.664	0.000	7554	250.0	1	4.894	0.000	3508	250.0
Aroclor-1232	2	6.069	0.000	15718	250.0	2	7.205	0.000	20084	250.0
Aroclor-1232	3	7.595	0.000	74881	250.0	3	7.815	0.000	40344	250.0
Aroclor-1232	4	8.527	0.000	32051	250.0	4	8.669	0.000	11684	250.0
Total CollAve (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	12.196	0.000	384005	250.0	1	12.385	0.000	333421	250.0
Aroclor-1268	2	12.268	0.000	381367	250.0	2	12.452	0.000	358458	250.0
Aroclor-1268	3	12.648	0.000	306717	250.0	3	12.843	0.000	306959	250.0
Aroclor-1268	4	13.437	0.000	875751	250.0	4	13.663	0.000	983908	250.0
Total CollAve (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 (5.842 - 13.740) = 3124318 Col1 Total PCB = 0.4 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 2731202 Col2 Total PCB = 0.6 ppm*

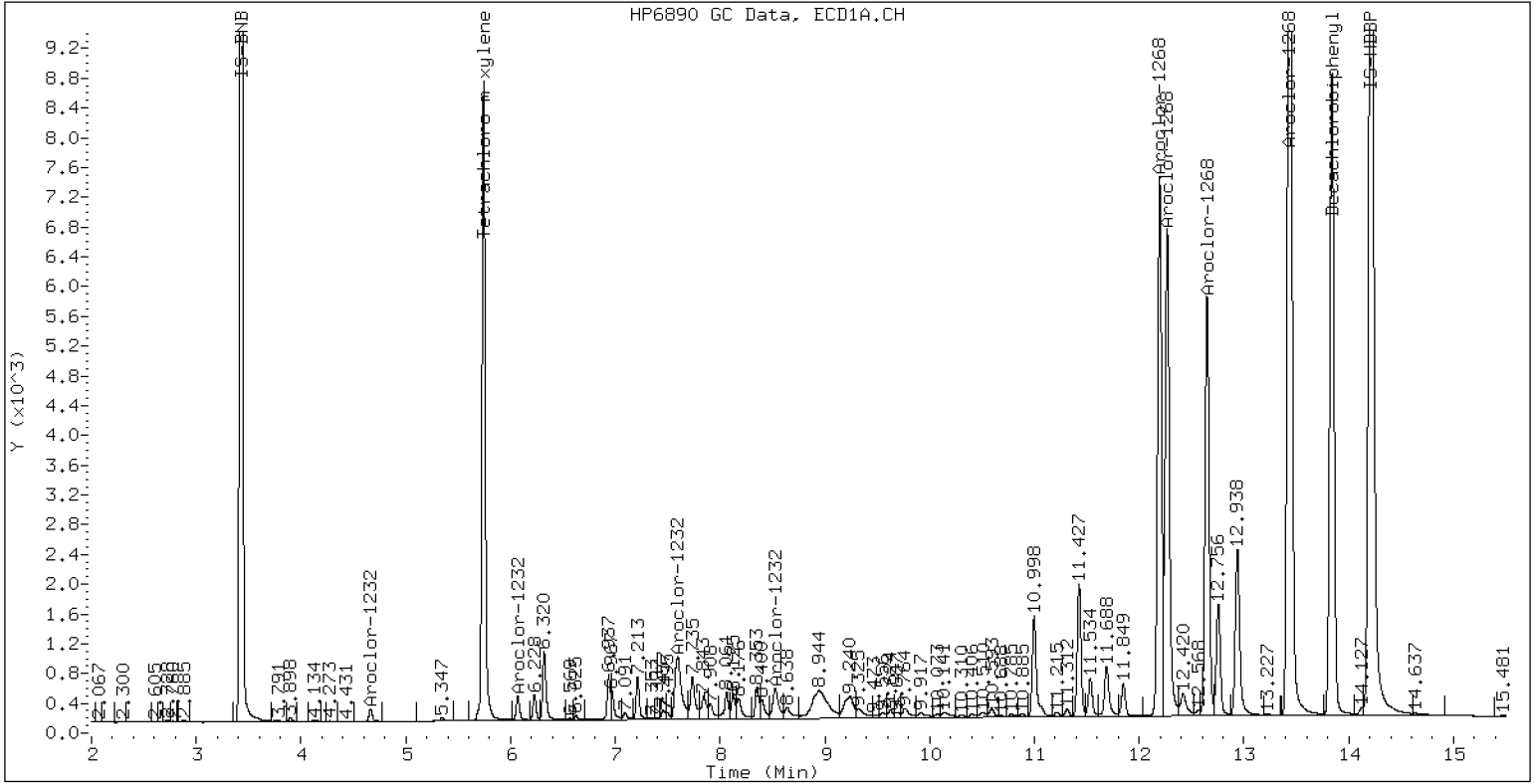
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR3268

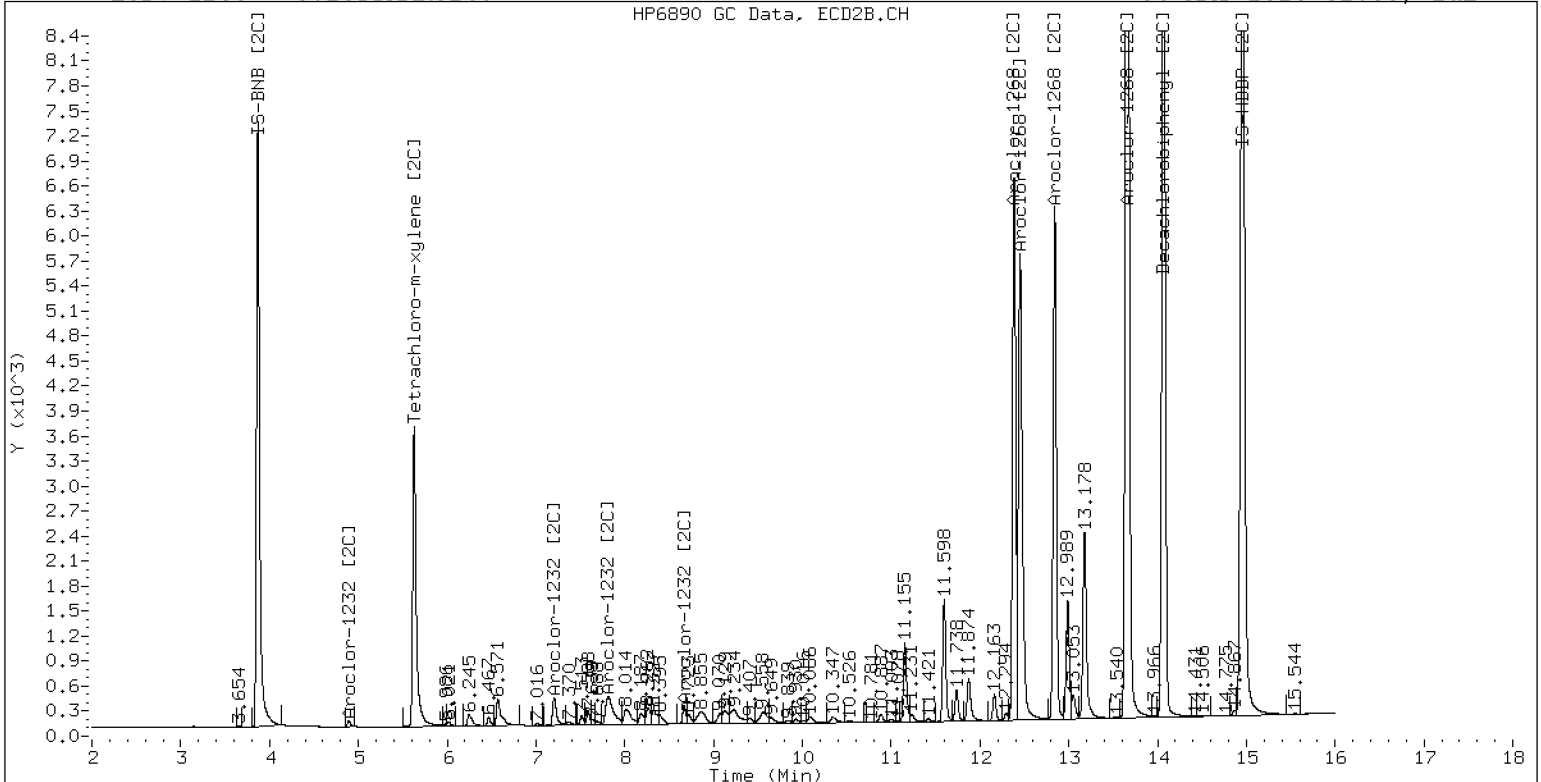
06-MAY-2023 02:55, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR3268

06-MAY-2023 02:55, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052332ECD7.D
Data file 2: /230505.b/230505.b/05052332ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660SCV
Client ID:
Injection Date: 06-MAY-2023 03:16
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	-0.000	356595	9.840	-0.028	300	36.9	0.0	----	Tetrachloro-m-xylene
13.842	0.002	347188	9.537	0.045	1824	36.9	0.0	----	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	642284	6.8
Hexabromobiphenyl	876625	941356	7.4

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	361711	3.6
Hexabromobiphenyl	652984	690563	5.8

* Standard Areas taken from Initial Cal Level 3

Initial Calibration Date: 05-MAY-2023

<- 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	7.213	0.000	61654	247.9	1	7.205	0.001	50106	244.7
Aroclor-1016	2	7.594	-0.001	199228	256.2	2	7.811	0.003	109839	251.7
Aroclor-1016	3	7.734	0.001	89643	249.3	3	8.009	0.004	48594	252.5
Aroclor-1016	4	8.399	0.001	38714	261.0	4	8.260	0.001	36878	241.2
Total CollAve (4 peaks):				253.6		Total Col2Ave (4 peaks):				247.5 RPD = 2
Corrected Ave (3 peaks):				251.1		Corrected Ave (3 peaks):				245.9 RPD = 2
Aroclor-1221	1	4.663	-0.000	436	9.7	1	---			0.0
Aroclor-1221	2	6.068	-0.001	8521	94.0	2	6.251	0.005	5766	104.3
Aroclor-1221	3	6.320	-0.001	41973	195.0	3	6.572	0.000	23212	266.9
Total CollAve (3 peaks):				99.6		Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.663	-0.000	436	14.5	1	---			0.0
Aroclor-1232	2	6.068	-0.002	8521	136.1	2	7.205	0.000	50106	623.9
Aroclor-1232	3	7.594	-0.001	199228	667.9	3	7.811	-0.004	109839	680.8
Aroclor-1232	4	8.526	-0.001	85985	673.5	4	8.667	-0.003	34670	742.1
Total CollAve (4 peaks):				373.0		Total Col2Ave (3 peaks):				682.3 RPD = 59*
Corrected Ave (3 peaks):				272.8		Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.213	0.001	61654	304.6	1	7.205	0.001	50106	310.0
Aroclor-1242	2	7.594	-0.001	199228	310.7	2	7.811	-0.002	109839	319.4
Aroclor-1242	3	8.399	0.000	38714	312.1	3	9.069	-0.054	21513	195.1
Aroclor-1242	4	8.526	0.001	85985	299.5	4	9.650	0.100	1501	11.3
Total CollAve (4 peaks):				306.7		Total Col2Ave (4 peaks):				208.9 RPD = 38
Corrected Ave (3 peaks):				304.9		Corrected Ave (3 peaks):				172.1 RPD = 56*
Aroclor-1248	1	8.399	-0.000	38714	236.2	1	8.260	0.000	36878	214.3
Aroclor-1248	2	8.526	0.001	85985	201.8	2	8.667	-0.001	34670	190.7
Aroclor-1248	3	8.941	-0.003	81615	99.6	3	9.069	-0.051	21513	101.0
Aroclor-1248	4	9.249	0.006	52526	125.8	4	9.537	-0.008	1824	7.1
Total CollAve (4 peaks):				165.8		Total Col2Ave (4 peaks):				128.3 RPD = 26
Corrected Ave (3 peaks):				142.4		Corrected Ave (3 peaks):				99.6 RPD = 35
Aroclor-1254	1	9.249	0.003	52526	79.6	1	9.405	0.001	24726	90.0
Aroclor-1254	2	---			0.0	2	9.537	0.038	1824	11.2
Aroclor-1254	3	9.619	0.001	7081	16.6	3	9.926	0.002	3128	14.0
Aroclor-1254	4	9.756	0.001	21856	26.2	4	10.101	0.023	62581	128.7
Aroclor-1254	5	10.069	-0.057	159796	317.0	5	10.324	-0.004	85433	177.1
Total CollAve (4 peaks):				109.8		Total Col2Ave (5 peaks):				84.2 RPD = 26
Corrected Ave (3 peaks):				40.8		Corrected Ave (4 peaks):				61.0 RPD = 40
Aroclor-1260	1	10.995	0.001	145767	292.8	1	11.605	-0.000	99761	272.0
Aroclor-1260	2	11.311	0.001	142028	289.1	2	11.872	0.000	273505	285.1
Aroclor-1260	3	11.686	0.000	354468	288.1	3	12.389	0.001	70545	296.8
Aroclor-1260	4	12.092	0.002	161281	267.6	4	12.455	-0.000	180783	282.1
Aroclor-1260	5	12.194	0.001	76105	289.6	NS	---			----
Total CollAve (5 peaks):				285.5		Total Col2Ave (4 peaks):				284.0 RPD = 1
Corrected Ave (4 peaks):				283.6		Corrected Ave (3 peaks):				279.8 RPD = 1
Aroclor-1262	1	10.777	-0.001	215850	506.9	1	11.153	-0.001	104059	186.0
Aroclor-1262	2	12.194	-0.000	76105	127.1	2	11.605	0.001	99761	211.4
Aroclor-1262	3	12.271	0.001	94628	147.0	3	12.389	0.003	70545	136.8
Aroclor-1262	4	12.939	-0.000	78852	150.3	4	12.455	-0.001	180783	215.1
Total CollAve (4 peaks):				232.8		Total Col2Ave (4 peaks):				187.3 RPD = 22
Corrected Ave (3 peaks):				141.5		Corrected Ave (3 peaks):				178.1 RPD = 23
Aroclor-1268	1	12.194	-0.001	76105	50.7	1	12.389	0.004	70545	54.0
Aroclor-1268	2	12.271	0.003	94628	63.5	2	12.455	0.003	180783	128.7
Aroclor-1268	3	12.675	0.026	38830	32.4	3	12.844	0.001	3082	2.6
Aroclor-1268	4	13.440	0.003	19986	5.8	4	13.661	-0.002	14882	3.9
Total CollAve (4 peaks):				38.1		Total Col2Ave (4 peaks):				47.3 RPD = 21
Corrected Ave (3 peaks):				29.6		Corrected Ave (3 peaks):				20.1 RPD = 38

Total PCB Area Col1 (5.842 - 13.740) = 3657118 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (5.842 - 13.740) = 2240312 Col2 Total PCB = 0.5 ppm*

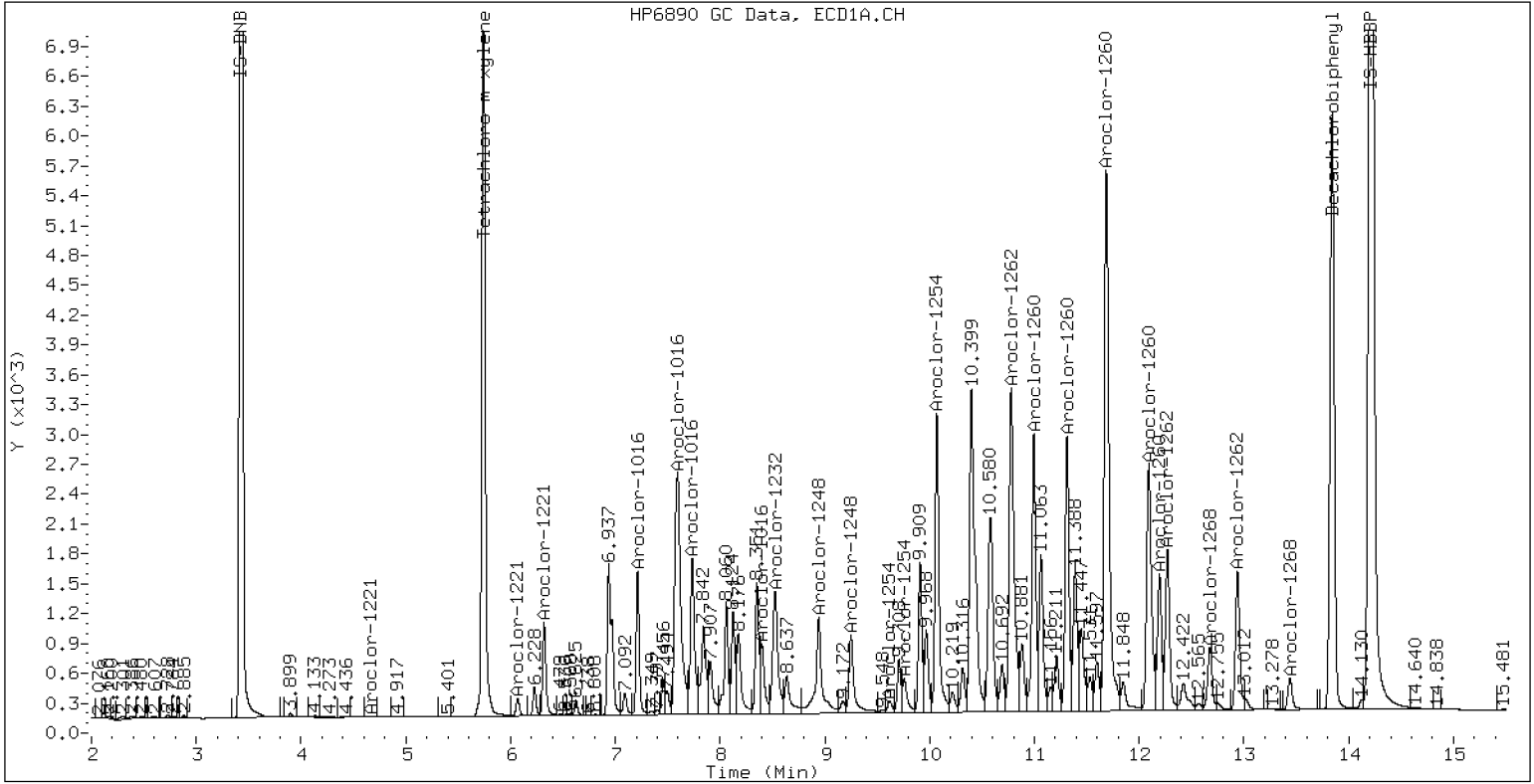
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1660SCV

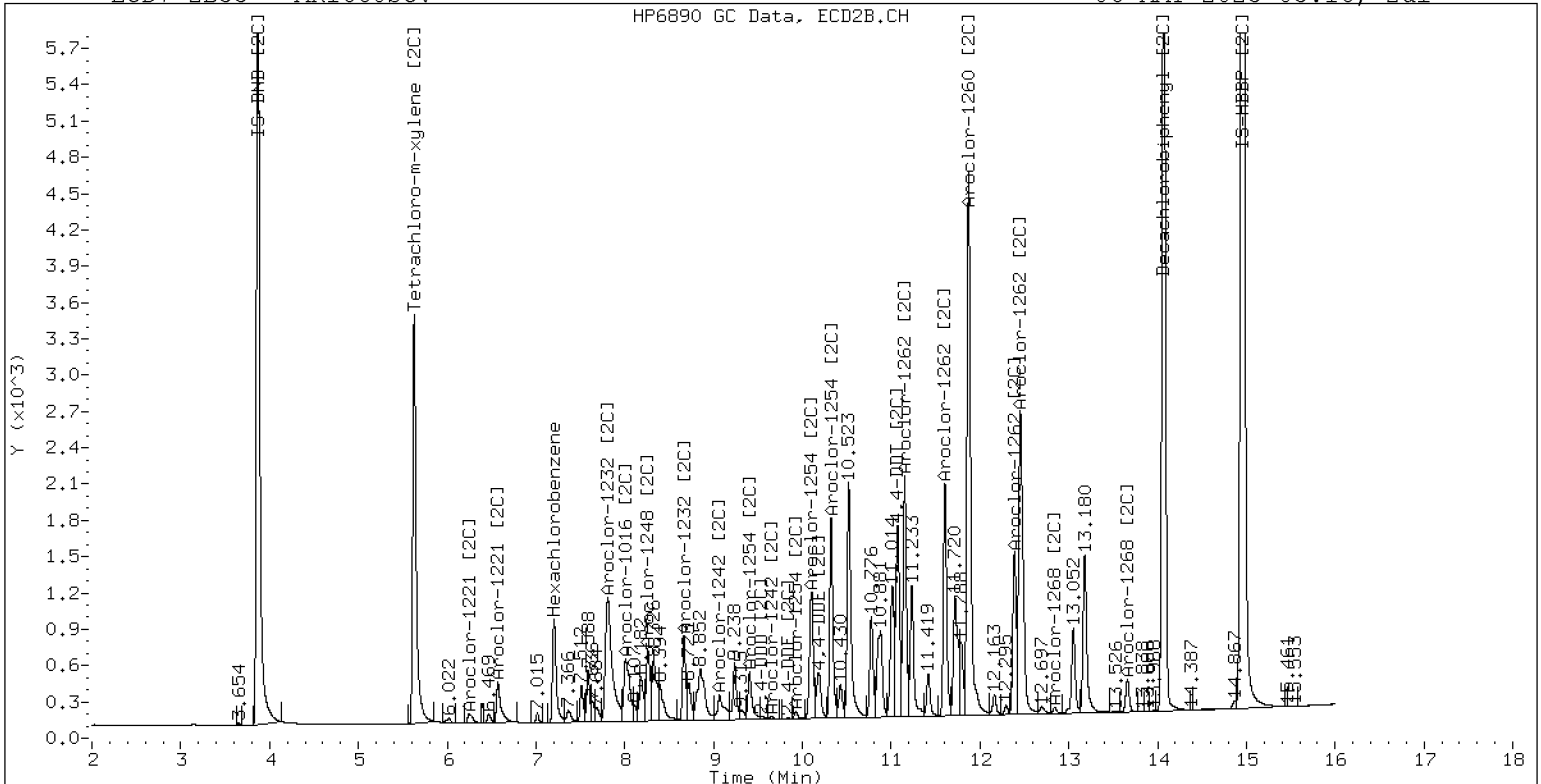
06-MAY-2023 03:16, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660SCV

06-MAY-2023 03:16, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052333ECD7.D
Data file 2: /230505.b/230505.b/05052333ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242SCV
Client ID:
Injection Date: 06-MAY-2023 03:36
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col		ZB5	ZB35	RPD	Compound/Flag
RT	Shift Response	RT	Shift Response	on col	on col		
5.744	0.002 319899	9.837	-0.030 6399	32.8	0.0	----	Tetrachloro-m-xylene
13.842	0.002 398699	----		40.9	0.0	----	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	648004	7.7
Hexabromobiphenyl	876625	976327	11.4
Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	365379	4.6
Hexabromobiphenyl	652984	695394	6.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	0.001	47446	189.1	1	7.205	0.001	36469	176.3
Aroclor-1016	2	7.594	-0.000	147684	188.2	2	7.814	0.007	77885	176.7
Aroclor-1016	3	7.735	0.002	67175	185.2	3	8.012	0.006	38400	197.5
Aroclor-1016	4	8.398	0.000	30565	204.3	4	8.261	0.002	27551	178.4
Total CollAve (4 peaks):				191.7		Total Col2Ave (4 peaks):				182.2 RPD = 5
Corrected Ave (3 peaks):				187.5		Corrected Ave (3 peaks):				177.1 RPD = 6
Aroclor-1221	1	4.666	0.002	870	19.1	1	---			0.0
Aroclor-1221	2	6.069	0.000	7118	77.8	2	6.257	0.011	4359	78.0
Aroclor-1221	3	6.322	0.001	32969	151.8	3	6.573	0.001	16609	189.0
Total CollAve (3 peaks):				82.9		Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.666	0.002	870	28.7	1	---			0.0
Aroclor-1232	2	6.069	0.000	7118	112.7	2	7.205	-0.000	36469	449.5
Aroclor-1232	3	7.594	-0.001	147684	490.8	3	7.814	-0.001	77885	477.9
Aroclor-1232	4	8.526	-0.000	70601	548.1	4	8.668	-0.001	25417	538.5
Total CollAve (4 peaks):				295.1		Total Col2Ave (3 peaks):				488.7 RPD = 49*
Corrected Ave (3 peaks):				210.7		Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.213	0.001	47446	232.4	1	7.205	0.001	36469	223.3
Aroclor-1242	2	7.594	-0.000	147684	228.2	2	7.814	0.002	77885	224.2
Aroclor-1242	3	8.398	0.000	30565	244.2	3	9.124	0.001	25864	232.2
Aroclor-1242	4	8.526	0.002	70601	243.8	4	9.552	0.001	32437	241.7
Total CollAve (4 peaks):				237.2		Total Col2Ave (4 peaks):				230.4 RPD = 3
Corrected Ave (3 peaks):				234.8		Corrected Ave (3 peaks):				226.6 RPD = 4
Aroclor-1248	1	8.398	-0.001	30565	184.8	1	8.261	0.001	27551	158.5
Aroclor-1248	2	8.526	0.002	70601	164.3	2	8.668	0.001	25417	138.4
Aroclor-1248	3	8.946	0.002	172847	209.1	3	9.124	0.004	25864	120.2
Aroclor-1248	4	9.243	-0.001	87363	207.3	4	9.552	0.006	32437	125.7
Total CollAve (4 peaks):				191.4		Total Col2Ave (4 peaks):				135.7 RPD = 34
Corrected Ave (3 peaks):				185.5		Corrected Ave (3 peaks):				128.1 RPD = 37
Aroclor-1254	1	9.243	-0.004	87363	131.2	1	9.406	0.002	13247	47.7
Aroclor-1254	2	9.326	0.001	28949	96.7	2	9.552	0.053	32437	196.7
Aroclor-1254	3	9.622	0.004	20780	48.3	3	9.927	0.003	10002	44.5
Aroclor-1254	4	9.762	0.006	35470	42.1	4	10.082	0.005	19933	40.6
Aroclor-1254	5	10.140	0.015	28075	55.2	5	10.341	0.013	19432	39.9
Total CollAve (5 peaks):				74.7		Total Col2Ave (5 peaks):				73.9 RPD = 1
Corrected Ave (4 peaks):				60.6		Corrected Ave (4 peaks):				43.2 RPD = 34
Aroclor-1260	1	10.998	0.005	3609	7.0	1	11.618	0.012	2137	5.8
Aroclor-1260	2	11.317	0.007	3837	7.5	2	11.879	0.007	1437	1.5
Aroclor-1260	3	11.765	0.080	33905	26.6	3	12.382	-0.006	12460	52.1
Aroclor-1260	4	12.097	0.007	9099	14.6	4	---			0.0
Aroclor-1260	5	12.272	0.079	2060	7.6	NS	---			---
Total CollAve (5 peaks):				12.6		Total Col2Ave (3 peaks):				19.8 RPD = 44*
Corrected Ave (4 peaks):				9.2		Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.787	0.009	24040	54.4	1	11.078	-0.075	7864	14.0
Aroclor-1262	2	12.272	0.077	2060	3.3	2	11.618	0.013	2137	4.5
Aroclor-1262	3	---			0.0	3	12.382	-0.004	12460	24.0
Aroclor-1262	4	12.937	-0.002	16041	29.5	4	---			0.0
Total CollAve (3 peaks):				29.1		Total Col2Ave (3 peaks):				14.1 RPD = 69*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1268	1	12.272	0.076	2060	1.3	1	12.382	-0.003	12460	9.5
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	12.649	0.001	4324	3.5	3	12.845	0.002	951	0.8
Aroclor-1268	4	13.442	0.005	15801	4.4	4	13.628	-0.035	6512	1.7
Total CollAve (3 peaks):				3.1		Total Col2Ave (3 peaks):				4.0 RPD = 25
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				

Total PCB Area Col1 (5.842 - 13.740) = 1489022 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.842 - 13.740) = 667658 Col2 Total PCB = 0.2 ppm*

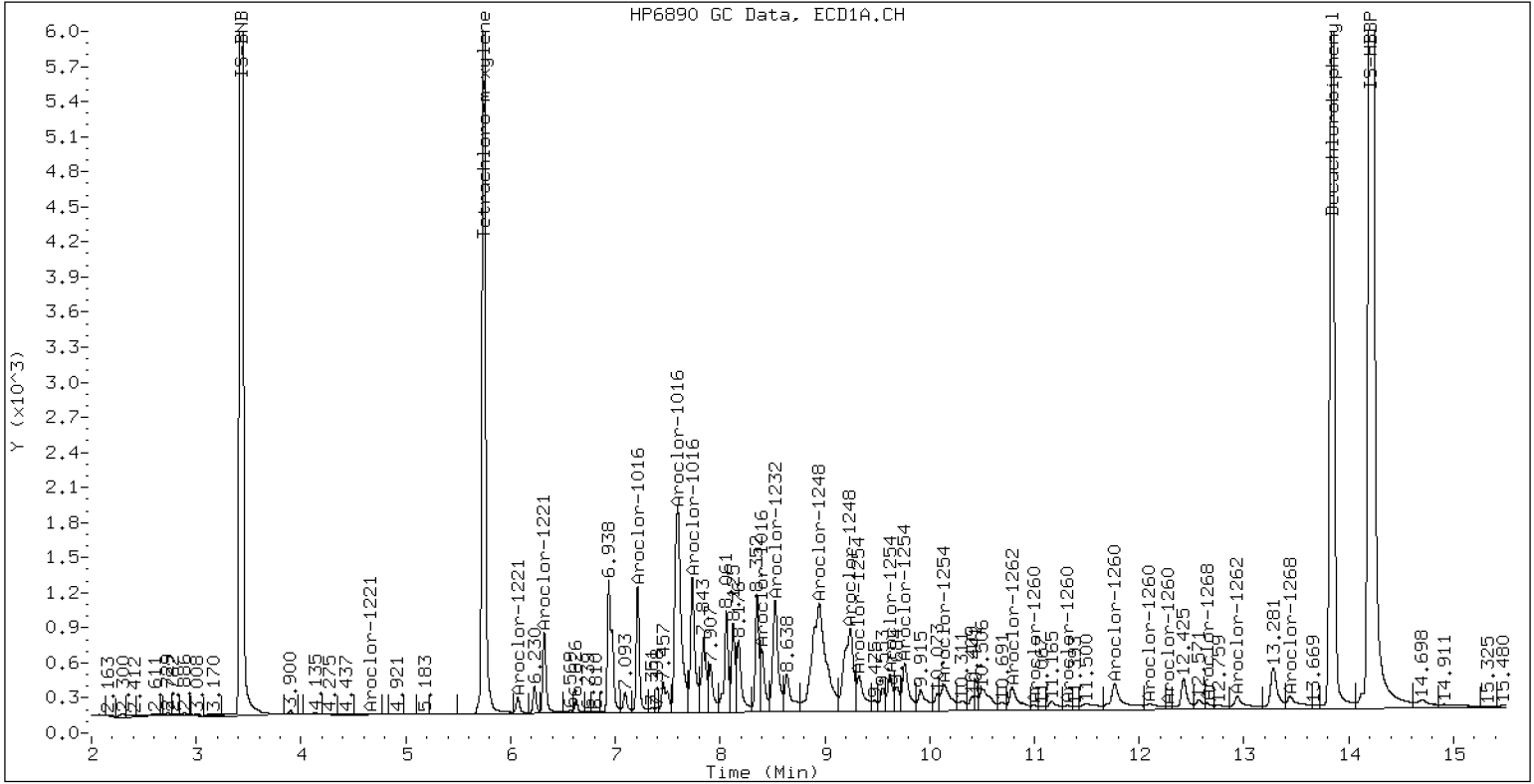
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1242SCV

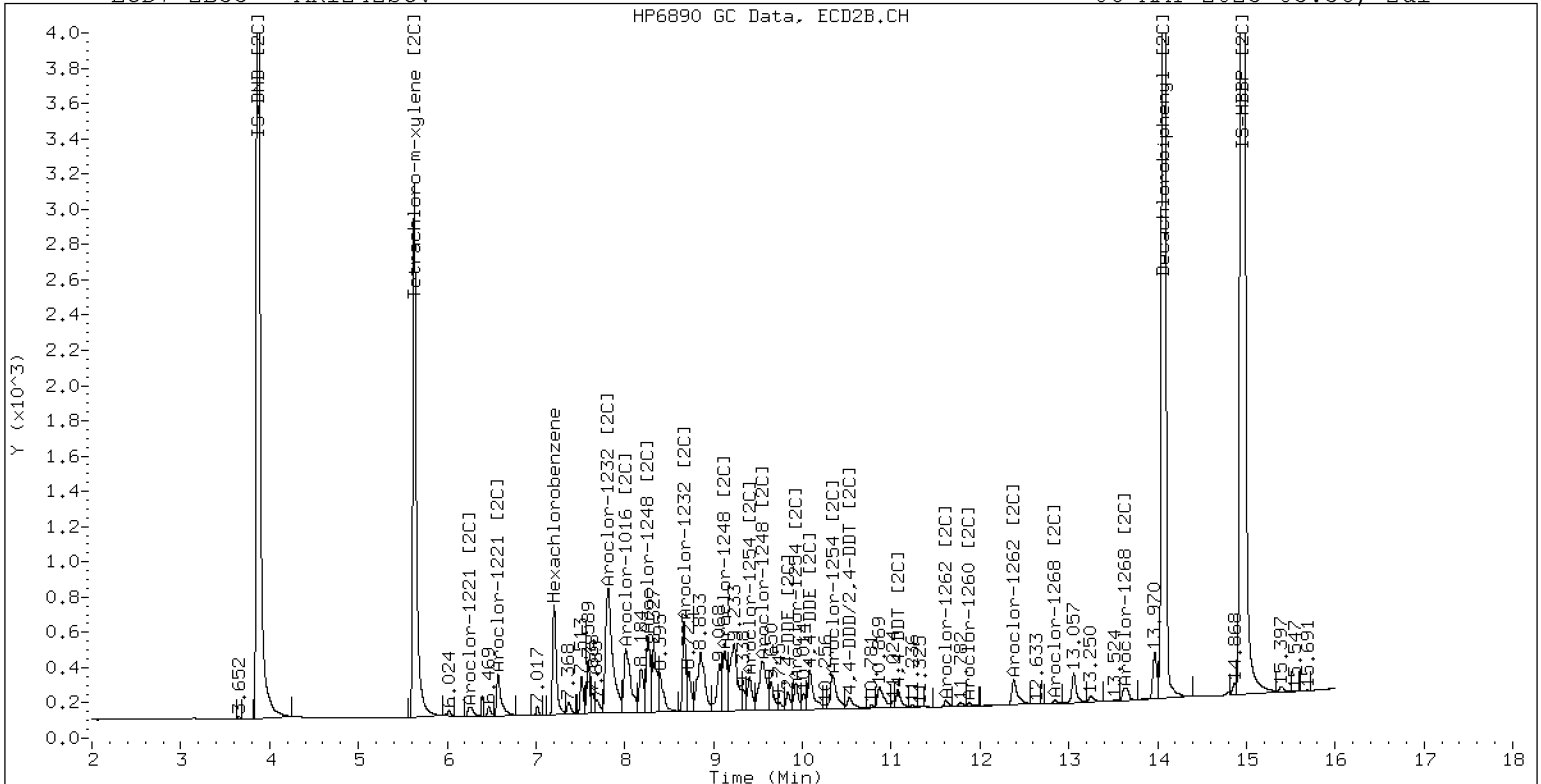
06-MAY-2023 03:36, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1242SCV

06-MAY-2023 03:36, 2ul

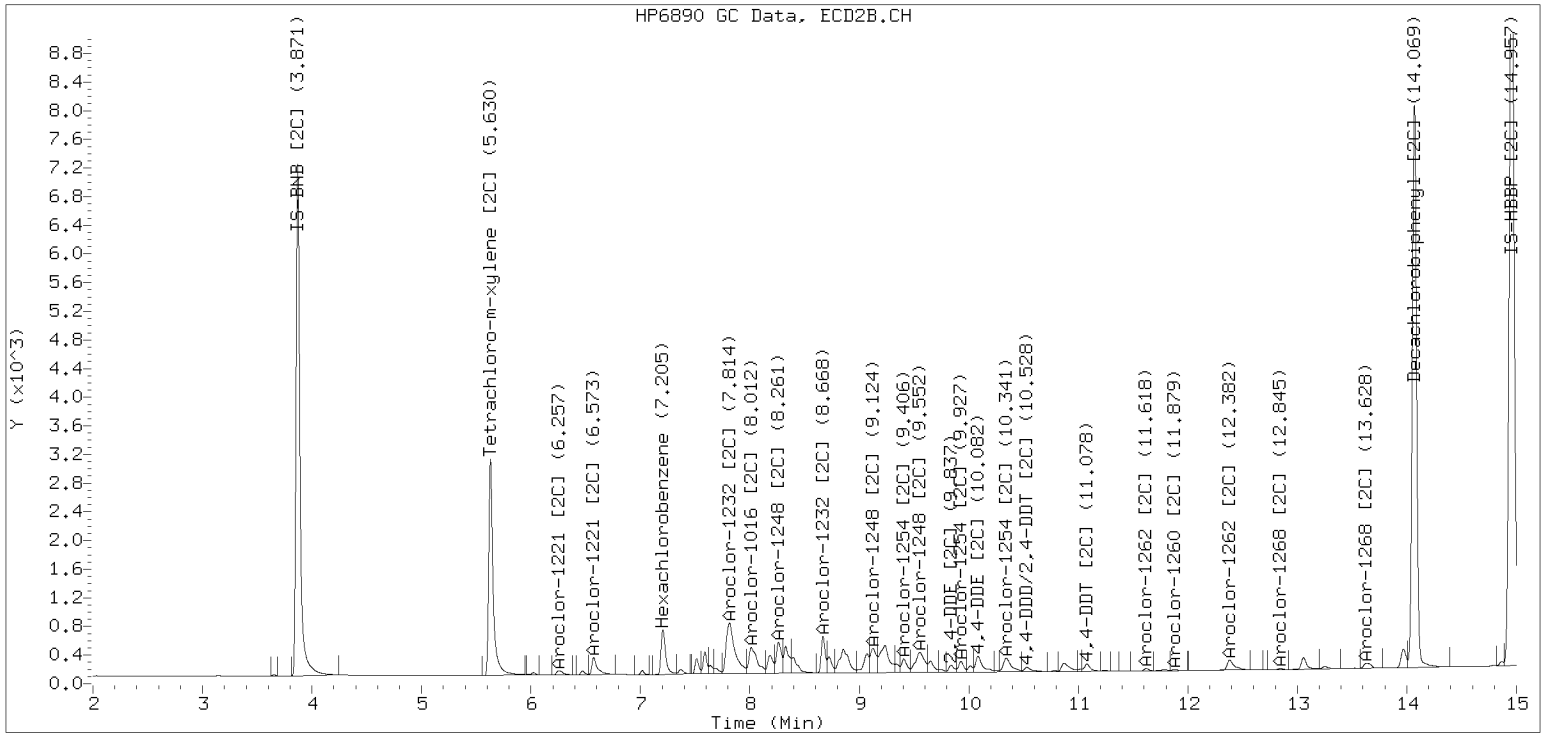


ZB-35 Manual Integration: YES

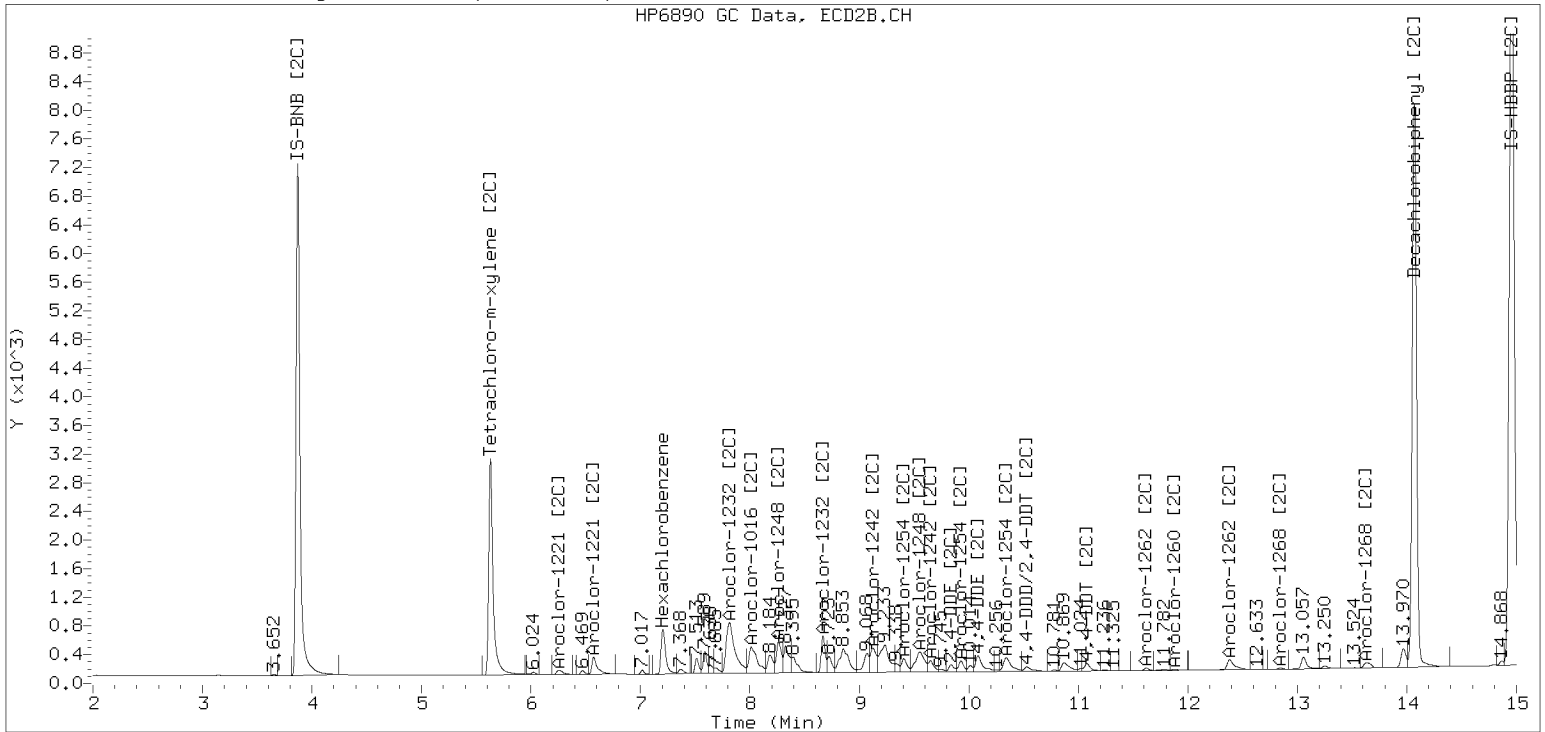
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230505.b/230505.b/05052333ECD7.D Injection Date: 06-MAY-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052334ECD7.D
Data file 2: /230505.b/230505.b/05052334ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248SCV
Client ID:
Injection Date: 06-MAY-2023 03:57
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response	on col	on col		
5.741	-0.001	356328	9.834	-0.033	15805	36.8	0.0	----	Tetrachloro-m-xylene
13.842	0.001	339452	----			35.7	0.0	----	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	643038	6.9
Hexabromobiphenyl	876625	952051	8.6

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	359604	3.0
Hexabromobiphenyl	652984	692982	6.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.212	0.000	19871	79.8	1	7.203	-0.001	18843	92.6
Aroclor-1016	2	7.589	-0.006	95111	122.2	2	7.812	0.005	52352	120.7
Aroclor-1016	3	7.736	0.003	37565	104.4	3	8.012	0.006	8263	43.2
Aroclor-1016	4	8.399	0.002	41542	279.7	4	8.260	0.001	42833	281.8
Total CollAve (4 peaks):				146.5		Total Col2Ave (4 peaks):				134.6 RPD = 9
Corrected Ave (3 peaks):				102.1		Corrected Ave (3 peaks):				85.5 RPD = 18
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.066	-0.003	351	3.9	2	6.275	0.029	1573	28.6
Aroclor-1221	3	6.320	-0.001	3509	16.3	3	6.576	0.004	967	11.2
CollAve: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.066	-0.003	351	5.6	2	7.203	-0.001	18843	236.0
Aroclor-1232	3	7.589	-0.006	95111	318.5	3	7.812	-0.002	52352	326.4
Aroclor-1232	4	8.524	-0.002	105782	827.6	4	8.667	-0.002	44962	968.0
Total CollAve (3 peaks):				383.9		Total Col2Ave (3 peaks):				510.1 RPD = 28
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.212	0.000	19871	98.1	1	7.203	-0.000	18843	117.2
Aroclor-1242	2	7.589	-0.006	95111	148.1	2	7.812	-0.000	52352	153.1
Aroclor-1242	3	8.399	0.001	41542	334.5	3	9.120	-0.003	52681	480.6
Aroclor-1242	4	8.524	-0.000	105782	368.1	4	9.650	0.100	23342	176.7
Total CollAve (4 peaks):				237.2		Total Col2Ave (4 peaks):				231.9 RPD = 2
Corrected Ave (3 peaks):				193.6		Corrected Ave (3 peaks):				149.0 RPD = 26
Aroclor-1248	1	8.399	0.001	41542	253.1	1	8.260	-0.001	42833	250.4
Aroclor-1248	2	8.524	-0.000	105782	248.0	2	8.667	0.000	44962	248.8
Aroclor-1248	3	8.944	-0.000	206928	252.3	3	9.120	-0.000	52681	248.7
Aroclor-1248	4	9.242	-0.001	105227	251.7	4	9.548	0.002	63343	249.4
Total CollAve (4 peaks):				251.3		Total Col2Ave (4 peaks):				249.3 RPD = 1
Corrected Ave (3 peaks):				250.6		Corrected Ave (3 peaks):				249.0 RPD = 1
Aroclor-1254	1	9.242	-0.004	105227	159.2	1	9.404	0.000	25835	94.6
Aroclor-1254	2	9.324	-0.001	51326	172.8	2	9.548	0.049	63343	390.3
Aroclor-1254	3	9.619	0.001	41394	97.0	3	9.925	0.001	22609	102.1
Aroclor-1254	4	9.759	0.003	72223	86.4	4	10.079	0.001	43816	90.7
Aroclor-1254	5	10.135	0.010	49936	98.9	5	10.345	0.016	42513	88.7
Total CollAve (5 peaks):				122.9		Total Col2Ave (5 peaks):				153.3 RPD = 22
Corrected Ave (4 peaks):				110.4		Corrected Ave (4 peaks):				94.0 RPD = 16
Aroclor-1260	1	10.998	0.005	1863	3.7	1	11.617	0.011	2599	7.1
Aroclor-1260	2	11.314	0.004	1152	2.3	2	11.877	0.005	1951	2.0
Aroclor-1260	3	11.695	0.009	1829	1.5	3	12.389	0.001	857	3.6
Aroclor-1260	4	12.097	0.007	1266	2.1	4	12.458	0.003	1302	2.0
Aroclor-1260	5	12.195	0.002	464	1.7	NS	---			----
Total CollAve (5 peaks):				2.3		Total Col2Ave (4 peaks):				3.7 RPD = 48*
Corrected Ave (4 peaks):				1.9		Corrected Ave (3 peaks):				2.5 RPD = 29
Aroclor-1262	1	10.784	0.005	15405	35.8	1	11.077	-0.077	9003	16.0
Aroclor-1262	2	12.195	0.000	464	0.8	2	11.617	0.012	2599	5.5
Aroclor-1262	3	12.271	0.002	489	0.8	3	12.389	0.003	857	1.7
Aroclor-1262	4	12.940	0.001	1638	3.1	4	12.458	0.002	1302	1.5
Total CollAve (4 peaks):				10.1		Total Col2Ave (4 peaks):				6.2 RPD = 48*
Corrected Ave (3 peaks):				1.5		Corrected Ave (3 peaks):				2.9 RPD = 61*
Aroclor-1268	1	12.195	-0.001	464	0.3	1	12.389	0.004	857	0.7
Aroclor-1268	2	12.271	0.003	489	0.3	2	12.458	0.006	1302	0.9
Aroclor-1268	3	12.649	0.001	1831	1.5	3	12.845	0.002	676	0.6
Aroclor-1268	4	13.443	0.006	5387	1.6	4	13.661	-0.003	2707	0.7
Total CollAve (4 peaks):				0.9		Total Col2Ave (4 peaks):				0.7 RPD = 26
Corrected Ave (3 peaks):				0.7		Corrected Ave (3 peaks):				0.6 RPD = 11

Total PCB Area Col1 (5.842 - 13.740) = 1634238 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.842 - 13.740) = 874053 Col2 Total PCB = 0.2 ppm*

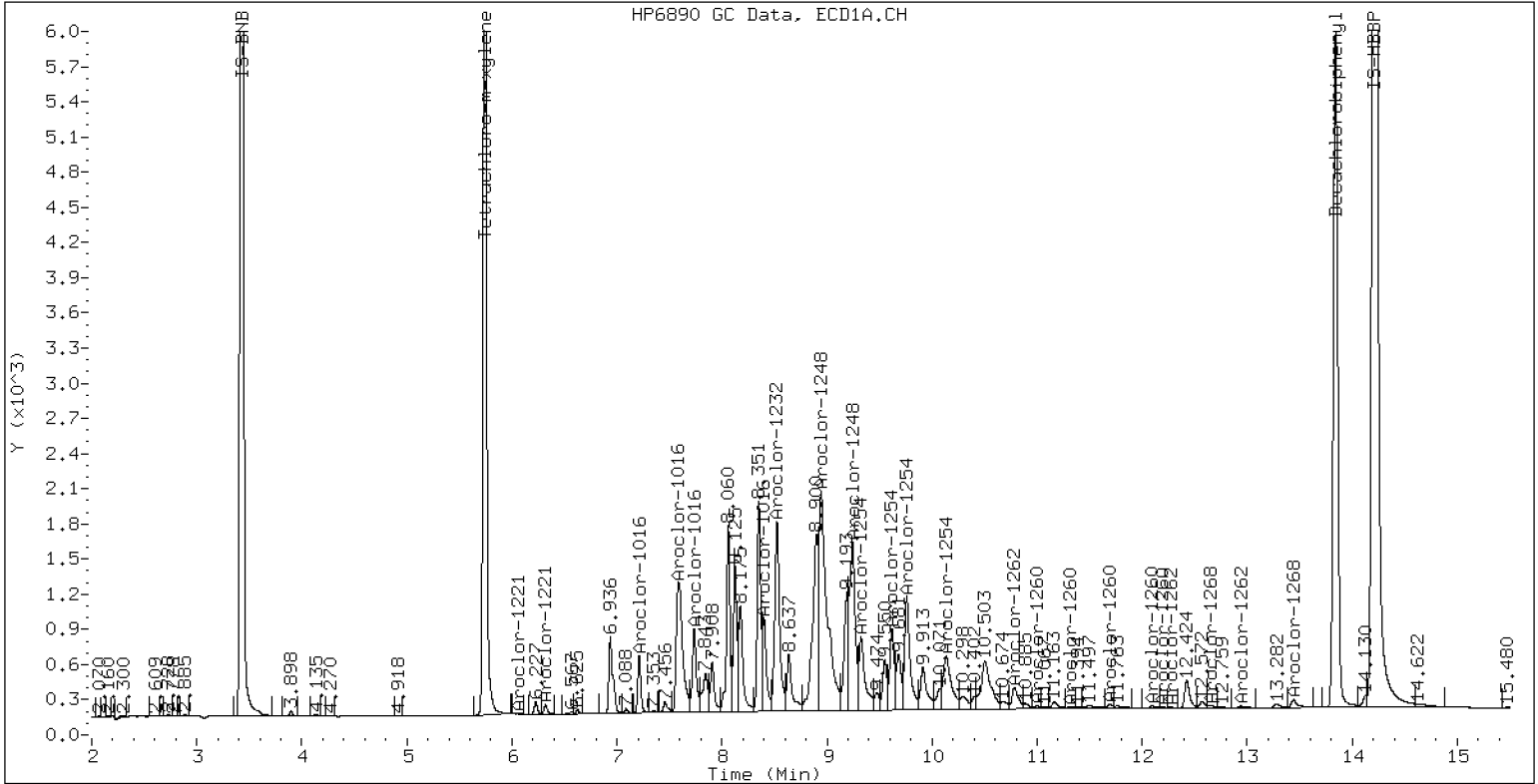
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1248SCV

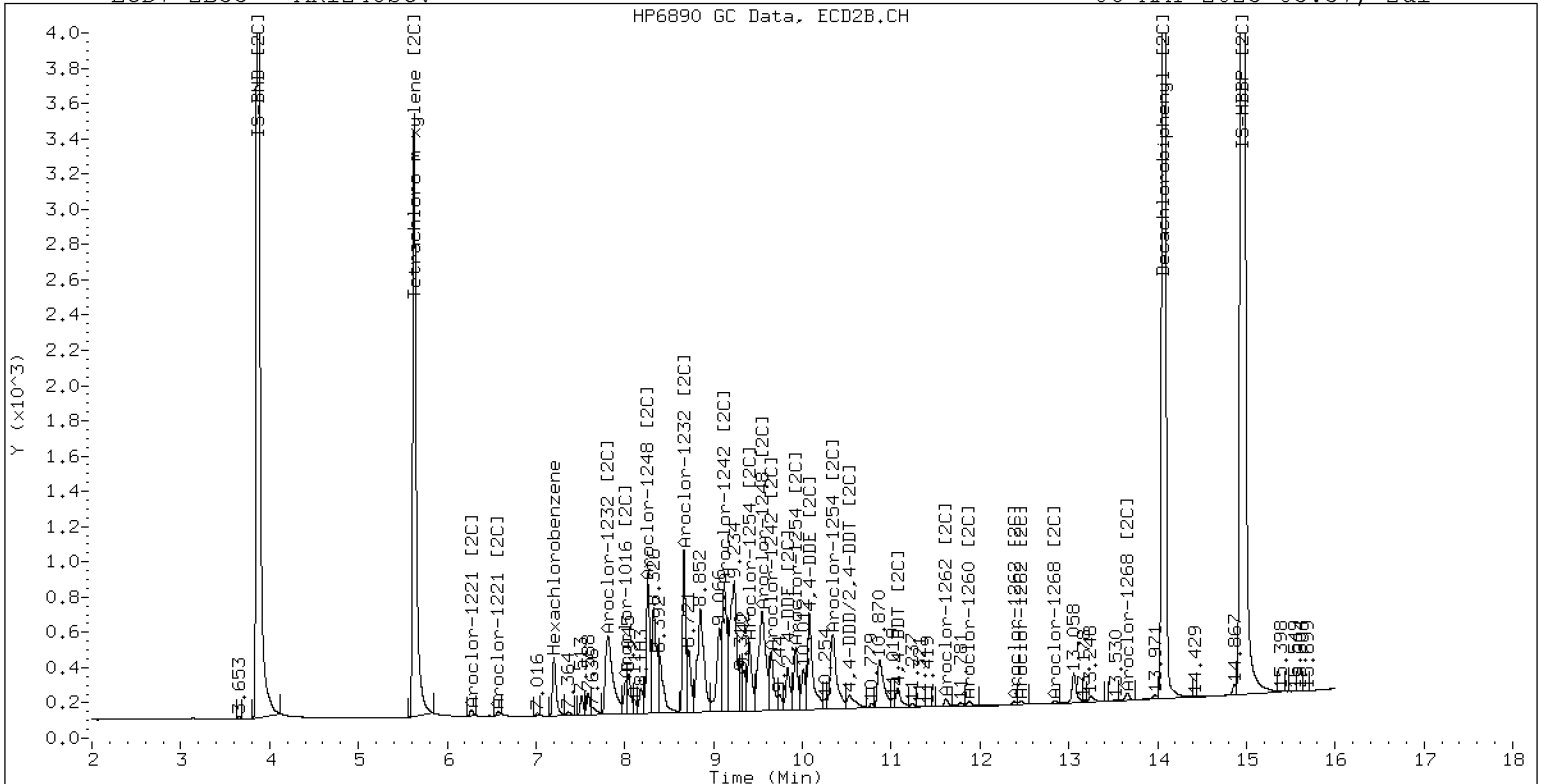
06-MAY-2023 03:57, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248SCV

06-MAY-2023 03:57, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052335ECD7.D
Data file 2: /230505.b/230505.b/05052335ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254SCV
Client ID:
Injection Date: 06-MAY-2023 04:18
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.743	0.001	368022	5.631	0.002	192033	37.6	38.3	2.0	Tetrachloro-m-xylene
13.843	0.002	352066	14.070	0.002	385384	36.0	38.5	6.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	650234	8.1
Hexabromobiphenyl	876625	980276	11.8

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	364142	4.3
Hexabromobiphenyl	652984	705291	8.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.214	0.002	635	2.5	1	---			0.0
Aroclor-1016	2	7.590	-0.004	2512	3.2	2	---			0.0
Aroclor-1016	3	7.738	0.005	1594	4.4	3	---			0.0
Aroclor-1016	4	8.351	-0.047	31774	211.6	4	---			0.0
Total CollAve (4 peaks):				55.4		Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.052	-0.018	242	2.6	2	---			0.0
Aroclor-1221	3	6.322	0.001	427	2.0	3	---			0.0
CollAve: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.052	-0.018	242	3.8	2	---			0.0
Aroclor-1232	3	7.590	-0.005	2512	8.3	3	---			0.0
Aroclor-1232	4	8.528	0.001	13950	107.9	4	---			0.0
Total CollAve (3 peaks):				40.0		Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	7.214	0.002	635	3.1	1	---			0.0
Aroclor-1242	2	7.590	-0.005	2512	3.9	2	---			0.0
Aroclor-1242	3	8.351	-0.047	31774	253.0	3	9.125	0.002	23963	215.9
Aroclor-1242	4	8.528	0.004	13950	48.0	4	9.649	0.099	23982	179.3
Total CollAve (4 peaks):				77.0		Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	8.351	-0.048	31774	191.4	1	8.260	-0.000	23490	135.6
Aroclor-1248	2	8.528	0.004	13950	32.3	2	8.669	0.002	16693	91.2
Aroclor-1248	3	8.941	-0.003	154338	186.1	3	9.125	0.005	23963	111.7
Aroclor-1248	4	9.246	0.003	158369	374.6	4	9.499	-0.047	38716	150.5
Total CollAve (4 peaks):				196.1		Total Col2Ave (4 peaks): 122.3 RPD = 46*				
Corrected Ave (3 peaks):				136.6		Corrected Ave (3 peaks): 112.8 RPD = 19				
Aroclor-1254	1	9.246	-0.001	158369	237.0	1	9.404	0.000	67493	244.0
Aroclor-1254	2	9.325	-0.000	72386	241.1	2	9.499	-0.000	38716	235.6
Aroclor-1254	3	9.617	-0.001	103602	240.1	3	9.925	0.001	53972	240.7
Aroclor-1254	4	9.756	0.000	201259	238.2	4	10.079	0.001	116950	239.0
Aroclor-1254	5	10.127	0.001	122207	239.5	5	10.327	-0.001	118439	243.9
Total CollAve (5 peaks):				239.2		Total Col2Ave (5 peaks): 240.6 RPD = 1				
Corrected Ave (4 peaks):				238.7		Corrected Ave (4 peaks): 239.8 RPD = 0				
Aroclor-1260	1	10.994	0.001	13538	26.1	1	11.615	0.009	33465	89.3
Aroclor-1260	2	11.313	0.003	13900	27.2	2	11.876	0.004	25534	26.1
Aroclor-1260	3	11.689	0.004	32548	25.4	3	12.404	0.016	1811	7.5
Aroclor-1260	4	12.093	0.003	25285	40.3	4	12.458	0.002	14842	22.7
Aroclor-1260	5	12.273	0.079	2534	9.3	NS	---			---
Total CollAve (5 peaks):				25.6		Total Col2Ave (4 peaks): 36.4 RPD = 35				
Corrected Ave (4 peaks):				22.0		Corrected Ave (3 peaks): 18.7 RPD = 16				
Aroclor-1262	1	10.779	0.000	210018	473.6	1	11.073	-0.081	114323	200.0
Aroclor-1262	2	12.273	0.078	2534	4.1	2	11.615	0.010	33465	69.4
Aroclor-1262	3	---			0.0	3	12.404	0.018	1811	3.4
Aroclor-1262	4	12.939	0.001	1830	3.3	4	12.458	0.002	14842	17.3
Total CollAve (3 peaks):				160.3		Total Col2Ave (4 peaks): 72.6 RPD = 75*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 30.1				
Aroclor-1268	1	12.273	0.077	2534	1.6	1	12.404	0.019	1811	1.4
Aroclor-1268	2	---			0.0	2	12.458	0.005	14842	10.3
Aroclor-1268	3	12.654	0.006	2669	2.1	3	12.847	0.004	835	0.7
Aroclor-1268	4	13.442	0.004	6266	1.8	4	13.662	-0.001	2350	0.6
Total CollAve (3 peaks):				1.8		Total Col2Ave (4 peaks): 3.2 RPD = 55*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 0.9				

Total PCB Area Col1 (5.842 - 13.740) = 2123119 Col1 Total PCB = 0.3 ppm*
Total PCB Area Col2 (5.728 - 13.968) = 1146487 Col2 Total PCB = 0.3 ppm*

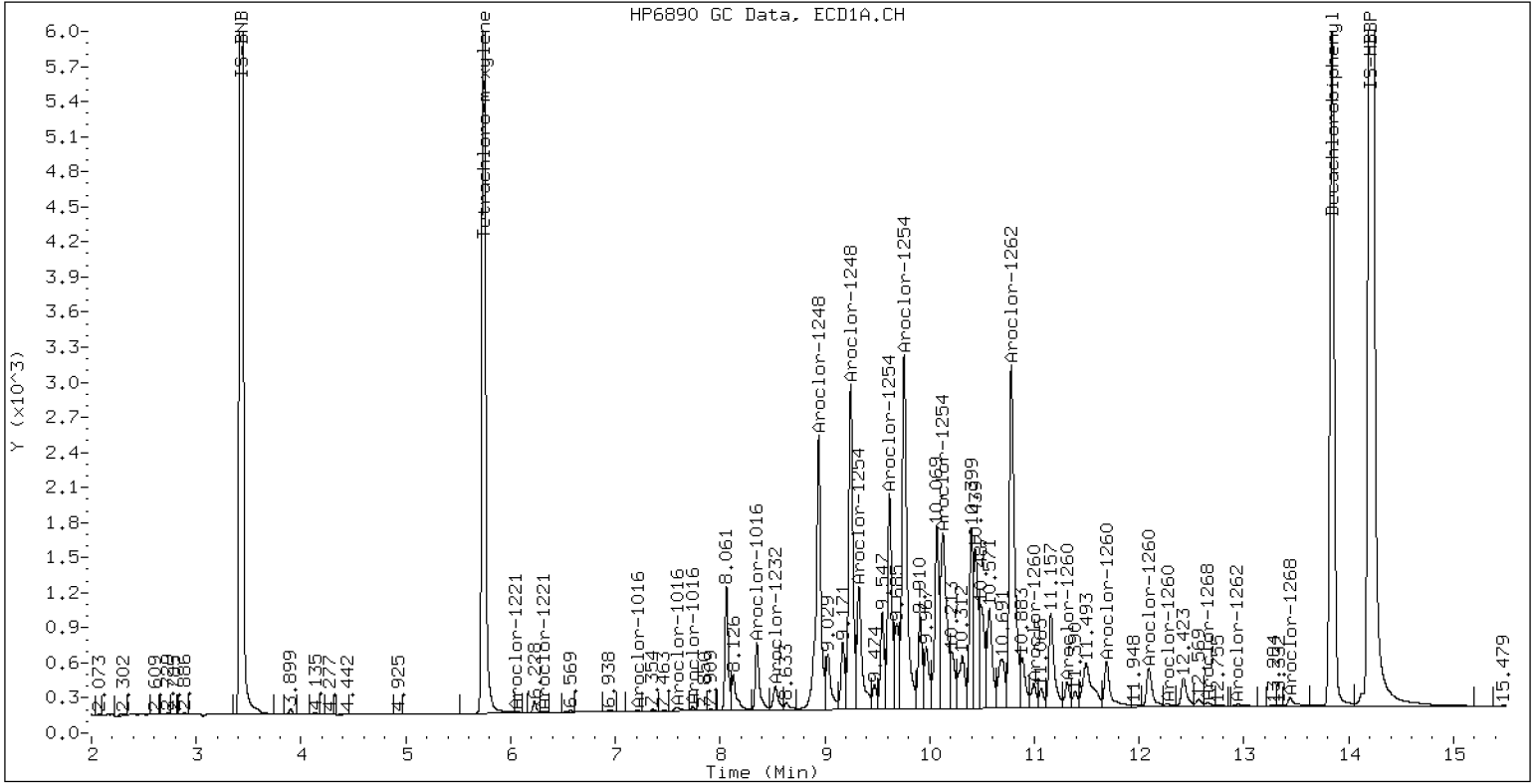
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1254SCV

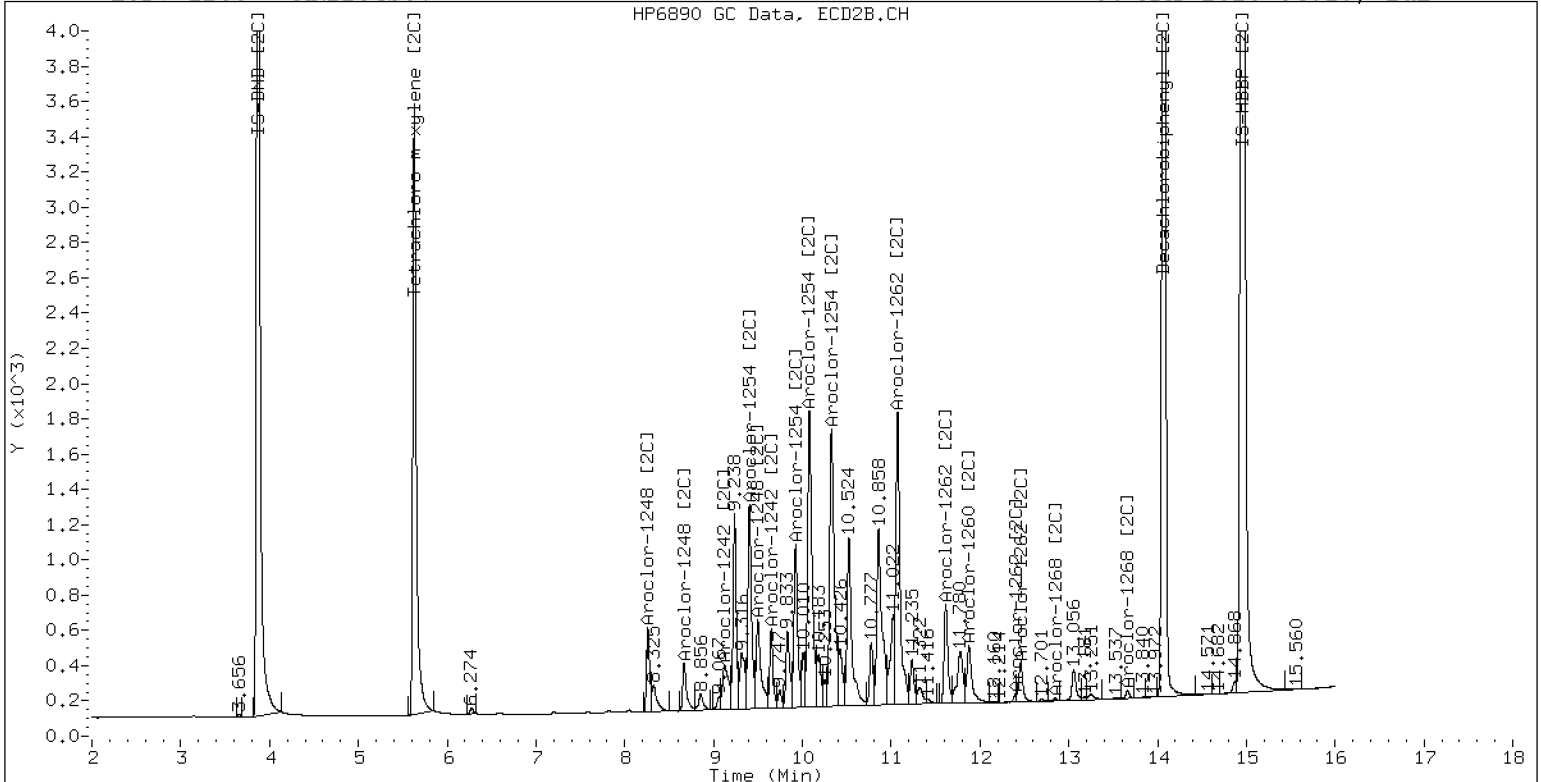
06-MAY-2023 04:18, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254SCV

06-MAY-2023 04:18, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052336ECD7.D
Data file 2: /230505.b/230505.b/05052336ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162SCV
Client ID:
Injection Date: 06-MAY-2023 04:39
Report Date: 05/06/2023 11:31
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	0.000	358254	5.628	-0.000	183759	37.8	39.1	3.3	Tetrachloro-m-xylene
13.842	0.002	344347	14.070	0.002	373300	37.1	38.8	4.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	629547	4.7
Hexabromobiphenyl	876625	929713	6.1

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	341980	-2.1
Hexabromobiphenyl	652984	678097	3.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	0.000	6601	27.1	1	7.207	0.003	3935	20.3	
Aroclor-1016	2	7.595	0.000	13419	17.6	2	7.821	0.013	6146	14.9	
Aroclor-1016	3	7.735	0.003	7114	20.2	3	8.027	0.021	3201	17.6	
Aroclor-1016	4	8.353	-0.045	3916	26.9	4	8.262	0.003	2131	14.7	
Total CollAve (4 peaks):				23.0	Total Col2Ave (4 peaks):				16.9	RPD = 30	
Corrected Ave (3 peaks):				21.6	Corrected Ave (3 peaks):				15.7	RPD = 31	
Aroclor-1221	1	4.663	-0.001	13184	297.8	1	4.893	-0.001	7253	287.5	
Aroclor-1221	2	6.070	0.000	25527	287.4	2	6.244	-0.001	14853	284.1	
Aroclor-1221	3	6.321	0.000	59985	284.3	3	6.571	-0.001	24083	292.9	
Total CollAve (3 peaks):				289.8	Total Col2Ave (3 peaks):				288.2	RPD = 1	
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks						
Aroclor-1232	1	4.663	-0.001	13184	447.0	1	4.893	-0.001	7253	546.9	
Aroclor-1232	2	6.070	0.000	25527	416.0	2	7.207	0.002	3935	51.8	
Aroclor-1232	3	7.595	-0.000	13419	45.9	3	7.821	0.006	6146	40.3	
Aroclor-1232	4	8.528	0.001	2679	21.4	4	8.671	0.002	1120	25.4	
Total CollAve (4 peaks):				232.6	Total Col2Ave (4 peaks):				166.1	RPD = 33	
Corrected Ave (3 peaks):				161.1	Corrected Ave (3 peaks):				39.2	RPD = 122*	
Aroclor-1242	1	7.213	0.001	6601	33.3	1	7.207	0.004	3935	25.7	
Aroclor-1242	2	7.595	-0.000	13419	21.3	2	7.821	0.008	6146	18.9	
Aroclor-1242	3	8.353	-0.045	3916	32.2	3	9.133	0.010	881	8.5	
Aroclor-1242	4	8.528	0.003	2679	9.5	4	9.651	0.101	516	4.1	
Total CollAve (4 peaks):				24.1	Total Col2Ave (4 peaks):				14.3	RPD = 51*	
Corrected Ave (3 peaks):				21.0	Corrected Ave (3 peaks):				10.5	RPD = 67*	
Aroclor-1248	1	8.353	-0.046	3916	24.4	1	8.262	0.002	2131	13.1	
Aroclor-1248	2	8.528	0.003	2679	6.4	2	8.671	0.004	1120	6.5	
Aroclor-1248	3	8.942	-0.002	25144	31.3	3	9.133	0.013	881	4.4	
Aroclor-1248	4	9.251	0.008	25583	62.5	4	9.500	-0.045	335	1.4	
Total CollAve (4 peaks):				31.1	Total Col2Ave (4 peaks):				6.3	RPD = 132*	
Corrected Ave (3 peaks):				20.7	Corrected Ave (3 peaks):				4.1	RPD = 134*	
Aroclor-1254	1	9.251	0.005	25583	39.5	1	9.408	0.004	9719	37.4	
Aroclor-1254	2	---			0.0	2	9.500	0.001	335	2.2	
Aroclor-1254	3	9.620	0.002	4245	10.2	3	9.928	0.004	2055	9.8	
Aroclor-1254	4	9.758	0.003	11050	13.5	4	10.100	0.022	55162	120.0	
Aroclor-1254	5	10.071	-0.055	129151	261.4	5	10.325	-0.004	68421	150.1	
Total CollAve (4 peaks):				81.1	Total Col2Ave (5 peaks):				63.9	RPD = 24	
Corrected Ave (3 peaks):				21.1	Corrected Ave (4 peaks):				42.3	RPD = 67*	
Aroclor-1260	1	10.995	0.002	206643	420.3	1	11.605	-0.001	119902	332.9	
Aroclor-1260	2	11.311	0.001	167443	345.1	2	11.872	0.000	293746	311.8	
Aroclor-1260	3	11.687	0.001	390491	321.4	3	12.386	-0.002	131462	563.2	
Aroclor-1260	4	12.091	0.001	120118	201.8	4	12.456	0.000	212898	338.4	
Aroclor-1260	5	12.195	0.002	155588	599.5	NS	---			----	
Total CollAve (5 peaks):				377.6	Total Col2Ave (4 peaks):				386.6	RPD = 2	
Corrected Ave (4 peaks):				322.2	Corrected Ave (3 peaks):				327.7	RPD = 2	
Aroclor-1262	1	10.777	-0.001	114050	271.2	1	11.153	0.000	141861	258.2	
Aroclor-1262	2	12.195	0.001	155588	263.0	2	11.605	0.000	119902	258.7	
Aroclor-1262	3	12.269	0.000	167998	264.2	3	12.386	-0.000	131462	259.6	
Aroclor-1262	4	12.938	-0.001	136019	262.5	4	12.456	0.000	212898	258.0	
Total CollAve (4 peaks):				265.2	Total Col2Ave (4 peaks):				258.6	RPD = 3	
Corrected Ave (3 peaks):				263.3	Corrected Ave (3 peaks):				258.3	RPD = 2	
Aroclor-1268	1	12.195	-0.000	155588	104.9	1	12.386	0.001	131462	102.4	
Aroclor-1268	2	12.269	0.001	167998	114.1	2	12.456	0.003	212898	154.3	
Aroclor-1268	3	12.675	0.027	60611	51.2	3	12.843	-0.000	8393	7.1	
Aroclor-1268	4	13.439	0.001	49821	14.7	4	13.661	-0.002	39480	10.4	
Total CollAve (4 peaks):				71.2	Total Col2Ave (4 peaks):				68.6	RPD = 4	

Corrected Ave (3 peaks): 56.9 Corrected Ave (3 peaks): 40.0 RPD = 35

Total PCB Area Col1 (5.842 - 13.740) = 2870829 Col1 Total PCB = 0.4 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 1885829 Col2 Total PCB = 0.5 ppm*

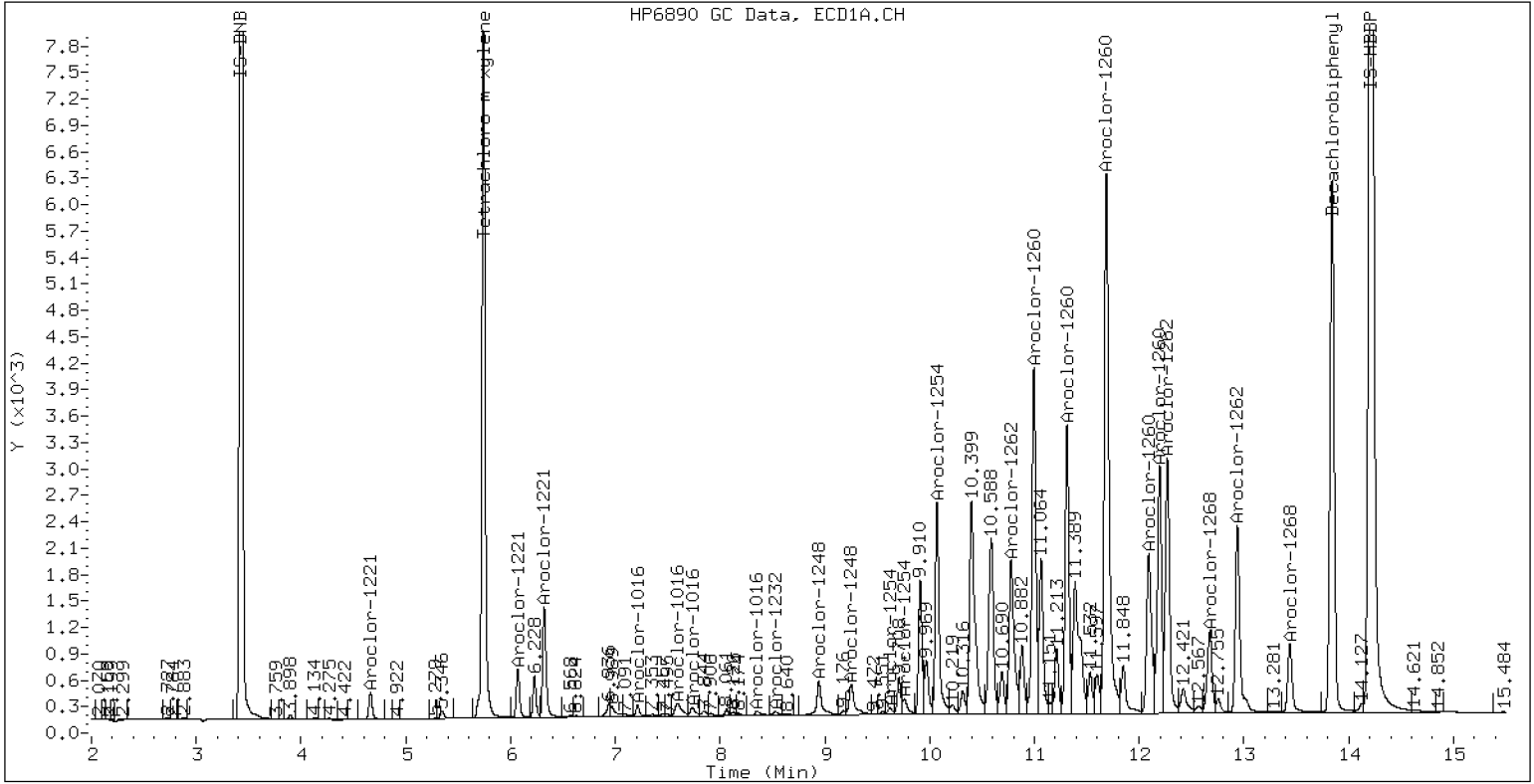
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR2162SCV

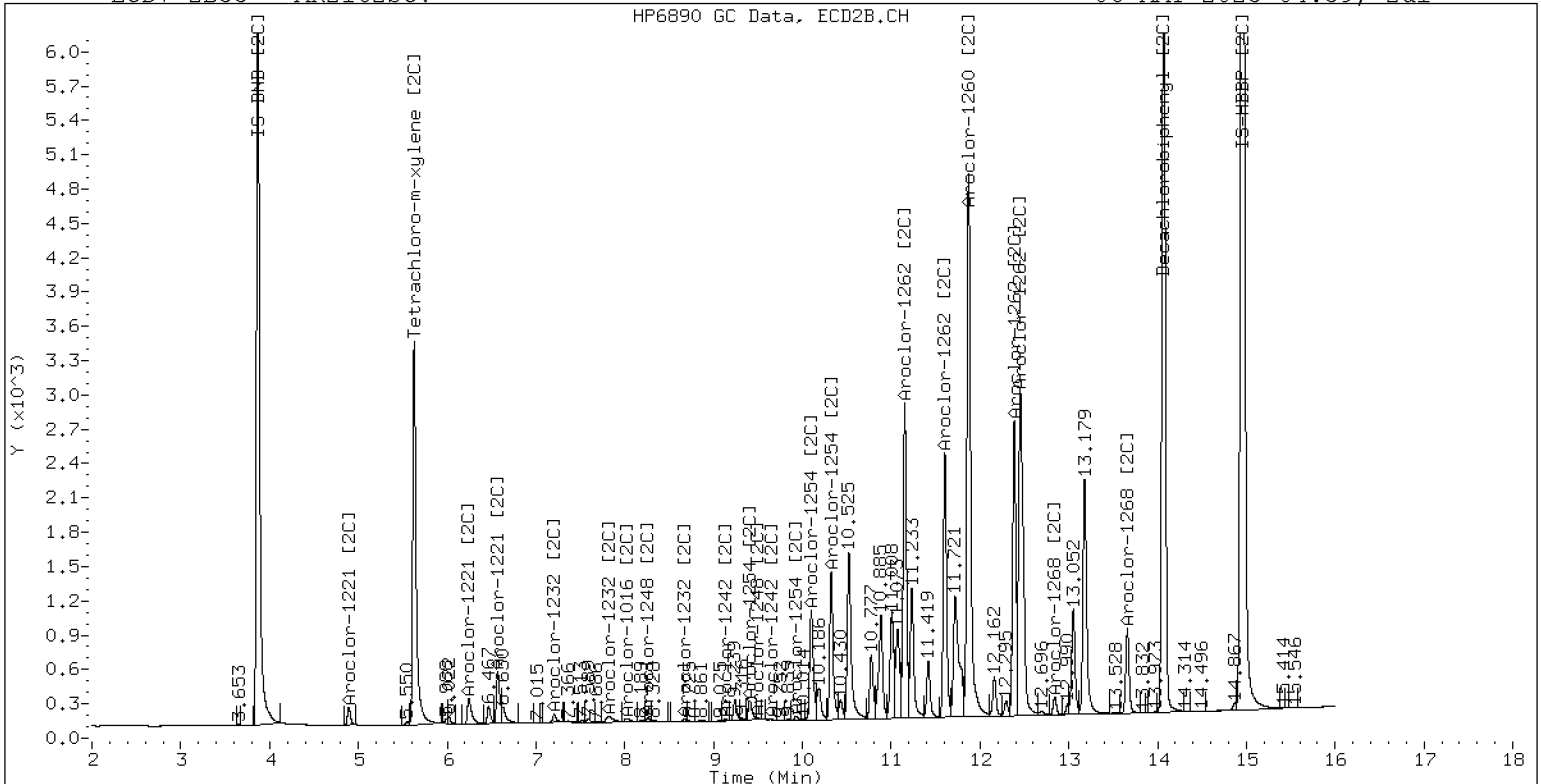
06-MAY-2023 04:39, 2u1



ZB-5 Manual Integration: NO

ECD7-ZB35 AR2162SCV

06-MAY-2023 04:39, 2u1



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052337ECD7.D
Data file 2: /230505.b/230505.b/05052337ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268SCV
Client ID:
Injection Date: 06-MAY-2023 05:00
Report Date: 05/06/2023 11:31
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.743	0.001	373749	5.629	0.001	196946	38.4	40.4	5.2	Tetrachloro-m-xylene
13.842	0.002	525409	14.069	0.001	586548	55.1	59.3	7.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	646456	7.5
Hexabromobiphenyl	876625	954969	8.9

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	354120	1.4
Hexabromobiphenyl	652984	696139	6.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.214	0.001	28623	114.3	1	7.205	0.002	23124	115.4	
Aroclor-1016	2	7.597	0.002	85721	109.5	2	7.815	0.007	47496	111.2	
Aroclor-1016	3	7.735	0.002	41343	114.3	3	8.014	0.008	24029	127.5	
Aroclor-1016	4	8.400	0.002	16653	111.6	4	8.262	0.003	15421	103.0	
Total CollAve (4 peaks):				112.4	Total Col2Ave (4 peaks):				114.3	RPD = 2	
Corrected Ave (3 peaks):				111.8	Corrected Ave (3 peaks):				109.9	RPD = 2	
Aroclor-1221	1	4.664	0.001	7272	159.9	1	4.895	0.000	4045	154.9	
Aroclor-1221	2	6.070	0.001	13478	147.8	2	6.246	0.000	9235	170.6	
Aroclor-1221	3	6.321	0.001	43831	202.3	3	6.572	0.000	24300	285.4	
Total CollAve (3 peaks):				170.0	Total Col2Ave (3 peaks):				203.6	RPD = 18	
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks						
Aroclor-1232	1	4.664	0.001	7272	240.1	1	4.895	0.001	4045	294.5	
Aroclor-1232	2	6.070	0.001	13478	213.9	2	7.205	0.001	23124	294.1	
Aroclor-1232	3	7.597	0.002	85721	285.5	3	7.815	0.000	47496	300.7	
Aroclor-1232	4	8.527	0.000	36809	286.5	4	8.669	-0.000	14324	313.2	
Total CollAve (4 peaks):				256.5	Total Col2Ave (4 peaks):				300.6	RPD = 16	
Corrected Ave (3 peaks):				246.5	Corrected Ave (3 peaks):				296.5	RPD = 18	
Aroclor-1242	1	7.214	0.002	28623	140.5	1	7.205	0.002	23124	146.1	
Aroclor-1242	2	7.597	0.002	85721	132.8	2	7.815	0.002	47496	141.1	
Aroclor-1242	3	8.400	0.002	16653	133.4	3	9.128	0.005	14403	133.4	
Aroclor-1242	4	8.527	0.003	36809	127.4	4	9.648	0.098	5512	42.4	
Total CollAve (4 peaks):				133.5	Total Col2Ave (4 peaks):				115.7	RPD = 14	
Corrected Ave (3 peaks):				131.2	Corrected Ave (3 peaks):				105.6	RPD = 22	
Aroclor-1248	1	8.400	0.001	16653	100.9	1	8.262	0.002	15421	91.5	
Aroclor-1248	2	8.527	0.003	36809	85.8	2	8.669	0.002	14324	80.5	
Aroclor-1248	3	8.944	0.000	89377	108.4	3	9.128	0.008	14403	69.0	
Aroclor-1248	4	9.238	-0.005	41570	98.9	4	9.560	0.015	17331	69.3	
Total CollAve (4 peaks):				98.5	Total Col2Ave (4 peaks):				77.6	RPD = 24	
Corrected Ave (3 peaks):				95.2	Corrected Ave (3 peaks):				72.9	RPD = 26	
Aroclor-1254	1	9.238	-0.008	41570	62.6	1	9.407	0.003	5487	20.4	
Aroclor-1254	2	9.326	0.001	12640	42.3	2	9.560	0.061	17331	108.4	
Aroclor-1254	3	9.624	0.006	7232	16.9	3	9.929	0.005	3481	16.0	
Aroclor-1254	4	9.764	0.008	11671	13.9	4	10.086	0.009	7259	15.3	
Aroclor-1254	5	10.139	0.014	7544	14.9	5	10.345	0.017	6610	14.0	
Total CollAve (5 peaks):				30.1	Total Col2Ave (5 peaks):				34.8	RPD = 14	
Corrected Ave (4 peaks):				22.0	Corrected Ave (4 peaks):				16.4	RPD = 29	
Aroclor-1260	1	10.998	0.005	85093	168.5	1	11.598	-0.008	75237	203.5	
Aroclor-1260	2	11.313	0.003	6363	12.8	2	11.873	0.001	33655	34.8	
Aroclor-1260	3	11.688	0.002	47857	38.3	3	12.384	-0.004	346138	1444.4	
Aroclor-1260	4	12.094	0.004	1291	2.1	4	12.453	-0.002	373218	577.8	
Aroclor-1260	5	12.195	0.001	406211	1523.9	NS	---			----	
Total CollAve (5 peaks):				349.1	Total Col2Ave (4 peaks):				565.1	RPD = 47*	
Corrected Ave (4 peaks):				55.4	Corrected Ave (3 peaks):				272.0	RPD = 132*	
Aroclor-1262	1	10.785	0.006	4006	9.3	1	11.156	0.002	52531	93.1	
Aroclor-1262	2	12.195	0.000	406211	668.6	2	11.598	-0.007	75237	158.2	
Aroclor-1262	3	12.268	-0.002	403730	618.2	3	12.384	-0.002	346138	665.8	
Aroclor-1262	4	12.937	-0.002	145536	273.5	4	12.453	-0.002	373218	440.5	
Total CollAve (4 peaks):				392.4	Total Col2Ave (4 peaks):				339.4	RPD = 14	
Corrected Ave (3 peaks):				300.3	Corrected Ave (3 peaks):				230.6	RPD = 26	
Aroclor-1268	1	12.195	-0.001	406211	266.7	1	12.384	-0.001	346138	262.7	
Aroclor-1268	2	12.268	-0.000	403730	266.9	2	12.453	0.001	373218	263.5	
Aroclor-1268	3	12.648	-0.000	323568	266.0	3	12.844	0.001	316122	260.6	
Aroclor-1268	4	13.439	0.002	920777	265.1	4	13.663	0.000	1029335	264.8	
Total CollAve (4 peaks):				266.2	Total Col2Ave (4 peaks):				262.9	RPD = 1	

Corrected Ave (3 peaks): 265.9 Corrected Ave (3 peaks): 262.3 RPD = 1

Total PCB Area Col1 (5.842 - 13.740) = 3325332 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 2876097 Col2 Total PCB = 0.7 ppm*

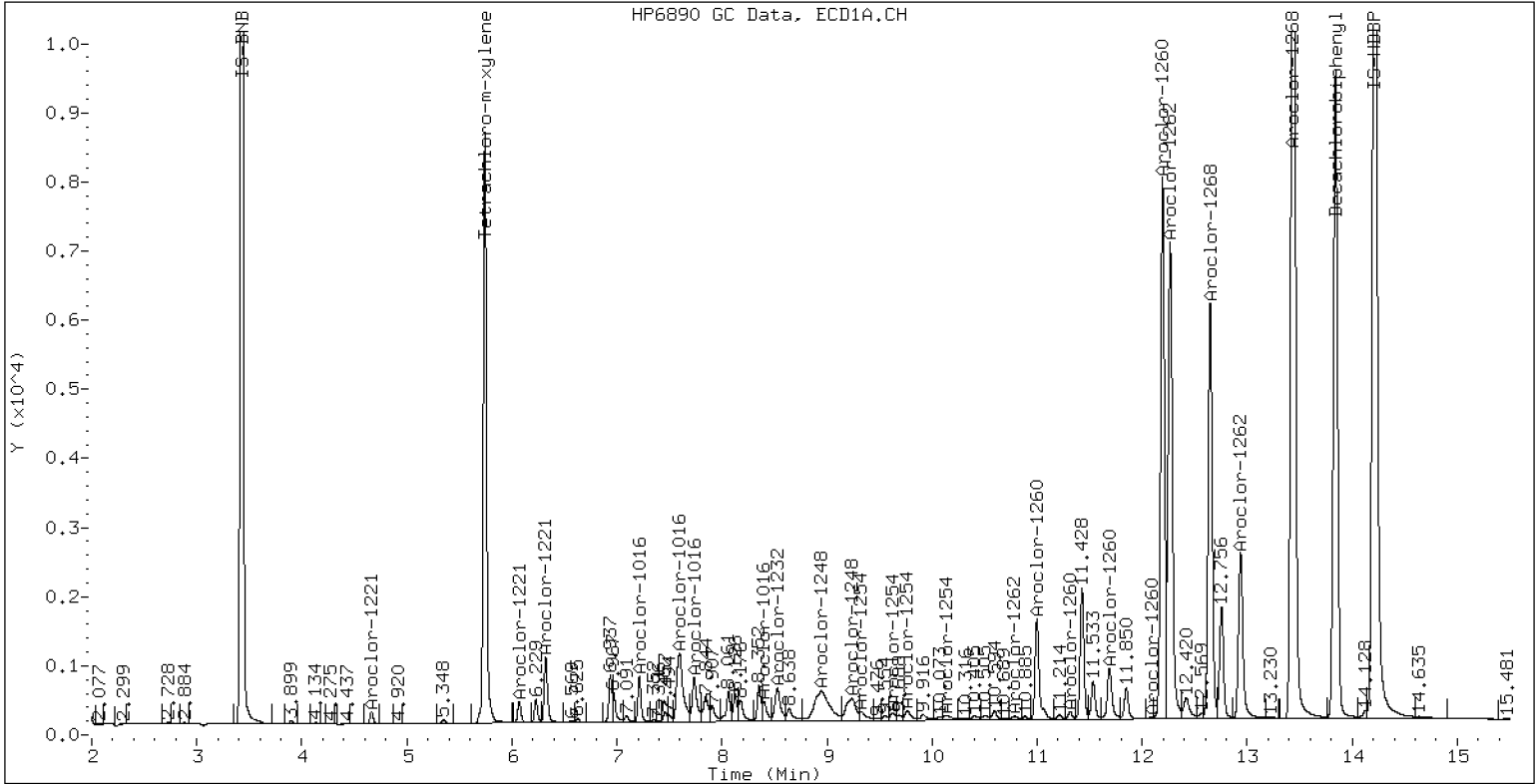
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR3268SCV

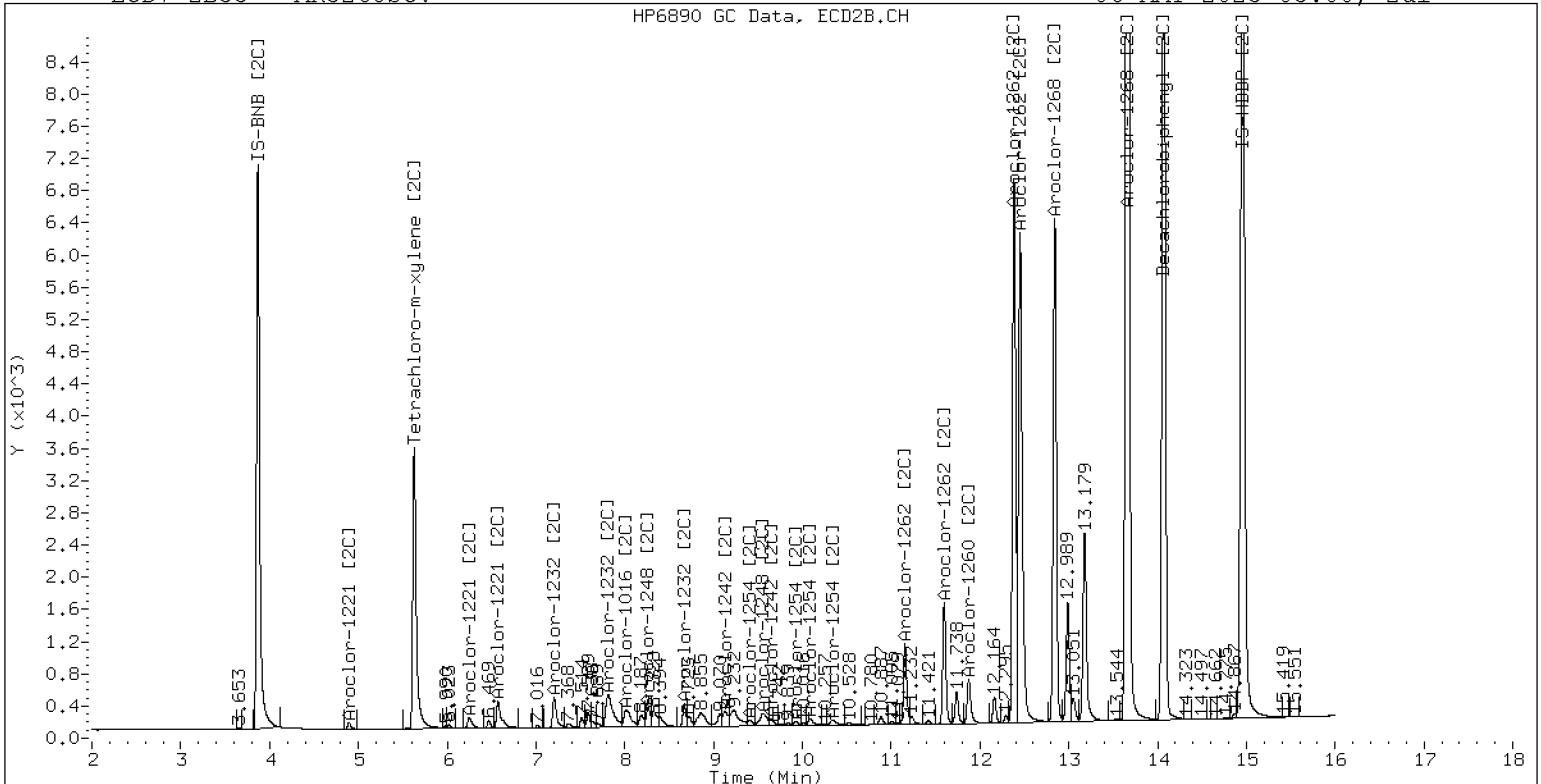
06-MAY-2023 05:00, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR3268SCV

06-MAY-2023 05:00, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /230505.b/05052338ECD7.D

ARI ID: DDTS

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
9.206	0.000 428189	0.000 428008	9.867	0.100	0.000	----	2,4-DDE
0.000	-10.293 0	0.000 621468	10.625	0.000	0.000#	----	2,4-DDT
9.635	0.000 1004111	0.000 369270	10.165	0.100	0.000	----	4,4-DDE
10.243	0.000 476377	0.000 621468	10.625	0.100	0.000#	----	4,4-DDD

Indicates value is from co-eluting peaks

* Indicates RPD > 40%

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /230505.b/05052339ECD7.D

ARI ID: DDT BD

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
9.158	-0.049 12021	9.884 0.017 17091	0.002	0.000	----	2,4-DDE
0.000	-10.293 0	10.633 0.008 326807	0.000	0.000#	----	2,4-DDT
9.644	0.009 16770	10.190 0.025 488	0.001	0.000	----	4,4-DDE
10.216	-0.028 403865	10.633 0.008 326807	0.068	0.000#	----	4,4-DDD

Indicates value is from co-eluting peaks

* Indicates RPD > 40%



ANALYSIS SEQUENCE

SLE0079

Instrument: ECD7
Calibration ID: GE00022

Printed: 5/6/2023 11:44:56AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SLE0079-CAL1	QC		1		L000856	L000844		
SLE0079-CAL2	QC		2		L000859	L000844		
SLE0079-CAL3	QC		3		L000858	L000844		
SLE0079-CAL4	QC		4		L000731	L000844		
SLE0079-CAL5	QC		5		L000857	L000844		
SLE0079-CAL6	QC		6		L000855	L000844		
SLE0079-CAL7	QC		7		L000860	L000844		
SLE0079-CAL8	QC		8		L000861	L000844		
SLE0079-CAL9	QC		9		L000862	L000844		
SLE0079-CALA	QC		10		L004996	L000844		
SLE0079-CALB	QC		11		L004997	L000844		
SLE0079-SCV1	QC		12		L002065	L000844		
SLE0079-SCV2	QC		13		L003970	L000844		
SLE0079-SCV3	QC		14		L002066	L000844		
SLE0079-SCV4	QC		15		L002067	L000844		
SLE0079-SCV5	QC		16		L002068	L000844		
SLE0079-SCV6	QC		17		L002069	L000844		

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	05-MAY-2023	23:06	05052320ECD7.D	1	IB	
2	05-MAY-2023	23:26	05052321ECD7.D	1	0.25PPMAR1660	
3	05-MAY-2023	23:47	05052322ECD7.D	1	0.02PPMAR1660	
4	06-MAY-2023	00:08	05052323ECD7.D	1	0.05PPMAR1660	
5	06-MAY-2023	00:29	05052324ECD7.D	1	1.0PPMAR1660	
6	06-MAY-2023	00:50	05052325ECD7.D	1	0.1PPMAR1660	
7	06-MAY-2023	01:11	05052326ECD7.D	1	0.5PPMAR1660	
8	06-MAY-2023	01:31	05052327ECD7.D	1	0.25PPMAR1242	
9	06-MAY-2023	01:52	05052328ECD7.D	1	0.25PPMAR1248	
10	06-MAY-2023	02:13	05052329ECD7.D	1	0.25PPMAR1254	
11	06-MAY-2023	02:34	05052330ECD7.D	1	0.25PPMAR2162	
12	06-MAY-2023	02:55	05052331ECD7.D	1	0.25PPMAR3268	
13	06-MAY-2023	03:16	05052332ECD7.D	1	AR1660SCV	
14	06-MAY-2023	03:36	05052333ECD7.D	1	AR1242SCV	
15	06-MAY-2023	03:57	05052334ECD7.D	1	AR1248SCV	
16	06-MAY-2023	04:18	05052335ECD7.D	1	AR1254SCV	
17	06-MAY-2023	04:39	05052336ECD7.D	1	AR2162SCV	
18	06-MAY-2023	05:00	05052337ECD7.D	1	AR3268SCV	
19	06-MAY-2023	05:21	05052338ECD7.D	1	DDTS	
20	06-MAY-2023	05:41	05052339ECD7.D	1	DDT BD	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b

ARI Job No.: Method: PCB.m Instrument: ecd7.i Date: 05-MAY-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1548	05052301ECD7.D			1	NO MANUAL INTEGRATION
1609	05052302ECD7.D			1	NO MANUAL INTEGRATION
1711	05052303ECD7.D			1	NO MANUAL INTEGRATION
1732	05052304ECD7.D			1	NO MANUAL INTEGRATION
1753	05052305ECD7.D			1	NO MANUAL INTEGRATION
1814	05052306ECD7.D			1	NO MANUAL INTEGRATION
1835	05052307ECD7.D			1	NO MANUAL INTEGRATION
1856	05052308ECD7.D			1	NO MANUAL INTEGRATION
1916	05052309ECD7.D			1	NO MANUAL INTEGRATION
1937	05052310ECD7.D			1	NO MANUAL INTEGRATION
1958	05052311ECD7.D			1	NO MANUAL INTEGRATION
2019	05052312ECD7.D			1	NO MANUAL INTEGRATION
2040	05052313ECD7.D			1	NO MANUAL INTEGRATION
2101	05052314ECD7.D			1	NO MANUAL INTEGRATION
2121	05052315ECD7.D			1	NO MANUAL INTEGRATION
2142	05052316ECD7.D			1	NO MANUAL INTEGRATION
2203	05052317ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2224	05052318ECD7.D			1	NO MANUAL INTEGRATION
2245	05052319ECD7.D			1	NO MANUAL INTEGRATION
2306	05052320ECD7.D	IB		1	NO MANUAL INTEGRATION
2326	05052321ECD7.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
2347	05052322ECD7.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
0008	05052323ECD7.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
0029	05052324ECD7.D	1.0PPMAR1660		1	NO MANUAL INTEGRATION
0050	05052325ECD7.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
0111	05052326ECD7.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
0131	05052327ECD7.D	0.25PPMAR1242		1	NO MANUAL INTEGRATION
0152	05052328ECD7.D	0.25PPMAR1248		1	NO MANUAL INTEGRATION
0213	05052329ECD7.D	0.25PPMAR1254		1	NO MANUAL INTEGRATION
0234	05052330ECD7.D	0.25PPMAR2162		1	NO MANUAL INTEGRATION
0255	05052331ECD7.D	0.25PPMAR3268		1	NO MANUAL INTEGRATION
0316	05052332ECD7.D	AR1660SCV		1	NO MANUAL INTEGRATION
0336	05052333ECD7.D	AR1242SCV		1	NO MANUAL INTEGRATION
0357	05052334ECD7.D	AR1248SCV		1	NO MANUAL INTEGRATION
0418	05052335ECD7.D	AR1254SCV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0439	05052336ECD7.D	AR2162SCV		1	NO MANUAL INTEGRATION
0500	05052337ECD7.D	AR3268SCV		1	NO MANUAL INTEGRATION
0521	05052338ECD7.D	DDTS		1	NO MANUAL INTEGRATION
0541	05052339ECD7.D	DDT BD		1	NO MANUAL INTEGRATION
1548	05052301ECD7.D	RINSE		1	NO MANUAL INTEGRATION
1609	05052302ECD7.D	RINSE		1	NO MANUAL INTEGRATION
1711	05052303ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1732	05052304ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1753	05052305ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1814	05052306ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1835	05052307ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1856	05052308ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1916	05052309ECD7.D	RINSE		1	NO MANUAL INTEGRATION
1937	05052310ECD7.D	RINSE		1	NO MANUAL INTEGRATION
1958	05052311ECD7.D	RINSE		1	NO MANUAL INTEGRATION
2019	05052312ECD7.D	RINSE		1	NO MANUAL INTEGRATION
2040	05052313ECD7.D	RINSE		1	NO MANUAL INTEGRATION
2101	05052314ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b\230505.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2121	05052315ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
2142	05052316ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
2203	05052317ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
2224	05052318ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
2245	05052319ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
2306	05052320ECD7.D	IB		1	NO MANUAL INTEGRATION
2326	05052321ECD7.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
2347	05052322ECD7.D	0.02PPMAR1660		1	Aroclor-1016 [2C],
0008	05052323ECD7.D	0.05PPMAR1660		1	Aroclor-1016 [2C],
0029	05052324ECD7.D	1.0PPMAR1660		1	NO MANUAL INTEGRATION
0050	05052325ECD7.D	0.1PPMAR1660		1	Aroclor-1016 [2C],
0111	05052326ECD7.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
0132	05052327ECD7.D	0.25PPMAR1242		1	Aroclor-1242 [2C],
0152	05052328ECD7.D	0.25PPMAR1248		1	NO MANUAL INTEGRATION
0213	05052329ECD7.D	0.25PPMAR1254		1	NO MANUAL INTEGRATION
0234	05052330ECD7.D	0.25PPMAR2162		1	NO MANUAL INTEGRATION
0255	05052331ECD7.D	0.25PPMAR3268		1	NO MANUAL INTEGRATION
0316	05052332ECD7.D	AR1660SCV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b\230505.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0336	05052333ECD7.D	AR1242SCV		1	Aroclor-1242 [2C],
0357	05052334ECD7.D	AR1248SCV		1	NO MANUAL INTEGRATION
0418	05052335ECD7.D	AR1254SCV		1	NO MANUAL INTEGRATION
0439	05052336ECD7.D	AR2162SCV		1	NO MANUAL INTEGRATION
0500	05052337ECD7.D	AR3268SCV		1	NO MANUAL INTEGRATION
0521	05052338ECD7.D	DDTS		1	NO MANUAL INTEGRATION
0541	05052339ECD7.D	DDT BD		1	NO MANUAL INTEGRATION

Security Status Report

Date: 06-May-2023 09:12

05052320ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052321ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052322ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052323ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052324ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052325ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052326ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052327ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052328ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052329ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052330ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052331ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052332ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052333ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052334ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052335ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052336ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052337ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052338ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052339ECD7.D	Data Locked	richardl, 06-May-2023 09:12

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 05:21
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m
 Last Edit : 06-May-2023 09:04 ecd7.i
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem4\ecd7.i\230505.b\05052322ECD7.D
 Level 2: \\target\share\chem4\ecd7.i\230505.b\05052323ECD7.D
 Level 3: \\target\share\chem4\ecd7.i\230505.b\05052325ECD7.D
 Level 4: \\target\share\chem4\ecd7.i\230505.b\05052321ECD7.D
 Level 5: \\target\share\chem4\ecd7.i\230505.b\05052326ECD7.D
 Level 6: \\target\share\chem4\ecd7.i\230505.b\05052324ECD7.D
 Level 7: \\target\share\chem4\ecd7.i\230505.b\05052331ECD7.D
 Level 8: \\target\share\chem4\ecd7.i\230505.b\05052338ECD7.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
2 Aroclor-1221(1)	0.00563	0.000e+00					0.00563	0.000
(2)	0.01129						0.01129	0.000
(3)	0.02681						0.02681	0.000
3 Aroclor-1242(1)	0.02521						0.02521	0.000
(2)	0.07988						0.07988	0.000
(3)	0.01545						0.01545	0.000
(4)	0.03576						0.03576	0.000
4 Aroclor-1232(1)	0.00375						0.00375	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 05:21
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m
 Last Edit : 06-May-2023 09:04 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
(2)	0.00780	0.000e+00					0.00780	0.000
(3)	0.03715						0.03715	0.000
(4)	0.01590						0.01590	0.000
7 Aroclor-1016(1)	0.03259	0.03226	0.03462	0.03138	0.02909	0.02592	0.03098	9.876
(2)	0.08782	0.09418	0.10520	0.10209	0.09934	0.09254	0.09686	6.702
(3)	0.04375	0.04849	0.05094	0.04519	0.04205	0.03826	0.04478	10.130
(4)	0.01716	0.01921	0.02127	0.01901	0.01783	0.01637	0.01847	9.437
6 Aroclor-1248(1)	0.02042						0.02042	0.000
(2)	0.05306						0.05306	0.000
(3)	0.10205						0.10205	0.000
(4)	0.05202						0.05202	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 05:21
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m
 Last Edit : 06-May-2023 09:04 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
8 Aroclor-1254 (1)	0.08222	0.000e+00					0.08222	0.000
(2)	0.03694						0.03694	0.000
(3)	0.05308						0.05308	0.000
(4)	0.10397						0.10397	0.000
(5)	0.06279						0.06279	0.000
9 Aroclor-1260 (1)	0.04580	0.04187	0.04489	0.04230	0.04061	0.03834	0.04230	6.490
(2)	0.04434	0.04115	0.04438	0.04189	0.04043	0.03831	0.04175	5.623
(3)	0.11170	0.10434	0.11116	0.10510	0.10043	0.09464	0.10456	6.204
(4)	0.05460	0.05000	0.05382	0.05169	0.04996	0.04720	0.05121	5.355
(5)	0.02498	0.02246	0.02370	0.02202	0.02100	0.01982	0.02233	8.279
10 Aroclor-1262 (1)	0.03619						0.03619	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 05:21
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m
 Last Edit : 06-May-2023 09:04 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
(2)	0.05090	0.000e+00					0.05090	0.000
(3)	0.05471						0.05471	0.000
(4)	0.04459						0.04459	0.000
11 Aroclor-1268(1)	0.12759						0.12759	0.000
(2)	0.12671						0.12671	0.000
(3)	0.10191						0.10191	0.000
(4)	0.29098						0.29098	0.000
42 2,4-DDE		636					636	0.000
43 2,4-DDD		1208					1208	0.000
44 2,4-DDT								
46 4,4-DDE		1492					1492	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 05:21
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m
 Last Edit : 06-May-2023 09:04 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
47 4,4-DDD	+++++	+++++ 708	+++++	+++++	+++++	+++++	708	0.000
48 4,4-DDT	+++++	+++++ 630	+++++	+++++	+++++	+++++	630	0.000
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
1 Tetrachloro-m-xylene	1.21049	1.18252	1.29993	1.22669	1.16878	1.14053	1.20482	4.619
13 Decachlorobiphenyl	0.89752	0.83715	0.84851	0.77945	0.72713	0.70508	0.79914	9.361

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 02:55
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m\PCB2.m
 Last Edit : 06-May-2023 11:14 ecd7.i
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem4\ecd7.i\230505.b\230505.b\05052322ECD7.D
 Level 2: \\target\share\chem4\ecd7.i\230505.b\230505.b\05052323ECD7.D
 Level 3: \\target\share\chem4\ecd7.i\230505.b\230505.b\05052325ECD7.D
 Level 4: \\target\share\chem4\ecd7.i\230505.b\230505.b\05052321ECD7.D
 Level 5: \\target\share\chem4\ecd7.i\230505.b\230505.b\05052326ECD7.D
 Level 6: \\target\share\chem4\ecd7.i\230505.b\230505.b\05052324ECD7.D
 Level 7: \\target\share\chem4\ecd7.i\230505.b\230505.b\05052331ECD7.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
1 Aroclor-1221 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00590	0.000
(2)	0.01223						0.01223	0.000
(3)	0.01924						0.01924	0.000
4 Aroclor-1232 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00310	0.000
(2)	0.01776						0.01776	0.000
(3)	0.03568						0.03568	0.000
(4)	0.01033						0.01033	0.000
3 Aroclor-1242 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	0.03575	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 02:55
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m\PCB2.m
 Last Edit : 06-May-2023 11:14 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
(2)	0.07606	+++++	+++++	+++++	+++++	+++++	0.07606	0.000
(3)	0.02438	+++++	+++++	+++++	+++++	+++++	0.02438	0.000
(4)	0.02939	+++++	+++++	+++++	+++++	+++++	0.02939	0.000
6 Aroclor-1248 [2C] (1)	0.03806	+++++	+++++	+++++	+++++	+++++	0.03806	0.000
(2)	0.04020	+++++	+++++	+++++	+++++	+++++	0.04020	0.000
(3)	0.04712	+++++	+++++	+++++	+++++	+++++	0.04712	0.000
(4)	0.05651	+++++	+++++	+++++	+++++	+++++	0.05651	0.000
7 Aroclor-1016 [2C] (1)	0.05158	0.04743	0.04866	0.04443	0.04159	0.03802	0.04529	10.942
(2)	0.09850	0.09560	0.10183	0.09745	0.09528	0.09038	0.09651	3.959
(3)	0.04379	0.04462	0.04622	0.04230	0.04046	0.03801	0.04257	6.991
(4)	0.03635	0.03727	0.03735	0.03308	0.03084	0.02798	0.03381	11.400

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 02:55
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m\PCB2.m
 Last Edit : 06-May-2023 11:14 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
8 Aroclor-1254 [2C] (1)	++++ 0.06078	++++	++++	++++	++++	++++	0.06078	0.000
(2)	++++ 0.03611	++++	++++	++++	++++	++++	0.03611	0.000
(3)	++++ 0.04927	++++	++++	++++	++++	++++	0.04927	0.000
(4)	++++ 0.10751	++++	++++	++++	++++	++++	0.10751	0.000
(5)	++++ 0.10667	++++	++++	++++	++++	++++	0.10667	0.000
10 Aroclor-1262 [2C] (1)	++++ 0.06482	++++	++++	++++	++++	++++	0.06482	0.000
(2)	++++ 0.05467	++++	++++	++++	++++	++++	0.05467	0.000
(3)	++++ 0.05974	++++	++++	++++	++++	++++	0.05974	0.000
(4)	++++ 0.09737	++++	++++	++++	++++	++++	0.09737	0.000
9 Aroclor-1260 [2C] (1)	0.04544 ++++	0.04273	0.04504	0.04279	0.04076	0.03816	0.04249	6.408
(2)	0.11282 ++++	0.11085	0.11919	0.11378	0.10815	0.10199	0.11113	5.208

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 02:55
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m\PCB2.m
 Last Edit : 06-May-2023 11:14 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
(3)	0.02783	0.02652	0.02791	0.02780	0.02775	0.02743	0.02754	1.918
(4)	0.07670	0.07341	0.07861	0.07586	0.07265	0.06817	0.07423	4.962
11 Aroclor-1268 [2C] (1)	0.15139						0.15139	0.000
(2)	0.16276						0.16276	0.000
(3)	0.13938						0.13938	0.000
(4)	0.44675						0.44675	0.000
41 2,4-DDE [2C]								
42 2,4-DDD [2C]								
44 4,4-DDE [2C]								
45 4,4-DDD/2,4-DDT [2C]								
46 4,4-DDT [2C]								

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAY-2023 23:26
 End Cal Date : 06-MAY-2023 02:55
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd7.i\230505.b\PCB.m\PCB2.m
 Last Edit : 06-May-2023 11:14 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
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
\$ 2 Tetrachloro-m-xylene [2C]	1.09077	1.07641	1.18129	1.13054	1.07870	1.04559	1.10055	4.376
\$ 13 Decachlorobiphenyl [2C]	1.04434	1.07403	1.22005	1.18343	1.16419	1.13004	1.13601	5.890

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\230505.b
Inst ID: ecd7.i

ID: RT01 RT02 RT03 RT04 RT05 RT06
FILENAME: 05052321ECD7 05052322ECD7 05052323ECD7 05052324ECD7 05052325ECD7 05052326ECD7
INJ. DATE: 05-MAY-2023 05-MAY-2023 06-MAY-2023 06-MAY-2023 06-MAY-2023 06-MAY-2023
INJ. TIME: 23:26 23:47 00:08 00:29 00:50 01:11

Table with columns: Compound, RT01, RT02, RT03, RT04, RT05, RT06, EXPEC RT, RT WINDOW, AVG RT, STD DEV. Rows include compounds like IS-BNB, Tetrachloro-m-xylene, Aroclor-1221, Aroclor-1242, Aroclor-1232, Aroclor-1016, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268, Decachlorobiphenyl, IS-HBBP, 2,4-DDE, 2,4-DDD, 2,4-DDT, 4,4-DDE.

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230505.b\PCB.m
 Batch File: \\target\share\chem4\ecd7.i\230505.b
 Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	10.243	10.143-10.343	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.706	10.606-10.806	+++++	+++++
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\230505.b\PCB.m\PCB2.m
Batch File: \\target\share\chem4\ecd7.i\230505.b\230505.b
Inst ID: ecd7.i

ID: RT01 RT02 RT03 RT04 RT05 RT06 RT07
FILENAME: 05052320ECD7 05052321ECD7 05052322ECD7 05052323ECD7 05052324ECD7 05052325ECD7 05052326ECD7
INJ. DATE: 05-MAY-2023 05-MAY-2023 05-MAY-2023 06-MAY-2023 06-MAY-2023 06-MAY-2023 06-MAY-2023
INJ. TIME: 23:06 23:26 23:47 00:08 00:29 00:50 01:11

Table with columns: Compound, RT01, RT02, RT03, RT04, RT05, RT06, RT07, EXPEC RT, RT WINDOW, AVG RT, STD DEV. Rows include compounds like 40 IS-BNB, 2 Tetrachloro-m-xylene, 1 Aroclor-1221, etc.

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230505.b\PCB.m\PCB2.m
 Batch File: \\target\share\chem4\ecd7.i\230505.b\230505.b
 Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
46 4,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.046	10.946-11.146	+++++	+++++
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.703	1.603-1.803	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.178	7.078-7.278	+++++	+++++

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052320ECD7.D
Data file 2: /230505.b/230505.b/05052320ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: IB
Client ID:
Injection Date: 05-MAY-2023 23:06
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	0.000	296285	5.629	0.001	163258	35.5	37.4	5.3	Tetrachloro-m-xylene
13.841	0.001	288612	14.070	0.002	318424	35.7	37.3	4.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	554412	-7.8
Hexabromobiphenyl	876625	809662	-7.6
Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	317324	-9.2
Hexabromobiphenyl	652984	600612	-8.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023

<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			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
CollAve: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.272	0.027	1585	32.7
Aroclor-1221	3	---			0.0	3	6.588	0.017	408	5.3
CollAve: <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
CollAve: <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
CollAve: <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
CollAve: <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
CollAve: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	10.995	0.002	1624	3.8	1	---			0.0
Aroclor-1260	2	11.305	-0.005	1450	3.4	2	---			0.0
Aroclor-1260	3	11.770	0.084	3781	3.6	3	---			0.0
Aroclor-1260	4	12.138	0.048	1272	2.5	4	---			0.0
Aroclor-1260	5	12.271	0.078	413	1.8	NS	---			----
Total CollAve (5 peaks):					3.0	Col2Ave: <3 Quant Peaks				
Aroclor-1262	1	10.800	0.021	2445	6.7	1	---			0.0
Aroclor-1262	2	12.271	0.077	413	0.8	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	12.989	0.050	944	2.1	4	---			0.0
Total CollAve (3 peaks):					3.2	Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	12.271	0.076	413	0.3	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	12.649	0.001	2092	2.0	3	12.847	0.004	632	0.6
Aroclor-1268	4	13.443	0.006	5651	1.9	4	13.663	-0.001	2018	0.6
Total CollAve (3 peaks):					1.4	Col2Ave: <3 Quant Peaks				
Total PCB Area Coll1 (5.842 - 13.740) =					65805	Coll1 Total PCB = 0.0 ppm*				

Total PCB Area Col2 (5.728 - 13.968) = 16664 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052321ECD7.D
 Data file 2: /230505.b/230505.b/05052321ECD7.D
 Method: \\target\share\chem4\ecd7.i\230505.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: 05-MAY-2023 23:26
 Report Date: 05/06/2023 11:30
 Matrix: NONE
 Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.743	0.001	368910	5.629	0.000	197442	40.7	41.1	0.9	Tetrachloro-m-xylene
13.841	0.001	341641	14.070	0.002	386381	39.0	41.7	6.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	601474	0.0
Hexabromobiphenyl	876625	876625	0.0

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	349289	0.0
Hexabromobiphenyl	652984	652984	0.0

* Standard Areas taken from Initial Cal Level 3
 Initial Calibration Date: 05-MAY-2023
 <- 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	7.213	0.001	58979	253.2	1	7.204	-0.000	48493	245.3	
Aroclor-1016	2	7.595	0.001	191892	263.5	2	7.811	0.003	106372	252.4	
Aroclor-1016	3	7.735	0.002	84934	252.3	3	8.010	0.004	46169	248.4	
Aroclor-1016	4	8.399	0.001	35727	257.2	4	8.260	0.001	36109	244.6	
Total CollAve (4 peaks):				256.6		Total Col2Ave (4 peaks):				247.7	RPD = 4
Corrected Ave (3 peaks):				254.2		Corrected Ave (3 peaks):				246.1	RPD = 3

CalAmt %D: 2.6

CalAmt %D: -0.9

Aroclor-1260	1	10.995	0.002	115872	250.0	1	11.605	-0.000	87314	251.8	
Aroclor-1260	2	11.312	0.002	114768	250.9	2	11.872	-0.000	232184	256.0	
Aroclor-1260	3	11.687	0.001	287920	251.3	3	12.389	0.001	56725	252.4	
Aroclor-1260	4	12.091	0.002	141607	252.3	4	12.456	0.000	154797	255.5	
Aroclor-1260	5	12.195	0.002	60315	246.5	NS	---			----	
Total CollAve (5 peaks):				250.2		Total Col2Ave (4 peaks):				253.9	RPD = 1
Corrected Ave (4 peaks):				249.7		Corrected Ave (3 peaks):				253.2	RPD = 1

CalAmt %D: 0.1

CalAmt %D: 1.6

Total PCB Area Coll (5.842 - 13.740) = 3355836 Coll Total PCB = 0.5 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 2087295 Col2 Total PCB = 0.5 ppm*

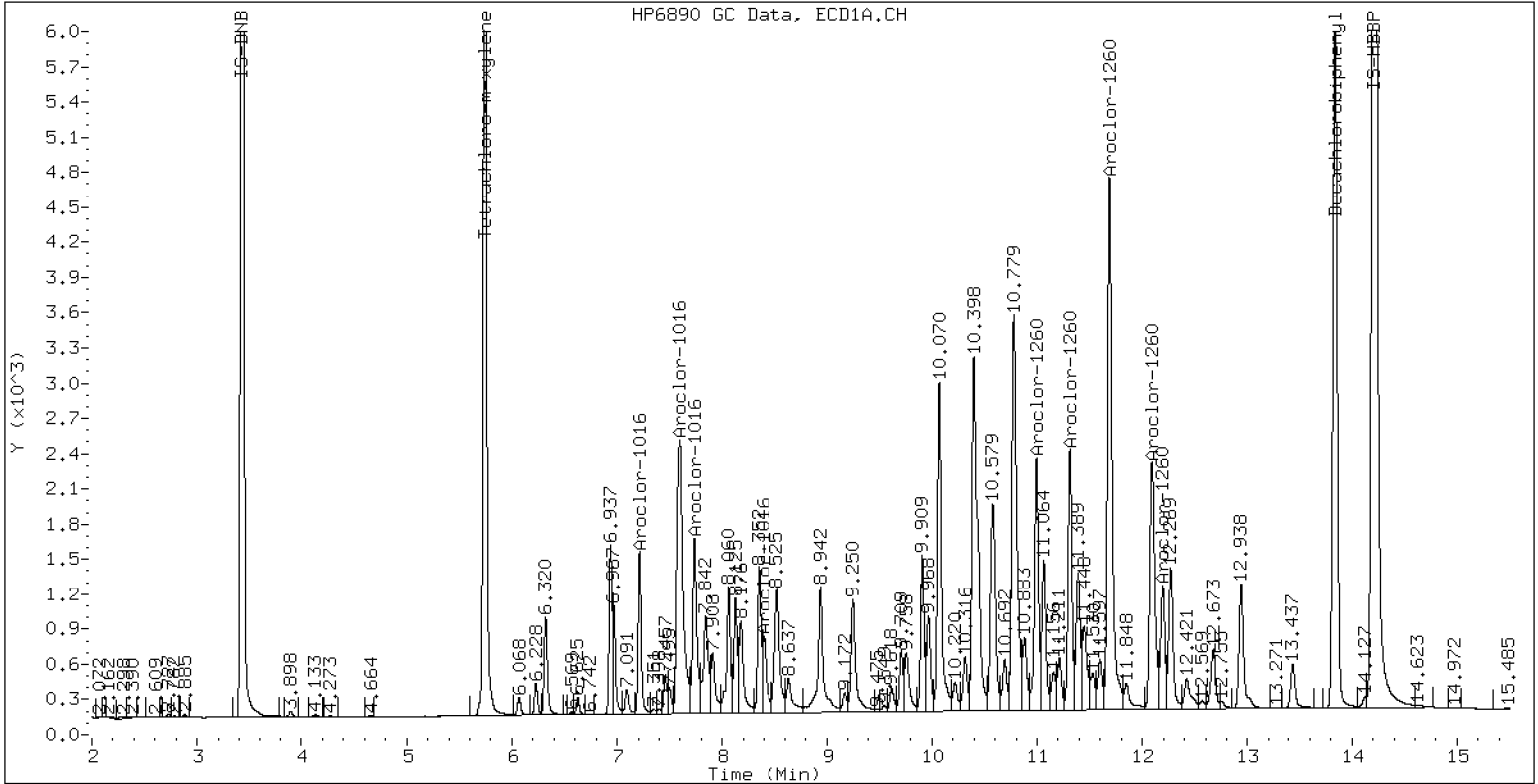
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1660

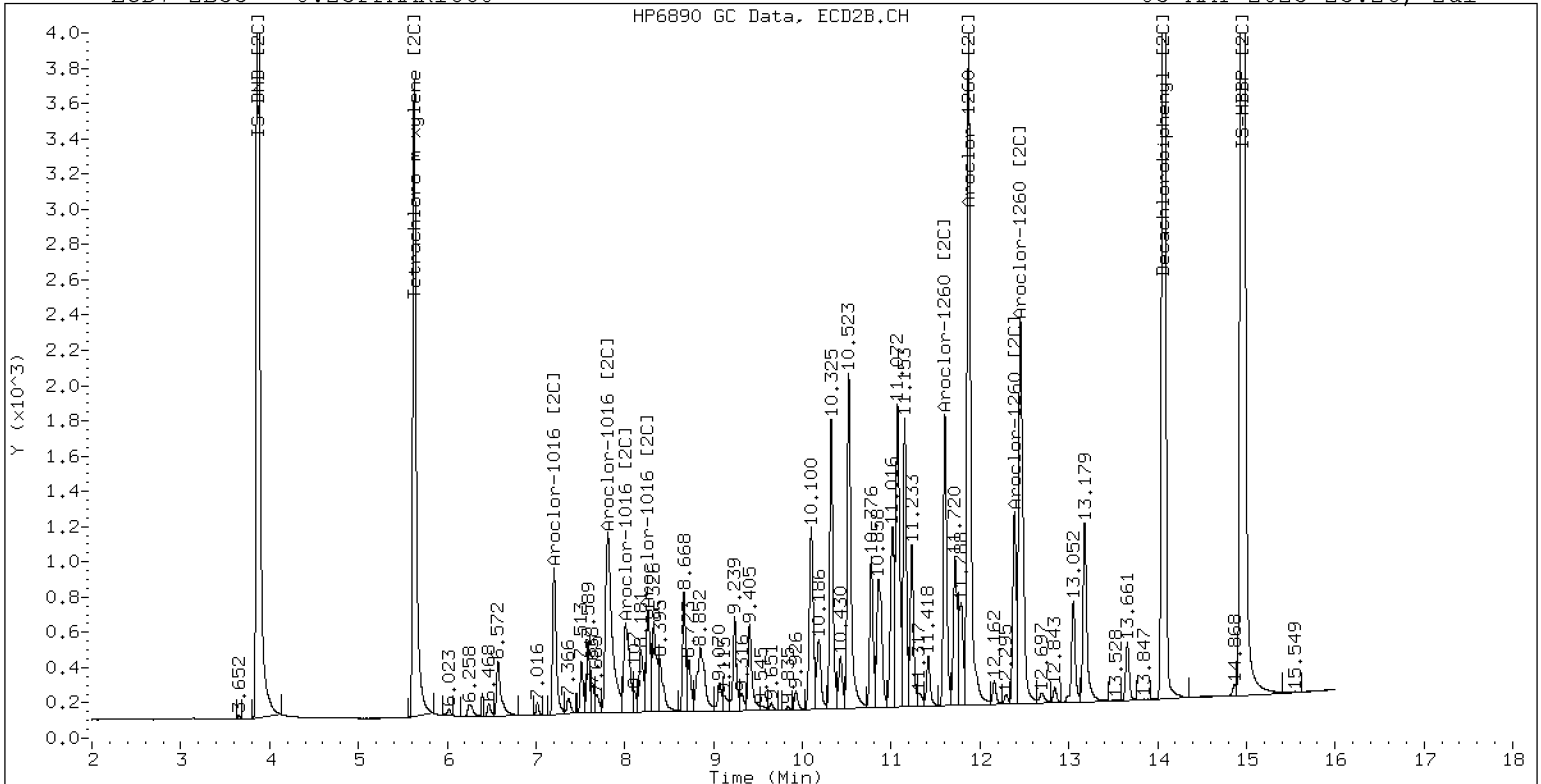
05-MAY-2023 23:26, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1660

05-MAY-2023 23:26, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052322ECD7.D
Data file 2: /230505.b/230505.b/05052322ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.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: 05-MAY-2023 23:47
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	-0.000	28836	5.630	0.002	14779	3.2	3.2	1.4	Tetrachloro-m-xylene
13.843	0.002	31610	14.071	0.002	27131	3.6	2.9	20.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	595544	-1.0
Hexabromobiphenyl	876625	880480	0.4

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	338730	-3.0
Hexabromobiphenyl	652984	649475	-0.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	0.001	4852	21.0	1	7.206	0.002	4368	22.8	
Aroclor-1016	2	7.595	0.001	13075	18.1	2	7.819	0.012	8341	20.4	
Aroclor-1016	3	7.737	0.004	6514	19.5	3	8.043	0.038	3708	20.6	
Aroclor-1016	4	8.400	0.002	2555	18.6	4	8.261	0.002	3078	21.5	
Total CollAve (4 peaks):				19.3	Total Col2Ave (4 peaks):				21.3	RPD = 10	
Corrected Ave (3 peaks):				18.8	Corrected Ave (3 peaks):				20.8	RPD = 10	
CalAmt %D:				-3.4	CalAmt %D:				6.6		
Aroclor-1260	1	10.998	0.005	10082	21.7	1	11.610	0.004	7378	21.4	
Aroclor-1260	2	11.316	0.006	9760	21.2	2	11.878	0.006	18318	20.3	
Aroclor-1260	3	11.694	0.008	24587	21.4	3	12.392	0.004	4519	20.2	
Aroclor-1260	4	12.098	0.008	12018	21.3	4	12.461	0.006	12454	20.7	
Aroclor-1260	5	12.198	0.005	5499	22.4	NS	---			----	
Total CollAve (5 peaks):				21.6	Total Col2Ave (4 peaks):				20.6	RPD = 4	
Corrected Ave (4 peaks):				21.4	Corrected Ave (3 peaks):				20.4	RPD = 5	
CalAmt %D:				8.0	CalAmt %D:				3.2		

Total PCB Area Coll (5.842 - 13.740) = 294199 Coll Total PCB = 0.0 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 173796 Col2 Total PCB = 0.0 ppm*

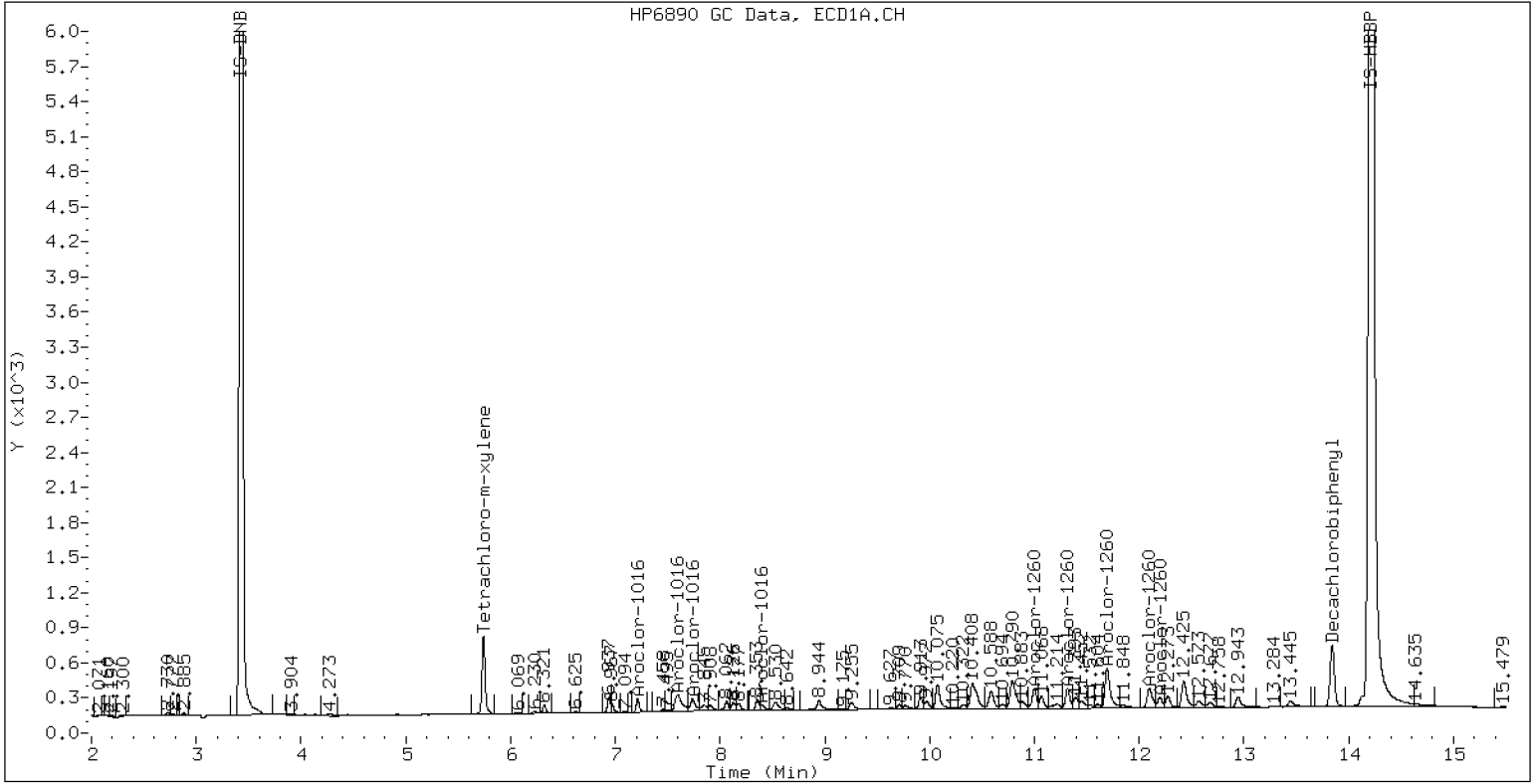
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.02PPMAR1660

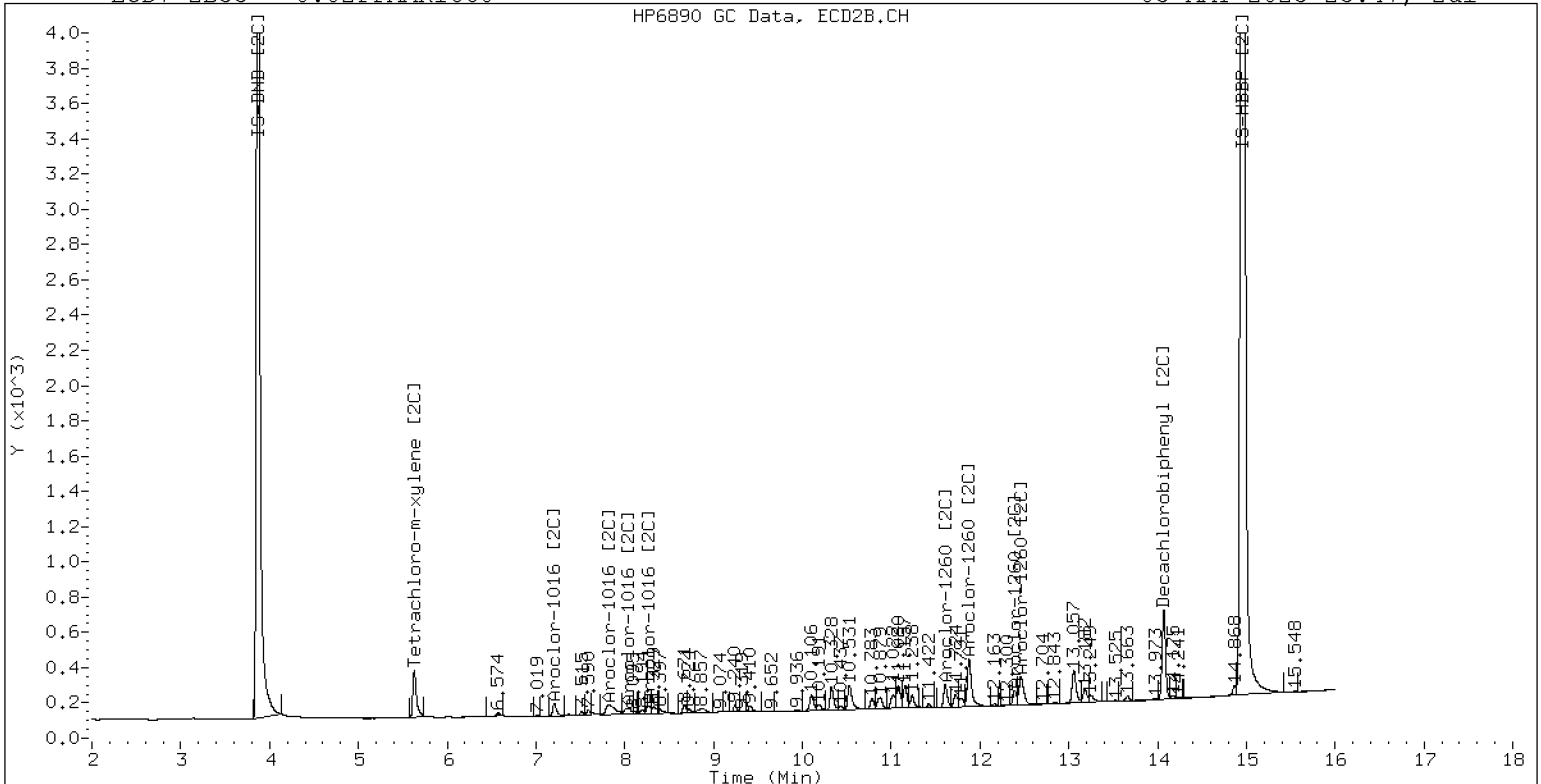
05-MAY-2023 23:47, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.02PPMAR1660

05-MAY-2023 23:47, 2ul

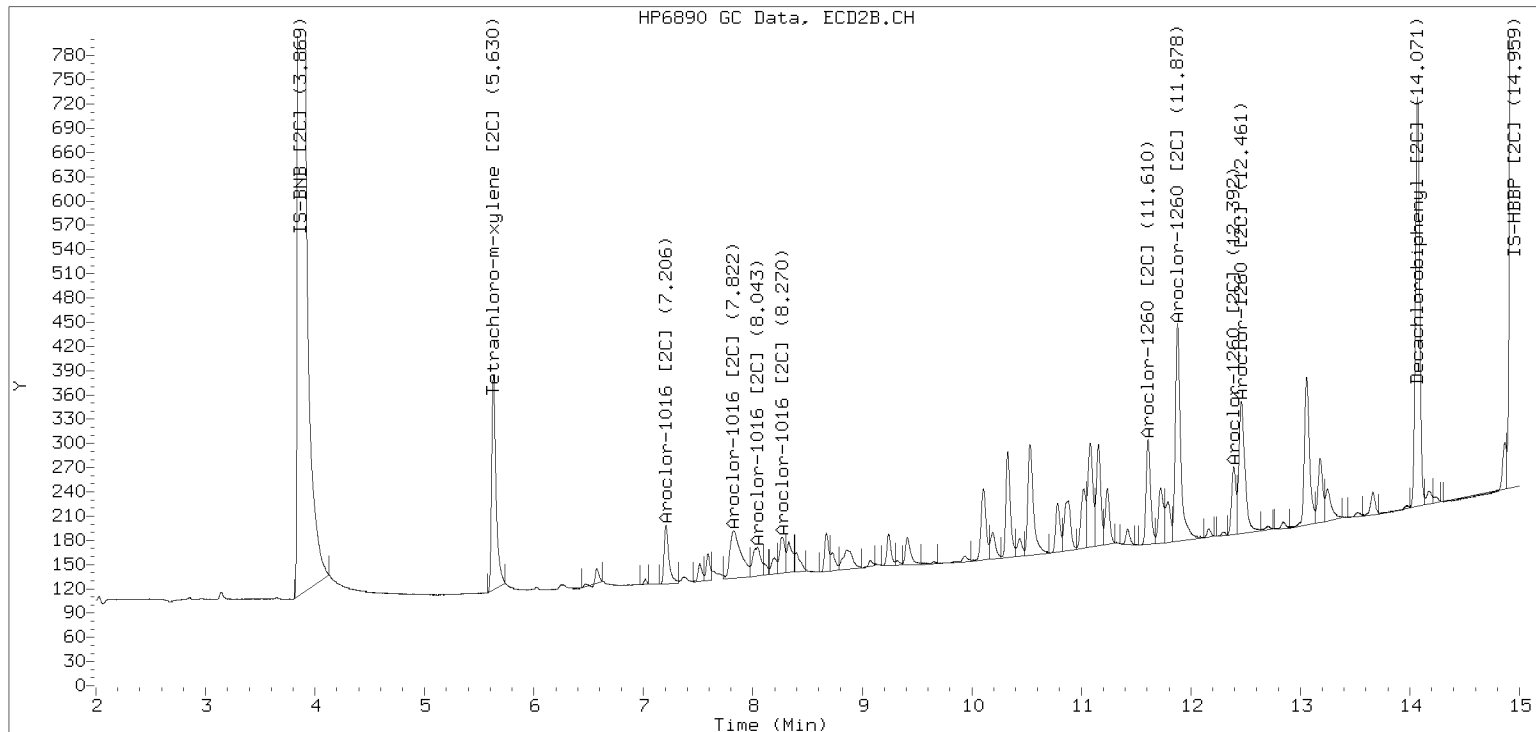


ZB-35 Manual Integration: YES

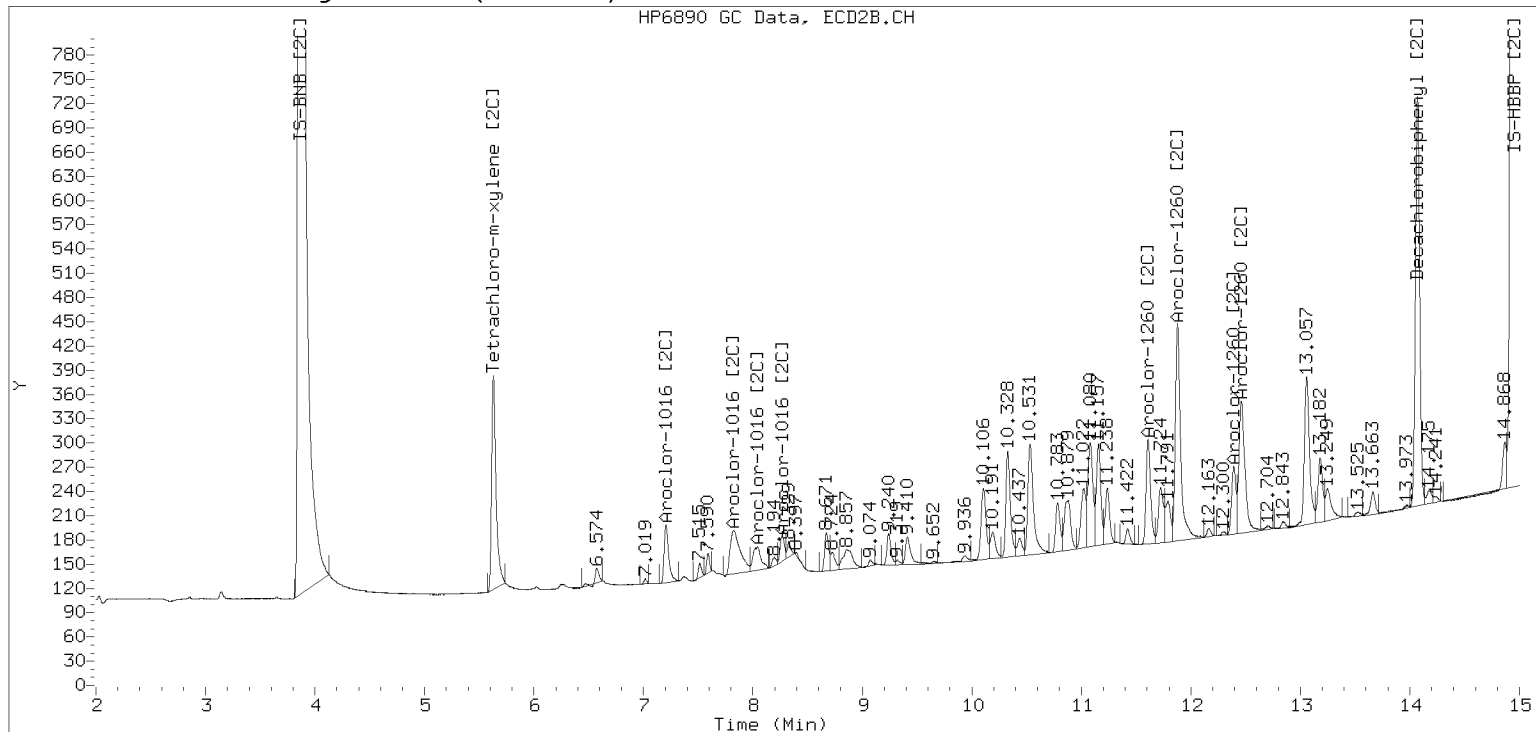
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230505.b/230505.b/05052322ECD7.D Injection Date: 05-MAY-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052323ECD7.D
Data file 2: /230505.b/230505.b/05052323ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.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: 06-MAY-2023 00:08
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.741	-0.001	72149	5.630	0.001	37778	7.9	7.8	0.3	Tetrachloro-m-xylene
13.843	0.002	75564	14.070	0.002	71601	8.4	7.6	10.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	610127	1.4
Hexabromobiphenyl	876625	902634	3.0

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	350964	0.5
Hexabromobiphenyl	652984	666660	2.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.214	0.001	12303	52.1	1	7.205	0.001	10404	52.4	
Aroclor-1016	2	7.595	0.000	35912	48.6	2	7.821	0.013	20971	49.5	
Aroclor-1016	3	7.736	0.003	18491	54.1	3	8.016	0.010	9788	52.4	
Aroclor-1016	4	8.400	0.002	7326	52.0	4	8.264	0.005	8176	55.1	
Total CollAve (4 peaks):				51.7	Total Col2Ave (4 peaks):				52.4	RPD = 1	
Corrected Ave (3 peaks):				50.9	Corrected Ave (3 peaks):				51.4	RPD = 1	
CalAmt %D:				3.4	CalAmt %D:				4.7		
Aroclor-1260	1	10.998	0.005	23619	49.5	1	11.609	0.003	17805	50.3	
Aroclor-1260	2	11.316	0.006	23213	49.3	2	11.876	0.004	46188	49.9	
Aroclor-1260	3	11.693	0.007	58862	49.9	3	12.391	0.003	11048	48.1	
Aroclor-1260	4	12.096	0.006	28206	48.8	4	12.460	0.004	30586	49.4	
Aroclor-1260	5	12.197	0.004	12672	50.3	NS	---			----	
Total CollAve (5 peaks):				49.6	Total Col2Ave (4 peaks):				49.4	RPD = 0	
Corrected Ave (4 peaks):				49.4	Corrected Ave (3 peaks):				49.2	RPD = 0	
CalAmt %D:				-0.9	CalAmt %D:				-1.1		

Total PCB Area Coll (5.842 - 13.740) = 697433 Coll Total PCB = 0.1 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 429325 Col2 Total PCB = 0.1 ppm*

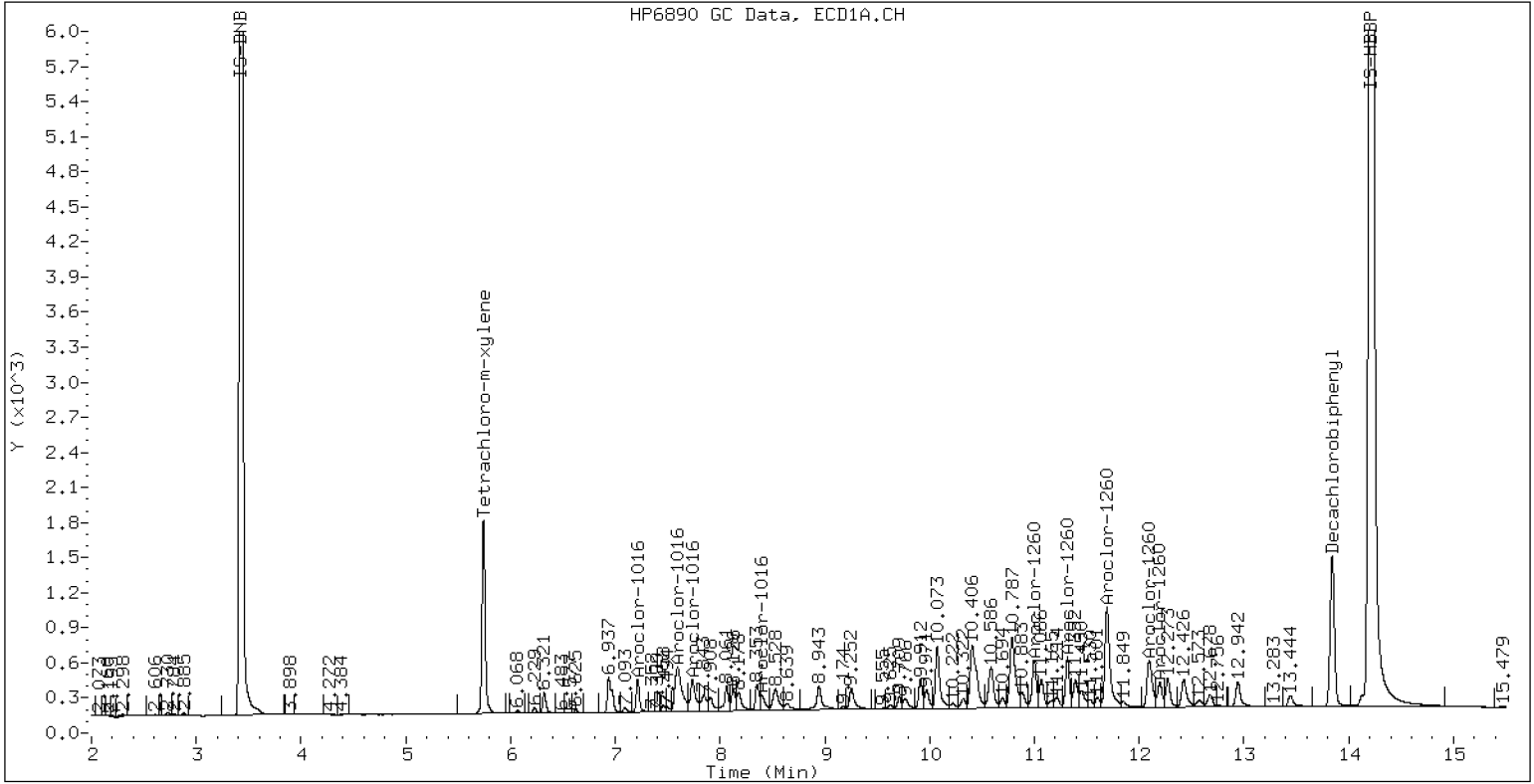
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.05PPMAR1660

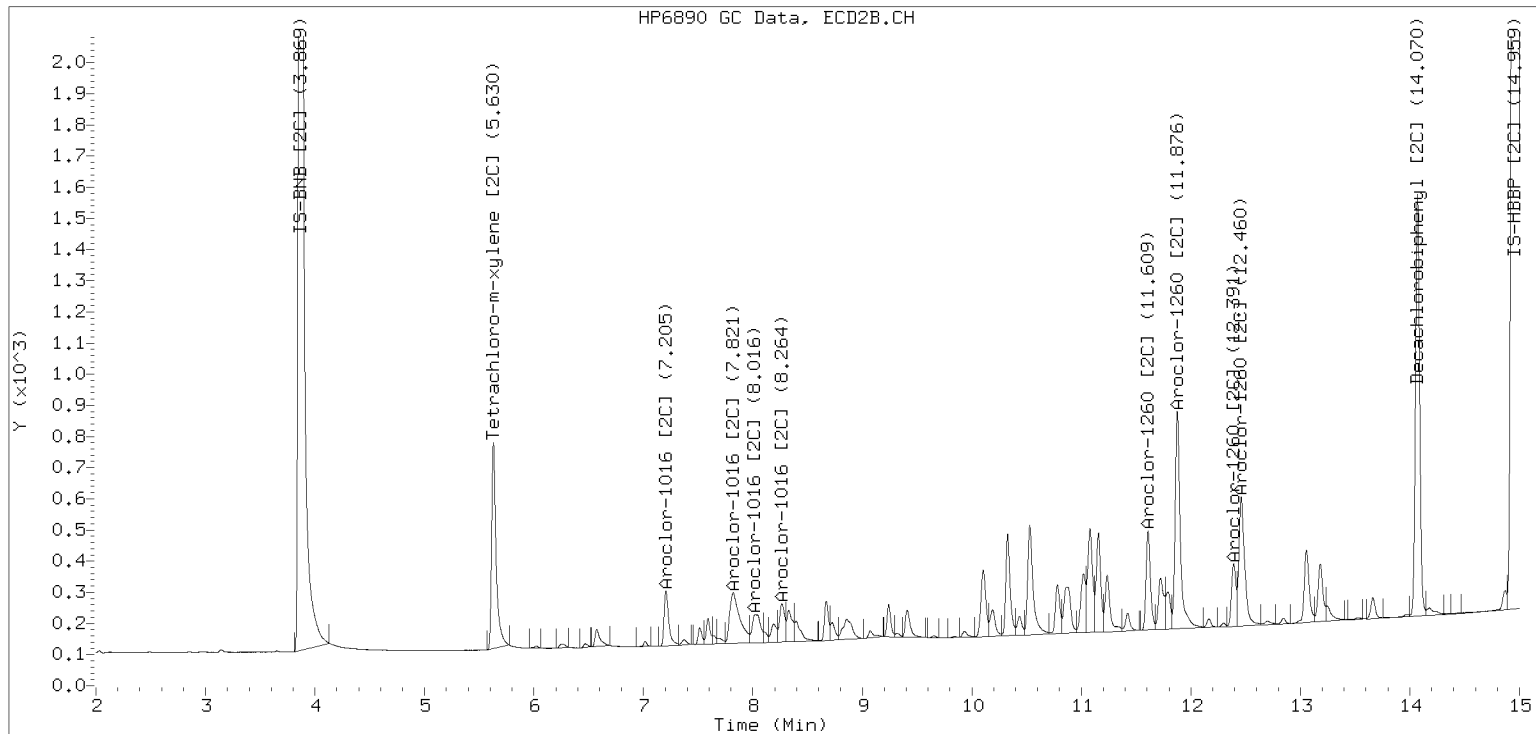
06-MAY-2023 00:08, 2ul



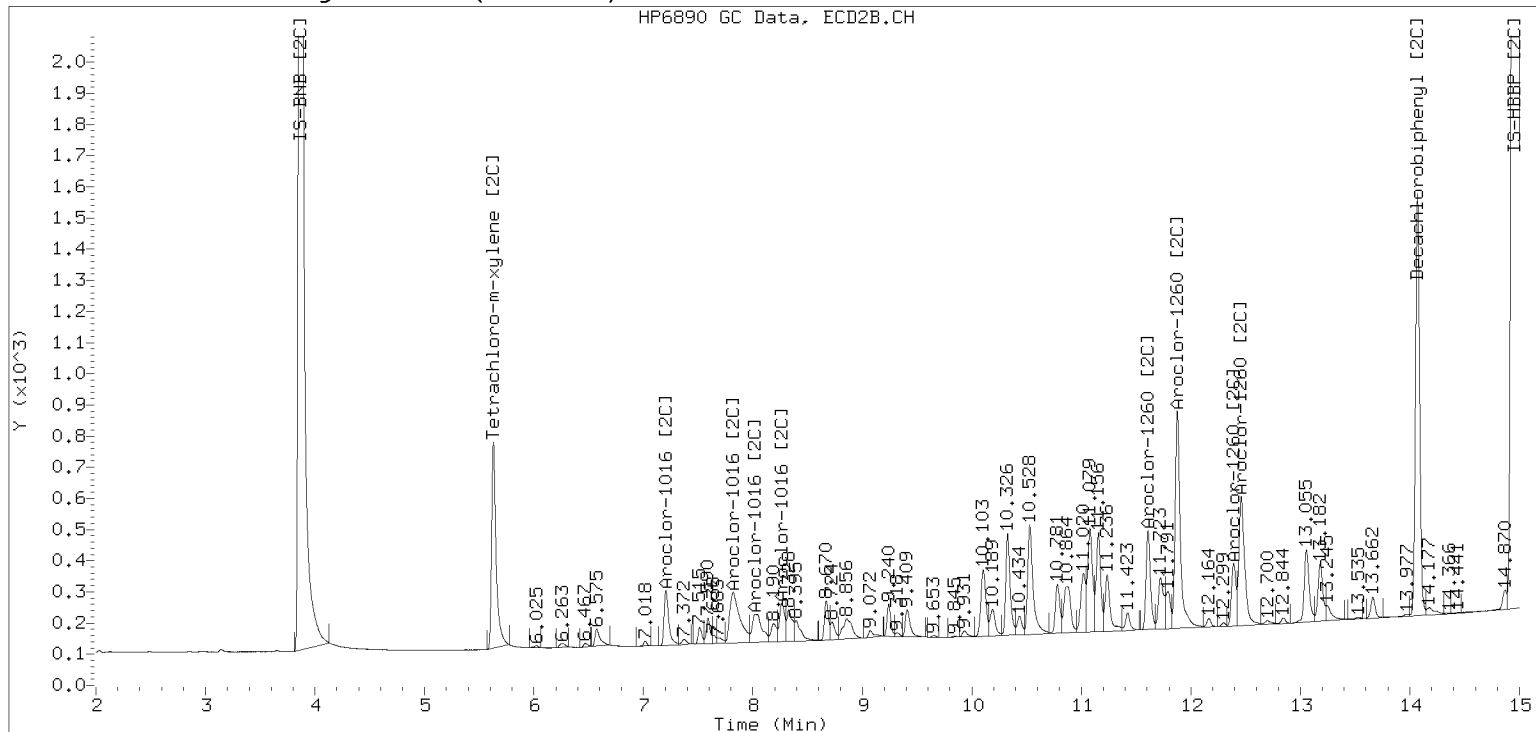
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230505.b/230505.b/05052323ECD7.D Injection Date: 06-MAY-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052324ECD7.D
Data file 2: /230505.b/230505.b/05052324ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 1.0PPMAR1660
Client ID:
Injection Date: 06-MAY-2023 00:29
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.746	0.004	1354956	5.627	-0.001	709704	151.5	152.0	0.4	Tetrachloro-m-xylene
13.842	0.002	1208957	14.071	0.002	1442827	141.2	159.2	12.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	594005	-1.2
Hexabromobiphenyl	876625	857318	-2.2

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	339380	-2.8
Hexabromobiphenyl	652984	638394	-2.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	0.000	192466	836.8	1	7.203	-0.001	161296	839.6	
Aroclor-1016	2	7.595	0.000	687116	955.4	2	7.804	-0.003	383432	936.5	
Aroclor-1016	3	7.732	-0.000	284089	854.4	3	8.002	-0.003	161269	893.1	
Aroclor-1016	4	8.397	-0.001	121539	886.0	4	8.257	-0.002	118708	827.5	
Total CollAve (4 peaks):				883.2		Total Col2Ave (4 peaks):				874.2	RPD = 1
Corrected Ave (3 peaks):				859.1		Corrected Ave (3 peaks):				853.4	RPD = 1

CalAmt %D: -11.7

CalAmt %D: -12.6

Aroclor-1260	1	10.992	-0.001	410905	906.4	1	11.604	-0.002	304531	898.2	
Aroclor-1260	2	11.309	-0.001	410553	917.6	2	11.869	-0.003	813835	917.7	
Aroclor-1260	3	11.683	-0.003	1014157	905.1	3	12.387	-0.001	218887	996.0	
Aroclor-1260	4	12.087	-0.003	505824	921.7	4	12.453	-0.003	543988	918.3	
Aroclor-1260	5	12.193	-0.001	212396	887.6	NS	---			----	
Total CollAve (5 peaks):				907.7		Total Col2Ave (4 peaks):				932.6	RPD = 3
Corrected Ave (4 peaks):				904.2		Corrected Ave (3 peaks):				911.4	RPD = 1

CalAmt %D: -9.2

CalAmt %D: -6.7

Total PCB Area Coll (5.842 - 13.740) = 11665793 Coll Total PCB = 1.8 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 7382788 Col2 Total PCB = 1.8 ppm*

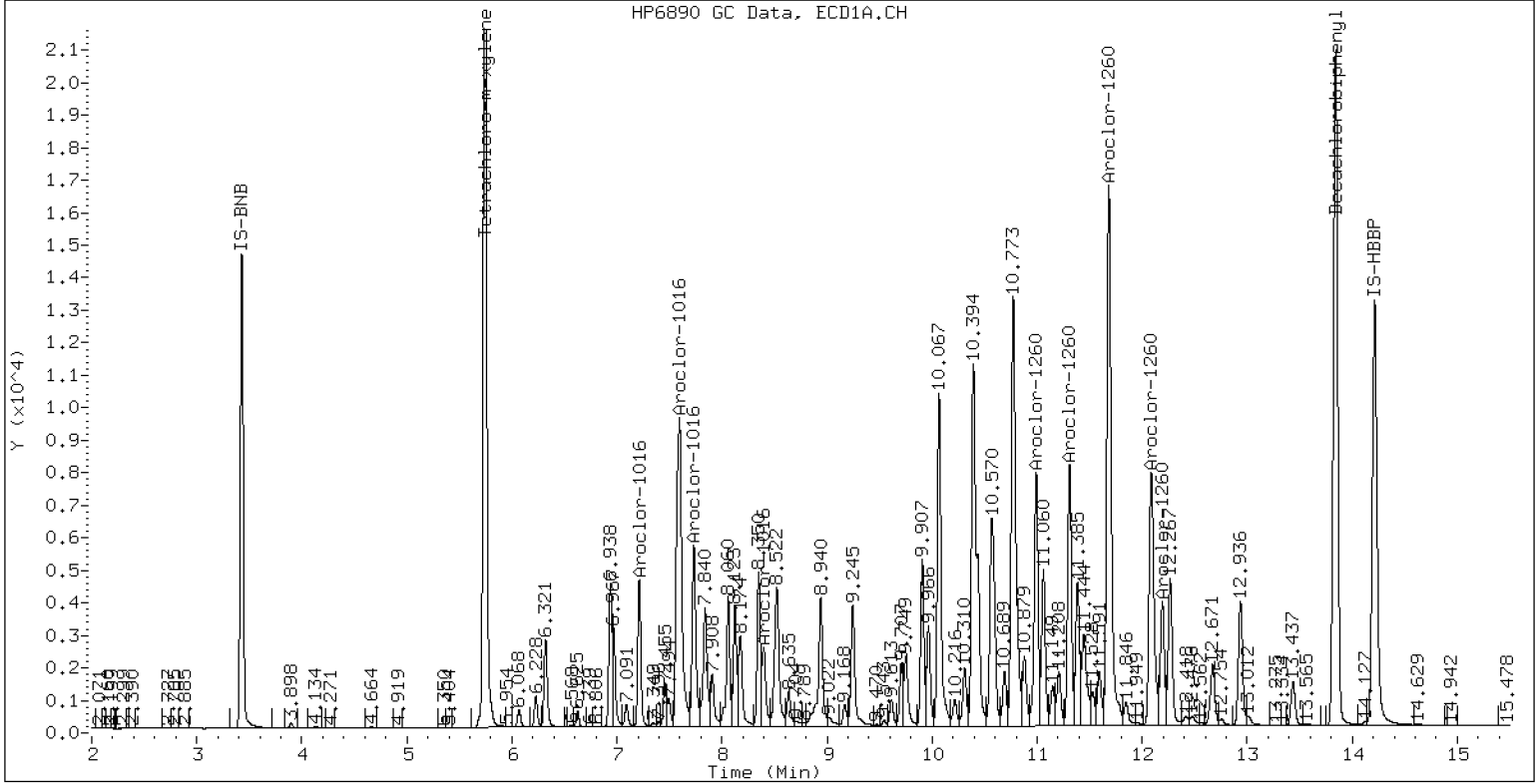
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 1.0PPMAR1660

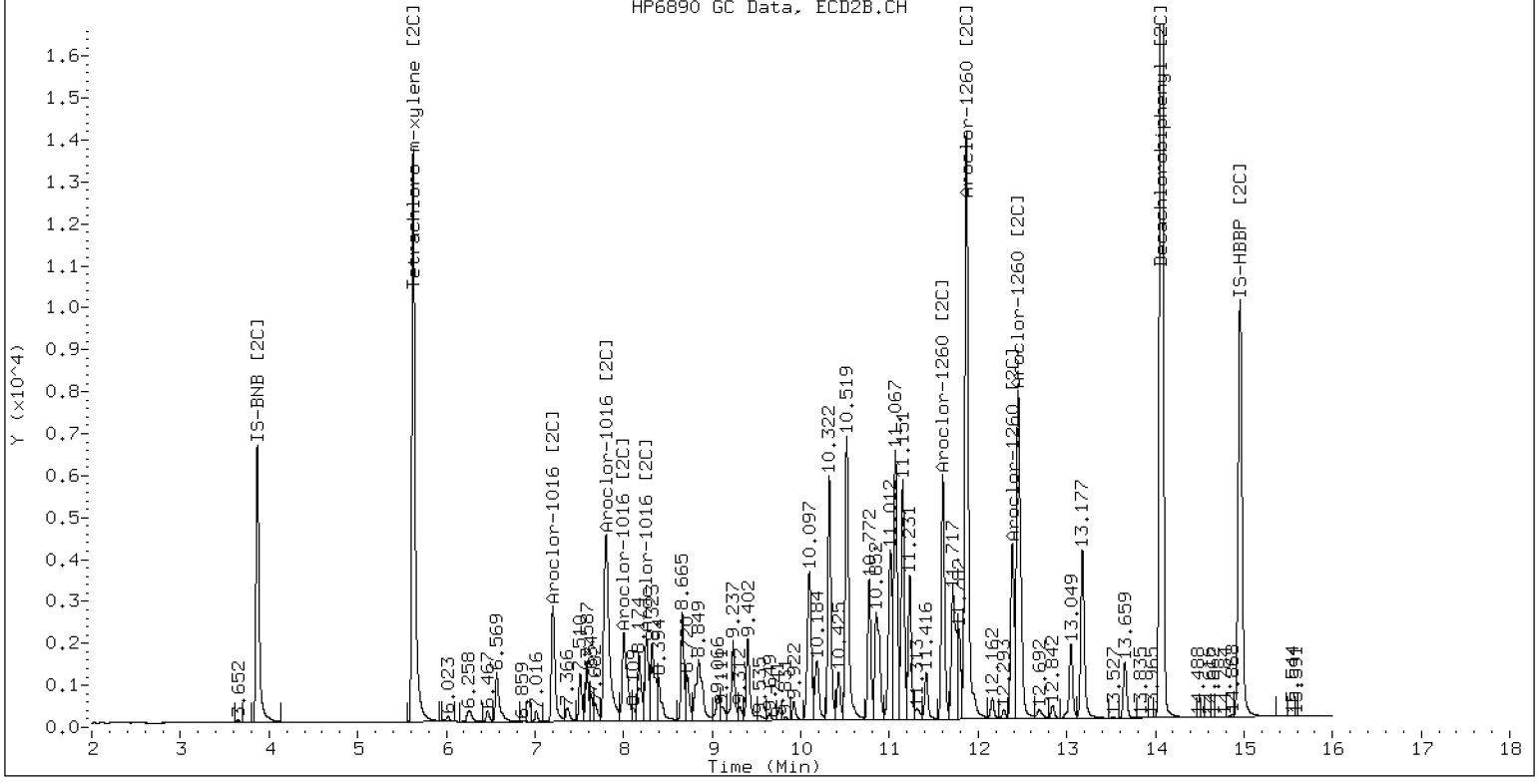
06-MAY-2023 00:29, 2u1



ZB-5 Manual Integration: NO

ECD7-ZB35 1.0PPMAR1660

06-MAY-2023 00:29, 2u1



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052325ECD7.D
Data file 2: /230505.b/230505.b/05052325ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.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: 06-MAY-2023 00:50
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col		ZB5	ZB35	RPD	Compound/Flag
RT	Shift Response	RT	Shift Response	on col	on col		
5.741	-0.001	166260	0.000	17.3	17.2	0.5	Tetrachloro-m-xylene
13.841	0.000	162151	0.001	17.0	17.2	1.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	639496	6.3
Hexabromobiphenyl	876625	955499	9.0

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	371294	6.3
Hexabromobiphenyl	652984	700767	7.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.212	-0.000	27672	111.8	1	7.204	0.000	22585	107.5
Aroclor-1016	2	7.595	0.000	84096	108.6	2	7.815	0.008	47261	105.5
Aroclor-1016	3	7.735	0.002	40718	113.8	3	8.012	0.007	21450	108.6
Aroclor-1016	4	8.399	0.001	17000	115.1	4	8.262	0.003	17337	110.5
Total CollAve (4 peaks):				112.3		Total Col2Ave (4 peaks):				108.0 RPD = 4
Corrected Ave (3 peaks):				111.4		Corrected Ave (3 peaks):				107.2 RPD = 4
CalAmt %D:				12.3		CalAmt %D:				8.0
Aroclor-1260	1	10.995	0.002	53621	106.1	1	11.608	0.002	39451	106.0
Aroclor-1260	2	11.313	0.003	53001	106.3	2	11.874	0.002	104406	107.3
Aroclor-1260	3	11.690	0.004	132765	106.3	3	12.391	0.003	24449	101.4
Aroclor-1260	4	12.093	0.003	64276	105.1	4	12.457	0.002	68859	105.9
Aroclor-1260	5	12.196	0.003	28307	106.1	NS	---			----
Total CollAve (5 peaks):				106.0		Total Col2Ave (4 peaks):				105.1 RPD = 1
Corrected Ave (4 peaks):				105.9		Corrected Ave (3 peaks):				104.4 RPD = 1
CalAmt %D:				6.0		CalAmt %D:				5.1

Total PCB Area Coll (5.842 - 13.740) = 1580756 Coll Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 950746 Col2 Total PCB = 0.2 ppm*

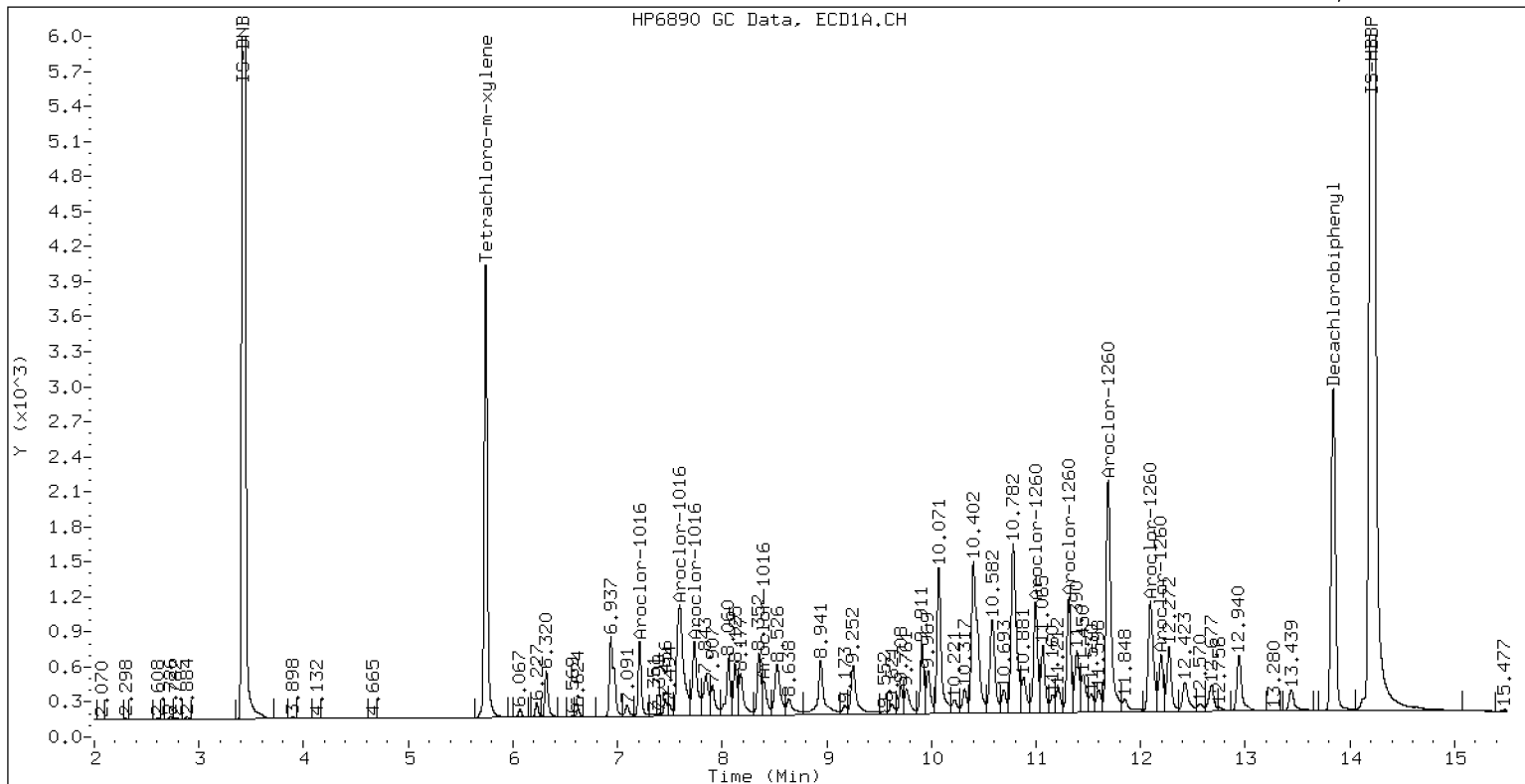
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.1PPMAR1660

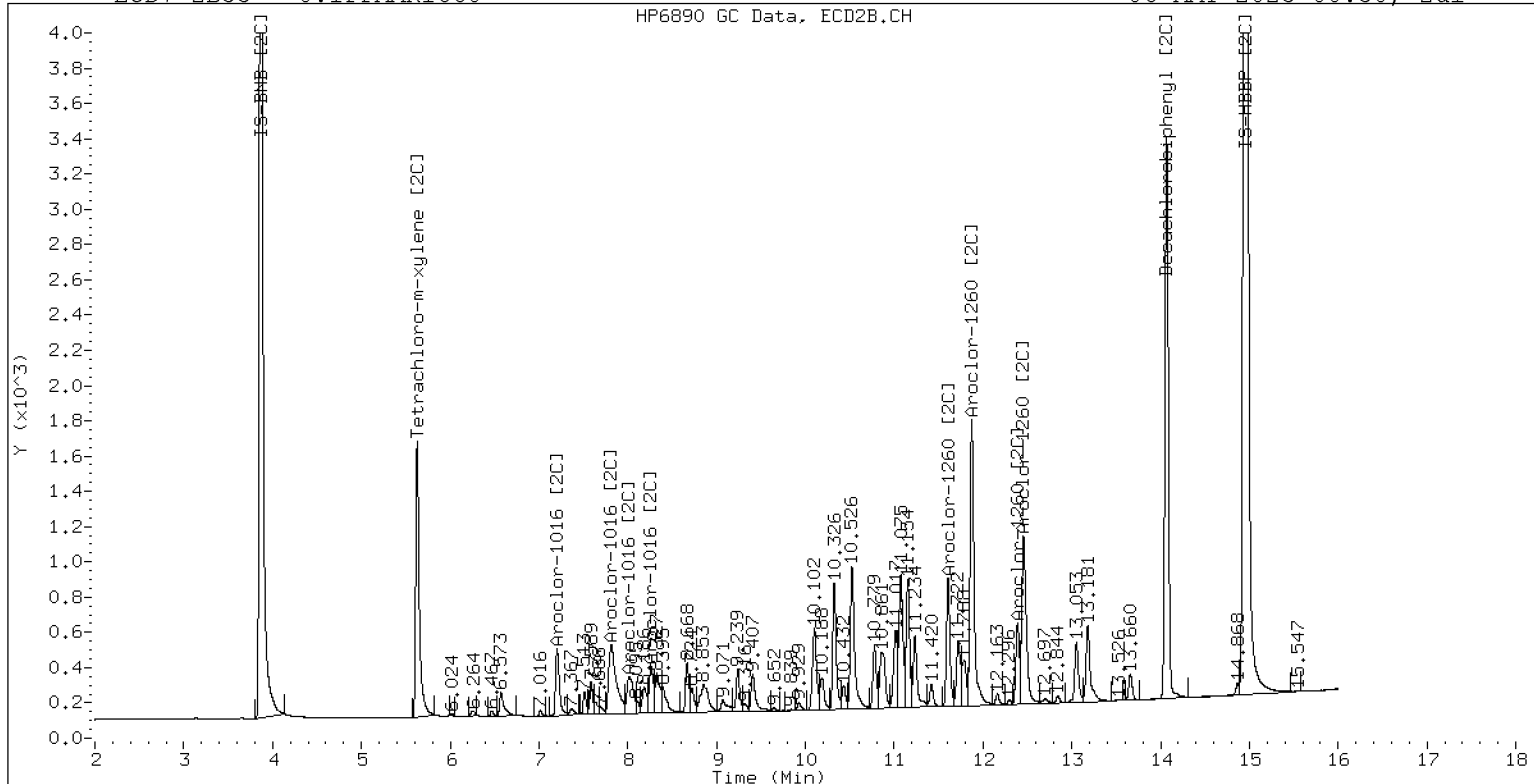
06-MAY-2023 00:50, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.1PPMAR1660

06-MAY-2023 00:50, 2ul

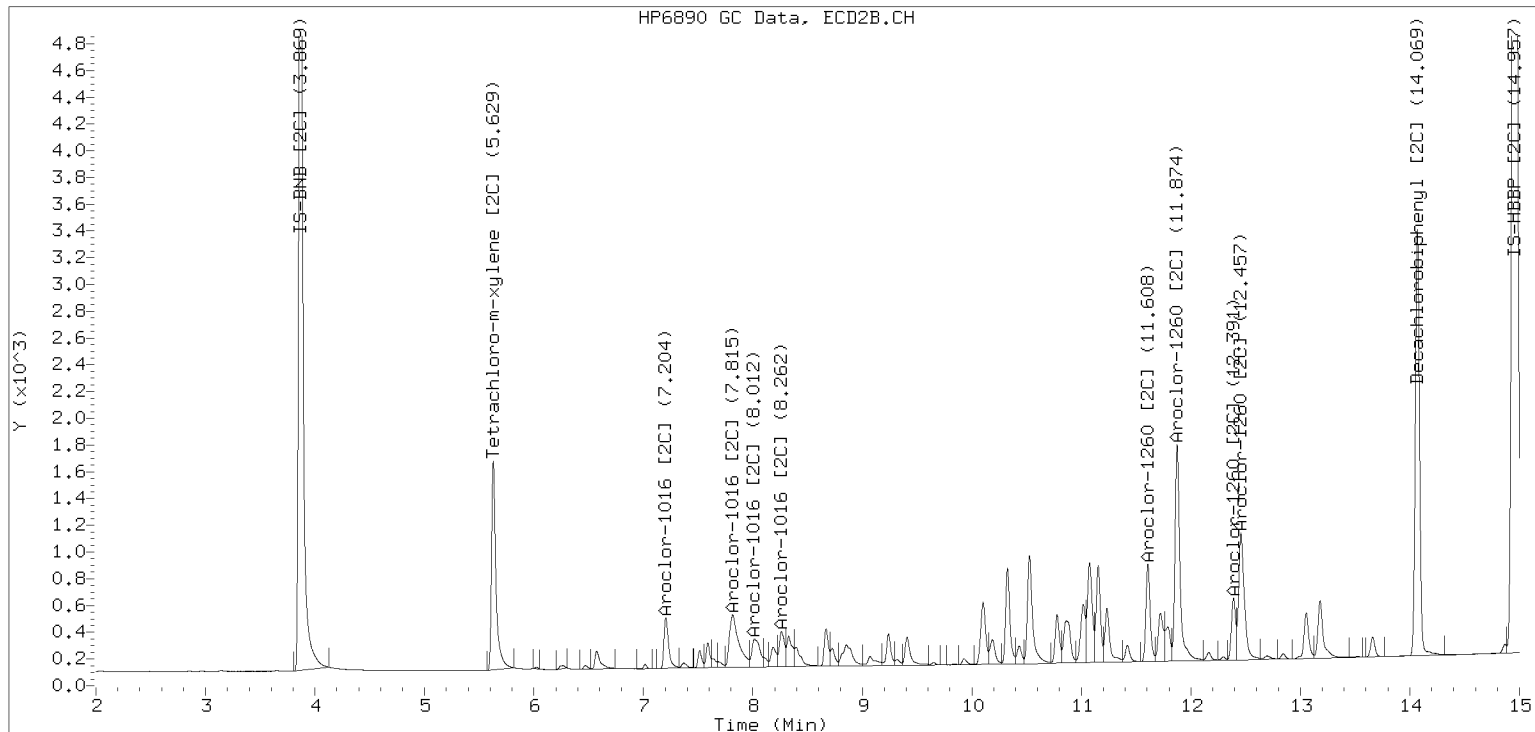


ZB-35 Manual Integration: YES

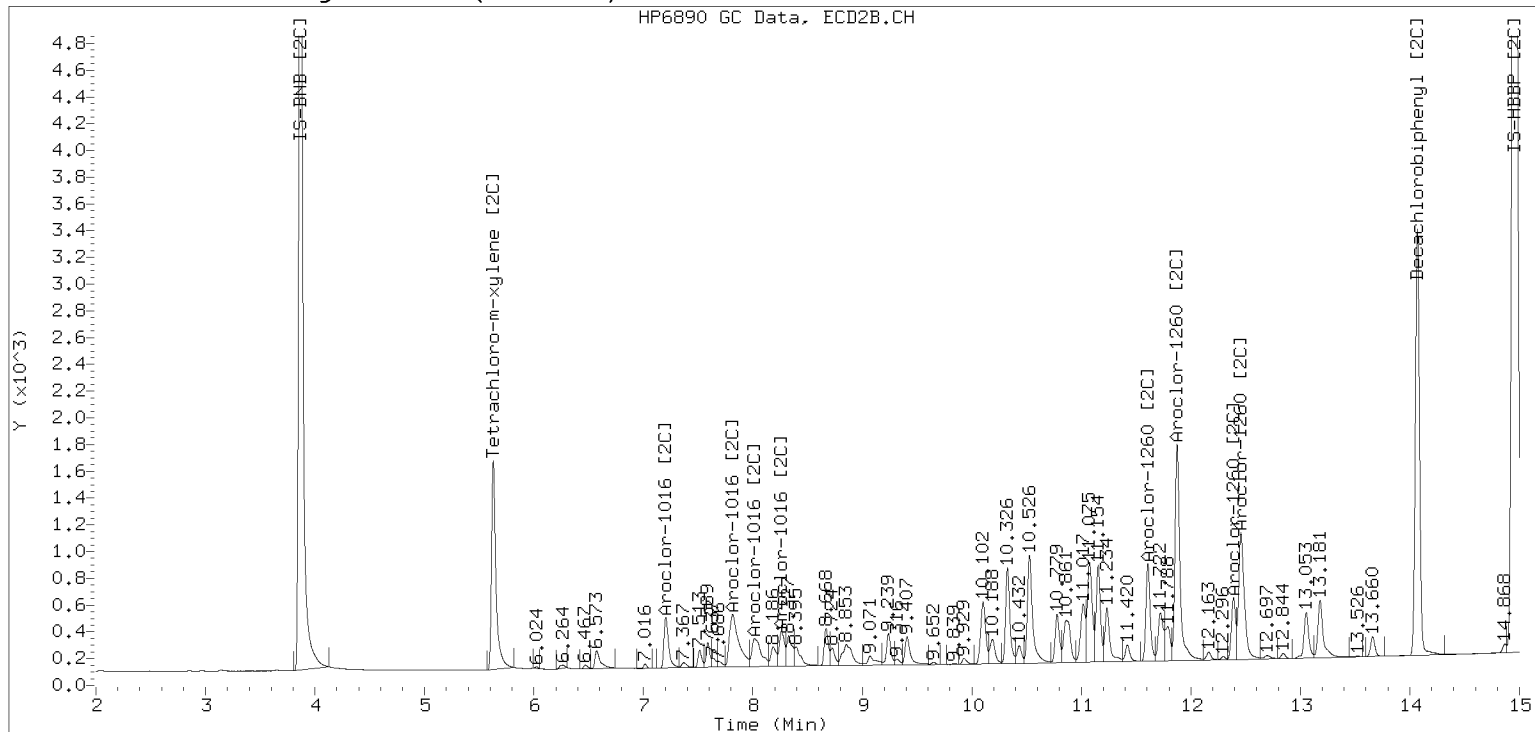
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230505.b/230505.b/05052325ECD7.D Injection Date: 06-MAY-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052326ECD7.D ARI ID: 0.5PPMAR1660
 Data file 2: /230505.b/230505.b/05052326ECD7.D Client ID:
 Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m Injection Date: 06-MAY-2023 01:11
 Compound Sublist: AR1660.sub Report Date: 05/06/2023 11:30
 Instrument, Inj. Vol.: ecd7.i, 2ul Matrix: NONE
 Quant Method: Internal Std Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.743	0.001	726106	5.629	0.000	386361	77.6	78.4	1.0	Tetrachloro-m-xylene
13.842	0.002	662159	14.070	0.002	782852	72.8	82.0	11.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	621250	3.3
Hexabromobiphenyl	876625	910647	3.9
Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	358174	2.5
Hexabromobiphenyl	652984	672444	3.0

* Standard Areas taken from Initial Cal Level 3
 Initial Calibration Date: 05-MAY-2023
 <- 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	7.212	0.000	112948	469.5	1	7.204	0.000	93114	459.2
Aroclor-1016	2	7.594	0.000	385708	512.8	2	7.808	0.000	213293	493.6
Aroclor-1016	3	7.733	0.000	163263	469.5	3	8.006	0.000	90569	475.2
Aroclor-1016	4	8.398	0.000	69235	482.6	4	8.259	0.000	69045	456.1
Total CollAve (4 peaks):				483.6		Total Col2Ave (4 peaks):				471.0 RPD = 3
Corrected Ave (3 peaks):				473.9		Corrected Ave (3 peaks):				463.5 RPD = 2

CalAmt %D: -3.3

CalAmt %D: -5.8

Aroclor-1260	1	10.993	0.000	231157	480.0	1	11.606	0.000	171304	479.7
Aroclor-1260	2	11.310	0.000	230103	484.2	2	11.872	0.000	454515	486.6
Aroclor-1260	3	11.686	0.000	571583	480.2	3	12.388	0.000	116621	503.8
Aroclor-1260	4	12.090	0.000	284345	487.8	4	12.455	0.000	305334	489.3
Aroclor-1260	5	12.193	0.000	119534	470.3	NS	---			----
Total CollAve (5 peaks):				480.5		Total Col2Ave (4 peaks):				489.8 RPD = 2
Corrected Ave (4 peaks):				478.7		Corrected Ave (3 peaks):				485.2 RPD = 1

CalAmt %D: -3.9

CalAmt %D: -2.0

Total PCB Area Coll (5.842 - 13.740) = 6615607 Coll Total PCB = 1.0 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 4121423 Col2 Total PCB = 1.0 ppm*

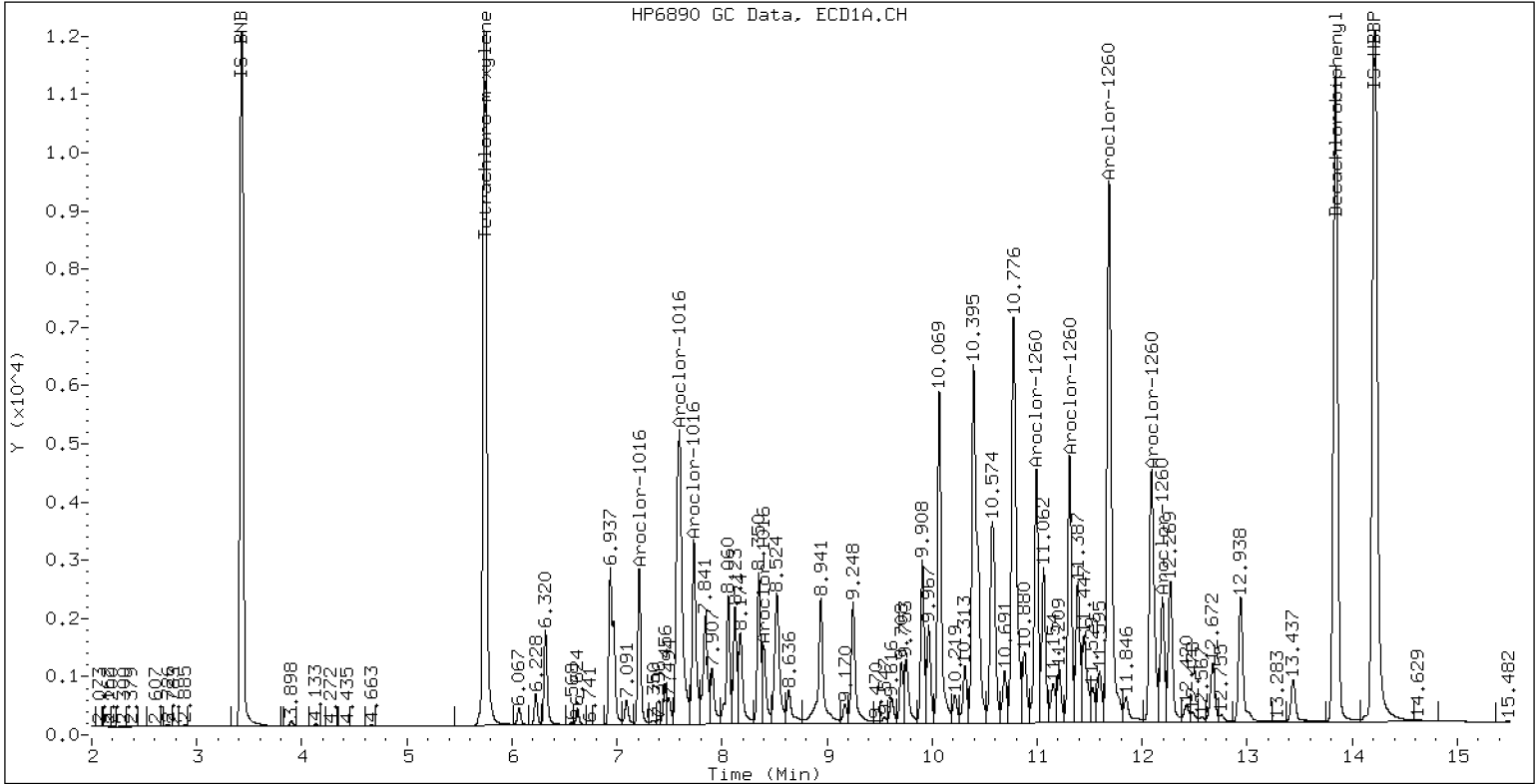
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.5PPMAR1660

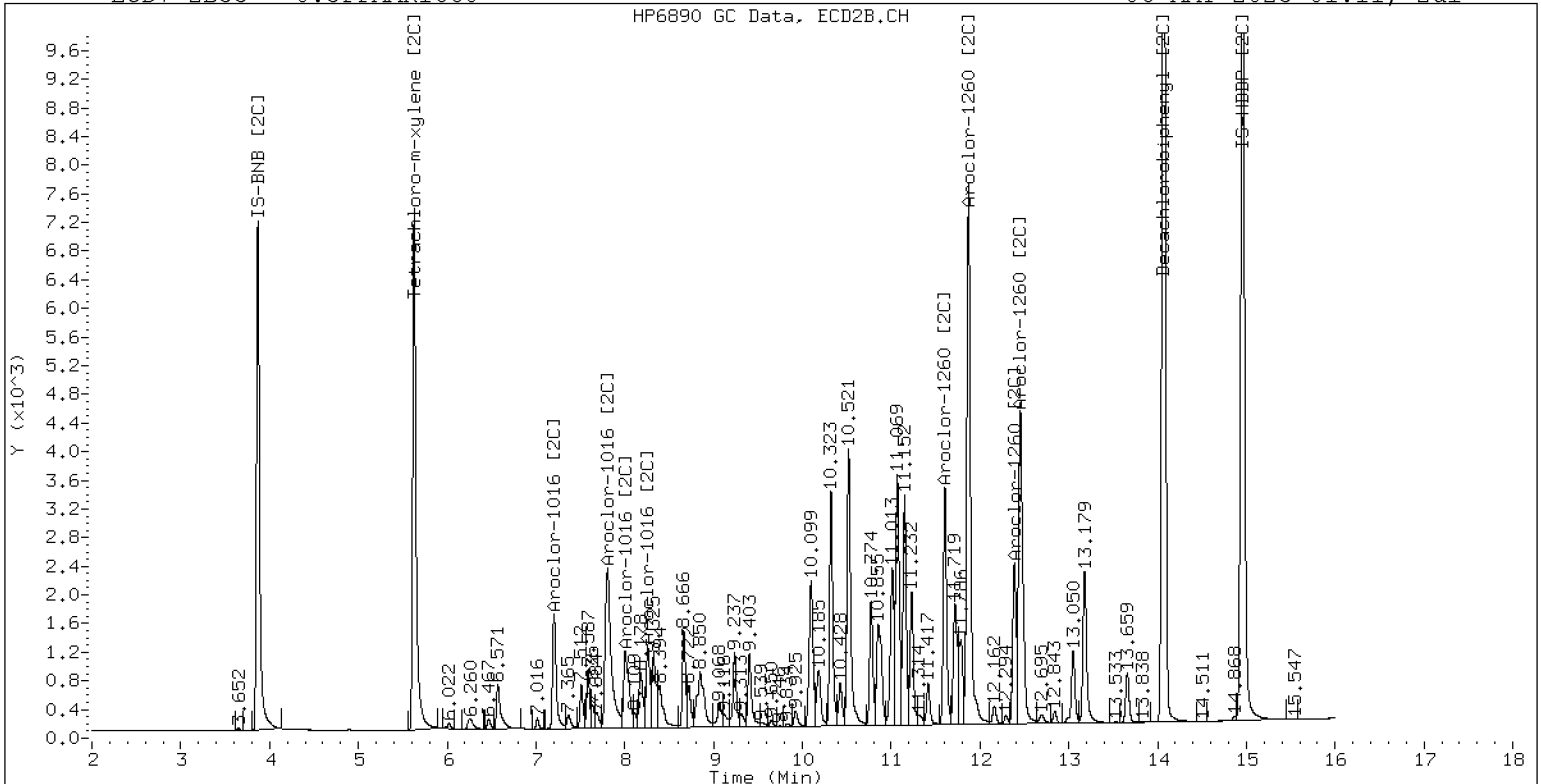
06-MAY-2023 01:11, 2u1



ZB-5 Manual Integration: NO

ECD7-ZB35 0.5PPMAR1660

06-MAY-2023 01:11, 2u1



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052327ECD7.D
 Data file 2: /230505.b/230505.b/05052327ECD7.D
 Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
 Compound Sublist: AR1242.sub
 Instrument, Inj. Vol.: ecd7.i, 2ul
 Quant Method: Internal Std

ARI ID: 0.25PPMAR1242
 Client ID:
 Injection Date: 06-MAY-2023 01:31
 Report Date: 05/06/2023 11:30
 Matrix: NONE
 Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	-0.000	447397	5.627	-0.001	235808	47.5	47.6	0.3	Tetrachloro-m-xylene
13.842	0.001	336070	14.068	0.000	375985	36.4	38.8	6.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	625349	4.0
Hexabromobiphenyl	876625	923197	5.3
Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	359808	3.0
Hexabromobiphenyl	652984	683116	4.6

* Standard Areas taken from Initial Cal Level 3
 Initial Calibration Date: 05-MAY-2023
 <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1242	1	7.212	0.000	49262	250.0	1	7.203	0.000	40200	250.0
Aroclor-1242	2	7.595	0.000	156103	250.0	2	7.812	0.000	85524	250.0
Aroclor-1242	3	8.398	0.000	30193	250.0	3	9.123	0.000	27418	250.0
Aroclor-1242	4	8.525	0.000	69876	250.0	4	9.550	0.000	33043	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 (5.842 - 13.740) = 1203666 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 643088 Col2 Total PCB = 0.1 ppm*

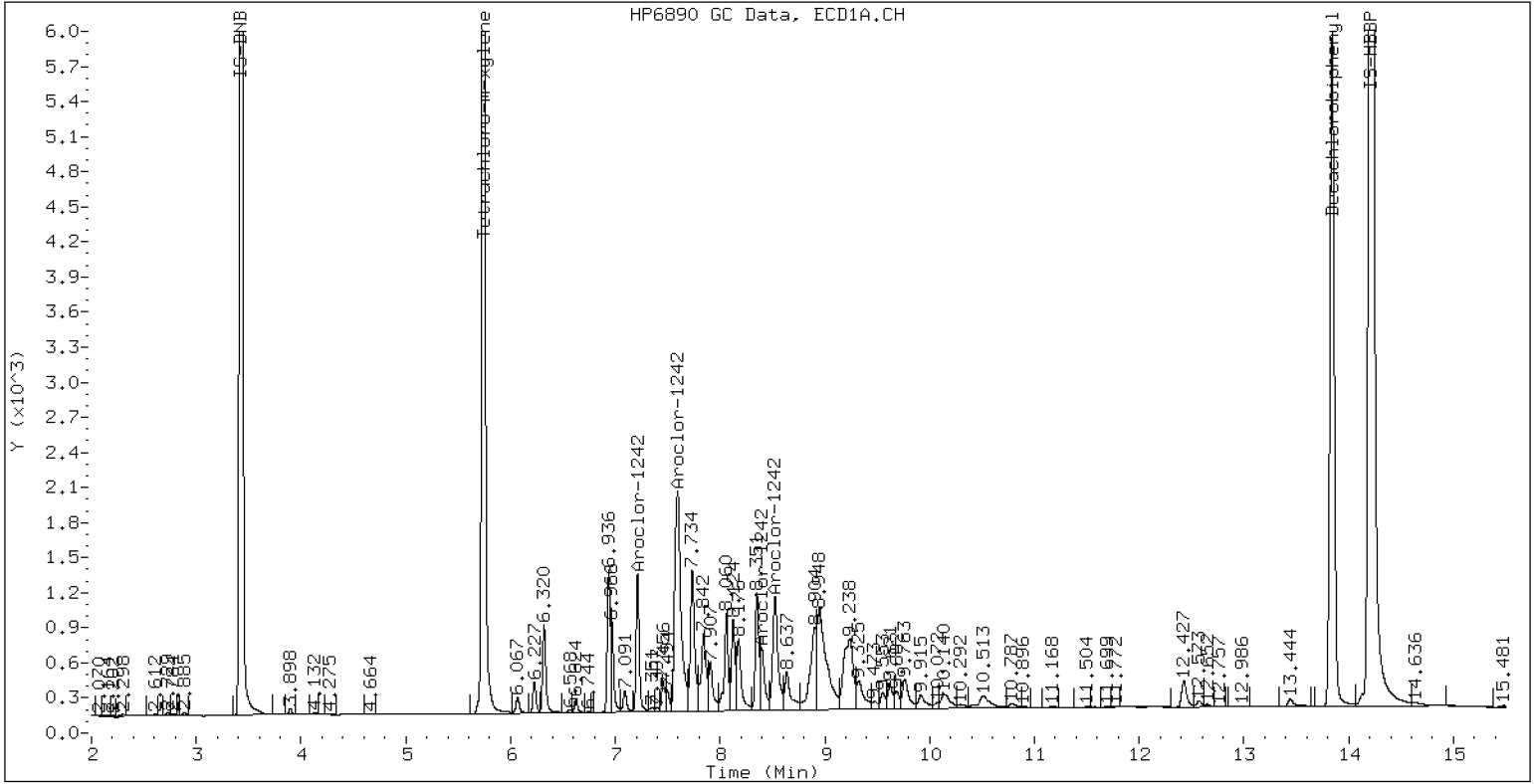
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1242

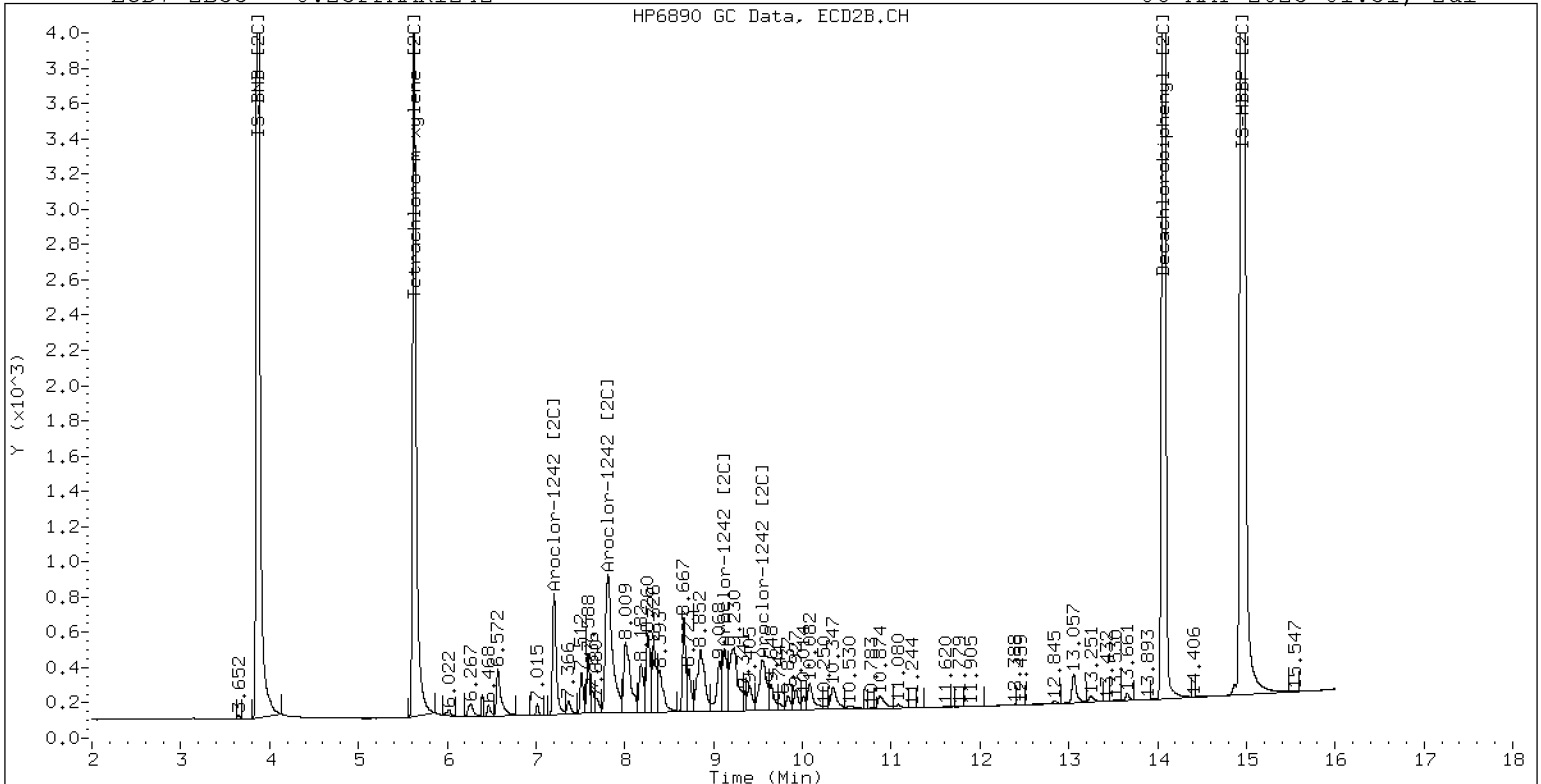
06-MAY-2023 01:31, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1242

06-MAY-2023 01:31, 2ul

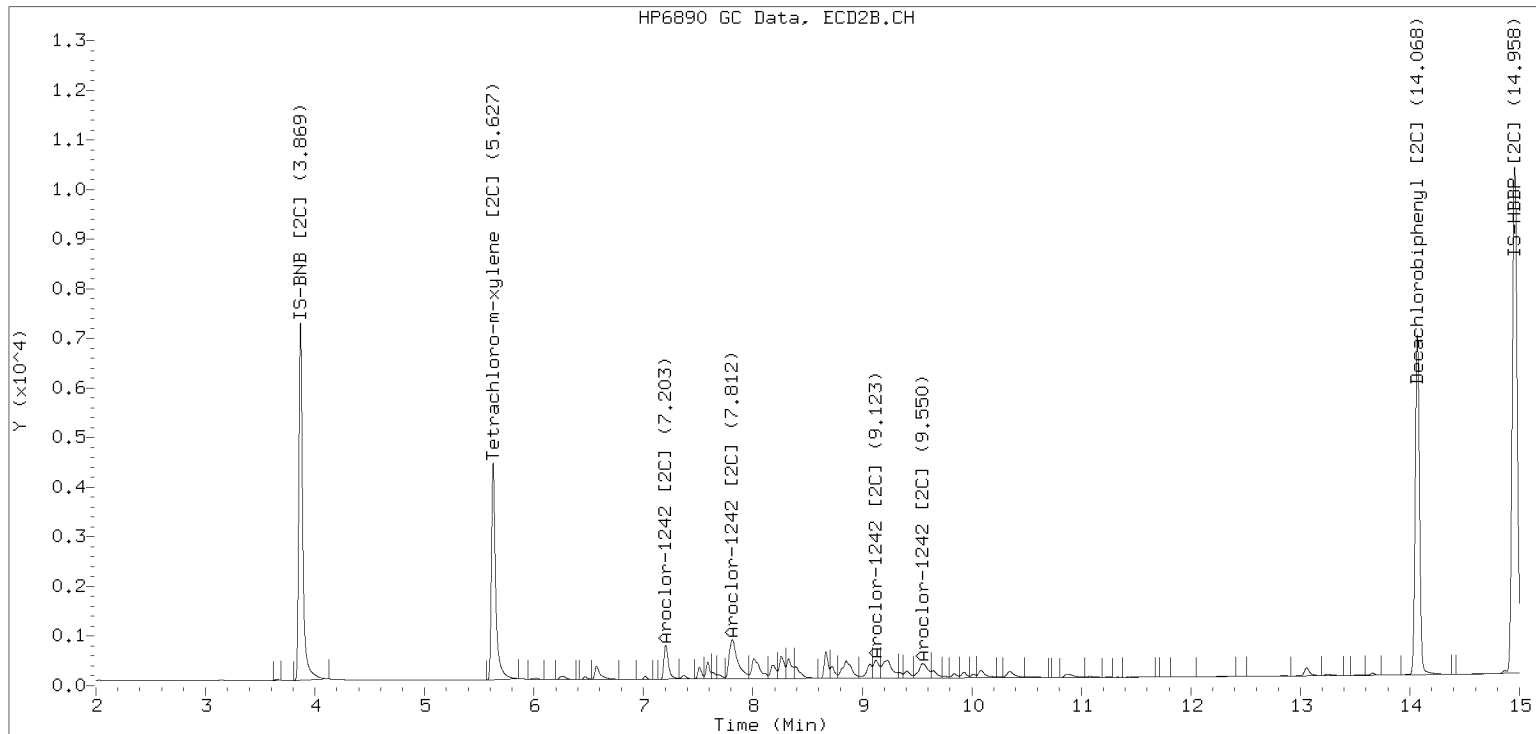


ZB-35 Manual Integration: YES

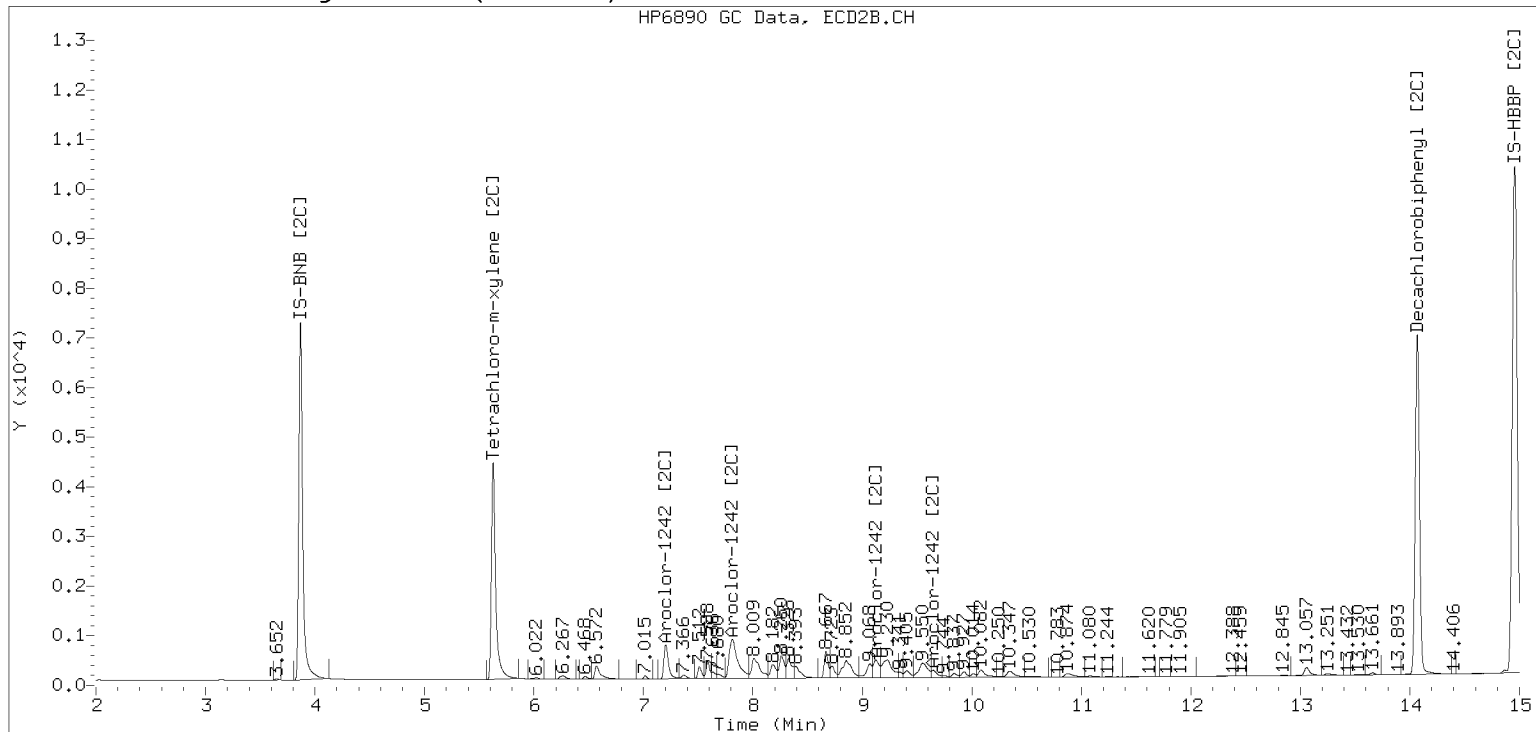
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230505.b/230505.b/05052327ECD7.D Injection Date: 06-MAY-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052328ECD7.D
Data file 2: /230505.b/230505.b/05052328ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1248
Client ID:
Injection Date: 06-MAY-2023 01:52
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.741	-0.001	363354	5.628	-0.000	193087	38.8	39.5	1.9	Tetrachloro-m-xylene
13.843	0.003	347513	14.070	0.002	386262	38.0	40.3	5.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	621905	3.4
Hexabromobiphenyl	876625	915805	4.5

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	354920	1.6
Hexabromobiphenyl	652984	674778	3.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1248	1	8.399	0.000	39684	250.0	1	8.260	0.000	42211	250.0	
Aroclor-1248	2	8.524	0.000	103126	250.0	2	8.667	0.000	44588	250.0	
Aroclor-1248	3	8.944	0.000	198327	250.0	3	9.120	0.000	52266	250.0	
Aroclor-1248	4	9.243	0.000	101099	250.0	4	9.546	0.000	62674	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 (5.842 - 13.740) = 1607435 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 866525 Col2 Total PCB = 0.2 ppm*

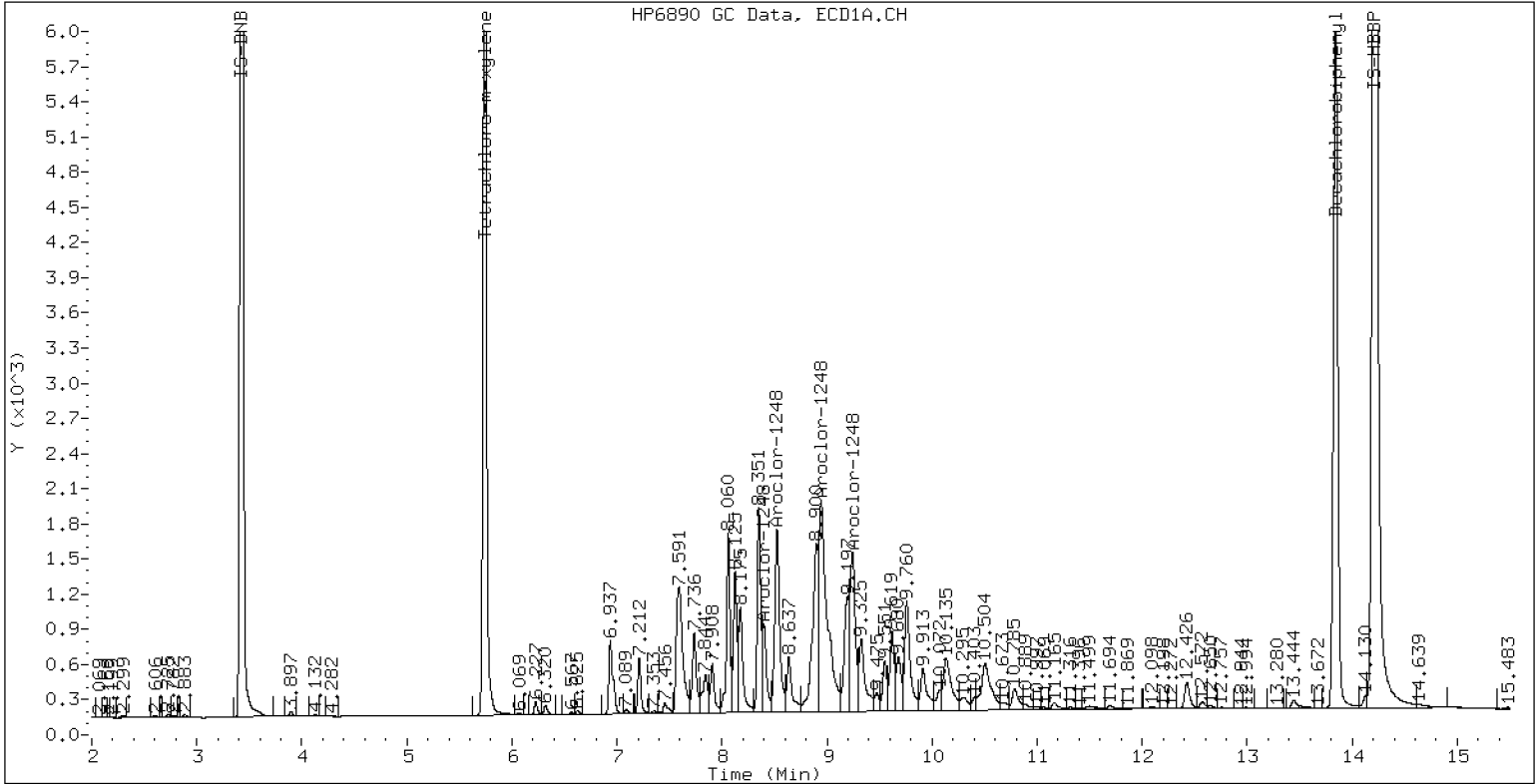
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1248

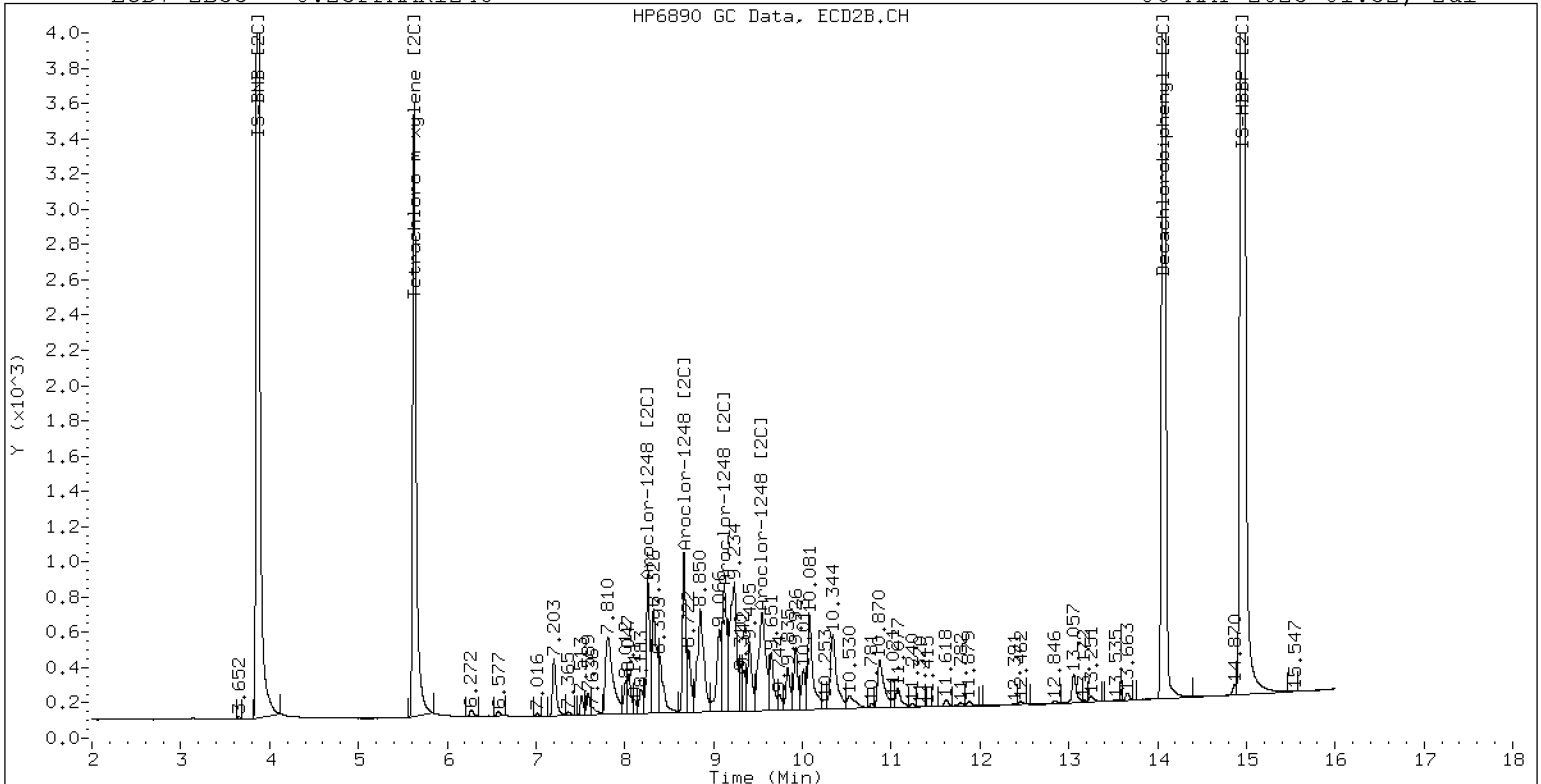
06-MAY-2023 01:52, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1248

06-MAY-2023 01:52, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052329ECD7.D
Data file 2: /230505.b/230505.b/05052329ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1254
Client ID:
Injection Date: 06-MAY-2023 02:13
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	0.000	357984	5.629	0.001	190255	37.8	38.5	1.8	Tetrachloro-m-xylene
13.842	0.002	347079	14.071	0.002	385540	37.4	39.8	6.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	628765	4.5
Hexabromobiphenyl	876625	929076	6.0

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	359470	2.9
Hexabromobiphenyl	652984	682882	4.6

* Standard Areas taken from Initial Cal Level 3

Initial Calibration Date: 05-MAY-2023

<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	9.246	0.000	161557	250.0	1	9.404	0.000	68278	250.0
Aroclor-1254	2	9.325	0.000	72588	250.0	2	9.499	0.000	40561	250.0
Aroclor-1254	3	9.618	0.000	104295	250.0	3	9.924	0.000	55343	250.0
Aroclor-1254	4	9.756	0.000	204288	250.0	4	10.078	0.000	120775	250.0
Aroclor-1254	5	10.126	0.000	123377	250.0	5	10.328	0.000	119827	250.0
Total CollAve (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 Coll (5.842 - 13.740) = 2115446 Coll Total PCB = 0.3 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 1173654 Col2 Total PCB = 0.3 ppm*

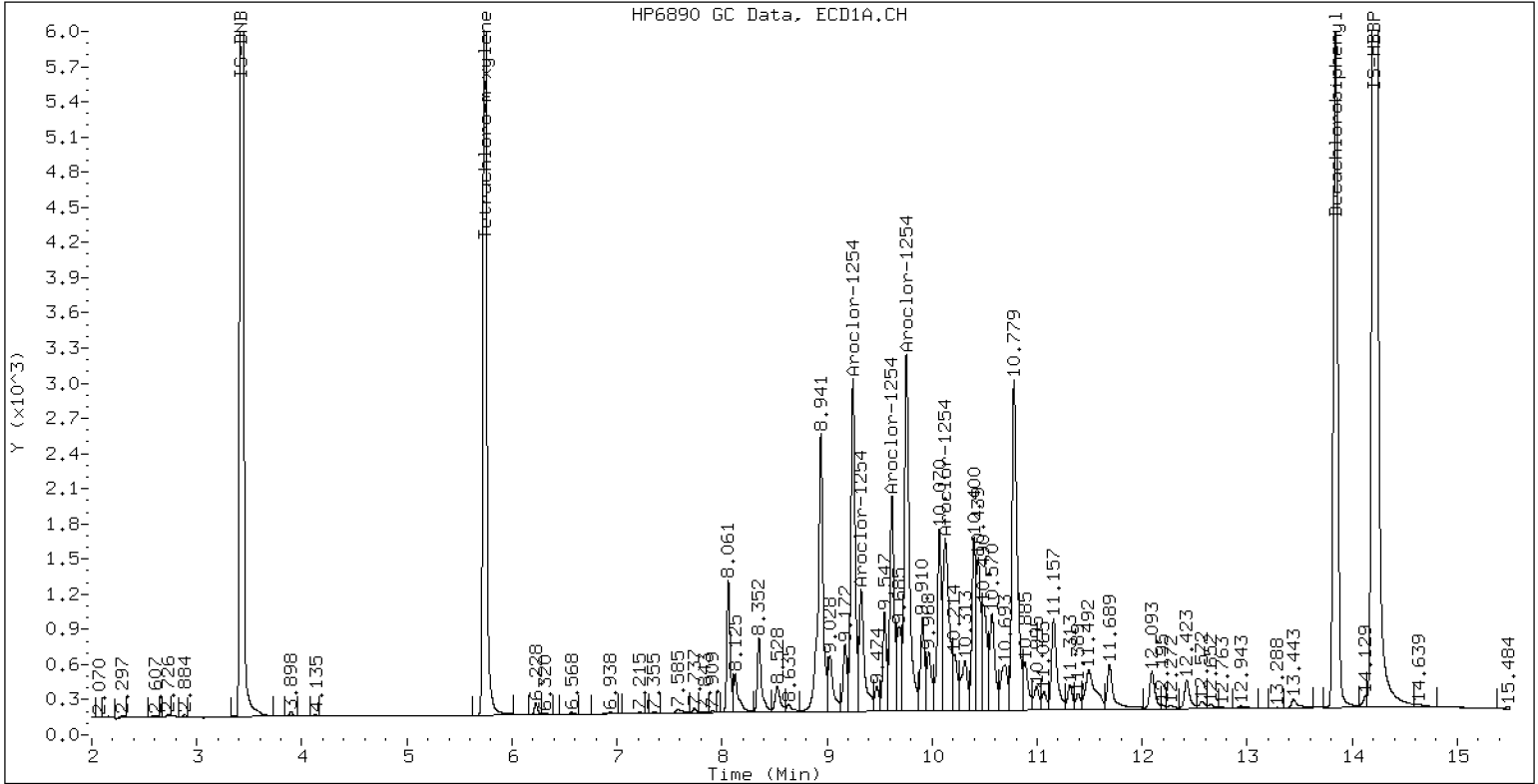
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1254

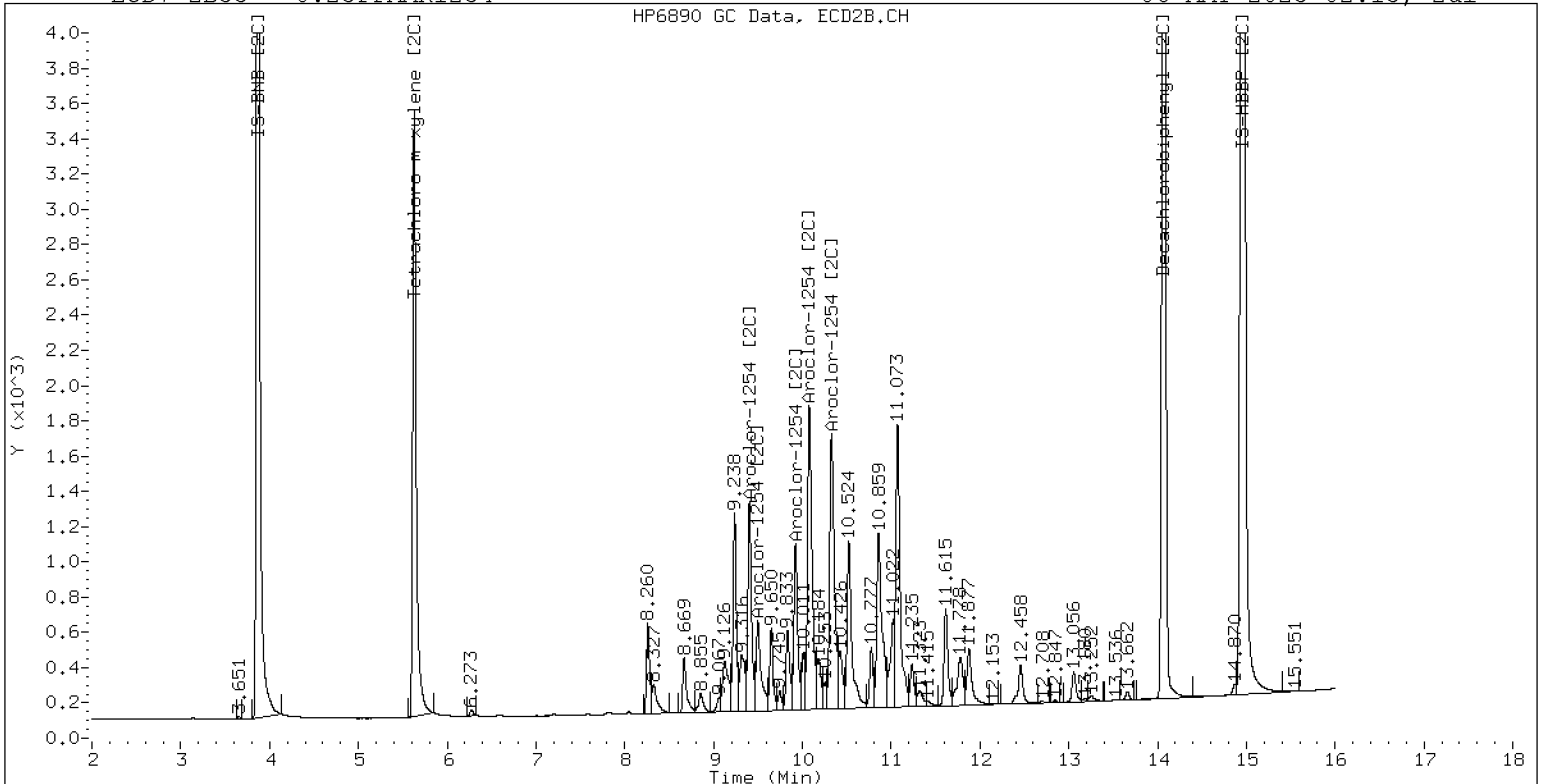
06-MAY-2023 02:13, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1254

06-MAY-2023 02:13, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052330ECD7.D
 Data file 2: /230505.b/230505.b/05052330ECD7.D
 Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
 Compound Sublist: AR2162.sub
 Instrument, Inj. Vol.: ecd7.i, 2ul
 Quant Method: Internal Std

ARI ID: 0.25PPMAR2162
 Client ID:
 Injection Date: 06-MAY-2023 02:34
 Report Date: 05/06/2023 11:30
 Matrix: NONE
 Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	-0.000	379099	5.628	0.000	200082	39.7	40.8	2.7	Tetrachloro-m-xylene
13.842	0.001	358012	14.071	0.003	396142	38.1	40.5	6.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	634497	5.5
Hexabromobiphenyl	876625	940541	7.3

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	356713	2.1
Hexabromobiphenyl	652984	688599	5.5

* Standard Areas taken from Initial Cal Level 3
 Initial Calibration Date: 05-MAY-2023
 <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1221	1	4.663	0.000	11156	250.0	1	4.894	0.000	6578	250.0
Aroclor-1221	2	6.069	0.000	22382	250.0	2	6.245	0.000	13633	250.0
Aroclor-1221	3	6.321	0.000	53161	250.0	3	6.572	0.000	21443	250.0
Total CollAve (3 peaks):				250.0		Total Col2Ave (3 peaks):				250.0 RPD = 0
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				

Aroclor-1262	1	10.779	0.000	106373	250.0	1	11.153	0.000	139491	250.0
Aroclor-1262	2	12.195	0.000	149596	250.0	2	11.605	0.000	117643	250.0
Aroclor-1262	3	12.269	0.000	160810	250.0	3	12.386	0.000	128556	250.0
Aroclor-1262	4	12.939	0.000	131044	250.0	4	12.456	0.000	209520	250.0
Total CollAve (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 Coll (5.842 - 13.740) = 2742242 Coll Total PCB = 0.4 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 1852573 Col2 Total PCB = 0.4 ppm*

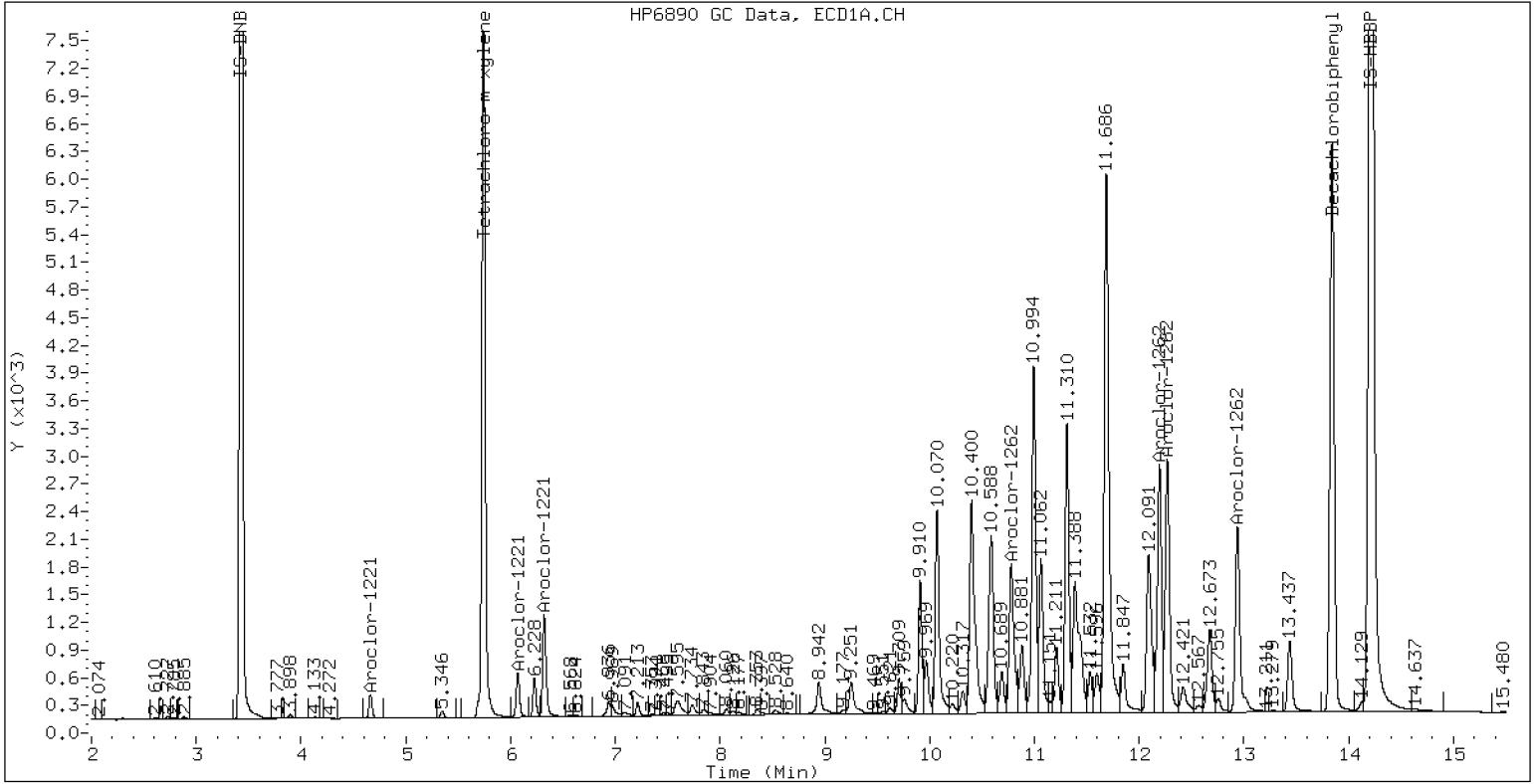
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR2162

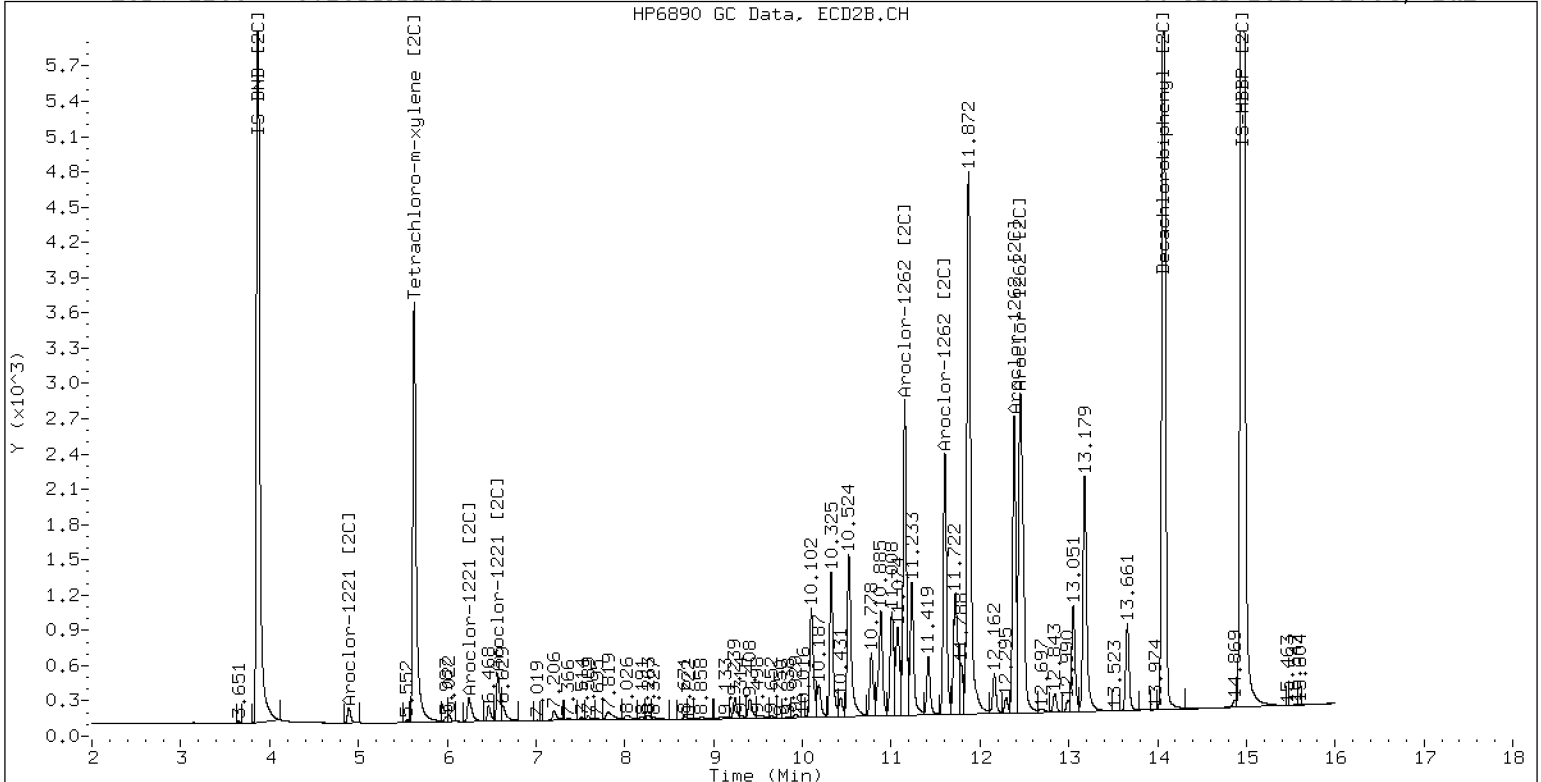
06-MAY-2023 02:34, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR2162

06-MAY-2023 02:34, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052331ECD7.D
Data file 2: /230505.b/230505.b/05052331ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR3268
Client ID:
Injection Date: 06-MAY-2023 02:55
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	0.000	378314	5.628	0.000	200538	38.9	40.3	3.4	Tetrachloro-m-xylene
13.840	0.000	502472	14.068	0.000	573501	52.2	57.3	9.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	644974	7.2
Hexabromobiphenyl	876625	963091	9.9

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	361821	3.6
Hexabromobiphenyl	652984	704753	7.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1232	1	4.664	0.000	7554	250.0	1	4.894	0.000	3508	250.0
Aroclor-1232	2	6.069	0.000	15718	250.0	2	7.205	0.000	20084	250.0
Aroclor-1232	3	7.595	0.000	74881	250.0	3	7.815	0.000	40344	250.0
Aroclor-1232	4	8.527	0.000	32051	250.0	4	8.669	0.000	11684	250.0
Total CollAve (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	12.196	0.000	384005	250.0	1	12.385	0.000	333421	250.0
Aroclor-1268	2	12.268	0.000	381367	250.0	2	12.452	0.000	358458	250.0
Aroclor-1268	3	12.648	0.000	306717	250.0	3	12.843	0.000	306959	250.0
Aroclor-1268	4	13.437	0.000	875751	250.0	4	13.663	0.000	983908	250.0
Total CollAve (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 Coll (5.842 - 13.740) = 3124318 Coll Total PCB = 0.4 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 2731202 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052332ECD7.D
Data file 2: /230505.b/230505.b/05052332ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660SCV
Client ID:
Injection Date: 06-MAY-2023 03:16
Report Date: 05/06/2023 12:06
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.742	-0.000	356595	5.629	0.000	185340	36.9	37.2	1.0	Tetrachloro-m-xylene
13.842	0.002	347188	14.070	0.002	384711	36.9	39.2	6.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	642284	6.8
Hexabromobiphenyl	876625	941356	7.4

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	361711	3.6
Hexabromobiphenyl	652984	690563	5.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	0.000	61654	247.9	1	7.205	0.001	50106	244.7
Aroclor-1016	2	7.594	-0.001	199228	256.2	2	7.811	0.003	109839	251.7
Aroclor-1016	3	7.734	0.001	89643	249.3	3	8.009	0.004	48594	252.5
Aroclor-1016	4	8.399	0.001	38714	261.0	4	8.260	0.001	36878	241.2
Total CollAve (4 peaks):				253.6		Total Col2Ave (4 peaks):				247.5 RPD = 2
Corrected Ave (3 peaks):				251.1		Corrected Ave (3 peaks):				245.9 RPD = 2
Aroclor-1221	1	4.663	-0.000	436	9.7	1	---			0.0
Aroclor-1221	2	6.068	-0.001	8521	94.0	2	6.251	0.005	5766	104.3
Aroclor-1221	3	6.320	-0.001	41973	195.0	3	6.572	0.000	23212	266.9
Total CollAve (3 peaks):				99.6		Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.663	-0.000	436	14.5	1	---			0.0
Aroclor-1232	2	6.068	-0.002	8521	136.1	2	7.205	0.000	50106	623.9
Aroclor-1232	3	7.594	-0.001	199228	667.9	3	7.811	-0.004	109839	680.8
Aroclor-1232	4	8.526	-0.001	85985	673.5	4	8.667	-0.003	34670	742.1
Total CollAve (4 peaks):				373.0		Total Col2Ave (3 peaks):				682.3 RPD = 59*
Corrected Ave (3 peaks):				272.8		Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.213	0.001	61654	304.6	1	7.205	0.001	50106	310.0
Aroclor-1242	2	7.594	-0.001	199228	310.7	2	7.811	-0.002	109839	319.4
Aroclor-1242	3	8.399	0.000	38714	312.1	3	9.069	-0.054	21513	195.1
Aroclor-1242	4	8.526	0.001	85985	299.5	4	9.537	-0.013	1824	13.7
Total CollAve (4 peaks):				306.7		Total Col2Ave (4 peaks):				209.6 RPD = 38
Corrected Ave (3 peaks):				304.9		Corrected Ave (3 peaks):				172.9 RPD = 55*
Aroclor-1248	1	8.399	-0.000	38714	236.2	1	8.260	0.000	36878	214.3
Aroclor-1248	2	8.526	0.001	85985	201.8	2	8.667	-0.001	34670	190.7
Aroclor-1248	3	8.941	-0.003	81615	99.6	3	9.069	-0.051	21513	101.0
Aroclor-1248	4	9.249	0.006	52526	125.8	4	9.537	-0.008	1824	7.1
Total CollAve (4 peaks):				165.8		Total Col2Ave (4 peaks):				128.3 RPD = 26
Corrected Ave (3 peaks):				142.4		Corrected Ave (3 peaks):				99.6 RPD = 35
Aroclor-1254	1	9.249	0.003	52526	79.6	1	9.405	0.001	24726	90.0
Aroclor-1254	2	---			0.0	2	9.537	0.038	1824	11.2
Aroclor-1254	3	9.619	0.001	7081	16.6	3	9.926	0.002	3128	14.0
Aroclor-1254	4	9.756	0.001	21856	26.2	4	10.101	0.023	62581	128.7
Aroclor-1254	5	10.069	-0.057	159796	317.0	5	10.324	-0.004	85433	177.1
Total CollAve (4 peaks):				109.8		Total Col2Ave (5 peaks):				84.2 RPD = 26
Corrected Ave (3 peaks):				40.8		Corrected Ave (4 peaks):				61.0 RPD = 40
Aroclor-1260	1	10.995	0.001	145767	292.8	1	11.605	-0.000	99761	272.0
Aroclor-1260	2	11.311	0.001	142028	289.1	2	11.872	0.000	273505	285.1
Aroclor-1260	3	11.686	0.000	354468	288.1	3	12.389	0.001	70545	296.8
Aroclor-1260	4	12.092	0.002	161281	267.6	4	12.455	-0.000	180783	282.1
Aroclor-1260	5	12.194	0.001	76105	289.6	NS	---			----
Total CollAve (5 peaks):				285.5		Total Col2Ave (4 peaks):				284.0 RPD = 1
Corrected Ave (4 peaks):				283.6		Corrected Ave (3 peaks):				279.8 RPD = 1
Aroclor-1262	1	10.777	-0.001	215850	506.9	1	11.153	-0.001	104059	186.0
Aroclor-1262	2	12.194	-0.000	76105	127.1	2	11.605	0.001	99761	211.4
Aroclor-1262	3	12.271	0.001	94628	147.0	3	12.389	0.003	70545	136.8
Aroclor-1262	4	12.939	-0.000	78852	150.3	4	12.455	-0.001	180783	215.1
Total CollAve (4 peaks):				232.8		Total Col2Ave (4 peaks):				187.3 RPD = 22
Corrected Ave (3 peaks):				141.5		Corrected Ave (3 peaks):				178.1 RPD = 23
Aroclor-1268	1	12.194	-0.001	76105	50.7	1	12.389	0.004	70545	54.0
Aroclor-1268	2	12.271	0.003	94628	63.5	2	12.455	0.003	180783	128.7
Aroclor-1268	3	12.675	0.026	38830	32.4	3	12.844	0.001	3082	2.6
Aroclor-1268	4	13.440	0.003	19986	5.8	4	13.661	-0.002	14882	3.9
Total CollAve (4 peaks):				38.1		Total Col2Ave (4 peaks):				47.3 RPD = 21
Corrected Ave (3 peaks):				29.6		Corrected Ave (3 peaks):				20.1 RPD = 38

Total PCB Area Col1 (5.842 - 13.740) = 3657118 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 2255286 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052333ECD7.D
Data file 2: /230505.b/230505.b/05052333ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242SCV
Client ID:
Injection Date: 06-MAY-2023 03:36
Report Date: 05/06/2023 12:06
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col		ZB5	ZB35	RPD	Compound/Flag		
RT	Shift Response	RT	Shift Response	on col	on col				
5.744	0.002	319899	5.630	0.002	167866	32.8	33.4	1.9	Tetrachloro-m-xylene
13.842	0.002	398699	14.069	0.001	434332	40.9	44.0	7.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	648004	7.7
Hexabromobiphenyl	876625	976327	11.4

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	365379	4.6
Hexabromobiphenyl	652984	695394	6.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	0.001	47446	189.1	1	7.205	0.001	36469	176.3
Aroclor-1016	2	7.594	-0.000	147684	188.2	2	7.814	0.007	77885	176.7
Aroclor-1016	3	7.735	0.002	67175	185.2	3	8.012	0.006	38400	197.5
Aroclor-1016	4	8.398	0.000	30565	204.3	4	8.261	0.002	27551	178.4
Total CollAve (4 peaks):				191.7		Total Col2Ave (4 peaks):				182.2 RPD = 5
Corrected Ave (3 peaks):				187.5		Corrected Ave (3 peaks):				177.1 RPD = 6
Aroclor-1221	1	4.666	0.002	870	19.1	1	---			0.0
Aroclor-1221	2	6.069	0.000	7118	77.8	2	6.257	0.011	4359	78.0
Aroclor-1221	3	6.322	0.001	32969	151.8	3	6.573	0.001	16609	189.0
Total CollAve (3 peaks):				82.9		Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.666	0.002	870	28.7	1	---			0.0
Aroclor-1232	2	6.069	0.000	7118	112.7	2	7.205	-0.000	36469	449.5
Aroclor-1232	3	7.594	-0.001	147684	490.8	3	7.814	-0.001	77885	477.9
Aroclor-1232	4	8.526	-0.000	70601	548.1	4	8.668	-0.001	25417	538.5
Total CollAve (4 peaks):				295.1		Total Col2Ave (3 peaks):				488.7 RPD = 49*
Corrected Ave (3 peaks):				210.7		Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.213	0.001	47446	232.4	1	7.205	0.001	36469	223.3
Aroclor-1242	2	7.594	-0.000	147684	228.2	2	7.814	0.002	77885	224.2
Aroclor-1242	3	8.398	0.000	30565	244.2	3	9.124	0.001	25864	232.2
Aroclor-1242	4	8.526	0.002	70601	243.8	4	9.552	0.001	32437	241.7
Total CollAve (4 peaks):				237.2		Total Col2Ave (4 peaks):				230.4 RPD = 3
Corrected Ave (3 peaks):				234.8		Corrected Ave (3 peaks):				226.6 RPD = 4
Aroclor-1248	1	8.398	-0.001	30565	184.8	1	8.261	0.001	27551	158.5
Aroclor-1248	2	8.526	0.002	70601	164.3	2	8.668	0.001	25417	138.4
Aroclor-1248	3	8.946	0.002	172847	209.1	3	9.124	0.004	25864	120.2
Aroclor-1248	4	9.243	-0.001	87363	207.3	4	9.552	0.006	32437	125.7
Total CollAve (4 peaks):				191.4		Total Col2Ave (4 peaks):				135.7 RPD = 34
Corrected Ave (3 peaks):				185.5		Corrected Ave (3 peaks):				128.1 RPD = 37
Aroclor-1254	1	9.243	-0.004	87363	131.2	1	9.406	0.002	13247	47.7
Aroclor-1254	2	9.326	0.001	28949	96.7	2	9.552	0.053	32437	196.7
Aroclor-1254	3	9.622	0.004	20780	48.3	3	9.927	0.003	10002	44.5
Aroclor-1254	4	9.762	0.006	35470	42.1	4	10.082	0.005	19933	40.6
Aroclor-1254	5	10.140	0.015	28075	55.2	5	10.341	0.013	19432	39.9
Total CollAve (5 peaks):				74.7		Total Col2Ave (5 peaks):				73.9 RPD = 1
Corrected Ave (4 peaks):				60.6		Corrected Ave (4 peaks):				43.2 RPD = 34
Aroclor-1260	1	10.998	0.005	3609	7.0	1	11.618	0.012	2137	5.8
Aroclor-1260	2	11.317	0.007	3837	7.5	2	11.879	0.007	1437	1.5
Aroclor-1260	3	11.765	0.080	33905	26.6	3	12.382	-0.006	12460	52.1
Aroclor-1260	4	12.097	0.007	9099	14.6	4	---			0.0
Aroclor-1260	5	12.272	0.079	2060	7.6	NS	---			---
Total CollAve (5 peaks):				12.6		Total Col2Ave (3 peaks):				19.8 RPD = 44*
Corrected Ave (4 peaks):				9.2		Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.787	0.009	24040	54.4	1	11.078	-0.075	7864	14.0
Aroclor-1262	2	12.272	0.077	2060	3.3	2	11.618	0.013	2137	4.5
Aroclor-1262	3	---			0.0	3	12.382	-0.004	12460	24.0
Aroclor-1262	4	12.937	-0.002	16041	29.5	4	---			0.0
Total CollAve (3 peaks):				29.1		Total Col2Ave (3 peaks):				14.1 RPD = 69*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1268	1	12.272	0.076	2060	1.3	1	12.382	-0.003	12460	9.5
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	12.649	0.001	4324	3.5	3	12.845	0.002	951	0.8
Aroclor-1268	4	13.442	0.005	15801	4.4	4	13.628	-0.035	6512	1.7
Total CollAve (3 peaks):				3.1		Total Col2Ave (3 peaks):				4.0 RPD = 25
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				

Total PCB Area Col1 (5.842 - 13.740) = 1489022 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 667658 Col2 Total PCB = 0.2 ppm*

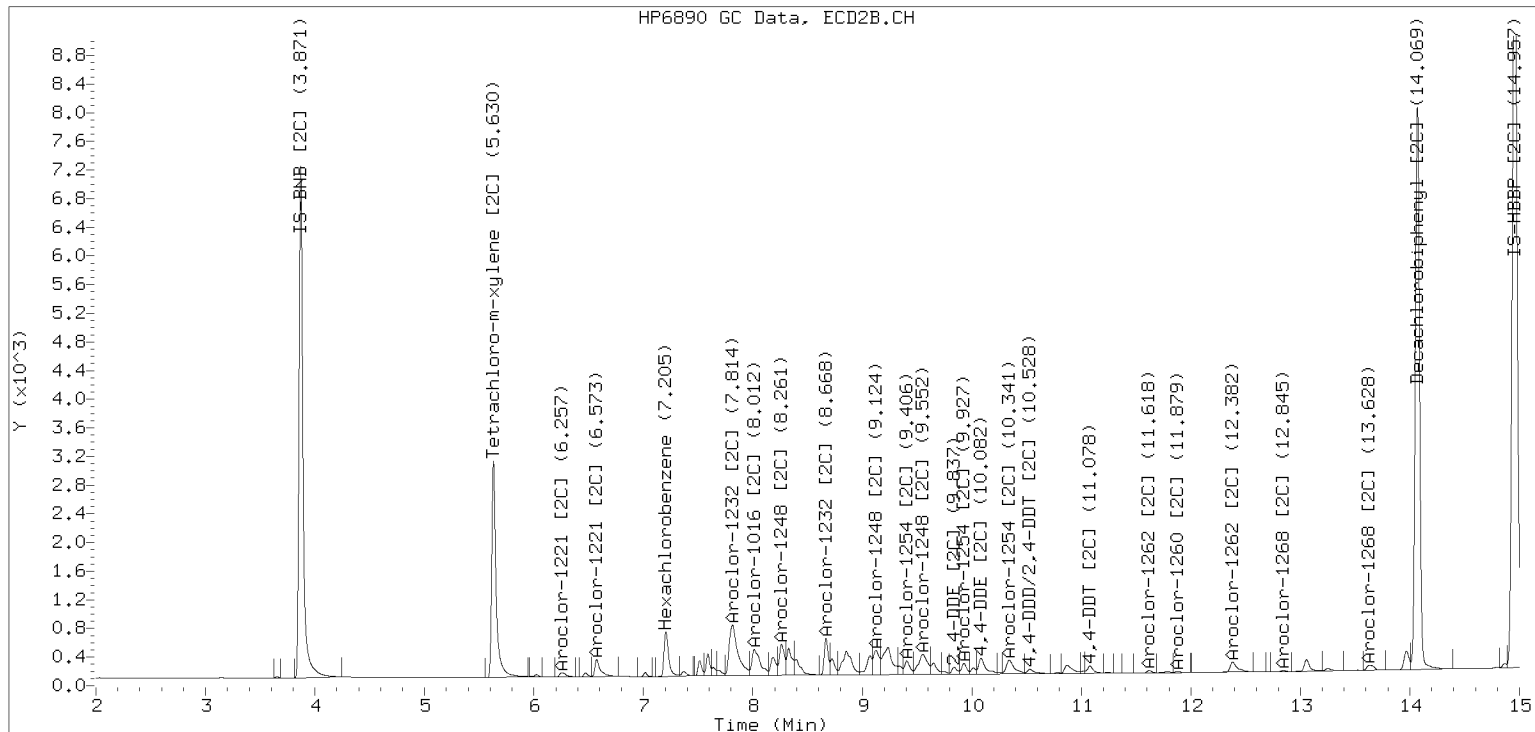
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

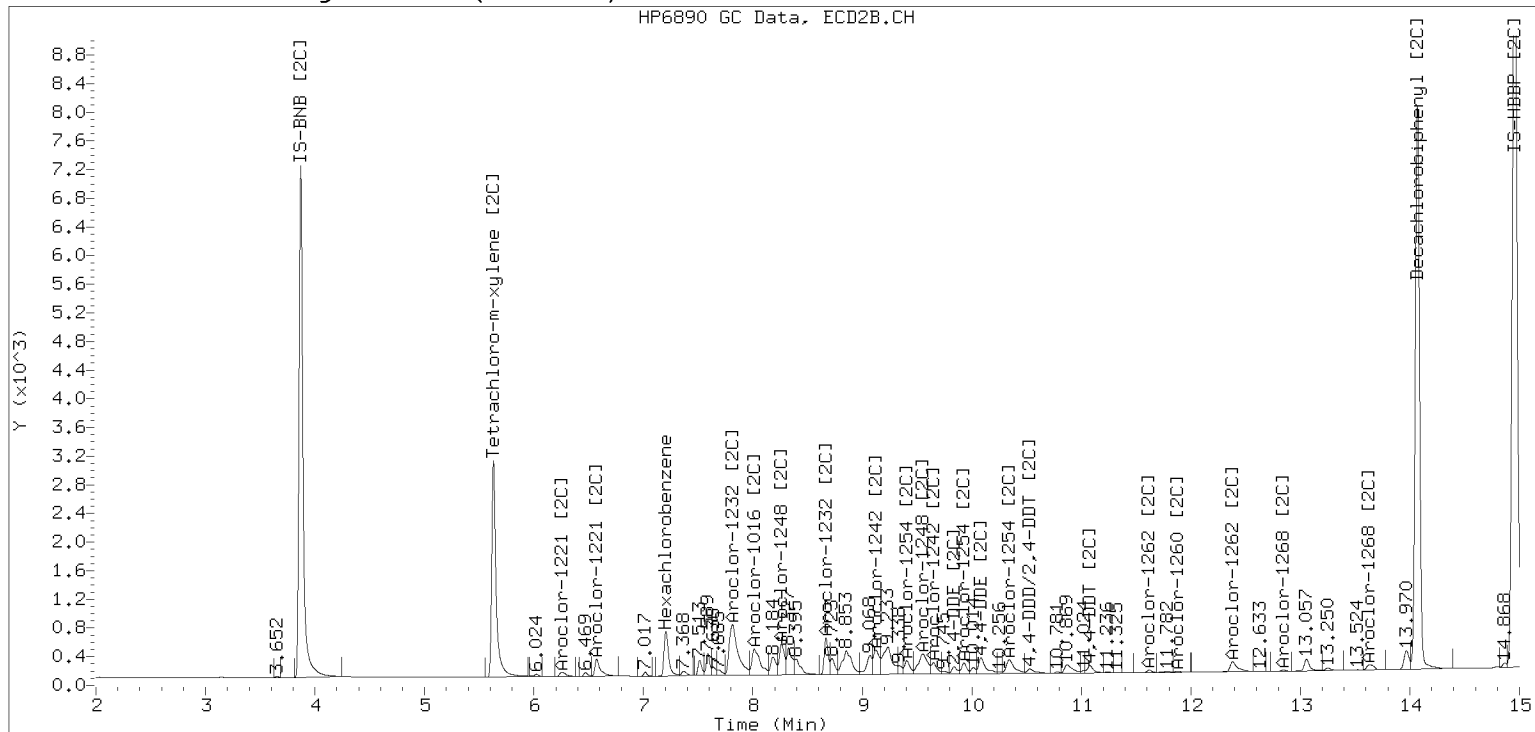
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230505.b/230505.b/05052333ECD7.D Injection Date: 06-MAY-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052334ECD7.D
Data file 2: /230505.b/230505.b/05052334ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248SCV
Client ID:
Injection Date: 06-MAY-2023 03:57
Report Date: 05/06/2023 12:07
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.741	-0.001	356328	5.629	0.000	186552	36.8	37.7	2.5	Tetrachloro-m-xylene
13.842	0.001	339452	14.070	0.002	373861	35.7	38.0	6.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	643038	6.9
Hexabromobiphenyl	876625	952051	8.6

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	359604	3.0
Hexabromobiphenyl	652984	692982	6.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.212	0.000	19871	79.8	1	7.203	-0.001	18843	92.6
Aroclor-1016	2	7.589	-0.006	95111	122.2	2	7.812	0.005	52352	120.7
Aroclor-1016	3	7.736	0.003	37565	104.4	3	8.012	0.006	8263	43.2
Aroclor-1016	4	8.399	0.002	41542	279.7	4	8.260	0.001	42833	281.8
Total CollAve (4 peaks):				146.5		Total Col2Ave (4 peaks):				134.6 RPD = 9
Corrected Ave (3 peaks):				102.1		Corrected Ave (3 peaks):				85.5 RPD = 18
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.066	-0.003	351	3.9	2	6.275	0.029	1573	28.6
Aroclor-1221	3	6.320	-0.001	3509	16.3	3	6.576	0.004	967	11.2
CollAve: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.066	-0.003	351	5.6	2	7.203	-0.001	18843	236.0
Aroclor-1232	3	7.589	-0.006	95111	318.5	3	7.812	-0.002	52352	326.4
Aroclor-1232	4	8.524	-0.002	105782	827.6	4	8.667	-0.002	44962	968.0
Total CollAve (3 peaks):				383.9		Total Col2Ave (3 peaks):				510.1 RPD = 28
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.212	0.000	19871	98.1	1	7.203	-0.000	18843	117.2
Aroclor-1242	2	7.589	-0.006	95111	148.1	2	7.812	-0.000	52352	153.1
Aroclor-1242	3	8.399	0.001	41542	334.5	3	9.120	-0.003	52681	480.6
Aroclor-1242	4	8.524	-0.000	105782	368.1	4	9.548	-0.002	63343	479.5
Total CollAve (4 peaks):				237.2		Total Col2Ave (4 peaks):				307.6 RPD = 26
Corrected Ave (3 peaks):				193.6		Corrected Ave (3 peaks):				250.0 RPD = 25
Aroclor-1248	1	8.399	0.001	41542	253.1	1	8.260	-0.001	42833	250.4
Aroclor-1248	2	8.524	-0.000	105782	248.0	2	8.667	0.000	44962	248.8
Aroclor-1248	3	8.944	-0.000	206928	252.3	3	9.120	-0.000	52681	248.7
Aroclor-1248	4	9.242	-0.001	105227	251.7	4	9.548	0.002	63343	249.4
Total CollAve (4 peaks):				251.3		Total Col2Ave (4 peaks):				249.3 RPD = 1
Corrected Ave (3 peaks):				250.6		Corrected Ave (3 peaks):				249.0 RPD = 1
Aroclor-1254	1	9.242	-0.004	105227	159.2	1	9.404	0.000	25835	94.6
Aroclor-1254	2	9.324	-0.001	51326	172.8	2	9.548	0.049	63343	390.3
Aroclor-1254	3	9.619	0.001	41394	97.0	3	9.925	0.001	22609	102.1
Aroclor-1254	4	9.759	0.003	72223	86.4	4	10.079	0.001	43816	90.7
Aroclor-1254	5	10.135	0.010	49936	98.9	5	10.345	0.016	42513	88.7
Total CollAve (5 peaks):				122.9		Total Col2Ave (5 peaks):				153.3 RPD = 22
Corrected Ave (4 peaks):				110.4		Corrected Ave (4 peaks):				94.0 RPD = 16
Aroclor-1260	1	10.998	0.005	1863	3.7	1	11.617	0.011	2599	7.1
Aroclor-1260	2	11.314	0.004	1152	2.3	2	11.877	0.005	1951	2.0
Aroclor-1260	3	11.695	0.009	1829	1.5	3	12.389	0.001	857	3.6
Aroclor-1260	4	12.097	0.007	1266	2.1	4	12.458	0.003	1302	2.0
Aroclor-1260	5	12.195	0.002	464	1.7	NS	---			----
Total CollAve (5 peaks):				2.3		Total Col2Ave (4 peaks):				3.7 RPD = 48*
Corrected Ave (4 peaks):				1.9		Corrected Ave (3 peaks):				2.5 RPD = 29
Aroclor-1262	1	10.784	0.005	15405	35.8	1	11.077	-0.077	9003	16.0
Aroclor-1262	2	12.195	0.000	464	0.8	2	11.617	0.012	2599	5.5
Aroclor-1262	3	12.271	0.002	489	0.8	3	12.389	0.003	857	1.7
Aroclor-1262	4	12.940	0.001	1638	3.1	4	12.458	0.002	1302	1.5
Total CollAve (4 peaks):				10.1		Total Col2Ave (4 peaks):				6.2 RPD = 48*
Corrected Ave (3 peaks):				1.5		Corrected Ave (3 peaks):				2.9 RPD = 61*
Aroclor-1268	1	12.195	-0.001	464	0.3	1	12.389	0.004	857	0.7
Aroclor-1268	2	12.271	0.003	489	0.3	2	12.458	0.006	1302	0.9
Aroclor-1268	3	12.649	0.001	1831	1.5	3	12.845	0.002	676	0.6
Aroclor-1268	4	13.443	0.006	5387	1.6	4	13.661	-0.003	2707	0.7
Total CollAve (4 peaks):				0.9		Total Col2Ave (4 peaks):				0.7 RPD = 26
Corrected Ave (3 peaks):				0.7		Corrected Ave (3 peaks):				0.6 RPD = 11

Total PCB Area Col1 (5.842 - 13.740) = 1634238 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 876760 Col2 Total PCB = 0.2 ppm*

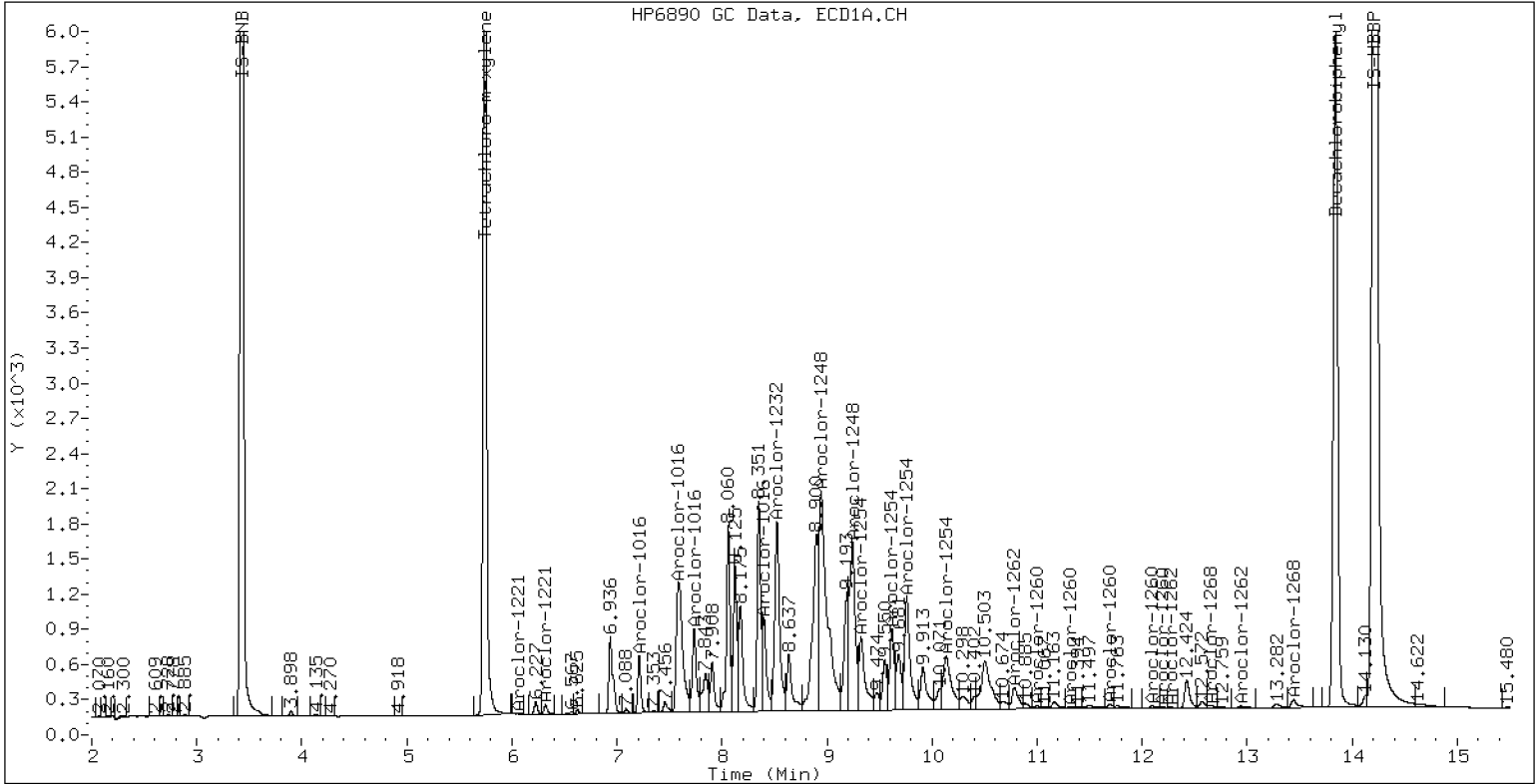
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1248SCV

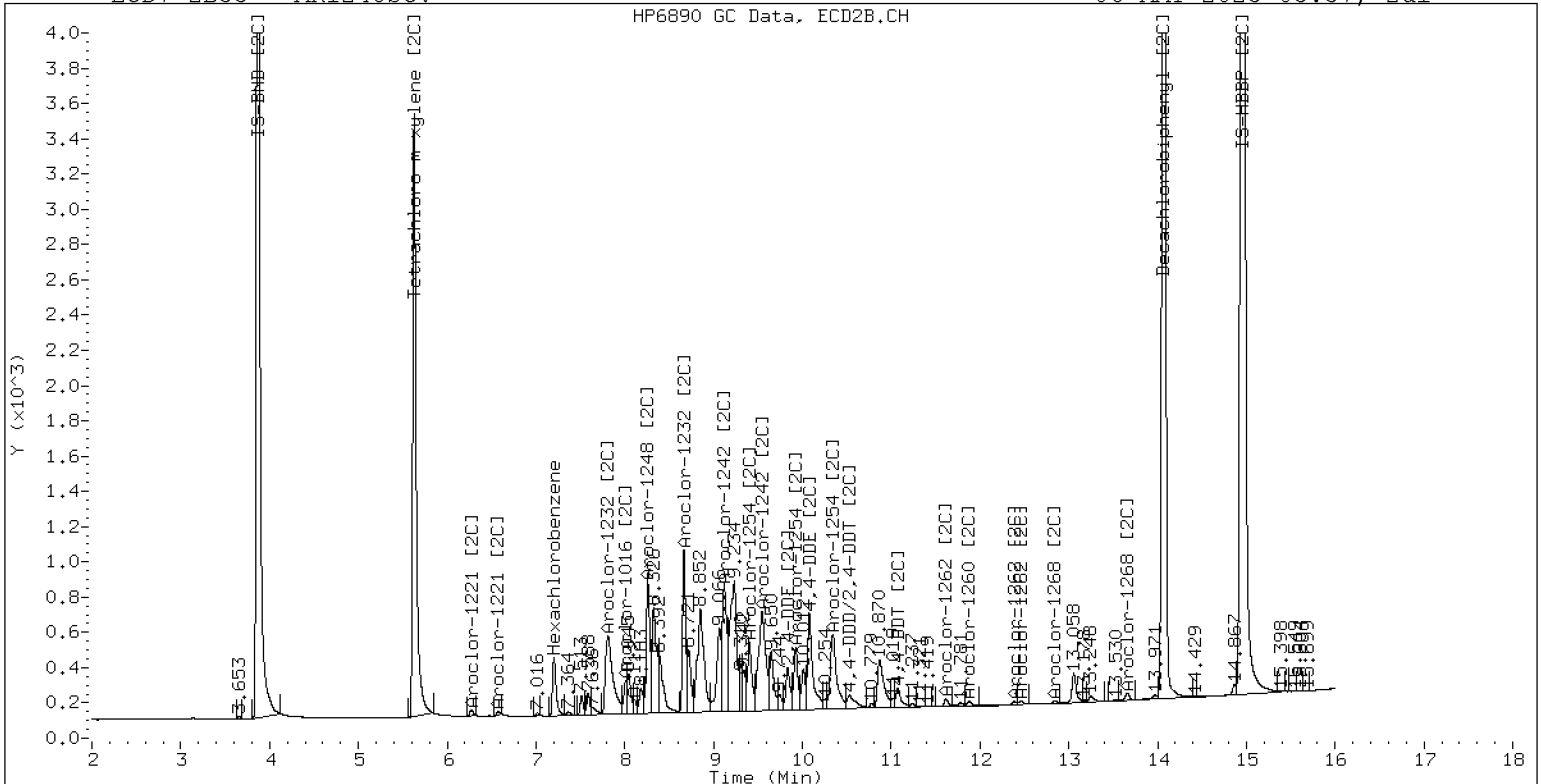
06-MAY-2023 03:57, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248SCV

06-MAY-2023 03:57, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052335ECD7.D
Data file 2: /230505.b/230505.b/05052335ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254SCV
Client ID:
Injection Date: 06-MAY-2023 04:18
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.743	0.001	368022	5.631	0.002	192033	37.6	38.3	2.0	Tetrachloro-m-xylene
13.843	0.002	352066	14.070	0.002	385384	36.0	38.5	6.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	650234	8.1
Hexabromobiphenyl	876625	980276	11.8
Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	364142	4.3
Hexabromobiphenyl	652984	705291	8.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.214	0.002	635	2.5	1	---			0.0
Aroclor-1016	2	7.590	-0.004	2512	3.2	2	---			0.0
Aroclor-1016	3	7.738	0.005	1594	4.4	3	---			0.0
Aroclor-1016	4	8.351	-0.047	31774	211.6	4	---			0.0
Total CollAve (4 peaks):				55.4		Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.052	-0.018	242	2.6	2	---			0.0
Aroclor-1221	3	6.322	0.001	427	2.0	3	---			0.0
CollAve: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.052	-0.018	242	3.8	2	---			0.0
Aroclor-1232	3	7.590	-0.005	2512	8.3	3	---			0.0
Aroclor-1232	4	8.528	0.001	13950	107.9	4	---			0.0
Total CollAve (3 peaks):				40.0		Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	7.214	0.002	635	3.1	1	---			0.0
Aroclor-1242	2	7.590	-0.005	2512	3.9	2	---			0.0
Aroclor-1242	3	8.351	-0.047	31774	253.0	3	9.125	0.002	23963	215.9
Aroclor-1242	4	8.528	0.004	13950	48.0	4	9.649	0.099	23982	179.3
Total CollAve (4 peaks):				77.0		Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	8.351	-0.048	31774	191.4	1	8.260	-0.000	23490	135.6
Aroclor-1248	2	8.528	0.004	13950	32.3	2	8.669	0.002	16693	91.2
Aroclor-1248	3	8.941	-0.003	154338	186.1	3	9.125	0.005	23963	111.7
Aroclor-1248	4	9.246	0.003	158369	374.6	4	9.499	-0.047	38716	150.5
Total CollAve (4 peaks):				196.1		Total Col2Ave (4 peaks): 122.3 RPD = 46*				
Corrected Ave (3 peaks):				136.6		Corrected Ave (3 peaks): 112.8 RPD = 19				
Aroclor-1254	1	9.246	-0.001	158369	237.0	1	9.404	0.000	67493	244.0
Aroclor-1254	2	9.325	-0.000	72386	241.1	2	9.499	-0.000	38716	235.6
Aroclor-1254	3	9.617	-0.001	103602	240.1	3	9.925	0.001	53972	240.7
Aroclor-1254	4	9.756	0.000	201259	238.2	4	10.079	0.001	116950	239.0
Aroclor-1254	5	10.127	0.001	122207	239.5	5	10.327	-0.001	118439	243.9
Total CollAve (5 peaks):				239.2		Total Col2Ave (5 peaks): 240.6 RPD = 1				
Corrected Ave (4 peaks):				238.7		Corrected Ave (4 peaks): 239.8 RPD = 0				
Aroclor-1260	1	10.994	0.001	13538	26.1	1	11.615	0.009	33465	89.3
Aroclor-1260	2	11.313	0.003	13900	27.2	2	11.876	0.004	25534	26.1
Aroclor-1260	3	11.689	0.004	32548	25.4	3	12.404	0.016	1811	7.5
Aroclor-1260	4	12.093	0.003	25285	40.3	4	12.458	0.002	14842	22.7
Aroclor-1260	5	12.273	0.079	2534	9.3	NS	---			----
Total CollAve (5 peaks):				25.6		Total Col2Ave (4 peaks): 36.4 RPD = 35				
Corrected Ave (4 peaks):				22.0		Corrected Ave (3 peaks): 18.7 RPD = 16				
Aroclor-1262	1	10.779	0.000	210018	473.6	1	11.073	-0.081	114323	200.0
Aroclor-1262	2	12.273	0.078	2534	4.1	2	11.615	0.010	33465	69.4
Aroclor-1262	3	---			0.0	3	12.404	0.018	1811	3.4
Aroclor-1262	4	12.939	0.001	1830	3.3	4	12.458	0.002	14842	17.3
Total CollAve (3 peaks):				160.3		Total Col2Ave (4 peaks): 72.6 RPD = 75*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 30.1				
Aroclor-1268	1	12.273	0.077	2534	1.6	1	12.404	0.019	1811	1.4
Aroclor-1268	2	---			0.0	2	12.458	0.005	14842	10.3
Aroclor-1268	3	12.654	0.006	2669	2.1	3	12.847	0.004	835	0.7
Aroclor-1268	4	13.442	0.004	6266	1.8	4	13.662	-0.001	2350	0.6
Total CollAve (3 peaks):				1.8		Total Col2Ave (4 peaks): 3.2 RPD = 55*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 0.9				

Total PCB Area Col1 (5.842 - 13.740) = 2123119 Col1 Total PCB = 0.3 ppm*
Total PCB Area Col2 (5.728 - 13.968) = 1146487 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052336ECD7.D
Data file 2: /230505.b/230505.b/05052336ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162SCV
Client ID:
Injection Date: 06-MAY-2023 04:39
Report Date: 05/06/2023 11:31
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	0.000	358254	5.628	-0.000	183759	37.8	39.1	3.3	Tetrachloro-m-xylene
13.842	0.002	344347	14.070	0.002	373300	37.1	38.8	4.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	629547	4.7
Hexabromobiphenyl	876625	929713	6.1

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	341980	-2.1
Hexabromobiphenyl	652984	678097	3.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	0.000	6601	27.1	1	7.207	0.003	3935	20.3	
Aroclor-1016	2	7.595	0.000	13419	17.6	2	7.821	0.013	6146	14.9	
Aroclor-1016	3	7.735	0.003	7114	20.2	3	8.027	0.021	3201	17.6	
Aroclor-1016	4	8.353	-0.045	3916	26.9	4	8.262	0.003	2131	14.7	
Total CollAve (4 peaks):				23.0	Total Col2Ave (4 peaks):				16.9	RPD = 30	
Corrected Ave (3 peaks):				21.6	Corrected Ave (3 peaks):				15.7	RPD = 31	
Aroclor-1221	1	4.663	-0.001	13184	297.8	1	4.893	-0.001	7253	287.5	
Aroclor-1221	2	6.070	0.000	25527	287.4	2	6.244	-0.001	14853	284.1	
Aroclor-1221	3	6.321	0.000	59985	284.3	3	6.571	-0.001	24083	292.9	
Total CollAve (3 peaks):				289.8	Total Col2Ave (3 peaks):				288.2	RPD = 1	
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks						
Aroclor-1232	1	4.663	-0.001	13184	447.0	1	4.893	-0.001	7253	546.9	
Aroclor-1232	2	6.070	0.000	25527	416.0	2	7.207	0.002	3935	51.8	
Aroclor-1232	3	7.595	-0.000	13419	45.9	3	7.821	0.006	6146	40.3	
Aroclor-1232	4	8.528	0.001	2679	21.4	4	8.671	0.002	1120	25.4	
Total CollAve (4 peaks):				232.6	Total Col2Ave (4 peaks):				166.1	RPD = 33	
Corrected Ave (3 peaks):				161.1	Corrected Ave (3 peaks):				39.2	RPD = 122*	
Aroclor-1242	1	7.213	0.001	6601	33.3	1	7.207	0.004	3935	25.7	
Aroclor-1242	2	7.595	-0.000	13419	21.3	2	7.821	0.008	6146	18.9	
Aroclor-1242	3	8.353	-0.045	3916	32.2	3	9.133	0.010	881	8.5	
Aroclor-1242	4	8.528	0.003	2679	9.5	4	9.651	0.101	516	4.1	
Total CollAve (4 peaks):				24.1	Total Col2Ave (4 peaks):				14.3	RPD = 51*	
Corrected Ave (3 peaks):				21.0	Corrected Ave (3 peaks):				10.5	RPD = 67*	
Aroclor-1248	1	8.353	-0.046	3916	24.4	1	8.262	0.002	2131	13.1	
Aroclor-1248	2	8.528	0.003	2679	6.4	2	8.671	0.004	1120	6.5	
Aroclor-1248	3	8.942	-0.002	25144	31.3	3	9.133	0.013	881	4.4	
Aroclor-1248	4	9.251	0.008	25583	62.5	4	9.500	-0.045	335	1.4	
Total CollAve (4 peaks):				31.1	Total Col2Ave (4 peaks):				6.3	RPD = 132*	
Corrected Ave (3 peaks):				20.7	Corrected Ave (3 peaks):				4.1	RPD = 134*	
Aroclor-1254	1	9.251	0.005	25583	39.5	1	9.408	0.004	9719	37.4	
Aroclor-1254	2	---			0.0	2	9.500	0.001	335	2.2	
Aroclor-1254	3	9.620	0.002	4245	10.2	3	9.928	0.004	2055	9.8	
Aroclor-1254	4	9.758	0.003	11050	13.5	4	10.100	0.022	55162	120.0	
Aroclor-1254	5	10.071	-0.055	129151	261.4	5	10.325	-0.004	68421	150.1	
Total CollAve (4 peaks):				81.1	Total Col2Ave (5 peaks):				63.9	RPD = 24	
Corrected Ave (3 peaks):				21.1	Corrected Ave (4 peaks):				42.3	RPD = 67*	
Aroclor-1260	1	10.995	0.002	206643	420.3	1	11.605	-0.001	119902	332.9	
Aroclor-1260	2	11.311	0.001	167443	345.1	2	11.872	0.000	293746	311.8	
Aroclor-1260	3	11.687	0.001	390491	321.4	3	12.386	-0.002	131462	563.2	
Aroclor-1260	4	12.091	0.001	120118	201.8	4	12.456	0.000	212898	338.4	
Aroclor-1260	5	12.195	0.002	155588	599.5	NS	---			----	
Total CollAve (5 peaks):				377.6	Total Col2Ave (4 peaks):				386.6	RPD = 2	
Corrected Ave (4 peaks):				322.2	Corrected Ave (3 peaks):				327.7	RPD = 2	
Aroclor-1262	1	10.777	-0.001	114050	271.2	1	11.153	0.000	141861	258.2	
Aroclor-1262	2	12.195	0.001	155588	263.0	2	11.605	0.000	119902	258.7	
Aroclor-1262	3	12.269	0.000	167998	264.2	3	12.386	-0.000	131462	259.6	
Aroclor-1262	4	12.938	-0.001	136019	262.5	4	12.456	0.000	212898	258.0	
Total CollAve (4 peaks):				265.2	Total Col2Ave (4 peaks):				258.6	RPD = 3	
Corrected Ave (3 peaks):				263.3	Corrected Ave (3 peaks):				258.3	RPD = 2	
Aroclor-1268	1	12.195	-0.000	155588	104.9	1	12.386	0.001	131462	102.4	
Aroclor-1268	2	12.269	0.001	167998	114.1	2	12.456	0.003	212898	154.3	
Aroclor-1268	3	12.675	0.027	60611	51.2	3	12.843	-0.000	8393	7.1	
Aroclor-1268	4	13.439	0.001	49821	14.7	4	13.661	-0.002	39480	10.4	
Total CollAve (4 peaks):				71.2	Total Col2Ave (4 peaks):				68.6	RPD = 4	

Corrected Ave (3 peaks): 56.9 Corrected Ave (3 peaks): 40.0 RPD = 35

Total PCB Area Col1 (5.842 - 13.740) = 2870829 Col1 Total PCB = 0.4 ppm*
Total PCB Area Col2 (5.728 - 13.968) = 1885829 Col2 Total PCB = 0.5 ppm*

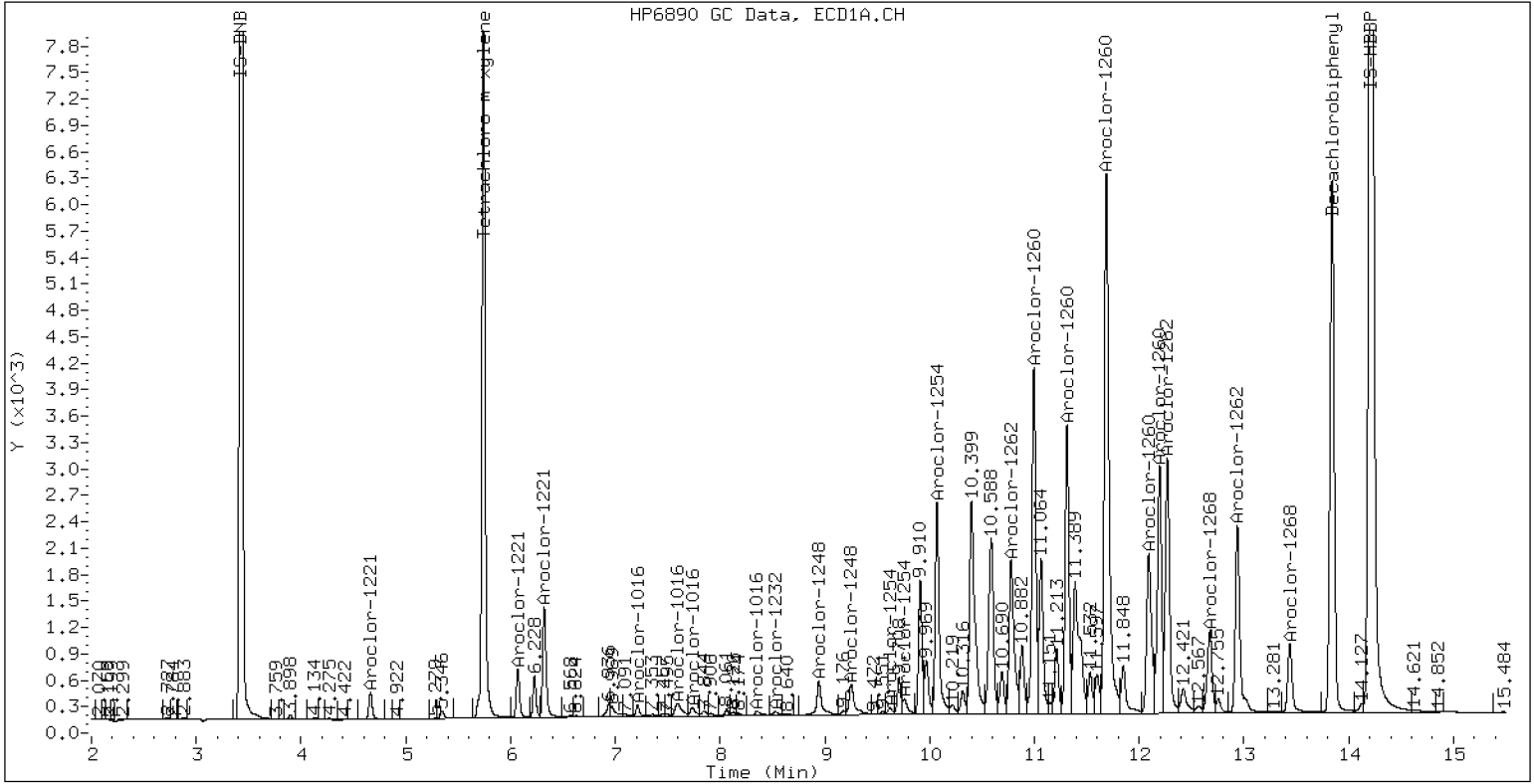
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR2162SCV

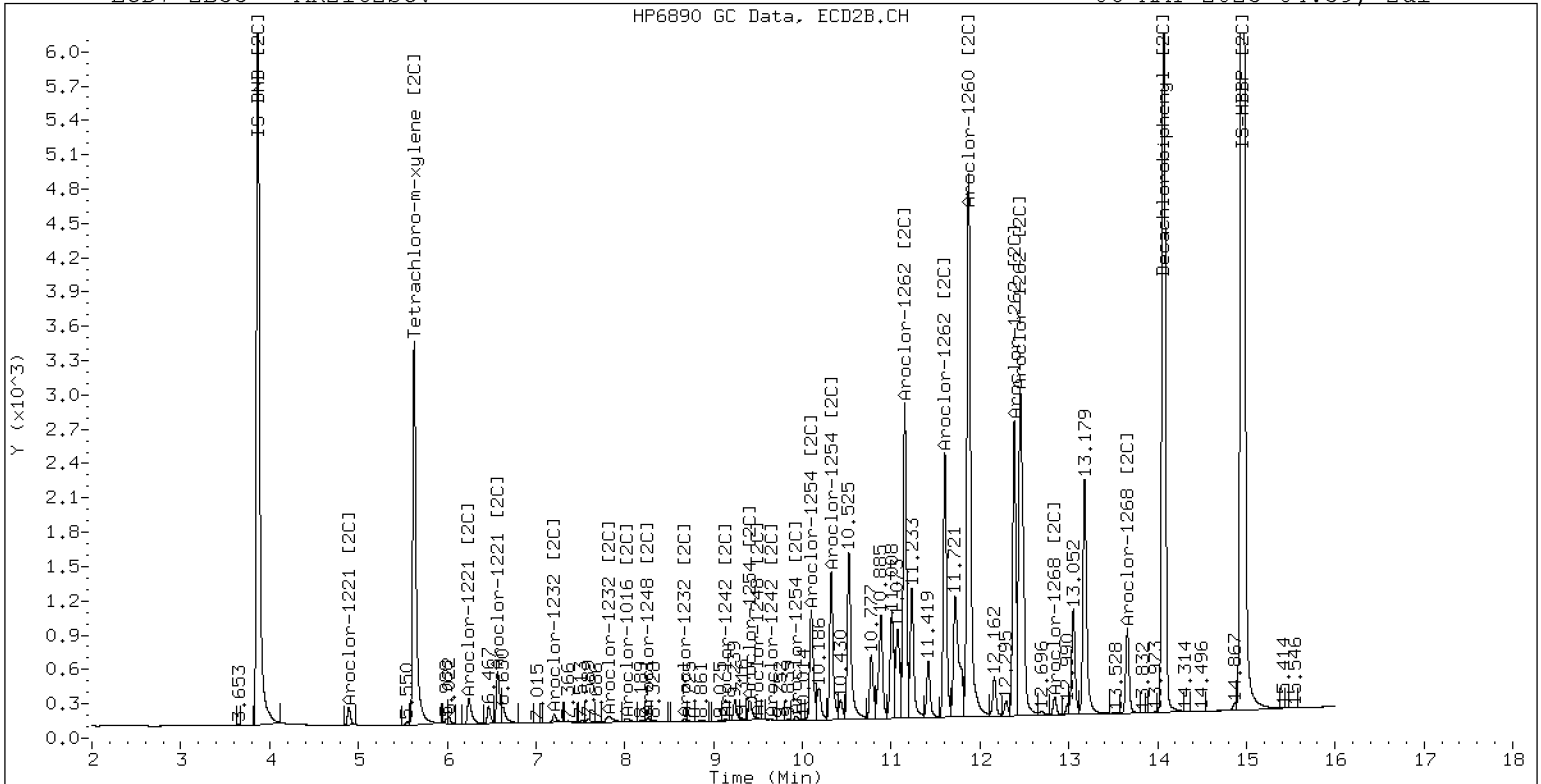
06-MAY-2023 04:39, 2u1



ZB-5 Manual Integration: NO

ECD7-ZB35 AR2162SCV

06-MAY-2023 04:39, 2u1



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052337ECD7.D
Data file 2: /230505.b/230505.b/05052337ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268SCV
Client ID:
Injection Date: 06-MAY-2023 05:00
Report Date: 05/06/2023 11:31
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.743	0.001	373749	5.629	0.001	196946	38.4	40.4	5.2	Tetrachloro-m-xylene
13.842	0.002	525409	14.069	0.001	586548	55.1	59.3	7.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	646456	7.5
Hexabromobiphenyl	876625	954969	8.9
Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	354120	1.4
Hexabromobiphenyl	652984	696139	6.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.214	0.001	28623	114.3	1	7.205	0.002	23124	115.4
Aroclor-1016	2	7.597	0.002	85721	109.5	2	7.815	0.007	47496	111.2
Aroclor-1016	3	7.735	0.002	41343	114.3	3	8.014	0.008	24029	127.5
Aroclor-1016	4	8.400	0.002	16653	111.6	4	8.262	0.003	15421	103.0
Total CollAve (4 peaks):				112.4		Total Col2Ave (4 peaks):				114.3 RPD = 2
Corrected Ave (3 peaks):				111.8		Corrected Ave (3 peaks):				109.9 RPD = 2
Aroclor-1221	1	4.664	0.001	7272	159.9	1	4.895	0.000	4045	154.9
Aroclor-1221	2	6.070	0.001	13478	147.8	2	6.246	0.000	9235	170.6
Aroclor-1221	3	6.321	0.001	43831	202.3	3	6.572	0.000	24300	285.4
Total CollAve (3 peaks):				170.0		Total Col2Ave (3 peaks):				203.6 RPD = 18
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.664	0.001	7272	240.1	1	4.895	0.001	4045	294.5
Aroclor-1232	2	6.070	0.001	13478	213.9	2	7.205	0.001	23124	294.1
Aroclor-1232	3	7.597	0.002	85721	285.5	3	7.815	0.000	47496	300.7
Aroclor-1232	4	8.527	0.000	36809	286.5	4	8.669	-0.000	14324	313.2
Total CollAve (4 peaks):				256.5		Total Col2Ave (4 peaks):				300.6 RPD = 16
Corrected Ave (3 peaks):				246.5		Corrected Ave (3 peaks):				296.5 RPD = 18
Aroclor-1242	1	7.214	0.002	28623	140.5	1	7.205	0.002	23124	146.1
Aroclor-1242	2	7.597	0.002	85721	132.8	2	7.815	0.002	47496	141.1
Aroclor-1242	3	8.400	0.002	16653	133.4	3	9.128	0.005	14403	133.4
Aroclor-1242	4	8.527	0.003	36809	127.4	4	9.648	0.098	5512	42.4
Total CollAve (4 peaks):				133.5		Total Col2Ave (4 peaks):				115.7 RPD = 14
Corrected Ave (3 peaks):				131.2		Corrected Ave (3 peaks):				105.6 RPD = 22
Aroclor-1248	1	8.400	0.001	16653	100.9	1	8.262	0.002	15421	91.5
Aroclor-1248	2	8.527	0.003	36809	85.8	2	8.669	0.002	14324	80.5
Aroclor-1248	3	8.944	0.000	89377	108.4	3	9.128	0.008	14403	69.0
Aroclor-1248	4	9.238	-0.005	41570	98.9	4	9.560	0.015	17331	69.3
Total CollAve (4 peaks):				98.5		Total Col2Ave (4 peaks):				77.6 RPD = 24
Corrected Ave (3 peaks):				95.2		Corrected Ave (3 peaks):				72.9 RPD = 26
Aroclor-1254	1	9.238	-0.008	41570	62.6	1	9.407	0.003	5487	20.4
Aroclor-1254	2	9.326	0.001	12640	42.3	2	9.560	0.061	17331	108.4
Aroclor-1254	3	9.624	0.006	7232	16.9	3	9.929	0.005	3481	16.0
Aroclor-1254	4	9.764	0.008	11671	13.9	4	10.086	0.009	7259	15.3
Aroclor-1254	5	10.139	0.014	7544	14.9	5	10.345	0.017	6610	14.0
Total CollAve (5 peaks):				30.1		Total Col2Ave (5 peaks):				34.8 RPD = 14
Corrected Ave (4 peaks):				22.0		Corrected Ave (4 peaks):				16.4 RPD = 29
Aroclor-1260	1	10.998	0.005	85093	168.5	1	11.598	-0.008	75237	203.5
Aroclor-1260	2	11.313	0.003	6363	12.8	2	11.873	0.001	33655	34.8
Aroclor-1260	3	11.688	0.002	47857	38.3	3	12.384	-0.004	346138	1444.4
Aroclor-1260	4	12.094	0.004	1291	2.1	4	12.453	-0.002	373218	577.8
Aroclor-1260	5	12.195	0.001	406211	1523.9	NS	---			----
Total CollAve (5 peaks):				349.1		Total Col2Ave (4 peaks):				565.1 RPD = 47*
Corrected Ave (4 peaks):				55.4		Corrected Ave (3 peaks):				272.0 RPD = 132*
Aroclor-1262	1	10.785	0.006	4006	9.3	1	11.156	0.002	52531	93.1
Aroclor-1262	2	12.195	0.000	406211	668.6	2	11.598	-0.007	75237	158.2
Aroclor-1262	3	12.268	-0.002	403730	618.2	3	12.384	-0.002	346138	665.8
Aroclor-1262	4	12.937	-0.002	145536	273.5	4	12.453	-0.002	373218	440.5
Total CollAve (4 peaks):				392.4		Total Col2Ave (4 peaks):				339.4 RPD = 14
Corrected Ave (3 peaks):				300.3		Corrected Ave (3 peaks):				230.6 RPD = 26
Aroclor-1268	1	12.195	-0.001	406211	266.7	1	12.384	-0.001	346138	262.7
Aroclor-1268	2	12.268	-0.000	403730	266.9	2	12.453	0.001	373218	263.5
Aroclor-1268	3	12.648	-0.000	323568	266.0	3	12.844	0.001	316122	260.6
Aroclor-1268	4	13.439	0.002	920777	265.1	4	13.663	0.000	1029335	264.8
Total CollAve (4 peaks):				266.2		Total Col2Ave (4 peaks):				262.9 RPD = 1

Corrected Ave (3 peaks): 265.9 Corrected Ave (3 peaks): 262.3 RPD = 1

Total PCB Area Col1 (5.842 - 13.740) = 3325332 Col1 Total PCB = 0.5 ppm*
Total PCB Area Col2 (5.728 - 13.968) = 2876097 Col2 Total PCB = 0.7 ppm*

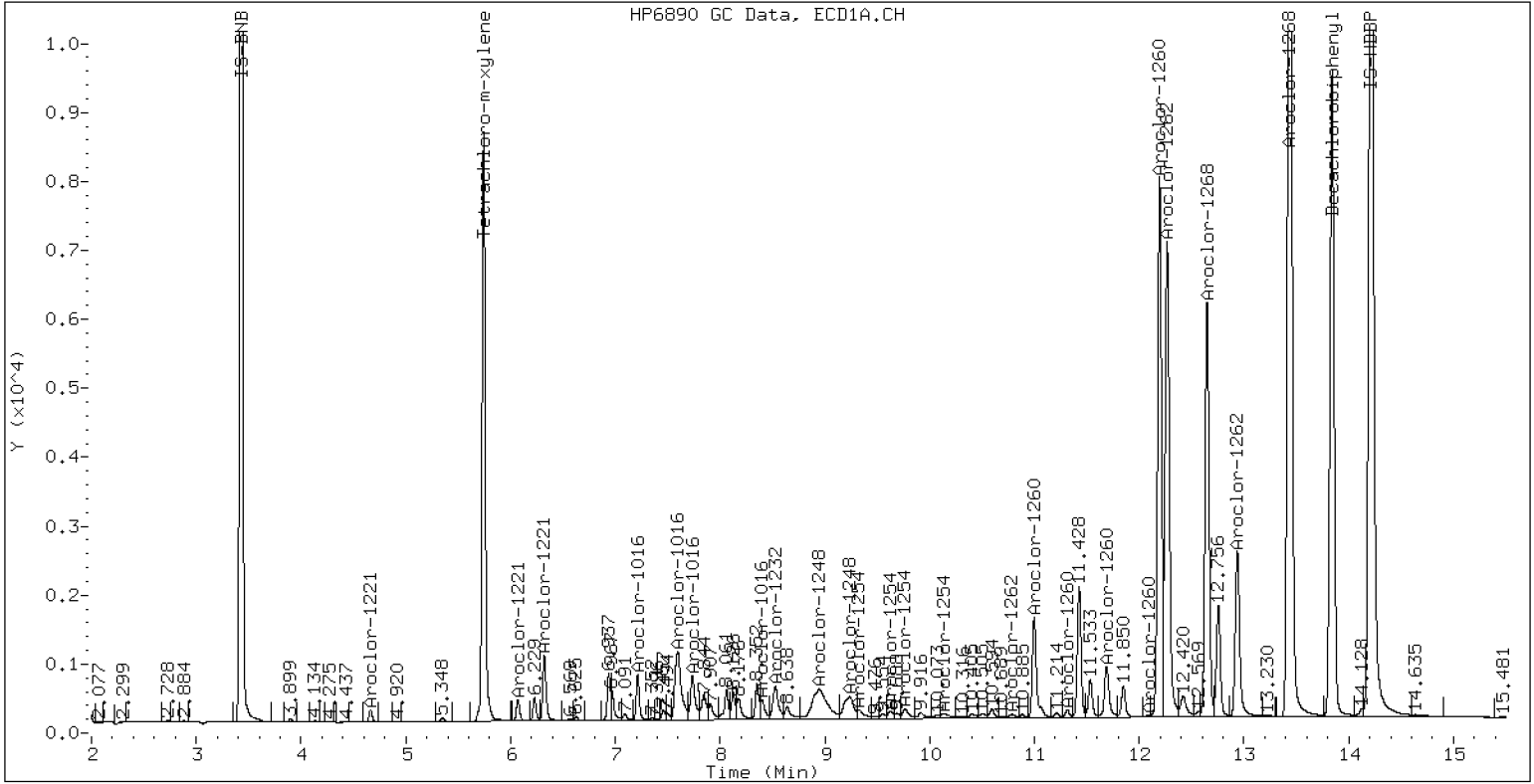
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR3268SCV

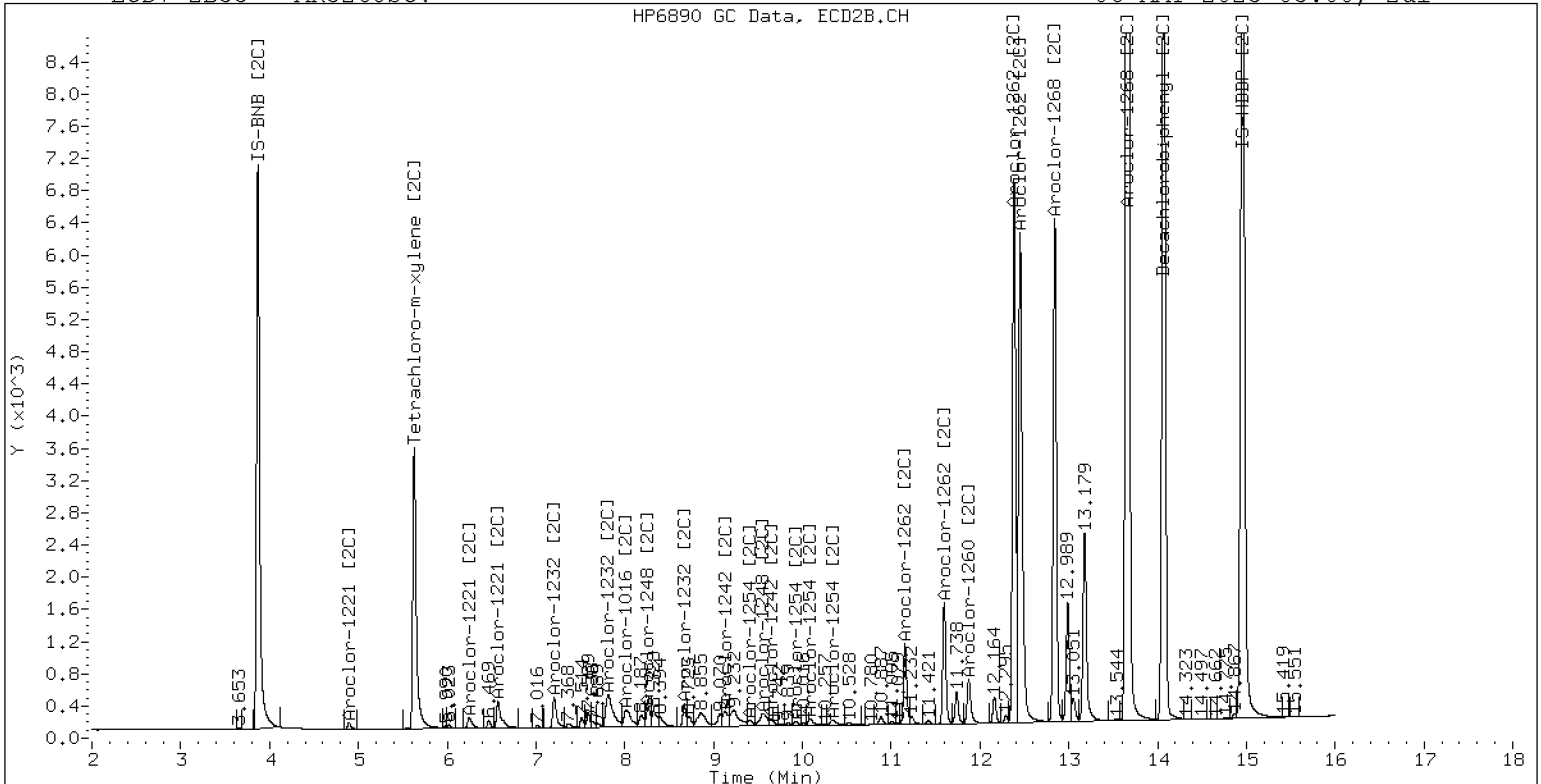
06-MAY-2023 05:00, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR3268SCV

06-MAY-2023 05:00, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /230505.b/05052338ECD7.D

ARI ID: DDTS

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
9.206	0.000 428189	0.000 428008	9.867	0.100	0.000	----	2,4-DDE
0.000	-10.293 0	0.000 621468	10.625	0.000	0.000#	----	2,4-DDT
9.635	0.000 1004111	0.000 369270	10.165	0.100	0.000	----	4,4-DDE
10.243	0.000 476377	0.000 621468	10.625	0.100	0.000#	----	4,4-DDD

Indicates value is from co-eluting peaks

* Indicates RPD > 40%

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /230505.b/05052339ECD7.D

ARI ID: DDT BD

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag		
9.158	-0.049	12021	9.884	0.017	17091	0.002	0.000	----	2,4-DDE
0.000	-10.293	0	10.633	0.008	326807	0.000	0.000#	----	2,4-DDT
9.644	0.009	16770	10.190	0.025	488	0.001	0.000	----	4,4-DDE
10.216	-0.028	403865	10.633	0.008	326807	0.068	0.000#	----	4,4-DDD

Indicates value is from co-eluting peaks

* Indicates RPD > 40%



SECOND-SOURCE CALIBRATION VERIFICATION
EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Calibration: GE00022

Laboratory ID: SLE0079-SCV1

Sequence: SLE0079

Sequence Name: AR1660SCV1

Standard ID: L002065

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1016	250.00	254	1.4	20.00
Aroclor 1016 [2C]	250.00	248	-1.0	20.00
Aroclor 1260	250.00	285	14.2	20.00
Aroclor 1260 [2C]	250.00	284	13.6	20.00
Decachlorobiphenyl	40.000	36.9	-7.7	20.00
Tetrachlorometaxylene	40.000	36.9	-7.8	20.00
Decachlorobiphenyl [2C]	40.000	39.2	-1.9	20.00
Tetrachlorometaxylene [2C]	40.000	37.2	-6.9	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052332ECD7.D
Data file 2: /230505.b/230505.b/05052332ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660SCV
Client ID:
Injection Date: 06-MAY-2023 03:16
Report Date: 05/06/2023 12:06
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	-0.000	356595	5.629	0.000	185340	36.9	37.2	1.0	Tetrachloro-m-xylene
13.842	0.002	347188	14.070	0.002	384711	36.9	39.2	6.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	642284	6.8
Hexabromobiphenyl	876625	941356	7.4

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	361711	3.6
Hexabromobiphenyl	652984	690563	5.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	0.000	61654	247.9	1	7.205	0.001	50106	244.7
Aroclor-1016	2	7.594	-0.001	199228	256.2	2	7.811	0.003	109839	251.7
Aroclor-1016	3	7.734	0.001	89643	249.3	3	8.009	0.004	48594	252.5
Aroclor-1016	4	8.399	0.001	38714	261.0	4	8.260	0.001	36878	241.2
Total CollAve (4 peaks):				253.6		Total Col2Ave (4 peaks):				247.5 RPD = 2
Corrected Ave (3 peaks):				251.1		Corrected Ave (3 peaks):				245.9 RPD = 2
Aroclor-1221	1	4.663	-0.000	436	9.7	1	---			0.0
Aroclor-1221	2	6.068	-0.001	8521	94.0	2	6.251	0.005	5766	104.3
Aroclor-1221	3	6.320	-0.001	41973	195.0	3	6.572	0.000	23212	266.9
Total CollAve (3 peaks):				99.6		Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.663	-0.000	436	14.5	1	---			0.0
Aroclor-1232	2	6.068	-0.002	8521	136.1	2	7.205	0.000	50106	623.9
Aroclor-1232	3	7.594	-0.001	199228	667.9	3	7.811	-0.004	109839	680.8
Aroclor-1232	4	8.526	-0.001	85985	673.5	4	8.667	-0.003	34670	742.1
Total CollAve (4 peaks):				373.0		Total Col2Ave (3 peaks):				682.3 RPD = 59*
Corrected Ave (3 peaks):				272.8		Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.213	0.001	61654	304.6	1	7.205	0.001	50106	310.0
Aroclor-1242	2	7.594	-0.001	199228	310.7	2	7.811	-0.002	109839	319.4
Aroclor-1242	3	8.399	0.000	38714	312.1	3	9.069	-0.054	21513	195.1
Aroclor-1242	4	8.526	0.001	85985	299.5	4	9.537	-0.013	1824	13.7
Total CollAve (4 peaks):				306.7		Total Col2Ave (4 peaks):				209.6 RPD = 38
Corrected Ave (3 peaks):				304.9		Corrected Ave (3 peaks):				172.9 RPD = 55*
Aroclor-1248	1	8.399	-0.000	38714	236.2	1	8.260	0.000	36878	214.3
Aroclor-1248	2	8.526	0.001	85985	201.8	2	8.667	-0.001	34670	190.7
Aroclor-1248	3	8.941	-0.003	81615	99.6	3	9.069	-0.051	21513	101.0
Aroclor-1248	4	9.249	0.006	52526	125.8	4	9.537	-0.008	1824	7.1
Total CollAve (4 peaks):				165.8		Total Col2Ave (4 peaks):				128.3 RPD = 26
Corrected Ave (3 peaks):				142.4		Corrected Ave (3 peaks):				99.6 RPD = 35
Aroclor-1254	1	9.249	0.003	52526	79.6	1	9.405	0.001	24726	90.0
Aroclor-1254	2	---			0.0	2	9.537	0.038	1824	11.2
Aroclor-1254	3	9.619	0.001	7081	16.6	3	9.926	0.002	3128	14.0
Aroclor-1254	4	9.756	0.001	21856	26.2	4	10.101	0.023	62581	128.7
Aroclor-1254	5	10.069	-0.057	159796	317.0	5	10.324	-0.004	85433	177.1
Total CollAve (4 peaks):				109.8		Total Col2Ave (5 peaks):				84.2 RPD = 26
Corrected Ave (3 peaks):				40.8		Corrected Ave (4 peaks):				61.0 RPD = 40
Aroclor-1260	1	10.995	0.001	145767	292.8	1	11.605	-0.000	99761	272.0
Aroclor-1260	2	11.311	0.001	142028	289.1	2	11.872	0.000	273505	285.1
Aroclor-1260	3	11.686	0.000	354468	288.1	3	12.389	0.001	70545	296.8
Aroclor-1260	4	12.092	0.002	161281	267.6	4	12.455	-0.000	180783	282.1
Aroclor-1260	5	12.194	0.001	76105	289.6	NS	---			----
Total CollAve (5 peaks):				285.5		Total Col2Ave (4 peaks):				284.0 RPD = 1
Corrected Ave (4 peaks):				283.6		Corrected Ave (3 peaks):				279.8 RPD = 1
Aroclor-1262	1	10.777	-0.001	215850	506.9	1	11.153	-0.001	104059	186.0
Aroclor-1262	2	12.194	-0.000	76105	127.1	2	11.605	0.001	99761	211.4
Aroclor-1262	3	12.271	0.001	94628	147.0	3	12.389	0.003	70545	136.8
Aroclor-1262	4	12.939	-0.000	78852	150.3	4	12.455	-0.001	180783	215.1
Total CollAve (4 peaks):				232.8		Total Col2Ave (4 peaks):				187.3 RPD = 22
Corrected Ave (3 peaks):				141.5		Corrected Ave (3 peaks):				178.1 RPD = 23
Aroclor-1268	1	12.194	-0.001	76105	50.7	1	12.389	0.004	70545	54.0
Aroclor-1268	2	12.271	0.003	94628	63.5	2	12.455	0.003	180783	128.7
Aroclor-1268	3	12.675	0.026	38830	32.4	3	12.844	0.001	3082	2.6
Aroclor-1268	4	13.440	0.003	19986	5.8	4	13.661	-0.002	14882	3.9
Total CollAve (4 peaks):				38.1		Total Col2Ave (4 peaks):				47.3 RPD = 21
Corrected Ave (3 peaks):				29.6		Corrected Ave (3 peaks):				20.1 RPD = 38

Total PCB Area Col1 (5.842 - 13.740) = 3657118 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 2255286 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.



SECOND-SOURCE CALIBRATION VERIFICATION
EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Calibration: GE00022

Laboratory ID: SLE0079-SCV2

Sequence: SLE0079

Sequence Name: AR1242SCV2

Standard ID: L003970

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1242	250.00	237	-5.1	20.00
Aroclor 1242 [2C]	250.00	230	-7.9	20.00
Decachlorobiphenyl	40.000	40.9	2.2	20.00
Tetrachlorometaxylene	40.000	32.8	-18.1	20.00
Decachlorobiphenyl [2C]	40.000	44.0	10.0	20.00
Tetrachlorometaxylene [2C]	40.000	33.4	-16.5	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052333ECD7.D
Data file 2: /230505.b/230505.b/05052333ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242SCV
Client ID:
Injection Date: 06-MAY-2023 03:36
Report Date: 05/06/2023 12:06
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col		ZB5	ZB35	RPD	Compound/Flag		
RT	Shift Response	RT	Shift Response	on col	on col				
5.744	0.002	319899	5.630	0.002	167866	32.8	33.4	1.9	Tetrachloro-m-xylene
13.842	0.002	398699	14.069	0.001	434332	40.9	44.0	7.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	648004	7.7
Hexabromobiphenyl	876625	976327	11.4

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	365379	4.6
Hexabromobiphenyl	652984	695394	6.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	0.001	47446	189.1	1	7.205	0.001	36469	176.3
Aroclor-1016	2	7.594	-0.000	147684	188.2	2	7.814	0.007	77885	176.7
Aroclor-1016	3	7.735	0.002	67175	185.2	3	8.012	0.006	38400	197.5
Aroclor-1016	4	8.398	0.000	30565	204.3	4	8.261	0.002	27551	178.4
Total CollAve (4 peaks):				191.7		Total Col2Ave (4 peaks):				182.2 RPD = 5
Corrected Ave (3 peaks):				187.5		Corrected Ave (3 peaks):				177.1 RPD = 6
Aroclor-1221	1	4.666	0.002	870	19.1	1	---			0.0
Aroclor-1221	2	6.069	0.000	7118	77.8	2	6.257	0.011	4359	78.0
Aroclor-1221	3	6.322	0.001	32969	151.8	3	6.573	0.001	16609	189.0
Total CollAve (3 peaks):				82.9		Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.666	0.002	870	28.7	1	---			0.0
Aroclor-1232	2	6.069	0.000	7118	112.7	2	7.205	-0.000	36469	449.5
Aroclor-1232	3	7.594	-0.001	147684	490.8	3	7.814	-0.001	77885	477.9
Aroclor-1232	4	8.526	-0.000	70601	548.1	4	8.668	-0.001	25417	538.5
Total CollAve (4 peaks):				295.1		Total Col2Ave (3 peaks):				488.7 RPD = 49*
Corrected Ave (3 peaks):				210.7		Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.213	0.001	47446	232.4	1	7.205	0.001	36469	223.3
Aroclor-1242	2	7.594	-0.000	147684	228.2	2	7.814	0.002	77885	224.2
Aroclor-1242	3	8.398	0.000	30565	244.2	3	9.124	0.001	25864	232.2
Aroclor-1242	4	8.526	0.002	70601	243.8	4	9.552	0.001	32437	241.7
Total CollAve (4 peaks):				237.2		Total Col2Ave (4 peaks):				230.4 RPD = 3
Corrected Ave (3 peaks):				234.8		Corrected Ave (3 peaks):				226.6 RPD = 4
Aroclor-1248	1	8.398	-0.001	30565	184.8	1	8.261	0.001	27551	158.5
Aroclor-1248	2	8.526	0.002	70601	164.3	2	8.668	0.001	25417	138.4
Aroclor-1248	3	8.946	0.002	172847	209.1	3	9.124	0.004	25864	120.2
Aroclor-1248	4	9.243	-0.001	87363	207.3	4	9.552	0.006	32437	125.7
Total CollAve (4 peaks):				191.4		Total Col2Ave (4 peaks):				135.7 RPD = 34
Corrected Ave (3 peaks):				185.5		Corrected Ave (3 peaks):				128.1 RPD = 37
Aroclor-1254	1	9.243	-0.004	87363	131.2	1	9.406	0.002	13247	47.7
Aroclor-1254	2	9.326	0.001	28949	96.7	2	9.552	0.053	32437	196.7
Aroclor-1254	3	9.622	0.004	20780	48.3	3	9.927	0.003	10002	44.5
Aroclor-1254	4	9.762	0.006	35470	42.1	4	10.082	0.005	19933	40.6
Aroclor-1254	5	10.140	0.015	28075	55.2	5	10.341	0.013	19432	39.9
Total CollAve (5 peaks):				74.7		Total Col2Ave (5 peaks):				73.9 RPD = 1
Corrected Ave (4 peaks):				60.6		Corrected Ave (4 peaks):				43.2 RPD = 34
Aroclor-1260	1	10.998	0.005	3609	7.0	1	11.618	0.012	2137	5.8
Aroclor-1260	2	11.317	0.007	3837	7.5	2	11.879	0.007	1437	1.5
Aroclor-1260	3	11.765	0.080	33905	26.6	3	12.382	-0.006	12460	52.1
Aroclor-1260	4	12.097	0.007	9099	14.6	4	---			0.0
Aroclor-1260	5	12.272	0.079	2060	7.6	NS	---			---
Total CollAve (5 peaks):				12.6		Total Col2Ave (3 peaks):				19.8 RPD = 44*
Corrected Ave (4 peaks):				9.2		Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.787	0.009	24040	54.4	1	11.078	-0.075	7864	14.0
Aroclor-1262	2	12.272	0.077	2060	3.3	2	11.618	0.013	2137	4.5
Aroclor-1262	3	---			0.0	3	12.382	-0.004	12460	24.0
Aroclor-1262	4	12.937	-0.002	16041	29.5	4	---			0.0
Total CollAve (3 peaks):				29.1		Total Col2Ave (3 peaks):				14.1 RPD = 69*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1268	1	12.272	0.076	2060	1.3	1	12.382	-0.003	12460	9.5
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	12.649	0.001	4324	3.5	3	12.845	0.002	951	0.8
Aroclor-1268	4	13.442	0.005	15801	4.4	4	13.628	-0.035	6512	1.7
Total CollAve (3 peaks):				3.1		Total Col2Ave (3 peaks):				4.0 RPD = 25
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				

Total PCB Area Col1 (5.842 - 13.740) = 1489022 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 667658 Col2 Total PCB = 0.2 ppm*

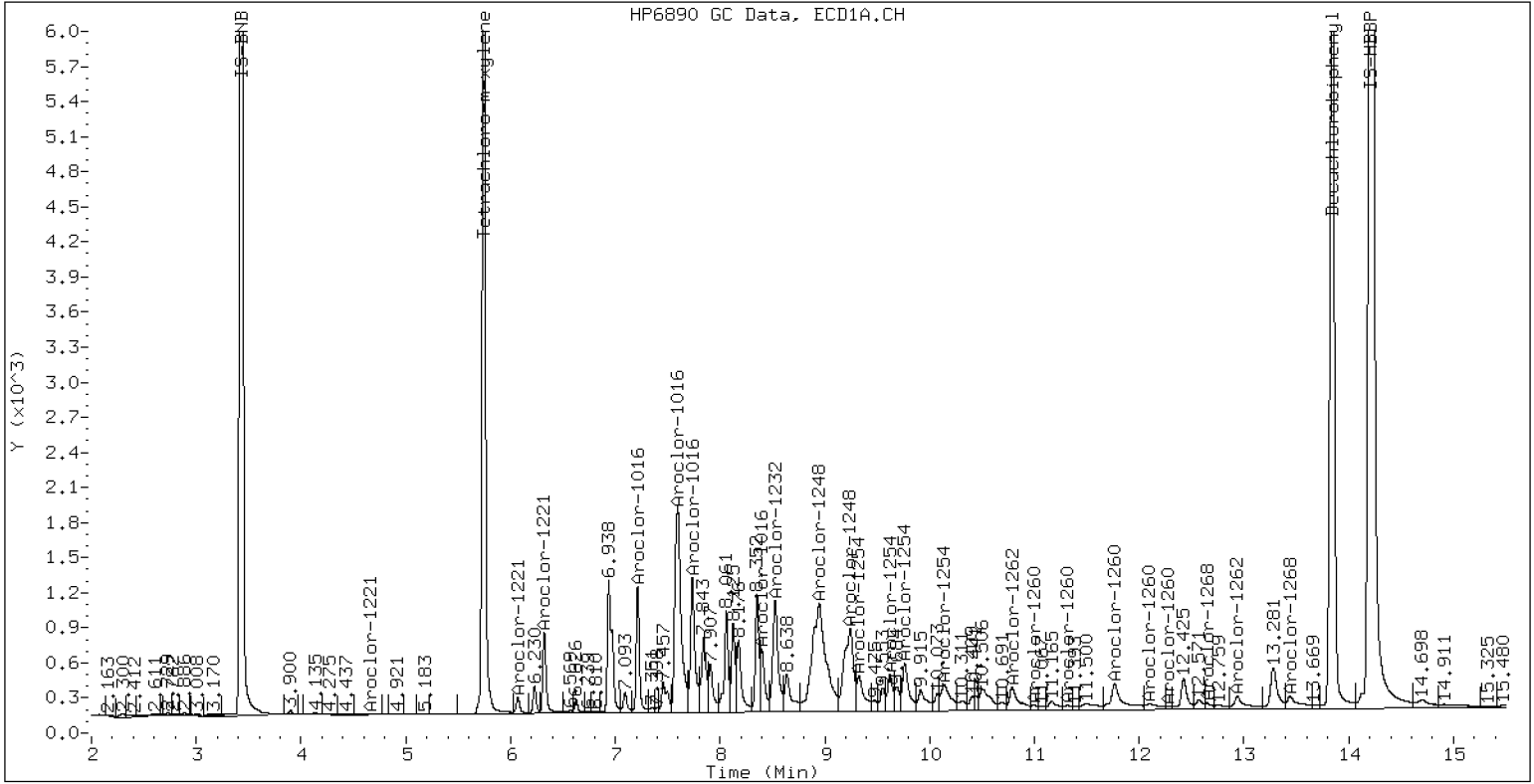
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1242SCV

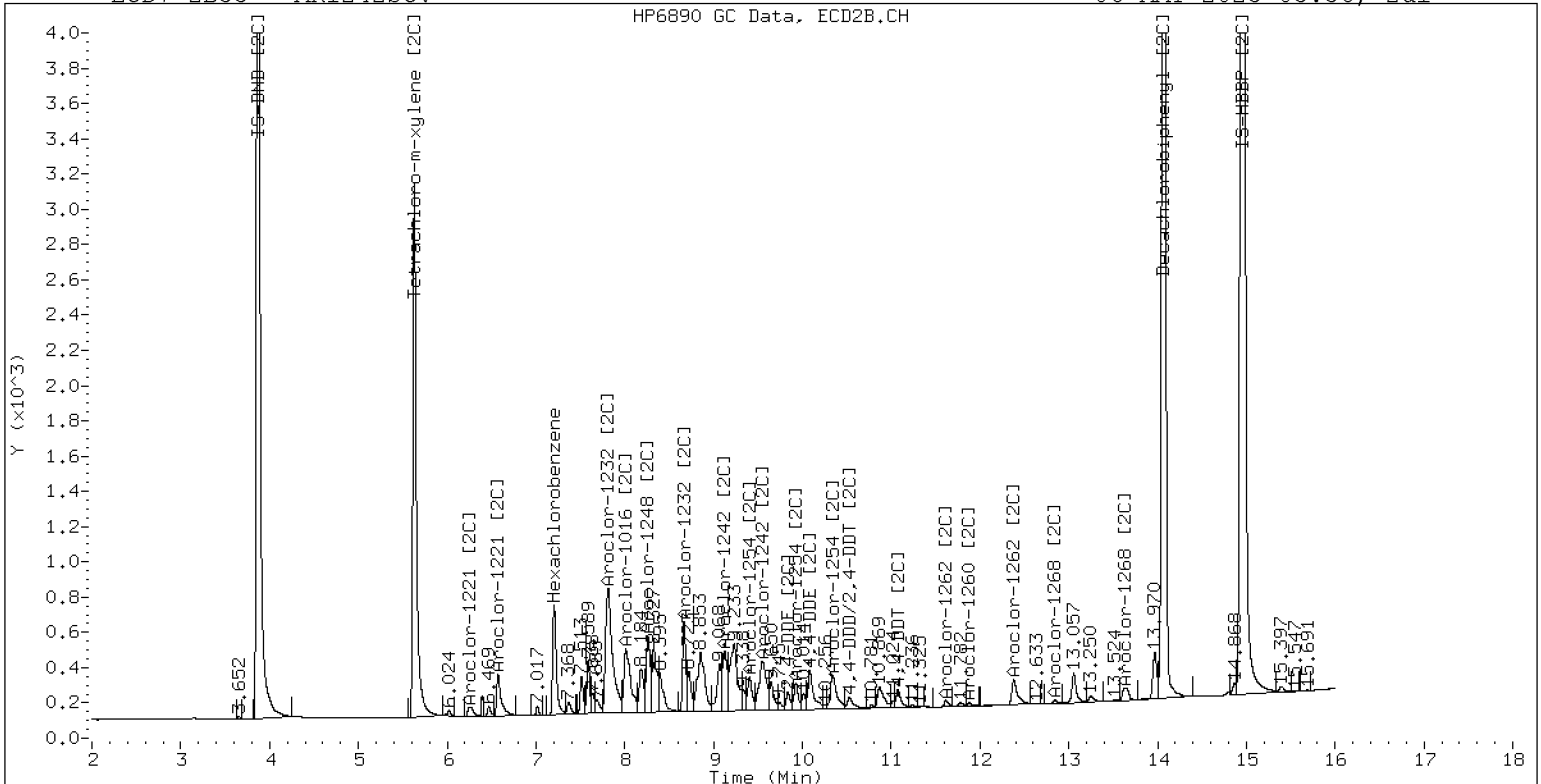
06-MAY-2023 03:36, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1242SCV

06-MAY-2023 03:36, 2ul

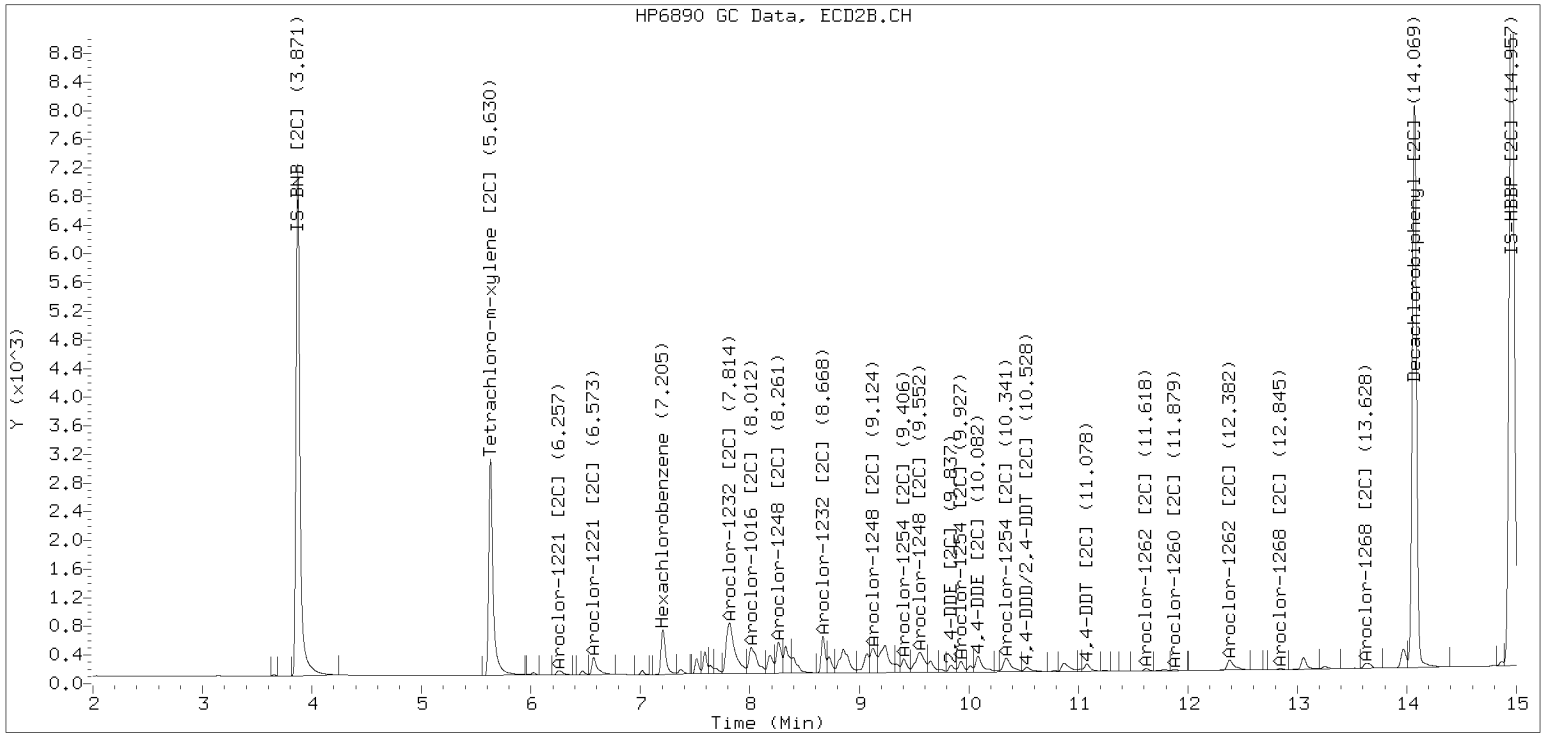


ZB-35 Manual Integration: NO

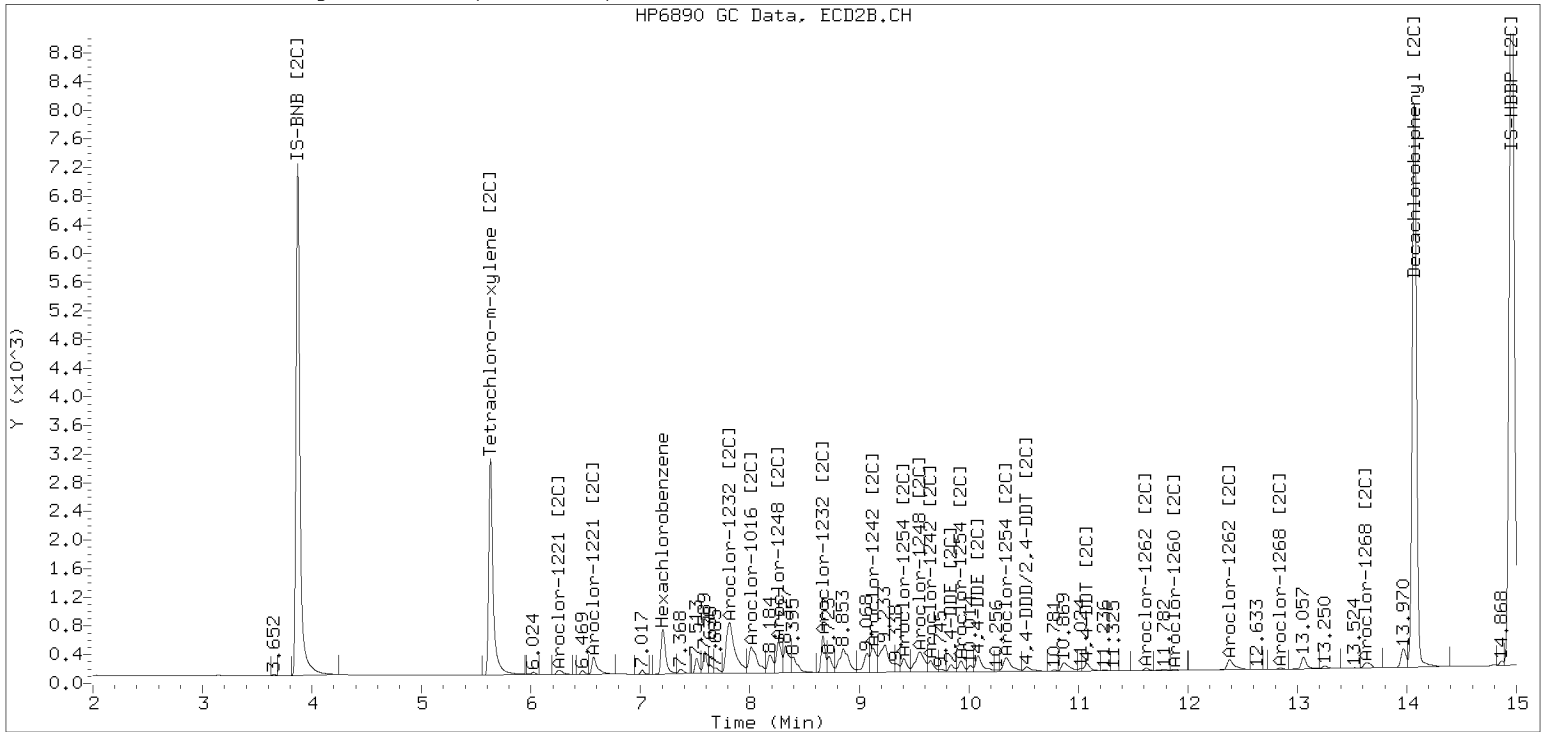
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230505.b/230505.b/05052333ECD7.D Injection Date: 06-MAY-2023

Manual Integration (After)



Processed Integration (Before)





SECOND-SOURCE CALIBRATION VERIFICATION
EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Calibration: GE00022

Laboratory ID: SLE0079-SCV3

Sequence: SLE0079

Sequence Name: AR1248SCV3

Standard ID: L002066

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1248	250.00	251	0.5	20.00
Aroclor 1248 [2C]	250.00	249	-0.3	20.00
Decachlorobiphenyl	40.000	35.7	-10.8	20.00
Tetrachlorometaxylene	40.000	36.8	-8.0	20.00
Decachlorobiphenyl [2C]	40.000	38.0	-5.0	20.00
Tetrachlorometaxylene [2C]	40.000	37.7	-5.7	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052334ECD7.D
Data file 2: /230505.b/230505.b/05052334ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248SCV
Client ID:
Injection Date: 06-MAY-2023 03:57
Report Date: 05/06/2023 12:07
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.741	-0.001	356328	5.629	0.000	186552	36.8	37.7	2.5	Tetrachloro-m-xylene
13.842	0.001	339452	14.070	0.002	373861	35.7	38.0	6.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	643038	6.9
Hexabromobiphenyl	876625	952051	8.6

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	359604	3.0
Hexabromobiphenyl	652984	692982	6.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.212	0.000	19871	79.8	1	7.203	-0.001	18843	92.6
Aroclor-1016	2	7.589	-0.006	95111	122.2	2	7.812	0.005	52352	120.7
Aroclor-1016	3	7.736	0.003	37565	104.4	3	8.012	0.006	8263	43.2
Aroclor-1016	4	8.399	0.002	41542	279.7	4	8.260	0.001	42833	281.8
Total CollAve (4 peaks):				146.5		Total Col2Ave (4 peaks):				134.6 RPD = 9
Corrected Ave (3 peaks):				102.1		Corrected Ave (3 peaks):				85.5 RPD = 18
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.066	-0.003	351	3.9	2	6.275	0.029	1573	28.6
Aroclor-1221	3	6.320	-0.001	3509	16.3	3	6.576	0.004	967	11.2
CollAve: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.066	-0.003	351	5.6	2	7.203	-0.001	18843	236.0
Aroclor-1232	3	7.589	-0.006	95111	318.5	3	7.812	-0.002	52352	326.4
Aroclor-1232	4	8.524	-0.002	105782	827.6	4	8.667	-0.002	44962	968.0
Total CollAve (3 peaks):				383.9		Total Col2Ave (3 peaks):				510.1 RPD = 28
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.212	0.000	19871	98.1	1	7.203	-0.000	18843	117.2
Aroclor-1242	2	7.589	-0.006	95111	148.1	2	7.812	-0.000	52352	153.1
Aroclor-1242	3	8.399	0.001	41542	334.5	3	9.120	-0.003	52681	480.6
Aroclor-1242	4	8.524	-0.000	105782	368.1	4	9.548	-0.002	63343	479.5
Total CollAve (4 peaks):				237.2		Total Col2Ave (4 peaks):				307.6 RPD = 26
Corrected Ave (3 peaks):				193.6		Corrected Ave (3 peaks):				250.0 RPD = 25
Aroclor-1248	1	8.399	0.001	41542	253.1	1	8.260	-0.001	42833	250.4
Aroclor-1248	2	8.524	-0.000	105782	248.0	2	8.667	0.000	44962	248.8
Aroclor-1248	3	8.944	-0.000	206928	252.3	3	9.120	-0.000	52681	248.7
Aroclor-1248	4	9.242	-0.001	105227	251.7	4	9.548	0.002	63343	249.4
Total CollAve (4 peaks):				251.3		Total Col2Ave (4 peaks):				249.3 RPD = 1
Corrected Ave (3 peaks):				250.6		Corrected Ave (3 peaks):				249.0 RPD = 1
Aroclor-1254	1	9.242	-0.004	105227	159.2	1	9.404	0.000	25835	94.6
Aroclor-1254	2	9.324	-0.001	51326	172.8	2	9.548	0.049	63343	390.3
Aroclor-1254	3	9.619	0.001	41394	97.0	3	9.925	0.001	22609	102.1
Aroclor-1254	4	9.759	0.003	72223	86.4	4	10.079	0.001	43816	90.7
Aroclor-1254	5	10.135	0.010	49936	98.9	5	10.345	0.016	42513	88.7
Total CollAve (5 peaks):				122.9		Total Col2Ave (5 peaks):				153.3 RPD = 22
Corrected Ave (4 peaks):				110.4		Corrected Ave (4 peaks):				94.0 RPD = 16
Aroclor-1260	1	10.998	0.005	1863	3.7	1	11.617	0.011	2599	7.1
Aroclor-1260	2	11.314	0.004	1152	2.3	2	11.877	0.005	1951	2.0
Aroclor-1260	3	11.695	0.009	1829	1.5	3	12.389	0.001	857	3.6
Aroclor-1260	4	12.097	0.007	1266	2.1	4	12.458	0.003	1302	2.0
Aroclor-1260	5	12.195	0.002	464	1.7	NS	---			----
Total CollAve (5 peaks):				2.3		Total Col2Ave (4 peaks):				3.7 RPD = 48*
Corrected Ave (4 peaks):				1.9		Corrected Ave (3 peaks):				2.5 RPD = 29
Aroclor-1262	1	10.784	0.005	15405	35.8	1	11.077	-0.077	9003	16.0
Aroclor-1262	2	12.195	0.000	464	0.8	2	11.617	0.012	2599	5.5
Aroclor-1262	3	12.271	0.002	489	0.8	3	12.389	0.003	857	1.7
Aroclor-1262	4	12.940	0.001	1638	3.1	4	12.458	0.002	1302	1.5
Total CollAve (4 peaks):				10.1		Total Col2Ave (4 peaks):				6.2 RPD = 48*
Corrected Ave (3 peaks):				1.5		Corrected Ave (3 peaks):				2.9 RPD = 61*
Aroclor-1268	1	12.195	-0.001	464	0.3	1	12.389	0.004	857	0.7
Aroclor-1268	2	12.271	0.003	489	0.3	2	12.458	0.006	1302	0.9
Aroclor-1268	3	12.649	0.001	1831	1.5	3	12.845	0.002	676	0.6
Aroclor-1268	4	13.443	0.006	5387	1.6	4	13.661	-0.003	2707	0.7
Total CollAve (4 peaks):				0.9		Total Col2Ave (4 peaks):				0.7 RPD = 26
Corrected Ave (3 peaks):				0.7		Corrected Ave (3 peaks):				0.6 RPD = 11

Total PCB Area Col1 (5.842 - 13.740) = 1634238 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 876760 Col2 Total PCB = 0.2 ppm*

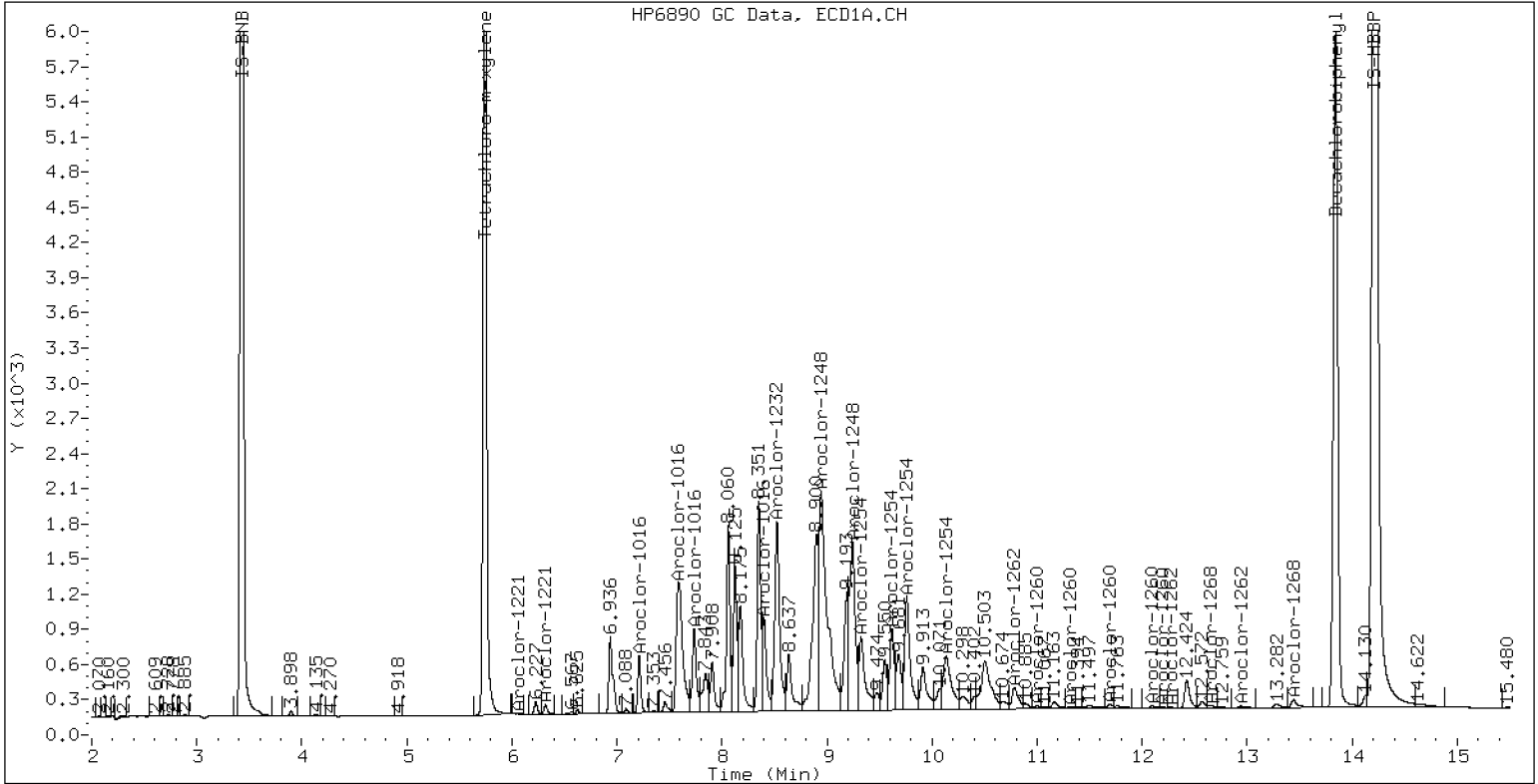
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1248SCV

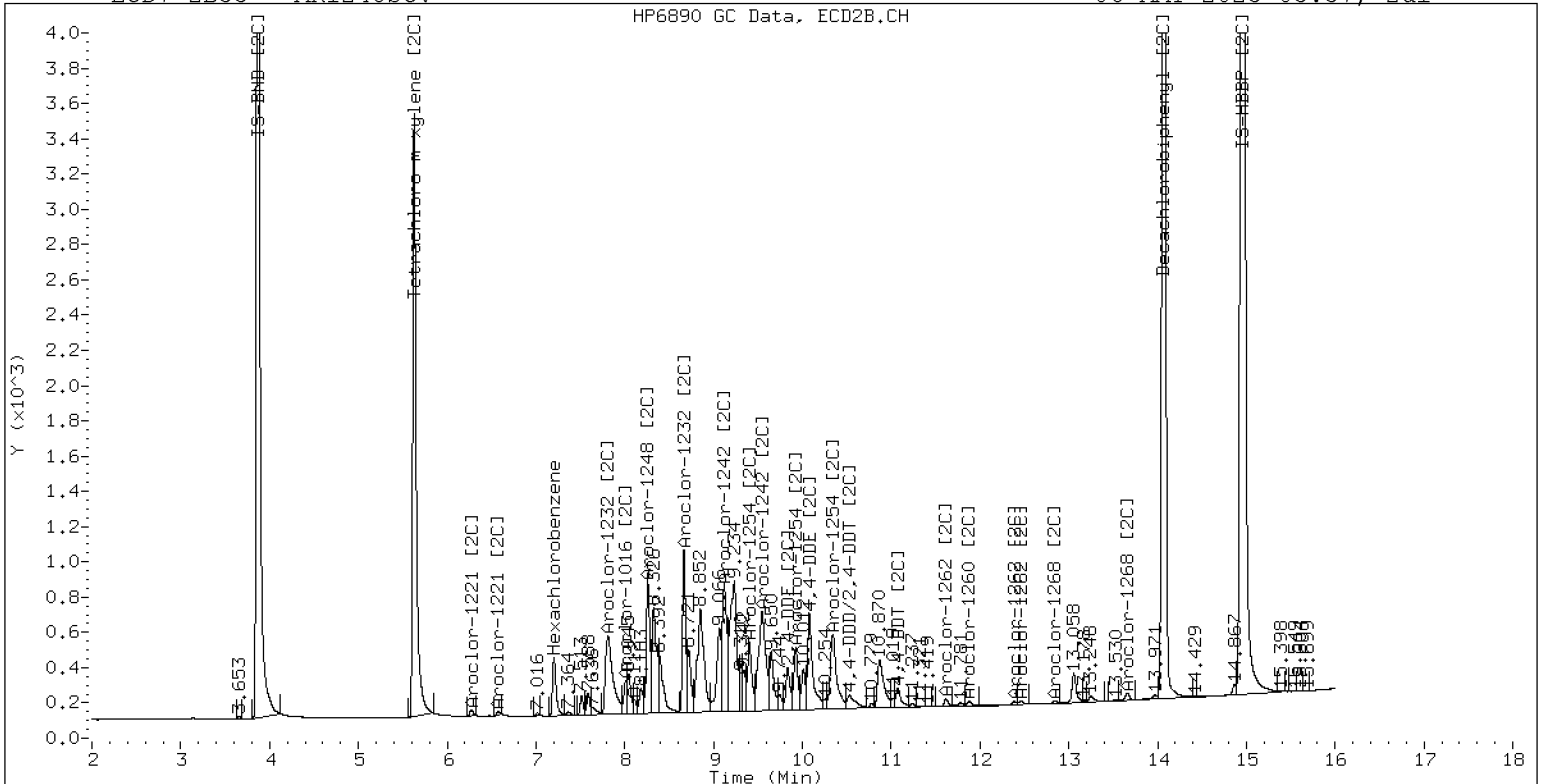
06-MAY-2023 03:57, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248SCV

06-MAY-2023 03:57, 2ul



ZB-35 Manual Integration: NO



SECOND-SOURCE CALIBRATION VERIFICATION
EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Calibration: GE00022

Laboratory ID: SLE0079-SCV4

Sequence: SLE0079

Sequence Name: AR1254SCV4

Standard ID: L002067

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1254	250.00	239	-4.3	20.00
Aroclor 1254 [2C]	250.00	241	-3.8	20.00
Decachlorobiphenyl	40.000	36.0	-10.1	20.00
Tetrachlorometaxylene	40.000	37.6	-6.0	20.00
Decachlorobiphenyl [2C]	40.000	38.5	-3.8	20.00
Tetrachlorometaxylene [2C]	40.000	38.3	-4.2	20.00

* Indicates values outside of QC limits

[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052335ECD7.D
Data file 2: /230505.b/230505.b/05052335ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254SCV
Client ID:
Injection Date: 06-MAY-2023 04:18
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.743	0.001	368022	5.631	0.002	192033	37.6	38.3	2.0	Tetrachloro-m-xylene
13.843	0.002	352066	14.070	0.002	385384	36.0	38.5	6.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	650234	8.1
Hexabromobiphenyl	876625	980276	11.8

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	364142	4.3
Hexabromobiphenyl	652984	705291	8.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.214	0.002	635	2.5	1	---			0.0
Aroclor-1016	2	7.590	-0.004	2512	3.2	2	---			0.0
Aroclor-1016	3	7.738	0.005	1594	4.4	3	---			0.0
Aroclor-1016	4	8.351	-0.047	31774	211.6	4	---			0.0
Total CollAve (4 peaks):				55.4		Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.052	-0.018	242	2.6	2	---			0.0
Aroclor-1221	3	6.322	0.001	427	2.0	3	---			0.0
CollAve: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.052	-0.018	242	3.8	2	---			0.0
Aroclor-1232	3	7.590	-0.005	2512	8.3	3	---			0.0
Aroclor-1232	4	8.528	0.001	13950	107.9	4	---			0.0
Total CollAve (3 peaks):				40.0		Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	7.214	0.002	635	3.1	1	---			0.0
Aroclor-1242	2	7.590	-0.005	2512	3.9	2	---			0.0
Aroclor-1242	3	8.351	-0.047	31774	253.0	3	9.125	0.002	23963	215.9
Aroclor-1242	4	8.528	0.004	13950	48.0	4	9.649	0.099	23982	179.3
Total CollAve (4 peaks):				77.0		Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	8.351	-0.048	31774	191.4	1	8.260	-0.000	23490	135.6
Aroclor-1248	2	8.528	0.004	13950	32.3	2	8.669	0.002	16693	91.2
Aroclor-1248	3	8.941	-0.003	154338	186.1	3	9.125	0.005	23963	111.7
Aroclor-1248	4	9.246	0.003	158369	374.6	4	9.499	-0.047	38716	150.5
Total CollAve (4 peaks):				196.1		Total Col2Ave (4 peaks): 122.3 RPD = 46*				
Corrected Ave (3 peaks):				136.6		Corrected Ave (3 peaks): 112.8 RPD = 19				
Aroclor-1254	1	9.246	-0.001	158369	237.0	1	9.404	0.000	67493	244.0
Aroclor-1254	2	9.325	-0.000	72386	241.1	2	9.499	-0.000	38716	235.6
Aroclor-1254	3	9.617	-0.001	103602	240.1	3	9.925	0.001	53972	240.7
Aroclor-1254	4	9.756	0.000	201259	238.2	4	10.079	0.001	116950	239.0
Aroclor-1254	5	10.127	0.001	122207	239.5	5	10.327	-0.001	118439	243.9
Total CollAve (5 peaks):				239.2		Total Col2Ave (5 peaks): 240.6 RPD = 1				
Corrected Ave (4 peaks):				238.7		Corrected Ave (4 peaks): 239.8 RPD = 0				
Aroclor-1260	1	10.994	0.001	13538	26.1	1	11.615	0.009	33465	89.3
Aroclor-1260	2	11.313	0.003	13900	27.2	2	11.876	0.004	25534	26.1
Aroclor-1260	3	11.689	0.004	32548	25.4	3	12.404	0.016	1811	7.5
Aroclor-1260	4	12.093	0.003	25285	40.3	4	12.458	0.002	14842	22.7
Aroclor-1260	5	12.273	0.079	2534	9.3	NS	---			---
Total CollAve (5 peaks):				25.6		Total Col2Ave (4 peaks): 36.4 RPD = 35				
Corrected Ave (4 peaks):				22.0		Corrected Ave (3 peaks): 18.7 RPD = 16				
Aroclor-1262	1	10.779	0.000	210018	473.6	1	11.073	-0.081	114323	200.0
Aroclor-1262	2	12.273	0.078	2534	4.1	2	11.615	0.010	33465	69.4
Aroclor-1262	3	---			0.0	3	12.404	0.018	1811	3.4
Aroclor-1262	4	12.939	0.001	1830	3.3	4	12.458	0.002	14842	17.3
Total CollAve (3 peaks):				160.3		Total Col2Ave (4 peaks): 72.6 RPD = 75*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 30.1				
Aroclor-1268	1	12.273	0.077	2534	1.6	1	12.404	0.019	1811	1.4
Aroclor-1268	2	---			0.0	2	12.458	0.005	14842	10.3
Aroclor-1268	3	12.654	0.006	2669	2.1	3	12.847	0.004	835	0.7
Aroclor-1268	4	13.442	0.004	6266	1.8	4	13.662	-0.001	2350	0.6
Total CollAve (3 peaks):				1.8		Total Col2Ave (4 peaks): 3.2 RPD = 55*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 0.9				

Total PCB Area Col1 (5.842 - 13.740) = 2123119 Col1 Total PCB = 0.3 ppm*
Total PCB Area Col2 (5.728 - 13.968) = 1146487 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.



SECOND-SOURCE CALIBRATION VERIFICATION
EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Calibration: GE00022

Laboratory ID: SLE0079-SCV5

Sequence: SLE0079

Sequence Name: AR2162SCV5

Standard ID: L002068

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1221	250.00	290	15.9	20.00
Aroclor 1221 [2C]	250.00	288	15.3	20.00
Aroclor 1262	250.00	265	6.1	20.00
Aroclor 1262 [2C]	250.00	259	3.5	20.00
Decachlorobiphenyl	40.000	37.1	-7.3	20.00
Tetrachlorometaxylene	40.000	37.8	-5.5	20.00
Decachlorobiphenyl [2C]	40.000	38.8	-3.1	20.00
Tetrachlorometaxylene [2C]	40.000	39.1	-2.4	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052336ECD7.D
Data file 2: /230505.b/230505.b/05052336ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162SCV
Client ID:
Injection Date: 06-MAY-2023 04:39
Report Date: 05/06/2023 11:31
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	0.000	358254	5.628	-0.000	183759	37.8	39.1	3.3	Tetrachloro-m-xylene
13.842	0.002	344347	14.070	0.002	373300	37.1	38.8	4.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	629547	4.7
Hexabromobiphenyl	876625	929713	6.1

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	341980	-2.1
Hexabromobiphenyl	652984	678097	3.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	0.000	6601	27.1	1	7.207	0.003	3935	20.3	
Aroclor-1016	2	7.595	0.000	13419	17.6	2	7.821	0.013	6146	14.9	
Aroclor-1016	3	7.735	0.003	7114	20.2	3	8.027	0.021	3201	17.6	
Aroclor-1016	4	8.353	-0.045	3916	26.9	4	8.262	0.003	2131	14.7	
Total CollAve (4 peaks):				23.0	Total Col2Ave (4 peaks):				16.9	RPD = 30	
Corrected Ave (3 peaks):				21.6	Corrected Ave (3 peaks):				15.7	RPD = 31	
Aroclor-1221	1	4.663	-0.001	13184	297.8	1	4.893	-0.001	7253	287.5	
Aroclor-1221	2	6.070	0.000	25527	287.4	2	6.244	-0.001	14853	284.1	
Aroclor-1221	3	6.321	0.000	59985	284.3	3	6.571	-0.001	24083	292.9	
Total CollAve (3 peaks):				289.8	Total Col2Ave (3 peaks):				288.2	RPD = 1	
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks						
Aroclor-1232	1	4.663	-0.001	13184	447.0	1	4.893	-0.001	7253	546.9	
Aroclor-1232	2	6.070	0.000	25527	416.0	2	7.207	0.002	3935	51.8	
Aroclor-1232	3	7.595	-0.000	13419	45.9	3	7.821	0.006	6146	40.3	
Aroclor-1232	4	8.528	0.001	2679	21.4	4	8.671	0.002	1120	25.4	
Total CollAve (4 peaks):				232.6	Total Col2Ave (4 peaks):				166.1	RPD = 33	
Corrected Ave (3 peaks):				161.1	Corrected Ave (3 peaks):				39.2	RPD = 122*	
Aroclor-1242	1	7.213	0.001	6601	33.3	1	7.207	0.004	3935	25.7	
Aroclor-1242	2	7.595	-0.000	13419	21.3	2	7.821	0.008	6146	18.9	
Aroclor-1242	3	8.353	-0.045	3916	32.2	3	9.133	0.010	881	8.5	
Aroclor-1242	4	8.528	0.003	2679	9.5	4	9.651	0.101	516	4.1	
Total CollAve (4 peaks):				24.1	Total Col2Ave (4 peaks):				14.3	RPD = 51*	
Corrected Ave (3 peaks):				21.0	Corrected Ave (3 peaks):				10.5	RPD = 67*	
Aroclor-1248	1	8.353	-0.046	3916	24.4	1	8.262	0.002	2131	13.1	
Aroclor-1248	2	8.528	0.003	2679	6.4	2	8.671	0.004	1120	6.5	
Aroclor-1248	3	8.942	-0.002	25144	31.3	3	9.133	0.013	881	4.4	
Aroclor-1248	4	9.251	0.008	25583	62.5	4	9.500	-0.045	335	1.4	
Total CollAve (4 peaks):				31.1	Total Col2Ave (4 peaks):				6.3	RPD = 132*	
Corrected Ave (3 peaks):				20.7	Corrected Ave (3 peaks):				4.1	RPD = 134*	
Aroclor-1254	1	9.251	0.005	25583	39.5	1	9.408	0.004	9719	37.4	
Aroclor-1254	2	---			0.0	2	9.500	0.001	335	2.2	
Aroclor-1254	3	9.620	0.002	4245	10.2	3	9.928	0.004	2055	9.8	
Aroclor-1254	4	9.758	0.003	11050	13.5	4	10.100	0.022	55162	120.0	
Aroclor-1254	5	10.071	-0.055	129151	261.4	5	10.325	-0.004	68421	150.1	
Total CollAve (4 peaks):				81.1	Total Col2Ave (5 peaks):				63.9	RPD = 24	
Corrected Ave (3 peaks):				21.1	Corrected Ave (4 peaks):				42.3	RPD = 67*	
Aroclor-1260	1	10.995	0.002	206643	420.3	1	11.605	-0.001	119902	332.9	
Aroclor-1260	2	11.311	0.001	167443	345.1	2	11.872	0.000	293746	311.8	
Aroclor-1260	3	11.687	0.001	390491	321.4	3	12.386	-0.002	131462	563.2	
Aroclor-1260	4	12.091	0.001	120118	201.8	4	12.456	0.000	212898	338.4	
Aroclor-1260	5	12.195	0.002	155588	599.5	NS	---			----	
Total CollAve (5 peaks):				377.6	Total Col2Ave (4 peaks):				386.6	RPD = 2	
Corrected Ave (4 peaks):				322.2	Corrected Ave (3 peaks):				327.7	RPD = 2	
Aroclor-1262	1	10.777	-0.001	114050	271.2	1	11.153	0.000	141861	258.2	
Aroclor-1262	2	12.195	0.001	155588	263.0	2	11.605	0.000	119902	258.7	
Aroclor-1262	3	12.269	0.000	167998	264.2	3	12.386	-0.000	131462	259.6	
Aroclor-1262	4	12.938	-0.001	136019	262.5	4	12.456	0.000	212898	258.0	
Total CollAve (4 peaks):				265.2	Total Col2Ave (4 peaks):				258.6	RPD = 3	
Corrected Ave (3 peaks):				263.3	Corrected Ave (3 peaks):				258.3	RPD = 2	
Aroclor-1268	1	12.195	-0.000	155588	104.9	1	12.386	0.001	131462	102.4	
Aroclor-1268	2	12.269	0.001	167998	114.1	2	12.456	0.003	212898	154.3	
Aroclor-1268	3	12.675	0.027	60611	51.2	3	12.843	-0.000	8393	7.1	
Aroclor-1268	4	13.439	0.001	49821	14.7	4	13.661	-0.002	39480	10.4	
Total CollAve (4 peaks):				71.2	Total Col2Ave (4 peaks):				68.6	RPD = 4	

Corrected Ave (3 peaks): 56.9 Corrected Ave (3 peaks): 40.0 RPD = 35

Total PCB Area Col1 (5.842 - 13.740) = 2870829 Col1 Total PCB = 0.4 ppm*
Total PCB Area Col2 (5.728 - 13.968) = 1885829 Col2 Total PCB = 0.5 ppm*

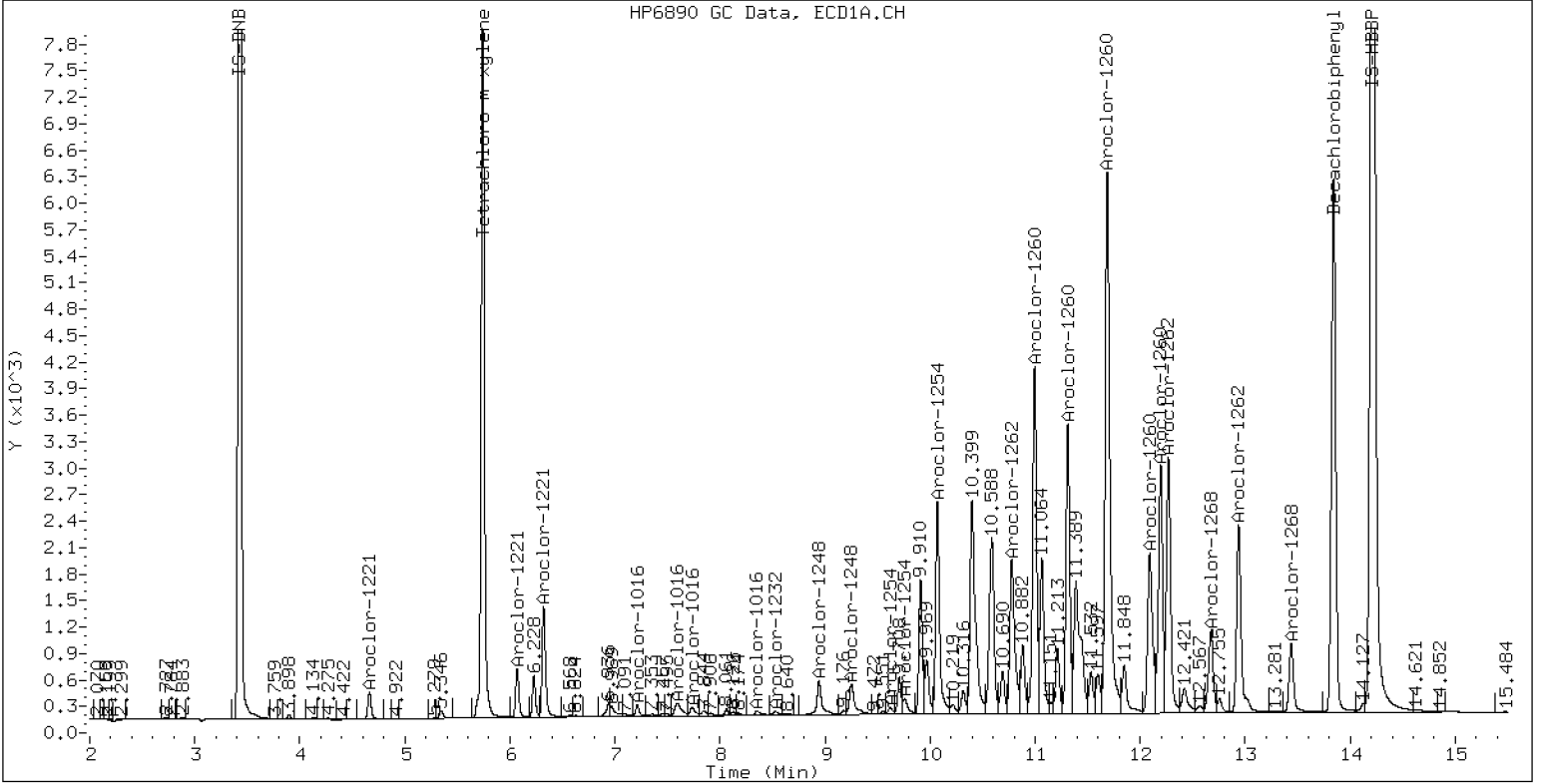
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR2162SCV

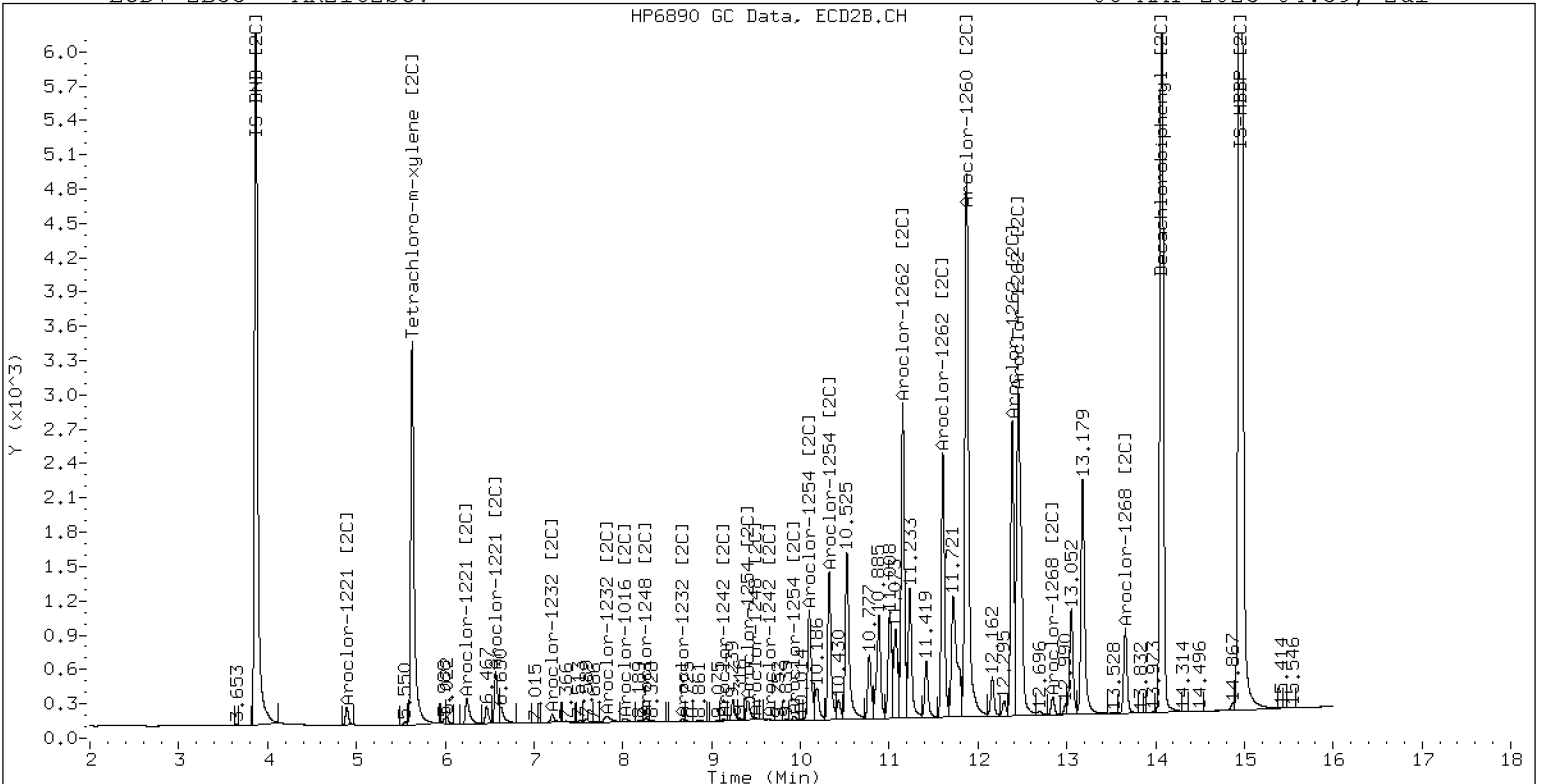
06-MAY-2023 04:39, 2u1



ZB-5 Manual Integration: NO

ECD7-ZB35 AR2162SCV

06-MAY-2023 04:39, 2u1



ZB-35 Manual Integration: NO



SECOND-SOURCE CALIBRATION VERIFICATION
EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Calibration: GE00022

Laboratory ID: SLE0079-SCV6

Sequence: SLE0079

Sequence Name: AR3268SCV6

Standard ID: L002069

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1232	250.00	256	2.6	20.00
Aroclor 1232 [2C]	250.00	301	20.3	20.00
Aroclor 1268	250.00	266	6.5	20.00
Aroclor 1268 [2C]	250.00	263	5.2	20.00
Decachlorobiphenyl	40.000	55.1	37.7	20.00
Tetrachlorometaxylene	40.000	38.4	-4.0	20.00
Decachlorobiphenyl [2C]	40.000	59.3	48.3	20.00
Tetrachlorometaxylene [2C]	40.000	40.4	1.1	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052337ECD7.D
Data file 2: /230505.b/230505.b/05052337ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268SCV
Client ID:
Injection Date: 06-MAY-2023 05:00
Report Date: 05/06/2023 11:31
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.743	0.001	373749	5.629	0.001	196946	38.4	40.4	5.2	Tetrachloro-m-xylene
13.842	0.002	525409	14.069	0.001	586548	55.1	59.3	7.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	646456	7.5
Hexabromobiphenyl	876625	954969	8.9

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	354120	1.4
Hexabromobiphenyl	652984	696139	6.6

* Standard Areas taken from Initial Cal Level 3

Initial Calibration Date: 05-MAY-2023

<- 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	7.214	0.001	28623	114.3	1	7.205	0.002	23124	115.4
Aroclor-1016	2	7.597	0.002	85721	109.5	2	7.815	0.007	47496	111.2
Aroclor-1016	3	7.735	0.002	41343	114.3	3	8.014	0.008	24029	127.5
Aroclor-1016	4	8.400	0.002	16653	111.6	4	8.262	0.003	15421	103.0
Total CollAve (4 peaks):				112.4		Total Col2Ave (4 peaks):				114.3 RPD = 2
Corrected Ave (3 peaks):				111.8		Corrected Ave (3 peaks):				109.9 RPD = 2
Aroclor-1221	1	4.664	0.001	7272	159.9	1	4.895	0.000	4045	154.9
Aroclor-1221	2	6.070	0.001	13478	147.8	2	6.246	0.000	9235	170.6
Aroclor-1221	3	6.321	0.001	43831	202.3	3	6.572	0.000	24300	285.4
Total CollAve (3 peaks):				170.0		Total Col2Ave (3 peaks):				203.6 RPD = 18
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.664	0.001	7272	240.1	1	4.895	0.001	4045	294.5
Aroclor-1232	2	6.070	0.001	13478	213.9	2	7.205	0.001	23124	294.1
Aroclor-1232	3	7.597	0.002	85721	285.5	3	7.815	0.000	47496	300.7
Aroclor-1232	4	8.527	0.000	36809	286.5	4	8.669	-0.000	14324	313.2
Total CollAve (4 peaks):				256.5		Total Col2Ave (4 peaks):				300.6 RPD = 16
Corrected Ave (3 peaks):				246.5		Corrected Ave (3 peaks):				296.5 RPD = 18
Aroclor-1242	1	7.214	0.002	28623	140.5	1	7.205	0.002	23124	146.1
Aroclor-1242	2	7.597	0.002	85721	132.8	2	7.815	0.002	47496	141.1
Aroclor-1242	3	8.400	0.002	16653	133.4	3	9.128	0.005	14403	133.4
Aroclor-1242	4	8.527	0.003	36809	127.4	4	9.648	0.098	5512	42.4
Total CollAve (4 peaks):				133.5		Total Col2Ave (4 peaks):				115.7 RPD = 14
Corrected Ave (3 peaks):				131.2		Corrected Ave (3 peaks):				105.6 RPD = 22
Aroclor-1248	1	8.400	0.001	16653	100.9	1	8.262	0.002	15421	91.5
Aroclor-1248	2	8.527	0.003	36809	85.8	2	8.669	0.002	14324	80.5
Aroclor-1248	3	8.944	0.000	89377	108.4	3	9.128	0.008	14403	69.0
Aroclor-1248	4	9.238	-0.005	41570	98.9	4	9.560	0.015	17331	69.3
Total CollAve (4 peaks):				98.5		Total Col2Ave (4 peaks):				77.6 RPD = 24
Corrected Ave (3 peaks):				95.2		Corrected Ave (3 peaks):				72.9 RPD = 26
Aroclor-1254	1	9.238	-0.008	41570	62.6	1	9.407	0.003	5487	20.4
Aroclor-1254	2	9.326	0.001	12640	42.3	2	9.560	0.061	17331	108.4
Aroclor-1254	3	9.624	0.006	7232	16.9	3	9.929	0.005	3481	16.0
Aroclor-1254	4	9.764	0.008	11671	13.9	4	10.086	0.009	7259	15.3
Aroclor-1254	5	10.139	0.014	7544	14.9	5	10.345	0.017	6610	14.0
Total CollAve (5 peaks):				30.1		Total Col2Ave (5 peaks):				34.8 RPD = 14
Corrected Ave (4 peaks):				22.0		Corrected Ave (4 peaks):				16.4 RPD = 29
Aroclor-1260	1	10.998	0.005	85093	168.5	1	11.598	-0.008	75237	203.5
Aroclor-1260	2	11.313	0.003	6363	12.8	2	11.873	0.001	33655	34.8
Aroclor-1260	3	11.688	0.002	47857	38.3	3	12.384	-0.004	346138	1444.4
Aroclor-1260	4	12.094	0.004	1291	2.1	4	12.453	-0.002	373218	577.8
Aroclor-1260	5	12.195	0.001	406211	1523.9	NS	---			----
Total CollAve (5 peaks):				349.1		Total Col2Ave (4 peaks):				565.1 RPD = 47*
Corrected Ave (4 peaks):				55.4		Corrected Ave (3 peaks):				272.0 RPD = 132*
Aroclor-1262	1	10.785	0.006	4006	9.3	1	11.156	0.002	52531	93.1
Aroclor-1262	2	12.195	0.000	406211	668.6	2	11.598	-0.007	75237	158.2
Aroclor-1262	3	12.268	-0.002	403730	618.2	3	12.384	-0.002	346138	665.8
Aroclor-1262	4	12.937	-0.002	145536	273.5	4	12.453	-0.002	373218	440.5
Total CollAve (4 peaks):				392.4		Total Col2Ave (4 peaks):				339.4 RPD = 14
Corrected Ave (3 peaks):				300.3		Corrected Ave (3 peaks):				230.6 RPD = 26
Aroclor-1268	1	12.195	-0.001	406211	266.7	1	12.384	-0.001	346138	262.7
Aroclor-1268	2	12.268	-0.000	403730	266.9	2	12.453	0.001	373218	263.5
Aroclor-1268	3	12.648	-0.000	323568	266.0	3	12.844	0.001	316122	260.6
Aroclor-1268	4	13.439	0.002	920777	265.1	4	13.663	0.000	1029335	264.8
Total CollAve (4 peaks):				266.2		Total Col2Ave (4 peaks):				262.9 RPD = 1

Corrected Ave (3 peaks): 265.9 Corrected Ave (3 peaks): 262.3 RPD = 1

Total PCB Area Col1 (5.842 - 13.740) = 3325332 Col1 Total PCB = 0.5 ppm*
Total PCB Area Col2 (5.728 - 13.968) = 2876097 Col2 Total PCB = 0.7 ppm*

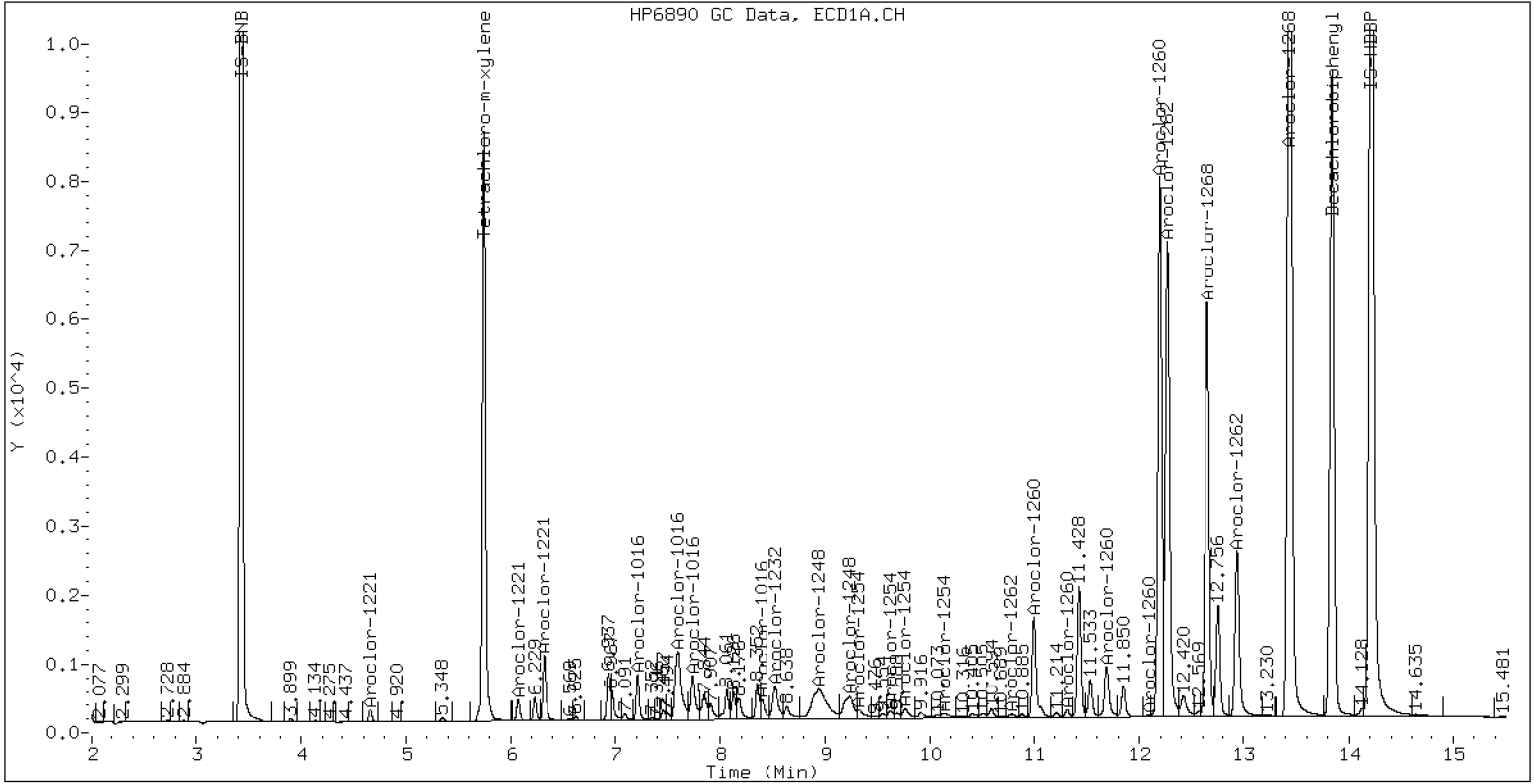
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR3268SCV

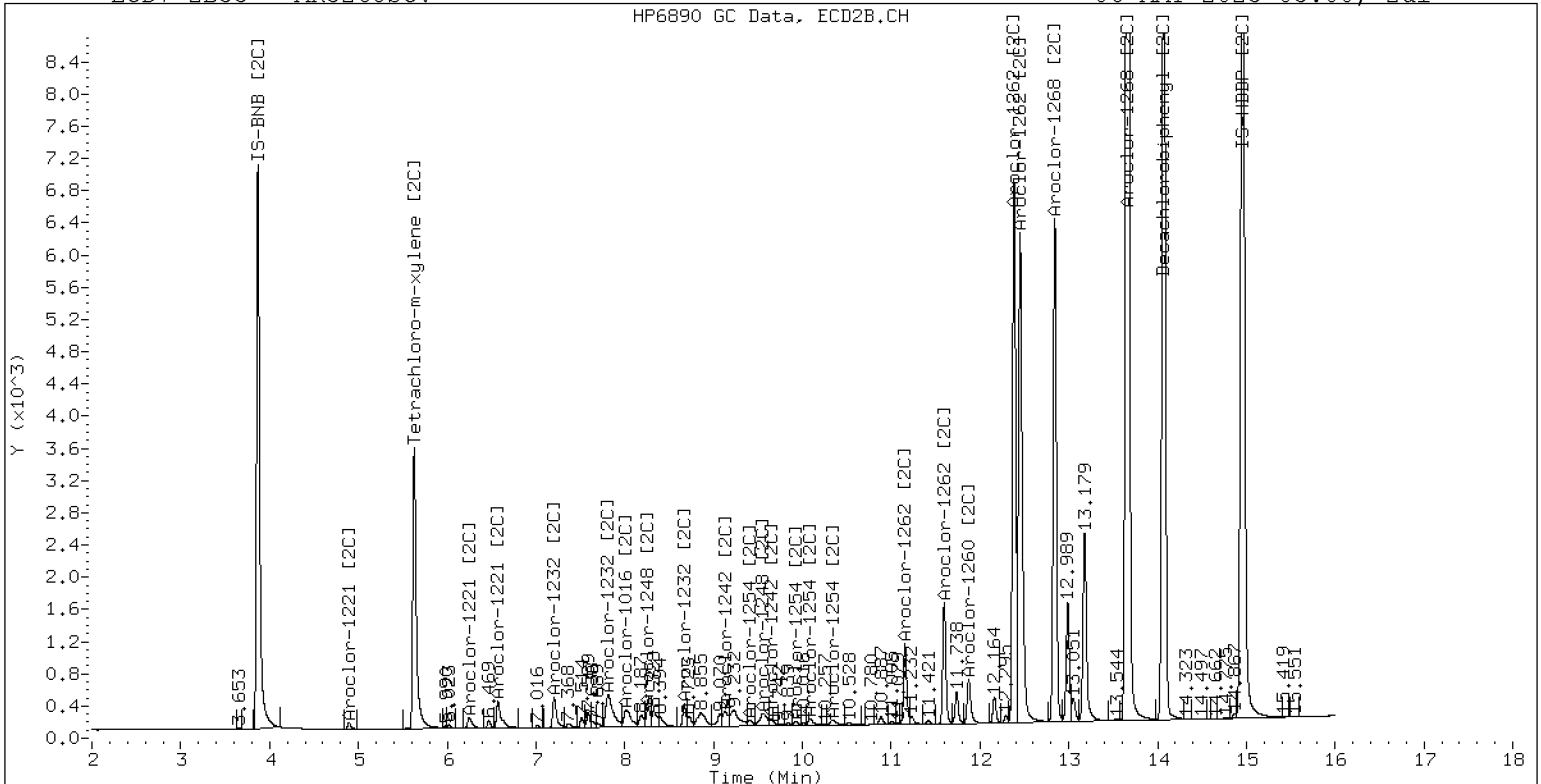
06-MAY-2023 05:00, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR3268SCV

06-MAY-2023 05:00, 2ul



ZB-35 Manual Integration: NO



INITIAL CALIBRATION CHECK
EPA 8082A

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>23D0577</u>
Client:	<u>Anchor OEA, LLC</u>	Project:	<u>AOC4 UR Phase 3</u>
Instrument ID:	<u>ECD7</u>	Calibration:	<u>GE00022</u>
Lab File ID:	<u>05262304ECD7.D</u>	Calibration Date:	<u>05/05/2023</u>
Sequence:	<u>SLE0436</u>	Injection Date:	<u>05/26/23</u>
Lab Sample ID:	<u>SLE0436-ICV1</u>	Injection Time:	<u>14:00</u>
Sequence Name:	<u>AR1254ICV1</u>		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1254	A	250.00	241	0.0678007	0.0655551		-3.4	
Aroclor-1254 (1)	A	250.00	150	0.0822219	0.0492994			
Aroclor-1254 (2)	A	250.00	248	0.0369425	0.0365755			
Aroclor-1254 (3)	A	250.00	279	0.0530793	0.0593136			
Aroclor-1254 (4)	A	250.00	300	0.1039691	0.1248869			
Aroclor-1254 (5)	A	250.00	230	0.0627908	0.0576998			
Aroclor 1254 [2C]	A	250.00	192	0.0720677	0.0558901		-23.0	
Aroclor-1254 (1) [2C]	A	250.00	171	0.0607810	0.0414987			
Aroclor-1254 (2) [2C]	A	250.00	215	0.0361074	0.0310844			
Aroclor-1254 (3) [2C]	A	250.00	172	0.0492663	0.0339829			
Aroclor-1254 (4) [2C]	A	250.00	159	0.1075138	0.0683729			
Aroclor-1254 (5) [2C]	A	250.00	245	0.1066699	0.1045116			
Decachlorobiphenyl	A	40.000	44.9	0.7991406	0.8975008		12.3	
Tetrachlorometaxylene	A	40.000	45.7	1.2048230	1.3776520		14.3	
Decachlorobiphenyl [2C]	A	40.000	47.6	1.1360140	1.3509990		19.0	
Tetrachlorometaxylene [2C]	A	40.000	44.7	1.1005470	1.2296420		11.8	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262304ECD7.D
Data file 2: /230526.b/230526.b/05262304ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254ICV1
Client ID:
Injection Date: 26-MAY-2023 14:00
Report Date: 05/30/2023 08:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.745	0.000	314562	5.629	-0.002	158973	45.7	44.7	2.3	Tetrachloro-m-xylene
13.841	0.000	361976	14.066	-0.002	239601	44.9	47.6	5.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	456664	-24.1
Hexabromobiphenyl	876625	806631	-8.0
Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	258568	-26.0
Hexabromobiphenyl	652984	354702	-45.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1254	1	9.250	0.000	70354	149.9	1	9.400	0.000	33532	170.7	
Aroclor-1254	2	9.323	0.000	52196	247.5	2	9.495	0.000	25117	215.2	
Aroclor-1254	3	9.613	0.000	84645	279.4	3	9.920	0.000	27459	172.4	
Aroclor-1254	4	9.753	0.000	178223	300.3	4	10.073	0.000	55247	159.0	
Aroclor-1254	5	10.066	0.000	82342	229.7	5	10.322	0.000	84448	244.9	
Total Col1Ave (5 peaks):				241.4		Total Col2Ave (5 peaks):				192.5	RPD = 23
Corrected Ave (4 peaks):				226.6		Corrected Ave (4 peaks):				179.3	RPD = 23
CalAmt %D:				-3.5		CalAmt %D:				-23.0	

Total PCB Area Col1 (5.845 - 13.741) = 1980543 Col1 Total PCB = 0.4 ppm*

Total PCB Area Col2 (5.731 - 13.969) = 854651 Col2 Total PCB = 0.3 ppm*

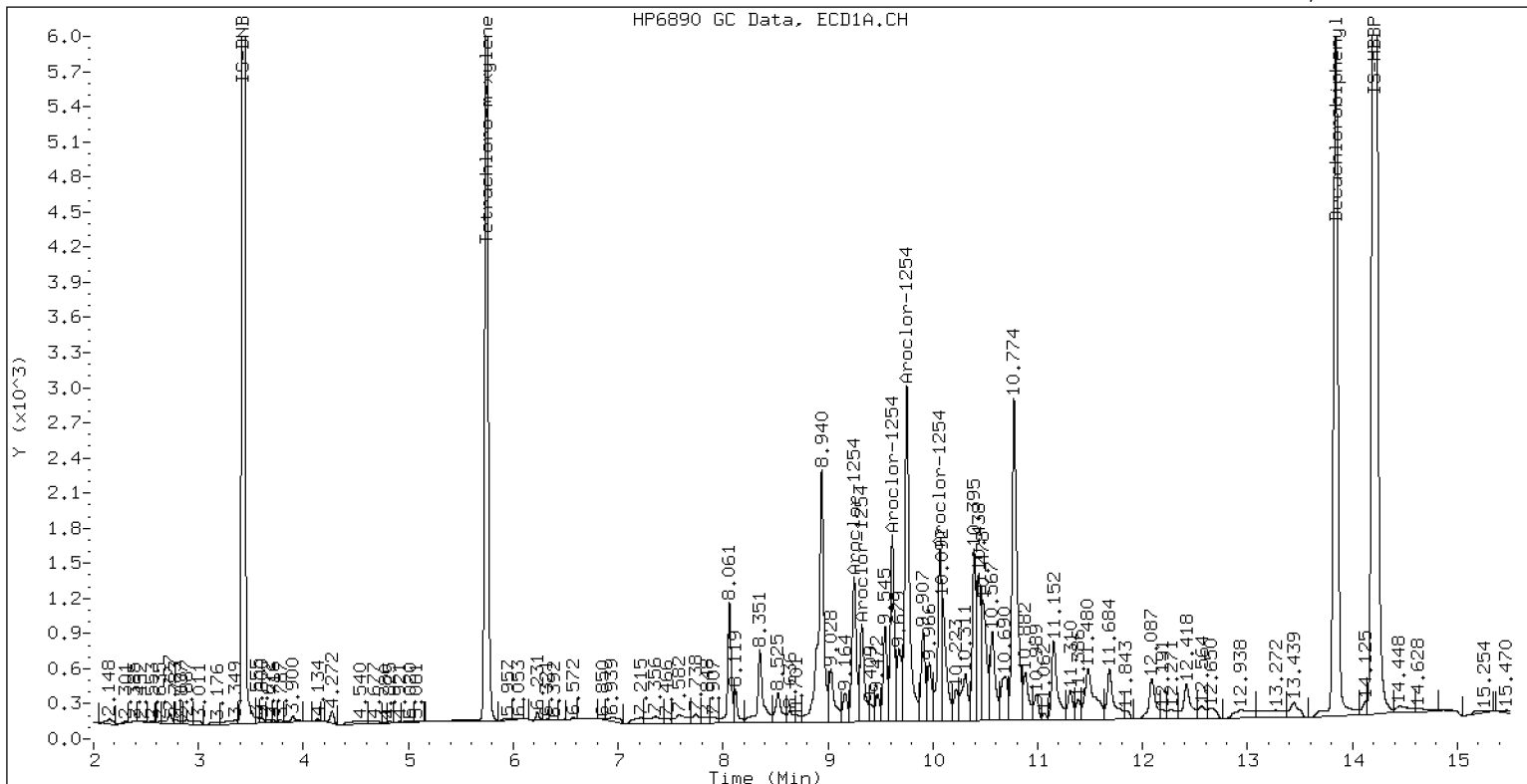
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1254ICV1

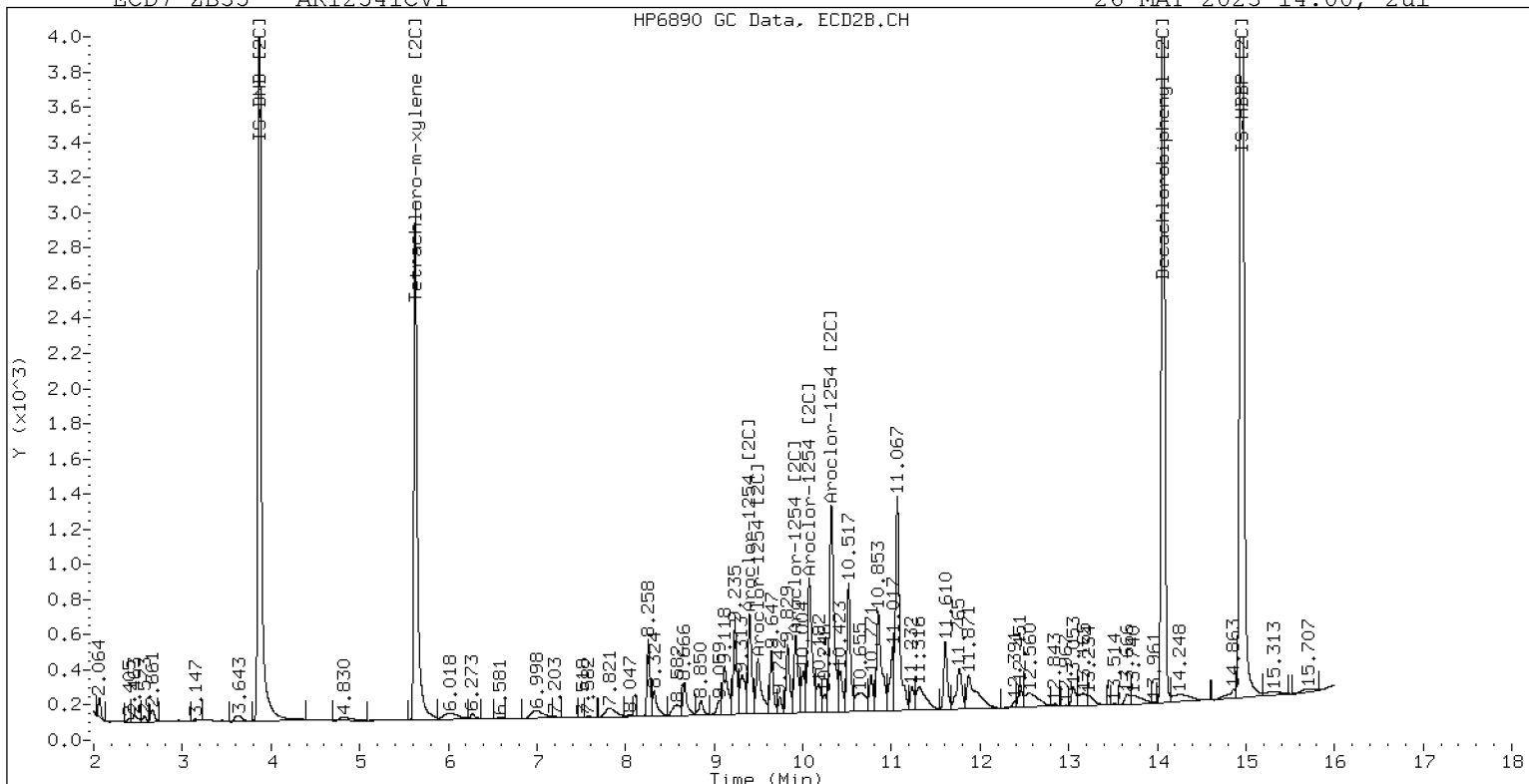
26-MAY-2023 14:00, 2u1



ZB-5 Manual Integration: YES

ECD7-ZB35 AR1254ICV1

26-MAY-2023 14:00, 2u1



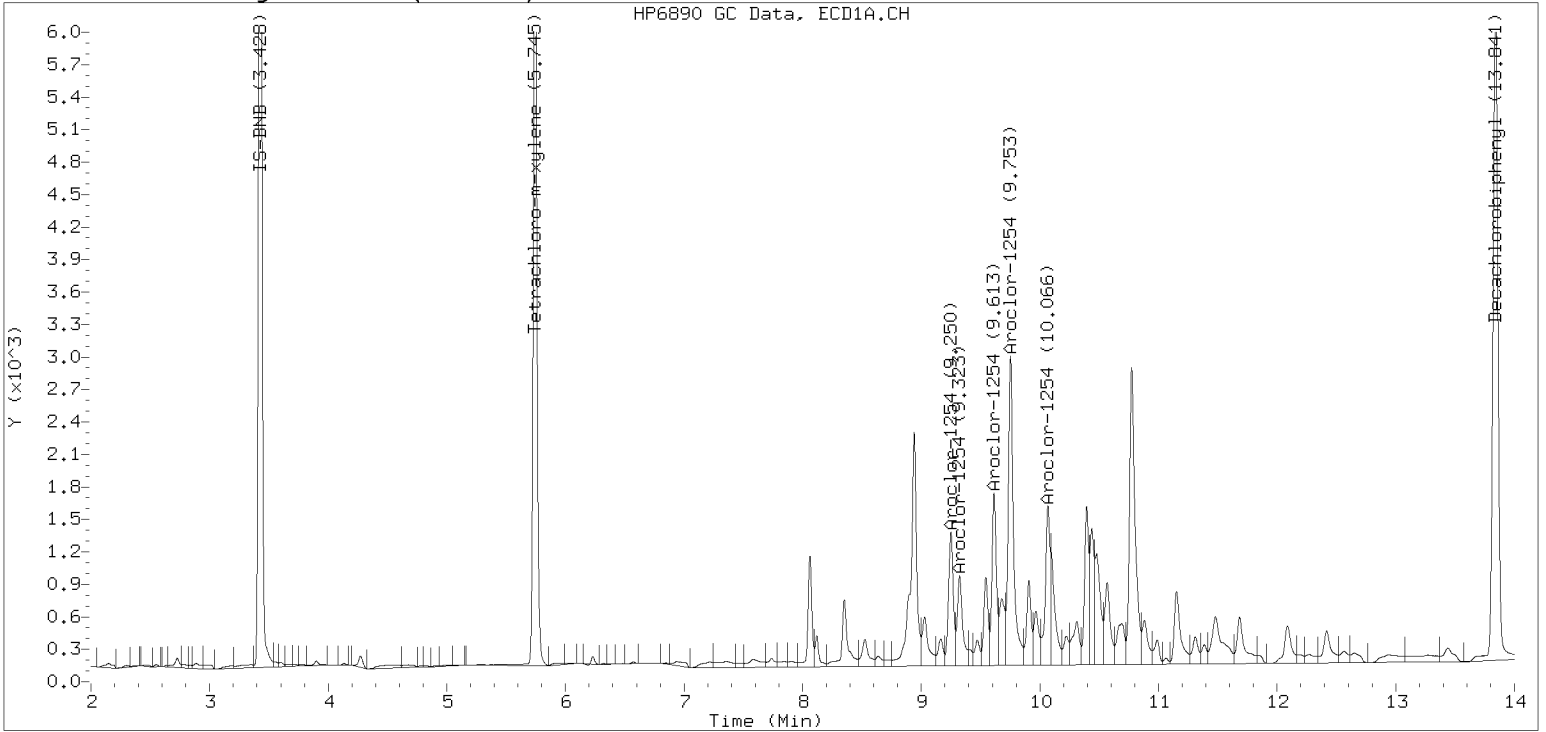
ZB-35 Manual Integration: NO

Manual Peak Adjustment, ZB-5

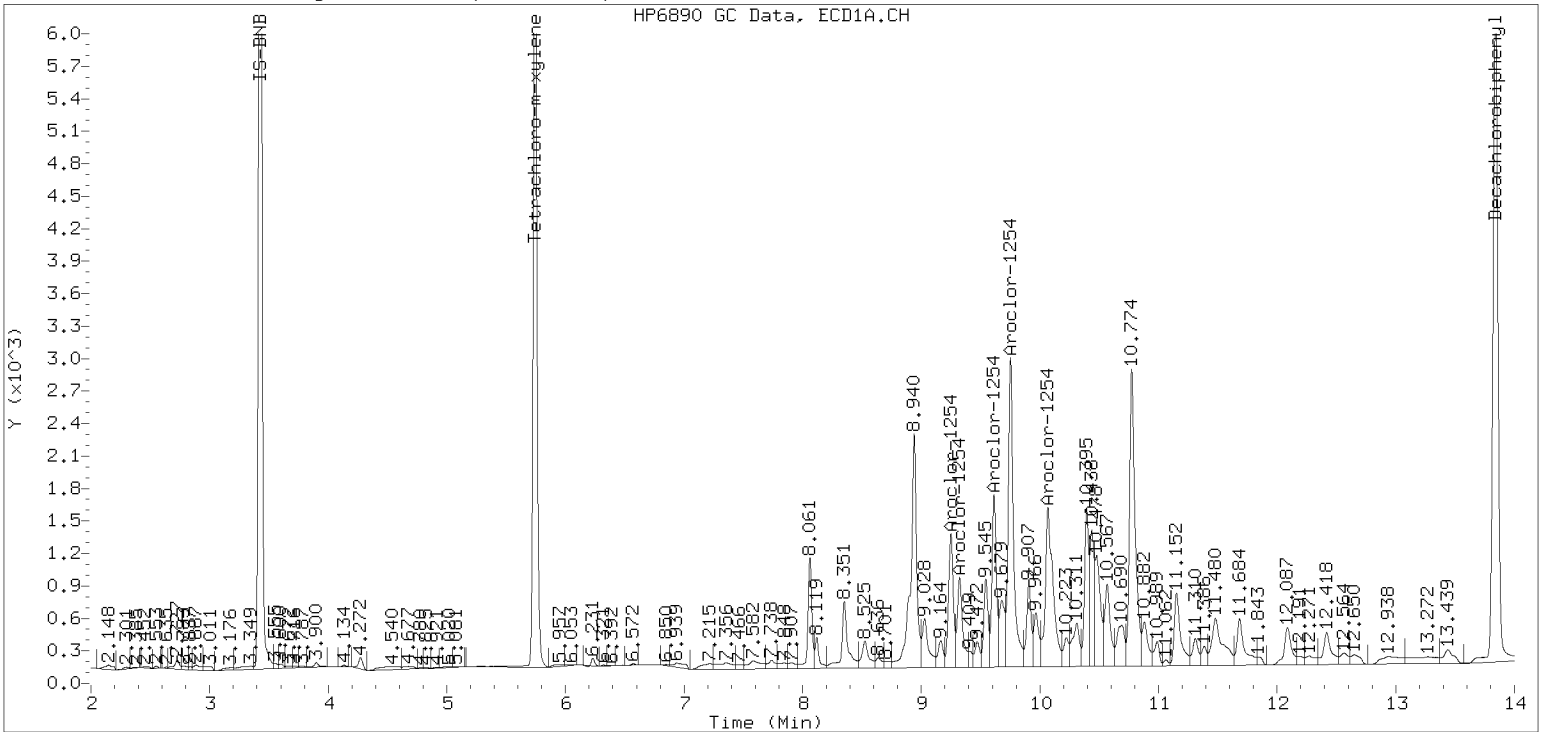
Datafile: ecd7.i/230526.b/05262304ECD7.D

Injection Date: 26-MAY-2023 14:00

Manual Integration (After)



Processed Integration (Before)





INITIAL CALIBRATION CHECK
EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Instrument ID: ECD7

Calibration: GE00022

Lab File ID: 05262305ECD7.D

Calibration Date: 05/05/2023

Sequence: SLE0436

Injection Date: 05/26/23

Lab Sample ID: SLE0436-ICV2

Injection Time: 14:21

Sequence Name: AR1660ICV2

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1016	A	250.00	267	0.0477728	0.0513491		6.7	
Aroclor-1016 (1)	A	250.00	262	0.0309764	0.0324646		4.8	
Aroclor-1016 (2)	A	250.00	273	0.0968611	0.1058850		9.2	
Aroclor-1016 (3)	A	250.00	263	0.0447793	0.0471351		5.2	
Aroclor-1016 (4)	A	250.00	269	0.0184745	0.0199117		7.6	
Aroclor 1016 [2C]	A	250.00	234	0.0545435	0.0521715		-6.5	
Aroclor-1016 (1) [2C]	A	250.00	215	0.0452861	0.0390118		-14.0	
Aroclor-1016 (2) [2C]	A	250.00	259	0.0965080	0.1000961		3.6	
Aroclor-1016 (3) [2C]	A	250.00	207	0.0425661	0.0352886		-17.2	
Aroclor-1016 (4) [2C]	A	250.00	254	0.0338137	0.0342895		1.6	
Aroclor 1260	A	250.00	435	0.0524306	0.0916497		74.2	
Aroclor-1260 (1)	A	250.00	429	0.0423031	0.0725826		71.6	
Aroclor-1260 (2)	A	250.00	430	0.0417493	0.0718586		72.0	
Aroclor-1260 (3)	A	250.00	442	0.1045597	0.1848822		76.8	
Aroclor-1260 (4)	A	250.00	439	0.0512104	0.0899075		75.6	
Aroclor-1260 (5)	A	250.00	437	0.0223305	0.0390176		74.8	
Aroclor 1260 [2C]	A	250.00	269	0.0638471	0.0703797		7.5	
Aroclor-1260 (1) [2C]	A	250.00	236	0.0424868	0.0401814		-5.6	
Aroclor-1260 (2) [2C]	A	250.00	288	0.1111292	0.1282223		15.2	
Aroclor-1260 (3) [2C]	A	250.00	271	0.0275392	0.0298149		8.4	
Aroclor-1260 (4) [2C]	A	250.00	280	0.0742331	0.0833		12.0	
Decachlorobiphenyl	A	40.000	45.1	0.7991406	0.9019661		12.8	
Tetrachlorometaxylene	A	40.000	40.5	1.2048230	1.2212740		1.3	
Decachlorobiphenyl [2C]	A	40.000	41.4	1.1360140	1.1763480		3.5	
Tetrachlorometaxylene [2C]	A	40.000	43.0	1.1005470	1.1827420		7.5	

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262305ECD7.D
Data file 2: /230526.b/230526.b/05262305ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660ICV2
Client ID:
Injection Date: 26-MAY-2023 14:21
Report Date: 05/30/2023 08:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.743	-0.002	324730	5.629	-0.002	175963	40.5	43.0	5.8	Tetrachloro-m-xylene
13.840	-0.001	234812	14.069	0.000	268692	45.1	41.4	8.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	531789	-11.6
Hexabromobiphenyl	876625	520667	-40.6

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	297551	-14.8
Hexabromobiphenyl	652984	456824	-30.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	-0.000	53951	262.0	1	7.204	-0.001	36275	215.4
Aroclor-1016	2	7.594	-0.001	175964	273.3	2	7.808	-0.006	93074	259.3
Aroclor-1016	3	7.734	-0.001	78331	263.2	3	8.009	-0.004	32813	207.3
Aroclor-1016	4	8.398	-0.001	33090	269.4	4	8.259	-0.003	31884	253.5
Total CollAve (4 peaks):				267.0		Total Col2Ave (4 peaks):				233.9 RPD = 13
Corrected Ave (3 peaks):				264.9		Corrected Ave (3 peaks):				225.4 RPD = 16

CalAmt %D: 6.8

CalAmt %D: -6.5

Aroclor-1260	1	10.994	0.000	118098	428.9	1	11.605	-0.001	57362	236.4
Aroclor-1260	2	11.310	-0.000	116920	430.3	2	11.871	-0.002	183047	288.5
Aroclor-1260	3	11.684	-0.001	300819	442.0	3	12.388	-0.002	42563	270.7
Aroclor-1260	4	12.090	-0.001	146287	438.9	4	12.455	-0.001	118917	280.5
Aroclor-1260	5	12.194	0.000	63485	436.8	NS	---			----
Total CollAve (5 peaks):				435.4		Total Col2Ave (4 peaks):				269.0 RPD = 47*
Corrected Ave (4 peaks):				433.7		Corrected Ave (3 peaks):				262.5 RPD = 49*

CalAmt %D: 74.2

CalAmt %D: 7.6

Total PCB Area Coll (5.845 - 13.741) = 3282571 Coll Total PCB = 0.6 ppm*

Total PCB Area Col2 (5.731 - 13.969) = 1621371 Col2 Total PCB = 0.5 ppm*

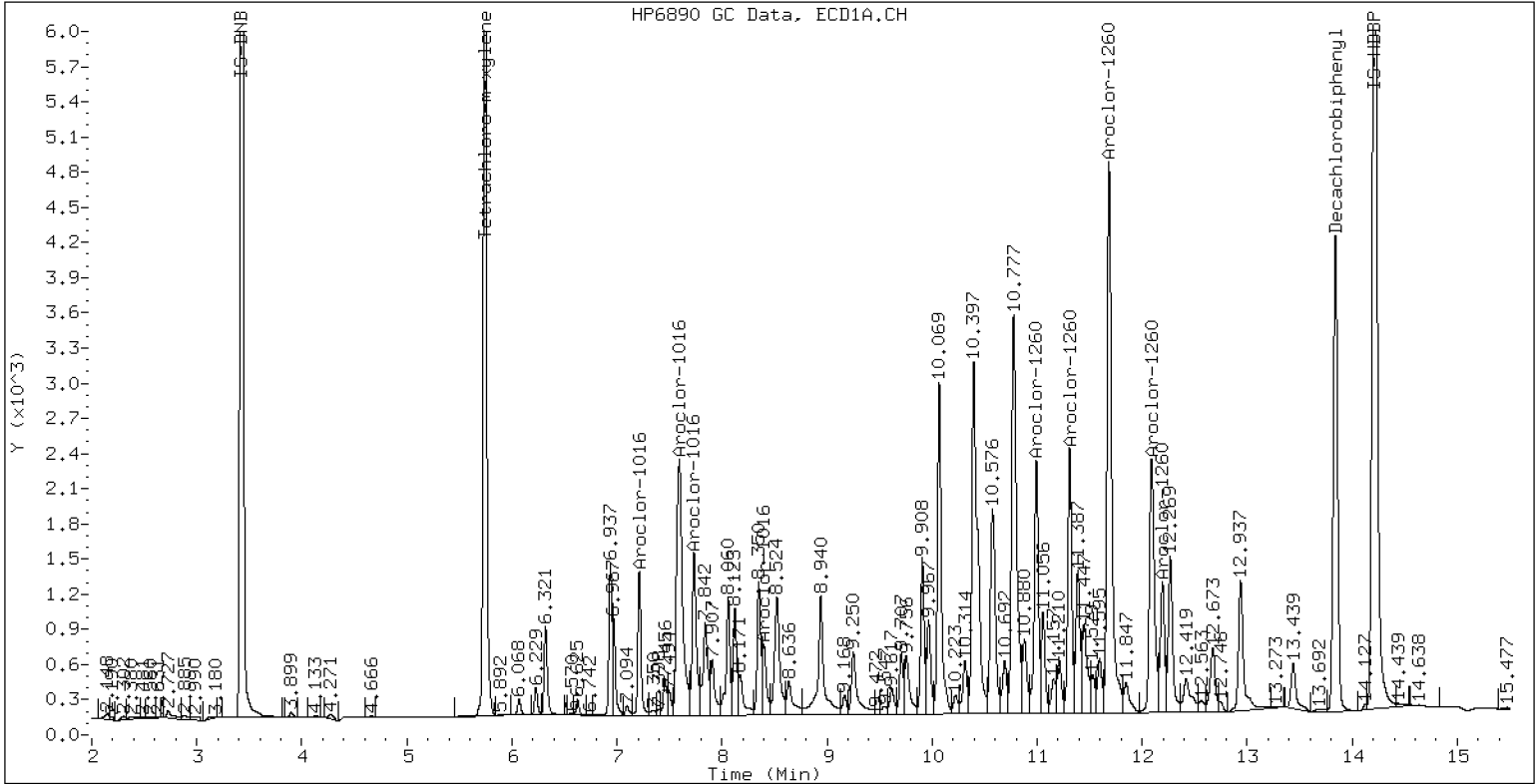
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1660ICV2

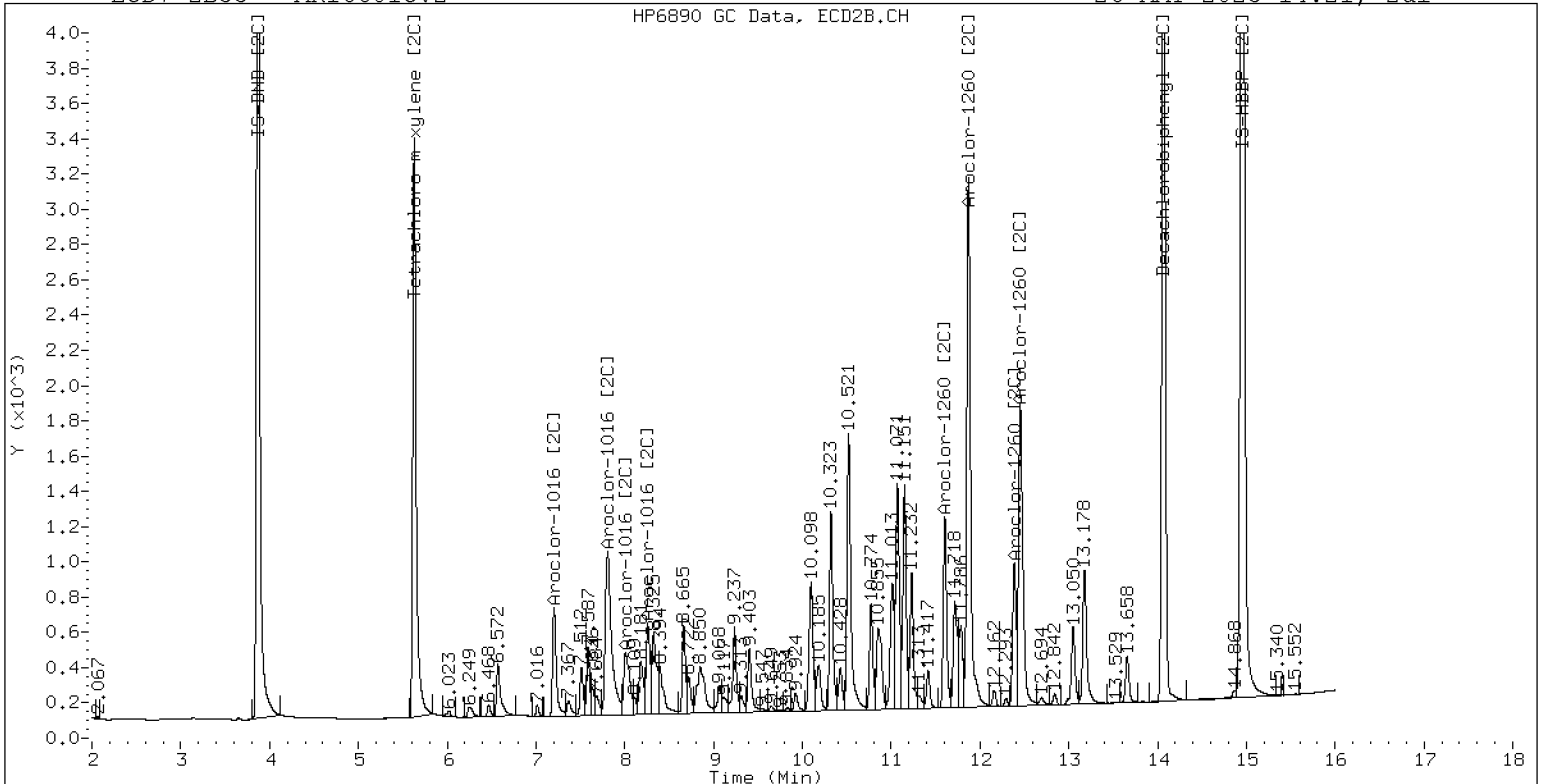
26-MAY-2023 14:21, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660ICV2

26-MAY-2023 14:21, 2ul



ZB-35 Manual Integration: NO



**SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>23D0577</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>AOC4 UR Phase 3</u>
Instrument ID:	<u>ECD7</u>	Calibration:	<u>GE00022</u>
Lab File ID:	<u>05052332ECD7.D</u>	Calibration Date:	<u>05/05/2023</u>
Sequence:	<u>SLE0079</u>	Injection Date:	<u>05/06/23</u>
Lab Sample ID:	<u>SLE0079-SCV1</u>	Injection Time:	<u>03:16</u>
Sequence Name:	<u>AR1660SCV1</u>		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	254	0.0477728	0.0484819		1.4	+/-20
Aroclor 1016 [2C]	A	250.00	248	0.0545435	0.0542791		-1.0	+/-20
Aroclor 1260	A	250.00	285	0.0524306	0.0598047		14.2	+/-20
Aroclor 1260 [2C]	A	250.00	284	0.0638471	0.0723577		13.6	+/-20
Decachlorobiphenyl	A	40.000	36.9	0.7991406	0.7376338		-7.7	+/-20
Tetrachlorometaxylene	A	40.000	36.9	1.2048230	1.1103970		-7.8	+/-20
Decachlorobiphenyl [2C]	A	40.000	39.2	1.1360140	1.1141950		-1.9	+/-20
Tetrachlorometaxylene [2C]	A	40.000	37.2	1.1005470	1.0247960		-6.9	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052332ECD7.D
Data file 2: /230505.b/230505.b/05052332ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660SCV
Client ID:
Injection Date: 06-MAY-2023 03:16
Report Date: 05/06/2023 12:06
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.742	-0.000	356595	5.629	0.000	185340	36.9	37.2	1.0	Tetrachloro-m-xylene
13.842	0.002	347188	14.070	0.002	384711	36.9	39.2	6.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	642284	6.8
Hexabromobiphenyl	876625	941356	7.4

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	361711	3.6
Hexabromobiphenyl	652984	690563	5.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	0.000	61654	247.9	1	7.205	0.001	50106	244.7
Aroclor-1016	2	7.594	-0.001	199228	256.2	2	7.811	0.003	109839	251.7
Aroclor-1016	3	7.734	0.001	89643	249.3	3	8.009	0.004	48594	252.5
Aroclor-1016	4	8.399	0.001	38714	261.0	4	8.260	0.001	36878	241.2
Total CollAve (4 peaks):				253.6		Total Col2Ave (4 peaks):				247.5 RPD = 2
Corrected Ave (3 peaks):				251.1		Corrected Ave (3 peaks):				245.9 RPD = 2
Aroclor-1221	1	4.663	-0.000	436	9.7	1	---			0.0
Aroclor-1221	2	6.068	-0.001	8521	94.0	2	6.251	0.005	5766	104.3
Aroclor-1221	3	6.320	-0.001	41973	195.0	3	6.572	0.000	23212	266.9
Total CollAve (3 peaks):				99.6		Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.663	-0.000	436	14.5	1	---			0.0
Aroclor-1232	2	6.068	-0.002	8521	136.1	2	7.205	0.000	50106	623.9
Aroclor-1232	3	7.594	-0.001	199228	667.9	3	7.811	-0.004	109839	680.8
Aroclor-1232	4	8.526	-0.001	85985	673.5	4	8.667	-0.003	34670	742.1
Total CollAve (4 peaks):				373.0		Total Col2Ave (3 peaks):				682.3 RPD = 59*
Corrected Ave (3 peaks):				272.8		Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.213	0.001	61654	304.6	1	7.205	0.001	50106	310.0
Aroclor-1242	2	7.594	-0.001	199228	310.7	2	7.811	-0.002	109839	319.4
Aroclor-1242	3	8.399	0.000	38714	312.1	3	9.069	-0.054	21513	195.1
Aroclor-1242	4	8.526	0.001	85985	299.5	4	9.537	-0.013	1824	13.7
Total CollAve (4 peaks):				306.7		Total Col2Ave (4 peaks):				209.6 RPD = 38
Corrected Ave (3 peaks):				304.9		Corrected Ave (3 peaks):				172.9 RPD = 55*
Aroclor-1248	1	8.399	-0.000	38714	236.2	1	8.260	0.000	36878	214.3
Aroclor-1248	2	8.526	0.001	85985	201.8	2	8.667	-0.001	34670	190.7
Aroclor-1248	3	8.941	-0.003	81615	99.6	3	9.069	-0.051	21513	101.0
Aroclor-1248	4	9.249	0.006	52526	125.8	4	9.537	-0.008	1824	7.1
Total CollAve (4 peaks):				165.8		Total Col2Ave (4 peaks):				128.3 RPD = 26
Corrected Ave (3 peaks):				142.4		Corrected Ave (3 peaks):				99.6 RPD = 35
Aroclor-1254	1	9.249	0.003	52526	79.6	1	9.405	0.001	24726	90.0
Aroclor-1254	2	---			0.0	2	9.537	0.038	1824	11.2
Aroclor-1254	3	9.619	0.001	7081	16.6	3	9.926	0.002	3128	14.0
Aroclor-1254	4	9.756	0.001	21856	26.2	4	10.101	0.023	62581	128.7
Aroclor-1254	5	10.069	-0.057	159796	317.0	5	10.324	-0.004	85433	177.1
Total CollAve (4 peaks):				109.8		Total Col2Ave (5 peaks):				84.2 RPD = 26
Corrected Ave (3 peaks):				40.8		Corrected Ave (4 peaks):				61.0 RPD = 40
Aroclor-1260	1	10.995	0.001	145767	292.8	1	11.605	-0.000	99761	272.0
Aroclor-1260	2	11.311	0.001	142028	289.1	2	11.872	0.000	273505	285.1
Aroclor-1260	3	11.686	0.000	354468	288.1	3	12.389	0.001	70545	296.8
Aroclor-1260	4	12.092	0.002	161281	267.6	4	12.455	-0.000	180783	282.1
Aroclor-1260	5	12.194	0.001	76105	289.6	NS	---			----
Total CollAve (5 peaks):				285.5		Total Col2Ave (4 peaks):				284.0 RPD = 1
Corrected Ave (4 peaks):				283.6		Corrected Ave (3 peaks):				279.8 RPD = 1
Aroclor-1262	1	10.777	-0.001	215850	506.9	1	11.153	-0.001	104059	186.0
Aroclor-1262	2	12.194	-0.000	76105	127.1	2	11.605	0.001	99761	211.4
Aroclor-1262	3	12.271	0.001	94628	147.0	3	12.389	0.003	70545	136.8
Aroclor-1262	4	12.939	-0.000	78852	150.3	4	12.455	-0.001	180783	215.1
Total CollAve (4 peaks):				232.8		Total Col2Ave (4 peaks):				187.3 RPD = 22
Corrected Ave (3 peaks):				141.5		Corrected Ave (3 peaks):				178.1 RPD = 23
Aroclor-1268	1	12.194	-0.001	76105	50.7	1	12.389	0.004	70545	54.0
Aroclor-1268	2	12.271	0.003	94628	63.5	2	12.455	0.003	180783	128.7
Aroclor-1268	3	12.675	0.026	38830	32.4	3	12.844	0.001	3082	2.6
Aroclor-1268	4	13.440	0.003	19986	5.8	4	13.661	-0.002	14882	3.9
Total CollAve (4 peaks):				38.1		Total Col2Ave (4 peaks):				47.3 RPD = 21
Corrected Ave (3 peaks):				29.6		Corrected Ave (3 peaks):				20.1 RPD = 38

Total PCB Area Col1 (5.842 - 13.740) = 3657118 Col1 Total PCB = 0.5 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 2255286 Col2 Total PCB = 0.5 ppm*

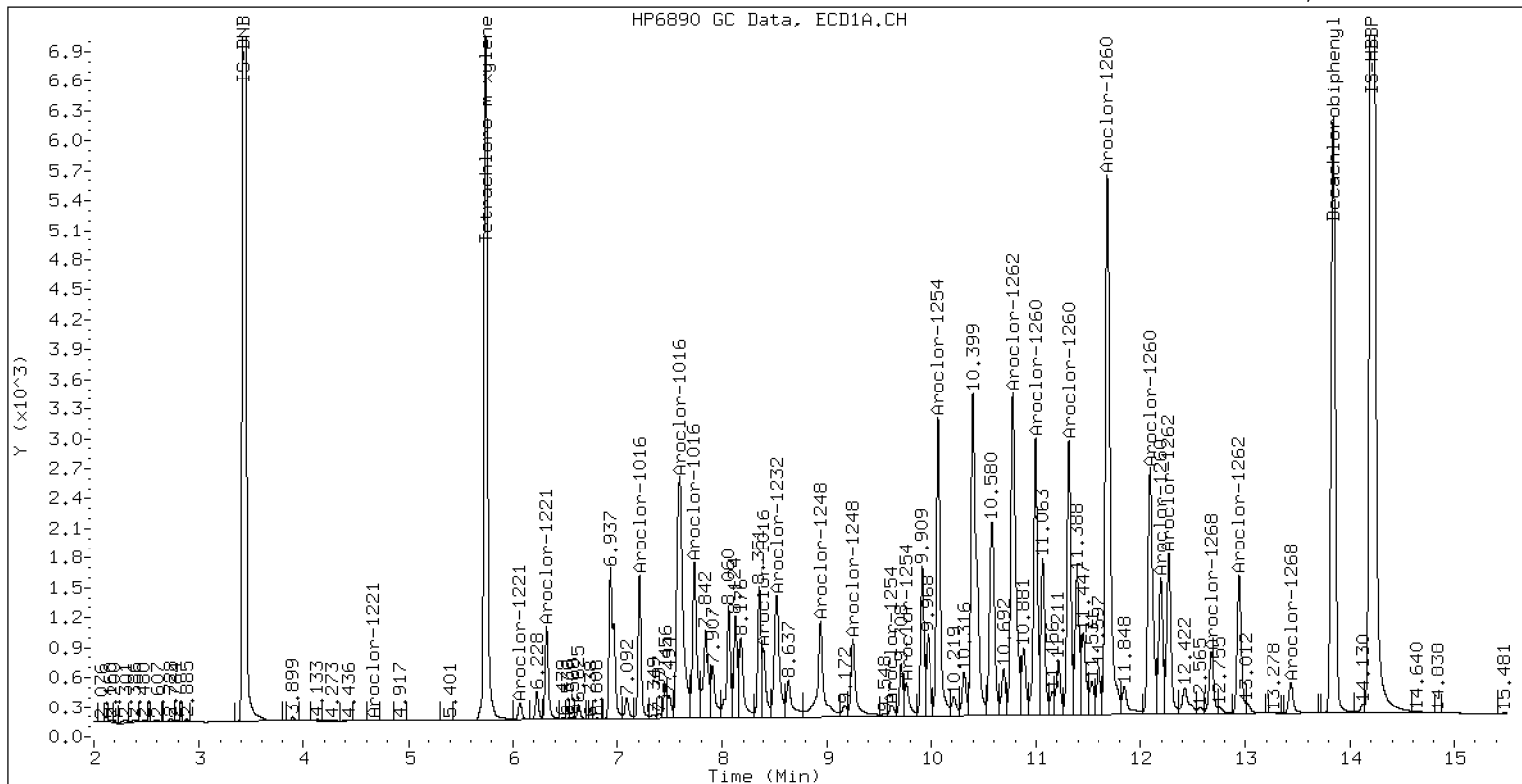
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1660SCV

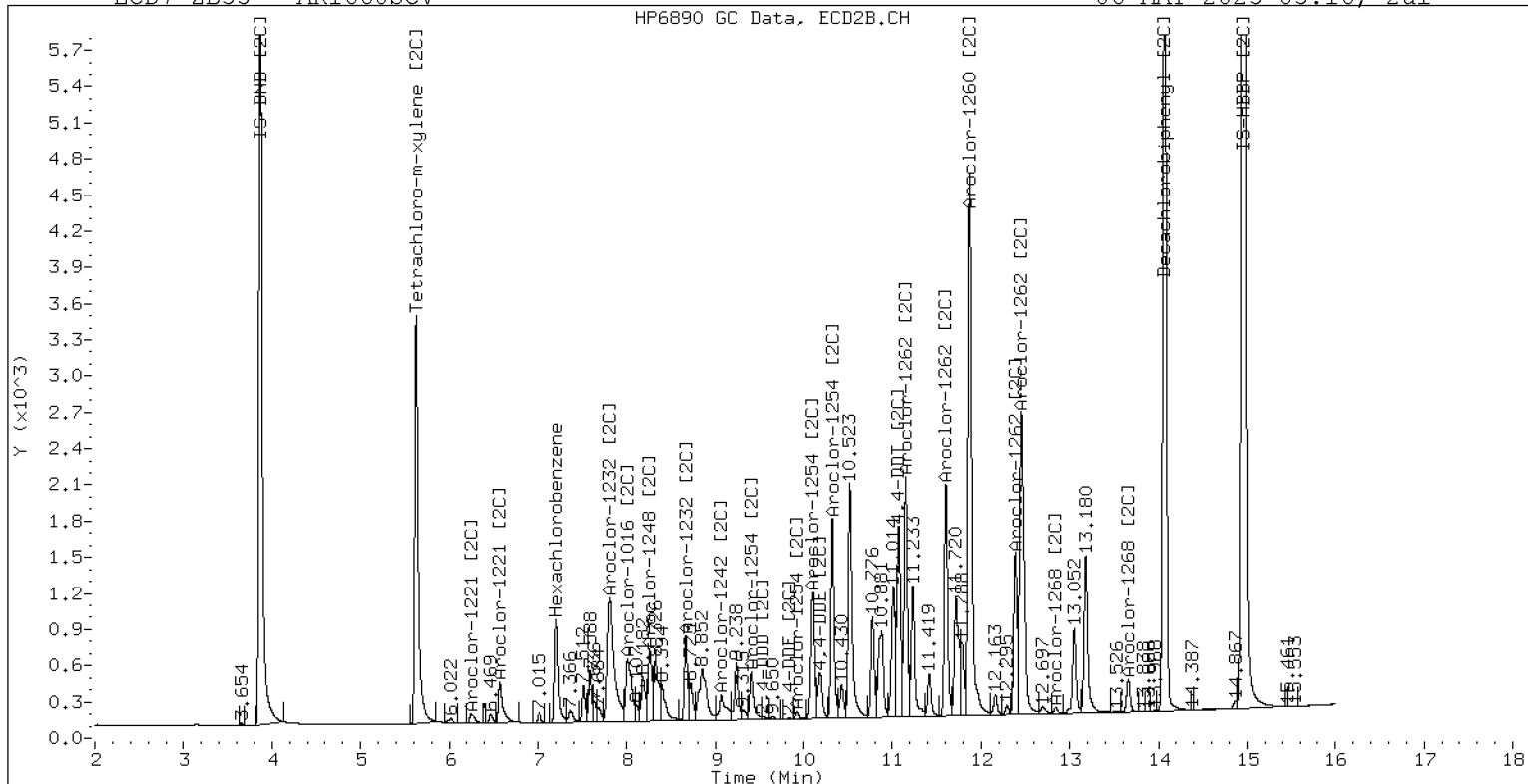
06-MAY-2023 03:16, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660SCV

06-MAY-2023 03:16, 2ul



ZB-35 Manual Integration: NO



**SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>23D0577</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>AOC4 UR Phase 3</u>
Instrument ID:	<u>ECD7</u>	Calibration:	<u>GE00022</u>
Lab File ID:	<u>05052333ECD7.D</u>	Calibration Date:	<u>05/05/2023</u>
Sequence:	<u>SLE0079</u>	Injection Date:	<u>05/06/23</u>
Lab Sample ID:	<u>SLE0079-SCV2</u>	Injection Time:	<u>03:36</u>
Sequence Name:	<u>AR1242SCV2</u>		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1242	A	250.00	237	0.0390737	0.0365795		-5.1	+/-20
Aroclor 1242 [2C]	A	250.00	230	0.0413965	0.0378029		-7.9	+/-20
Decachlorobiphenyl	A	40.000	40.9	0.7991406	0.8167325		2.2	+/-20
Tetrachlorometaxylene	A	40.000	32.8	1.2048230	0.9873365		-18.1	+/-20
Decachlorobiphenyl [2C]	A	40.000	44.0	1.1360140	1.2491680		10.0	+/-20
Tetrachlorometaxylene [2C]	A	40.000	33.4	1.1005470	0.9188596		-16.5	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052333ECD7.D
Data file 2: /230505.b/230505.b/05052333ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242SCV
Client ID:
Injection Date: 06-MAY-2023 03:36
Report Date: 05/06/2023 12:06
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col		ZB5	ZB35	RPD	Compound/Flag		
RT	Shift Response	RT	Shift Response	on col	on col				
5.744	0.002	319899	5.630	0.002	167866	32.8	33.4	1.9	Tetrachloro-m-xylene
13.842	0.002	398699	14.069	0.001	434332	40.9	44.0	7.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	648004	7.7
Hexabromobiphenyl	876625	976327	11.4

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	365379	4.6
Hexabromobiphenyl	652984	695394	6.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	0.001	47446	189.1	1	7.205	0.001	36469	176.3
Aroclor-1016	2	7.594	-0.000	147684	188.2	2	7.814	0.007	77885	176.7
Aroclor-1016	3	7.735	0.002	67175	185.2	3	8.012	0.006	38400	197.5
Aroclor-1016	4	8.398	0.000	30565	204.3	4	8.261	0.002	27551	178.4
Total CollAve (4 peaks):				191.7		Total Col2Ave (4 peaks):				182.2 RPD = 5
Corrected Ave (3 peaks):				187.5		Corrected Ave (3 peaks):				177.1 RPD = 6
Aroclor-1221	1	4.666	0.002	870	19.1	1	---			0.0
Aroclor-1221	2	6.069	0.000	7118	77.8	2	6.257	0.011	4359	78.0
Aroclor-1221	3	6.322	0.001	32969	151.8	3	6.573	0.001	16609	189.0
Total CollAve (3 peaks):				82.9		Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.666	0.002	870	28.7	1	---			0.0
Aroclor-1232	2	6.069	0.000	7118	112.7	2	7.205	-0.000	36469	449.5
Aroclor-1232	3	7.594	-0.001	147684	490.8	3	7.814	-0.001	77885	477.9
Aroclor-1232	4	8.526	-0.000	70601	548.1	4	8.668	-0.001	25417	538.5
Total CollAve (4 peaks):				295.1		Total Col2Ave (3 peaks):				488.7 RPD = 49*
Corrected Ave (3 peaks):				210.7		Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.213	0.001	47446	232.4	1	7.205	0.001	36469	223.3
Aroclor-1242	2	7.594	-0.000	147684	228.2	2	7.814	0.002	77885	224.2
Aroclor-1242	3	8.398	0.000	30565	244.2	3	9.124	0.001	25864	232.2
Aroclor-1242	4	8.526	0.002	70601	243.8	4	9.552	0.001	32437	241.7
Total CollAve (4 peaks):				237.2		Total Col2Ave (4 peaks):				230.4 RPD = 3
Corrected Ave (3 peaks):				234.8		Corrected Ave (3 peaks):				226.6 RPD = 4
Aroclor-1248	1	8.398	-0.001	30565	184.8	1	8.261	0.001	27551	158.5
Aroclor-1248	2	8.526	0.002	70601	164.3	2	8.668	0.001	25417	138.4
Aroclor-1248	3	8.946	0.002	172847	209.1	3	9.124	0.004	25864	120.2
Aroclor-1248	4	9.243	-0.001	87363	207.3	4	9.552	0.006	32437	125.7
Total CollAve (4 peaks):				191.4		Total Col2Ave (4 peaks):				135.7 RPD = 34
Corrected Ave (3 peaks):				185.5		Corrected Ave (3 peaks):				128.1 RPD = 37
Aroclor-1254	1	9.243	-0.004	87363	131.2	1	9.406	0.002	13247	47.7
Aroclor-1254	2	9.326	0.001	28949	96.7	2	9.552	0.053	32437	196.7
Aroclor-1254	3	9.622	0.004	20780	48.3	3	9.927	0.003	10002	44.5
Aroclor-1254	4	9.762	0.006	35470	42.1	4	10.082	0.005	19933	40.6
Aroclor-1254	5	10.140	0.015	28075	55.2	5	10.341	0.013	19432	39.9
Total CollAve (5 peaks):				74.7		Total Col2Ave (5 peaks):				73.9 RPD = 1
Corrected Ave (4 peaks):				60.6		Corrected Ave (4 peaks):				43.2 RPD = 34
Aroclor-1260	1	10.998	0.005	3609	7.0	1	11.618	0.012	2137	5.8
Aroclor-1260	2	11.317	0.007	3837	7.5	2	11.879	0.007	1437	1.5
Aroclor-1260	3	11.765	0.080	33905	26.6	3	12.382	-0.006	12460	52.1
Aroclor-1260	4	12.097	0.007	9099	14.6	4	---			0.0
Aroclor-1260	5	12.272	0.079	2060	7.6	NS	---			---
Total CollAve (5 peaks):				12.6		Total Col2Ave (3 peaks):				19.8 RPD = 44*
Corrected Ave (4 peaks):				9.2		Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.787	0.009	24040	54.4	1	11.078	-0.075	7864	14.0
Aroclor-1262	2	12.272	0.077	2060	3.3	2	11.618	0.013	2137	4.5
Aroclor-1262	3	---			0.0	3	12.382	-0.004	12460	24.0
Aroclor-1262	4	12.937	-0.002	16041	29.5	4	---			0.0
Total CollAve (3 peaks):				29.1		Total Col2Ave (3 peaks):				14.1 RPD = 69*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1268	1	12.272	0.076	2060	1.3	1	12.382	-0.003	12460	9.5
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	12.649	0.001	4324	3.5	3	12.845	0.002	951	0.8
Aroclor-1268	4	13.442	0.005	15801	4.4	4	13.628	-0.035	6512	1.7
Total CollAve (3 peaks):				3.1		Total Col2Ave (3 peaks):				4.0 RPD = 25
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				

Total PCB Area Col1 (5.842 - 13.740) = 1489022 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 667658 Col2 Total PCB = 0.2 ppm*

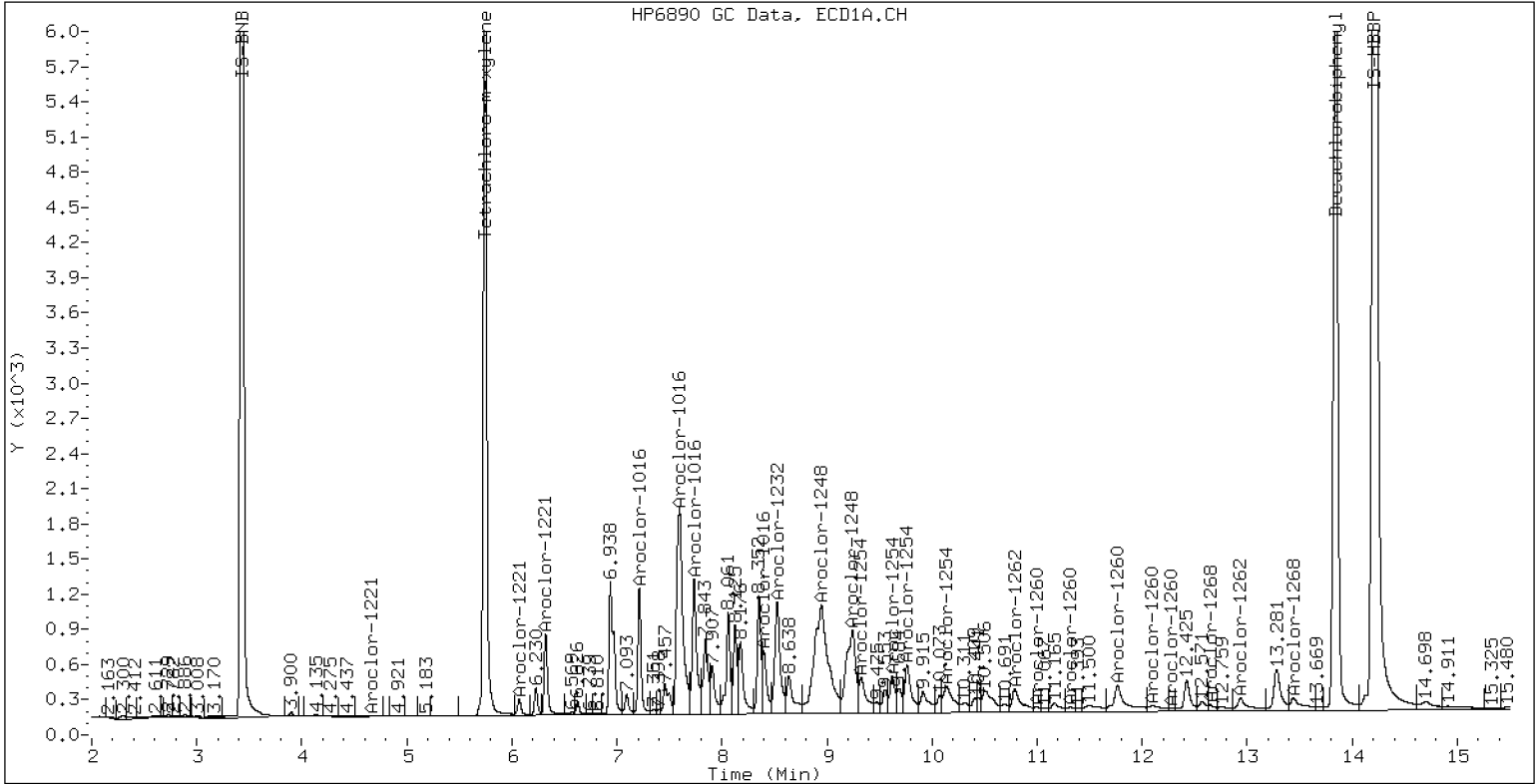
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1242SCV

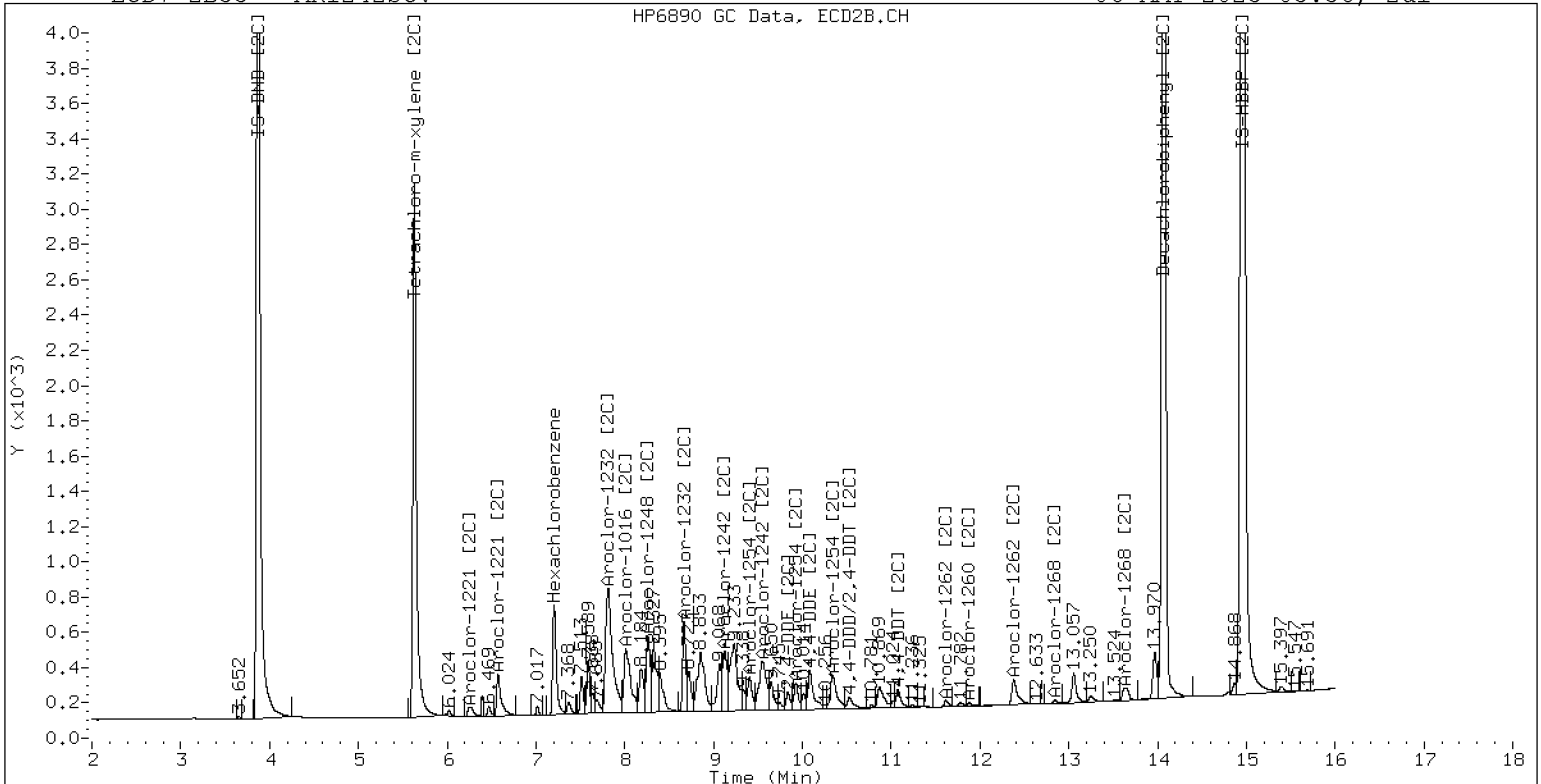
06-MAY-2023 03:36, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1242SCV

06-MAY-2023 03:36, 2ul

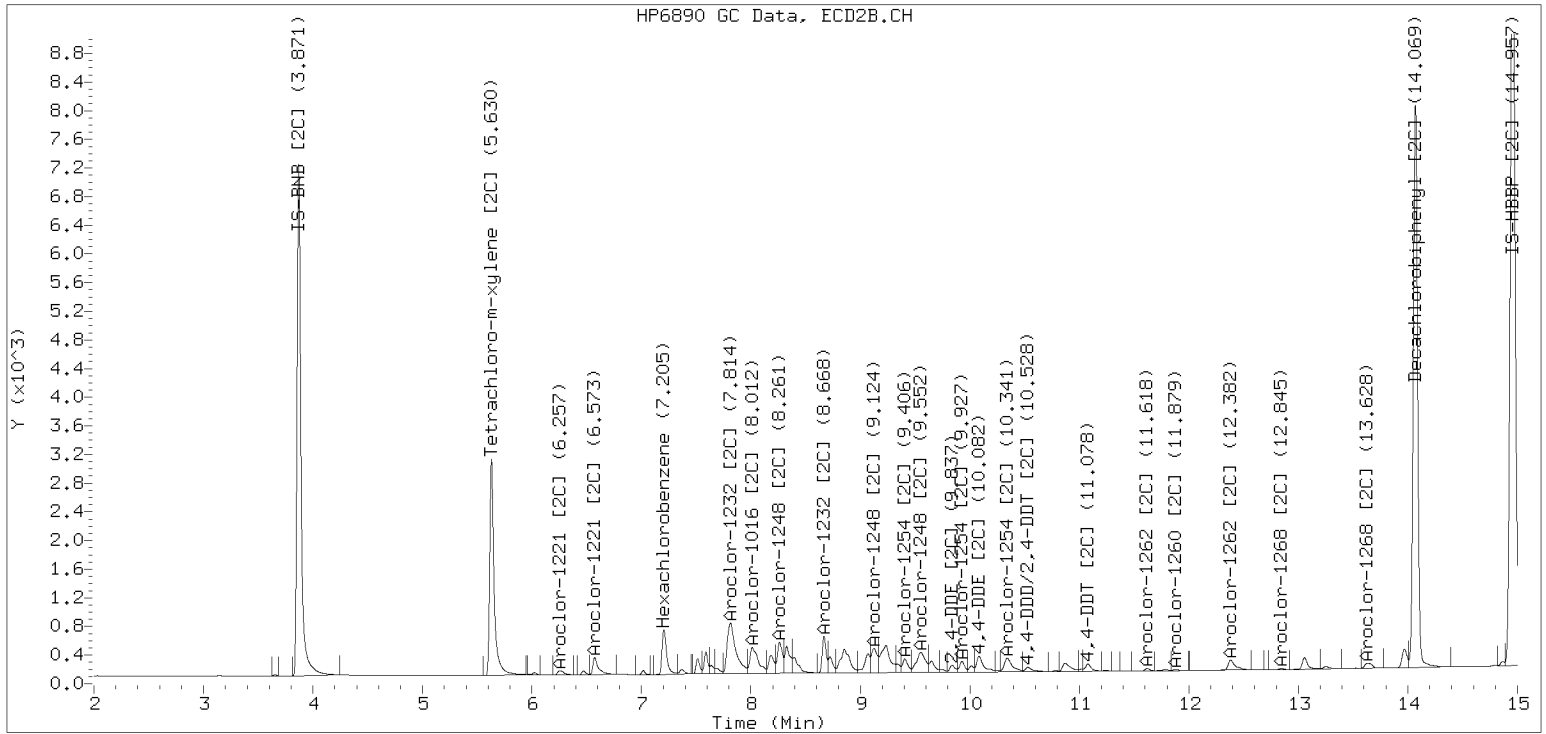


ZB-35 Manual Integration: NO

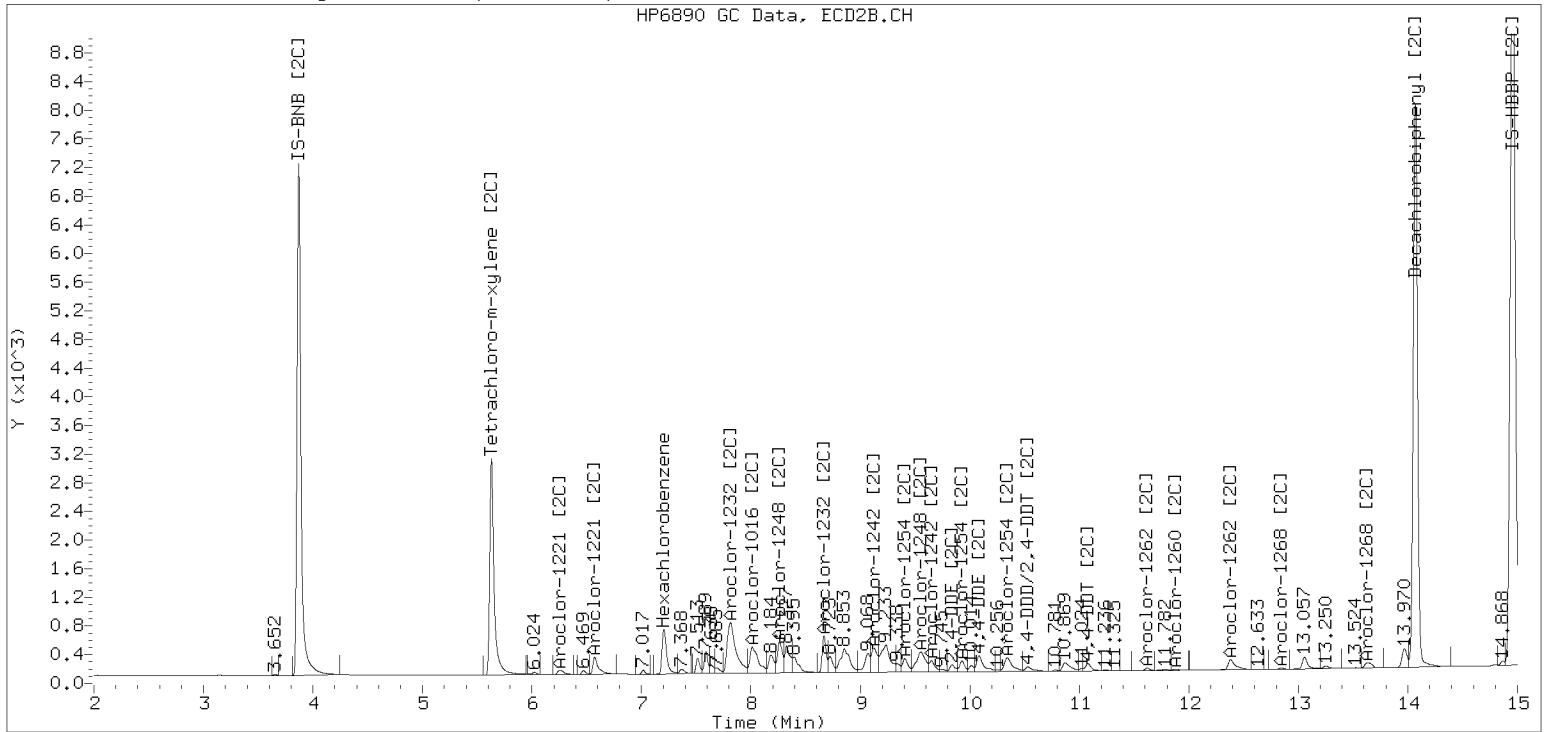
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230505.b/230505.b/05052333ECD7.D Injection Date: 06-MAY-2023

Manual Integration (After)



Processed Integration (Before)





**SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>23D0577</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>AOC4 UR Phase 3</u>
Instrument ID:	<u>ECD7</u>	Calibration:	<u>GE00022</u>
Lab File ID:	<u>05052334ECD7.D</u>	Calibration Date:	<u>05/05/2023</u>
Sequence:	<u>SLE0079</u>	Injection Date:	<u>05/06/23</u>
Lab Sample ID:	<u>SLE0079-SCV3</u>	Injection Time:	<u>03:57</u>
Sequence Name:	<u>AR1248SCV3</u>		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	251	0.0568879	0.0571636		0.5	+/-20
Aroclor 1248 [2C]	A	250.00	249	0.0454726	0.0453430		-0.3	+/-20
Decachlorobiphenyl	A	40.000	35.7	0.7991406	0.7130963		-10.8	+/-20
Tetrachlorometaxylene	A	40.000	36.8	1.2048230	1.1082640		-8.0	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.0	1.1360140	1.0789920		-5.0	+/-20
Tetrachlorometaxylene [2C]	A	40.000	37.7	1.1005470	1.0375410		-5.7	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052334ECD7.D
Data file 2: /230505.b/230505.b/05052334ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248SCV
Client ID:
Injection Date: 06-MAY-2023 03:57
Report Date: 05/06/2023 12:07
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.741	-0.001	356328	5.629	0.000	186552	36.8	37.7	2.5	Tetrachloro-m-xylene
13.842	0.001	339452	14.070	0.002	373861	35.7	38.0	6.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	643038	6.9
Hexabromobiphenyl	876625	952051	8.6

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	359604	3.0
Hexabromobiphenyl	652984	692982	6.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.212	0.000	19871	79.8	1	7.203	-0.001	18843	92.6
Aroclor-1016	2	7.589	-0.006	95111	122.2	2	7.812	0.005	52352	120.7
Aroclor-1016	3	7.736	0.003	37565	104.4	3	8.012	0.006	8263	43.2
Aroclor-1016	4	8.399	0.002	41542	279.7	4	8.260	0.001	42833	281.8
Total CollAve (4 peaks):				146.5		Total Col2Ave (4 peaks):				134.6 RPD = 9
Corrected Ave (3 peaks):				102.1		Corrected Ave (3 peaks):				85.5 RPD = 18
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.066	-0.003	351	3.9	2	6.275	0.029	1573	28.6
Aroclor-1221	3	6.320	-0.001	3509	16.3	3	6.576	0.004	967	11.2
CollAve: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.066	-0.003	351	5.6	2	7.203	-0.001	18843	236.0
Aroclor-1232	3	7.589	-0.006	95111	318.5	3	7.812	-0.002	52352	326.4
Aroclor-1232	4	8.524	-0.002	105782	827.6	4	8.667	-0.002	44962	968.0
Total CollAve (3 peaks):				383.9		Total Col2Ave (3 peaks):				510.1 RPD = 28
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.212	0.000	19871	98.1	1	7.203	-0.000	18843	117.2
Aroclor-1242	2	7.589	-0.006	95111	148.1	2	7.812	-0.000	52352	153.1
Aroclor-1242	3	8.399	0.001	41542	334.5	3	9.120	-0.003	52681	480.6
Aroclor-1242	4	8.524	-0.000	105782	368.1	4	9.548	-0.002	63343	479.5
Total CollAve (4 peaks):				237.2		Total Col2Ave (4 peaks):				307.6 RPD = 26
Corrected Ave (3 peaks):				193.6		Corrected Ave (3 peaks):				250.0 RPD = 25
Aroclor-1248	1	8.399	0.001	41542	253.1	1	8.260	-0.001	42833	250.4
Aroclor-1248	2	8.524	-0.000	105782	248.0	2	8.667	0.000	44962	248.8
Aroclor-1248	3	8.944	-0.000	206928	252.3	3	9.120	-0.000	52681	248.7
Aroclor-1248	4	9.242	-0.001	105227	251.7	4	9.548	0.002	63343	249.4
Total CollAve (4 peaks):				251.3		Total Col2Ave (4 peaks):				249.3 RPD = 1
Corrected Ave (3 peaks):				250.6		Corrected Ave (3 peaks):				249.0 RPD = 1
Aroclor-1254	1	9.242	-0.004	105227	159.2	1	9.404	0.000	25835	94.6
Aroclor-1254	2	9.324	-0.001	51326	172.8	2	9.548	0.049	63343	390.3
Aroclor-1254	3	9.619	0.001	41394	97.0	3	9.925	0.001	22609	102.1
Aroclor-1254	4	9.759	0.003	72223	86.4	4	10.079	0.001	43816	90.7
Aroclor-1254	5	10.135	0.010	49936	98.9	5	10.345	0.016	42513	88.7
Total CollAve (5 peaks):				122.9		Total Col2Ave (5 peaks):				153.3 RPD = 22
Corrected Ave (4 peaks):				110.4		Corrected Ave (4 peaks):				94.0 RPD = 16
Aroclor-1260	1	10.998	0.005	1863	3.7	1	11.617	0.011	2599	7.1
Aroclor-1260	2	11.314	0.004	1152	2.3	2	11.877	0.005	1951	2.0
Aroclor-1260	3	11.695	0.009	1829	1.5	3	12.389	0.001	857	3.6
Aroclor-1260	4	12.097	0.007	1266	2.1	4	12.458	0.003	1302	2.0
Aroclor-1260	5	12.195	0.002	464	1.7	NS	---			----
Total CollAve (5 peaks):				2.3		Total Col2Ave (4 peaks):				3.7 RPD = 48*
Corrected Ave (4 peaks):				1.9		Corrected Ave (3 peaks):				2.5 RPD = 29
Aroclor-1262	1	10.784	0.005	15405	35.8	1	11.077	-0.077	9003	16.0
Aroclor-1262	2	12.195	0.000	464	0.8	2	11.617	0.012	2599	5.5
Aroclor-1262	3	12.271	0.002	489	0.8	3	12.389	0.003	857	1.7
Aroclor-1262	4	12.940	0.001	1638	3.1	4	12.458	0.002	1302	1.5
Total CollAve (4 peaks):				10.1		Total Col2Ave (4 peaks):				6.2 RPD = 48*
Corrected Ave (3 peaks):				1.5		Corrected Ave (3 peaks):				2.9 RPD = 61*
Aroclor-1268	1	12.195	-0.001	464	0.3	1	12.389	0.004	857	0.7
Aroclor-1268	2	12.271	0.003	489	0.3	2	12.458	0.006	1302	0.9
Aroclor-1268	3	12.649	0.001	1831	1.5	3	12.845	0.002	676	0.6
Aroclor-1268	4	13.443	0.006	5387	1.6	4	13.661	-0.003	2707	0.7
Total CollAve (4 peaks):				0.9		Total Col2Ave (4 peaks):				0.7 RPD = 26
Corrected Ave (3 peaks):				0.7		Corrected Ave (3 peaks):				0.6 RPD = 11

Total PCB Area Col1 (5.842 - 13.740) = 1634238 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.728 - 13.968) = 876760 Col2 Total PCB = 0.2 ppm*

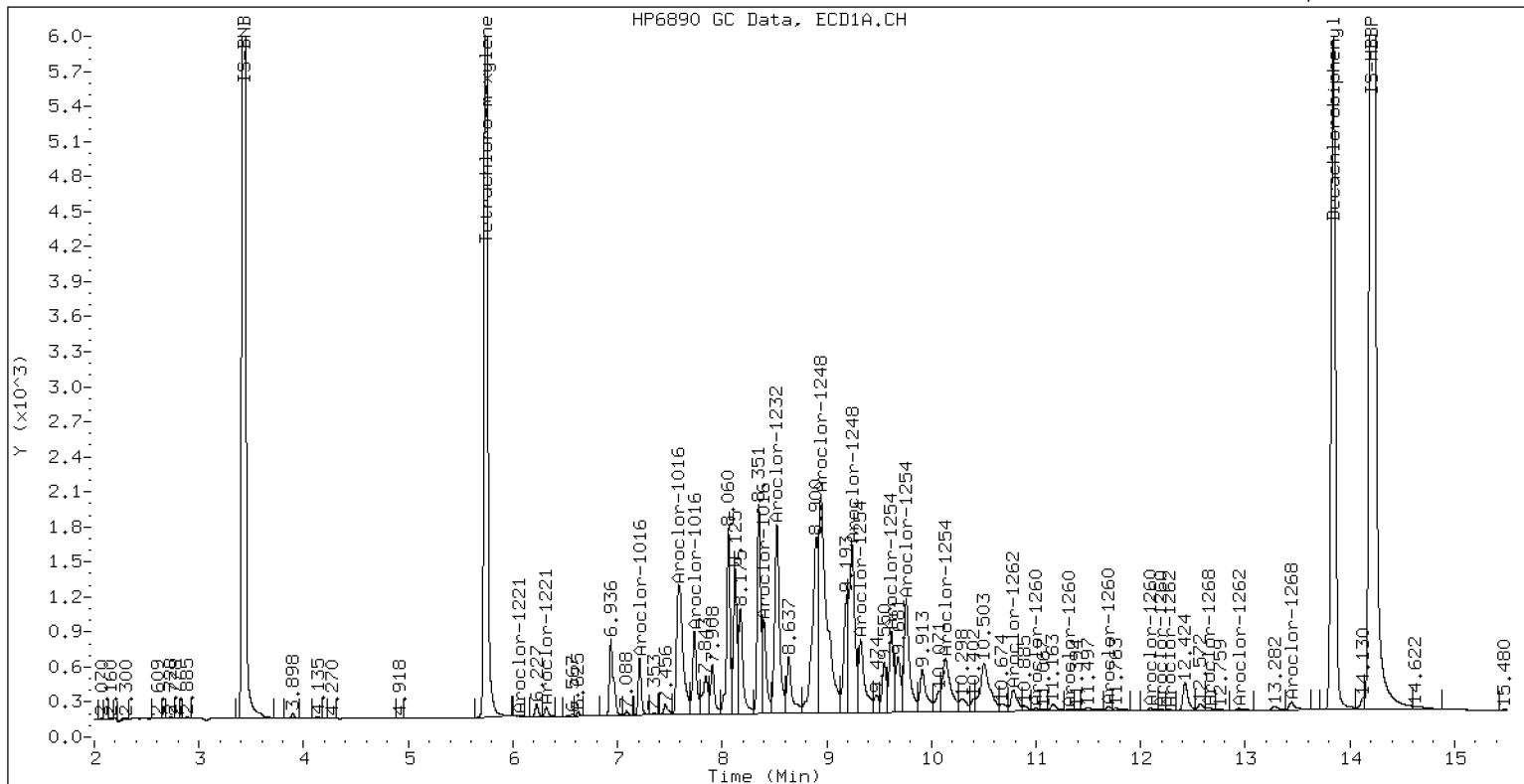
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1248SCV

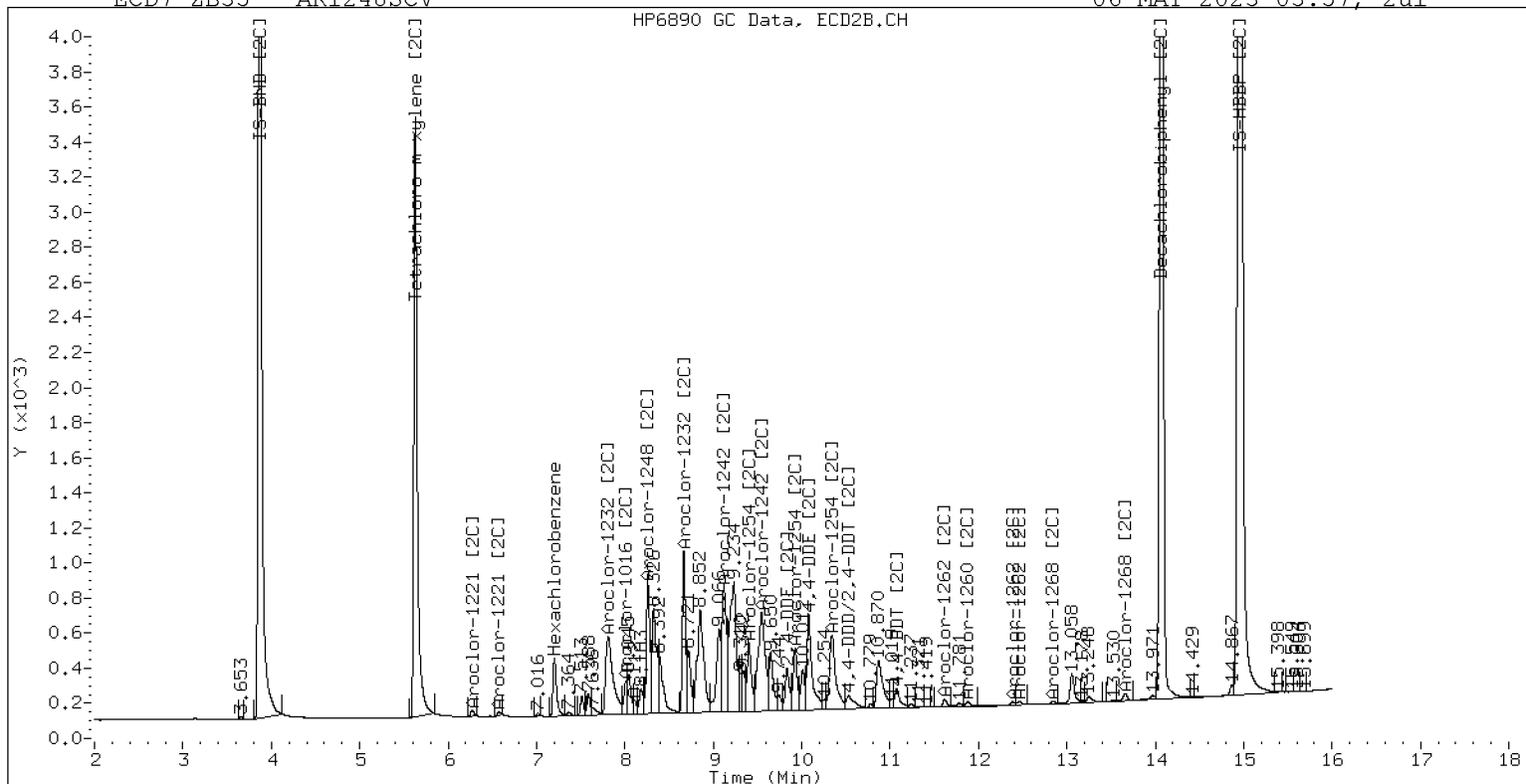
06-MAY-2023 03:57, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248SCV

06-MAY-2023 03:57, 2ul



ZB-35 Manual Integration: NO



**SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>23D0577</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>AOC4 UR Phase 3</u>
Instrument ID:	<u>ECD7</u>	Calibration:	<u>GE00022</u>
Lab File ID:	<u>05052335ECD7.D</u>	Calibration Date:	<u>05/05/2023</u>
Sequence:	<u>SLE0079</u>	Injection Date:	<u>05/06/23</u>
Lab Sample ID:	<u>SLE0079-SCV4</u>	Injection Time:	<u>04:18</u>
Sequence Name:	<u>AR1254SCV4</u>		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1254	A	250.00	239	0.0678007	0.0647470		-4.3	+/-20
Aroclor 1254 [2C]	A	250.00	241	0.0720677	0.0695237		-3.8	+/-20
Decachlorobiphenyl	A	40.000	36.0	0.7991406	0.7182997		-10.1	+/-20
Tetrachlorometaxylene	A	40.000	37.6	1.2048230	1.1319680		-6.0	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.5	1.1360140	1.0928370		-3.8	+/-20
Tetrachlorometaxylene [2C]	A	40.000	38.3	1.1005470	1.0547150		-4.2	+/-20

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052335ECD7.D
Data file 2: /230505.b/230505.b/05052335ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254SCV
Client ID:
Injection Date: 06-MAY-2023 04:18
Report Date: 05/06/2023 11:30
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.743	0.001	368022	5.631	0.002	192033	37.6	38.3	2.0	Tetrachloro-m-xylene
13.843	0.002	352066	14.070	0.002	385384	36.0	38.5	6.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	650234	8.1
Hexabromobiphenyl	876625	980276	11.8

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	364142	4.3
Hexabromobiphenyl	652984	705291	8.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.214	0.002	635	2.5	1	---			0.0
Aroclor-1016	2	7.590	-0.004	2512	3.2	2	---			0.0
Aroclor-1016	3	7.738	0.005	1594	4.4	3	---			0.0
Aroclor-1016	4	8.351	-0.047	31774	211.6	4	---			0.0
Total CollAve (4 peaks):				55.4		Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.052	-0.018	242	2.6	2	---			0.0
Aroclor-1221	3	6.322	0.001	427	2.0	3	---			0.0
CollAve: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.052	-0.018	242	3.8	2	---			0.0
Aroclor-1232	3	7.590	-0.005	2512	8.3	3	---			0.0
Aroclor-1232	4	8.528	0.001	13950	107.9	4	---			0.0
Total CollAve (3 peaks):				40.0		Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	7.214	0.002	635	3.1	1	---			0.0
Aroclor-1242	2	7.590	-0.005	2512	3.9	2	---			0.0
Aroclor-1242	3	8.351	-0.047	31774	253.0	3	9.125	0.002	23963	215.9
Aroclor-1242	4	8.528	0.004	13950	48.0	4	9.649	0.099	23982	179.3
Total CollAve (4 peaks):				77.0		Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	8.351	-0.048	31774	191.4	1	8.260	-0.000	23490	135.6
Aroclor-1248	2	8.528	0.004	13950	32.3	2	8.669	0.002	16693	91.2
Aroclor-1248	3	8.941	-0.003	154338	186.1	3	9.125	0.005	23963	111.7
Aroclor-1248	4	9.246	0.003	158369	374.6	4	9.499	-0.047	38716	150.5
Total CollAve (4 peaks):				196.1		Total Col2Ave (4 peaks): 122.3 RPD = 46*				
Corrected Ave (3 peaks):				136.6		Corrected Ave (3 peaks): 112.8 RPD = 19				
Aroclor-1254	1	9.246	-0.001	158369	237.0	1	9.404	0.000	67493	244.0
Aroclor-1254	2	9.325	-0.000	72386	241.1	2	9.499	-0.000	38716	235.6
Aroclor-1254	3	9.617	-0.001	103602	240.1	3	9.925	0.001	53972	240.7
Aroclor-1254	4	9.756	0.000	201259	238.2	4	10.079	0.001	116950	239.0
Aroclor-1254	5	10.127	0.001	122207	239.5	5	10.327	-0.001	118439	243.9
Total CollAve (5 peaks):				239.2		Total Col2Ave (5 peaks): 240.6 RPD = 1				
Corrected Ave (4 peaks):				238.7		Corrected Ave (4 peaks): 239.8 RPD = 0				
Aroclor-1260	1	10.994	0.001	13538	26.1	1	11.615	0.009	33465	89.3
Aroclor-1260	2	11.313	0.003	13900	27.2	2	11.876	0.004	25534	26.1
Aroclor-1260	3	11.689	0.004	32548	25.4	3	12.404	0.016	1811	7.5
Aroclor-1260	4	12.093	0.003	25285	40.3	4	12.458	0.002	14842	22.7
Aroclor-1260	5	12.273	0.079	2534	9.3	NS	---			---
Total CollAve (5 peaks):				25.6		Total Col2Ave (4 peaks): 36.4 RPD = 35				
Corrected Ave (4 peaks):				22.0		Corrected Ave (3 peaks): 18.7 RPD = 16				
Aroclor-1262	1	10.779	0.000	210018	473.6	1	11.073	-0.081	114323	200.0
Aroclor-1262	2	12.273	0.078	2534	4.1	2	11.615	0.010	33465	69.4
Aroclor-1262	3	---			0.0	3	12.404	0.018	1811	3.4
Aroclor-1262	4	12.939	0.001	1830	3.3	4	12.458	0.002	14842	17.3
Total CollAve (3 peaks):				160.3		Total Col2Ave (4 peaks): 72.6 RPD = 75*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 30.1				
Aroclor-1268	1	12.273	0.077	2534	1.6	1	12.404	0.019	1811	1.4
Aroclor-1268	2	---			0.0	2	12.458	0.005	14842	10.3
Aroclor-1268	3	12.654	0.006	2669	2.1	3	12.847	0.004	835	0.7
Aroclor-1268	4	13.442	0.004	6266	1.8	4	13.662	-0.001	2350	0.6
Total CollAve (3 peaks):				1.8		Total Col2Ave (4 peaks): 3.2 RPD = 55*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 0.9				

Total PCB Area Col1 (5.842 - 13.740) = 2123119 Col1 Total PCB = 0.3 ppm*
Total PCB Area Col2 (5.728 - 13.968) = 1146487 Col2 Total PCB = 0.3 ppm*

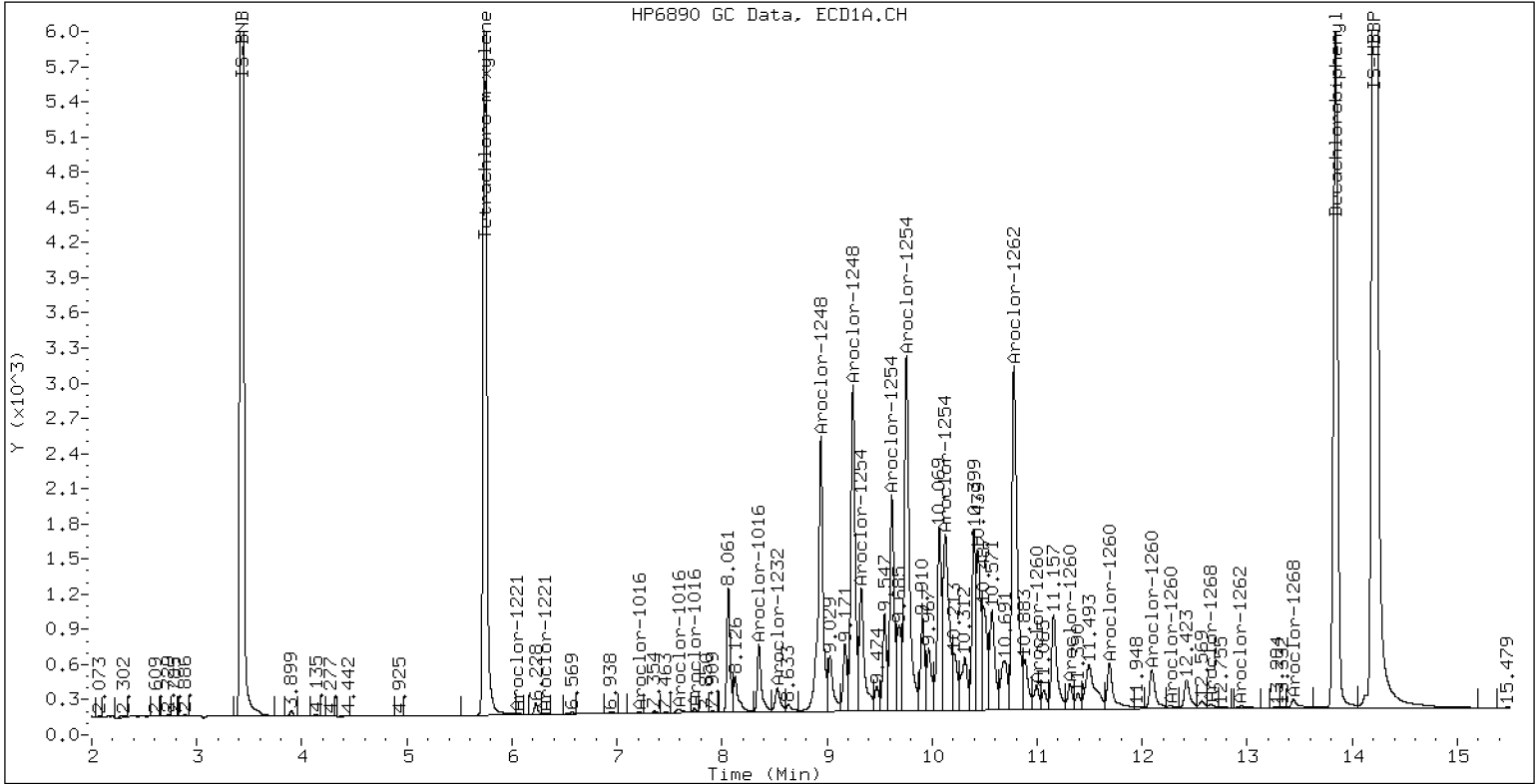
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1254SCV

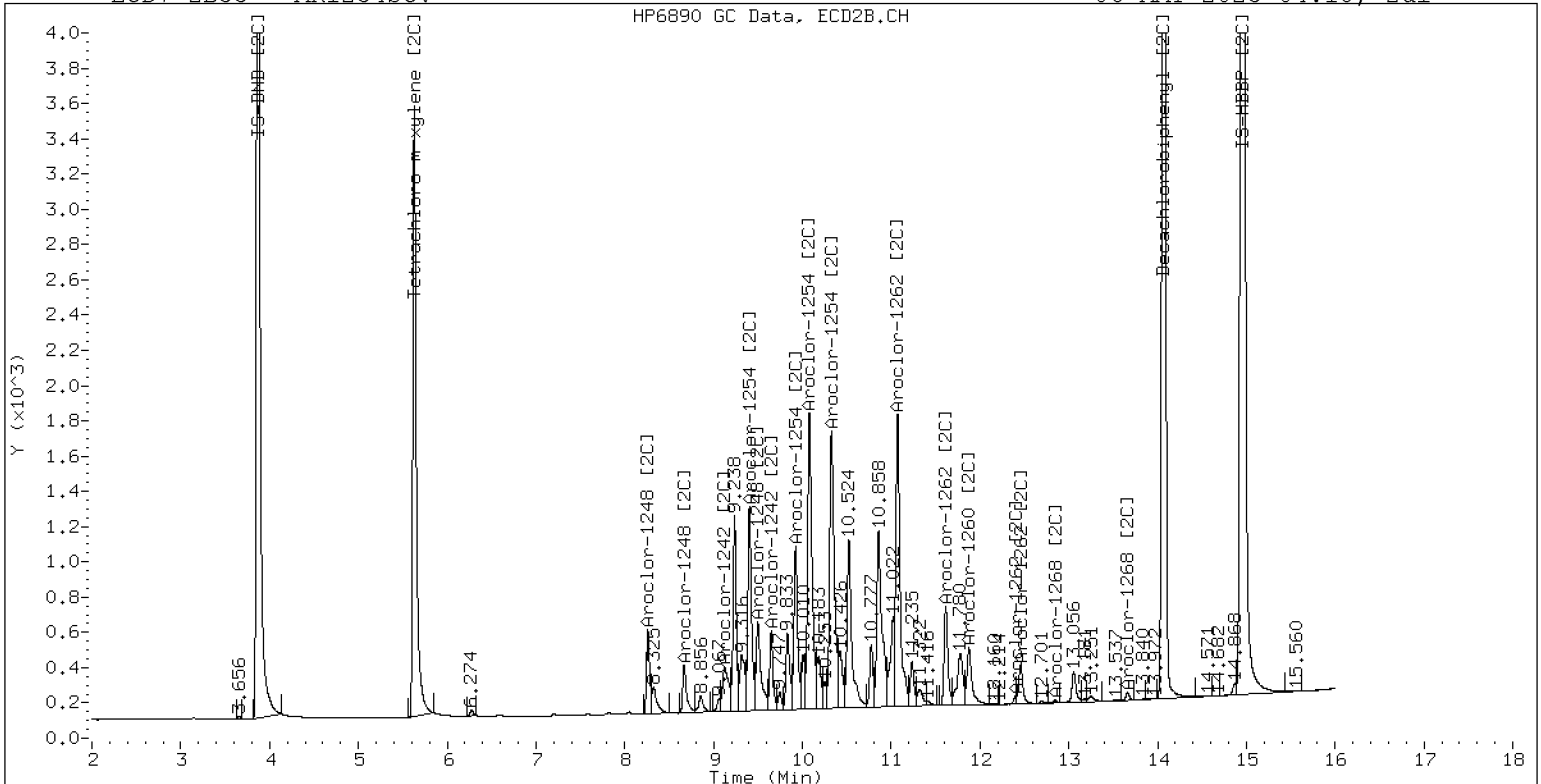
06-MAY-2023 04:18, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254SCV

06-MAY-2023 04:18, 2ul



ZB-35 Manual Integration: NO



**SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A**

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Instrument ID: ECD7

Calibration: GE00022

Lab File ID: 05052336ECD7.D

Calibration Date: 05/05/2023

Sequence: SLE0079

Injection Date: 05/06/23

Lab Sample ID: SLE0079-SCV5

Injection Time: 04:39

Sequence Name: AR2162SCV5

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1221	A	250.00	290	0.0145752	0.0167225		15.9	+/-20
Aroclor 1221 [2C]	A	250.00	288	0.0124557	0.0144068		15.3	+/-20
Aroclor 1262	A	250.00	265	0.0465964	0.0493619		6.1	+/-20
Aroclor 1262 [2C]	A	250.00	259	0.0691503	0.0715087		3.5	+/-20
Decachlorobiphenyl	A	40.000	37.1	0.7991406	0.7407598		-7.3	+/-20
Tetrachlorometaxylene	A	40.000	37.8	1.2048230	1.1381330		-5.5	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.8	1.1360140	1.1010220		-3.1	+/-20
Tetrachlorometaxylene [2C]	A	40.000	39.1	1.1005470	1.0746770		-2.4	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052336ECD7.D
Data file 2: /230505.b/230505.b/05052336ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162SCV
Client ID:
Injection Date: 06-MAY-2023 04:39
Report Date: 05/06/2023 11:31
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.742	0.000	358254	5.628	-0.000	183759	37.8	39.1	3.3	Tetrachloro-m-xylene
13.842	0.002	344347	14.070	0.002	373300	37.1	38.8	4.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	629547	4.7
Hexabromobiphenyl	876625	929713	6.1

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	341980	-2.1
Hexabromobiphenyl	652984	678097	3.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	0.000	6601	27.1	1	7.207	0.003	3935	20.3	
Aroclor-1016	2	7.595	0.000	13419	17.6	2	7.821	0.013	6146	14.9	
Aroclor-1016	3	7.735	0.003	7114	20.2	3	8.027	0.021	3201	17.6	
Aroclor-1016	4	8.353	-0.045	3916	26.9	4	8.262	0.003	2131	14.7	
Total CollAve (4 peaks):				23.0	Total Col2Ave (4 peaks):				16.9	RPD = 30	
Corrected Ave (3 peaks):				21.6	Corrected Ave (3 peaks):				15.7	RPD = 31	
Aroclor-1221	1	4.663	-0.001	13184	297.8	1	4.893	-0.001	7253	287.5	
Aroclor-1221	2	6.070	0.000	25527	287.4	2	6.244	-0.001	14853	284.1	
Aroclor-1221	3	6.321	0.000	59985	284.3	3	6.571	-0.001	24083	292.9	
Total CollAve (3 peaks):				289.8	Total Col2Ave (3 peaks):				288.2	RPD = 1	
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks						
Aroclor-1232	1	4.663	-0.001	13184	447.0	1	4.893	-0.001	7253	546.9	
Aroclor-1232	2	6.070	0.000	25527	416.0	2	7.207	0.002	3935	51.8	
Aroclor-1232	3	7.595	-0.000	13419	45.9	3	7.821	0.006	6146	40.3	
Aroclor-1232	4	8.528	0.001	2679	21.4	4	8.671	0.002	1120	25.4	
Total CollAve (4 peaks):				232.6	Total Col2Ave (4 peaks):				166.1	RPD = 33	
Corrected Ave (3 peaks):				161.1	Corrected Ave (3 peaks):				39.2	RPD = 122*	
Aroclor-1242	1	7.213	0.001	6601	33.3	1	7.207	0.004	3935	25.7	
Aroclor-1242	2	7.595	-0.000	13419	21.3	2	7.821	0.008	6146	18.9	
Aroclor-1242	3	8.353	-0.045	3916	32.2	3	9.133	0.010	881	8.5	
Aroclor-1242	4	8.528	0.003	2679	9.5	4	9.651	0.101	516	4.1	
Total CollAve (4 peaks):				24.1	Total Col2Ave (4 peaks):				14.3	RPD = 51*	
Corrected Ave (3 peaks):				21.0	Corrected Ave (3 peaks):				10.5	RPD = 67*	
Aroclor-1248	1	8.353	-0.046	3916	24.4	1	8.262	0.002	2131	13.1	
Aroclor-1248	2	8.528	0.003	2679	6.4	2	8.671	0.004	1120	6.5	
Aroclor-1248	3	8.942	-0.002	25144	31.3	3	9.133	0.013	881	4.4	
Aroclor-1248	4	9.251	0.008	25583	62.5	4	9.500	-0.045	335	1.4	
Total CollAve (4 peaks):				31.1	Total Col2Ave (4 peaks):				6.3	RPD = 132*	
Corrected Ave (3 peaks):				20.7	Corrected Ave (3 peaks):				4.1	RPD = 134*	
Aroclor-1254	1	9.251	0.005	25583	39.5	1	9.408	0.004	9719	37.4	
Aroclor-1254	2	---			0.0	2	9.500	0.001	335	2.2	
Aroclor-1254	3	9.620	0.002	4245	10.2	3	9.928	0.004	2055	9.8	
Aroclor-1254	4	9.758	0.003	11050	13.5	4	10.100	0.022	55162	120.0	
Aroclor-1254	5	10.071	-0.055	129151	261.4	5	10.325	-0.004	68421	150.1	
Total CollAve (4 peaks):				81.1	Total Col2Ave (5 peaks):				63.9	RPD = 24	
Corrected Ave (3 peaks):				21.1	Corrected Ave (4 peaks):				42.3	RPD = 67*	
Aroclor-1260	1	10.995	0.002	206643	420.3	1	11.605	-0.001	119902	332.9	
Aroclor-1260	2	11.311	0.001	167443	345.1	2	11.872	0.000	293746	311.8	
Aroclor-1260	3	11.687	0.001	390491	321.4	3	12.386	-0.002	131462	563.2	
Aroclor-1260	4	12.091	0.001	120118	201.8	4	12.456	0.000	212898	338.4	
Aroclor-1260	5	12.195	0.002	155588	599.5	NS	---			----	
Total CollAve (5 peaks):				377.6	Total Col2Ave (4 peaks):				386.6	RPD = 2	
Corrected Ave (4 peaks):				322.2	Corrected Ave (3 peaks):				327.7	RPD = 2	
Aroclor-1262	1	10.777	-0.001	114050	271.2	1	11.153	0.000	141861	258.2	
Aroclor-1262	2	12.195	0.001	155588	263.0	2	11.605	0.000	119902	258.7	
Aroclor-1262	3	12.269	0.000	167998	264.2	3	12.386	-0.000	131462	259.6	
Aroclor-1262	4	12.938	-0.001	136019	262.5	4	12.456	0.000	212898	258.0	
Total CollAve (4 peaks):				265.2	Total Col2Ave (4 peaks):				258.6	RPD = 3	
Corrected Ave (3 peaks):				263.3	Corrected Ave (3 peaks):				258.3	RPD = 2	
Aroclor-1268	1	12.195	-0.000	155588	104.9	1	12.386	0.001	131462	102.4	
Aroclor-1268	2	12.269	0.001	167998	114.1	2	12.456	0.003	212898	154.3	
Aroclor-1268	3	12.675	0.027	60611	51.2	3	12.843	-0.000	8393	7.1	
Aroclor-1268	4	13.439	0.001	49821	14.7	4	13.661	-0.002	39480	10.4	
Total CollAve (4 peaks):				71.2	Total Col2Ave (4 peaks):				68.6	RPD = 4	

Corrected Ave (3 peaks): 56.9 Corrected Ave (3 peaks): 40.0 RPD = 35

Total PCB Area Col1 (5.842 - 13.740) = 2870829 Col1 Total PCB = 0.4 ppm*
Total PCB Area Col2 (5.728 - 13.968) = 1885829 Col2 Total PCB = 0.5 ppm*

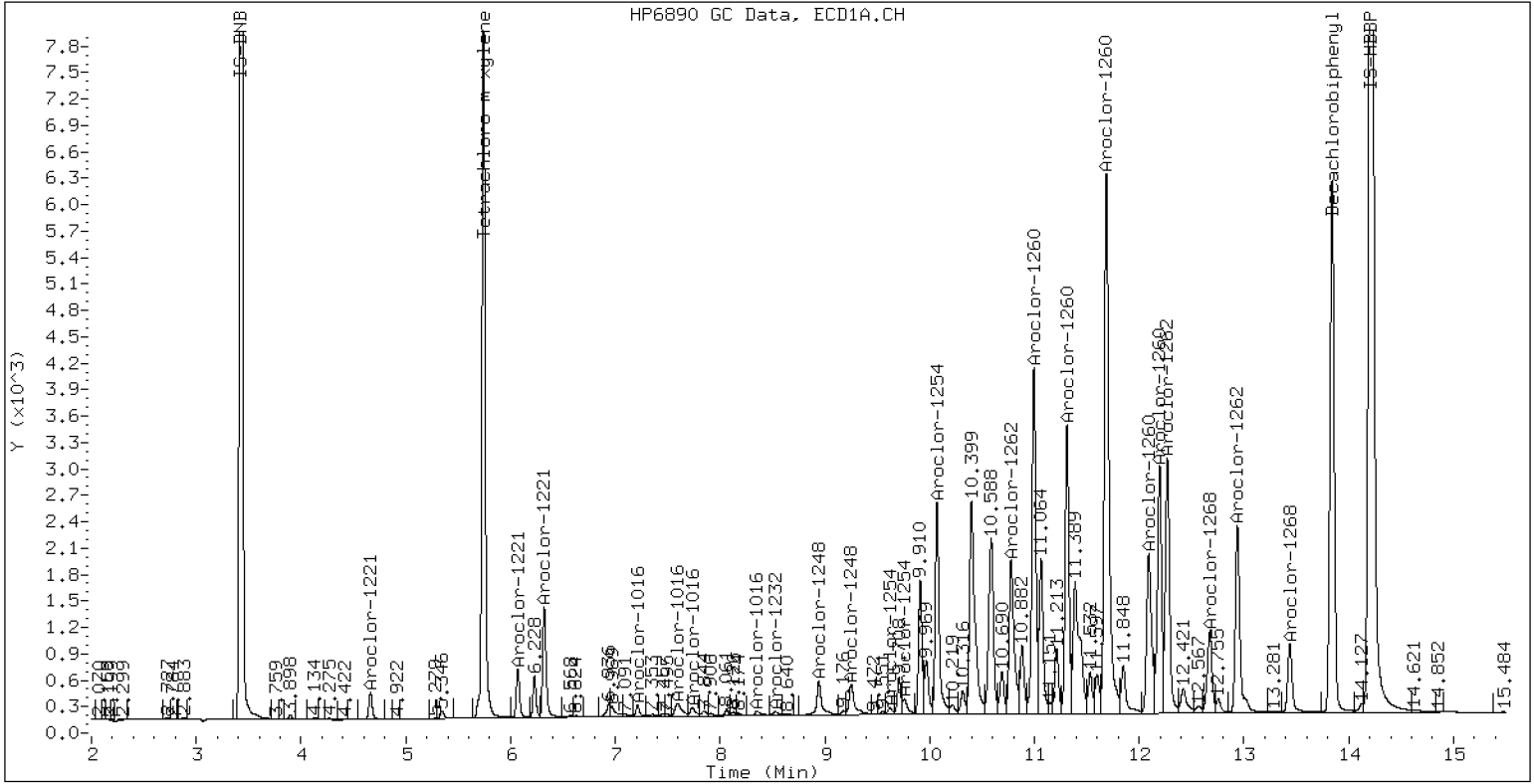
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR2162SCV

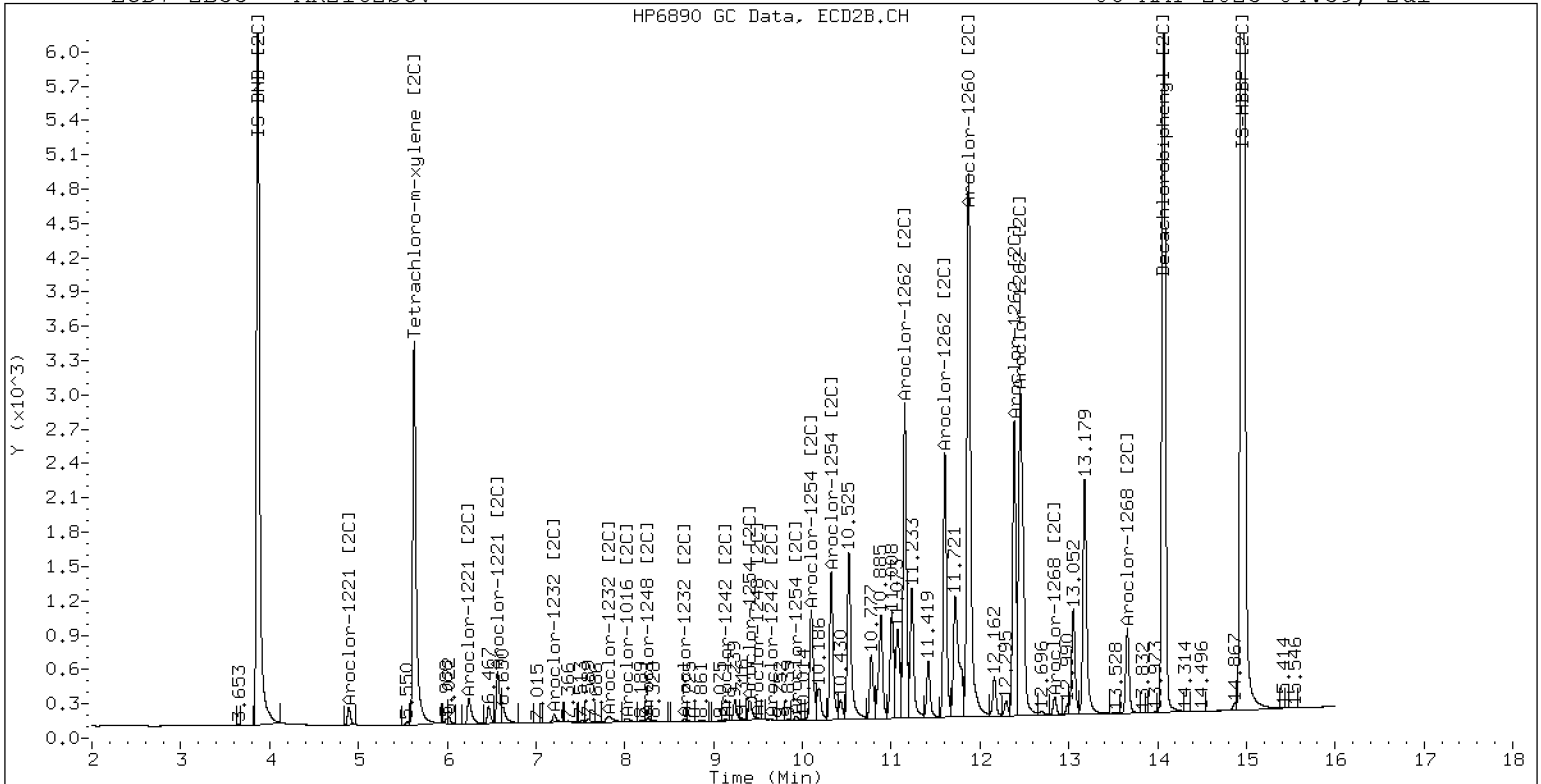
06-MAY-2023 04:39, 2u1



ZB-5 Manual Integration: NO

ECD7-ZB35 AR2162SCV

06-MAY-2023 04:39, 2u1



ZB-35 Manual Integration: NO



**SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>23D0577</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>AOC4 UR Phase 3</u>
Instrument ID:	<u>ECD7</u>	Calibration:	<u>GE00022</u>
Lab File ID:	<u>05052337ECD7.D</u>	Calibration Date:	<u>05/05/2023</u>
Sequence:	<u>SLE0079</u>	Injection Date:	<u>05/06/23</u>
Lab Sample ID:	<u>SLE0079-SCV6</u>	Injection Time:	<u>05:00</u>
Sequence Name:	<u>AR3268SCV6</u>		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1232	A	250.00	256	0.0161500	0.0177311		2.6	+/-20
Aroclor 1232 [2C]	A	250.00	301	0.0167199	0.0201037		20.3	+/-20
Aroclor 1268	A	250.00	266	0.1617990	0.1720924		6.5	+/-20
Aroclor 1268 [2C]	A	250.00	263	0.2250713	0.2372875		5.2	+/-20
Decachlorobiphenyl	A	40.000	55.1	0.7991406	1.1003690		37.7	+/-20
Tetrachlorometaxylene	A	40.000	38.4	1.2048230	1.1563010		-4.0	+/-20
Decachlorobiphenyl [2C]	A	40.000	59.3	1.1360140	1.6851460		48.3	+/-20
Tetrachlorometaxylene [2C]	A	40.000	40.4	1.1005470	1.1123120		1.1	+/-20

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230505.b/05052337ECD7.D
Data file 2: /230505.b/230505.b/05052337ECD7.D
Method: \\target\share\chem4\ecd7.i\230505.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268SCV
Client ID:
Injection Date: 06-MAY-2023 05:00
Report Date: 05/06/2023 11:31
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.743	0.001	373749	5.629	0.001	196946	38.4	40.4	5.2	Tetrachloro-m-xylene
13.842	0.002	525409	14.069	0.001	586548	55.1	59.3	7.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	646456	7.5
Hexabromobiphenyl	876625	954969	8.9

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	354120	1.4
Hexabromobiphenyl	652984	696139	6.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.214	0.001	28623	114.3	1	7.205	0.002	23124	115.4
Aroclor-1016	2	7.597	0.002	85721	109.5	2	7.815	0.007	47496	111.2
Aroclor-1016	3	7.735	0.002	41343	114.3	3	8.014	0.008	24029	127.5
Aroclor-1016	4	8.400	0.002	16653	111.6	4	8.262	0.003	15421	103.0
Total CollAve (4 peaks):				112.4		Total Col2Ave (4 peaks):				114.3 RPD = 2
Corrected Ave (3 peaks):				111.8		Corrected Ave (3 peaks):				109.9 RPD = 2
Aroclor-1221	1	4.664	0.001	7272	159.9	1	4.895	0.000	4045	154.9
Aroclor-1221	2	6.070	0.001	13478	147.8	2	6.246	0.000	9235	170.6
Aroclor-1221	3	6.321	0.001	43831	202.3	3	6.572	0.000	24300	285.4
Total CollAve (3 peaks):				170.0		Total Col2Ave (3 peaks):				203.6 RPD = 18
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.664	0.001	7272	240.1	1	4.895	0.001	4045	294.5
Aroclor-1232	2	6.070	0.001	13478	213.9	2	7.205	0.001	23124	294.1
Aroclor-1232	3	7.597	0.002	85721	285.5	3	7.815	0.000	47496	300.7
Aroclor-1232	4	8.527	0.000	36809	286.5	4	8.669	-0.000	14324	313.2
Total CollAve (4 peaks):				256.5		Total Col2Ave (4 peaks):				300.6 RPD = 16
Corrected Ave (3 peaks):				246.5		Corrected Ave (3 peaks):				296.5 RPD = 18
Aroclor-1242	1	7.214	0.002	28623	140.5	1	7.205	0.002	23124	146.1
Aroclor-1242	2	7.597	0.002	85721	132.8	2	7.815	0.002	47496	141.1
Aroclor-1242	3	8.400	0.002	16653	133.4	3	9.128	0.005	14403	133.4
Aroclor-1242	4	8.527	0.003	36809	127.4	4	9.648	0.098	5512	42.4
Total CollAve (4 peaks):				133.5		Total Col2Ave (4 peaks):				115.7 RPD = 14
Corrected Ave (3 peaks):				131.2		Corrected Ave (3 peaks):				105.6 RPD = 22
Aroclor-1248	1	8.400	0.001	16653	100.9	1	8.262	0.002	15421	91.5
Aroclor-1248	2	8.527	0.003	36809	85.8	2	8.669	0.002	14324	80.5
Aroclor-1248	3	8.944	0.000	89377	108.4	3	9.128	0.008	14403	69.0
Aroclor-1248	4	9.238	-0.005	41570	98.9	4	9.560	0.015	17331	69.3
Total CollAve (4 peaks):				98.5		Total Col2Ave (4 peaks):				77.6 RPD = 24
Corrected Ave (3 peaks):				95.2		Corrected Ave (3 peaks):				72.9 RPD = 26
Aroclor-1254	1	9.238	-0.008	41570	62.6	1	9.407	0.003	5487	20.4
Aroclor-1254	2	9.326	0.001	12640	42.3	2	9.560	0.061	17331	108.4
Aroclor-1254	3	9.624	0.006	7232	16.9	3	9.929	0.005	3481	16.0
Aroclor-1254	4	9.764	0.008	11671	13.9	4	10.086	0.009	7259	15.3
Aroclor-1254	5	10.139	0.014	7544	14.9	5	10.345	0.017	6610	14.0
Total CollAve (5 peaks):				30.1		Total Col2Ave (5 peaks):				34.8 RPD = 14
Corrected Ave (4 peaks):				22.0		Corrected Ave (4 peaks):				16.4 RPD = 29
Aroclor-1260	1	10.998	0.005	85093	168.5	1	11.598	-0.008	75237	203.5
Aroclor-1260	2	11.313	0.003	6363	12.8	2	11.873	0.001	33655	34.8
Aroclor-1260	3	11.688	0.002	47857	38.3	3	12.384	-0.004	346138	1444.4
Aroclor-1260	4	12.094	0.004	1291	2.1	4	12.453	-0.002	373218	577.8
Aroclor-1260	5	12.195	0.001	406211	1523.9	NS	---			----
Total CollAve (5 peaks):				349.1		Total Col2Ave (4 peaks):				565.1 RPD = 47*
Corrected Ave (4 peaks):				55.4		Corrected Ave (3 peaks):				272.0 RPD = 132*
Aroclor-1262	1	10.785	0.006	4006	9.3	1	11.156	0.002	52531	93.1
Aroclor-1262	2	12.195	0.000	406211	668.6	2	11.598	-0.007	75237	158.2
Aroclor-1262	3	12.268	-0.002	403730	618.2	3	12.384	-0.002	346138	665.8
Aroclor-1262	4	12.937	-0.002	145536	273.5	4	12.453	-0.002	373218	440.5
Total CollAve (4 peaks):				392.4		Total Col2Ave (4 peaks):				339.4 RPD = 14
Corrected Ave (3 peaks):				300.3		Corrected Ave (3 peaks):				230.6 RPD = 26
Aroclor-1268	1	12.195	-0.001	406211	266.7	1	12.384	-0.001	346138	262.7
Aroclor-1268	2	12.268	-0.000	403730	266.9	2	12.453	0.001	373218	263.5
Aroclor-1268	3	12.648	-0.000	323568	266.0	3	12.844	0.001	316122	260.6
Aroclor-1268	4	13.439	0.002	920777	265.1	4	13.663	0.000	1029335	264.8
Total CollAve (4 peaks):				266.2		Total Col2Ave (4 peaks):				262.9 RPD = 1

Corrected Ave (3 peaks): 265.9 Corrected Ave (3 peaks): 262.3 RPD = 1

Total PCB Area Col1 (5.842 - 13.740) = 3325332 Col1 Total PCB = 0.5 ppm*
Total PCB Area Col2 (5.728 - 13.968) = 2876097 Col2 Total PCB = 0.7 ppm*

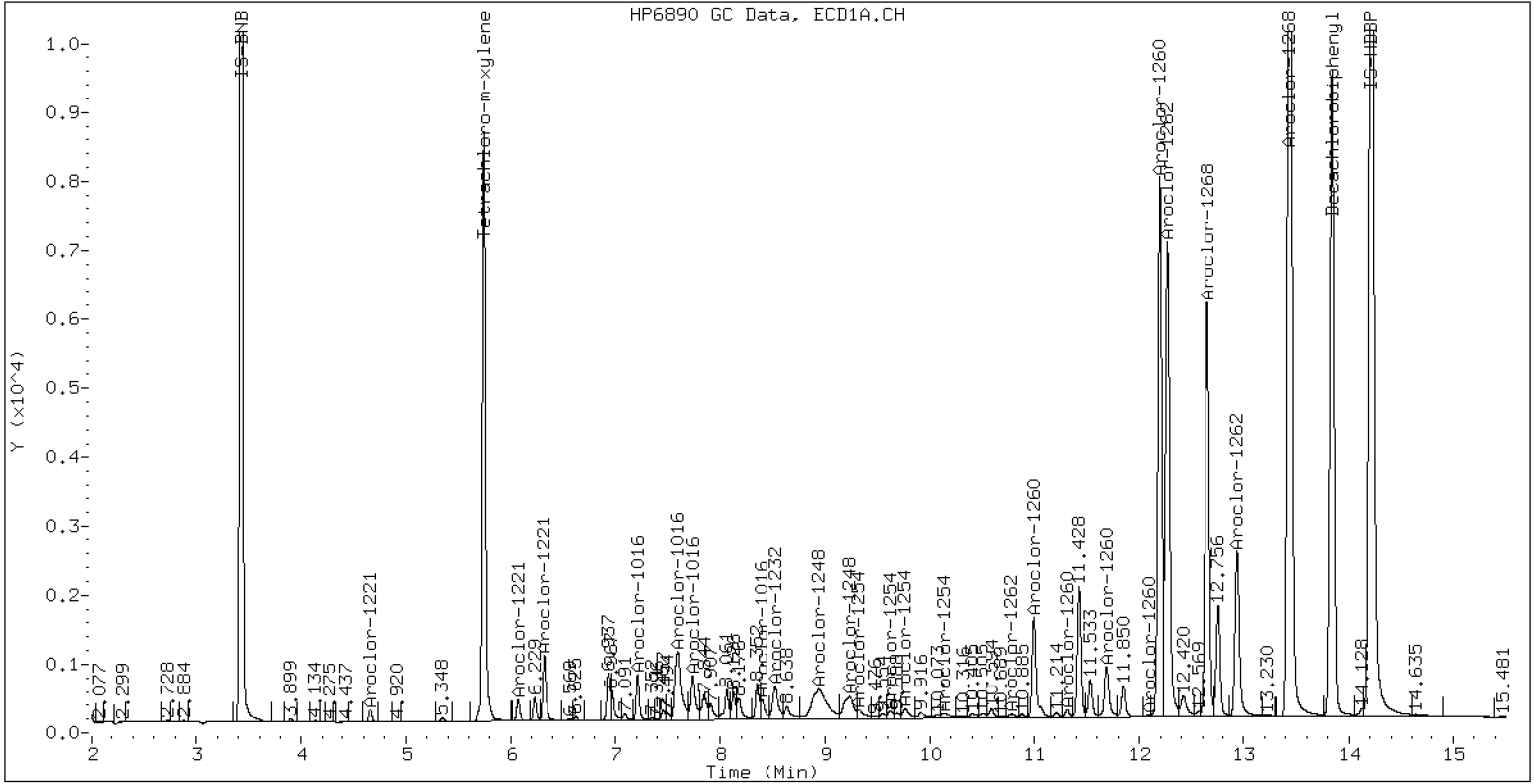
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR3268SCV

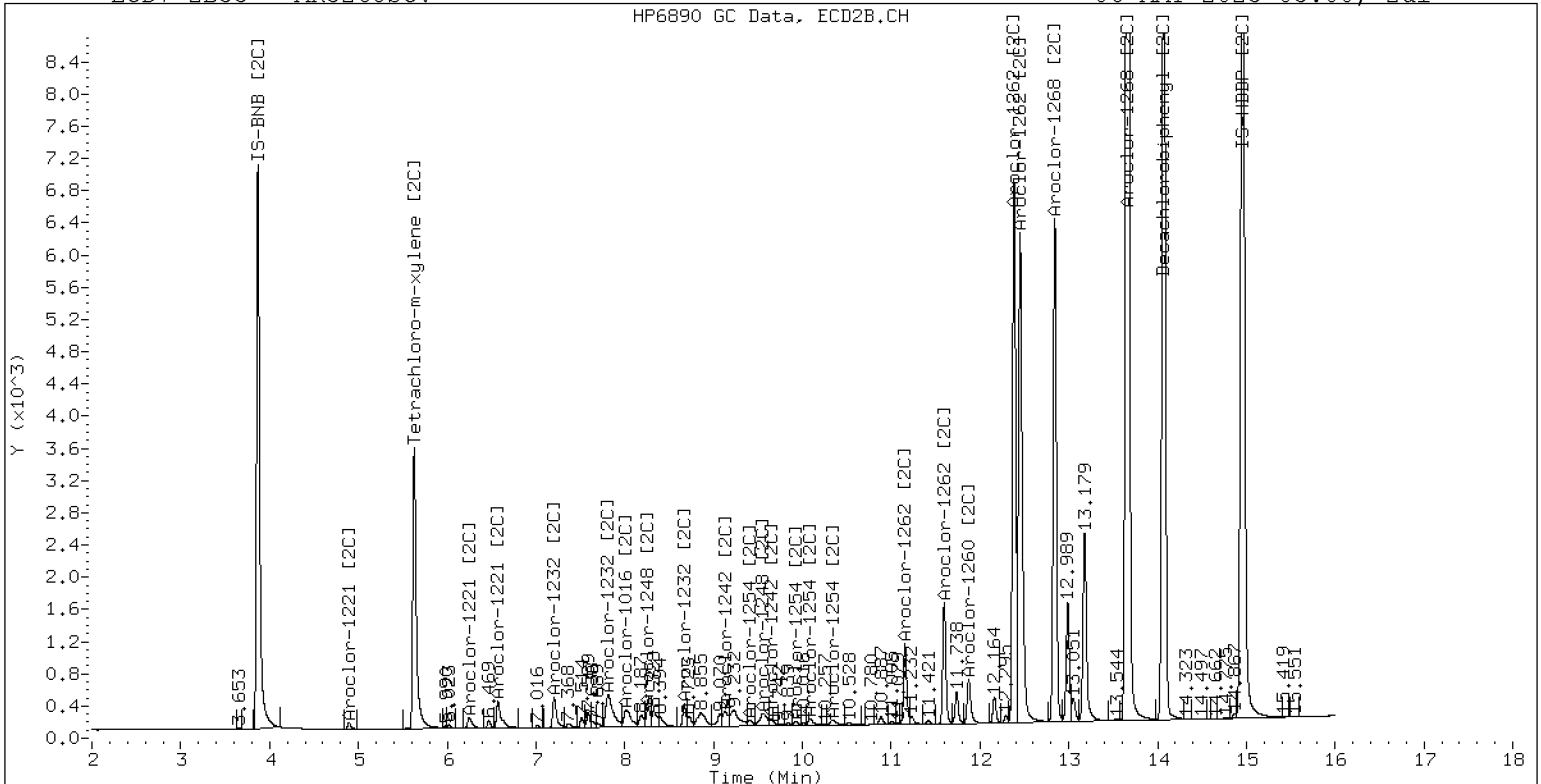
06-MAY-2023 05:00, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR3268SCV

06-MAY-2023 05:00, 2ul



ZB-35 Manual Integration: NO



CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>23D0577</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>AOC4 UR Phase 3</u>
Instrument ID:	<u>ECD7</u>	Calibration:	<u>GE00022</u>
Lab File ID:	<u>05262314ECD7.D</u>	Calibration Date:	<u>05/05/2023</u>
Sequence:	<u>SLE0436</u>	Injection Date:	<u>05/26/23</u>
Lab Sample ID:	<u>SLE0436-CCV1</u>	Injection Time:	<u>17:29</u>
Sequence Name:	<u>AR1248CCV1</u>		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	223	0.0568879	0.0508044		-10.9	
Aroclor-1248 (1)	A	250.00	248		0.0202255			
Aroclor-1248 (2)	A	250.00	244		0.0518922			
Aroclor-1248 (3)	A	250.00	240		0.0980141			
Aroclor-1248 (4)	A	250.00	159		0.0330855			
Aroclor 1248 [2C]	A	250.00	233	0.0454726	0.0422595		-6.8	
Aroclor-1248 (1) [2C]	A	250.00	236		0.0359357			
Aroclor-1248 (2) [2C]	A	250.00	232		0.0373803			
Aroclor-1248 (3) [2C]	A	250.00	244		0.0459177			
Aroclor-1248 (4) [2C]	A	250.00	220		0.0498042			
Decachlorobiphenyl	A	40.000	38.7	0.7991406	0.7738923		-3.3	
Tetrachlorometaxylene	A	40.000	38.0	1.2048230	1.1442920		-5.0	
Decachlorobiphenyl [2C]	A	40.000	39.8	1.1360140	1.1320010		-0.5	
Tetrachlorometaxylene [2C]	A	40.000	40.4	1.1005470	1.1128390		1.0	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262314ECD7.D
Data file 2: /230526.b/230526.b/05262314ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248CCV1
Client ID:
Injection Date: 26-MAY-2023 17:29
Report Date: 05/30/2023 08:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.743	-0.002	325954	5.629	-0.002	181425	38.0	40.4	6.3	Tetrachloro-m-xylene
13.842	0.001	253928	14.069	0.000	251153	38.7	39.9	2.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	569704	-5.3
Hexabromobiphenyl	876625	656236	-25.1

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	326058	-6.7
Hexabromobiphenyl	652984	443733	-32.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1248	1	8.400	0.000	36008	247.6	1	8.261	0.000	36616	236.1	
Aroclor-1248	2	8.525	0.000	92385	244.5	2	8.668	0.000	38088	232.5	
Aroclor-1248	3	8.945	-0.001	174497	240.1	3	9.121	0.000	46787	243.6	
Aroclor-1248	4	9.243	0.003	58903	159.0	4	9.546	0.000	50747	220.3	
Total Col1Ave (4 peaks):				222.8	Total Col2Ave (4 peaks):				233.1	RPD = 5	
Corrected Ave (3 peaks):				214.5	Corrected Ave (3 peaks):				229.6	RPD = 7	
CalAmt %D:				-10.9	CalAmt %D:				-6.8		

Total PCB Area Col1 (5.845 - 13.741) = 1404087 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.731 - 13.969) = 731750 Col2 Total PCB = 0.2 ppm*

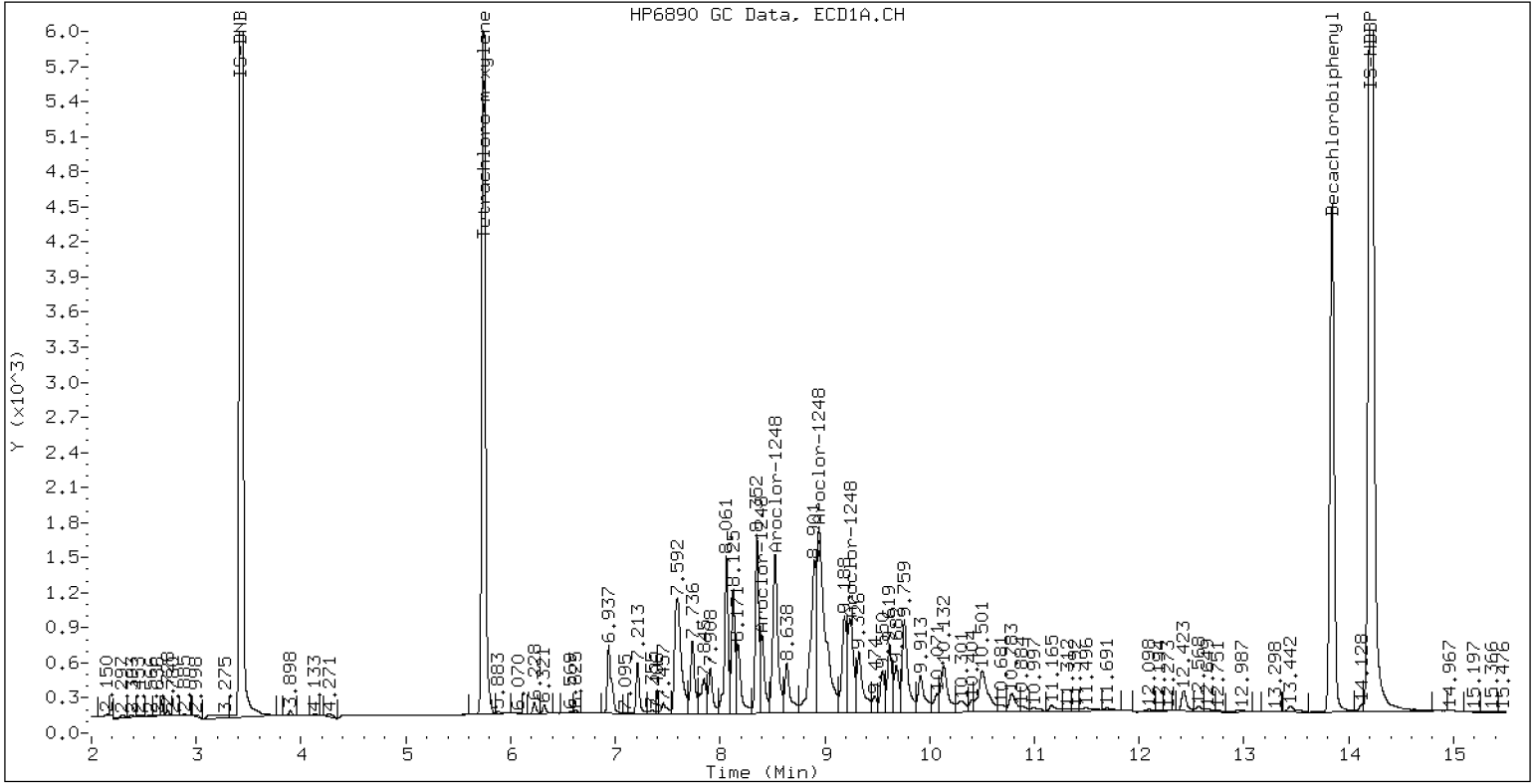
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1248CCV1

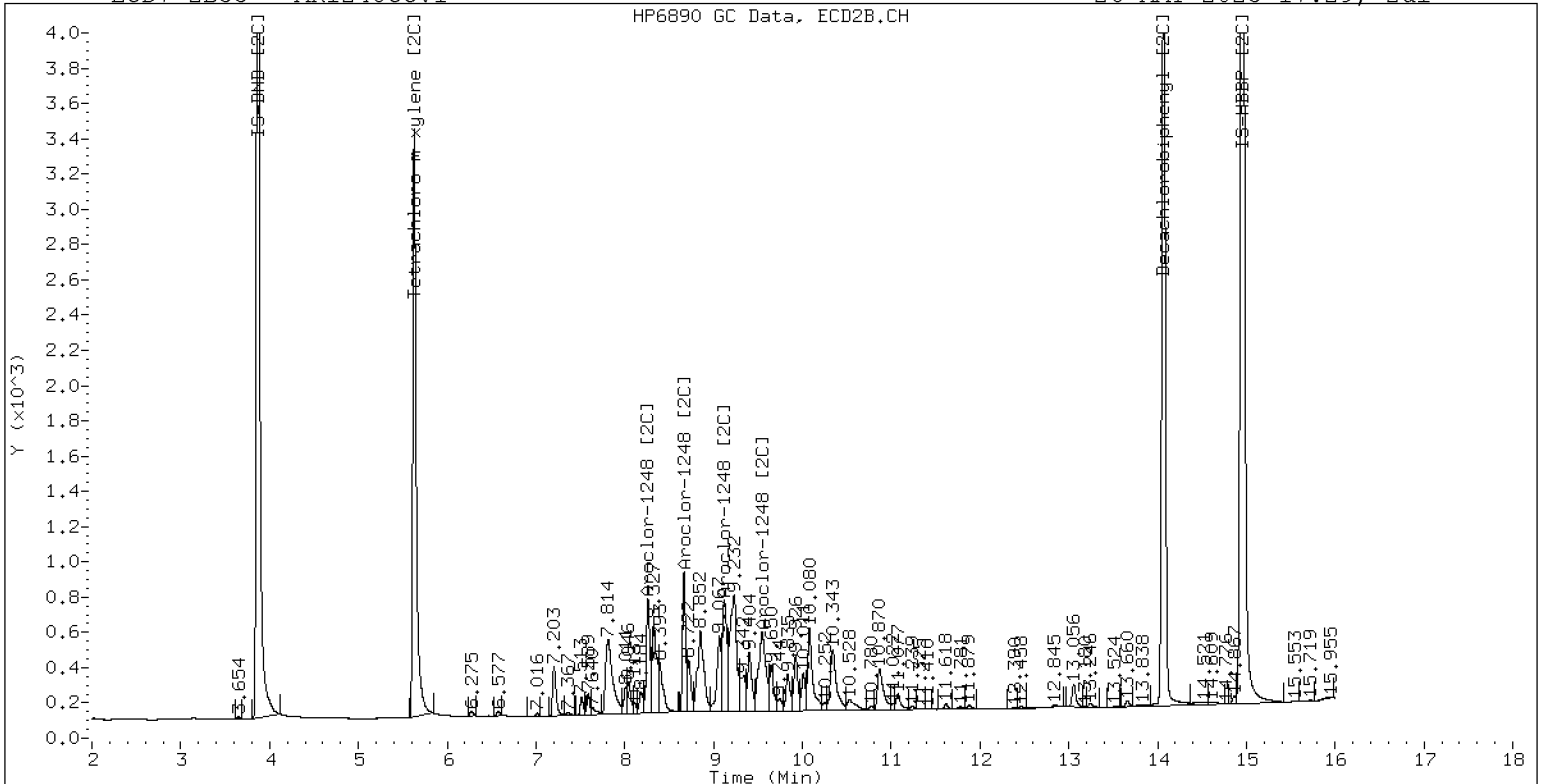
26-MAY-2023 17:29, 2u1



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248CCV1

26-MAY-2023 17:29, 2u1



ZB-35 Manual Integration: NO



CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Instrument ID: ECD7

Calibration: GE00022

Lab File ID: 05262315ECD7.D

Calibration Date: 05/05/2023

Sequence: SLE0436

Injection Date: 05/26/23

Lab Sample ID: SLE0436-CCV2

Injection Time: 17:50

Sequence Name: AR1660CCV2

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	263	0.0477728	0.0504863		5.1	
Aroclor-1016 (1)	A	250.00	255	0.0309764	0.0316573		2.0	
Aroclor-1016 (2)	A	250.00	267	0.0968611	0.1036405		6.8	
Aroclor-1016 (3)	A	250.00	261	0.0447793	0.0468155		4.4	
Aroclor-1016 (4)	A	250.00	268	0.0184745	0.0198317		7.2	
Aroclor 1016 [2C]	A	250.00	240	0.0545435	0.0541638		-3.9	
Aroclor-1016 (1) [2C]	A	250.00	217	0.0452861	0.0392716		-13.2	
Aroclor-1016 (2) [2C]	A	250.00	276	0.0965080	0.1065145		10.4	
Aroclor-1016 (3) [2C]	A	250.00	215	0.0425661	0.0365839		-14.0	
Aroclor-1016 (4) [2C]	A	250.00	253	0.0338137	0.0342854		1.2	
Aroclor 1260	A	250.00	271	0.0524306	0.0572251		8.5	
Aroclor-1260 (1)	A	250.00	273	0.0423031	0.0462266		9.2	
Aroclor-1260 (2)	A	250.00	272	0.0417493	0.0454008		8.8	
Aroclor-1260 (3)	A	250.00	278	0.1045597	0.1161637		11.2	
Aroclor-1260 (4)	A	250.00	265	0.0512104	0.0543654		6.0	
Aroclor-1260 (5)	A	250.00	268	0.0223305	0.0239691		7.2	
Aroclor 1260 [2C]	A	250.00	256	0.0638471	0.0666891		2.4	
Aroclor-1260 (1) [2C]	A	250.00	230	0.0424868	0.0391082		-8.0	
Aroclor-1260 (2) [2C]	A	250.00	272	0.1111292	0.1209629		8.8	
Aroclor-1260 (3) [2C]	A	250.00	258	0.0275392	0.0284056		3.2	
Aroclor-1260 (4) [2C]	A	250.00	264	0.0742331	0.0782797		5.6	
Decachlorobiphenyl	A	40.000	42.4	0.7991406	0.8478593		6.0	
Tetrachlorometaxylene	A	40.000	40.2	1.2048230	1.2117360		0.5	
Decachlorobiphenyl [2C]	A	40.000	40.6	1.1360140	1.1541380		1.5	
Tetrachlorometaxylene [2C]	A	40.000	43.9	1.1005470	1.2090010		9.8	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262315ECD7.D
Data file 2: /230526.b/230526.b/05262315ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV2
Client ID:
Injection Date: 26-MAY-2023 17:50
Report Date: 05/30/2023 08:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col		ZB5	ZB35	RPD	Compound/Flag		
RT	Shift Response	RT	Shift Response	on col	on col				
5.742	-0.002	329222	5.630	-0.001	174966	40.2	43.9	8.8	Tetrachloro-m-xylene
13.841	-0.000	336927	14.068	-0.001	271231	42.4	40.6	4.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	543389	-9.7
Hexabromobiphenyl	876625	794771	-9.3

Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	289439	-17.1
Hexabromobiphenyl	652984	470015	-28.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	-0.000	53757	255.5	1	7.204	-0.002	35521	216.8	
Aroclor-1016	2	7.595	-0.000	175991	267.5	2	7.812	-0.002	96342	275.9	
Aroclor-1016	3	7.734	0.000	79497	261.4	3	8.011	-0.002	33090	214.9	
Aroclor-1016	4	8.398	-0.000	33676	268.4	4	8.261	-0.001	31011	253.5	
Total CollAve (4 peaks):				263.2		Total Col2Ave (4 peaks):				240.3	RPD = 9
Corrected Ave (3 peaks):				261.5		Corrected Ave (3 peaks):				228.4	RPD = 14

CalAmt %D: 5.3

CalAmt %D: -3.9

Aroclor-1260	1	10.993	-0.000	114811	273.2	1	11.606	-0.000	57442	230.1	
Aroclor-1260	2	11.311	0.001	112760	271.9	2	11.872	-0.001	177670	272.1	
Aroclor-1260	3	11.686	0.001	288511	277.7	3	12.388	-0.002	41722	257.9	
Aroclor-1260	4	12.090	-0.001	135025	265.4	4	12.455	-0.000	114977	263.6	
Aroclor-1260	5	12.193	-0.000	59531	268.3	NS	---			----	
Total CollAve (5 peaks):				271.3		Total Col2Ave (4 peaks):				255.9	RPD = 6
Corrected Ave (4 peaks):				269.7		Corrected Ave (3 peaks):				250.5	RPD = 7

CalAmt %D: 8.5

CalAmt %D: 2.4

Total PCB Area Coll (5.845 - 13.741) = 3211521 Coll Total PCB = 0.5 ppm*

Total PCB Area Col2 (5.731 - 13.969) = 1611372 Col2 Total PCB = 0.5 ppm*

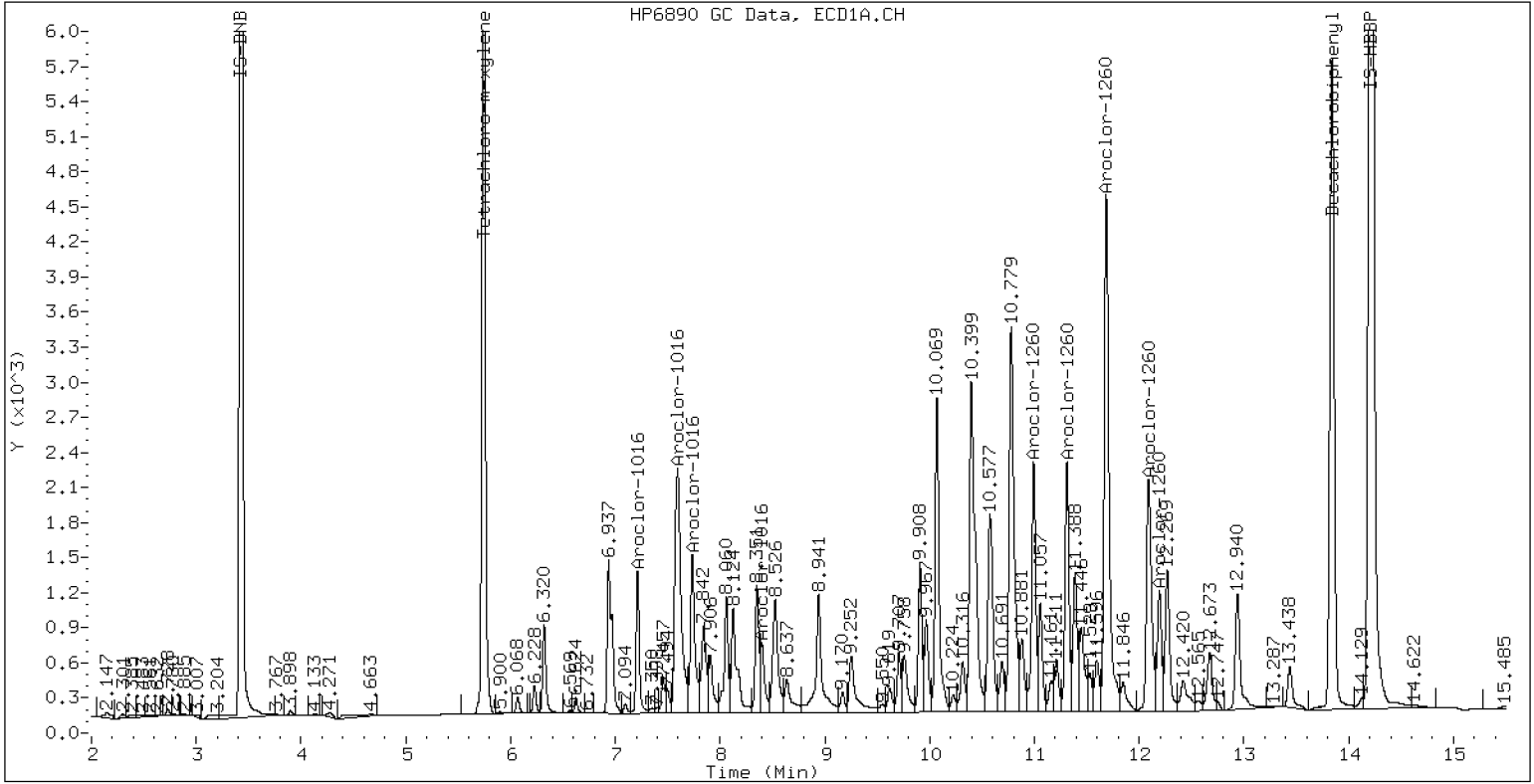
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV2

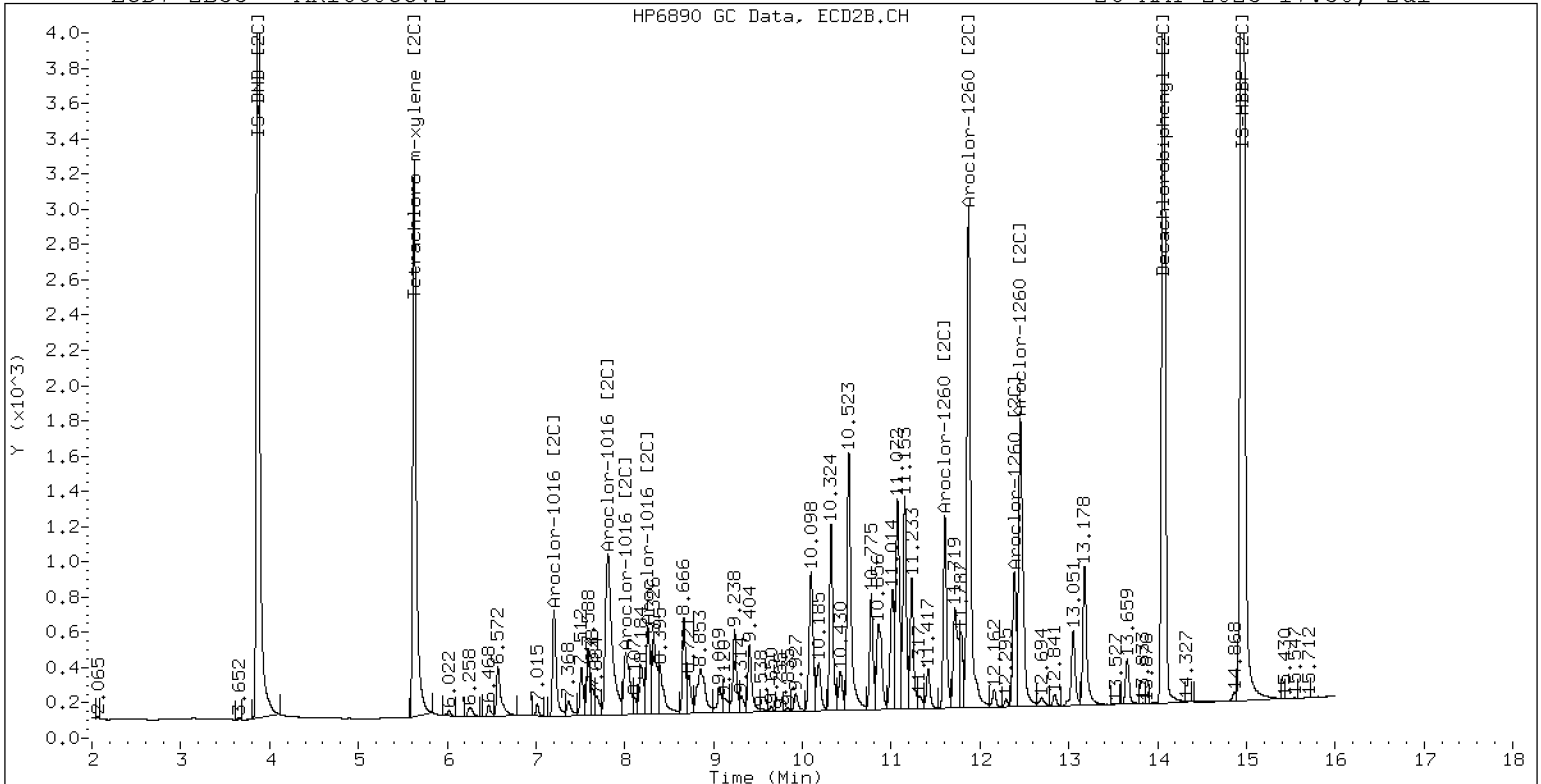
26-MAY-2023 17:50, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV2

26-MAY-2023 17:50, 2ul



ZB-35 Manual Integration: NO



CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>23D0577</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>AOC4 UR Phase 3</u>
Instrument ID:	<u>ECD7</u>	Calibration:	<u>GE00022</u>
Lab File ID:	<u>05262331ECD7.D</u>	Calibration Date:	<u>05/05/2023</u>
Sequence:	<u>SLE0436</u>	Injection Date:	<u>05/26/23</u>
Lab Sample ID:	<u>SLE0436-CCV3</u>	Injection Time:	<u>23:24</u>
Sequence Name:	<u>AR1242CCV3</u>		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1242	A	250.00	259	0.0390737	0.0402702		3.4	
Aroclor-1242 (1)	A	250.00	251		0.0252800			
Aroclor-1242 (2)	A	250.00	255		0.0816182			
Aroclor-1242 (3)	A	250.00	263		0.0162843			
Aroclor-1242 (4)	A	250.00	265		0.0378982			
Aroclor 1242 [2C]	A	250.00	257	0.0413965	0.0431558		2.8	
Aroclor-1242 (1) [2C]	A	250.00	246		0.0351195			
Aroclor-1242 (2) [2C]	A	250.00	272		0.0829156			
Aroclor-1242 (3) [2C]	A	250.00	265		0.0258117			
Aroclor-1242 (4) [2C]	A	250.00	245		0.0287767			
Decachlorobiphenyl	A	40.000	38.2	0.7991406	0.7638957		-4.5	
Tetrachlorometaxylene	A	40.000	46.8	1.2048230	1.4104560		17.0	
Decachlorobiphenyl [2C]	A	40.000	39.0	1.1360140	1.1091270		-2.5	
Tetrachlorometaxylene [2C]	A	40.000	50.1	1.1005470	1.3792580		25.3	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262331ECD7.D
Data file 2: /230526.b/230526.b/05262331ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242CCV3
Client ID:
Injection Date: 26-MAY-2023 23:24
Report Date: 05/30/2023 08:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

RT	ZB5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.744	-0.000	425976	5.632	0.001	223437	46.8	50.1	6.8	Tetrachloro-m-xylene
13.841	-0.000	366351	14.069	0.000	313289	38.2	39.1	2.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	604026	0.4
Hexabromobiphenyl	876625	959165	9.4

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	323996	-7.2
Hexabromobiphenyl	652984	564929	-13.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1242	1	7.214	0.002	47718	250.7	1	7.205	0.000	35558	245.6	
Aroclor-1242	2	7.597	0.003	154061	255.4	2	7.816	0.000	83951	272.5	
Aroclor-1242	3	8.401	0.002	30738	263.5	3	9.126	0.000	26134	264.6	
Aroclor-1242	4	8.528	0.003	71536	265.0	4	9.554	0.000	29136	244.8	
Total CollAve (4 peaks):				258.7	Total Col2Ave (4 peaks):				256.9	RPD = 1	
Corrected Ave (3 peaks):				256.6	Corrected Ave (3 peaks):				251.7	RPD = 2	
CalAmt %D:				3.5	CalAmt %D:				2.8		

Total PCB Area Col1 (5.845 - 13.741) = 1276976 Col1 Total PCB = 0.2 ppm*

Total PCB Area Col2 (5.731 - 13.969) = 594574 Col2 Total PCB = 0.2 ppm*

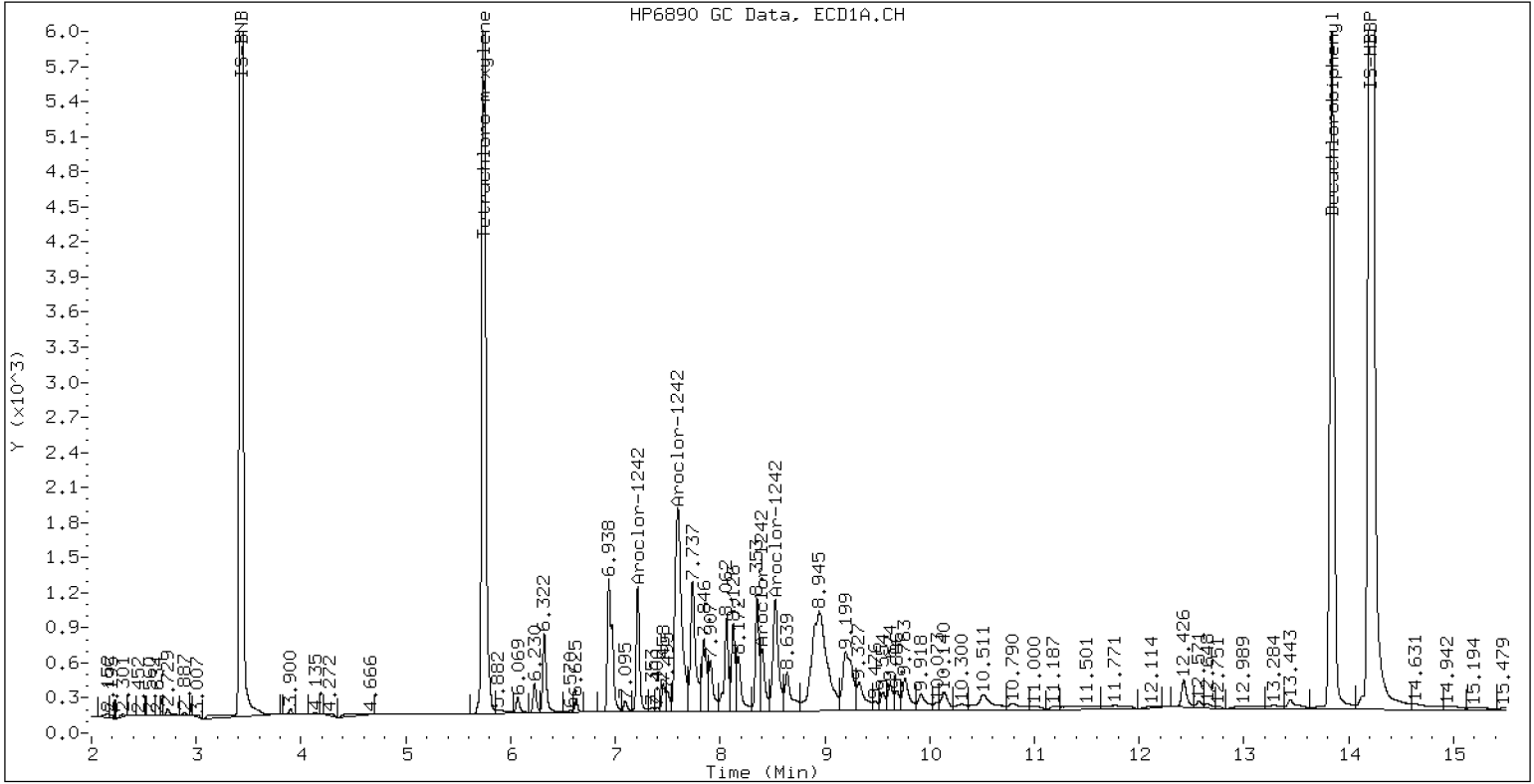
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1242CCV3

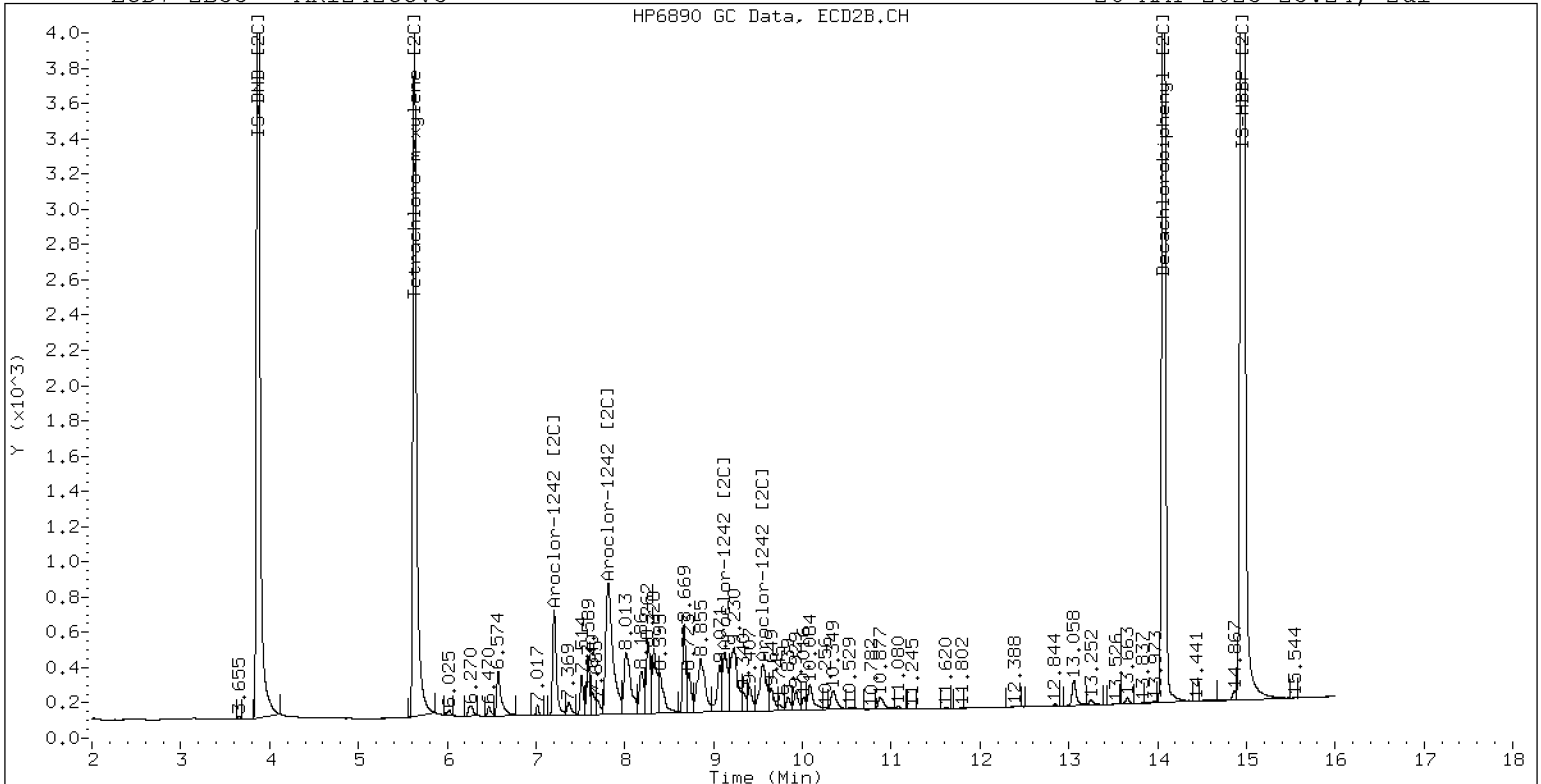
26-MAY-2023 23:24, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1242CCV3

26-MAY-2023 23:24, 2ul



ZB-35 Manual Integration: NO



CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Instrument ID: ECD7

Calibration: GE00022

Lab File ID: 05262332ECD7.D

Calibration Date: 05/05/2023

Sequence: SLE0436

Injection Date: 05/26/23

Lab Sample ID: SLE0436-CCV4

Injection Time: 23:44

Sequence Name: AR1660CCV4

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	264	0.0477728	0.0509583		5.5	
Aroclor-1016 (1)	A	250.00	244	0.0309764	0.0302509		-2.4	
Aroclor-1016 (2)	A	250.00	270	0.0968611	0.1047094		8.0	
Aroclor-1016 (3)	A	250.00	274	0.0447793	0.0491606		9.6	
Aroclor-1016 (4)	A	250.00	267	0.0184745	0.0197123		6.8	
Aroclor 1016 [2C]	A	250.00	244	0.0545435	0.0547490		-2.6	
Aroclor-1016 (1) [2C]	A	250.00	214	0.0452861	0.0387861		-14.4	
Aroclor-1016 (2) [2C]	A	250.00	276	0.0965080	0.1063675		10.4	
Aroclor-1016 (3) [2C]	A	250.00	239	0.0425661	0.0407299		-4.4	
Aroclor-1016 (4) [2C]	A	250.00	245	0.0338137	0.0331123		-2.0	
Aroclor 1260	A	250.00	255	0.0524306	0.0539854		2.2	
Aroclor-1260 (1)	A	250.00	255	0.0423031	0.0431793		2.0	
Aroclor-1260 (2)	A	250.00	253	0.0417493	0.0421871		1.2	
Aroclor-1260 (3)	A	250.00	264	0.1045597	0.1105705		5.6	
Aroclor-1260 (4)	A	250.00	249	0.0512104	0.0510877		-0.4	
Aroclor-1260 (5)	A	250.00	256	0.0223305	0.0229023		2.4	
Aroclor 1260 [2C]	A	250.00	231	0.0638471	0.0600318		-7.6	
Aroclor-1260 (1) [2C]	A	250.00	215	0.0424868	0.0365620		-14.0	
Aroclor-1260 (2) [2C]	A	250.00	242	0.1111292	0.1076234		-3.2	
Aroclor-1260 (3) [2C]	A	250.00	229	0.0275392	0.0251860		-8.4	
Aroclor-1260 (4) [2C]	A	250.00	238	0.0742331	0.0707558		-4.8	
Decachlorobiphenyl	A	40.000	41.9	0.7991406	0.8379542		4.8	
Tetrachlorometaxylene	A	40.000	41.0	1.2048230	1.2340860		2.5	
Decachlorobiphenyl [2C]	A	40.000	39.4	1.1360140	1.1193110		-1.5	
Tetrachlorometaxylene [2C]	A	40.000	45.4	1.1005470	1.2489740		13.5	

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230526.b/05262332ECD7.D
Data file 2: /230526.b/230526.b/05262332ECD7.D
Method: \\target\share\chem4\ecd7.i\230526.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV4
Client ID:
Injection Date: 26-MAY-2023 23:44
Report Date: 05/30/2023 08:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col		ZB35 Col			ZB5	ZB35	RPD	Compound/Flag	
RT	Shift	Response	RT	Shift	Response	on col			on col
5.743	-0.001	343435	5.631	0.000	178361	41.0	45.4	10.2	Tetrachloro-m-xylene
13.841	-0.001	394707	14.069	0.000	293650	41.9	39.4	6.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	601474	556582	-7.5
Hexabromobiphenyl	876625	942073	7.5
Column 2			
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	349289	285612	-18.2
Hexabromobiphenyl	652984	524698	-19.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 05-MAY-2023
<- 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	7.213	0.000	52616	244.1	1	7.205	0.000	34618	214.1	
Aroclor-1016	2	7.597	0.002	182123	270.3	2	7.814	0.000	94937	275.5	
Aroclor-1016	3	7.736	0.002	85506	274.5	3	8.013	0.000	36353	239.2	
Aroclor-1016	4	8.400	0.002	34286	266.8	4	8.262	0.000	29554	244.8	
Total CollAve (4 peaks):				263.9		Total Col2Ave (4 peaks):				243.4	RPD = 8
Corrected Ave (3 peaks):				260.4		Corrected Ave (3 peaks):				232.7	RPD = 11

CalAmt %D: 5.6

CalAmt %D: -2.6

Aroclor-1260	1	10.996	0.002	127119	255.2	1	11.606	0.000	59950	215.1	
Aroclor-1260	2	11.312	0.001	124198	252.6	2	11.873	0.000	176468	242.1	
Aroclor-1260	3	11.689	0.003	325517	264.4	3	12.389	0.000	41297	228.6	
Aroclor-1260	4	12.092	0.001	150401	249.4	4	12.456	0.000	116017	238.3	
Aroclor-1260	5	12.195	0.001	67424	256.4	NS	---			----	
Total CollAve (5 peaks):				255.6		Total Col2Ave (4 peaks):				231.0	RPD = 10
Corrected Ave (4 peaks):				253.4		Corrected Ave (3 peaks):				227.4	RPD = 11

CalAmt %D: 2.2

CalAmt %D: -7.6

Total PCB Area Coll (5.845 - 13.741) = 3449407 Coll Total PCB = 0.6 ppm*

Total PCB Area Col2 (5.731 - 13.969) = 1602385 Col2 Total PCB = 0.5 ppm*

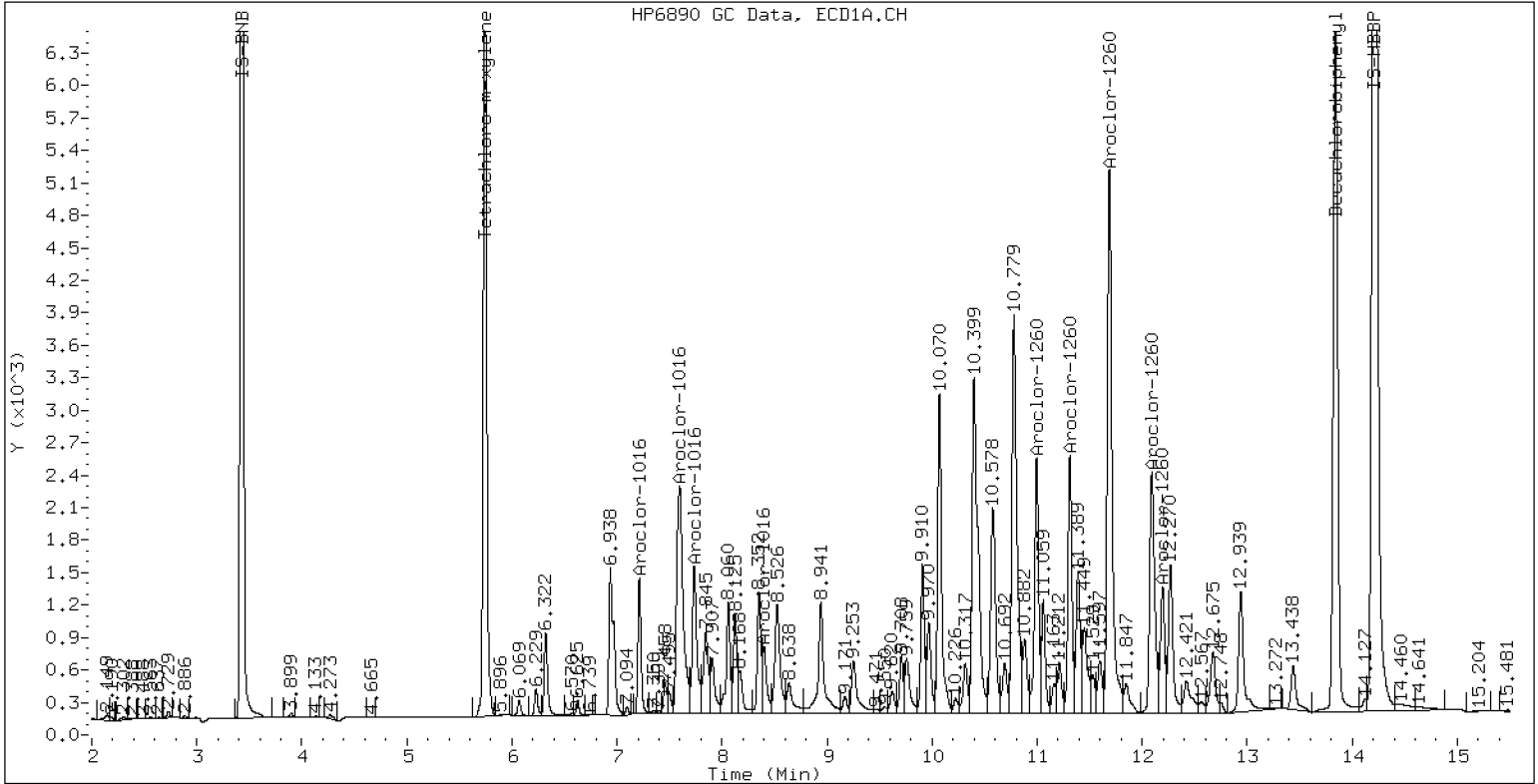
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV4

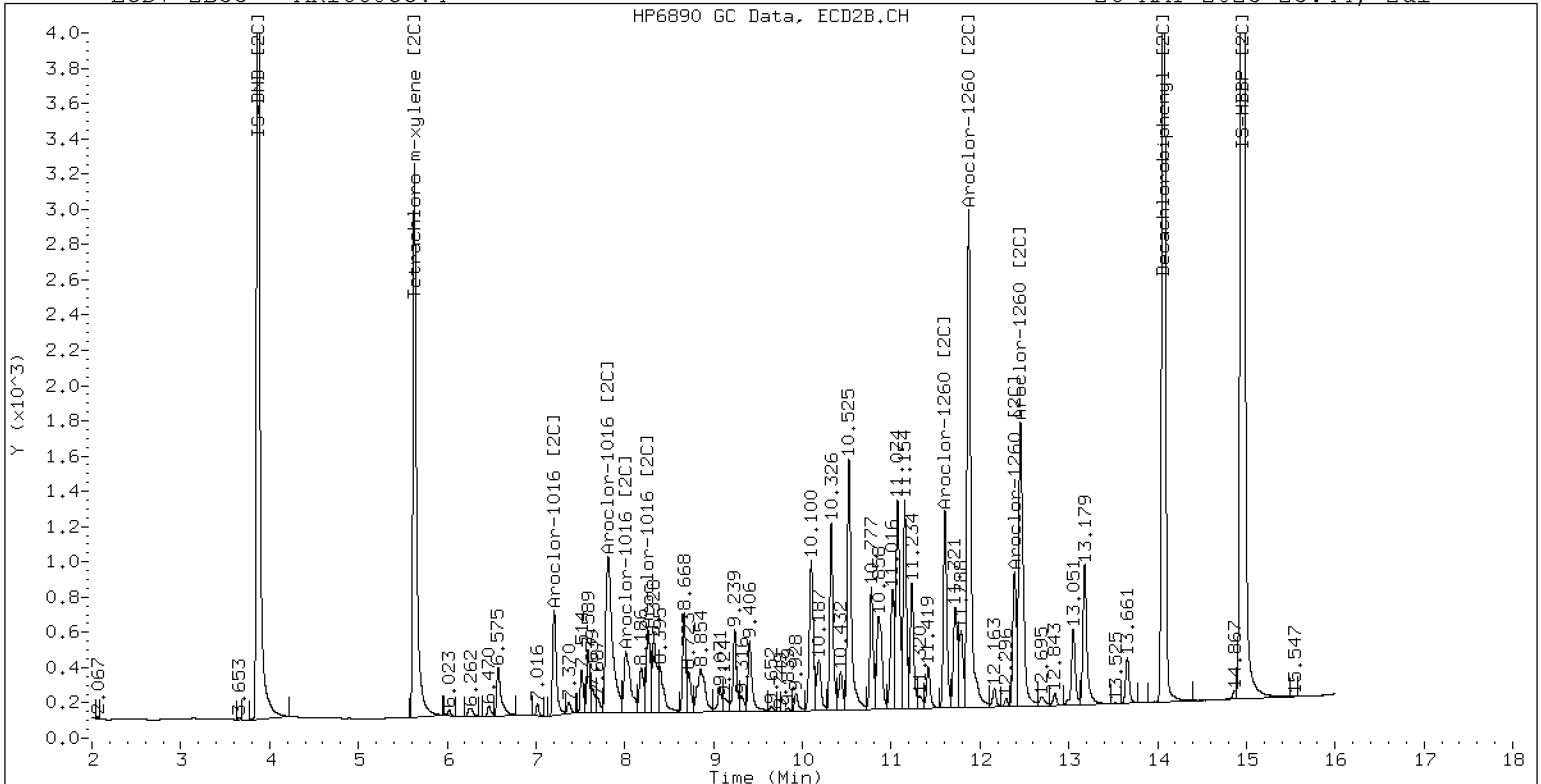
26-MAY-2023 23:44, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV4

26-MAY-2023 23:44, 2ul



ZB-35 Manual Integration: NO



Dual Column
ANALYSIS BATCH (SEQUENCE) SUMMARY
EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor OEA, LLC

Project: AOC4 UR Phase 3

Sequence: SLE0079

Instrument: ECD7

Calibration: GE00022

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Cal Standard	SLE0079-CAL1	05052321ECD7.D	05052321ECD7.D	NA	05/05/23 23:26
Cal Standard	SLE0079-CAL2	05052322ECD7.D	05052322ECD7.D	NA	05/05/23 23:47
Cal Standard	SLE0079-CAL3	05052323ECD7.D	05052323ECD7.D	NA	05/06/23 00:08
Cal Standard	SLE0079-CAL4	05052324ECD7.D	05052324ECD7.D	NA	05/06/23 00:29
Cal Standard	SLE0079-CAL5	05052325ECD7.D	05052325ECD7.D	NA	05/06/23 00:50
Cal Standard	SLE0079-CAL6	05052326ECD7.D	05052326ECD7.D	NA	05/06/23 01:11
Cal Standard	SLE0079-CAL7	05052327ECD7.D	05052327ECD7.D	NA	05/06/23 01:31
Cal Standard	SLE0079-CAL8	05052328ECD7.D	05052328ECD7.D	NA	05/06/23 01:52
Cal Standard	SLE0079-CAL9	05052329ECD7.D	05052329ECD7.D	NA	05/06/23 02:13
Cal Standard	SLE0079-CALA	05052330ECD7.D	05052330ECD7.D	NA	05/06/23 02:34
Cal Standard	SLE0079-CALB	05052331ECD7.D	05052331ECD7.D	NA	05/06/23 02:55
Secondary Cal Check	SLE0079-SCV1	05052332ECD7.D	05052332ECD7.D	NA	05/06/23 03:16
Secondary Cal Check	SLE0079-SCV2	05052333ECD7.D	05052333ECD7.D	NA	05/06/23 03:36
Secondary Cal Check	SLE0079-SCV3	05052334ECD7.D	05052334ECD7.D	NA	05/06/23 03:57
Secondary Cal Check	SLE0079-SCV4	05052335ECD7.D	05052335ECD7.D	NA	05/06/23 04:18
Secondary Cal Check	SLE0079-SCV5	05052336ECD7.D	05052336ECD7.D	NA	05/06/23 04:39
Secondary Cal Check	SLE0079-SCV6	05052337ECD7.D	05052337ECD7.D	NA	05/06/23 05:00



ANALYSIS SEQUENCE

SLE0079

Instrument: ECD7
Calibration ID: GE00022

Printed: 5/6/2023 11:44:56AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SLE0079-CAL1	QC		1		L000856	L000844		
SLE0079-CAL2	QC		2		L000859	L000844		
SLE0079-CAL3	QC		3		L000858	L000844		
SLE0079-CAL4	QC		4		L000731	L000844		
SLE0079-CAL5	QC		5		L000857	L000844		
SLE0079-CAL6	QC		6		L000855	L000844		
SLE0079-CAL7	QC		7		L000860	L000844		
SLE0079-CAL8	QC		8		L000861	L000844		
SLE0079-CAL9	QC		9		L000862	L000844		
SLE0079-CALA	QC		10		L004996	L000844		
SLE0079-CALB	QC		11		L004997	L000844		
SLE0079-SCV1	QC		12		L002065	L000844		
SLE0079-SCV2	QC		13		L003970	L000844		
SLE0079-SCV3	QC		14		L002066	L000844		
SLE0079-SCV4	QC		15		L002067	L000844		
SLE0079-SCV5	QC		16		L002068	L000844		
SLE0079-SCV6	QC		17		L002069	L000844		

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	05-MAY-2023	23:06	05052320ECD7.D	1	IB	
2	05-MAY-2023	23:26	05052321ECD7.D	1	0.25PPMAR1660	
3	05-MAY-2023	23:47	05052322ECD7.D	1	0.02PPMAR1660	
4	06-MAY-2023	00:08	05052323ECD7.D	1	0.05PPMAR1660	
5	06-MAY-2023	00:29	05052324ECD7.D	1	1.0PPMAR1660	
6	06-MAY-2023	00:50	05052325ECD7.D	1	0.1PPMAR1660	
7	06-MAY-2023	01:11	05052326ECD7.D	1	0.5PPMAR1660	
8	06-MAY-2023	01:31	05052327ECD7.D	1	0.25PPMAR1242	
9	06-MAY-2023	01:52	05052328ECD7.D	1	0.25PPMAR1248	
10	06-MAY-2023	02:13	05052329ECD7.D	1	0.25PPMAR1254	
11	06-MAY-2023	02:34	05052330ECD7.D	1	0.25PPMAR2162	
12	06-MAY-2023	02:55	05052331ECD7.D	1	0.25PPMAR3268	
13	06-MAY-2023	03:16	05052332ECD7.D	1	AR1660SCV	
14	06-MAY-2023	03:36	05052333ECD7.D	1	AR1242SCV	
15	06-MAY-2023	03:57	05052334ECD7.D	1	AR1248SCV	
16	06-MAY-2023	04:18	05052335ECD7.D	1	AR1254SCV	
17	06-MAY-2023	04:39	05052336ECD7.D	1	AR2162SCV	
18	06-MAY-2023	05:00	05052337ECD7.D	1	AR3268SCV	
19	06-MAY-2023	05:21	05052338ECD7.D	1	DDTS	
20	06-MAY-2023	05:41	05052339ECD7.D	1	DDT BD	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b

ARI Job No.: Method: PCB.m Instrument: ecd7.i Date: 05-MAY-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1548	05052301ECD7.D			1	NO MANUAL INTEGRATION
1609	05052302ECD7.D			1	NO MANUAL INTEGRATION
1711	05052303ECD7.D			1	NO MANUAL INTEGRATION
1732	05052304ECD7.D			1	NO MANUAL INTEGRATION
1753	05052305ECD7.D			1	NO MANUAL INTEGRATION
1814	05052306ECD7.D			1	NO MANUAL INTEGRATION
1835	05052307ECD7.D			1	NO MANUAL INTEGRATION
1856	05052308ECD7.D			1	NO MANUAL INTEGRATION
1916	05052309ECD7.D			1	NO MANUAL INTEGRATION
1937	05052310ECD7.D			1	NO MANUAL INTEGRATION
1958	05052311ECD7.D			1	NO MANUAL INTEGRATION
2019	05052312ECD7.D			1	NO MANUAL INTEGRATION
2040	05052313ECD7.D			1	NO MANUAL INTEGRATION
2101	05052314ECD7.D			1	NO MANUAL INTEGRATION
2121	05052315ECD7.D			1	NO MANUAL INTEGRATION
2142	05052316ECD7.D			1	NO MANUAL INTEGRATION
2203	05052317ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2224	05052318ECD7.D			1	NO MANUAL INTEGRATION
2245	05052319ECD7.D			1	NO MANUAL INTEGRATION
2306	05052320ECD7.D	IB		1	NO MANUAL INTEGRATION
2326	05052321ECD7.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
2347	05052322ECD7.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
0008	05052323ECD7.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
0029	05052324ECD7.D	1.0PPMAR1660		1	NO MANUAL INTEGRATION
0050	05052325ECD7.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
0111	05052326ECD7.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
0131	05052327ECD7.D	0.25PPMAR1242		1	NO MANUAL INTEGRATION
0152	05052328ECD7.D	0.25PPMAR1248		1	NO MANUAL INTEGRATION
0213	05052329ECD7.D	0.25PPMAR1254		1	NO MANUAL INTEGRATION
0234	05052330ECD7.D	0.25PPMAR2162		1	NO MANUAL INTEGRATION
0255	05052331ECD7.D	0.25PPMAR3268		1	NO MANUAL INTEGRATION
0316	05052332ECD7.D	AR1660SCV		1	NO MANUAL INTEGRATION
0336	05052333ECD7.D	AR1242SCV		1	NO MANUAL INTEGRATION
0357	05052334ECD7.D	AR1248SCV		1	NO MANUAL INTEGRATION
0418	05052335ECD7.D	AR1254SCV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0439	05052336ECD7.D	AR2162SCV		1	NO MANUAL INTEGRATION
0500	05052337ECD7.D	AR3268SCV		1	NO MANUAL INTEGRATION
0521	05052338ECD7.D	DDTS		1	NO MANUAL INTEGRATION
0541	05052339ECD7.D	DDT BD		1	NO MANUAL INTEGRATION
1548	05052301ECD7.D	RINSE		1	NO MANUAL INTEGRATION
1609	05052302ECD7.D	RINSE		1	NO MANUAL INTEGRATION
1711	05052303ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1732	05052304ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1753	05052305ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1814	05052306ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1835	05052307ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1856	05052308ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
1916	05052309ECD7.D	RINSE		1	NO MANUAL INTEGRATION
1937	05052310ECD7.D	RINSE		1	NO MANUAL INTEGRATION
1958	05052311ECD7.D	RINSE		1	NO MANUAL INTEGRATION
2019	05052312ECD7.D	RINSE		1	NO MANUAL INTEGRATION
2040	05052313ECD7.D	RINSE		1	NO MANUAL INTEGRATION
2101	05052314ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b\230505.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2121	05052315ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
2142	05052316ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
2203	05052317ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
2224	05052318ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
2245	05052319ECD7.D	HEX RINSE		1	NO MANUAL INTEGRATION
2306	05052320ECD7.D	IB		1	NO MANUAL INTEGRATION
2326	05052321ECD7.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
2347	05052322ECD7.D	0.02PPMAR1660		1	Aroclor-1016 [2C],
0008	05052323ECD7.D	0.05PPMAR1660		1	Aroclor-1016 [2C],
0029	05052324ECD7.D	1.0PPMAR1660		1	NO MANUAL INTEGRATION
0050	05052325ECD7.D	0.1PPMAR1660		1	Aroclor-1016 [2C],
0111	05052326ECD7.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
0132	05052327ECD7.D	0.25PPMAR1242		1	Aroclor-1242 [2C],
0152	05052328ECD7.D	0.25PPMAR1248		1	NO MANUAL INTEGRATION
0213	05052329ECD7.D	0.25PPMAR1254		1	NO MANUAL INTEGRATION
0234	05052330ECD7.D	0.25PPMAR2162		1	NO MANUAL INTEGRATION
0255	05052331ECD7.D	0.25PPMAR3268		1	NO MANUAL INTEGRATION
0316	05052332ECD7.D	AR1660SCV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230505.b\230505.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0336	05052333ECD7.D	AR1242SCV		1	Aroclor-1242 [2C],
0357	05052334ECD7.D	AR1248SCV		1	NO MANUAL INTEGRATION
0418	05052335ECD7.D	AR1254SCV		1	NO MANUAL INTEGRATION
0439	05052336ECD7.D	AR2162SCV		1	NO MANUAL INTEGRATION
0500	05052337ECD7.D	AR3268SCV		1	NO MANUAL INTEGRATION
0521	05052338ECD7.D	DDTS		1	NO MANUAL INTEGRATION
0541	05052339ECD7.D	DDT BD		1	NO MANUAL INTEGRATION

Security Status Report

Date: 06-May-2023 09:12

05052320ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052321ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052322ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052323ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052324ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052325ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052326ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052327ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052328ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052329ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052330ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052331ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052332ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052333ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052334ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052335ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052336ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052337ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052338ECD7.D	Data Locked	richardl, 06-May-2023 09:12
05052339ECD7.D	Data Locked	richardl, 06-May-2023 09:12



Dual Column
ANALYSIS BATCH (SEQUENCE) SUMMARY
EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Sequence: SLE0436

Instrument: ECD7

Calibration: GE00022

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Initial Cal Check	SLE0436-ICV1	05262304ECD7.D	05262304ECD7.D	NA	05/26/23 14:00
Initial Cal Check	SLE0436-ICV2	05262305ECD7.D	05262305ECD7.D	NA	05/26/23 14:21
Calibration Check	SLE0436-CCV1	05262314ECD7.D	05262314ECD7.D	NA	05/26/23 17:29
Calibration Check	SLE0436-CCV2	05262315ECD7.D	05262315ECD7.D	NA	05/26/23 17:50
Blank	BLD0718-BLK1	05262316ECD7.D	05262316ECD7.D	Solid	05/26/23 18:11
LCS	BLD0718-BS1	05262317ECD7.D	05262317ECD7.D	Solid	05/26/23 18:32
LCS Dup	BLD0718-BSD1	05262318ECD7.D	05262318ECD7.D	Solid	05/26/23 18:52
Reference	BLD0718-SRM1	05262319ECD7.D	05262319ECD7.D	Solid	05/26/23 19:13
LDW22-SC778G	23D0577-01	05262320ECD7.D	05262320ECD7.D	Solid	05/26/23 19:34
LDW22-SC777J	23D0577-02	05262321ECD7.D	05262321ECD7.D	Solid	05/26/23 19:55
LDW22-SC777K	23D0577-03	05262322ECD7.D	05262322ECD7.D	Solid	05/26/23 20:16
LDW22-SC777L	23D0577-04	05262323ECD7.D	05262323ECD7.D	Solid	05/26/23 20:37
LDW22-SC777M	23D0577-05	05262324ECD7.D	05262324ECD7.D	Solid	05/26/23 20:58
LDW22-SC760I	23D0577-06	05262325ECD7.D	05262325ECD7.D	Solid	05/26/23 21:18
LDW22-SC760I	BLD0718-MS1	05262326ECD7.D	05262326ECD7.D	Solid	05/26/23 21:39
LDW22-SC760I	BLD0718-MSD1	05262327ECD7.D	05262327ECD7.D	Solid	05/26/23 22:00
LDW21-SC572J	23D0577-07	05262328ECD7.D	05262328ECD7.D	Solid	05/26/23 22:21
LDW21-SC572K	23D0577-08	05262329ECD7.D	05262329ECD7.D	Solid	05/26/23 22:42
LDW21-SC572L	23D0577-09	05262330ECD7.D	05262330ECD7.D	Solid	05/26/23 23:03
Calibration Check	SLE0436-CCV3	05262331ECD7.D	05262331ECD7.D	NA	05/26/23 23:24
Calibration Check	SLE0436-CCV4	05262332ECD7.D	05262332ECD7.D	NA	05/26/23 23:44



ANALYSIS SEQUENCE

SLE0436

Instrument: ECD7
Calibration ID: GE00022

Printed: 5/30/2023 9:08:48AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SLE0436-ICV1	QC		1		L000862	L000844		
SLE0436-ICV2	QC		2		L000856	L000844		
BLE0361-BLK1	QC		3			L000844		
BLE0361-BS1	QC		4			L000844		
BLE0361-BSD1	QC		5			L000844		
23E0178-01	8082A PCB Water 0.01	C 01	6			L000844	The Boeing Company [Developmental Center	
23E0178-03	8082A PCB Water 0.01	C 01	7			L000844	The Boeing Company [Developmental Center	
BLE0308-BLK1	QC		8			L000844		
BLE0308-BS1	QC		9			L000844		
23D0620-01	PCB (20 ug/kg) or (MTCA 0.	C 03	10			L000844	Seattle Public Utilities	
SLE0436-CCV1	QC		11		L000861	L000844		
SLE0436-CCV2	QC		12		L000856	L000844		
BLD0718-BLK1	QC		13			L000844		
BLD0718-BS1	QC		14			L000844		
BLD0718-BSD1	QC		15			L000844		
BLD0718-SRM1	QC		16			L000844		
23D0577-01	8082A PCB Solid 4	A 01	17			L000844	Anchor QEA, LLC	
23D0577-02	8082A PCB Solid 4	A 01	18			L000844	Anchor QEA, LLC	
23D0577-03	8082A PCB Solid 4	A 01	19			L000844	Anchor QEA, LLC	
23D0577-04	8082A PCB Solid 4	A 01	20			L000844	Anchor QEA, LLC	
23D0577-05	8082A PCB Solid 4	A 01	21			L000844	Anchor QEA, LLC	

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230526.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	26-MAY-2023	13:39	05262303ECD7.D	1	DDTS	
2	26-MAY-2023	14:00	05262304ECD7.D	1	AR1254ICV1	
3	26-MAY-2023	14:21	05262305ECD7.D	1	AR1660ICV2	
4	26-MAY-2023	14:42	05262306ECD7.D	1	BLE0361-BLK1	
5	26-MAY-2023	15:03	05262307ECD7.D	1	BLE0361-BS1	
6	26-MAY-2023	15:24	05262308ECD7.D	1	BLE0361-BSD1	
7	26-MAY-2023	15:44	05262309ECD7.D	1	23E0178-01	
8	26-MAY-2023	16:05	05262310ECD7.D	1	23E0178-03	
9	26-MAY-2023	16:26	05262311ECD7.D	1	BLE0308-BLK1	
10	26-MAY-2023	16:47	05262312ECD7.D	1	BLE0308-BS1	
11	26-MAY-2023	17:08	05262313ECD7.D	1	23D0620-01	
12	26-MAY-2023	17:29	05262314ECD7.D	1	AR1248CCV1	
13	26-MAY-2023	17:50	05262315ECD7.D	1	AR1660CCV2	
14	26-MAY-2023	18:11	05262316ECD7.D	1	BLD0718-BLK1	
15	26-MAY-2023	18:32	05262317ECD7.D	1	BLD0718-BS1	
16	26-MAY-2023	18:52	05262318ECD7.D	1	BLD0718-BSD1	
17	26-MAY-2023	19:13	05262319ECD7.D	1	BLD0718-SRM1	
18	26-MAY-2023	19:34	05262320ECD7.D	1	23D0577-01	
19	26-MAY-2023	19:55	05262321ECD7.D	1	23D0577-02	
20	26-MAY-2023	20:16	05262322ECD7.D	1	23D0577-03	
21	26-MAY-2023	20:37	05262323ECD7.D	1	23D0577-04	
22	26-MAY-2023	20:58	05262324ECD7.D	1	23D0577-05	
23	26-MAY-2023	21:18	05262325ECD7.D	1	23D0577-06	
24	26-MAY-2023	21:39	05262326ECD7.D	1	BLD0718-MS1	
25	26-MAY-2023	22:00	05262327ECD7.D	1	BLD0718-MSD1	
26	26-MAY-2023	22:21	05262328ECD7.D	1	23D0577-07	
27	26-MAY-2023	22:42	05262329ECD7.D	1	23D0577-08	
28	26-MAY-2023	23:03	05262330ECD7.D	1	23D0577-09	
29	26-MAY-2023	23:24	05262331ECD7.D	1	AR1242CCV3	
30	26-MAY-2023	23:44	05262332ECD7.D	1	AR1660CCV4	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230526.b

ARI Job No.: DDTs Method: PCB.m Instrument: ecd7.i Date: 26-MAY-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1339	05262303ECD7.D	DDTS		1	NO MANUAL INTEGRATION
1400	05262304ECD7.D	AR1254ICV1		1	Aroclor-1254,
1421	05262305ECD7.D	AR1660ICV2		1	NO MANUAL INTEGRATION
1442	05262306ECD7.D	BLE0361-BLK1		1	NO MANUAL INTEGRATION
1503	05262307ECD7.D	BLE0361-BS1		1	NO MANUAL INTEGRATION
1524	05262308ECD7.D	BLE0361-BSD1		1	NO MANUAL INTEGRATION
1544	05262309ECD7.D	23E0178-01		1	NO MANUAL INTEGRATION
1605	05262310ECD7.D	23E0178-03		1	NO MANUAL INTEGRATION
1626	05262311ECD7.D	BLE0308-BLK1		1	NO MANUAL INTEGRATION
1647	05262312ECD7.D	BLE0308-BS1		1	NO MANUAL INTEGRATION
1708	05262313ECD7.D	23D0620-01		1	NO MANUAL INTEGRATION
1729	05262314ECD7.D	AR1248CCV1		1	NO MANUAL INTEGRATION
1750	05262315ECD7.D	AR1660CCV2		1	NO MANUAL INTEGRATION
1811	05262316ECD7.D	BLD0718-BLK1		1	NO MANUAL INTEGRATION
1832	05262317ECD7.D	BLD0718-BS1		1	NO MANUAL INTEGRATION
1852	05262318ECD7.D	BLD0718-BSD1		1	NO MANUAL INTEGRATION
1913	05262319ECD7.D	BLD0718-SRM1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230526.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1934	05262320ECD7.D	23D0577-01		1	NO MANUAL INTEGRATION
1955	05262321ECD7.D	23D0577-02		1	NO MANUAL INTEGRATION
2016	05262322ECD7.D	23D0577-03		1	NO MANUAL INTEGRATION
2037	05262323ECD7.D	23D0577-04		1	NO MANUAL INTEGRATION
2058	05262324ECD7.D	23D0577-05		1	NO MANUAL INTEGRATION
2118	05262325ECD7.D	23D0577-06		1	NO MANUAL INTEGRATION
2139	05262326ECD7.D	BLD0718-MS1		1	NO MANUAL INTEGRATION
2200	05262327ECD7.D	BLD0718-MSD1		1	NO MANUAL INTEGRATION
2221	05262328ECD7.D	23D0577-07		1	NO MANUAL INTEGRATION
2242	05262329ECD7.D	23D0577-08		1	NO MANUAL INTEGRATION
2303	05262330ECD7.D	23D0577-09		1	NO MANUAL INTEGRATION
2324	05262331ECD7.D	AR1242CCV3		1	NO MANUAL INTEGRATION
2344	05262332ECD7.D	AR1660CCV4		1	NO MANUAL INTEGRATION
1339	05262303ECD7.D	DDTS		1	NO MANUAL INTEGRATION
1400	05262304ECD7.D	AR1254ICV1		1	NO MANUAL INTEGRATION
1421	05262305ECD7.D	AR1660ICV2		1	NO MANUAL INTEGRATION
1442	05262306ECD7.D	BLE0361-BLK1		1	NO MANUAL INTEGRATION
1503	05262307ECD7.D	BLE0361-BS1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230526.b\230526.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1524	05262308ECD7.D	BLE0361-BSD1		1	NO MANUAL INTEGRATION
1544	05262309ECD7.D	23E0178-01		1	NO MANUAL INTEGRATION
1605	05262310ECD7.D	23E0178-03		1	NO MANUAL INTEGRATION
1626	05262311ECD7.D	BLE0308-BLK1		1	NO MANUAL INTEGRATION
1647	05262312ECD7.D	BLE0308-BS1		1	NO MANUAL INTEGRATION
1708	05262313ECD7.D	23D0620-01		1	NO MANUAL INTEGRATION
1729	05262314ECD7.D	AR1248CCV1		1	NO MANUAL INTEGRATION
1750	05262315ECD7.D	AR1660CCV2		1	NO MANUAL INTEGRATION
1811	05262316ECD7.D	BLD0718-BLK1		1	NO MANUAL INTEGRATION
1832	05262317ECD7.D	BLD0718-BS1		1	NO MANUAL INTEGRATION
1852	05262318ECD7.D	BLD0718-BSD1		1	NO MANUAL INTEGRATION
1913	05262319ECD7.D	BLD0718-SRM1		1	NO MANUAL INTEGRATION
1934	05262320ECD7.D	23D0577-01		1	NO MANUAL INTEGRATION
1955	05262321ECD7.D	23D0577-02		1	NO MANUAL INTEGRATION
2016	05262322ECD7.D	23D0577-03		1	NO MANUAL INTEGRATION
2037	05262323ECD7.D	23D0577-04		1	NO MANUAL INTEGRATION
2058	05262324ECD7.D	23D0577-05		1	NO MANUAL INTEGRATION
2118	05262325ECD7.D	23D0577-06		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230526.b\230526.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2139	05262326ECD7.D	BLD0718-MS1		1	NO MANUAL INTEGRATION
2200	05262327ECD7.D	BLD0718-MSD1		1	NO MANUAL INTEGRATION
2221	05262328ECD7.D	23D0577-07		1	NO MANUAL INTEGRATION
2242	05262329ECD7.D	23D0577-08		1	NO MANUAL INTEGRATION
2303	05262330ECD7.D	23D0577-09		1	NO MANUAL INTEGRATION
2324	05262331ECD7.D	AR1242CCV3		1	NO MANUAL INTEGRATION
2344	05262332ECD7.D	AR1660CCV4		1	NO MANUAL INTEGRATION

Security Status Report

Date: 30-May-2023 09:05

05262303ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262304ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262305ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262306ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262307ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262308ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262309ECD7.D	Data Locked	richardl, 30-May-2023 08:56
05262310ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262311ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262312ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262313ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262314ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262315ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262316ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262317ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262318ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262319ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262320ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262321ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262322ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262323ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262324ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262325ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262326ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262327ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262328ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262329ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262330ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262331ECD7.D	Data Locked	richardl, 30-May-2023 08:51
05262332ECD7.D	Data Locked	richardl, 30-May-2023 08:51



SURROGATE RECOVERY AND RT SUMMARY
EPA 8082A

Laboratory:	<u>Analytical Resources, LLC</u>	SDG/WO:	<u>23D0577</u>
Client:	<u>Anchor OEA, LLC</u>	Project:	<u>AOC4 UR Phase 3</u>
Sequence:	<u>SLE0079</u>	Instrument:	<u>ECD7</u>
Calibration:	<u>GE00022</u>	Calibration Date:	<u>05/06/2023</u>

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SLE0079-SCV1 (Water) Lab File ID: 05052332ECD7.D Analyzed: 05/06/23 03:16								
Decachlorobiphenyl	40.000	92.3	80 - 120	13.842	13.8415	0.0005	N/A	
Tetrachlorometaxylene	40.000	92.2	80 - 120	5.741	5.742	-0.0010	N/A	
Decachlorobiphenyl [2C]	40.000	98.1	80 - 120	14.069	14.06967	-0.0007	N/A	
Tetrachlorometaxylene [2C]	40.000	93.1	80 - 120	5.628	5.628167	-0.0002	N/A	
SLE0079-SCV2 (Water) Lab File ID: 05052333ECD7.D Analyzed: 05/06/23 03:36								
Decachlorobiphenyl	40.000	102	80 - 120	13.842	13.8415	0.0005	N/A	
Tetrachlorometaxylene	40.000	81.9	80 - 120	5.743	5.742	0.0010	N/A	
Decachlorobiphenyl [2C]	40.000	110	80 - 120	14.069	14.06967	-0.0007	N/A	
Tetrachlorometaxylene [2C]	40.000	83.5	80 - 120	5.63	5.628167	0.0018	N/A	
SLE0079-SCV3 (Water) Lab File ID: 05052334ECD7.D Analyzed: 05/06/23 03:57								
Decachlorobiphenyl	40.000	89.2	80 - 120	13.841	13.8415	-0.0005	N/A	
Tetrachlorometaxylene	40.000	92.0	80 - 120	5.741	5.742	-0.0010	N/A	
Decachlorobiphenyl [2C]	40.000	95.0	80 - 120	14.07	14.06967	0.0003	N/A	
Tetrachlorometaxylene [2C]	40.000	94.3	80 - 120	5.628	5.628167	-0.0002	N/A	
SLE0079-SCV4 (Water) Lab File ID: 05052335ECD7.D Analyzed: 05/06/23 04:18								
Decachlorobiphenyl	40.000	89.9	80 - 120	13.842	13.8415	0.0005	N/A	
Tetrachlorometaxylene	40.000	94.0	80 - 120	5.743	5.742	0.0010	N/A	
Decachlorobiphenyl [2C]	40.000	96.2	80 - 120	14.07	14.06967	0.0003	N/A	
Tetrachlorometaxylene [2C]	40.000	95.8	80 - 120	5.63	5.628167	0.0018	N/A	
SLE0079-SCV5 (Water) Lab File ID: 05052336ECD7.D Analyzed: 05/06/23 04:39								
Decachlorobiphenyl	40.000	92.7	80 - 120	13.841	13.8415	-0.0005	N/A	
Tetrachlorometaxylene	40.000	94.5	80 - 120	5.742	5.742	0.0000	N/A	
Decachlorobiphenyl [2C]	40.000	96.9	80 - 120	14.069	14.06967	-0.0007	N/A	
Tetrachlorometaxylene [2C]	40.000	97.6	80 - 120	5.628	5.628167	-0.0002	N/A	
SLE0079-SCV6 (Water) Lab File ID: 05052337ECD7.D Analyzed: 05/06/23 05:00								
Decachlorobiphenyl	40.000	138	80 - 120	13.841	13.8415	-0.0005	N/A	
Tetrachlorometaxylene	40.000	96.0	80 - 120	5.742	5.742	0.0000	N/A	
Decachlorobiphenyl [2C]	40.000	148	80 - 120	14.068	14.06967	-0.0017	N/A	
Tetrachlorometaxylene [2C]	40.000	101	80 - 120	5.629	5.628167	0.0008	N/A	



SURROGATE RECOVERY AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLE0436
Calibration: GE00022

SDG/WO: 23D0577
Project: AOC4 UR Phase 3
Instrument: ECD7
Calibration Date: 05/06/2023

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SLE0436-ICV1 (Water) Lab File ID: 05262304ECD7.D Analyzed: 05/26/23 14:00								
Decachlorobiphenyl	40.000	112	0 - 200	13.841	13.8415	-0.0005	N/A	
Tetrachlorometaxylene	40.000	114	0 - 200	5.744	5.742	0.0020	N/A	
Decachlorobiphenyl [2C]	40.000	119	0 - 200	14.066	14.06967	-0.0037	N/A	
Tetrachlorometaxylene [2C]	40.000	112	0 - 200	5.628	5.628167	-0.0002	N/A	
SLE0436-ICV2 (Water) Lab File ID: 05262305ECD7.D Analyzed: 05/26/23 14:21								
Decachlorobiphenyl	40.000	113	0 - 200	13.84	13.8415	-0.0015	N/A	
Tetrachlorometaxylene	40.000	101	0 - 200	5.742	5.742	0.0000	N/A	
Decachlorobiphenyl [2C]	40.000	104	0 - 200	14.068	14.06967	-0.0017	N/A	
Tetrachlorometaxylene [2C]	40.000	108	0 - 200	5.629	5.628167	0.0008	N/A	
SLE0436-CCV1 (Water) Lab File ID: 05262314ECD7.D Analyzed: 05/26/23 17:29								
Decachlorobiphenyl	40.000	96.8	0 - 200	13.842	13.8415	0.0005	N/A	
Tetrachlorometaxylene	40.000	95.0	0 - 200	5.742	5.742	0.0000	N/A	
Decachlorobiphenyl [2C]	40.000	99.5	0 - 200	14.069	14.06967	-0.0007	N/A	
Tetrachlorometaxylene [2C]	40.000	101	0 - 200	5.629	5.628167	0.0008	N/A	
SLE0436-CCV2 (Water) Lab File ID: 05262315ECD7.D Analyzed: 05/26/23 17:50								
Decachlorobiphenyl	40.000	106	0 - 200	13.841	13.8415	-0.0005	N/A	
Tetrachlorometaxylene	40.000	101	0 - 200	5.742	5.742	0.0000	N/A	
Decachlorobiphenyl [2C]	40.000	102	0 - 200	14.067	14.06967	-0.0027	N/A	
Tetrachlorometaxylene [2C]	40.000	110	0 - 200	5.629	5.628167	0.0008	N/A	
BLD0718-BLK1 (Solid) Lab File ID: 05262316ECD7.D Analyzed: 05/26/23 18:11								
Decachlorobiphenyl	8.0000	90.9	40 - 126	13.838	13.8415	-0.0035	N/A	
Tetrachlorometaxylene	8.0000	75.0	44 - 120	5.742	5.742	0.0000	N/A	
Decachlorobiphenyl [2C]	8.0000	90.4	40 - 126	14.066	14.06967	-0.0037	N/A	
Tetrachlorometaxylene [2C]	8.0000	73.9	44 - 120	5.629	5.628167	0.0008	N/A	
BLD0718-BS1 (Solid) Lab File ID: 05262317ECD7.D Analyzed: 05/26/23 18:32								
Decachlorobiphenyl	8.0000	82.4	40 - 126	13.838	13.8415	-0.0035	N/A	
Tetrachlorometaxylene	8.0000	70.5	44 - 120	5.742	5.742	0.0000	N/A	
Decachlorobiphenyl [2C]	8.0000	89.0	40 - 126	14.067	14.06967	-0.0027	N/A	
Tetrachlorometaxylene [2C]	8.0000	67.1	44 - 120	5.629	5.628167	0.0008	N/A	



SURROGATE RECOVERY AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLE0436
Calibration: GE00022

SDG/WO: 23D0577
Project: AOC4 UR Phase 3
Instrument: ECD7
Calibration Date: 05/06/2023

Surrogate Compound	Spike Level ug/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
BLD0718-BSD1 (Solid) Lab File ID: 05262318ECD7.D Analyzed: 05/26/23 18:52								
Decachlorobiphenyl	8.0000	84.4	40 - 126	13.838	13.8415	-0.0035	N/A	
Tetrachlorometaxylene	8.0000	79.4	44 - 120	5.742	5.742	0.0000	N/A	
Decachlorobiphenyl [2C]	8.0000	90.5	40 - 126	14.067	14.06967	-0.0027	N/A	
Tetrachlorometaxylene [2C]	8.0000	76.1	44 - 120	5.629	5.628167	0.0008	N/A	
BLD0718-SRM1 (Solid) Lab File ID: 05262319ECD7.D Analyzed: 05/26/23 19:13								
Decachlorobiphenyl	40.000	82.2	40 - 126	13.833	13.8415	-0.0085	N/A	
Tetrachlorometaxylene	40.000	70.6	44 - 120	5.742	5.742	0.0000	N/A	
Decachlorobiphenyl [2C]	40.000	79.2	40 - 126	14.062	14.06967	-0.0077	N/A	
Tetrachlorometaxylene [2C]	40.000	73.2	44 - 120	5.628	5.628167	-0.0002	N/A	
23D0577-01 (Solid) Lab File ID: 05262320ECD7.D Analyzed: 05/26/23 19:34								
Decachlorobiphenyl	7.9907	75.0	40 - 126	13.83	13.8415	-0.0115	N/A	
Tetrachlorometaxylene	7.9907	51.9	44 - 120	5.74	5.742	-0.0020	N/A	
Decachlorobiphenyl [2C]	7.9907	72.8	40 - 126	14.06	14.06967	-0.0097	N/A	
Tetrachlorometaxylene [2C]	7.9907	64.7	44 - 120	5.622	5.628167	-0.0062	N/A	
23D0577-02 (Solid) Lab File ID: 05262321ECD7.D Analyzed: 05/26/23 19:55								
Decachlorobiphenyl	7.9897	78.1	40 - 126	13.831	13.8415	-0.0105	N/A	
Tetrachlorometaxylene	7.9897	55.4	44 - 120	5.74	5.742	-0.0020	N/A	
Decachlorobiphenyl [2C]	7.9897	75.5	40 - 126	14.06	14.06967	-0.0097	N/A	
Tetrachlorometaxylene [2C]	7.9897	64.8	44 - 120	5.623	5.628167	-0.0052	N/A	
23D0577-03 (Solid) Lab File ID: 05262322ECD7.D Analyzed: 05/26/23 20:16								
Decachlorobiphenyl	7.9967	75.8	40 - 126	13.83	13.8415	-0.0115	N/A	
Tetrachlorometaxylene	7.9967	56.5	44 - 120	5.74	5.742	-0.0020	N/A	
Decachlorobiphenyl [2C]	7.9967	72.1	40 - 126	14.06	14.06967	-0.0097	N/A	
Tetrachlorometaxylene [2C]	7.9967	64.5	44 - 120	5.624	5.628167	-0.0042	N/A	
23D0577-04 (Solid) Lab File ID: 05262323ECD7.D Analyzed: 05/26/23 20:37								
Decachlorobiphenyl	7.9773	81.3	40 - 126	13.83	13.8415	-0.0115	N/A	
Tetrachlorometaxylene	7.9773	61.3	44 - 120	5.74	5.742	-0.0020	N/A	
Decachlorobiphenyl [2C]	7.9773	77.0	40 - 126	14.06	14.06967	-0.0097	N/A	
Tetrachlorometaxylene [2C]	7.9773	71.1	44 - 120	5.623	5.628167	-0.0052	N/A	



SURROGATE RECOVERY AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLE0436
Calibration: GE00022

SDG/WO: 23D0577
Project: AOC4 UR Phase 3
Instrument: ECD7
Calibration Date: 05/06/2023

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
23D0577-05 (Solid) Lab File ID: 05262324ECD7.D Analyzed: 05/26/23 20:58								
Decachlorobiphenyl	7.9761	84.3	40 - 126	13.83	13.8415	-0.0115	N/A	
Tetrachlorometaxylene	7.9761	60.1	44 - 120	5.741	5.742	-0.0010	N/A	
Decachlorobiphenyl [2C]	7.9761	80.7	40 - 126	14.06	14.06967	-0.0097	N/A	
Tetrachlorometaxylene [2C]	7.9761	73.6	44 - 120	5.624	5.628167	-0.0042	N/A	
23D0577-06 (Solid) Lab File ID: 05262325ECD7.D Analyzed: 05/26/23 21:18								
Decachlorobiphenyl	7.9895	84.6	40 - 126	13.833	13.8415	-0.0085	N/A	
Tetrachlorometaxylene	7.9895	75.0	44 - 120	5.741	5.742	-0.0010	N/A	
Decachlorobiphenyl [2C]	7.9895	91.0	40 - 126	14.064	14.06967	-0.0057	N/A	
Tetrachlorometaxylene [2C]	7.9895	77.6	44 - 120	5.626	5.628167	-0.0022	N/A	
BLD0718-MS1 (Solid) Lab File ID: 05262326ECD7.D Analyzed: 05/26/23 21:39								
Decachlorobiphenyl	7.9993	82.9	40 - 126	13.834	13.8415	-0.0075	N/A	
Tetrachlorometaxylene	7.9993	73.0	44 - 120	5.741	5.742	-0.0010	N/A	
Decachlorobiphenyl [2C]	7.9993	84.0	40 - 126	14.063	14.06967	-0.0067	N/A	
Tetrachlorometaxylene [2C]	7.9993	77.1	44 - 120	5.626	5.628167	-0.0022	N/A	
BLD0718-MSD1 (Solid) Lab File ID: 05262327ECD7.D Analyzed: 05/26/23 22:00								
Decachlorobiphenyl	7.9993	86.3	40 - 126	13.833	13.8415	-0.0085	N/A	
Tetrachlorometaxylene	7.9993	72.3	44 - 120	5.743	5.742	0.0010	N/A	
Decachlorobiphenyl [2C]	7.9993	85.9	40 - 126	14.063	14.06967	-0.0067	N/A	
Tetrachlorometaxylene [2C]	7.9993	78.3	44 - 120	5.629	5.628167	0.0008	N/A	
23D0577-07 (Solid) Lab File ID: 05262328ECD7.D Analyzed: 05/26/23 22:21								
Decachlorobiphenyl	8.0005	81.3	40 - 126	13.83	13.8415	-0.0115	N/A	
Tetrachlorometaxylene	8.0005	63.0	44 - 120	5.741	5.742	-0.0010	N/A	
Decachlorobiphenyl [2C]	8.0005	77.8	40 - 126	14.06	14.06967	-0.0097	N/A	
Tetrachlorometaxylene [2C]	8.0005	72.1	44 - 120	5.624	5.628167	-0.0042	N/A	
23D0577-08 (Solid) Lab File ID: 05262329ECD7.D Analyzed: 05/26/23 22:42								
Decachlorobiphenyl	7.9878	83.3	40 - 126	13.831	13.8415	-0.0105	N/A	
Tetrachlorometaxylene	7.9878	64.8	44 - 120	5.741	5.742	-0.0010	N/A	
Decachlorobiphenyl [2C]	7.9878	79.4	40 - 126	14.06	14.06967	-0.0097	N/A	
Tetrachlorometaxylene [2C]	7.9878	75.8	44 - 120	5.624	5.628167	-0.0042	N/A	



SURROGATE RECOVERY AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, LLC

SDG/WO: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Sequence: SLE0436

Instrument: ECD7

Calibration: GE00022

Calibration Date: 05/06/2023

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
23D0577-09 (Solid)		Lab File ID: 05262330ECD7.D			Analyzed: 05/26/23 23:03			
Decachlorobiphenyl	7.9991	81.8	40 - 126	13.83	13.8415	-0.0115	N/A	
Tetrachlorometaxylene	7.9991	61.1	44 - 120	5.741	5.742	-0.0010	N/A	
Decachlorobiphenyl [2C]	7.9991	78.5	40 - 126	14.06	14.06967	-0.0097	N/A	
Tetrachlorometaxylene [2C]	7.9991	72.6	44 - 120	5.624	5.628167	-0.0042	N/A	
SLE0436-CCV3 (Water)		Lab File ID: 05262331ECD7.D			Analyzed: 05/26/23 23:24			
Decachlorobiphenyl	40.000	95.5	0 - 200	13.84	13.8415	-0.0015	N/A	
Tetrachlorometaxylene	40.000	117	0 - 200	5.744	5.742	0.0020	N/A	
Decachlorobiphenyl [2C]	40.000	97.5	0 - 200	14.068	14.06967	-0.0017	N/A	
Tetrachlorometaxylene [2C]	40.000	125	0 - 200	5.632	5.628167	0.0038	N/A	
SLE0436-CCV4 (Water)		Lab File ID: 05262332ECD7.D			Analyzed: 05/26/23 23:44			
Decachlorobiphenyl	40.000	105	0 - 200	13.84	13.8415	-0.0015	N/A	
Tetrachlorometaxylene	40.000	103	0 - 200	5.743	5.742	0.0010	N/A	
Decachlorobiphenyl [2C]	40.000	98.5	0 - 200	14.068	14.06967	-0.0017	N/A	
Tetrachlorometaxylene [2C]	40.000	114	0 - 200	5.631	5.628167	0.0028	N/A	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Sequence: SLE0079

Instrument: ECD7

Calibration: GE00022

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SLE0079-SCV1)		(Water)	Lab File ID: 05052332ECD7.D			Analyzed: 05/06/23 03:16			
1-Bromo-2-Nitrobenzene	642284	3.428	601474	3.428	107	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	941356	14.215	876625	14.215	107	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	361711	3.868	349289	3.869	104	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	690563	14.957	652984	14.956	106	50 - 200	0.001	+/-0.50	
Secondary Cal Check (SLE0079-SCV2)		(Water)	Lab File ID: 05052333ECD7.D			Analyzed: 05/06/23 03:36			
1-Bromo-2-Nitrobenzene	648004	3.43	601474	3.428	108	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	976327	14.214	876625	14.215	111	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	365379	3.87	349289	3.869	105	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	695394	14.957	652984	14.956	106	50 - 200	0.001	+/-0.50	
Secondary Cal Check (SLE0079-SCV3)		(Water)	Lab File ID: 05052334ECD7.D			Analyzed: 05/06/23 03:57			
1-Bromo-2-Nitrobenzene	643038	3.428	601474	3.428	107	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	952051	14.215	876625	14.215	109	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	359604	3.868	349289	3.869	103	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	692982	14.957	652984	14.956	106	50 - 200	0.001	+/-0.50	
Secondary Cal Check (SLE0079-SCV4)		(Water)	Lab File ID: 05052335ECD7.D			Analyzed: 05/06/23 04:18			
1-Bromo-2-Nitrobenzene	650234	3.43	601474	3.428	108	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	980276	14.214	876625	14.215	112	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	364142	3.87	349289	3.869	104	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	705291	14.957	652984	14.956	108	50 - 200	0.001	+/-0.50	
Secondary Cal Check (SLE0079-SCV5)		(Water)	Lab File ID: 05052336ECD7.D			Analyzed: 05/06/23 04:39			
1-Bromo-2-Nitrobenzene	629547	3.428	601474	3.428	105	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	929713	14.214	876625	14.215	106	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	341980	3.868	349289	3.869	98	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	678097	14.957	652984	14.956	104	50 - 200	0.001	+/-0.50	
Secondary Cal Check (SLE0079-SCV6)		(Water)	Lab File ID: 05052337ECD7.D			Analyzed: 05/06/23 05:00			
1-Bromo-2-Nitrobenzene	646456	3.429	601474	3.428	107	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl	954969	14.213	876625	14.215	109	50 - 200	-0.002	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	354120	3.869	349289	3.869	101	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	696139	14.957	652984	14.956	107	50 - 200	0.001	+/-0.50	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLE0436

SDG: 23D0577
Project: AOC4 UR Phase 3
Instrument: ECD7
Calibration: GE00022

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SLE0436-ICV1)		(Water)	Lab File ID: 05262304ECD7.D			Analyzed: 05/26/23 14:00			
1-Bromo-2-Nitrobenzene	456664	3.428	456664	3.428	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	806631	14.212	806631	14.212	100	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	258568	3.868	258568	3.868	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	354702	14.953	354702	14.953	100	50 - 200	0.000	+/-0.50	
Initial Cal Check (SLE0436-ICV2)		(Water)	Lab File ID: 05262305ECD7.D			Analyzed: 05/26/23 14:21			
1-Bromo-2-Nitrobenzene	531789	3.428	531789	3.428	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	520667	14.212	520667	14.212	100	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	297551	3.869	297551	3.869	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	456824	14.956	456824	14.956	100	50 - 200	0.000	+/-0.50	
Blank (BLD0718-BLK1)		(Solid)	Lab File ID: 05262316ECD7.D			Analyzed: 05/26/23 18:11			
1-Bromo-2-Nitrobenzene	696199	3.431	531789	3.428	131	50 - 200	0.003	+/-0.50	
Hexabromobiphenyl	1078440	14.211	520667	14.212	207	50 - 200	-0.001	+/-0.50	*
1-Bromo-2-Nitrobenzene [2C]	414486	3.87	297551	3.869	139	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	698683	14.955	456824	14.956	153	50 - 200	-0.001	+/-0.50	
LCS (BLD0718-BS1)		(Solid)	Lab File ID: 05262317ECD7.D			Analyzed: 05/26/23 18:32			
1-Bromo-2-Nitrobenzene	698491	3.43	531789	3.428	131	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	1198338	14.209	520667	14.212	230	50 - 200	-0.003	+/-0.50	*
1-Bromo-2-Nitrobenzene [2C]	410614	3.869	297551	3.869	138	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	715746	14.954	456824	14.956	157	50 - 200	-0.002	+/-0.50	
LCS Dup (BLD0718-BSD1)		(Solid)	Lab File ID: 05262318ECD7.D			Analyzed: 05/26/23 18:52			
1-Bromo-2-Nitrobenzene	719616	3.43	531789	3.428	135	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	1264220	14.209	520667	14.212	243	50 - 200	-0.003	+/-0.50	*
1-Bromo-2-Nitrobenzene [2C]	418373	3.869	297551	3.869	141	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	759430	14.955	456824	14.956	166	50 - 200	-0.001	+/-0.50	
Reference (BLD0718-SRM1)		(Solid)	Lab File ID: 05262319ECD7.D			Analyzed: 05/26/23 19:13			
1-Bromo-2-Nitrobenzene	692239	3.43	531789	3.428	130	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	851839	14.198	520667	14.212	164	50 - 200	-0.014	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	399211	3.87	297551	3.869	134	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	580494	14.948	456824	14.956	127	50 - 200	-0.008	+/-0.50	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor OEA, LLC

Project: AOC4 UR Phase 3

Sequence: SLE0436

Instrument: ECD7

Calibration: GE00022

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW22-SC778G (23D0577-01)		(Solid)	Lab File ID: 05262320ECD7.D			Analyzed: 05/26/23 19:34			
1-Bromo-2-Nitrobenzene	554605	3.429	531789	3.428	104	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl	446115	14.194	520667	14.212	86	50 - 200	-0.018	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	321579	3.869	297551	3.869	108	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	369042	14.942	456824	14.956	81	50 - 200	-0.014	+/-0.50	
LDW22-SC777J (23D0577-02)		(Solid)	Lab File ID: 05262321ECD7.D			Analyzed: 05/26/23 19:55			
1-Bromo-2-Nitrobenzene	549067	3.429	531789	3.428	103	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl	459985	14.195	520667	14.212	88	50 - 200	-0.017	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	340500	3.869	297551	3.869	114	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	378987	14.944	456824	14.956	83	50 - 200	-0.012	+/-0.50	
LDW22-SC777K (23D0577-03)		(Solid)	Lab File ID: 05262322ECD7.D			Analyzed: 05/26/23 20:16			
1-Bromo-2-Nitrobenzene	538799	3.429	531789	3.428	101	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl	534872	14.196	520667	14.212	103	50 - 200	-0.016	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	345390	3.87	297551	3.869	116	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	427834	14.944	456824	14.956	94	50 - 200	-0.012	+/-0.50	
LDW22-SC777L (23D0577-04)		(Solid)	Lab File ID: 05262323ECD7.D			Analyzed: 05/26/23 20:37			
1-Bromo-2-Nitrobenzene	560198	3.428	531789	3.428	105	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	531037	14.196	520667	14.212	102	50 - 200	-0.016	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	352682	3.869	297551	3.869	119	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	422033	14.945	456824	14.956	92	50 - 200	-0.011	+/-0.50	
LDW22-SC777M (23D0577-05)		(Solid)	Lab File ID: 05262324ECD7.D			Analyzed: 05/26/23 20:58			
1-Bromo-2-Nitrobenzene	558998	3.429	531789	3.428	105	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl	504830	14.196	520667	14.212	97	50 - 200	-0.016	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	333555	3.869	297551	3.869	112	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	405757	14.944	456824	14.956	89	50 - 200	-0.012	+/-0.50	
LDW22-SC760I (23D0577-06)		(Solid)	Lab File ID: 05262325ECD7.D			Analyzed: 05/26/23 21:18			
1-Bromo-2-Nitrobenzene	678381	3.428	531789	3.428	128	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	833679	14.202	520667	14.212	160	50 - 200	-0.010	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	400094	3.868	297551	3.869	134	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	531692	14.95	456824	14.956	116	50 - 200	-0.006	+/-0.50	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor OEA, LLC

Project: AOC4 UR Phase 3

Sequence: SLE0436

Instrument: ECD7

Calibration: GE00022

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike (BLD0718-MS1)		(Solid)	Lab File ID: 05262326ECD7.D			Analyzed: 05/26/23 21:39			
1-Bromo-2-Nitrobenzene	690806	3.43	531789	3.428	130	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	888272	14.201	520667	14.212	171	50 - 200	-0.011	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	387959	3.869	297551	3.869	130	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	591188	14.949	456824	14.956	129	50 - 200	-0.007	+/-0.50	
Matrix Spike Dup (BLD0718-MSD1)		(Solid)	Lab File ID: 05262327ECD7.D			Analyzed: 05/26/23 22:00			
1-Bromo-2-Nitrobenzene	719259	3.432	531789	3.428	135	50 - 200	0.004	+/-0.50	
Hexabromobiphenyl	903540	14.202	520667	14.212	174	50 - 200	-0.010	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	381038	3.871	297551	3.869	128	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl [2C]	602310	14.949	456824	14.956	132	50 - 200	-0.007	+/-0.50	
LDW21-SC572J (23D0577-07)		(Solid)	Lab File ID: 05262328ECD7.D			Analyzed: 05/26/23 22:21			
1-Bromo-2-Nitrobenzene	579039	3.429	531789	3.428	109	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl	591756	14.196	520667	14.212	114	50 - 200	-0.016	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	355826	3.869	297551	3.869	120	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	449875	14.945	456824	14.956	98	50 - 200	-0.011	+/-0.50	
LDW21-SC572K (23D0577-08)		(Solid)	Lab File ID: 05262329ECD7.D			Analyzed: 05/26/23 22:42			
1-Bromo-2-Nitrobenzene	597617	3.429	531789	3.428	112	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl	608400	14.197	520667	14.212	117	50 - 200	-0.015	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	345487	3.87	297551	3.869	116	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	456916	14.945	456824	14.956	100	50 - 200	-0.011	+/-0.50	
LDW21-SC572L (23D0577-09)		(Solid)	Lab File ID: 05262330ECD7.D			Analyzed: 05/26/23 23:03			
1-Bromo-2-Nitrobenzene	595280	3.429	531789	3.428	112	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl	596131	14.196	520667	14.212	114	50 - 200	-0.016	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	345828	3.869	297551	3.869	116	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	449663	14.945	456824	14.956	98	50 - 200	-0.011	+/-0.50	



DUAL COLUMN CONFIRMATION SUMMARY

Laboratory: Analytical Resources, LLC SDG: 23D0577
 Client: Anchor QEA, LLC Project: AOC4 UR Phase 3
 Matrix: Sediment Laboratory ID: 23D0577-02 File ID: 05262321ECD7.D
 Sampled: 12/09/22 08:52 Prepared: 05/02/23 16:52 Analyzed: 05/26/23 19:55
 Solids: 66.54 Preparation: EPA 3546 (Microwave) Instrument: ECD7
 Batch: BLD0718 Sequence: SLE0436
 GC Column(1): ZB5 GC Column(2): ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.35	8.398	0.048	3522	2.0	N/A
	2	8.246	8.26	0.014	911.5	ND	
Aroclor 1254	1	9.232	9.246	0.014	7282.8	3.2	22.2
	* 2	9.387	9.403	0.016	7429.8	4.0	
Aroclor 1260	1	10.977	10.99483	0.0178	31728	22.8	12.
	* 2	11.59	11.60617	0.0162	35911.25	25.7	

* Column used for quantitation



DUAL COLUMN CONFIRMATION SUMMARY

Laboratory: Analytical Resources, LLC SDG: 23D0577
 Client: Anchor QEA, LLC Project: AOC4 UR Phase 3
 Matrix: Sediment Laboratory ID: 23D0577-06 File ID: 05262325ECD7.D
 Sampled: 12/07/22 13:30 Prepared: 05/02/23 16:52 Analyzed: 05/26/23 21:18
 Solids: 76.60 Preparation: EPA 3546 (Microwave) Instrument: ECD7
 Batch: BLD0718 Sequence: SLE0436
 GC Column(1): ZB5 GC Column(2): ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.394	8.398	0.004	28975	12.0	28.6
	2	8.253	8.26	0.007	9389	9.0	
Aroclor 1254	* 1	9.237	9.246	0.009	45814.2	16.0	9.2
	2	9.394	9.403	0.009	26740.6	14.6	
Aroclor 1260	1	10.983	10.99483	0.0118	17688.2	6.5	21.9
	* 2	11.598	11.60617	0.00817	15910.5	8.1	

* Column used for quantitation



HOLDING TIME SUMMARY

Analysis: EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW22-SC778G 23D0577-01	12/09/22 07:56	12/09/22 16:40	05/02/23 16:52	144	365	05/26/23 19:34	24	40	
LDW22-SC777J 23D0577-02	12/09/22 08:52	12/09/22 16:40	05/02/23 16:52	144	365	05/26/23 19:55	24	40	
LDW22-SC777K 23D0577-03	12/09/22 08:52	12/09/22 16:40	05/02/23 16:52	144	365	05/26/23 20:16	24	40	
LDW22-SC777L 23D0577-04	12/09/22 08:52	12/09/22 16:40	05/02/23 16:52	144	365	05/26/23 20:37	24	40	
LDW22-SC777M 23D0577-05	12/09/22 08:52	12/09/22 16:40	05/02/23 16:52	144	365	05/26/23 20:58	24	40	
LDW22-SC760I 23D0577-06	12/07/22 13:30	12/09/22 16:40	05/02/23 16:52	146	365	05/26/23 21:18	24	40	
LDW21-SC572J 23D0577-07	06/30/21 13:45	12/09/22 16:40	05/02/23 16:52	671	365	05/26/23 22:21	24	40	*
LDW21-SC572K 23D0577-08	06/30/21 13:45	12/09/22 16:40	05/02/23 16:52	671	365	05/26/23 22:42	24	40	*
LDW21-SC572L 23D0577-09	06/30/21 13:45	12/09/22 16:40	05/02/23 16:52	671	365	05/26/23 23:03	24	40	*
Matrix Spike BLD0718-MS1	12/07/22 13:30	12/09/22 16:40	05/02/23 16:52	146	365	05/26/23 21:39	24	40	
Matrix Spike Dup BLD0718-MSD1	12/07/22 13:30	12/09/22 16:40	05/02/23 16:52	146	365	05/26/23 22:00	24	40	

* Indicates hold time exceedance.



**METHOD DETECTION
AND REPORTING LIMITS**

EPA 8082A

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Matrix: Solid

Instrument: ECD7

Analyte	MDL	RL	Units
Aroclor 1016	1.6	4.0	ug/kg
Aroclor 1016 [2C]	1.6	4.0	ug/kg
Aroclor 1221	1.6	4.0	ug/kg
Aroclor 1221 [2C]	1.6	4.0	ug/kg
Aroclor 1232	1.6	4.0	ug/kg
Aroclor 1232 [2C]	1.6	4.0	ug/kg
Aroclor 1242	1.6	4.0	ug/kg
Aroclor 1242 [2C]	1.6	4.0	ug/kg
Aroclor 1248	1.6	4.0	ug/kg
Aroclor 1248 [2C]	1.6	4.0	ug/kg
Aroclor 1254	1.6	4.0	ug/kg
Aroclor 1254 [2C]	1.6	4.0	ug/kg
Aroclor 1260	0.6	4.0	ug/kg
Aroclor 1260 [2C]	0.6	4.0	ug/kg

CERTIFICATE OF ANALYSIS

Catalog No: S-279N
Description: Tetrachloro-m-xylene
Lot: 0052481B-1
Solvent: N/A
Hazards: Refer to SDS for complete safety information

Date Certified: Jul 28, 2005
Expiration: Jul 28, 2015
Sample Size: 100 mg
Components: 1
Storage Condition: Ambient (>5 °C)



Signal Word: Warning

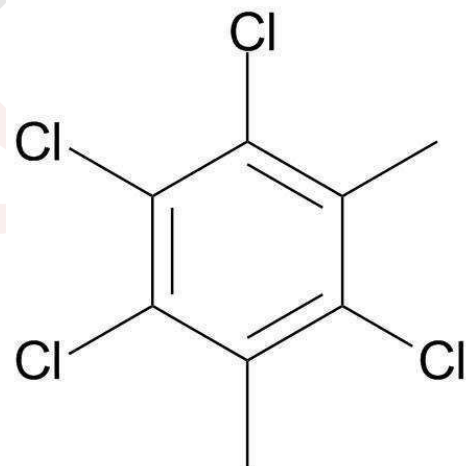
Certified Reference Material



Component	CAS #	Purity % (GC/FID)	Prepared Concentration	Certified Analyte Concentration ¹
Tetrachloro-meta-xylene	877-09-8	96.0	N/A	N/A

Identification:

Molecular formula: C₈H₆Cl₄
Molecular weight: 243.94



C000147

tetrachlorometaxylene

Expires 1/15/2020

Prepared By Joshua Rains 1/15/2014

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

¹ The Uncertainty calculated for this product is ±2.4%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Metrological traceability is established through in-house validated methods.

Purity, if stated, is equal to 100% minus found impurity components. Impurity components have not been identified.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By:

Larry Decker, Organic QC Manager



AccuStandard

125 Market Street
New Haven, CT 06513
(203) 786-5290

CERTIFICATE OF PRODUCT DATA

PRODUCT: C-209N

EXPIRATION: Jul 28, 2015

DESCRIPTION: 2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl

LOT #: 990521LB-AC

SOLVENT: N/A

This product is guaranteed accurate to ±0.5% of the Certified Analyte concentration through the Expiration Date on the Label.

Component	CAS #	Purity % (GC/MS)	Prepared Concentration ¹	Certified Analyte Concentration ²
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	2051-24-3	100	N/A	N/A

2;

C000148

decachlorobiphenyl
Expires 1/15/2020

Prepared By Joshua Rains 1/15/2014

** I 1768 A*

Certified by:

R. Cooper

Please note: AccuStandard follows the U.S. conventions in reporting numerical values, on both certificates and labels.

A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

1. All weights are traceable through National Institute of Standards & Technology, Test No. 822/254480
 2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±0.5% which is the Combined Uncertainty $U_c(y)$. It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is $U_c(y) * K$ where K is the coverage factor at the 95% confidence level ($K=2$).
 3. A product with a suffix (-1A, -2B, etc.) on its lot# has had its expiration date extended and is identical to the same lot# without the suffix.

This product was manufactured in accordance to quality system requirements of ISO 9001:2000 and ISO 17025

** Recertified ~ 4-6-09 (S)*



Analytical Standard Record
Standard ID: C000148

Printed: 4/23/2015 11:54:44AM

Description:	decachlorobiphenyl	Expires:	15-Jan-2020
Standard Type:	Other	Prepared:	15-Jan-2014
Solvent:	na/a	Prepared By:	Joshua Rains
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	27-Feb-2015 13:03 by JGR
Vendor:	Accustandard	Lot #:	9905211b-ac
Vendor Catalog #:			

Comments

see i1768a
SOM calibrations added 06/12/14 sdrd

Analyte	CAS Number	Concentration	Units
Decachlorobiphenyl [2C]	2051-24-3	1000000	ug/mL
Decachlorobiphenyl	2051-24-3	1000000	ug/mL
DCB 1660 [2C]	2051-24-3	1000000	ug/mL
DCB 1660	2051-24-3	1000000	ug/mL
DCB [2C]	2051-24-3	1000000	ug/mL
DCB (A) [2C]	2051-24-3	1000000	ug/mL
DCB (A)	2051-24-3	1000000	ug/mL
DCB	2051-24-3	1000000	ug/mL

Reviewed By

Date

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Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101461

Lot Number: CL13053

Description: Aroclor 1254

Certification Date: November 29, 2018

Storage: 4 °C

Expiration Date: November 30, 2026

Provided As: 1 mL in 2 mL Ampoule in Hexane

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1254	11097-69-1	1000	± 0.246%

I 09808
Recd.
02/24/20



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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101468

Lot Number: CL14017

Description: Aroclor 1221

Certification Date: August 20, 2019

Storage: 4 °C

Expiration Date: August 31, 2027

Provided As: 1 mL in 2 mL Ampoule in Isooctane

Andrea Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1221	11104-28-2	1000	± 0.553%

J006466
Recd of
06/18/21



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2. **Quality Standards:** Phenova is accredited by A2LA to ISO 17034³ and ISO/IEC 17025⁴ as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.
3. **Intended Use:** The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.
4. **Handling and Usage Notes:** Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.
5. **Hazardous Situation:** The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.
6. **Level of Homogeneity:** The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.
7. **Certified Value:** Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.
8. **Raw Materials and Purity:** Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.
9. **Expanded Uncertainty:** The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98⁵ and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$u_{CRM} = k \sqrt{u_M^2 + u_H^2 + u_{LTS}^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. **Metrological Traceability:** The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.
11. **Values Obtained During Product Testing:** This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.
12. **Period of Validity:** The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

¹ ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.

² ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.

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⁴ ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.

⁵ ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)



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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101469

Lot Number: CL14914

Description: Aroclor 1232

Certification Date: January 31, 2020

Storage: 4 °C

Expiration Date: January 31, 2028

Provided As: 1 mL in 2 mL Ampoule in Isooctane



Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1232	11141-16-5	1000	± 0.738%

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06/18/21



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3. **Intended Use:** The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.
4. **Handling and Usage Notes:** Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.
5. **Hazardous Situation:** The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.
6. **Level of Homogeneity:** The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.
7. **Certified Value:** Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.
8. **Raw Materials and Purity:** Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.
9. **Expanded Uncertainty:** The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98⁵ and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

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Catalog No.: AL0-101470

Lot Number: CL14018

Description: Aroclor 1242

Certification Date: August 20, 2019

Storage: 4 °C

Expiration Date: August 31, 2027

Provided As: 1 mL in 2 mL Ampoule in Isooctane



Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1242	53469-21-9	1000	± 0.553%

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$$u_{CRM} = k\sqrt{u_M^2 + u_H^2 + u_{LTS}^2}$$

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Catalog No.: AL0-101471

Lot Number: CL15384

Description: Aroclor 1248

Certification Date: June 19, 2020

Storage: 4 °C

Expiration Date: June 30, 2028

Provided As: 1 mL in 2 mL Ampoule in Isooctane

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1248	12672-29-6	1000	± 0.520%

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- 5. Hazardous Situation:** The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.
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$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.
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Certificate of Analysis

Aroclor 1016 Solution

Product Number: PP-282

Page: 1 of 1

Lot Number: CR-0761

Lot Issue Date: 28-Feb-2017

Expiration Date: 31-Mar-2025

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1016	012674-11-2	NT01016	100.2 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

*K1254
Recd JP
02/05/17*

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.



ISO 9001
Registered
TUV USA, Inc.

John Russo
President

Monica Bourgeois
Director of QA/RA



Certificate of Analysis

Product Name: Aroclor 1260 Standard

Product Number: PP-362-1

Lot Issue Date: 20-Jan-2021

Lot Number: 0006582048

Expiration Date: 28-Feb-2025

Description:

This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
Aroclor 1260	011096-82-5	NT01023	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

K 1255

Storage Conditions: Store at Room Temperature (15° to 30°C).

Traceability:

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCCL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:

This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:

This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:

Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

Expiration of Certification:

The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:

If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

Monica Bourgeois
QMS Representative



ISO 17034 Cert
No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

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www.agilent.com/quality/
CSD-QA-015.1



ISO 17025 Cert
No. AT-1937

ISO 17034



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Reference Material Certificate

Product Name: Aroclor 1248 Standard **Lot Number:** 0006626997
Product Number: PP-342-1 **Lot Issue Date:** 17-Aug-2021
Storage Conditions: Store at Room Temperature (15° to 30°C). **Expiration Date:** 30-Sep-2025

Component Name	CERTIFIED VALUES			CAS#	Analyte Lot
	Concentration	Expanded Uncertainty			
Aroclor 1248	100.3	± 0.5 µg/mL		012672-29-6	NT01582

Matrix: isooctane (2,2,4-trimethylpentane)

K1257

Description:

This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

Traceability:

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:

This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Instructions for Use:

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Safety:

Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

Intended Use:

This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Expiration of Certification:

The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.



Certificate of Analysis

Aroclor 1254 Solution

Product Number: PP-352

Page: 1 of 1

Lot Number: CS-2321

Lot Issue Date: 04-May-2018

Expiration Date: 31-May-2026

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1254	011097-69-1	RM00922	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

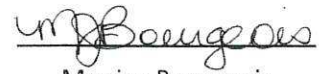
K-1250

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.



ISO 9001
Registered
TUV USA, Inc.


John Russo
President


Monica Bourgeois
Director of QA/RA



Certificate of Analysis

Product Name: Aroclor 1221 Standard

Product Number: PP-292-1

Lot Issue Date: 28-Apr-2020

Lot Number: 0006535333

Expiration Date: 31-May-2024

Description:

This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system, and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
Aroclor 1221	011104-28-2	RM04278	100.2 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage Conditions: Store at Room Temperature (15° to 30°C).

K1259

Traceability:

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCCL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:

This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:

This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:

Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

Expiration of Certification:

The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:

If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

Monica Bourgeois
QMS Representative



ISO 17034 Cert No.
AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

Page: 1 of 1

www.agilent.com/quality/
CSD-QA-015.1



ISO 17025 Cert
No. AT-1937



Certificate of Analysis ISO 17034

Aroclor 1262 Standard

Product Number: PP-372-1

Page: 1 of 1

Lot Number: 0006499800

Lot Issue Date: 04-Nov-2019

Expiration Date: 30-Nov-2023

This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent Technologies ISO 9001 registered quality system. A review of the gravimetric preparation data by our ISO 17025 accredited laboratory serves to verify the concentration of each analyte. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1262	037324-23-5	RM14263	100.0 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

K1260

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCCL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Monica Bourgeois
QMS Representative



ISO 17034 Cert No.
AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Management System



ISO 17025 Cert No.
AT-1937



Certificate of Analysis ISO 17034

Aroclor 1232 Standard

Product Number: PP-302-1

Page: 1 of 1

Lot Number: CF-2197A

Lot Issue Date: 05-Jul-2016

Expiration Date: 31-Aug-2023

This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1232	011141-16-5	NT01717	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

K1261

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCCL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.


Monica Bourgeois
QMS Representative



ISO 17034 Cert No.
AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Management System



ISO17025 Cert No.
AT-1937



Certificate of Analysis

Product Name: Aroclor 1268 Standard

Product Number: PP-382-1

Lot Issue Date: 09-Feb-2021

Lot Number: 0006587800

Expiration Date: 31-Mar-2029

Description:

This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
Aroclor 1268	011100-14-4	RM00937	100.0 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage Conditions: Store at Room Temperature (15° to 30°C).

K1262

Traceability:

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCCL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:

This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:

This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:

Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

Expiration of Certification:

The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:

If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:


Monica Bourgeois
QMS Representative



ISO 17034 Cert
No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

Page: 1 of 1

www.agilent.com/quality/
CSD-QA-015.1



ISO 17025 Cert
No. AT-1937

Recipient Copy

CHAIN-OF-CUSTODY RECORD

COC No. 15350

Order Number: CB014765

Date Shipped: 4/11/2022

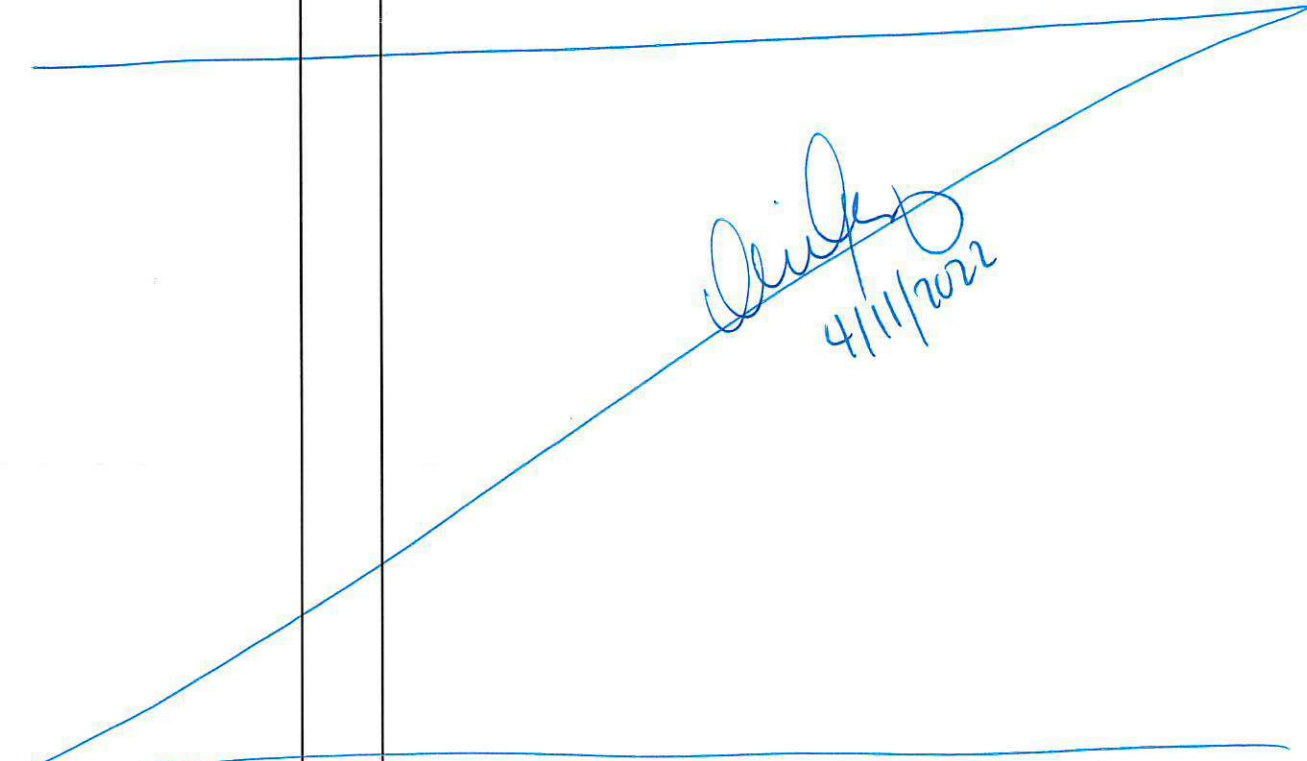
AirBill No(s):

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

To: Kelly Bottem
 Analytical Resources, Inc.
 4611 S. 134th Place SUITE 100
 Tukwila WA 98168
 206-695-6211

519204140444

K003525 7
K003528

Sample ID	Qty	Description/Remarks	→ Catalogue Number
PSRM0148	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0149	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0150	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0151	1	PUGET SOUND SEDIMENT RM	PS-SRM
			
		BOEING PLANT 2	

[Signature]
 4/11/2022

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) <i>[Signature]</i>	Date/Time <i>1400</i> <i>4/11/2022</i>	Received by: (Signature) <i>[Signature]</i>	Date/Time <i>0955</i> <i>04/12/22</i>
Custody Seal(s): Present/Absent <i>PRESENT</i>	Remarks:		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time



PUGET SOUND SEDIMENT REFERENCE MATERIAL
QATS LABORATORY INSTRUCTIONS FOR
HRGC/HRMS CDD/CDF/CB CONGENER AND GC/ECD AROCLOR ANALYSIS

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocols or your contract, disregard these instructions.

APPLICATION: For the analysis of CDD/CDF and CB Congener analytes using project-specified HRGC/HRMS methods, and Aroclors using project-specified GC/ECD methods.

CAUTION: Read instructions carefully before opening bottles and proceeding with the analyses.

Contains CDD/CDF, CB Congener, and/or Aroclors
HAZARDOUS MATERIAL
Safety Data Sheets
Available Upon Request

(A) SAMPLE DESCRIPTION

Enclosed is a Puget Sound (Washington State) Sediment Reference Material (SRM) set for chlorinated dibenzo-p-dioxins/chlorinated dibenzofurans (CDD/CDF), and/or chlorinated biphenyl (CB) congener analysis using project-specified high resolution gas chromatography/ high resolution mass spectrometry (HRGC/HRMS) methods. This SRM is also suitable for Aroclors analysis using project-specified gas chromatography/electron capture detection (GC/ECD) methods. This set consists of one (1) or more bottles, each with approximately 30 grams of Puget Sound SRM containing CDD/CDF, CB Congener, and/or Aroclor analytes. Check the chain-of-custody record to determine the number of bottles provided for CDD/CDF, CB Congener, and/or Aroclor analysis. None of the bottles are to be opened until SRM preparation/analysis is to occur.

CAUTION: The SRM could contain compounds that are light sensitive and should be protected from light during storage. Store the SRM at $\leq 6^{\circ}\text{C}$, preferably at $< 0^{\circ}\text{C}$, until SRM preparation and analysis is to occur. Allow the bottle(s) to reach ambient temperature before opening.

(B) BREAKAGE OR MISSING ITEMS

Check the contents of the shipment carefully for any broken, leaking, or missing items. Refer to the enclosed chain-of-custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120



(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.

Certificate of Analysis



Phenova Certified Reference Materials are sold by Phenomenex.

411 Madrid Ave., Torrance, CA 90501 USA ■ Tel: 310-212-0555 ■ Fax: 310-328-7768 ■ info@phenomenex.com

Access your MSDS and digital C of A at www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101467

Lot Number: CL12975

Description: Aroclor 1016

Certification Date: November 19, 2018

Storage: 4 °C

Expiration Date: October 31, 2026

Provided As: 1 mL in 2 mL Ampoule in Isooctane

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1016	12674-11-2	1000	± 0.553%

12975



Reference Material Producer
Certificate No. 2427.02



Manufactured by Phenova, Inc.

Phenova's testing and calibration results are internationally recognized through the ILAC-MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.



Chemical Testing Laboratory
Certificate No. 2427.03

Certificate of Analysis



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Access your MSDS and digital C of A at www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards

1. **Quality Document:** This Certificate of Analysis has been created in accordance with ISO Guide 31¹ and ISO Guide 35.²
2. **Quality Standards:** Phenova is accredited by A2LA to ISO Guide 34³ and ISO/IEC 17025⁴ as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.
3. **Intended Use:** The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis.
4. **Instruction:** Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.
5. **Hazardous Situation:** The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www.phenomenex.com/mysupport.
6. **Level of Homogeneity:** The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.
7. **Certified Value:** Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.
8. **Raw Materials and Purity:** Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.
9. **Expanded Uncertainty:** The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98⁵ and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).
$$u_{CRM} = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.
10. **Metrological Traceability:** The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.
11. **Values Obtained During Product Testing:** This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO Guide 34.
12. **Period of Validity:** The Certified Values and their uncertainties are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

¹ ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels.

² ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification.

³ ISO Guide 34:2009(E) – General Requirements for the Competence of Reference Material Producers.

⁴ ISO/IEC 17025:2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories.

⁵ ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)



Reference Material Producer
Certificate No. 2427.02



Manufactured by Phenova, Inc.

Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.



Chemical Testing Laboratory
Certificate No. 2427.03

IL111063_US

Certificate of Analysis

Produced by Phenova

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Access your Safety Data Sheets and digital Certificates at www.phenova.com/documents.

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101462

Lot Number: CL18021

Description: Aroclor 1260

Certification Date: February 14, 2022

Storage: 4 °C

Expiration Date: February 28, 2030

Provided As: 1 mL in 2 mL Ampoule in Hexane

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1260	11096-82-5	1000	± 0.553%

K005830



Reference Material Producer
Certificate No. 2427.02



Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.



Chemical Testing Laboratory
Certificate No. 2427.03

Certificate of Analysis



Page 2 of 2

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1. **Quality Document:** This Certificate of Analysis has been created in accordance with ISO Guide 31¹ and ISO Guide 35.²
2. **Quality Standards:** Phenova is accredited by A2LA to ISO 17034³ and ISO/IEC 17025⁴ as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.
3. **Intended Use:** The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.
4. **Handling and Usage Notes:** Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.
5. **Hazardous Situation:** The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.
6. **Level of Homogeneity:** The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.
7. **Certified Value:** Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.
8. **Raw Materials and Purity:** Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.
9. **Expanded Uncertainty:** The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98⁵ and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$u_{CRM} = k\sqrt{u_M^2 + u_H^2 + u_{LTS}^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. **Metrological Traceability:** The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.
11. **Values Obtained During Product Testing:** This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.
12. **Period of Validity:** The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

- ¹ ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
- ² ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
- ³ ISO 17034 – General Requirements for the Competence of Reference Material Producers.
- ⁴ ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
- ⁵ ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)



Reference Material Producer
Certificate No. 2427.02



Phenova is an accredited ISO/IEC 17034 Reference Material
Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.



Chemical Testing Laboratory
Certificate No. 2427.03



Certificate of Analysis ISO Guide 34

Aroclor 1242 Solution

Product Number: PP-312

Page: 1 of 1

Lot Number: CS-6293

Lot Issue Date: 04-Jan-2019

Expiration Date: 31-Jan-2023

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

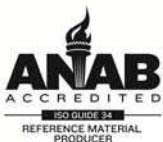
Analyte	CAS#	Analyte Lot	True Value
Aroclor 1242	053469-21-9	NT01020	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.


Monica Bourgeois
QMS Representative



ISO Guide 34 Cert No.
AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Management System



ISO17025 Cert No.
AT-1937

Certificate of Analysis

Produced by Phenova

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101283

Lot Number: CL18942

Description: Aroclor 1268 Standard

Certification Date: September 7, 2022

Storage: 4 °C

Expiration Date: August 31, 2030

Provided As: 1 mL in 2 mL Ampoule in Hexane



Aaron Dukes, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1268	11100-14-4	100	± 0.561%

Certificate of Analysis

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1. **Quality Document:** This Certificate of Analysis has been created in accordance with ISO Guide 31¹ and ISO Guide 35.²
2. **Quality Standards:** Phenova is accredited by A2LA to ISO 17034³ and ISO/IEC 17025⁴ as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.
3. **Intended Use:** The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.
4. **Handling and Usage Notes:** Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.
5. **Hazardous Situation:** The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.
6. **Level of Homogeneity:** The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.
7. **Certified Value:** Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.
8. **Raw Materials and Purity:** Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.
9. **Expanded Uncertainty:** The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98⁵ and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. **Metrological Traceability:** The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.
11. **Values Obtained During Product Testing:** This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.
12. **Period of Validity:** The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

- ¹ ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
- ² ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
- ³ ISO 17034 – General Requirements for the Competence of Reference Material Producers.
- ⁴ ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
- ⁵ ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)



Reference Material Producer
Certificate No. 2427.02



Phenova is an accredited ISO/IEC 17034 Reference Material
Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.



Chemical Testing Laboratory
Certificate No. 2427.03

Certificate of Analysis

Produced by Phenova

6390 Joyce Drive STE 100, Golden, CO 80403 USA ■ Tel: 303-940-0033 ■ Fax: 303-940-0043 ■ info@phenova.com
Access your Safety Data Sheets and digital Certificates at www.phenova.com/documents.

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101282 **Lot Number:** CL19082
Description: Aroclor 1262 Standard **Certification Date:** October 18, 2022
Storage: 4 °C **Expiration Date:** September 30, 2030
Provided As: 1 mL in 2 mL Ampoule in Hexane



Aaron Dukes, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1262	37324-23-5	100	± 0.665%

Certificate of Analysis

Produced by Phenova

6390 Joyce Drive STE 100, Golden, CO 80403 USA ■ Tel: 303-940-0033 ■ Fax: 303-940-0043 ■ info@phenova.com

Access your Safety Data Sheets and digital Certificates at www.phenova.com/documents.

1. **Quality Document:** This Certificate of Analysis has been created in accordance with ISO Guide 31¹ and ISO Guide 35.²
2. **Quality Standards:** Phenova is accredited by A2LA to ISO 17034³ and ISO/IEC 17025⁴ as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.
3. **Intended Use:** The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.
4. **Handling and Usage Notes:** Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.
5. **Hazardous Situation:** The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.
6. **Level of Homogeneity:** The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.
7. **Certified Value:** Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.
8. **Raw Materials and Purity:** Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.
9. **Expanded Uncertainty:** The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98⁵ and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. **Metrological Traceability:** The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.
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12. **Period of Validity:** The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

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- ¹ ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
- ² ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
- ³ ISO 17034 – General Requirements for the Competence of Reference Material Producers.
- ⁴ ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
- ⁵ ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)



Reference Material Producer
Certificate No. 2427.02



Phenova is an accredited ISO/IEC 17034 Reference Material
Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.



Chemical Testing Laboratory
Certificate No. 2427.03



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW22-SC778G

Laboratory: Analytical Resources, LLC

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Matrix: Sediment Laboratory ID: 23D0577-01 A SDG: 23D0577

Sampled: 12/09/22 07:56 Prepared: 06/19/23 13:26 File ID: CubeData_06232023@1311-042

% Solids: 64.27 Preparation: No Prep Wet Chem Analyzed: 06/21/23 12:58

Batch: BLF0522 Sequence: SLF0283 Initial/Final: 0.1031 g Wet / 0.1031 g

Instrument: TOC Cube Calibration: GE00052

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.86	1	0.02	0.02	H



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW22-SC777J

Laboratory: Analytical Resources, LLC

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Matrix: Sediment Laboratory ID: 23D0577-02 A SDG: 23D0577

Sampled: 12/09/22 08:52 Prepared: 06/19/23 13:26 File ID: CubeData_06232023@1311-043

% Solids: 62.67 Preparation: No Prep Wet Chem Analyzed: 06/21/23 13:28

Batch: BLF0522 Sequence: SLF0283 Initial/Final: 0.1442 g Wet / 0.1442 g

Instrument: TOC Cube Calibration: GE00052

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.04	1	0.02	0.02	H



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW22-SC777K

Laboratory: Analytical Resources, LLC

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Matrix: Sediment Laboratory ID: 23D0577-03 A SDG: 23D0577

Sampled: 12/09/22 08:52 Prepared: 06/19/23 13:26 File ID: CubeData_06232023@1311-044

% Solids: 65.58 Preparation: No Prep Wet Chem Analyzed: 06/21/23 13:58

Batch: BLF0522 Sequence: SLF0283 Initial/Final: 0.0841 g Wet / 0.0841 g

Instrument: TOC Cube Calibration: GE00052

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.11	1	0.02	0.02	H



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW22-SC777L

Laboratory: Analytical Resources, LLC

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Matrix: Sediment Laboratory ID: 23D0577-04 A SDG: 23D0577

Sampled: 12/09/22 08:52 Prepared: 06/19/23 13:26 File ID: CubeData_06232023@1311-045

% Solids: 66.56 Preparation: No Prep Wet Chem Analyzed: 06/21/23 14:29

Batch: BLF0522 Sequence: SLF0283 Initial/Final: 0.0764 g Wet / 0.0764 g

Instrument: TOC Cube Calibration: GE00052

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.46	1	0.02	0.02	H



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW22-SC777M

Laboratory: Analytical Resources, LLC
 Client: Anchor QEA, LLC
 Project: AOC4 UR Phase 3
 Matrix: Sediment Laboratory ID: 23D0577-05 A SDG: 23D0577
 Sampled: 12/09/22 08:52 Prepared: 06/19/23 13:26 File ID: CubeData_06232023@1311-046
 % Solids: 68.12 Preparation: No Prep Wet Chem Analyzed: 06/21/23 14:59
 Batch: BLF0522 Sequence: SLF0283 Initial/Final: 0.1325 g Wet / 0.1325 g
 Instrument: TOC Cube Calibration: GE00052

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.22	1	0.02	0.02	H



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW22-SC760I

Laboratory: Analytical Resources, LLC

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Matrix: Sediment Laboratory ID: 23D0577-06 A SDG: 23D0577

Sampled: 12/07/22 13:30 Prepared: 06/19/23 13:26 File ID: CubeData_06232023@1311-047

% Solids: 78.14 Preparation: No Prep Wet Chem Analyzed: 06/21/23 15:29

Batch: BLF0522 Sequence: SLF0283 Initial/Final: 0.5335 g Wet / 0.5335 g

Instrument: TOC Cube Calibration: GE00052

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.07	1	0.02	0.02	H



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-SC572J

Laboratory: Analytical Resources, LLC

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Matrix: Sediment Laboratory ID: 23D0577-07 A SDG: 23D0577

Sampled: 06/30/21 13:45 Prepared: 06/19/23 13:26 File ID: CubeData_06232023@1311-052

% Solids: 68.11 Preparation: No Prep Wet Chem Analyzed: 06/21/23 18:31

Batch: BLF0522 Sequence: SLF0283 Initial/Final: 0.09 g Wet / 0.09 g

Instrument: TOC Cube Calibration: GE00052

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.47	1	0.02	0.02	H



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-SC572K

Laboratory: Analytical Resources, LLC

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Matrix: Sediment Laboratory ID: 23D0577-08 A SDG: 23D0577

Sampled: 06/30/21 13:45 Prepared: 06/19/23 13:26 File ID: CubeData_06232023@1311-053

% Solids: 69.78 Preparation: No Prep Wet Chem Analyzed: 06/21/23 19:01

Batch: BLF0522 Sequence: SLF0283 Initial/Final: 0.096 g Wet / 0.096 g

Instrument: TOC Cube Calibration: GE00052

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.64	1	0.02	0.02	H



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-SC572L

Laboratory: Analytical Resources, LLC
 Client: Anchor QEA, LLC
 Project: AOC4 UR Phase 3
 Matrix: Sediment Laboratory ID: 23D0577-09 A SDG: 23D0577
 Sampled: 06/30/21 13:45 Prepared: 06/19/23 13:26 File ID: CubeData_06232023@1311-054
 % Solids: 71.24 Preparation: No Prep Wet Chem Analyzed: 06/21/23 19:31
 Batch: BLF0522 Sequence: SLF0283 Initial/Final: 0.174 g Wet / 0.174 g
 Instrument: TOC Cube Calibration: GE00052

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.63	1	0.02	0.02	H



PREPARATION BATCH SUMMARY

EPA 9060A m

Laboratory: Analytical Resources, LLC SDG: 23D0577
Client: Anchor QEA, LLC Project: AOC4 UR Phase 3
Batch: BLF0522 Batch Matrix: Solid Preparation: No Prep Wet Chem

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW22-SC778G	23D0577-01	eData_06232023@1311	06/19/23 13:26	
LDW22-SC777J	23D0577-02	eData_06232023@1311	06/19/23 13:26	
LDW22-SC777K	23D0577-03	eData_06232023@1311	06/19/23 13:26	
LDW22-SC777L	23D0577-04	eData_06232023@1311	06/19/23 13:26	
LDW22-SC777M	23D0577-05	eData_06232023@1311	06/19/23 13:26	
LDW22-SC760I	23D0577-06	eData_06232023@1311	06/19/23 13:26	
LDW21-SC572J	23D0577-07	eData_06232023@1311	06/19/23 13:26	
LDW21-SC572K	23D0577-08	eData_06232023@1311	06/19/23 13:26	
LDW21-SC572L	23D0577-09	eData_06232023@1311	06/19/23 13:26	
Blank	BLF0522-BLK1	eData_06232023@1311	06/19/23 13:26	
LCS	BLF0522-BS1	eData_06232023@1311	06/19/23 13:26	
MRL Check	BLF0522-MRL1	eData_06232023@1311	06/19/23 13:26	
Reference	BLF0522-SRM2	eData_06262023@1011	06/19/23 13:26	



Form I
METHOD BLANK DATA SHEET
EPA 9060A m
TotalAnalytes

Blank

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Batch: BLF0522

Laboratory ID: BLF0522-BLK1

Prepared: 06/19/23 13:26

Matrix: Solid

Preparation: No Prep Wet Chem

Analyzed: 06/20/23 20:23

Sequence: SLF0283

Calibration: GE00052

Instrument: TOC Cube

CAS NO.	Analyte	Concentration (% wet)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	ND	1	0.02	0.02	U



LCS / LCS DUPLICATE RECOVERY
EPA 9060A m

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>23D0577</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>AOC4 UR Phase 3</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>06/20/23 22:23</u>
Batch:	<u>BLF0522</u>	Laboratory ID:	<u>BLF0522-BS1</u>
Preparation:	<u>No Prep Wet Chem</u>	Sequence Name:	<u>LCS</u>
Initial/Final:	<u>0.0237 g / 0.0237 g</u>		

COMPOUND	SPIKE ADDED (% wet)	LCS CONCENTRATION (% wet)	Q	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	44.4	45.6		103	80 - 120

* Indicates values outside of QC limits



ANALYSIS BATCH (SEQUENCE) SUMMARY

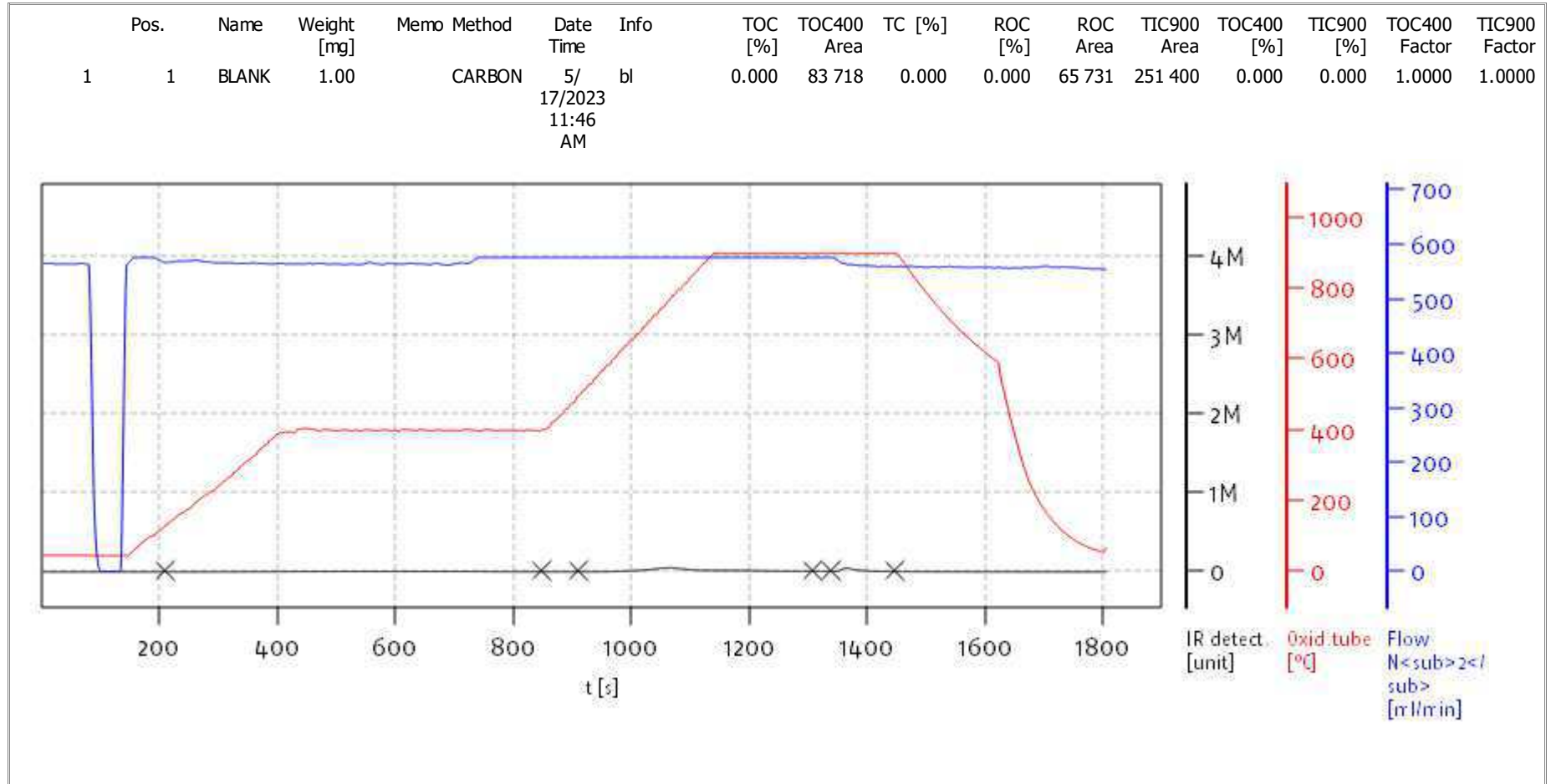
EPA 9060A m

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>23D0577</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>AOC4 UR Phase 3</u>
Sequence:	<u>SLE0270</u>	Instrument:	<u>TOC Cube</u>
		Calibration:	<u>GE00052</u>

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Cal Standard	SLE0270-CAL1	CubeData_05182023@1024b-101	NA	05/17/23 12:46
Cal Standard	SLE0270-CAL2	CubeData_05182023@1024b-102	NA	05/17/23 13:16
Cal Standard	SLE0270-CAL3	CubeData_05182023@1024b-103	NA	05/17/23 13:46
Cal Standard	SLE0270-CAL4	CubeData_05182023@1024b-104	NA	05/17/23 14:16
Cal Standard	SLE0270-CAL5	CubeData_05182023@1024b-105	NA	05/17/23 14:47
Cal Standard	SLE0270-CAL6	CubeData_05182023@1024b-106	NA	05/17/23 15:17
Cal Standard	SLE0270-CAL7	CubeData_05182023@1024b-107	NA	05/17/23 15:47
Cal Standard	SLE0270-CAL8	CubeData_05182023@1024b-108	NA	05/17/23 16:17
Cal Standard	SLE0270-CAL9	CubeData_05182023@1024b-109	NA	05/17/23 16:47
Cal Standard	SLE0270-CALA	CubeData_05182023@1024b-110	NA	05/17/23 17:17
Cal Standard	SLE0270-CALB	CubeData_05182023@1024b-111	NA	05/17/23 17:47
Cal Standard	SLE0270-CALC	CubeData_05182023@1024b-112	NA	05/17/23 18:18
Cal Standard	SLE0270-CALD	CubeData_05182023@1024b-113	NA	05/17/23 18:48
Cal Standard	SLE0270-CALE	CubeData_05182023@1024b-114	NA	05/17/23 19:18
Cal Standard	SLE0270-CALF	CubeData_05182023@1024b-115	NA	05/17/23 19:48
Cal Standard	SLE0270-CALG	CubeData_05182023@1024b-116	NA	05/17/23 20:18
Cal Standard	SLE0270-CALH	CubeData_05182023@1024b-117	NA	05/17/23 20:48
Cal Standard	SLE0270-CALI	CubeData_05182023@1024b-118	NA	05/17/23 21:19
Cal Standard	SLE0270-CALJ	CubeData_05182023@1024b-119	NA	05/17/23 21:49
Cal Standard	SLE0270-CALK	CubeData_05182023@1024b-120	NA	05/17/23 22:19
Initial Cal Check	SLE0270-ICV1	CubeData_05182023@1024b-128	NA	05/18/23 02:21
Initial Cal Blank	SLE0270-ICB1	CubeData_05182023@1024b-127	NA	05/18/23 02:51
Calibration Check	SLE0270-CCV1	CubeData_05182023@1024b-126	NA	05/18/23 04:21
Calibration Blank	SLE0270-CCB1	CubeData_05182023@1024b-125	NA	05/18/23 04:52
Cal Standard	SLE0270-CALL	CubeData_05182023@1024b-121	NA	05/18/23 09:47
Cal Standard	SLE0270-CALM	CubeData_05182023@1024b-122	NA	05/18/23 09:48
Cal Standard	SLE0270-CALN	CubeData_05182023@1024b-123	NA	05/18/23 09:49
Cal Standard	SLE0270-CALO	CubeData_05182023@1024b-124	NA	05/18/23 09:49



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

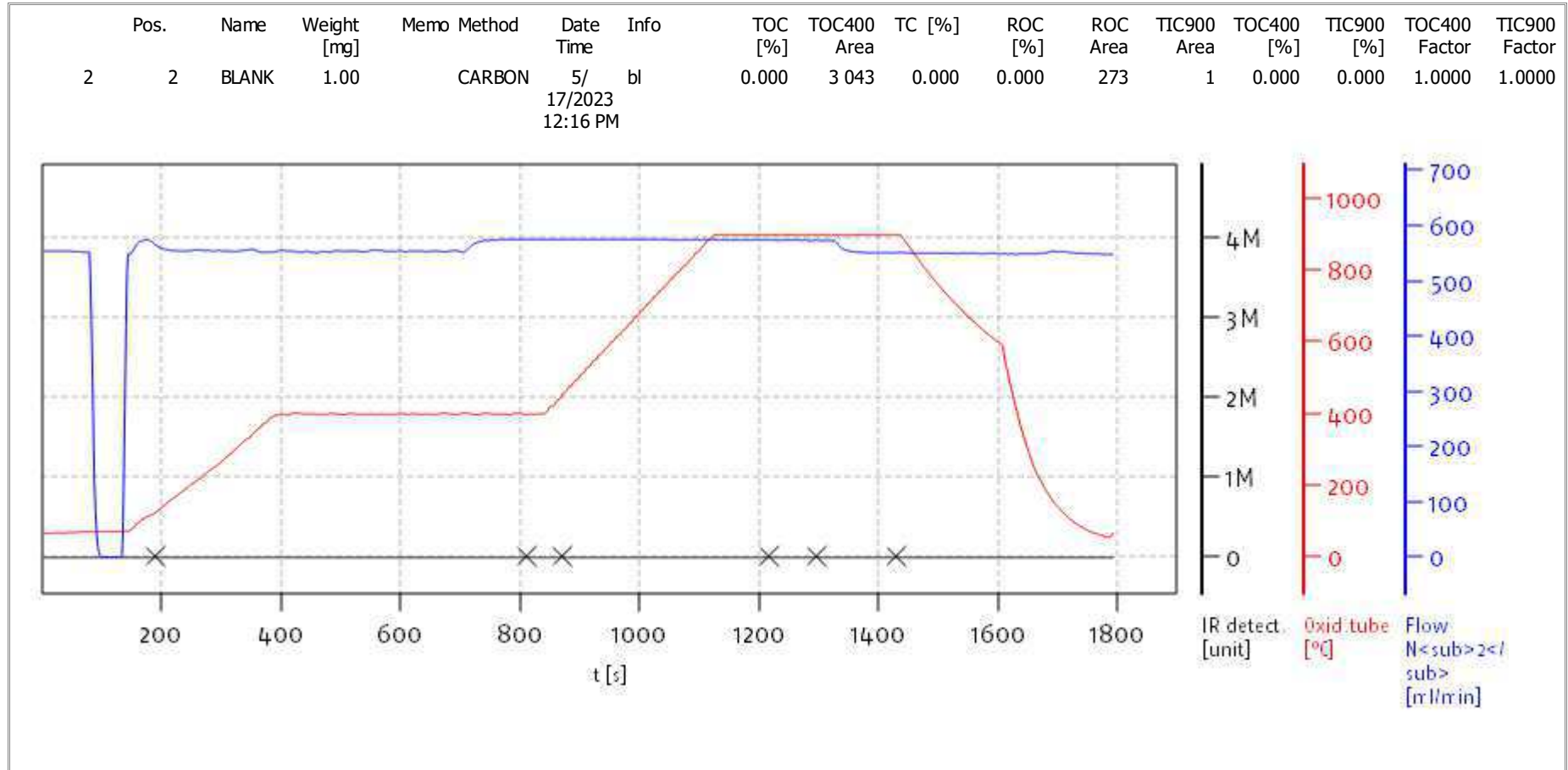
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solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

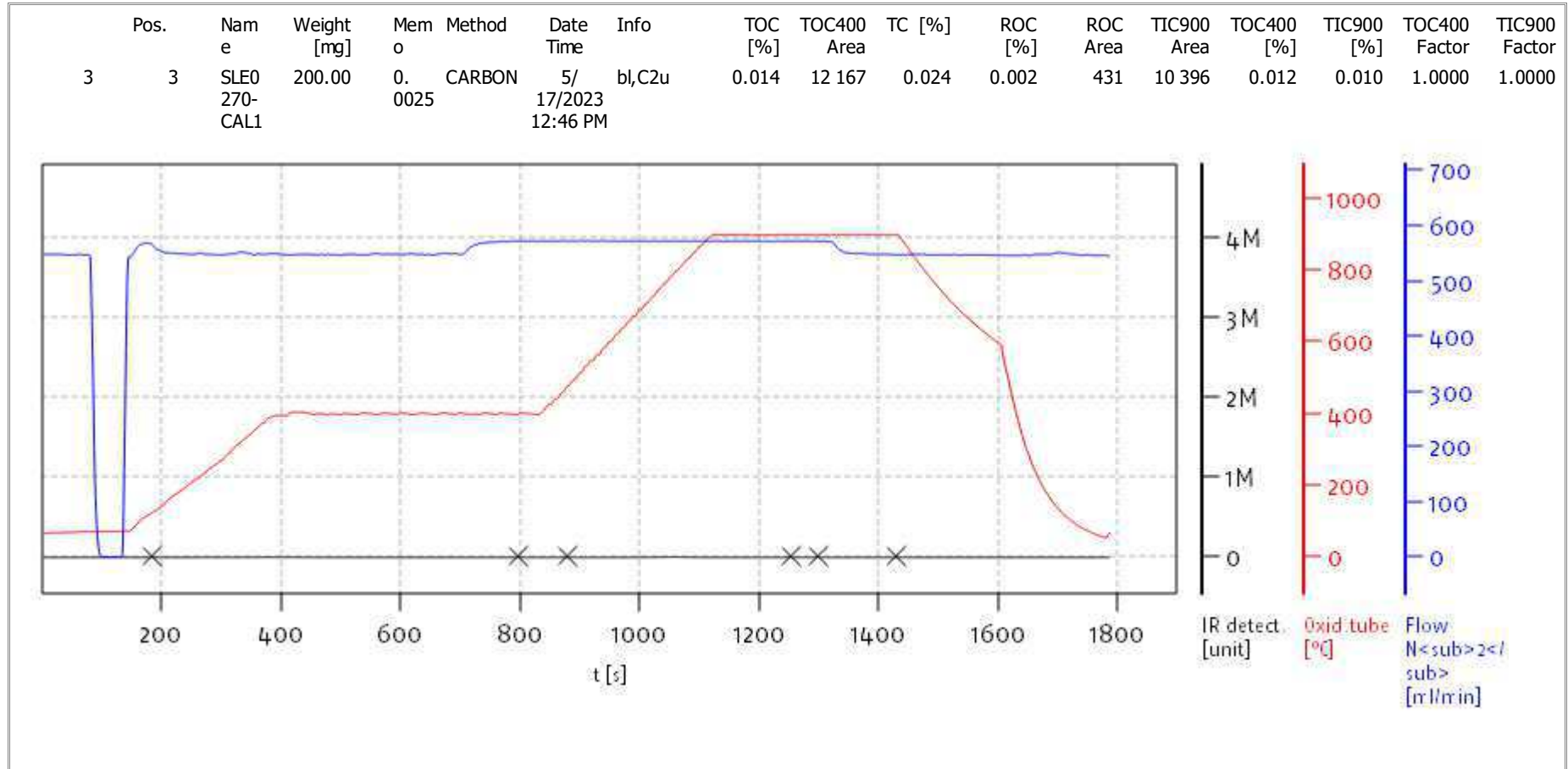
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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

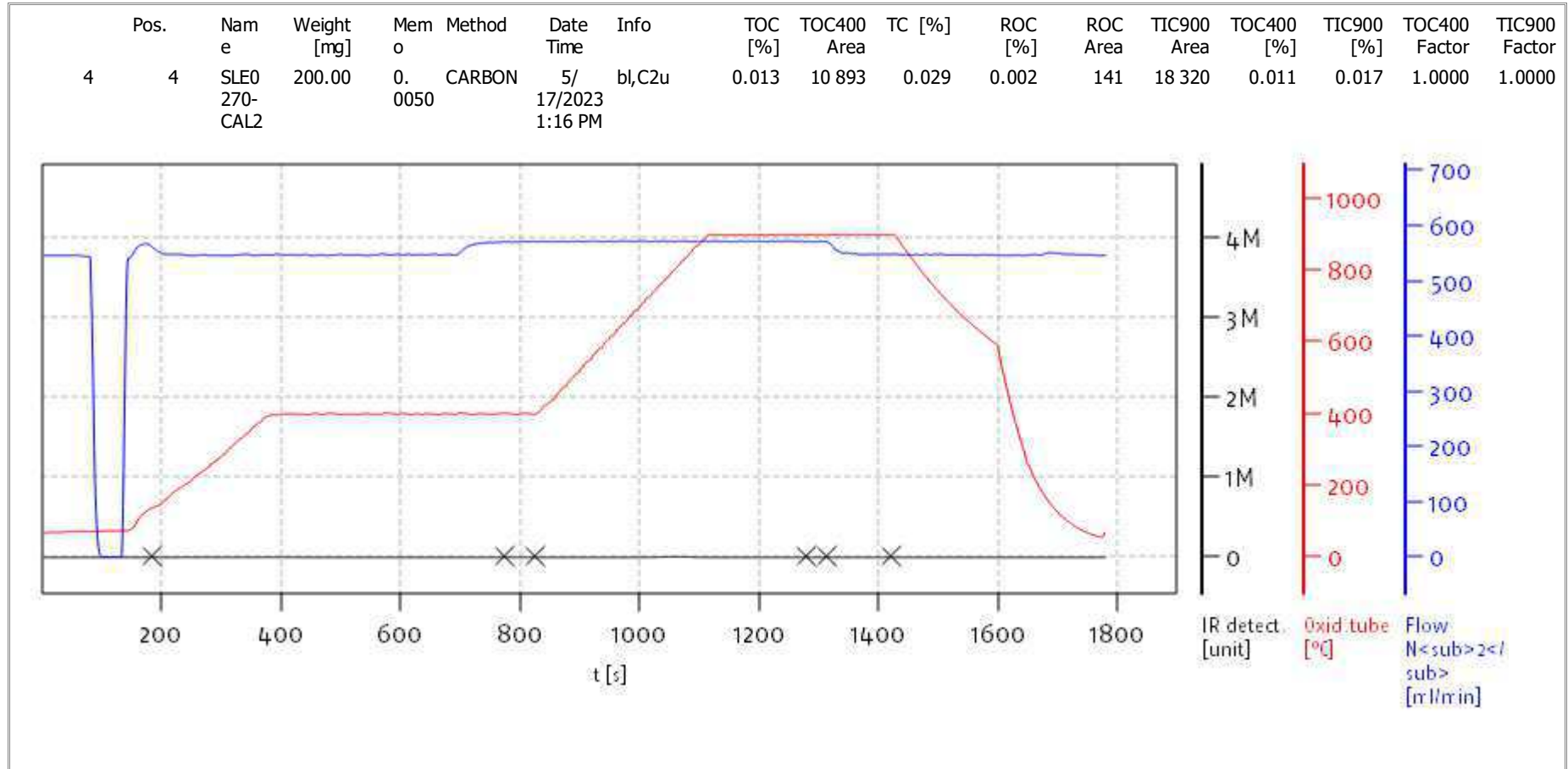
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solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

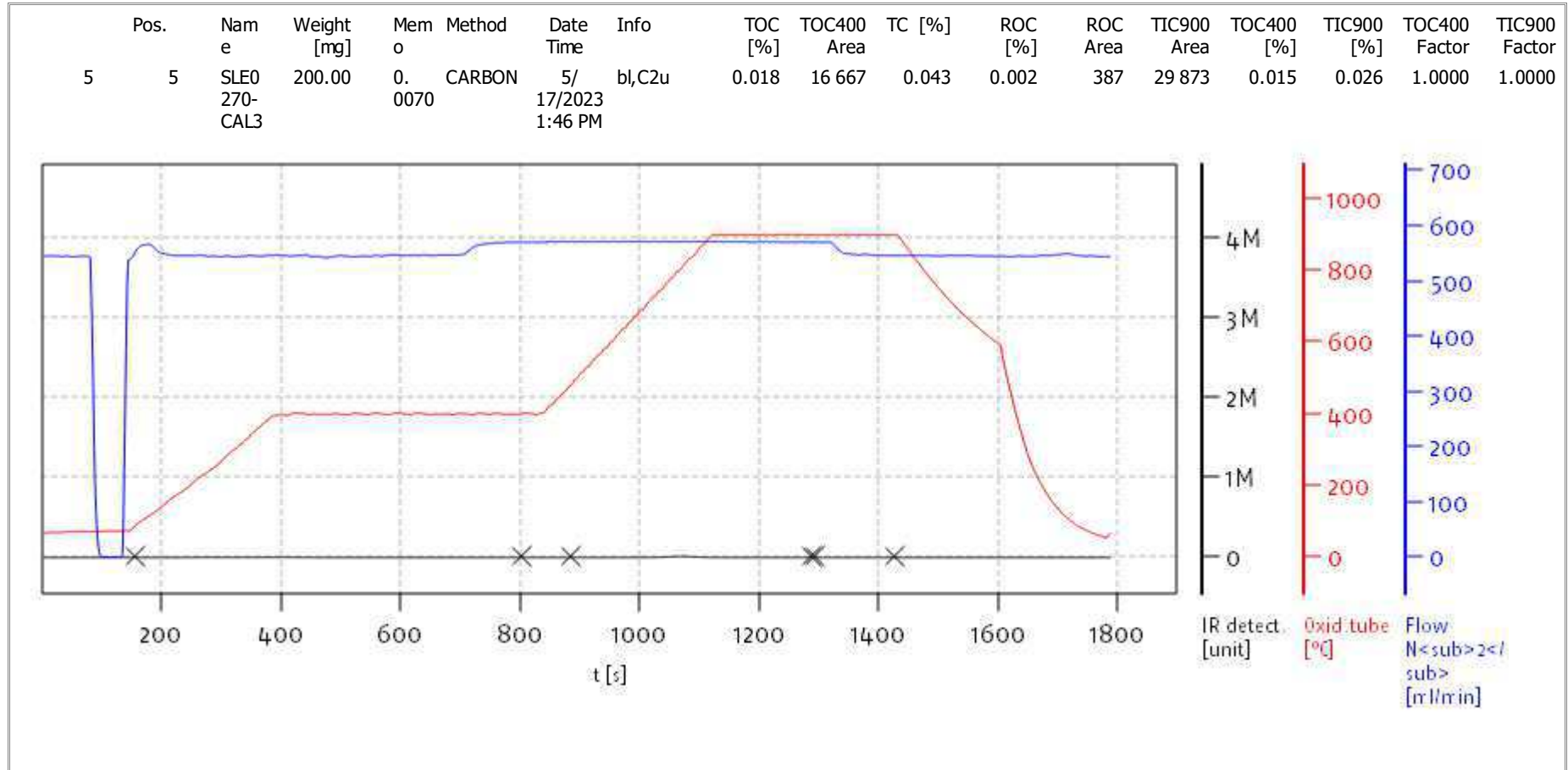
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solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

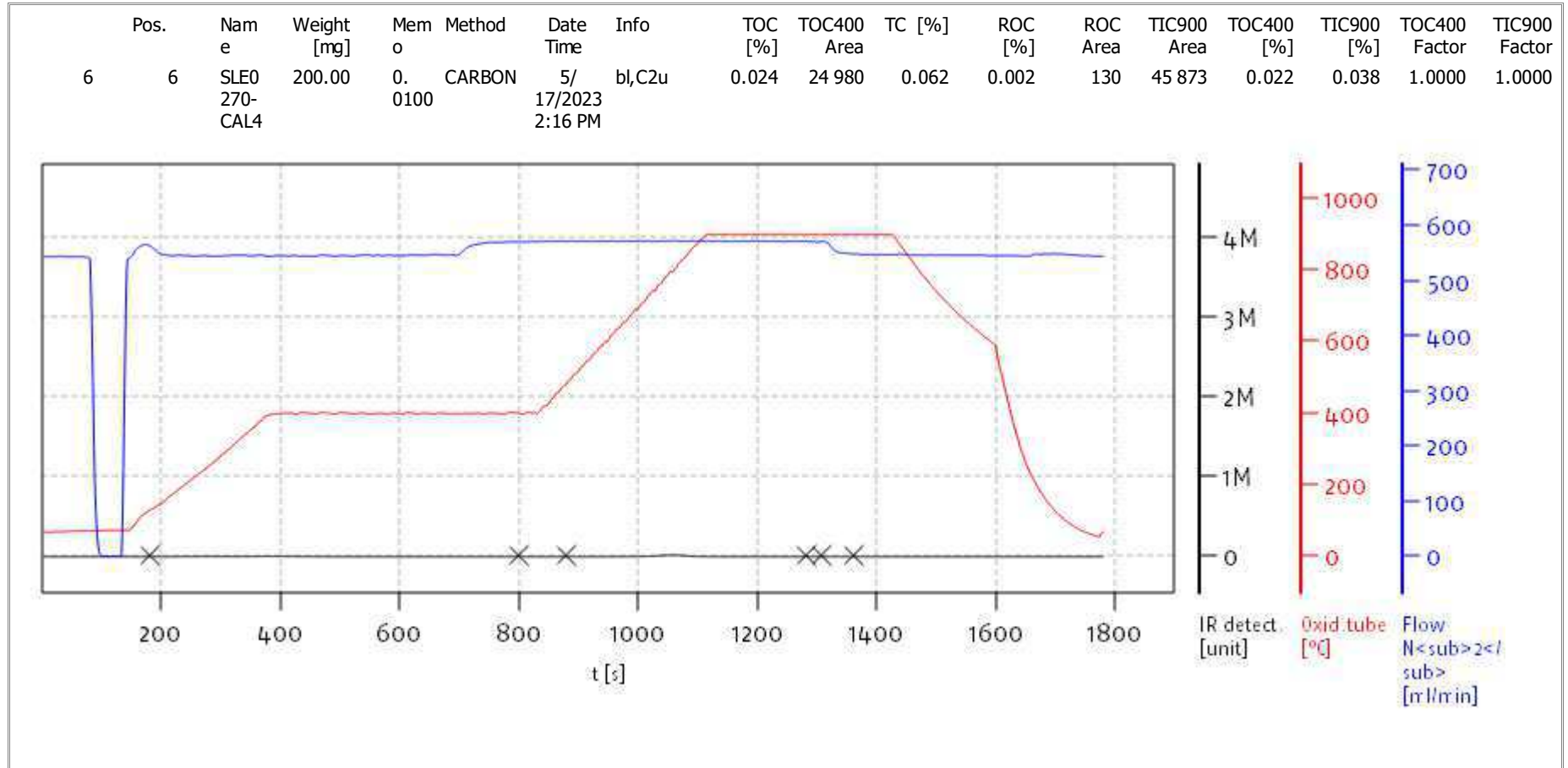
Date: Thu May 18 09:43:39 2023



solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

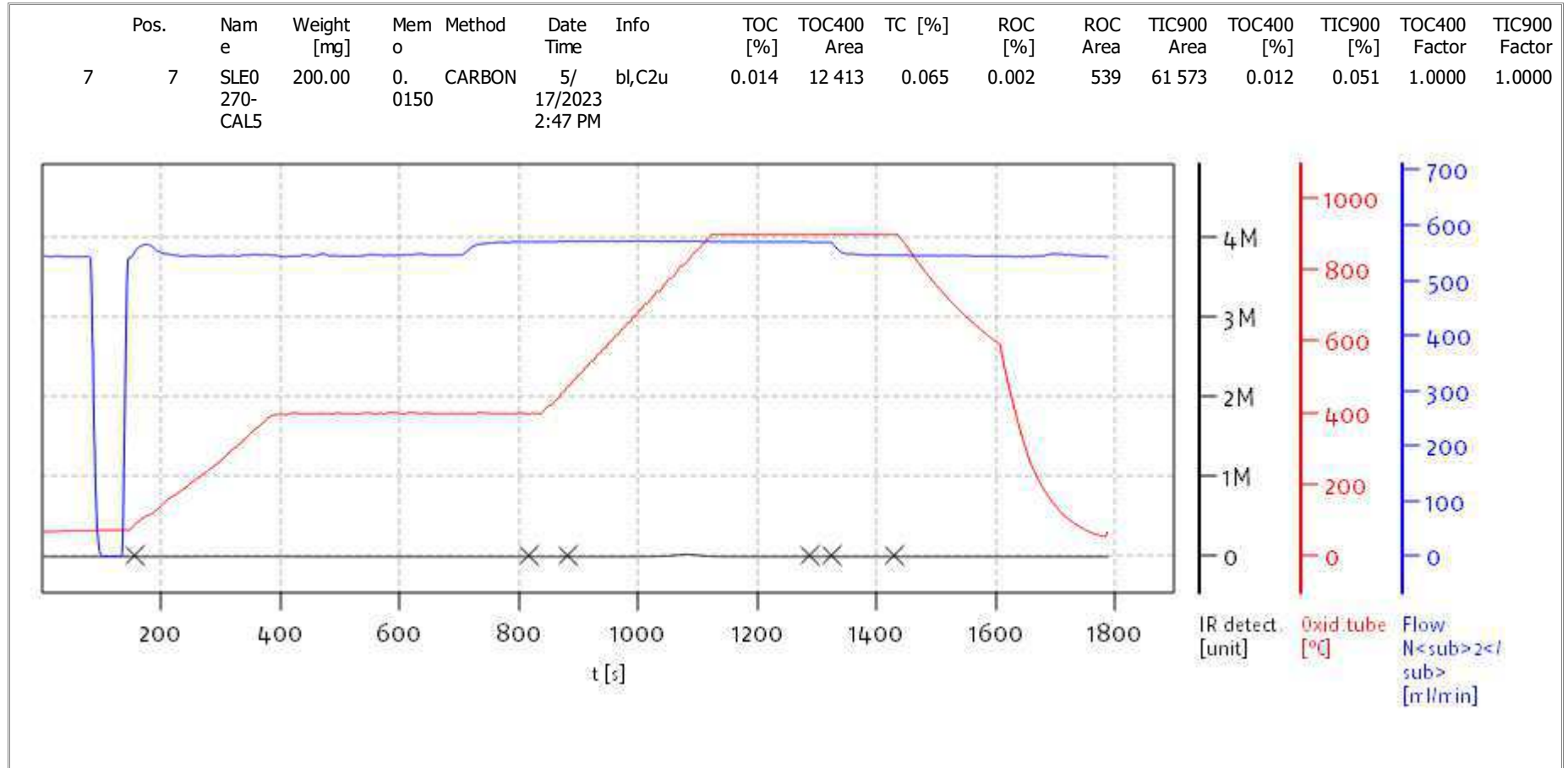
Date: Thu May 18 09:43:39 2023



solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

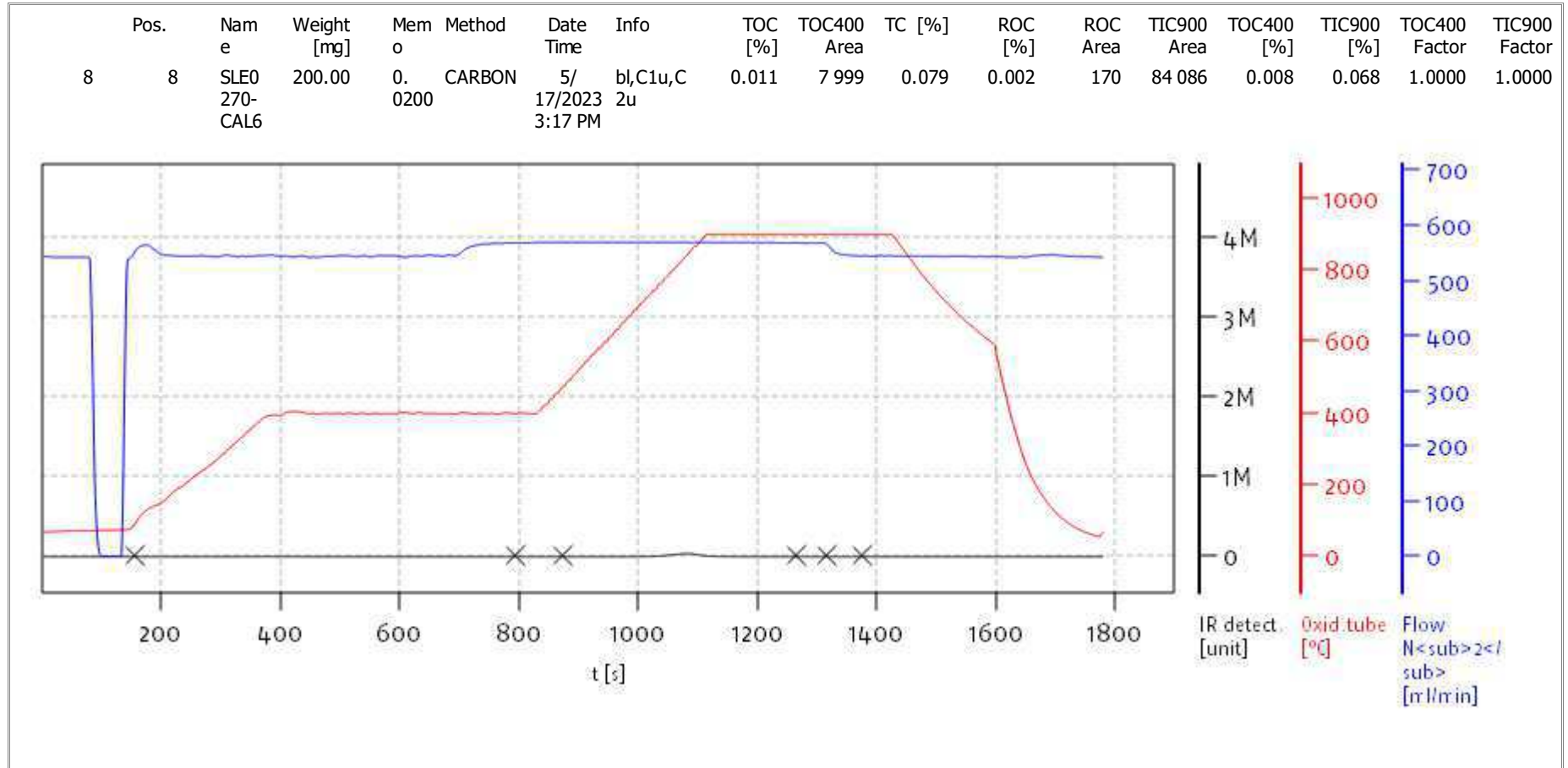
Date: Thu May 18 09:43:39 2023



solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

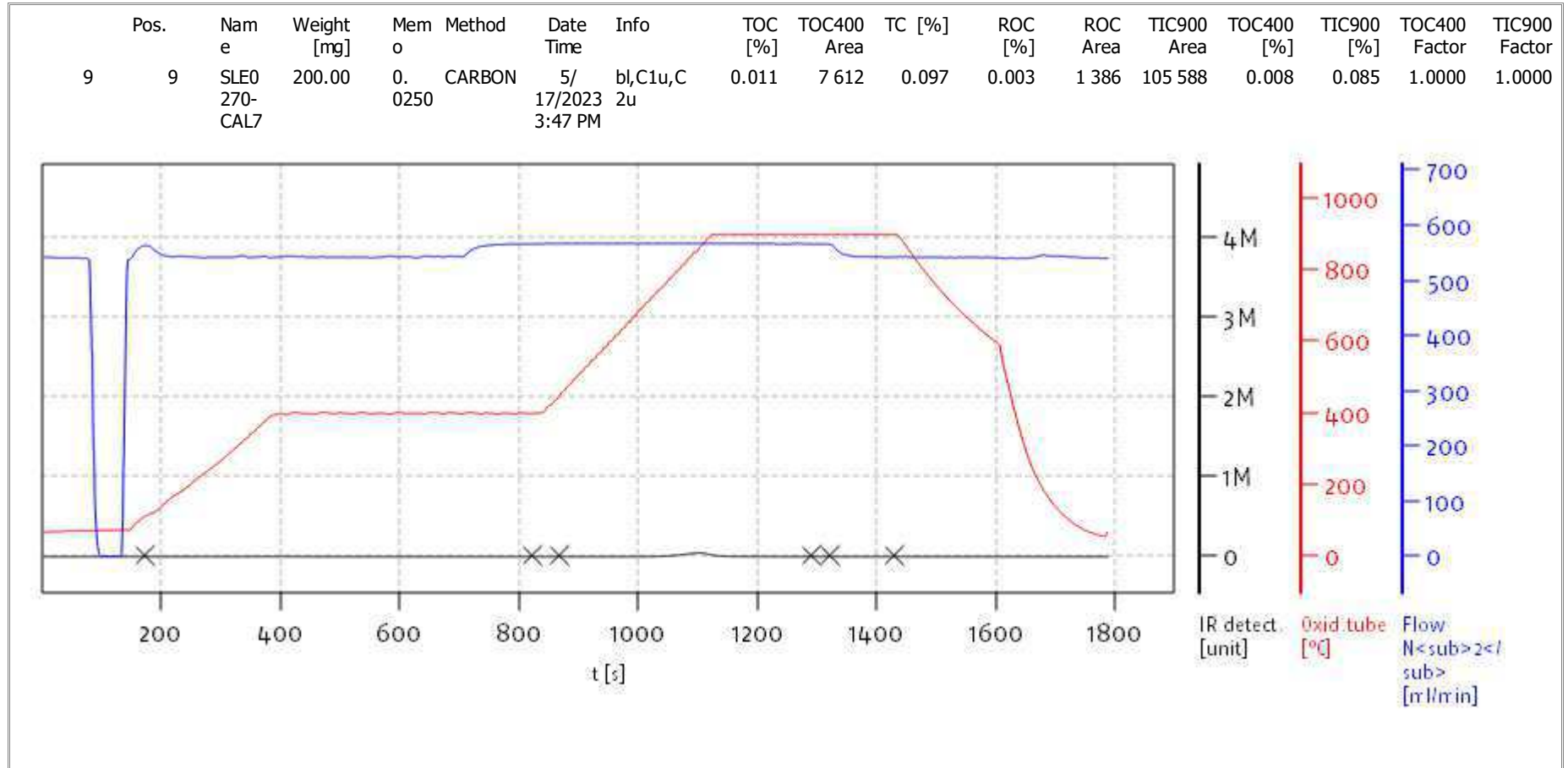
Date: Thu May 18 09:43:39 2023



solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

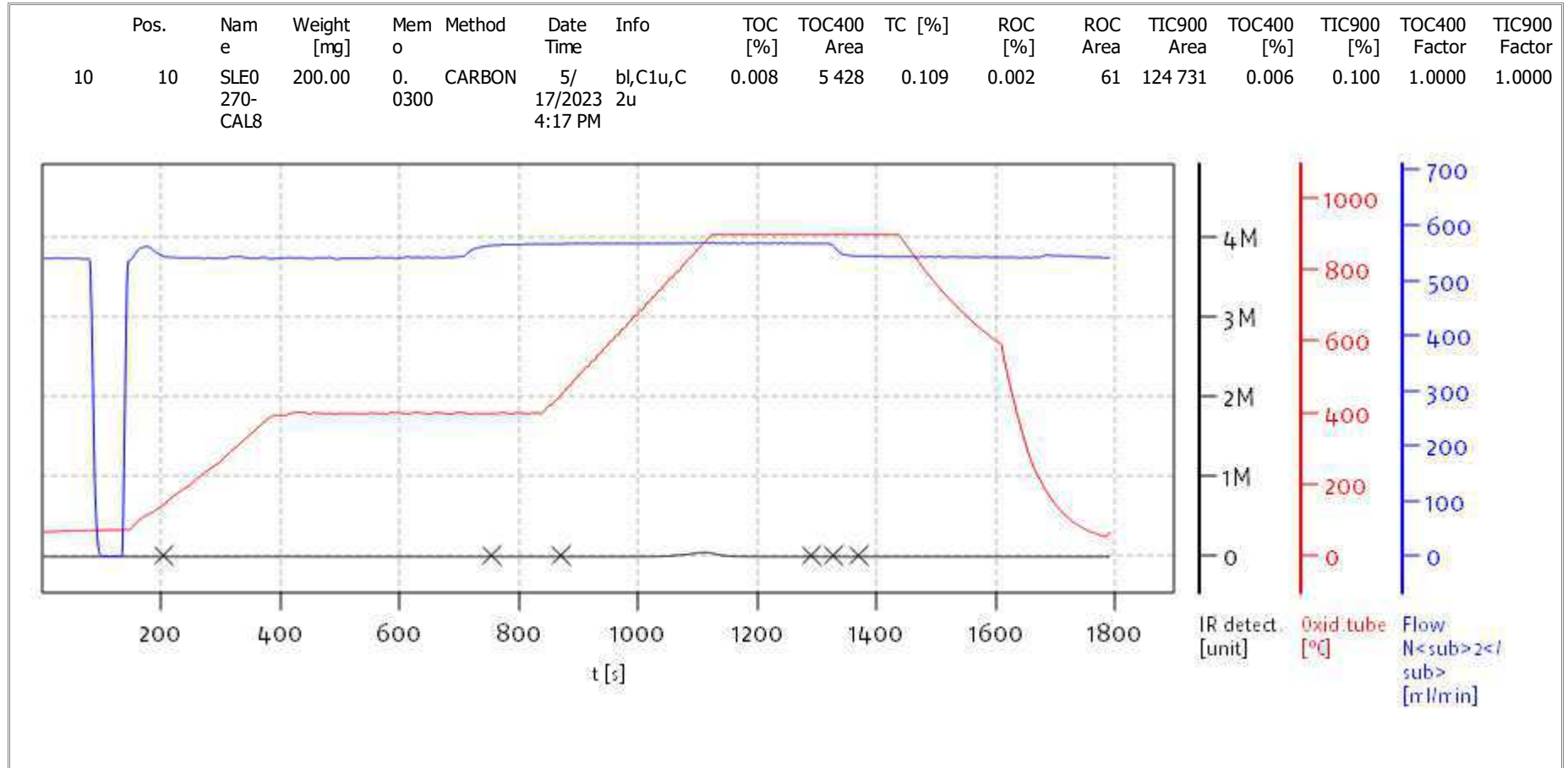
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solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

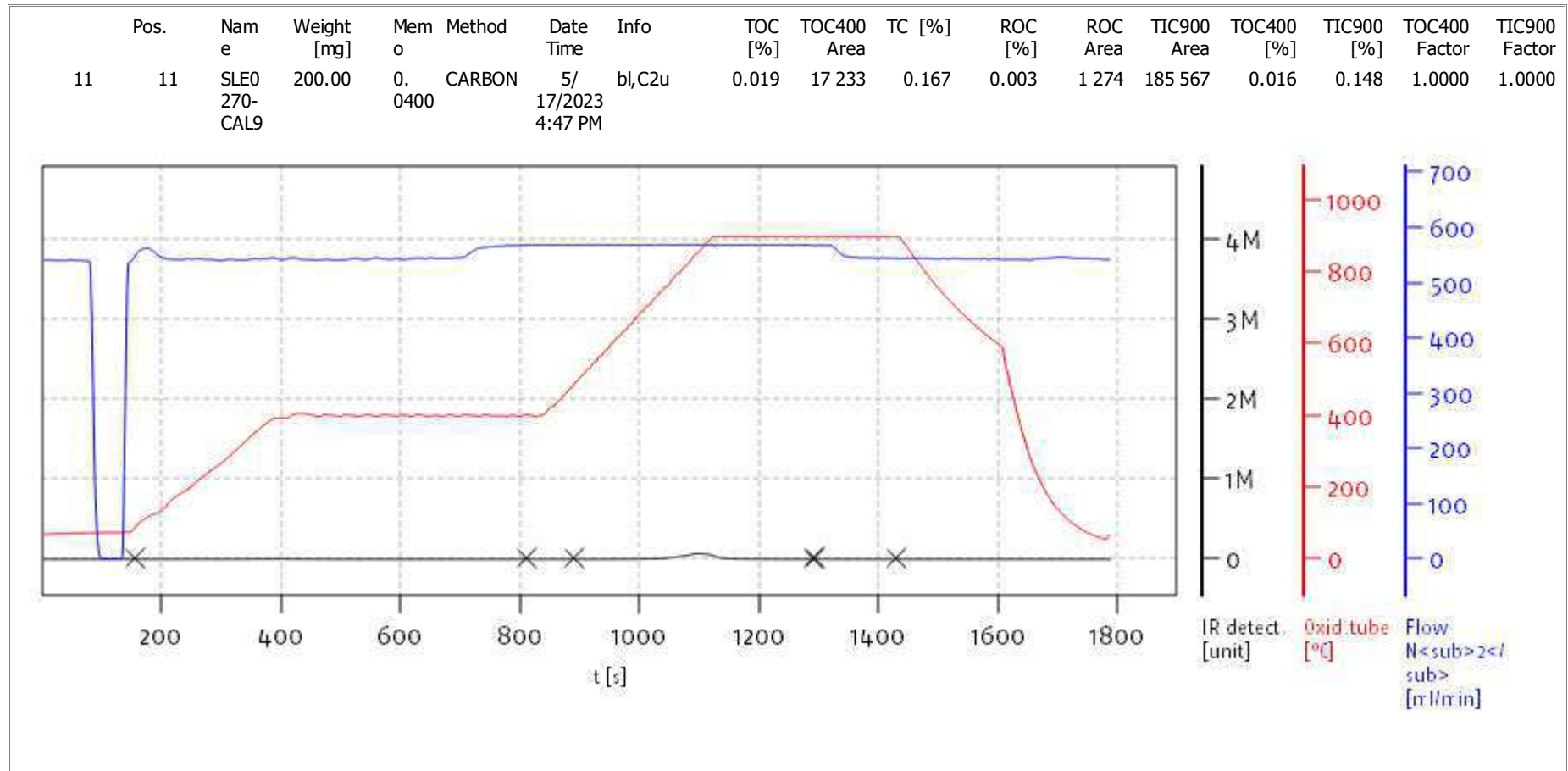
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solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

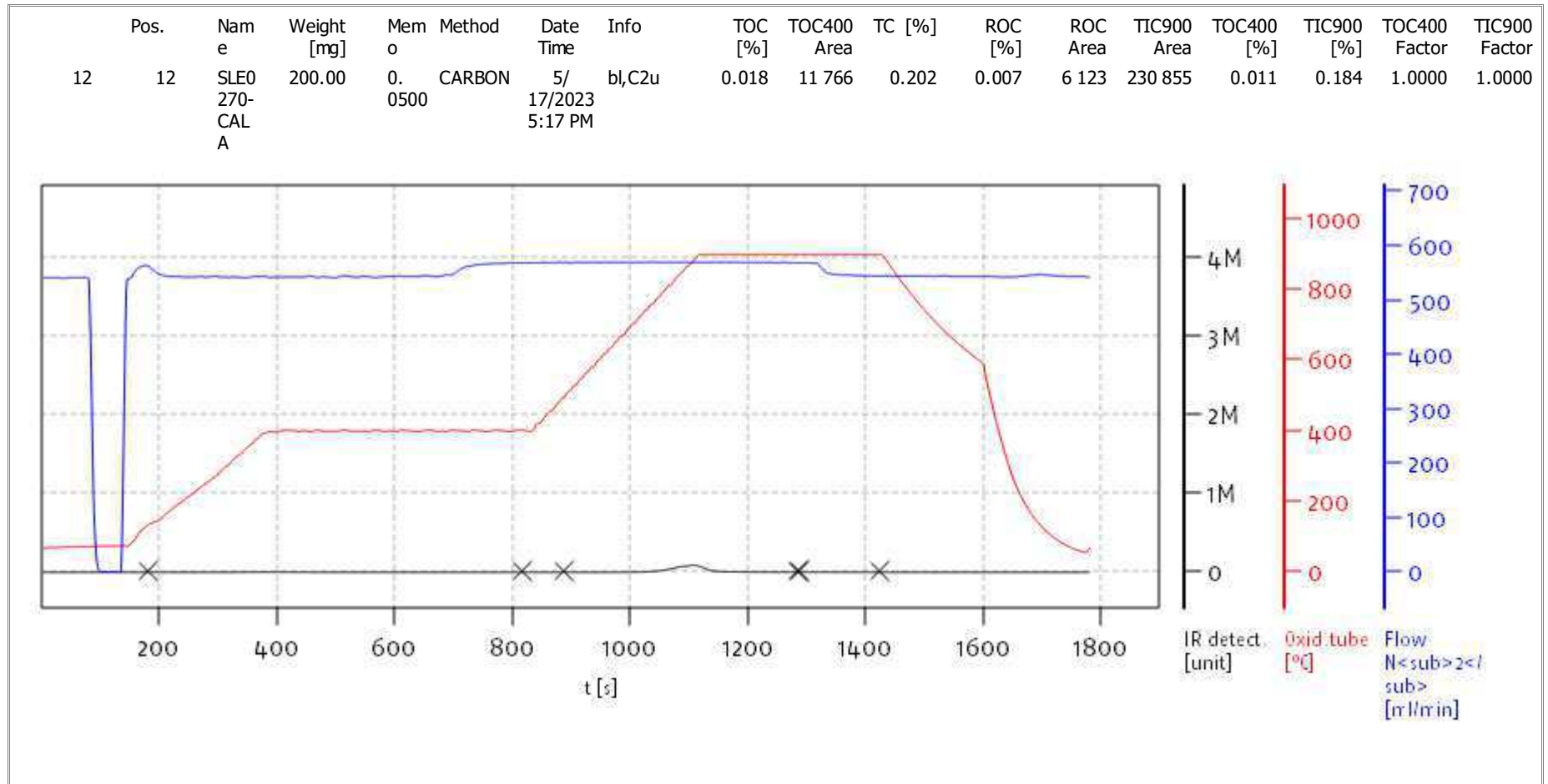
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solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

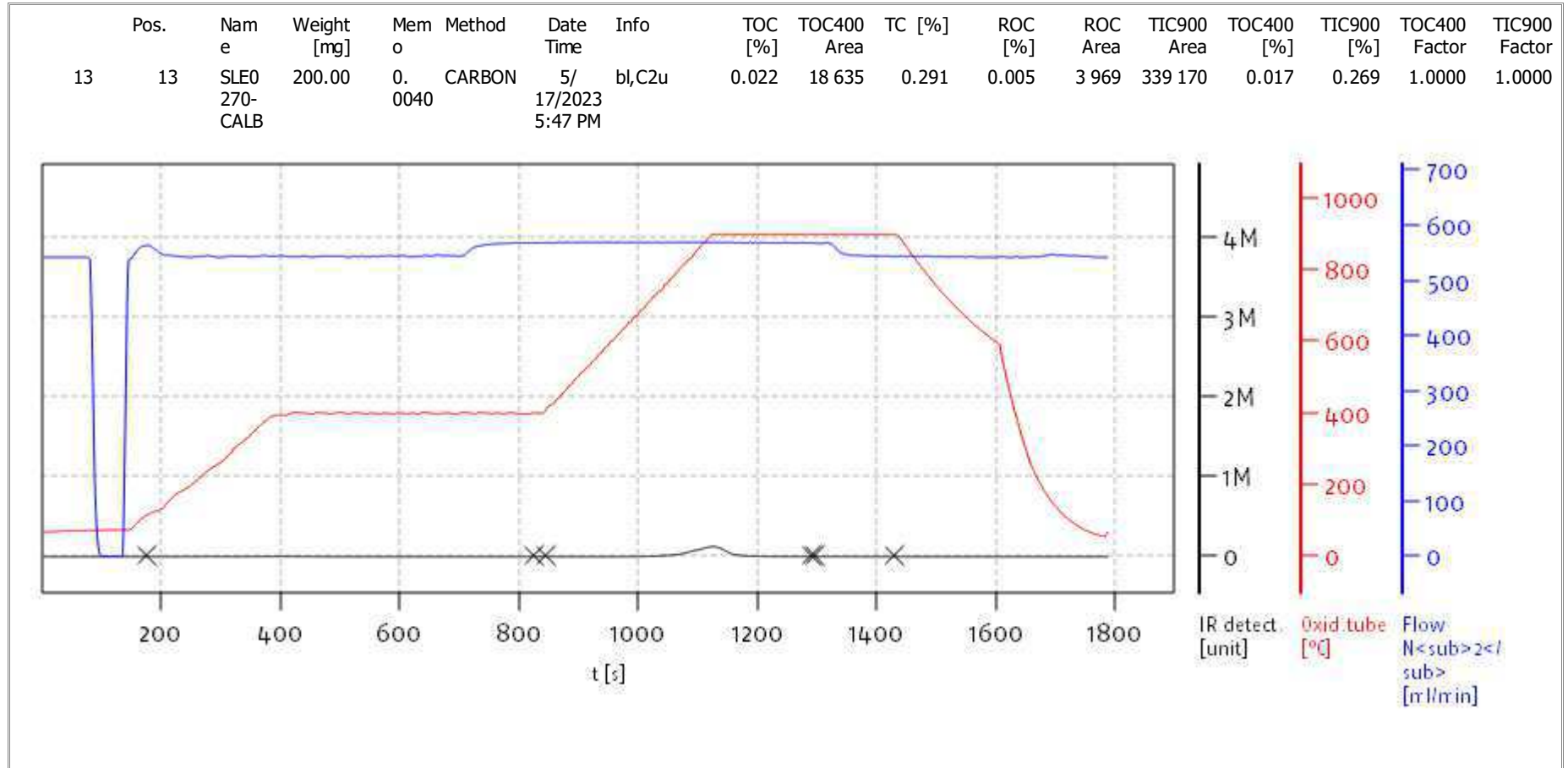
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solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

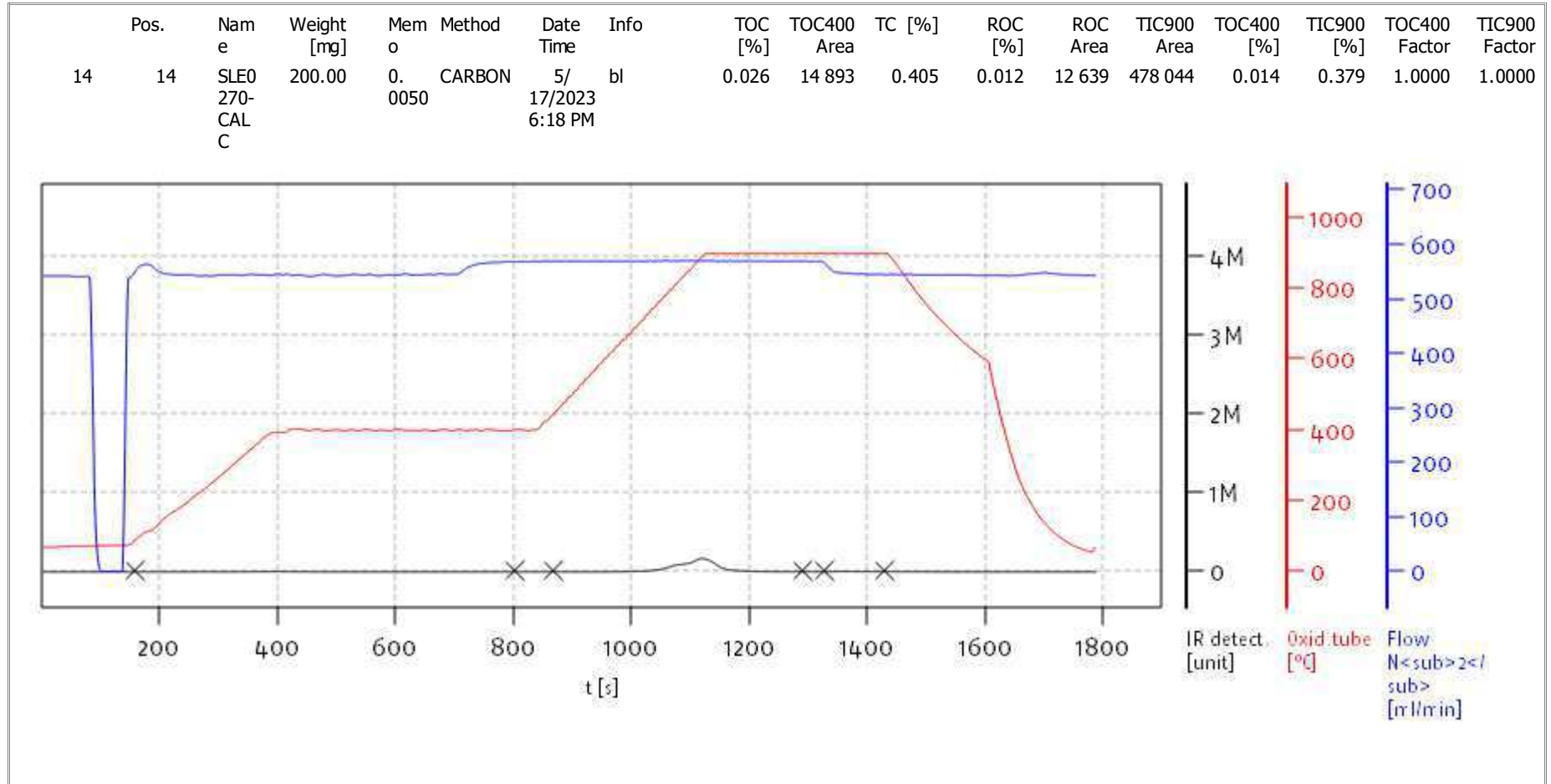
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solITOC V2.0.2 (31015f9) 2018-11-19
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Soli TOC Cube, Carbon
Balance: BAL3
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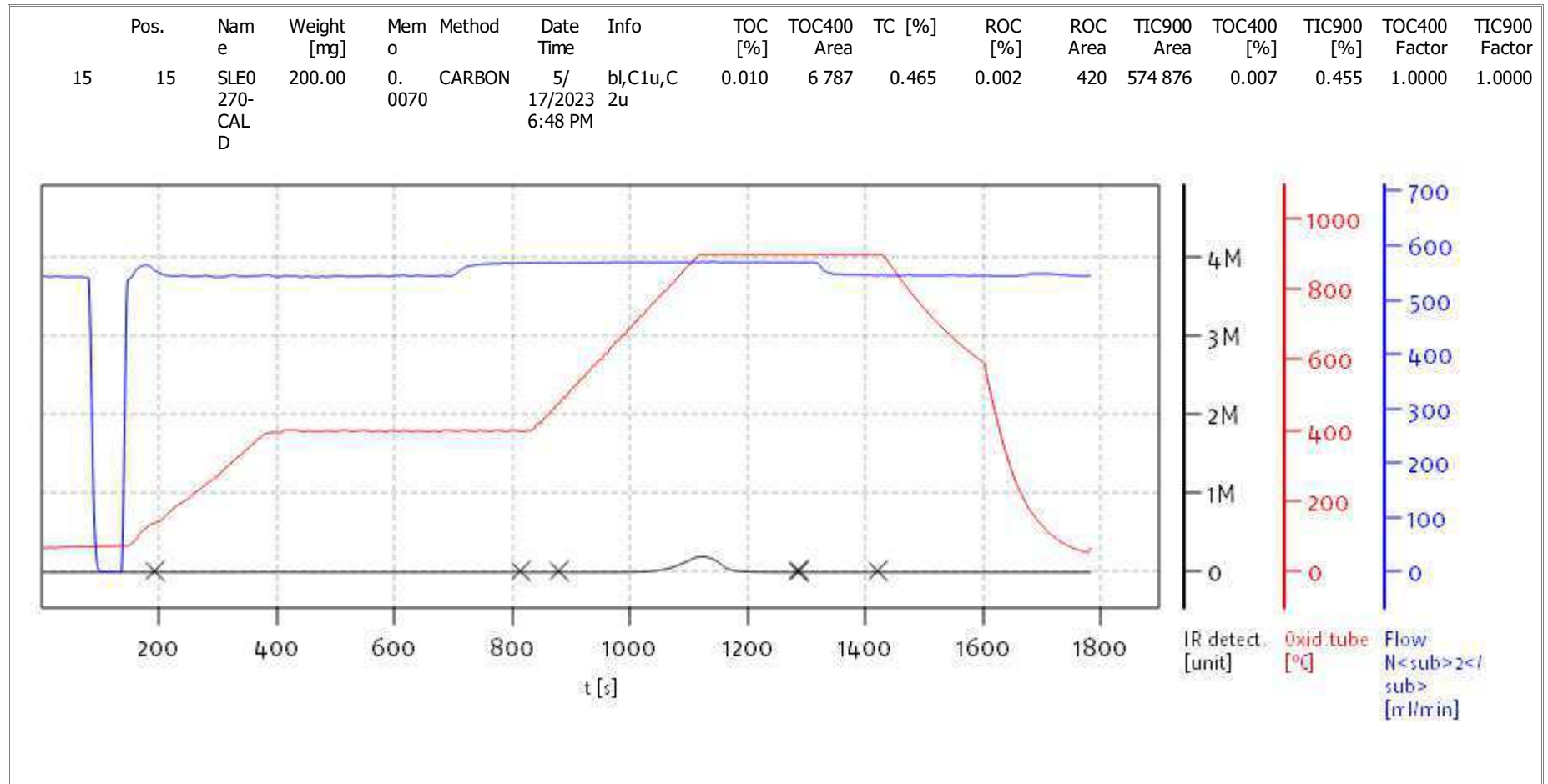
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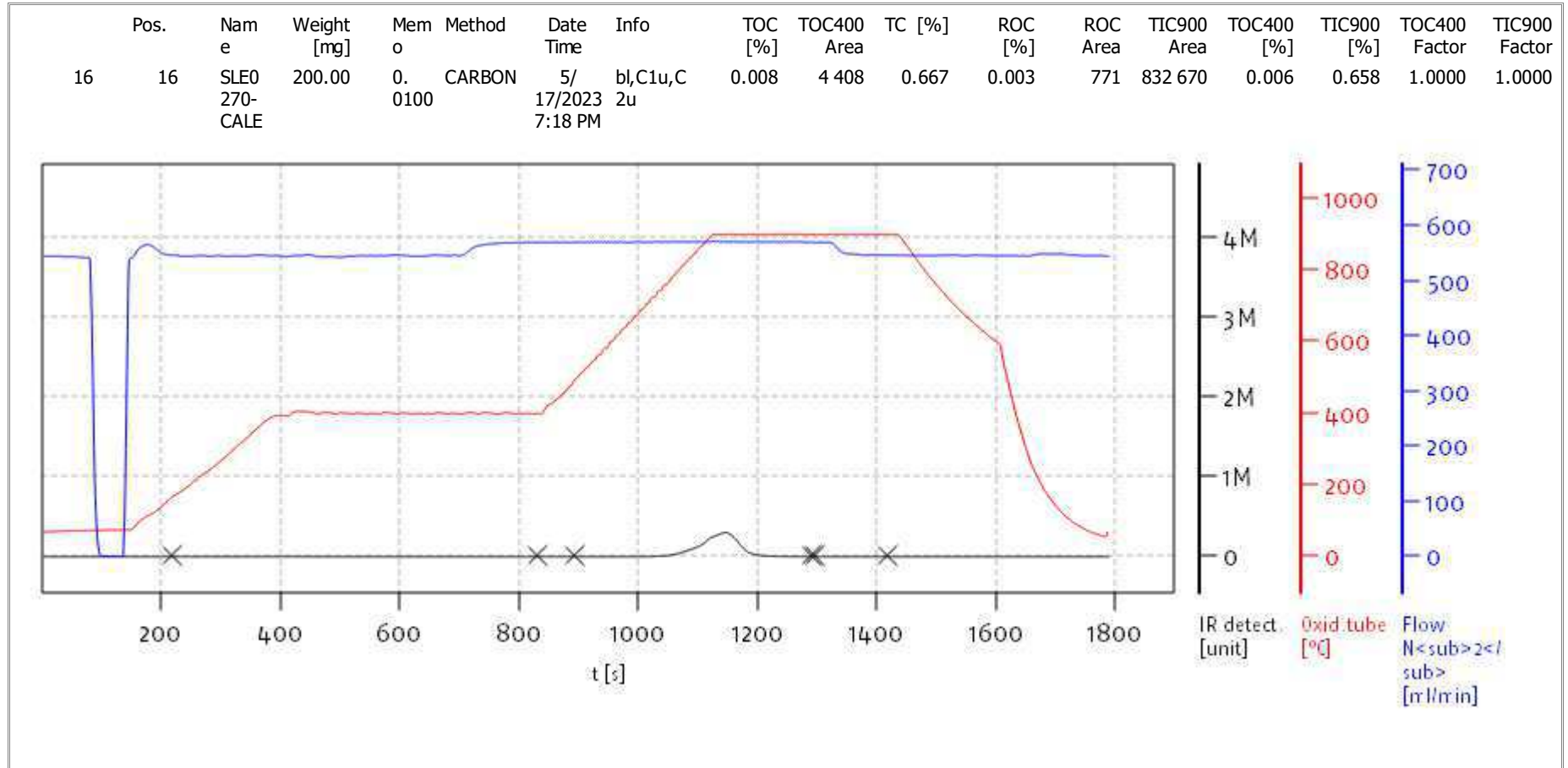
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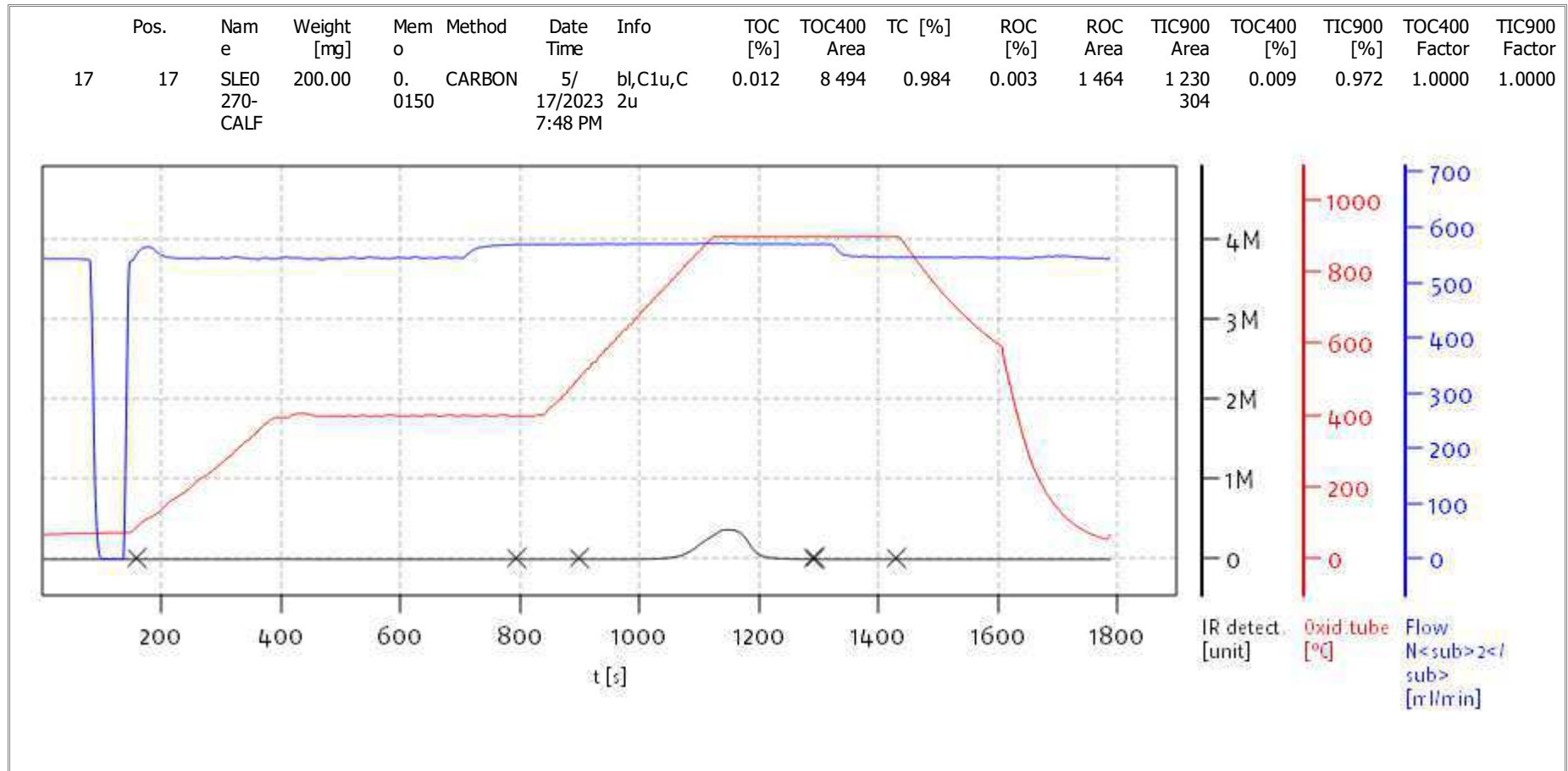
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Soli TOC Cube, Carbon
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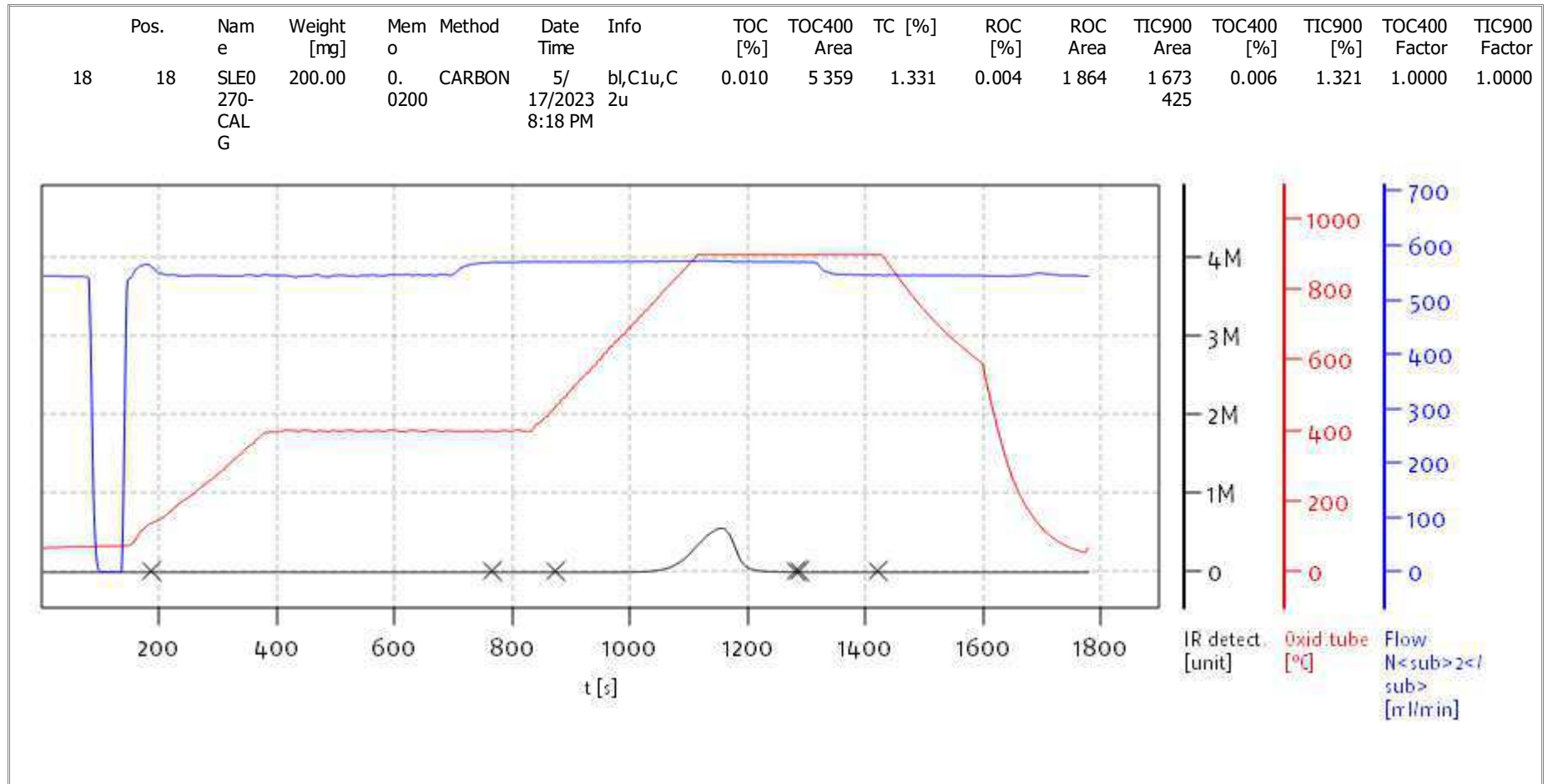
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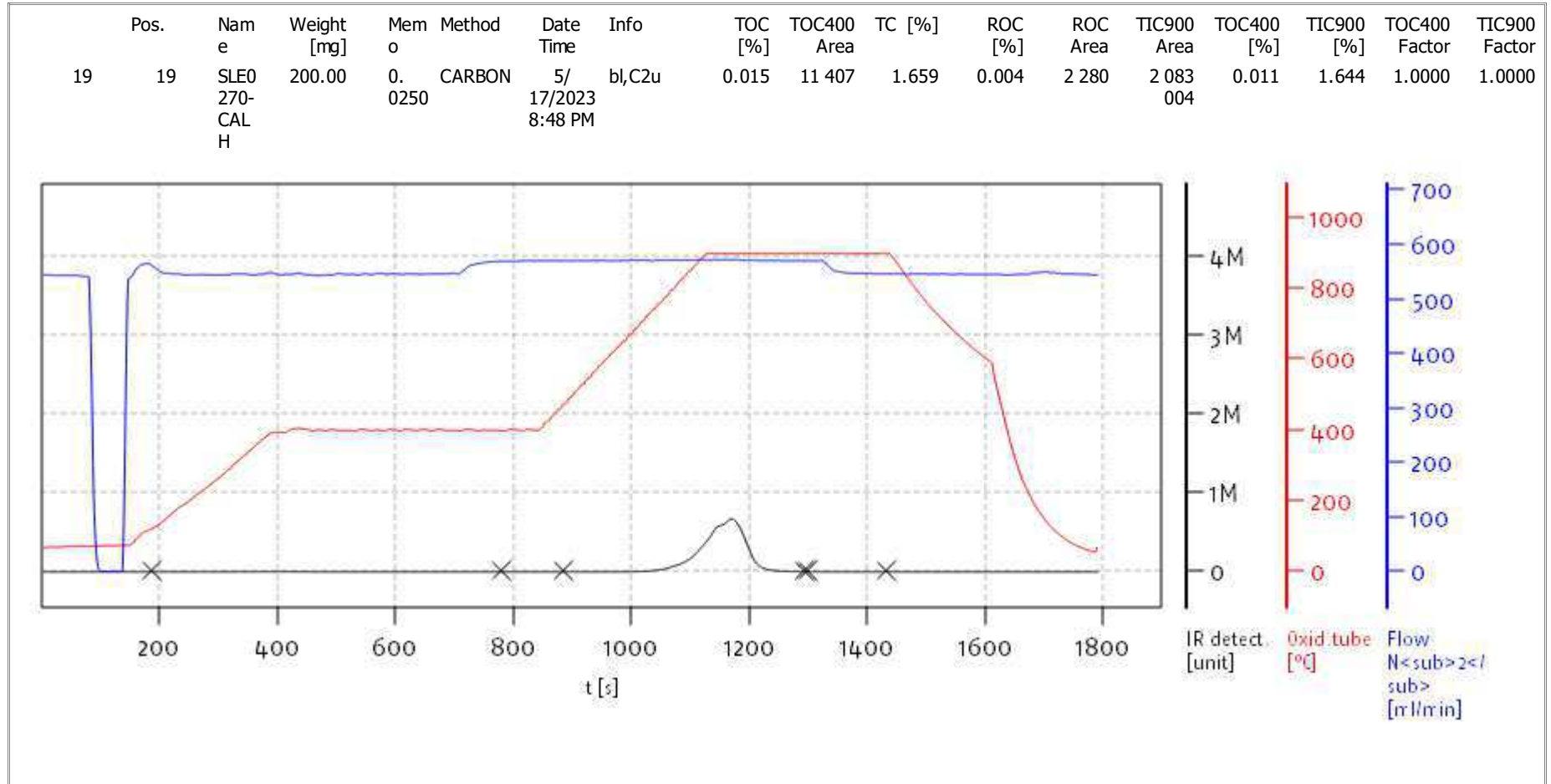
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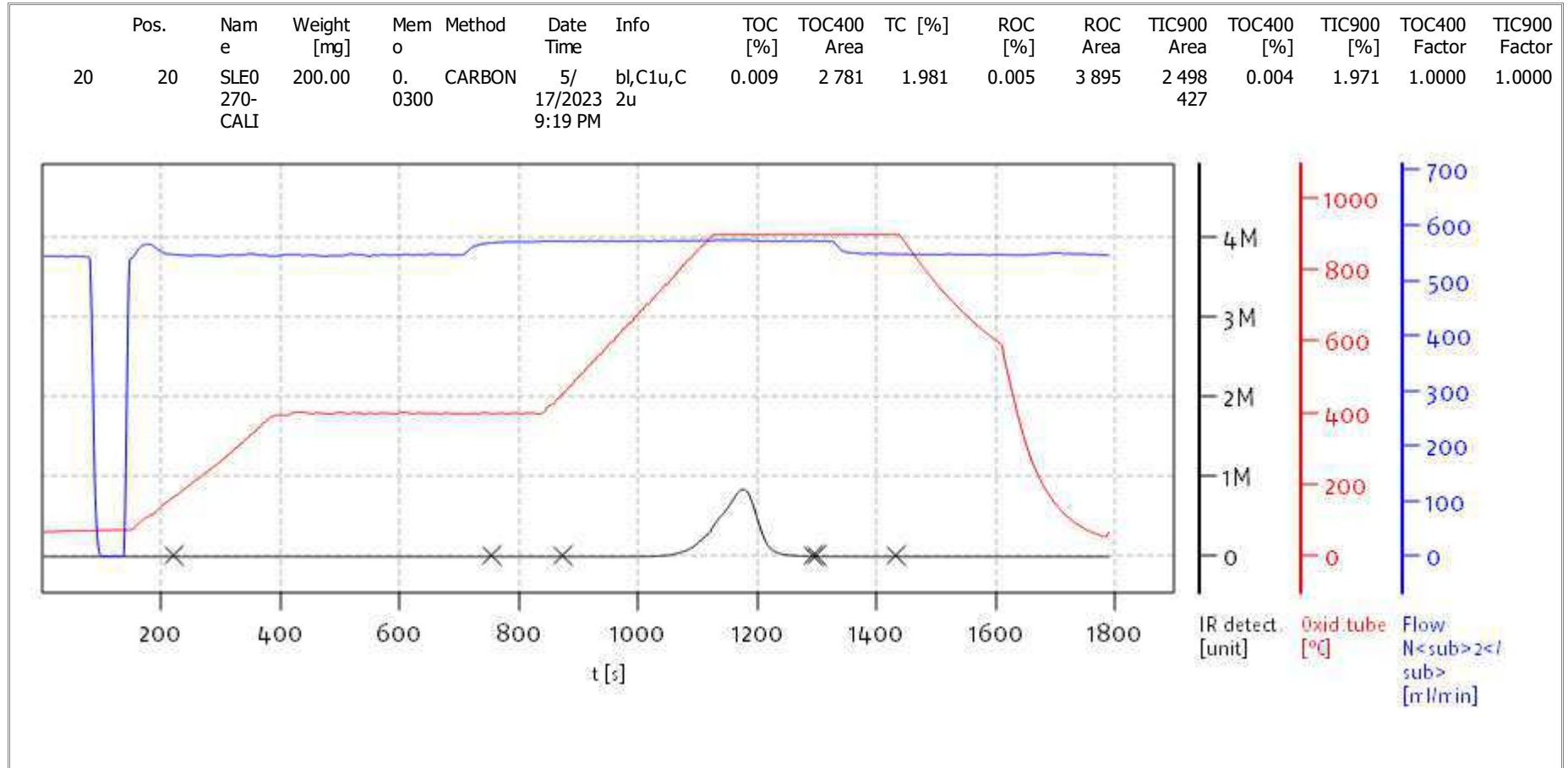
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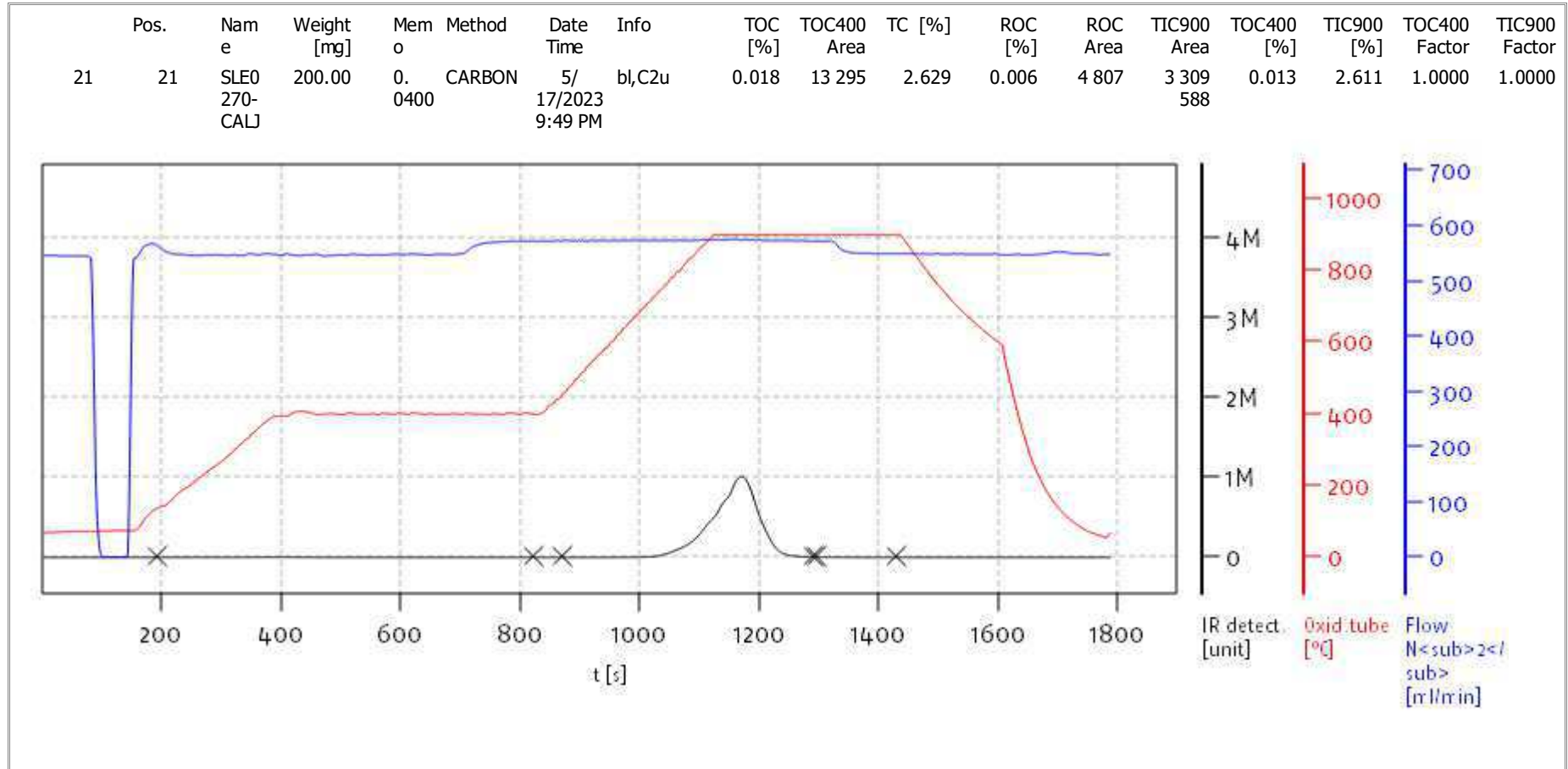
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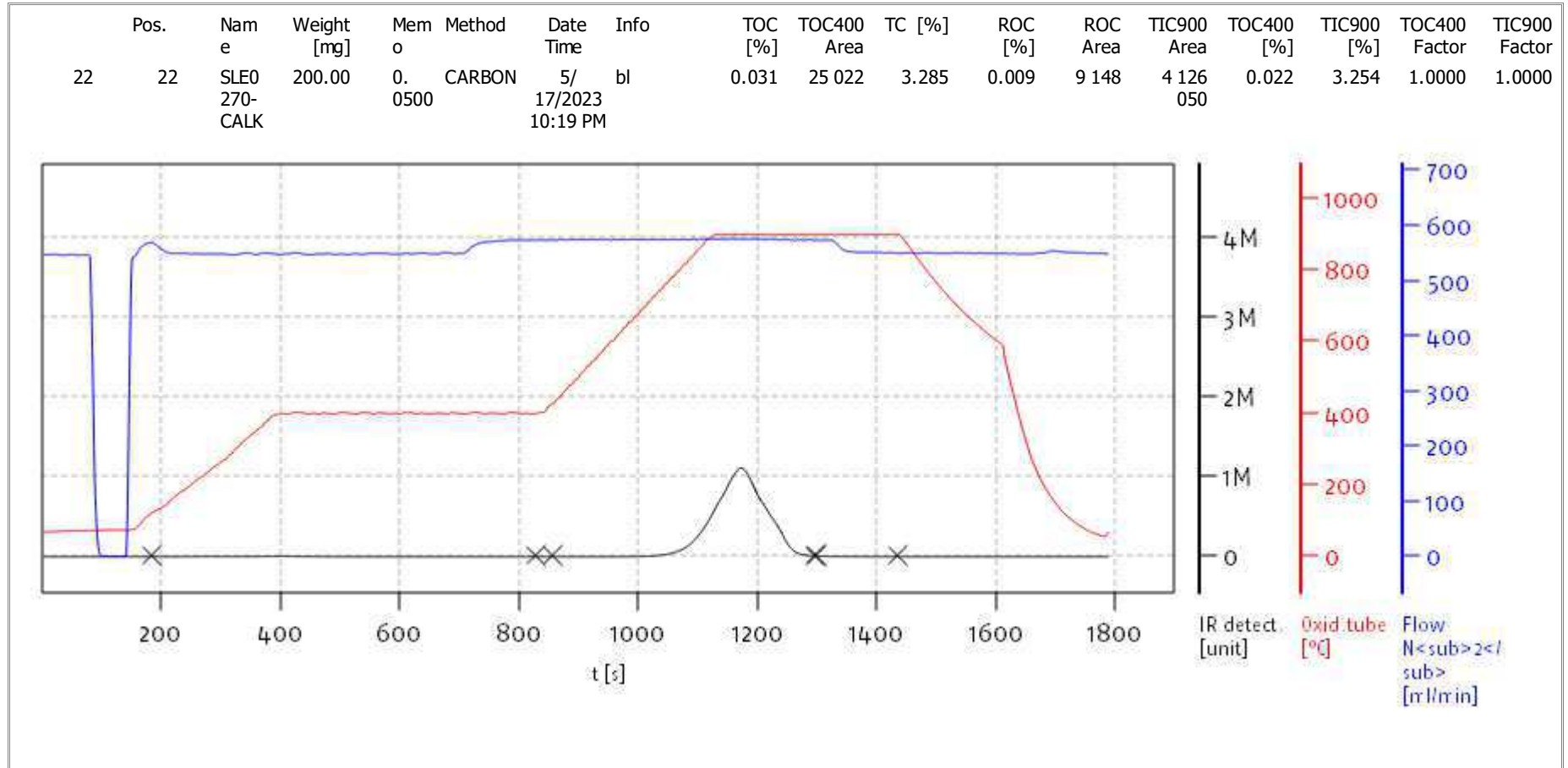
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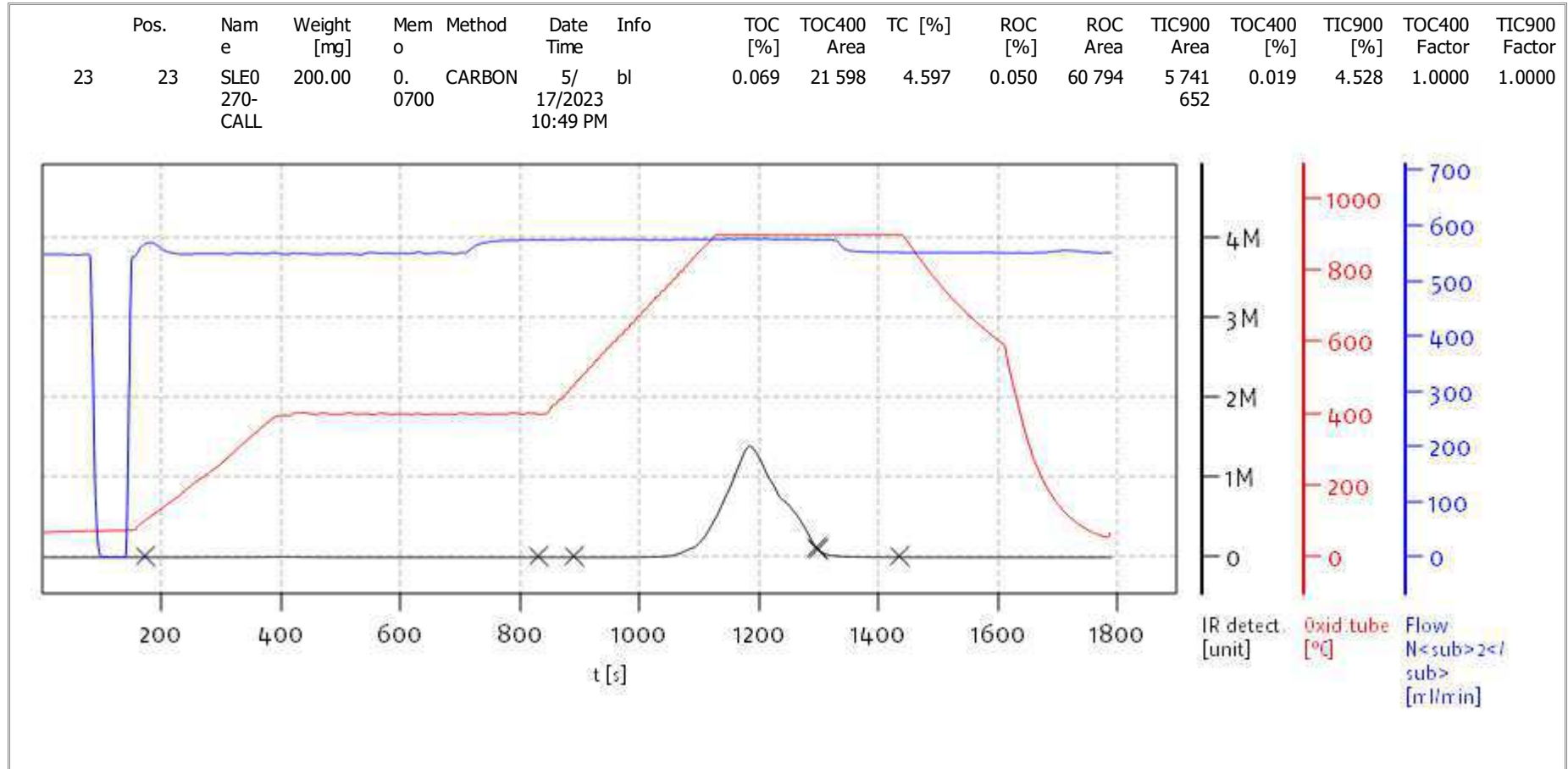
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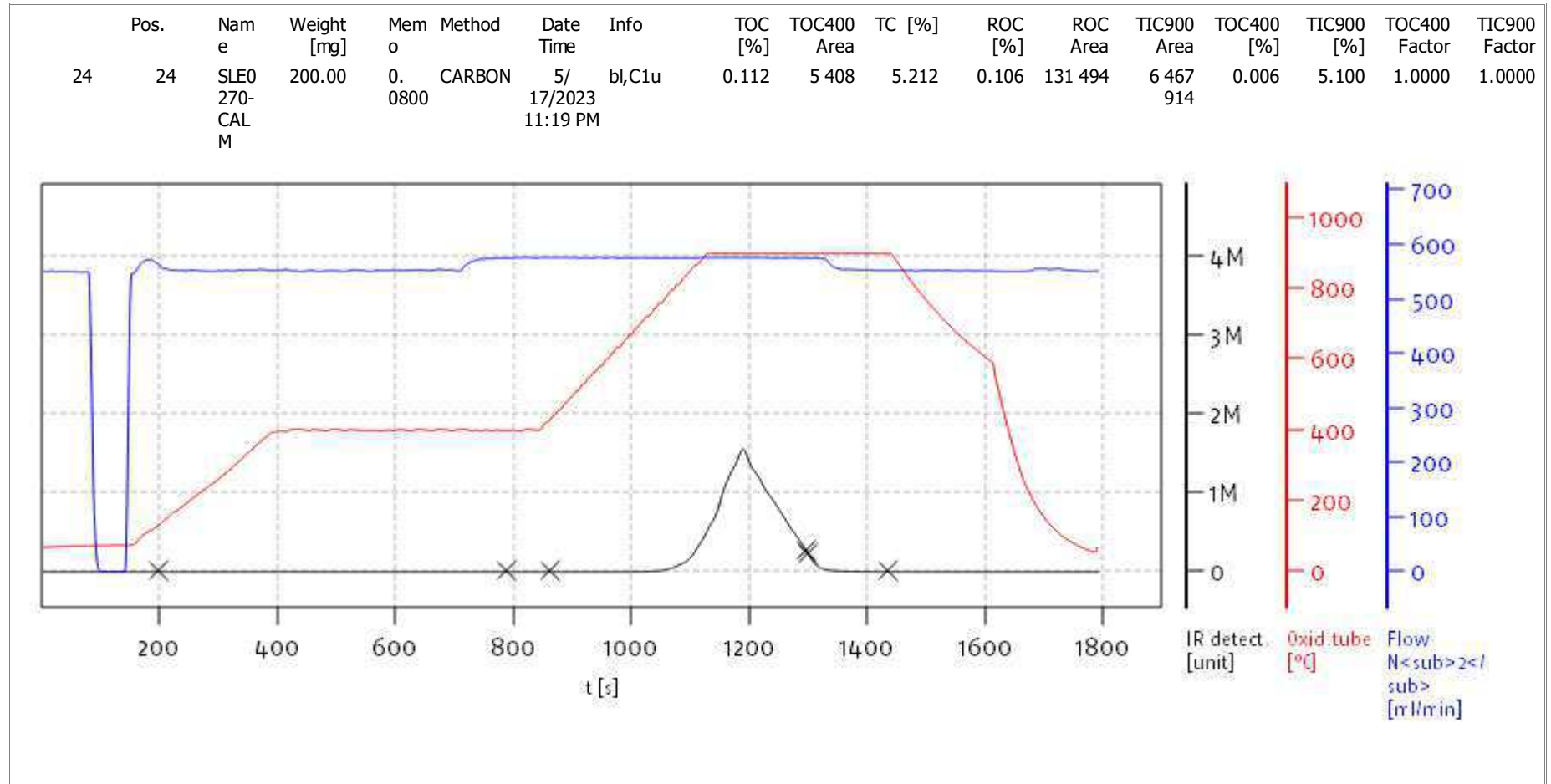
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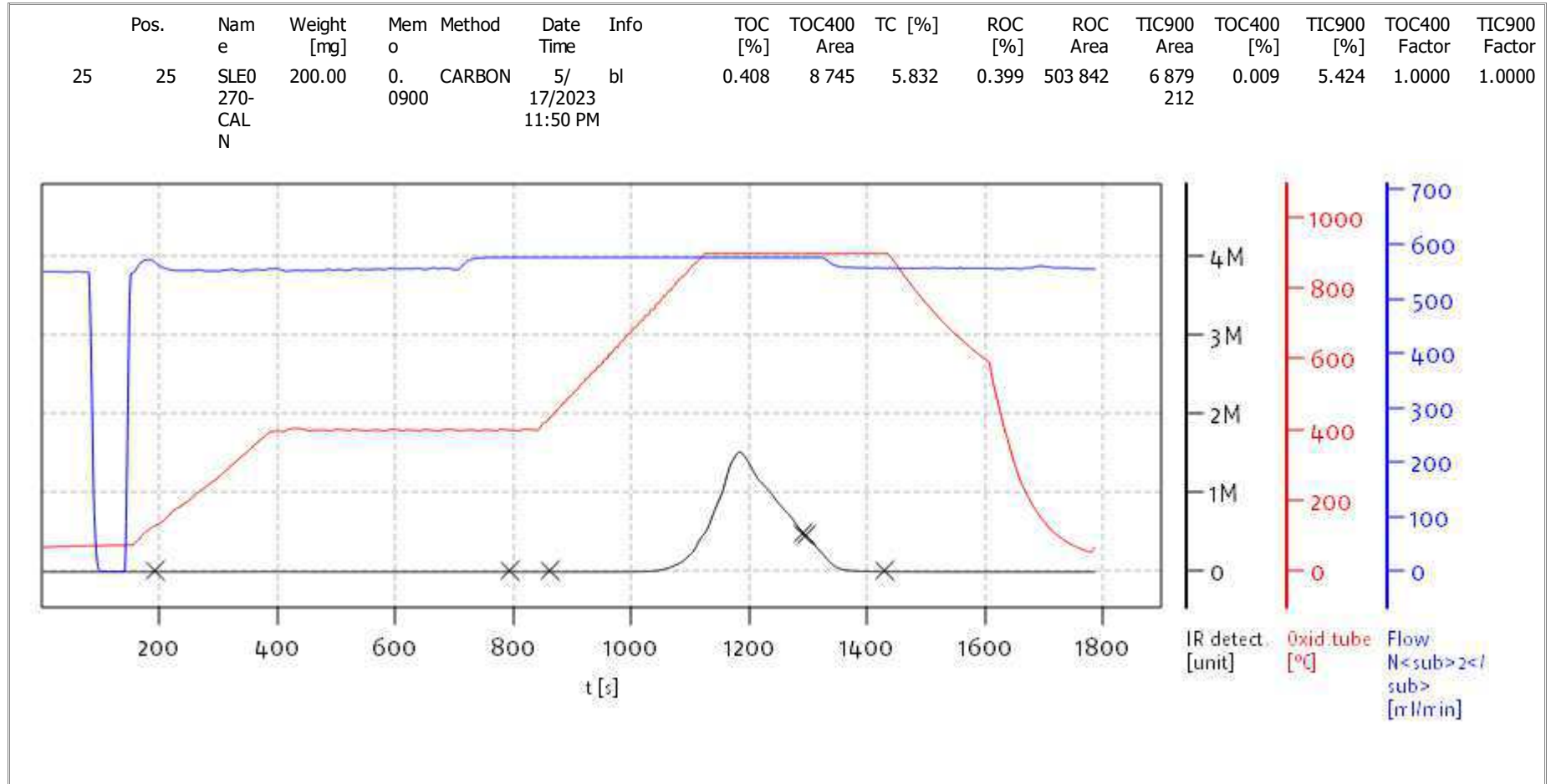
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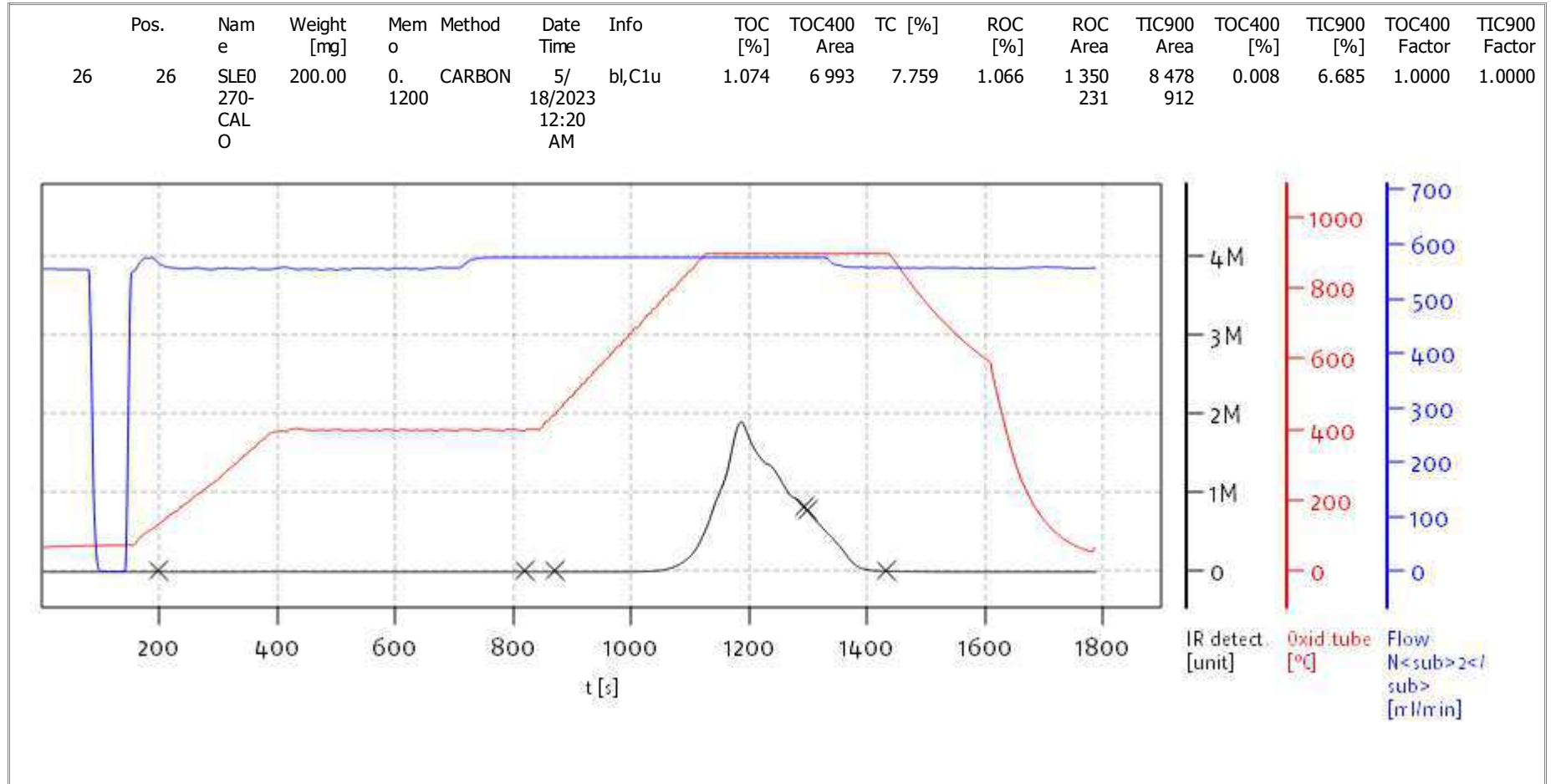
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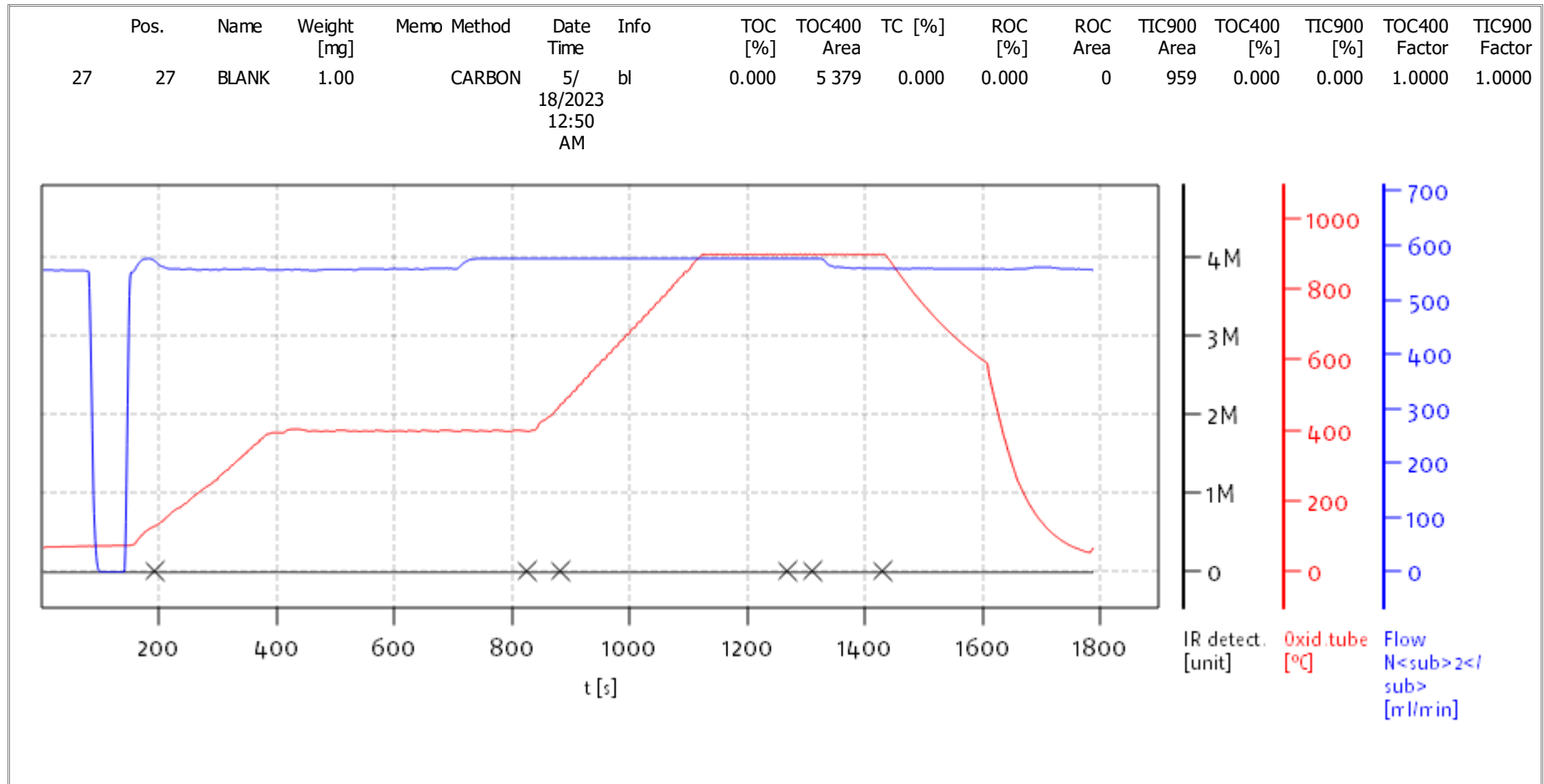
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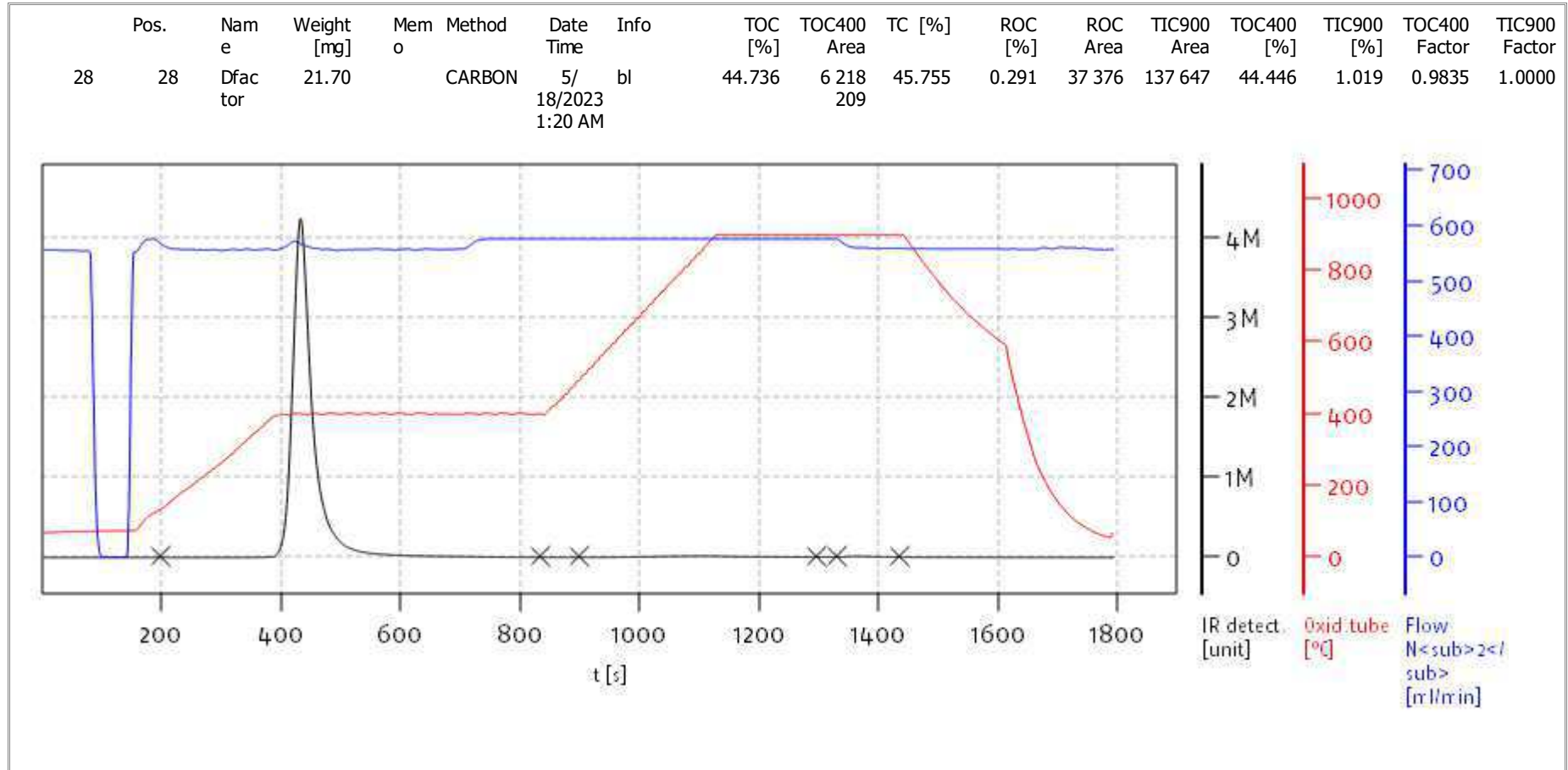
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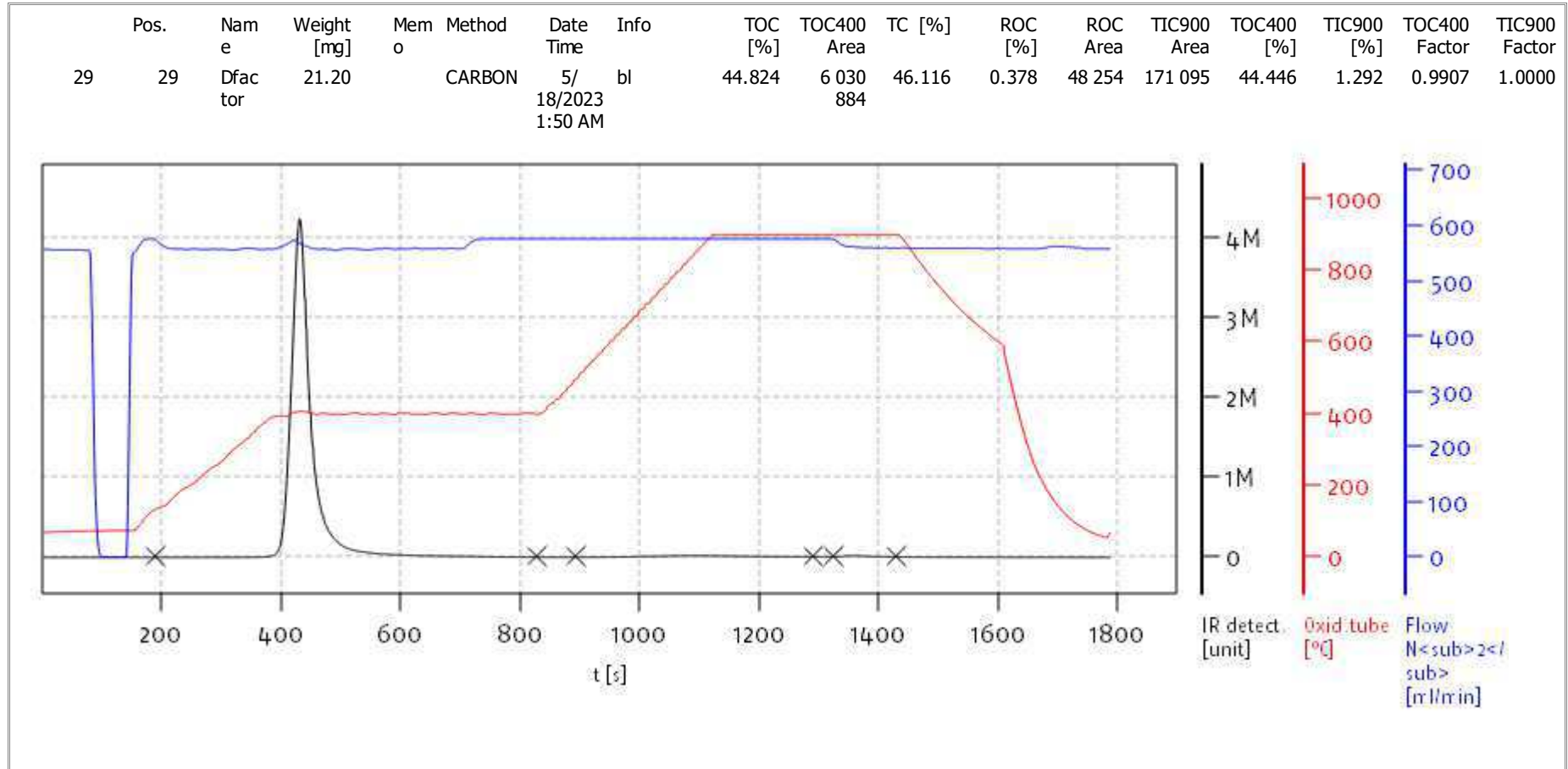
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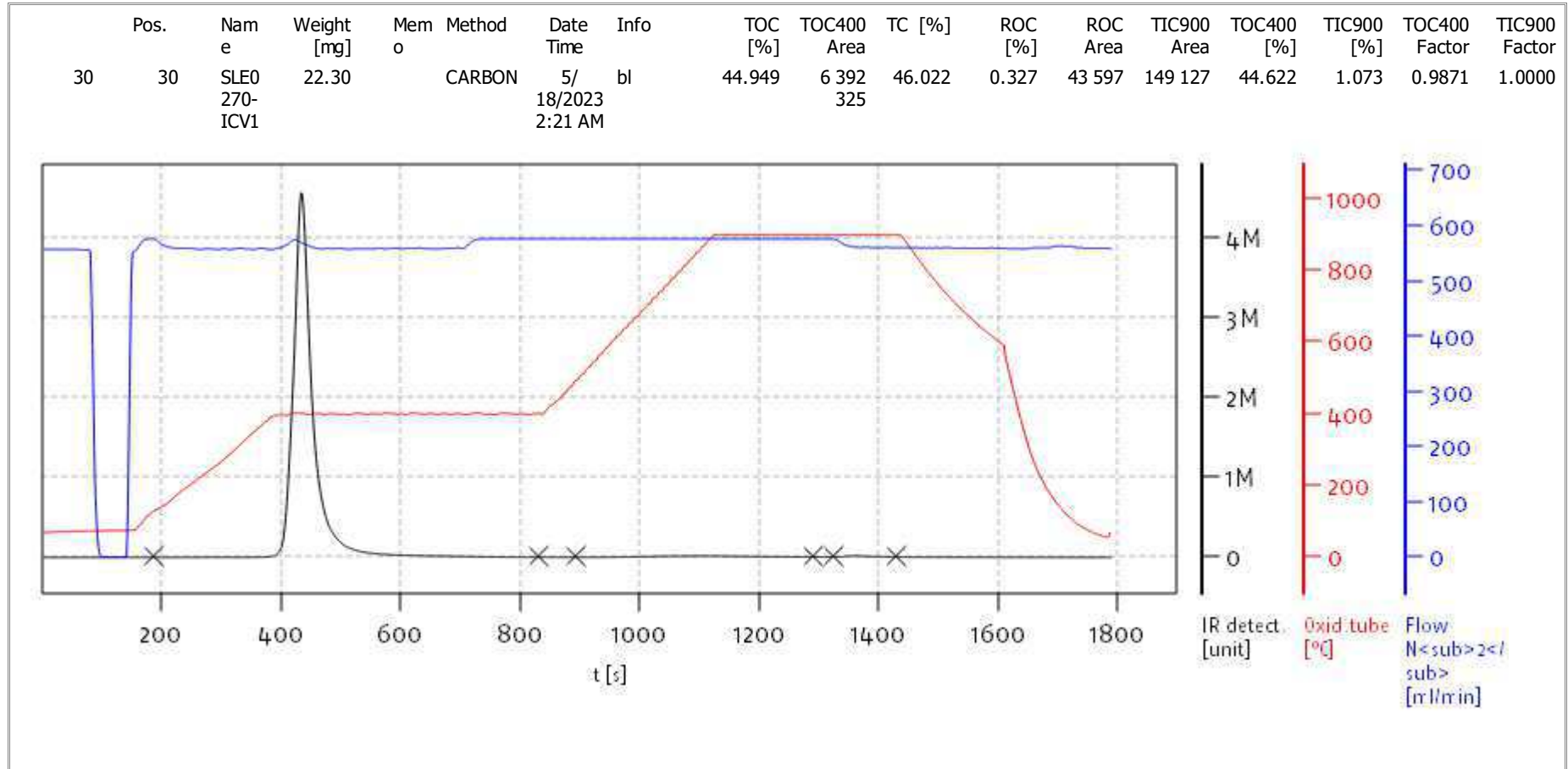
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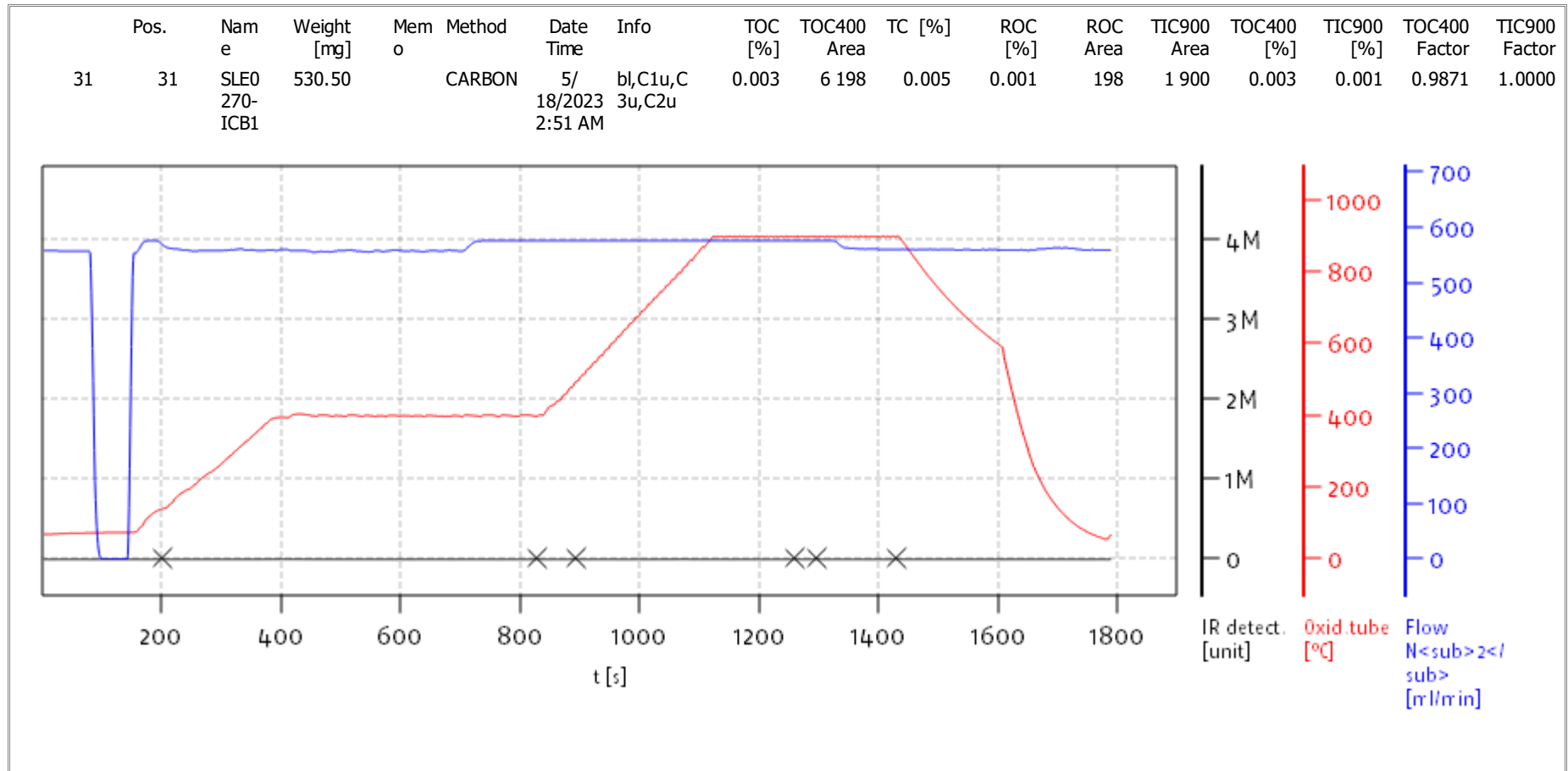
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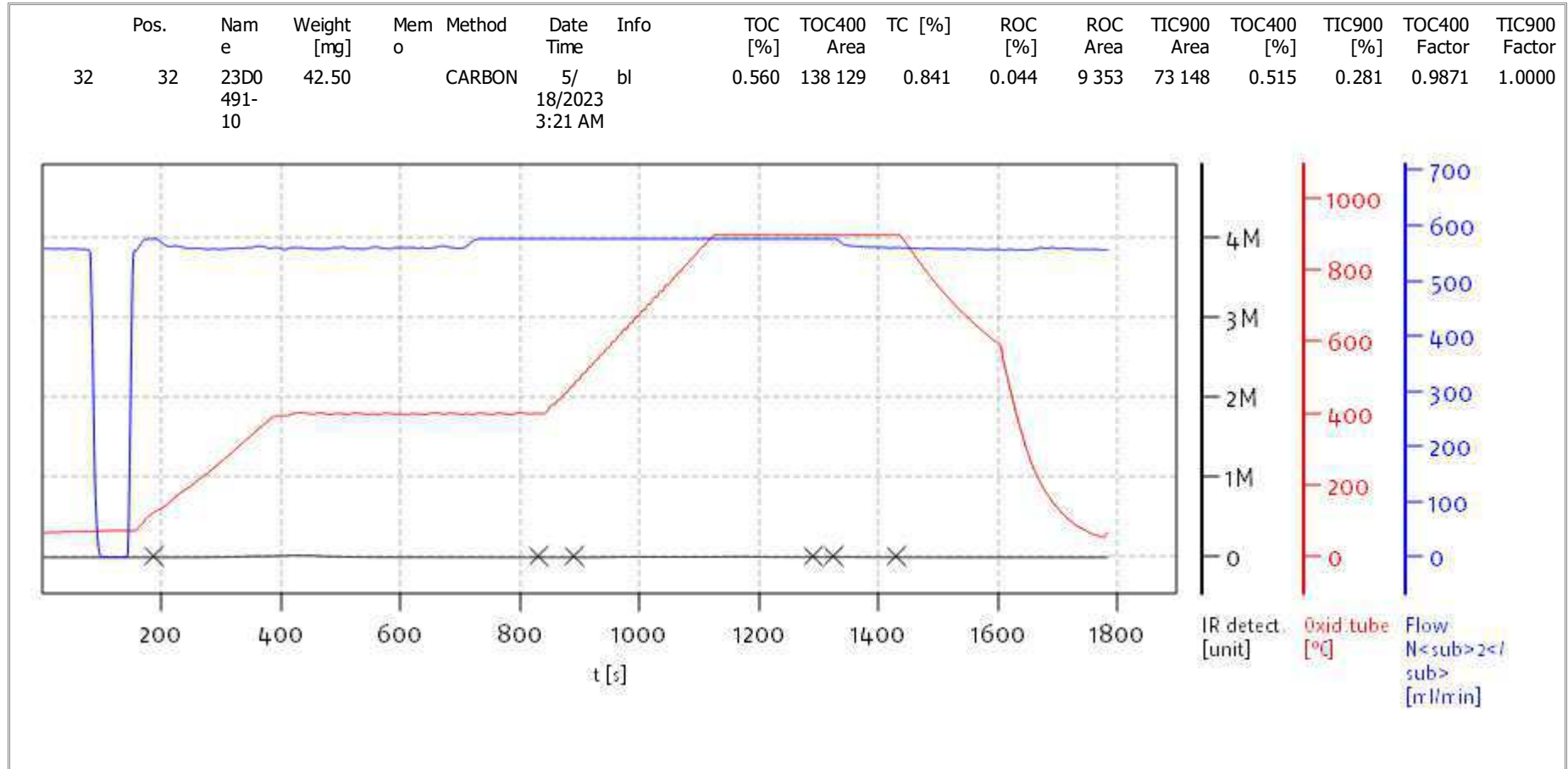
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Soli TOC Cube, Carbon
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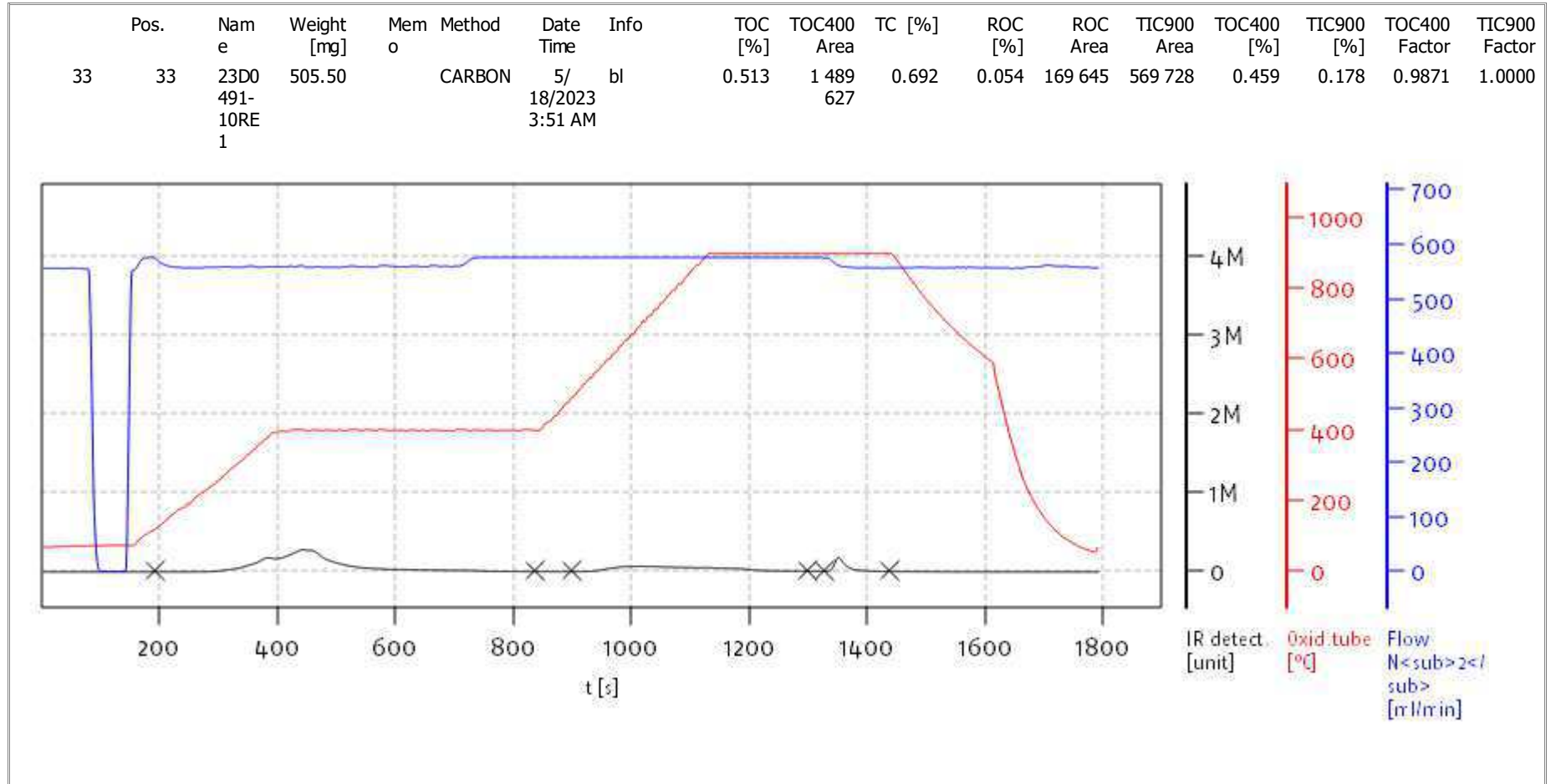
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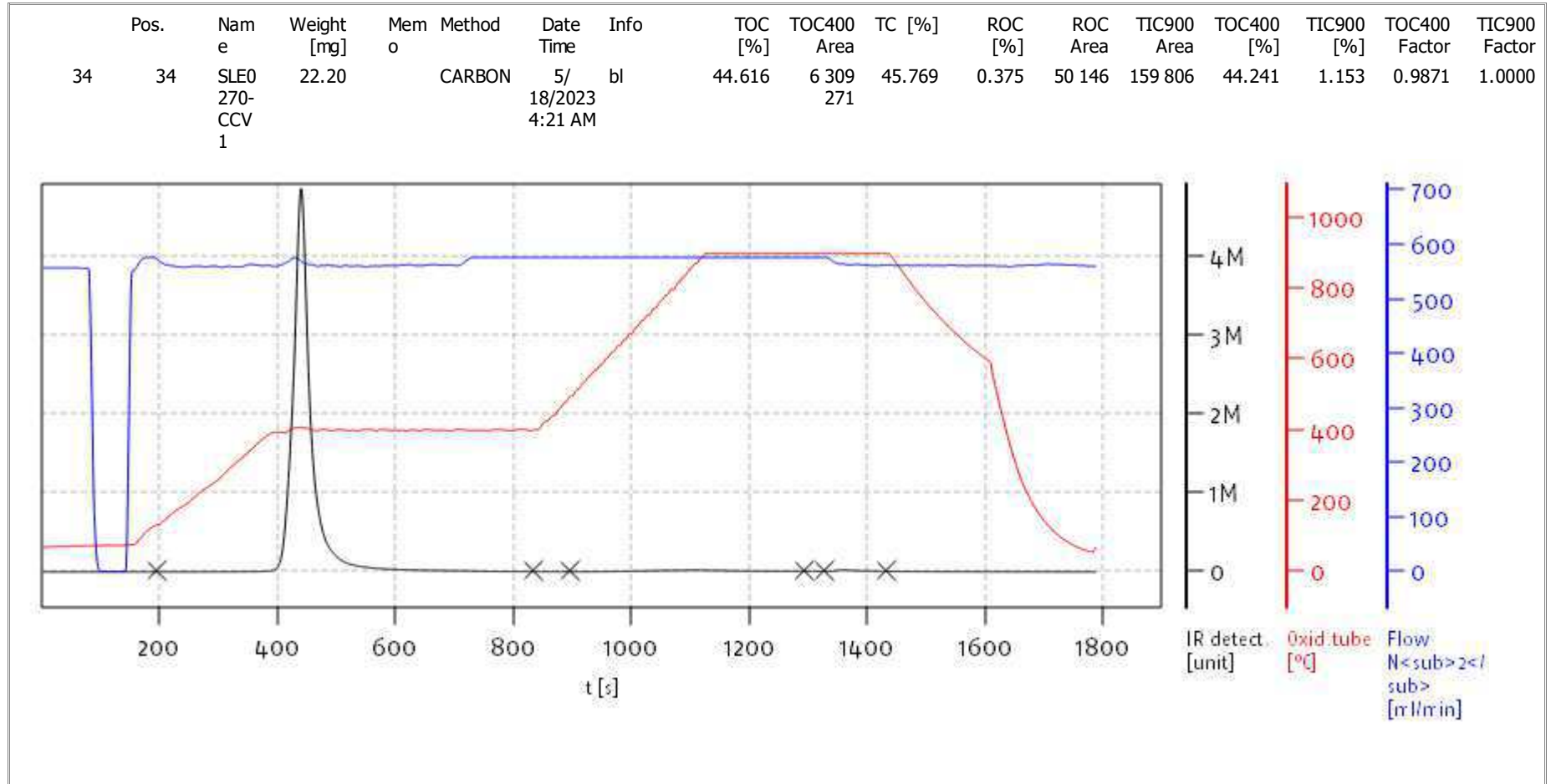
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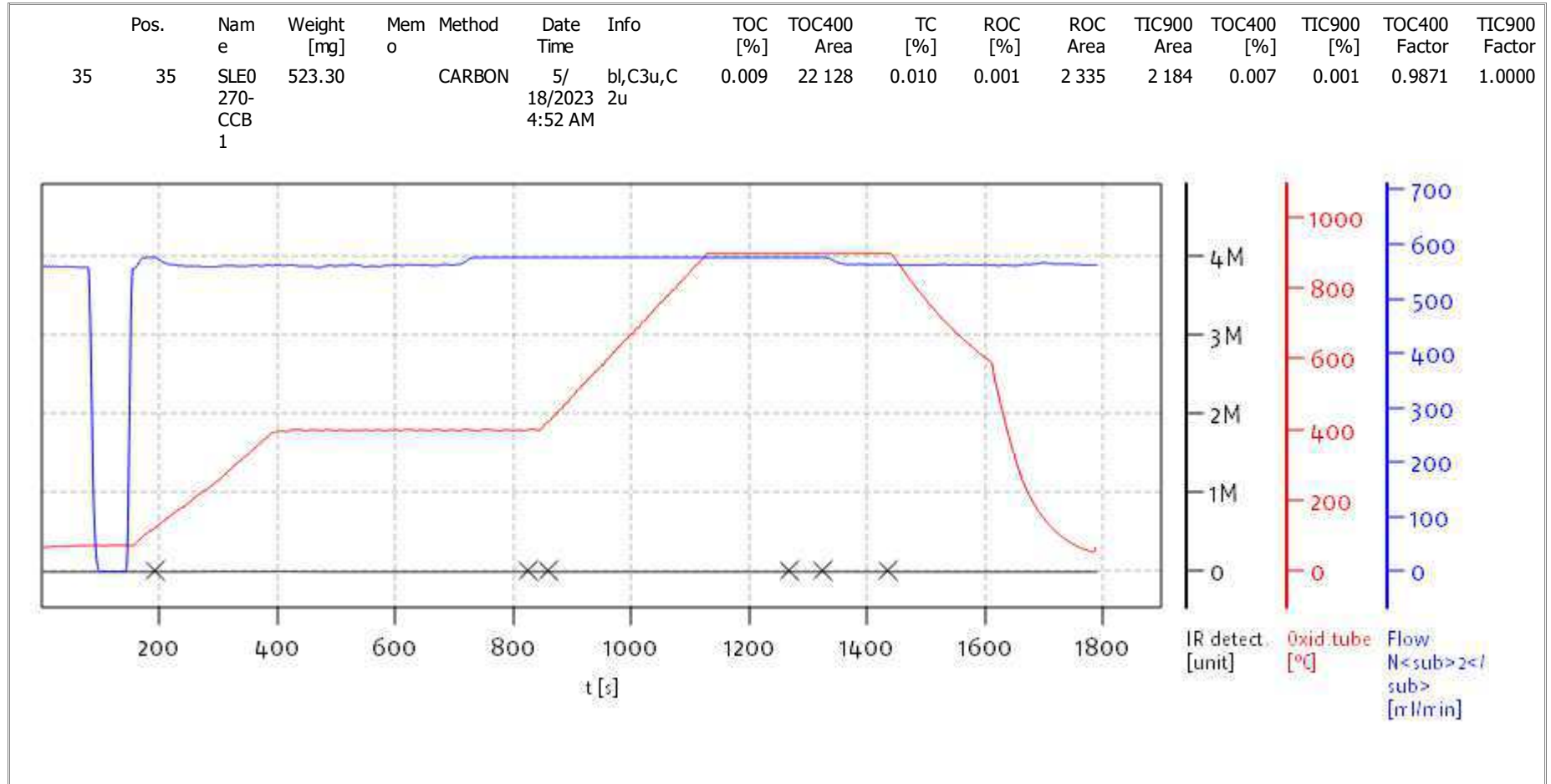
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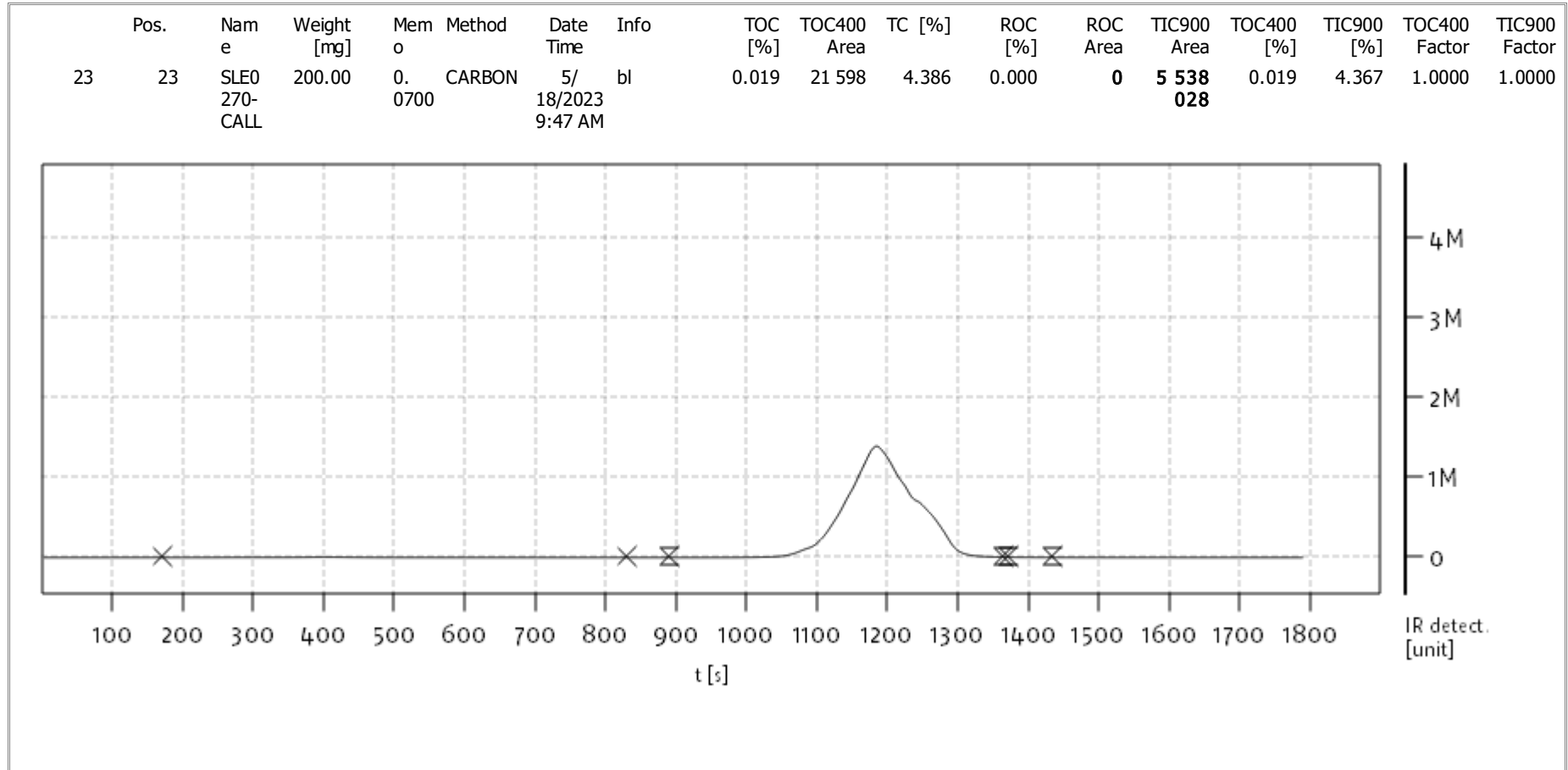
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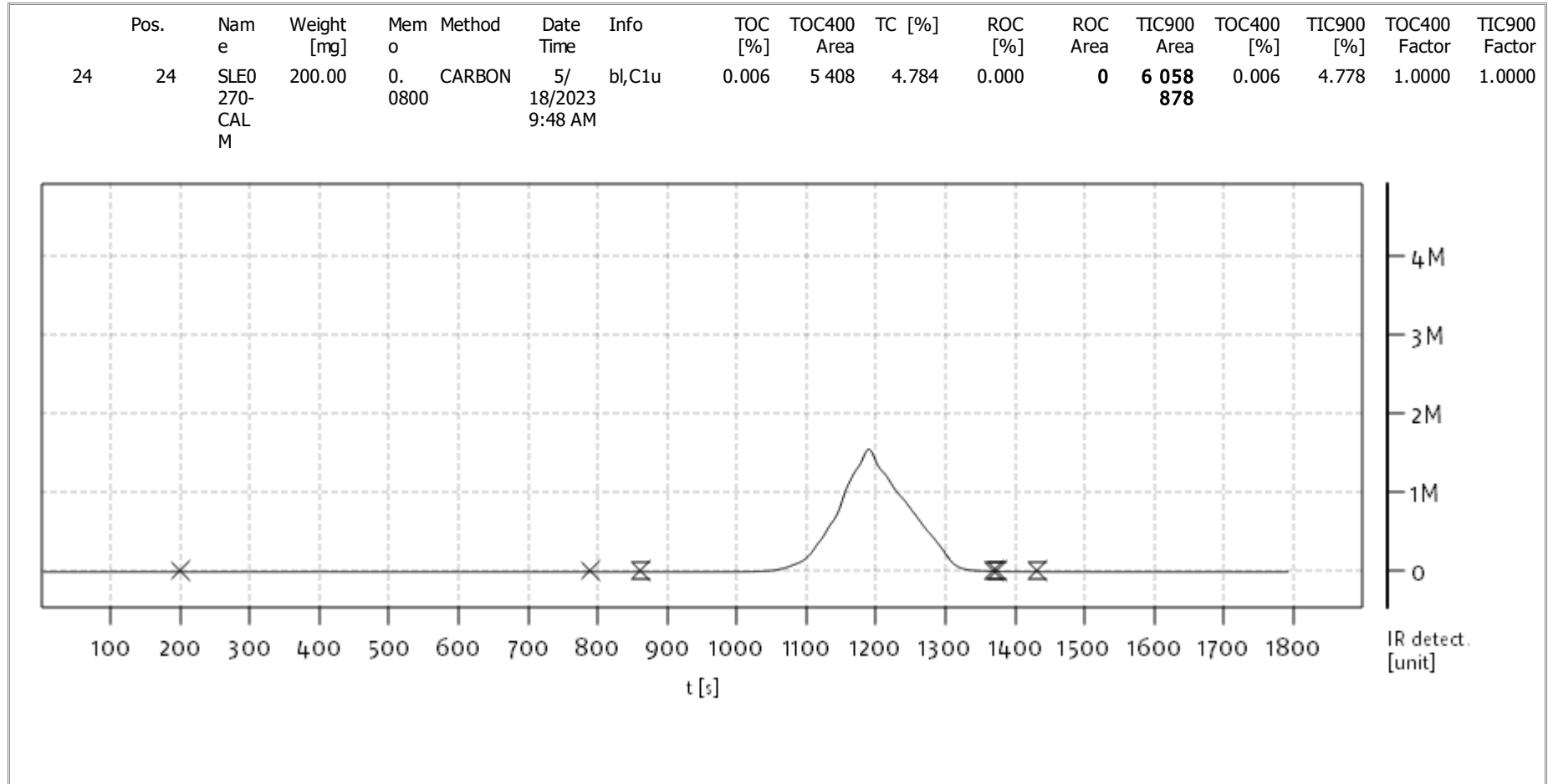
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solITOC V2.0.2 (31015f9) 2018-11-19
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Mode CCC



Soli TOC Cube, Carbon
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Analyst: CDE



Name:

Access: solITOC superuser

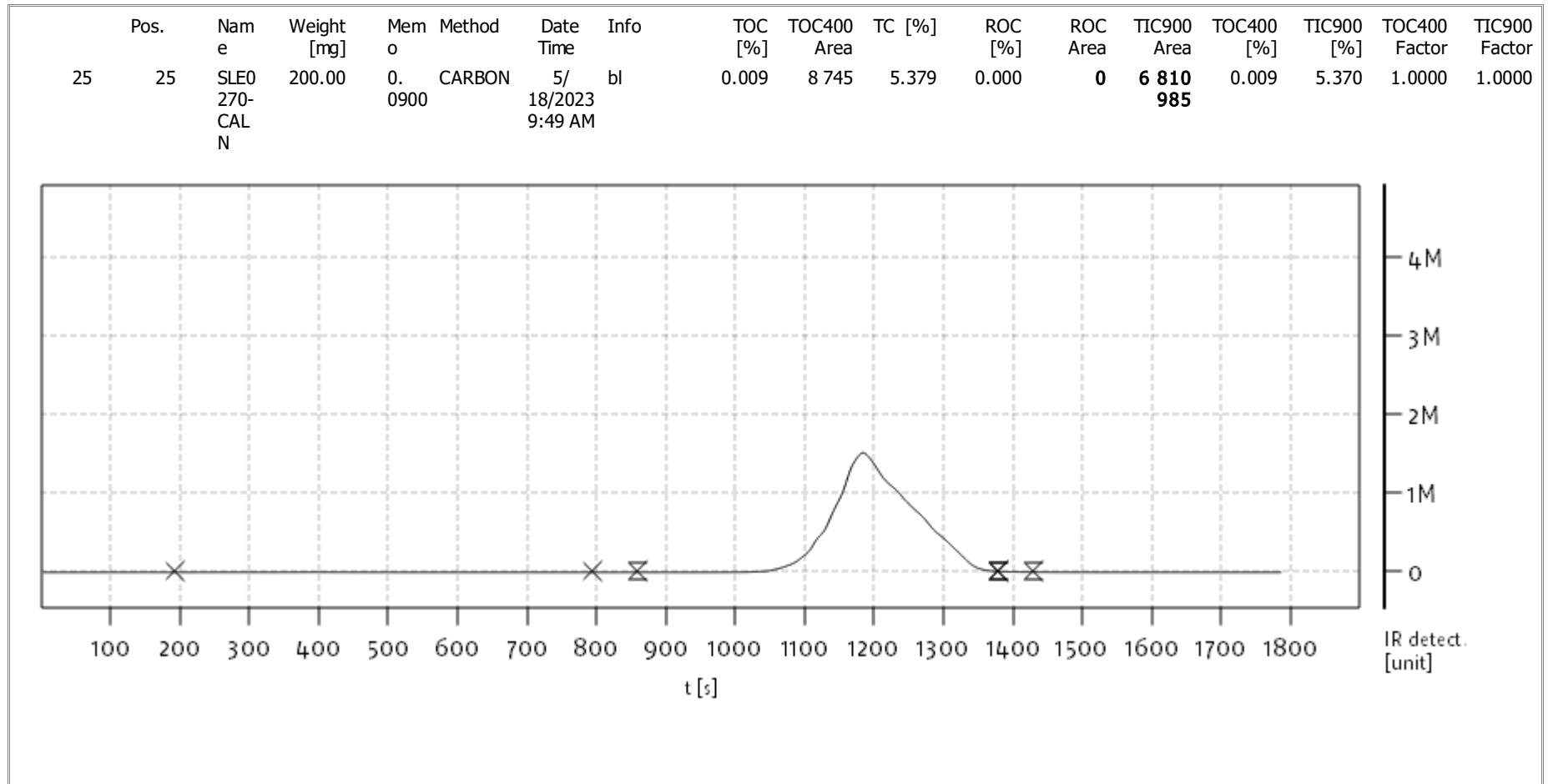
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solITOC V2.0.2 (31015f9) 2018-11-19
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Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

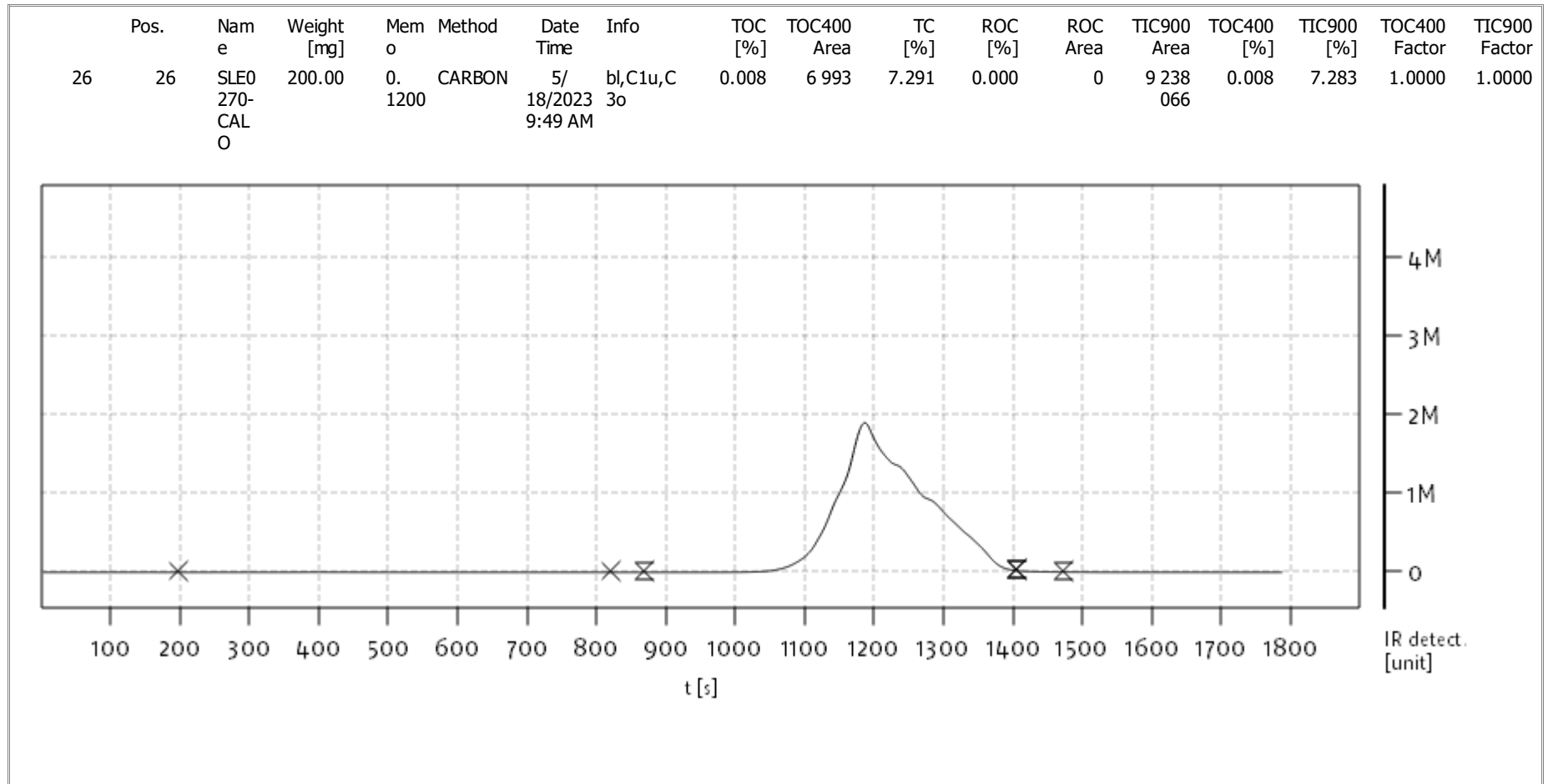
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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

Date: Thu May 18 09:50:12 2023



solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Sequence: SLF0283

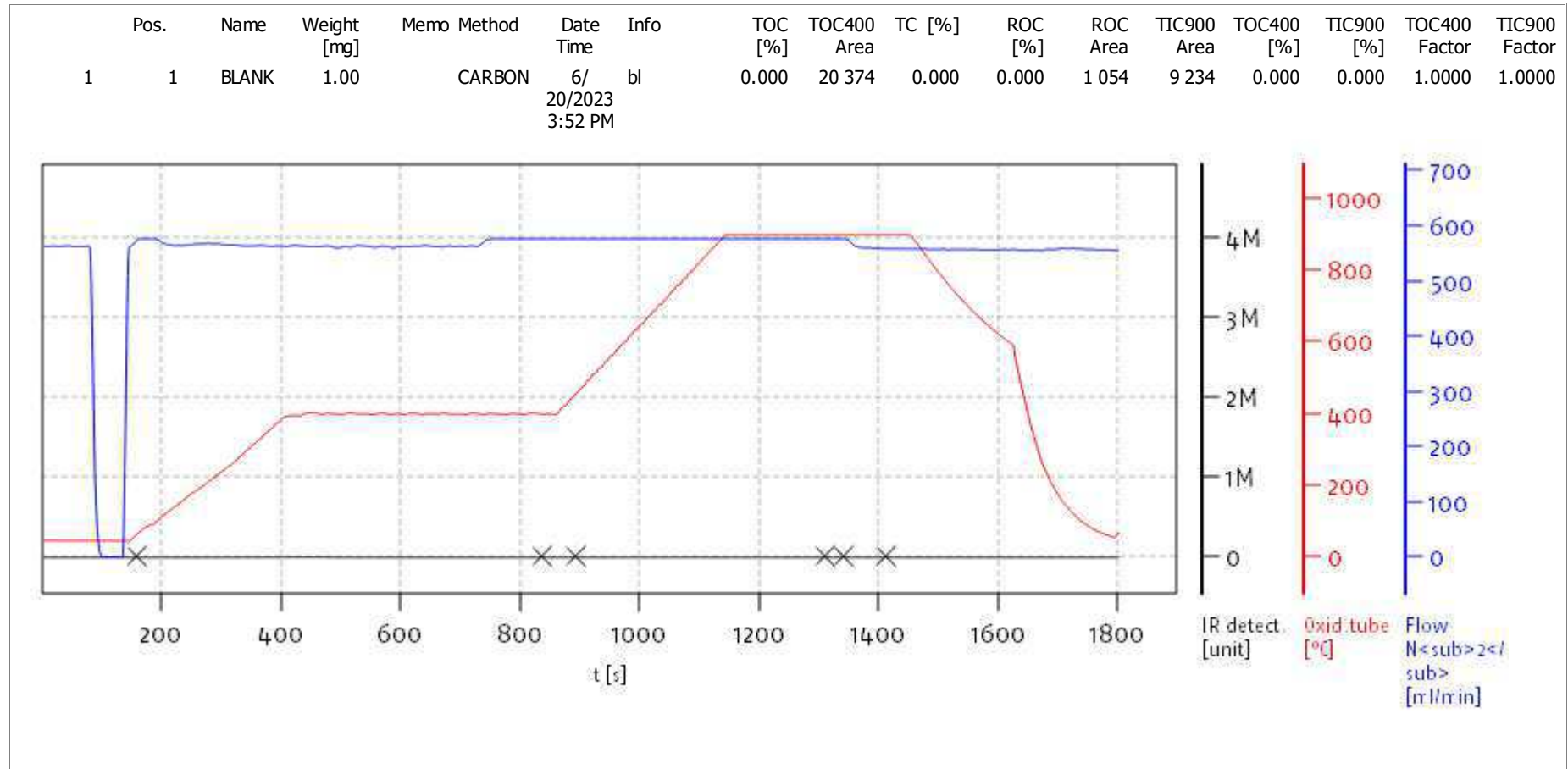
Instrument: TOC Cube

Calibration: GE00052

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Initial Cal Blank	SLF0283-ICB1	CubeData_06232023@1311-004	NA	06/20/23 17:53
MRL Check	BLF0522-MRL1	CubeData_06232023@1311-005	Solid	06/20/23 18:23
Blank	BLF0522-BLK1	CubeData_06232023@1311-009	Solid	06/20/23 20:23
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LDW22-SC777J	23D0577-02	CubeData_06232023@1311-043	Solid	06/21/23 13:28
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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

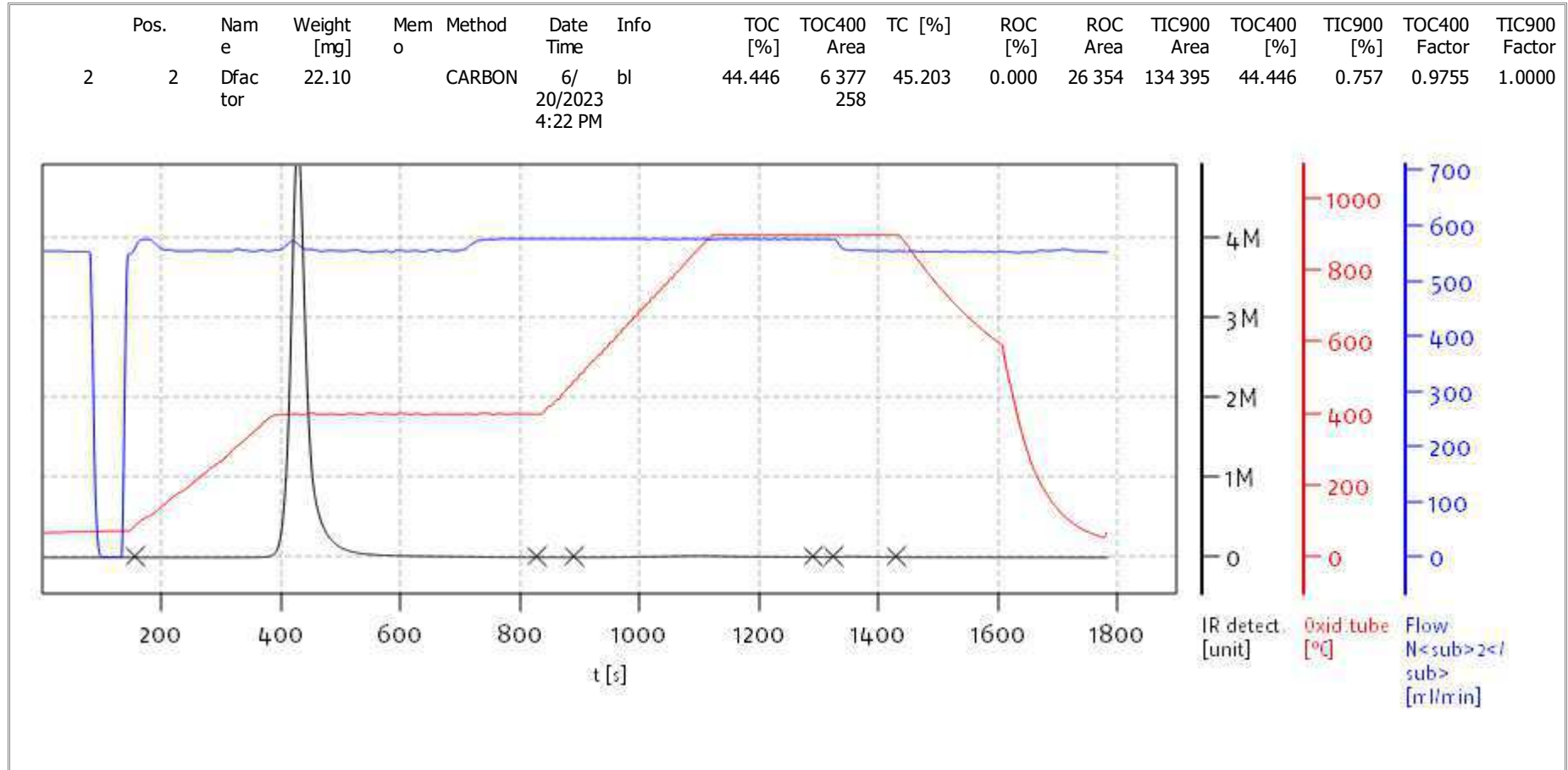
Date: Fri Jun 23 12:52:31 2023



solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

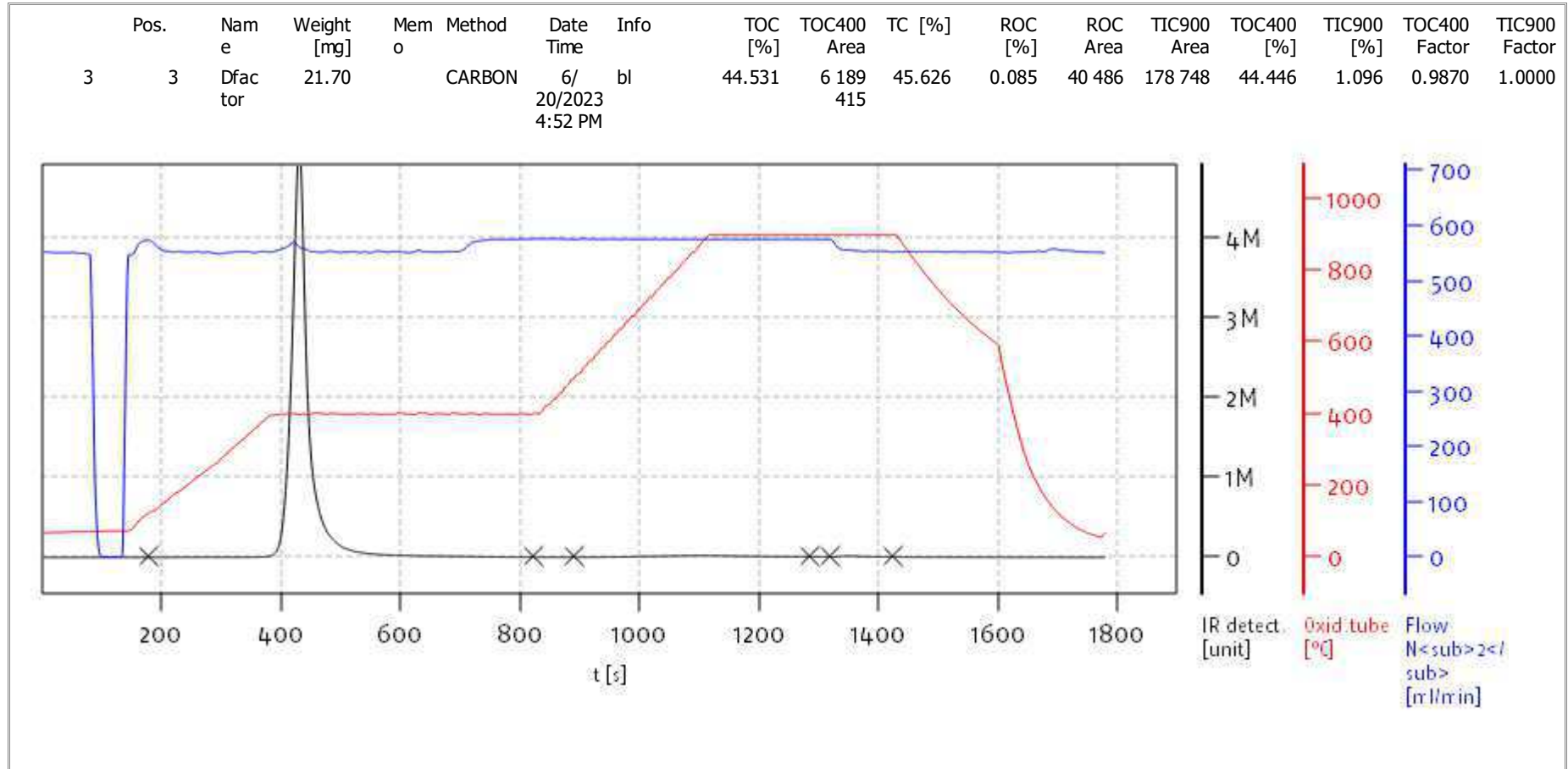
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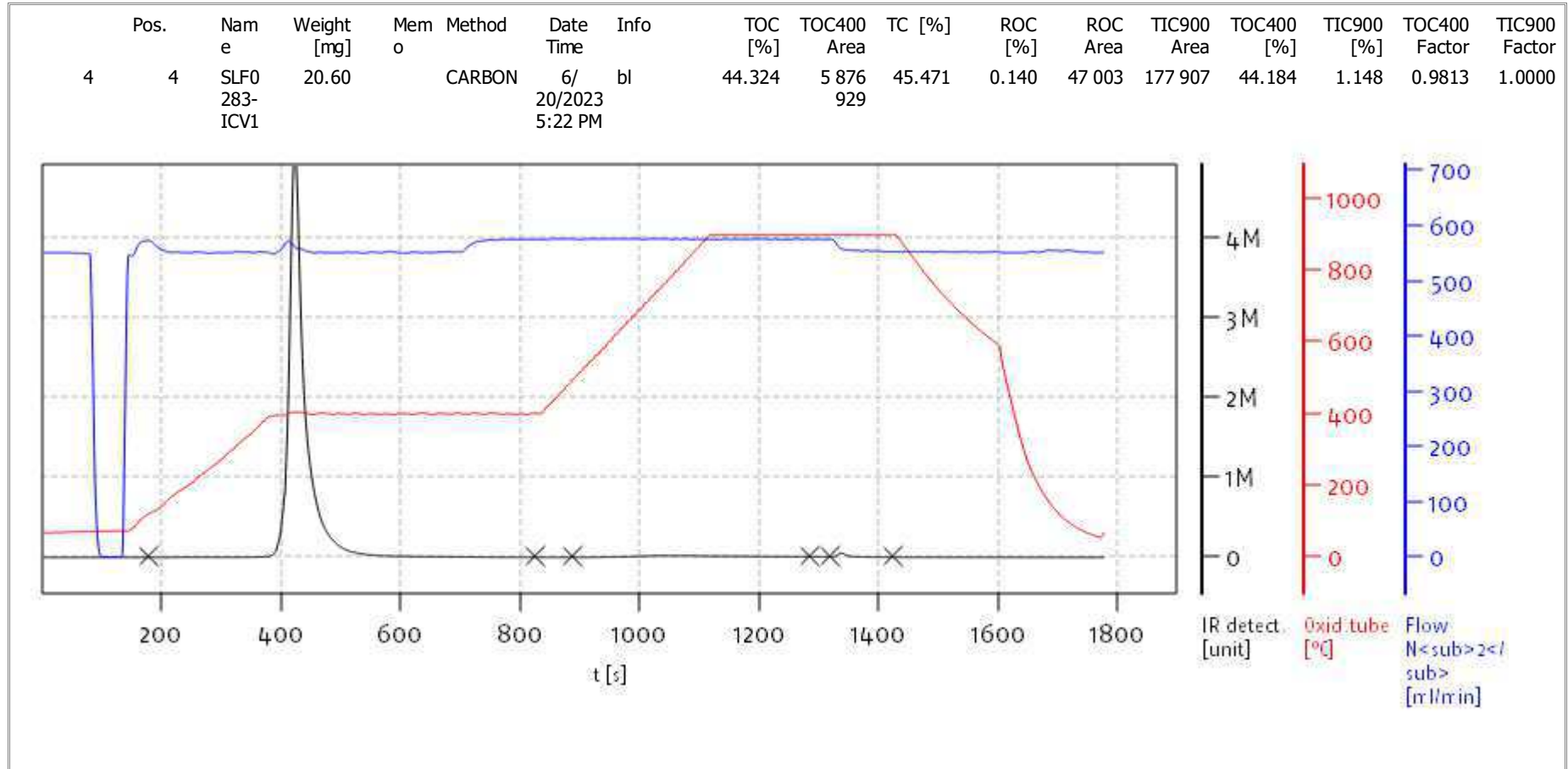
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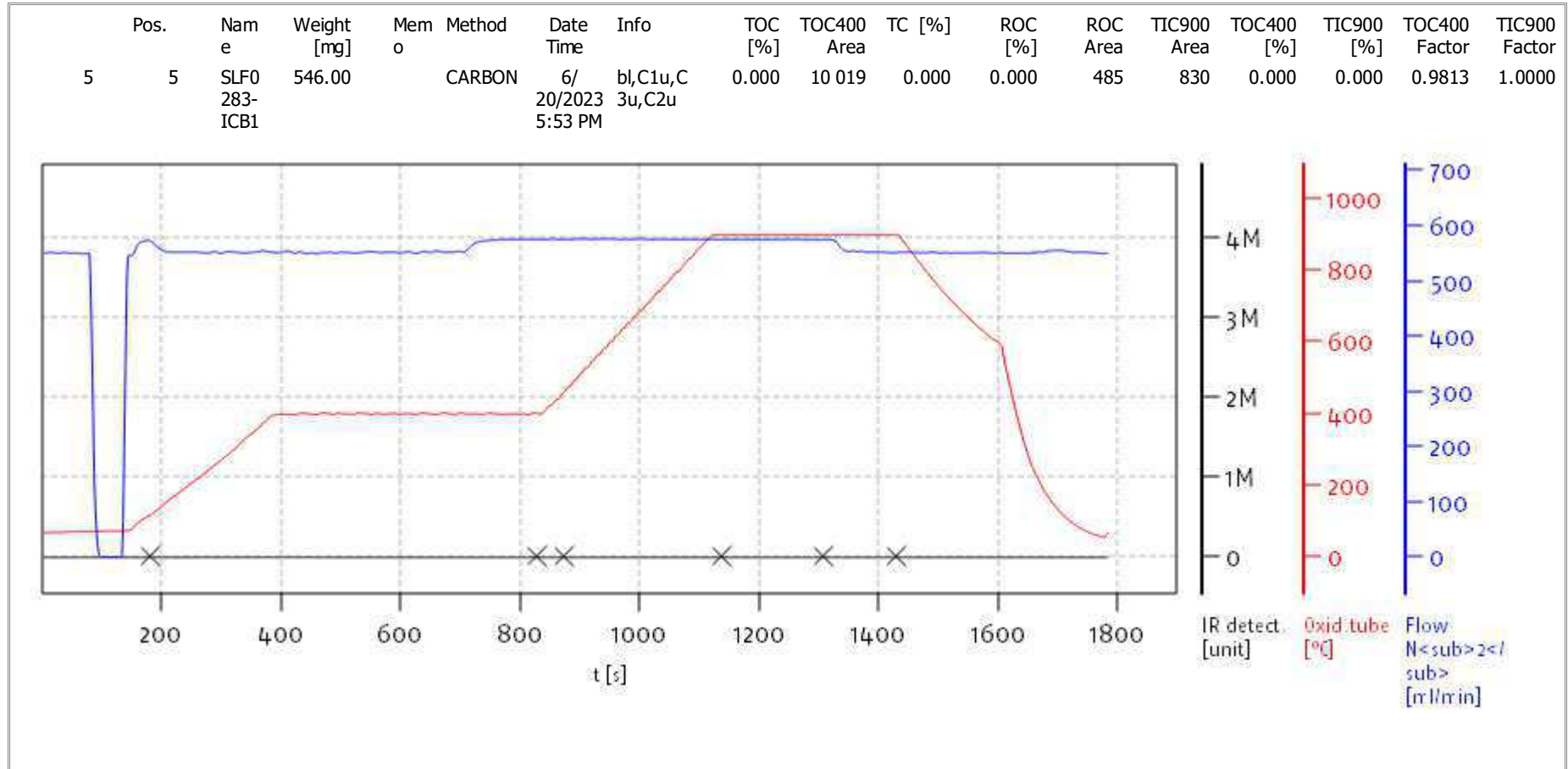
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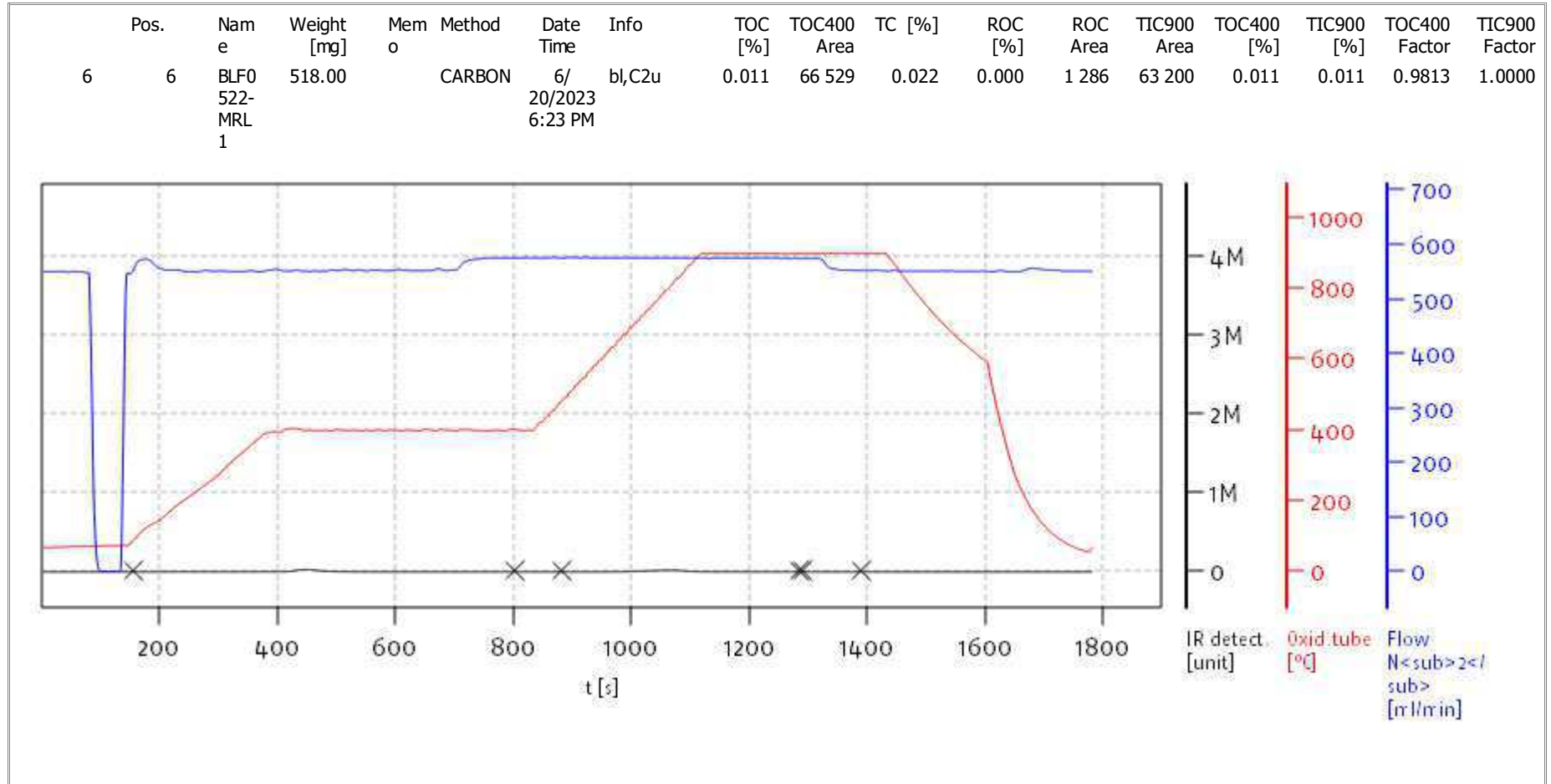
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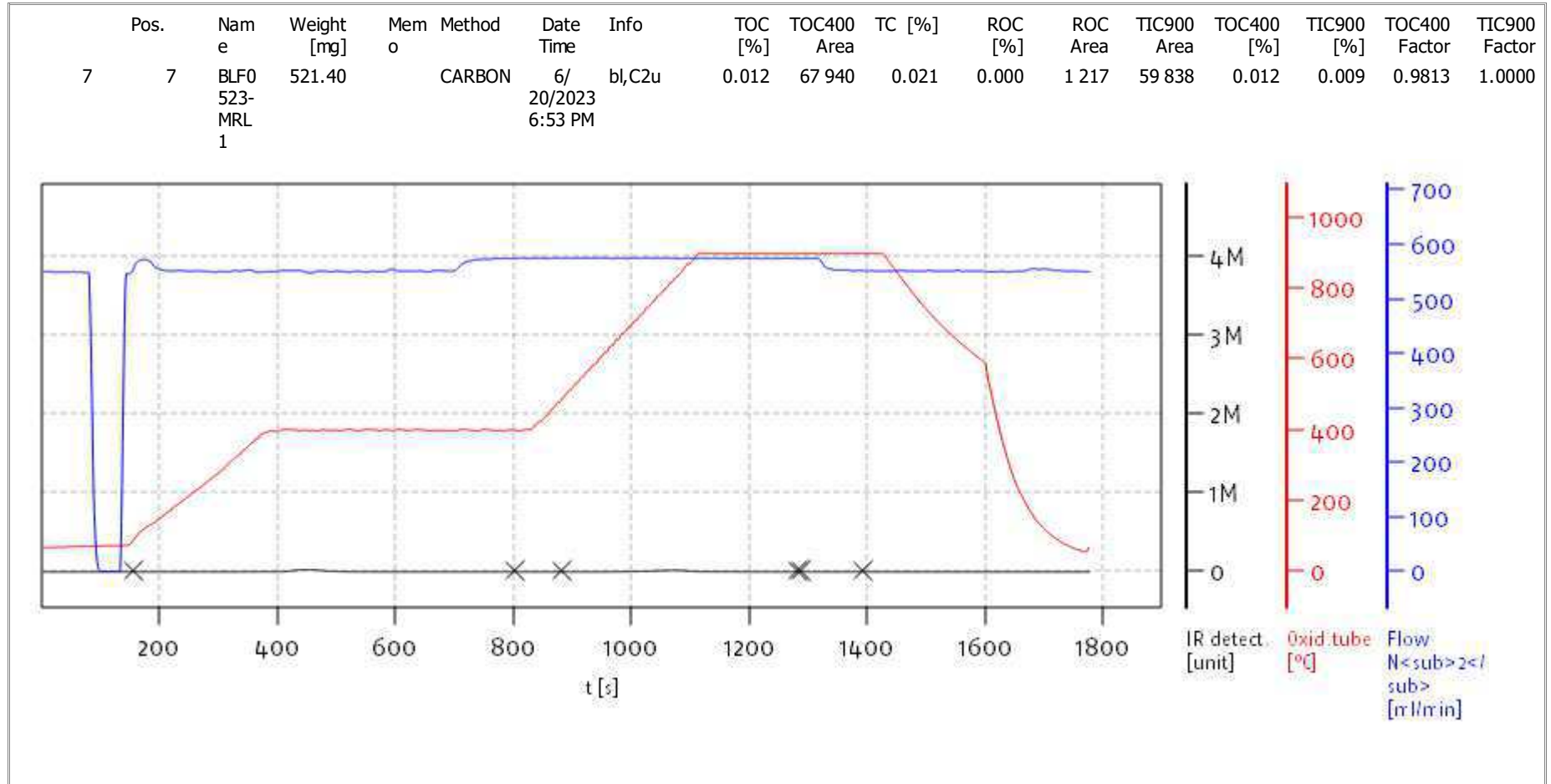
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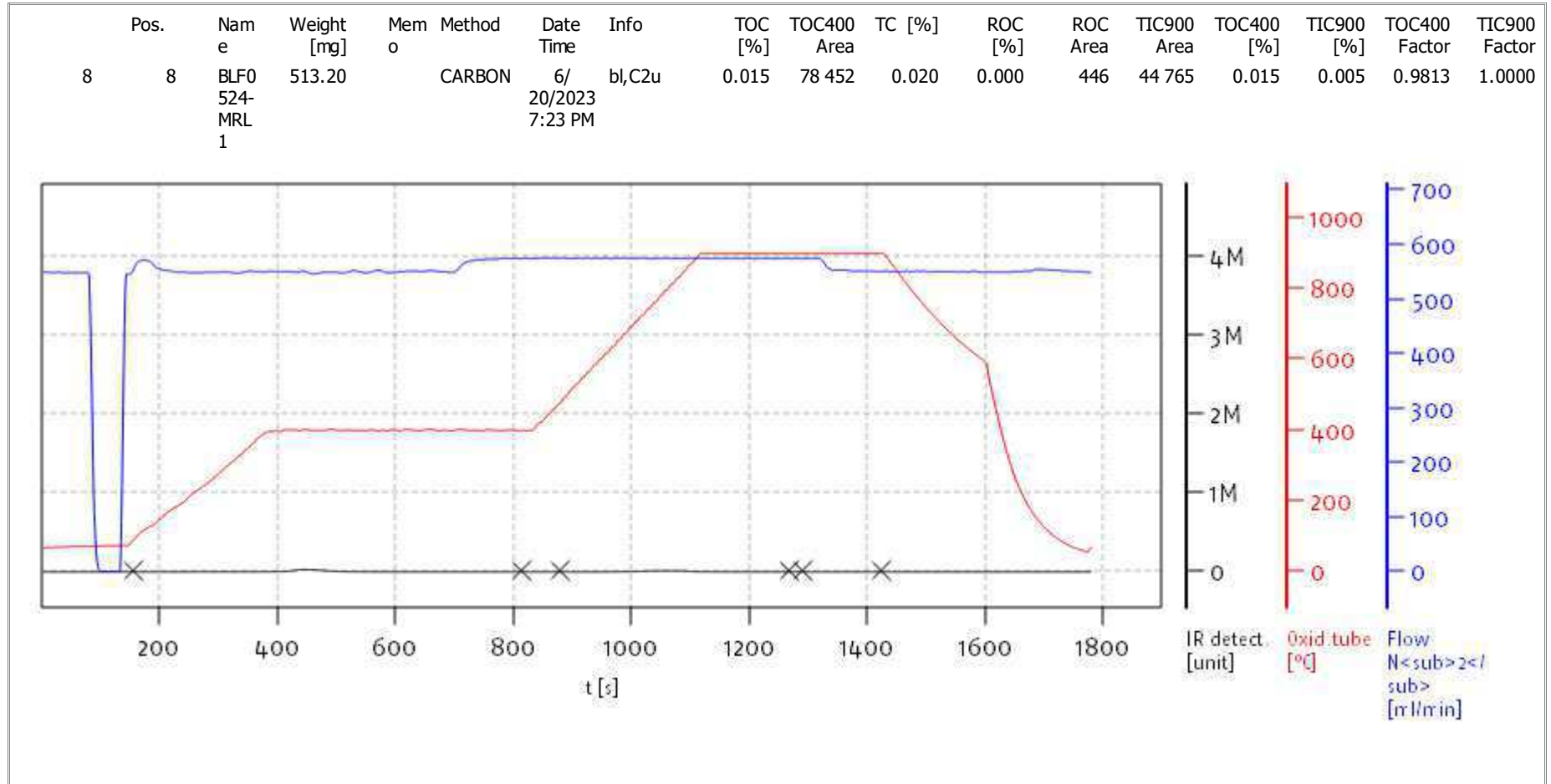
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Analyst: CDE



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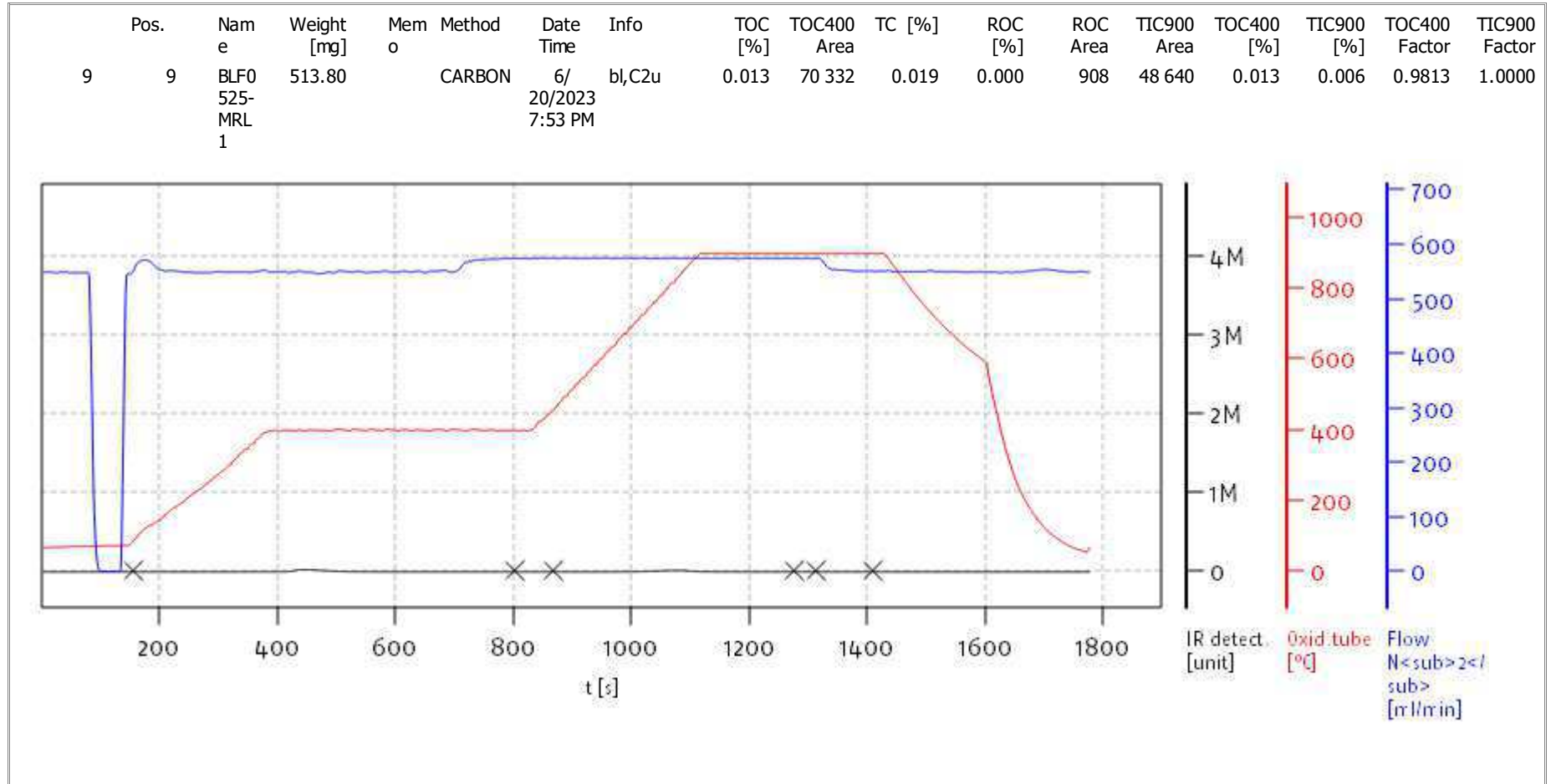
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Analyst: CDE



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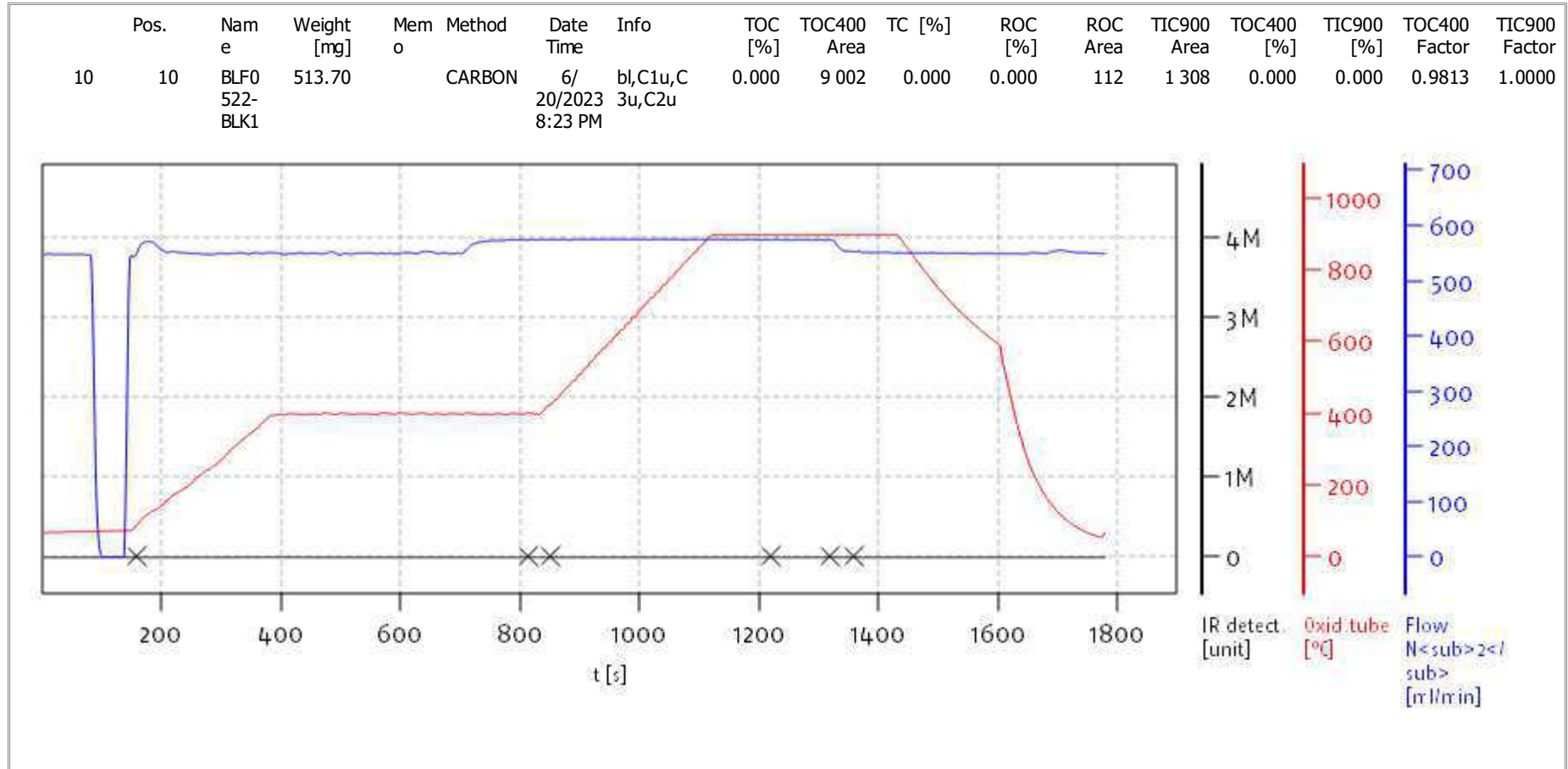
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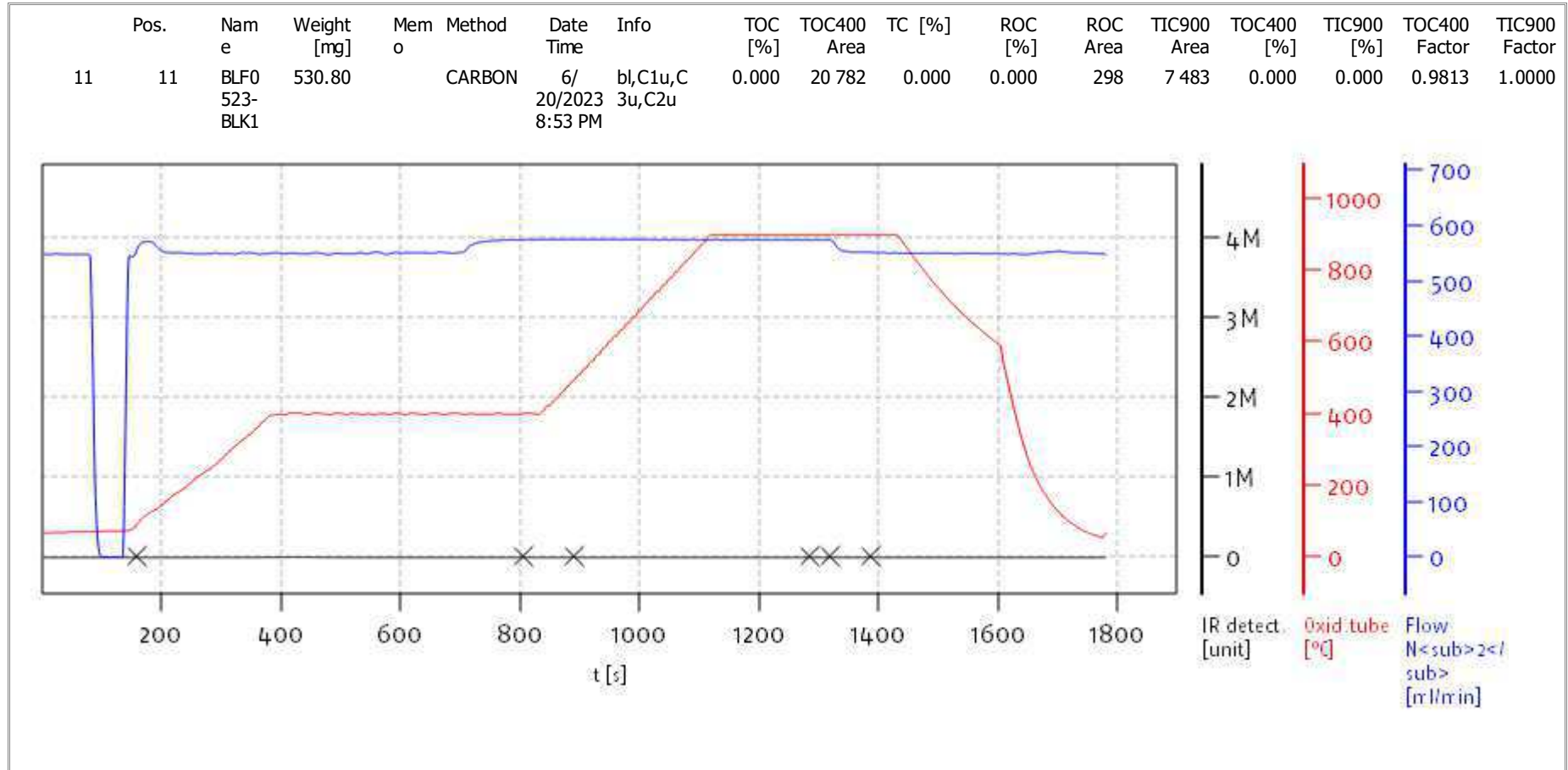
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solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



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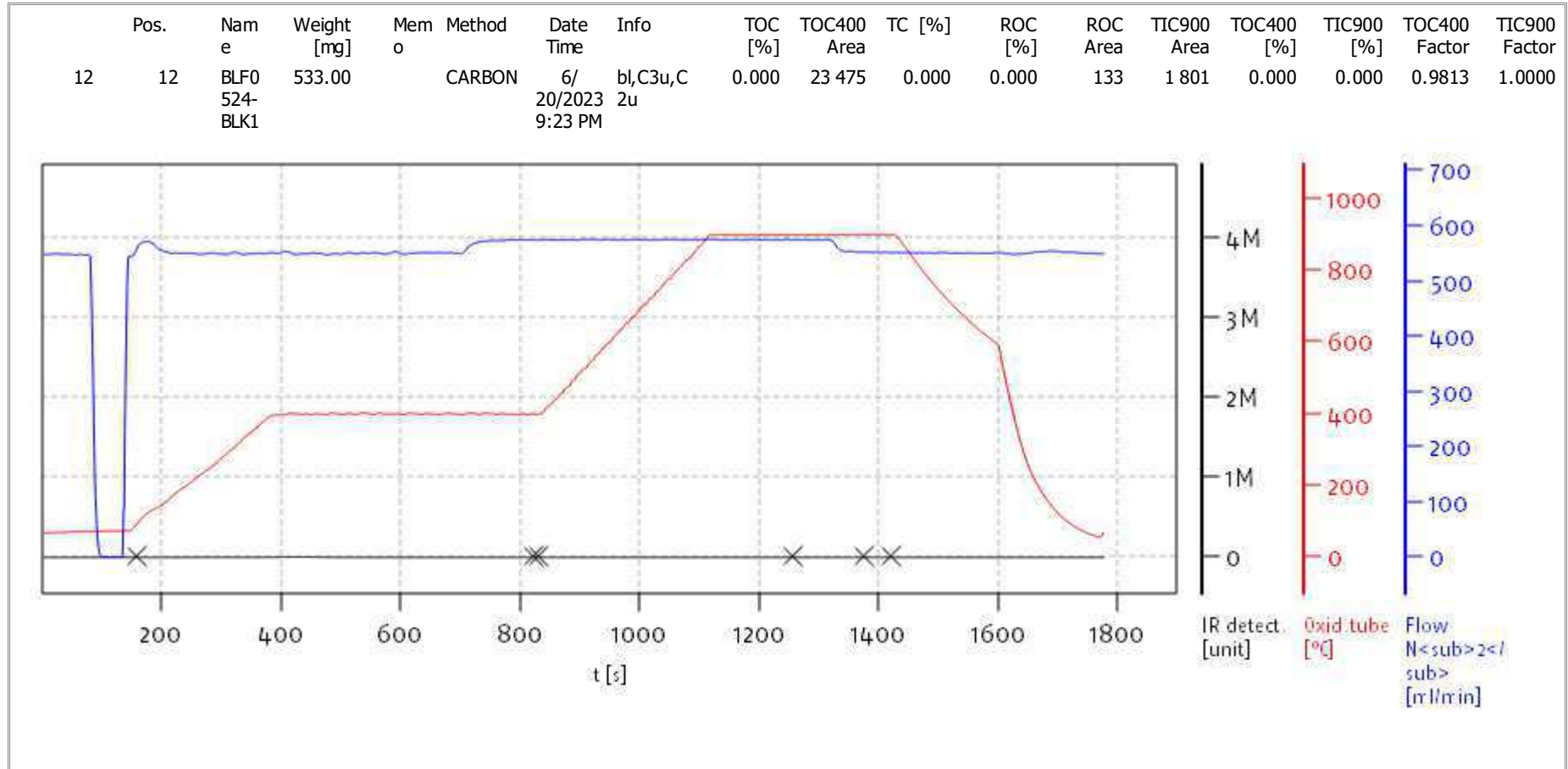
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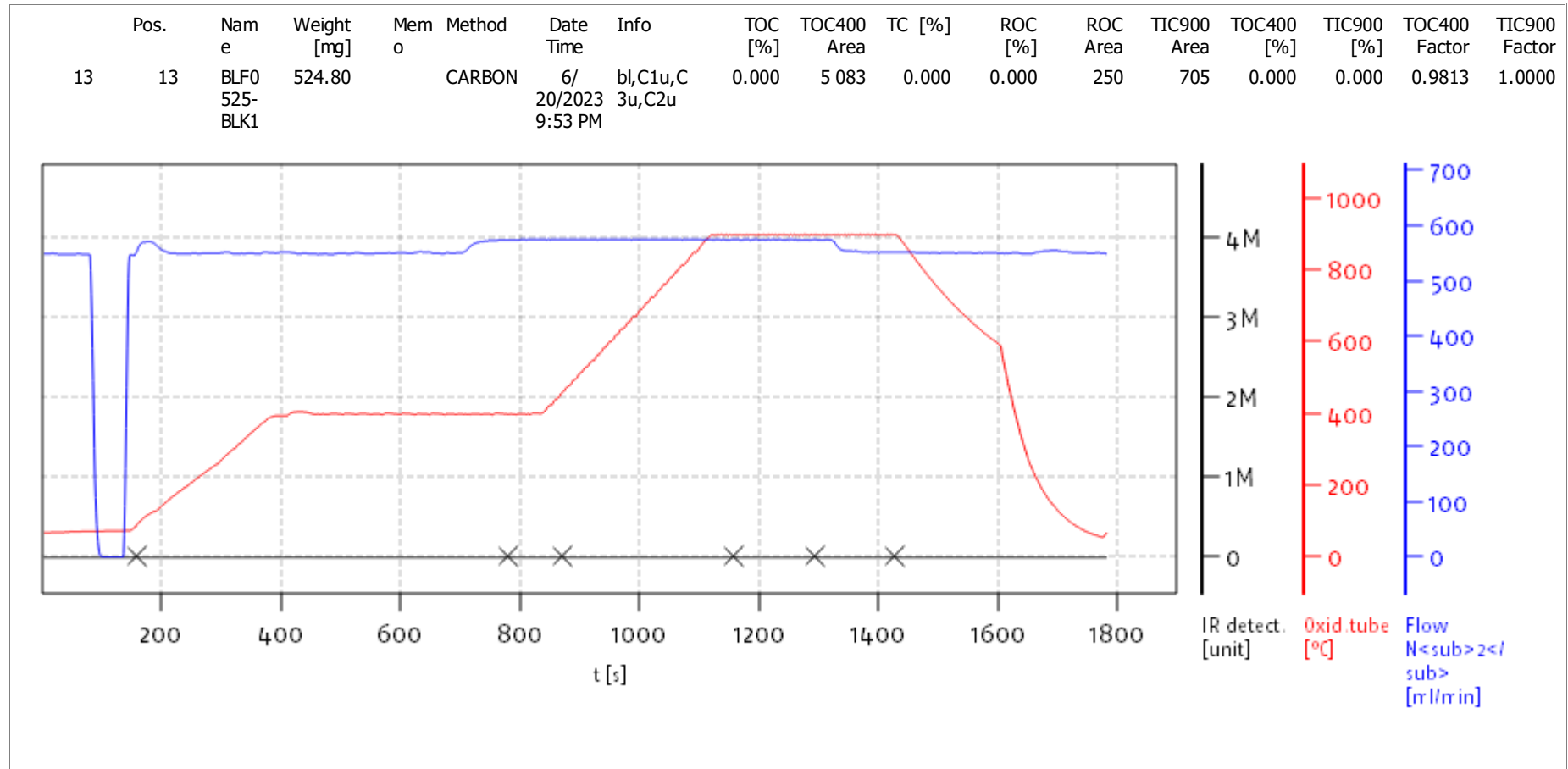
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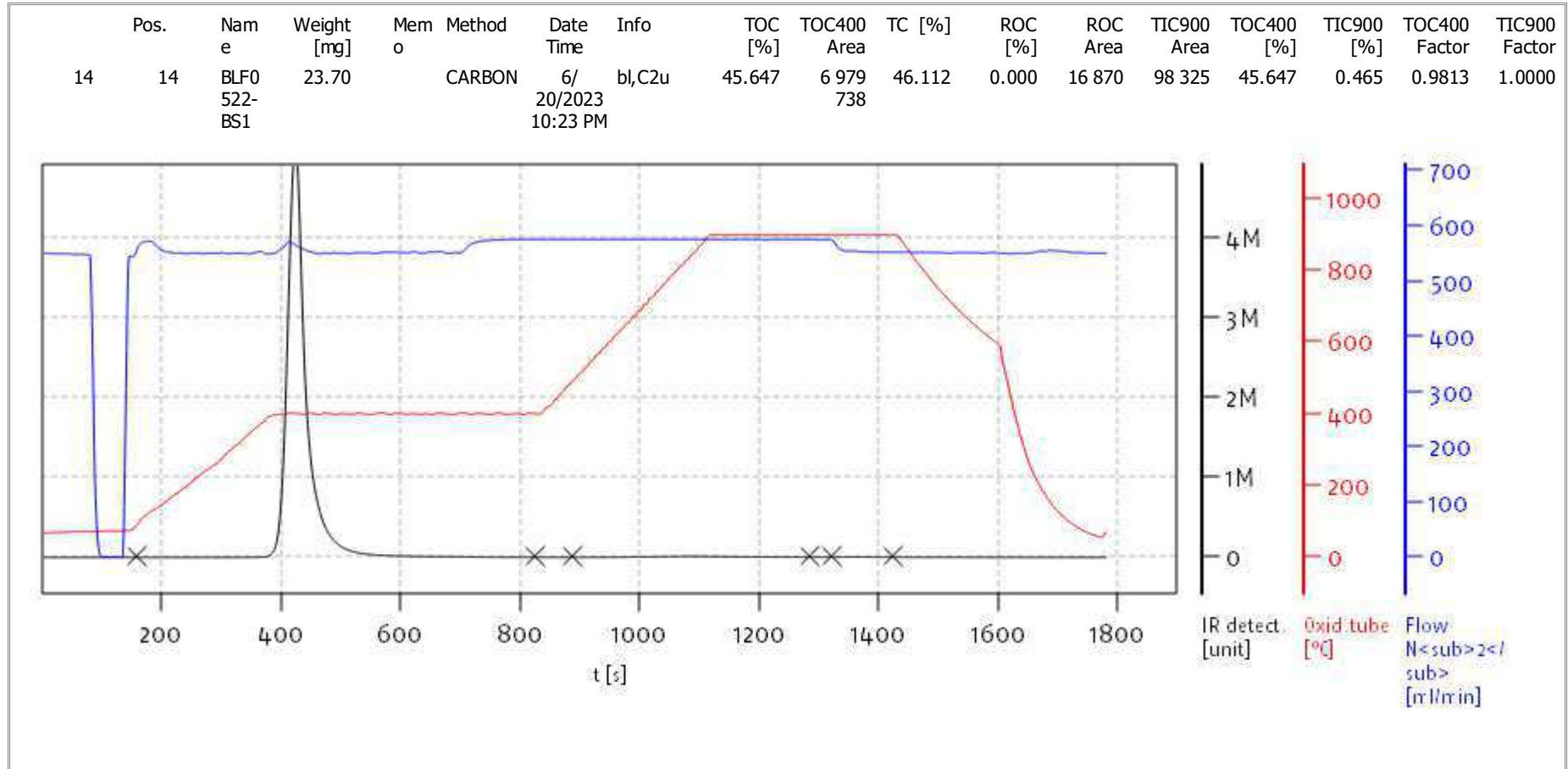
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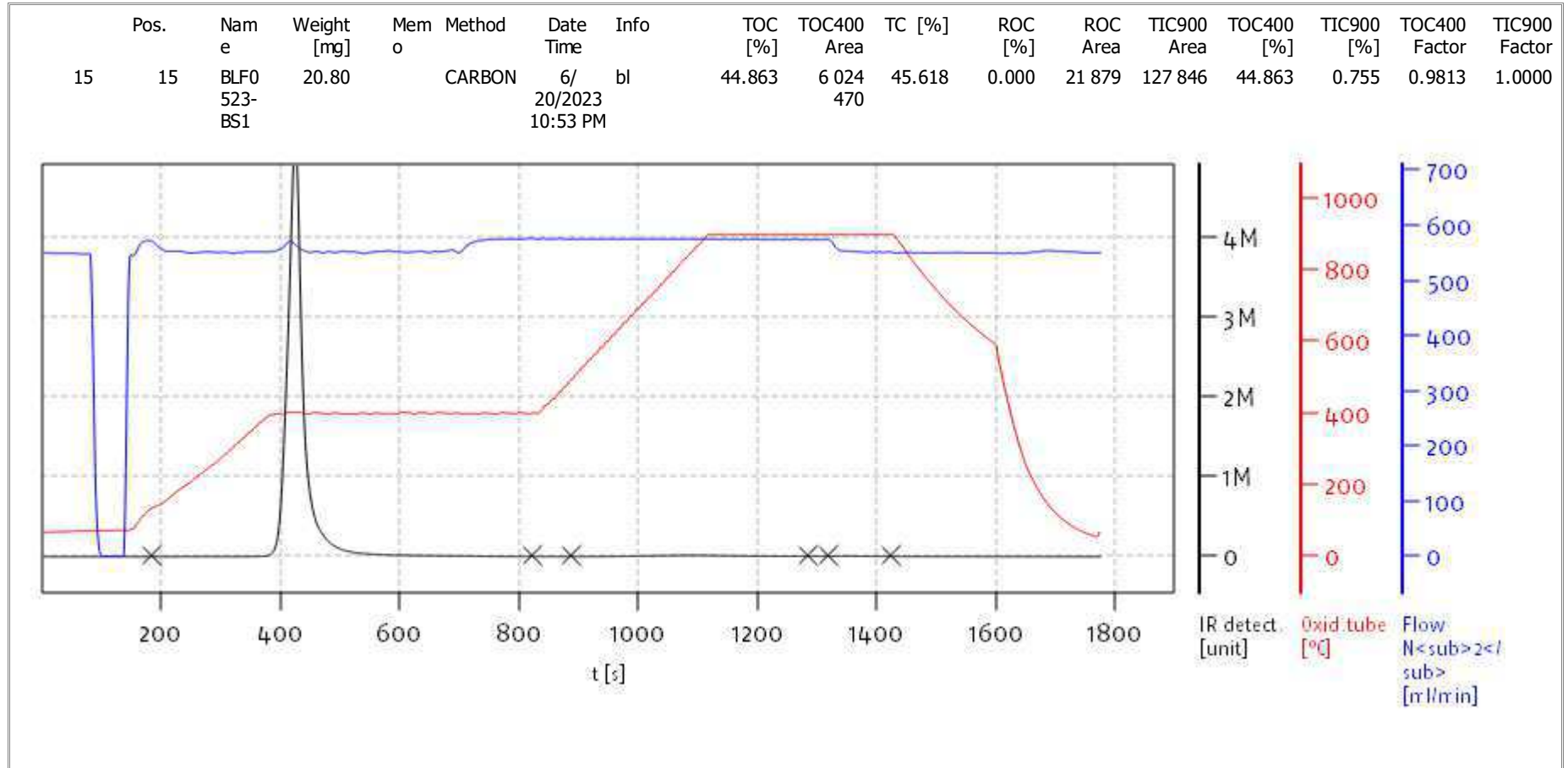
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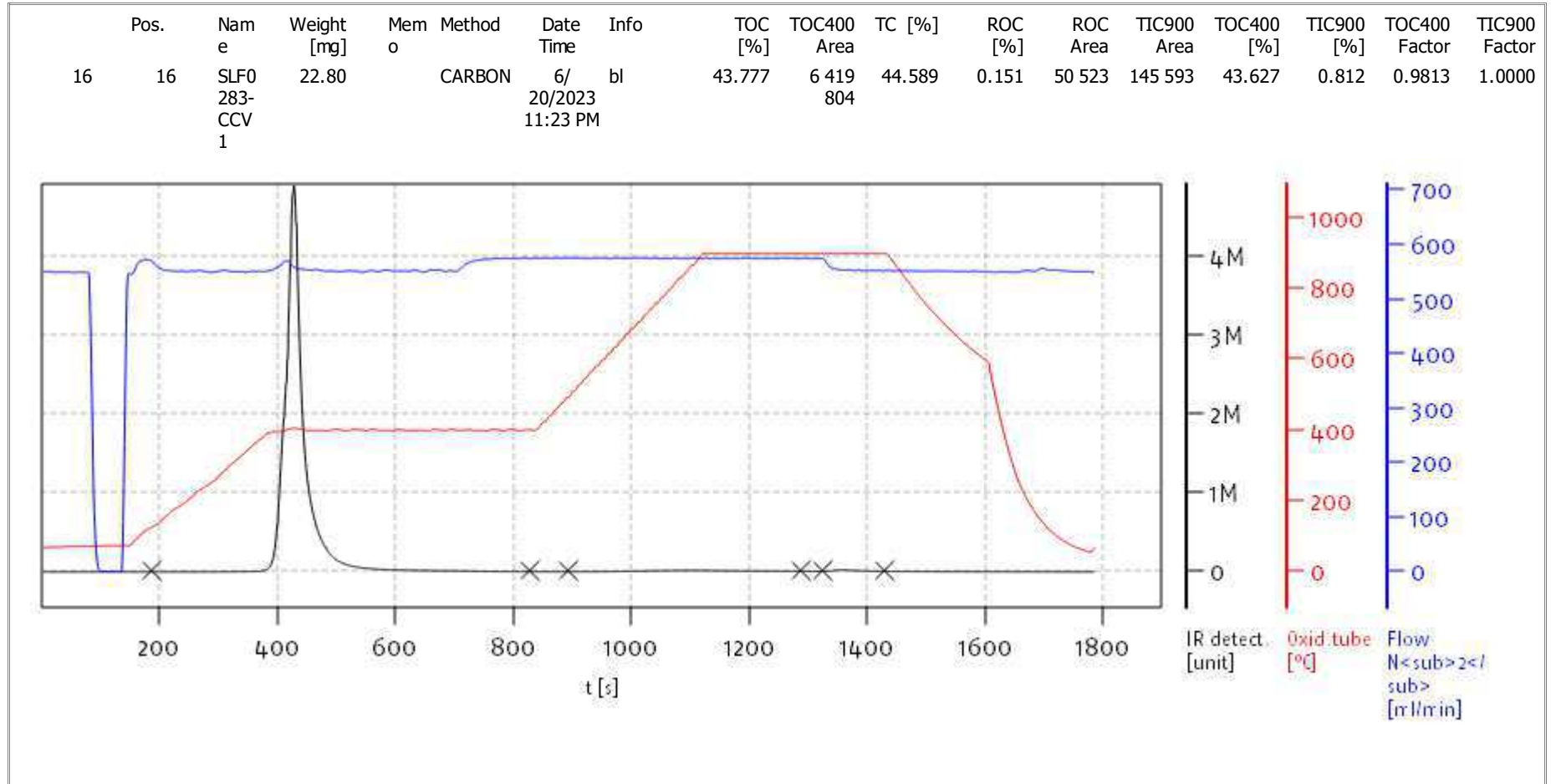
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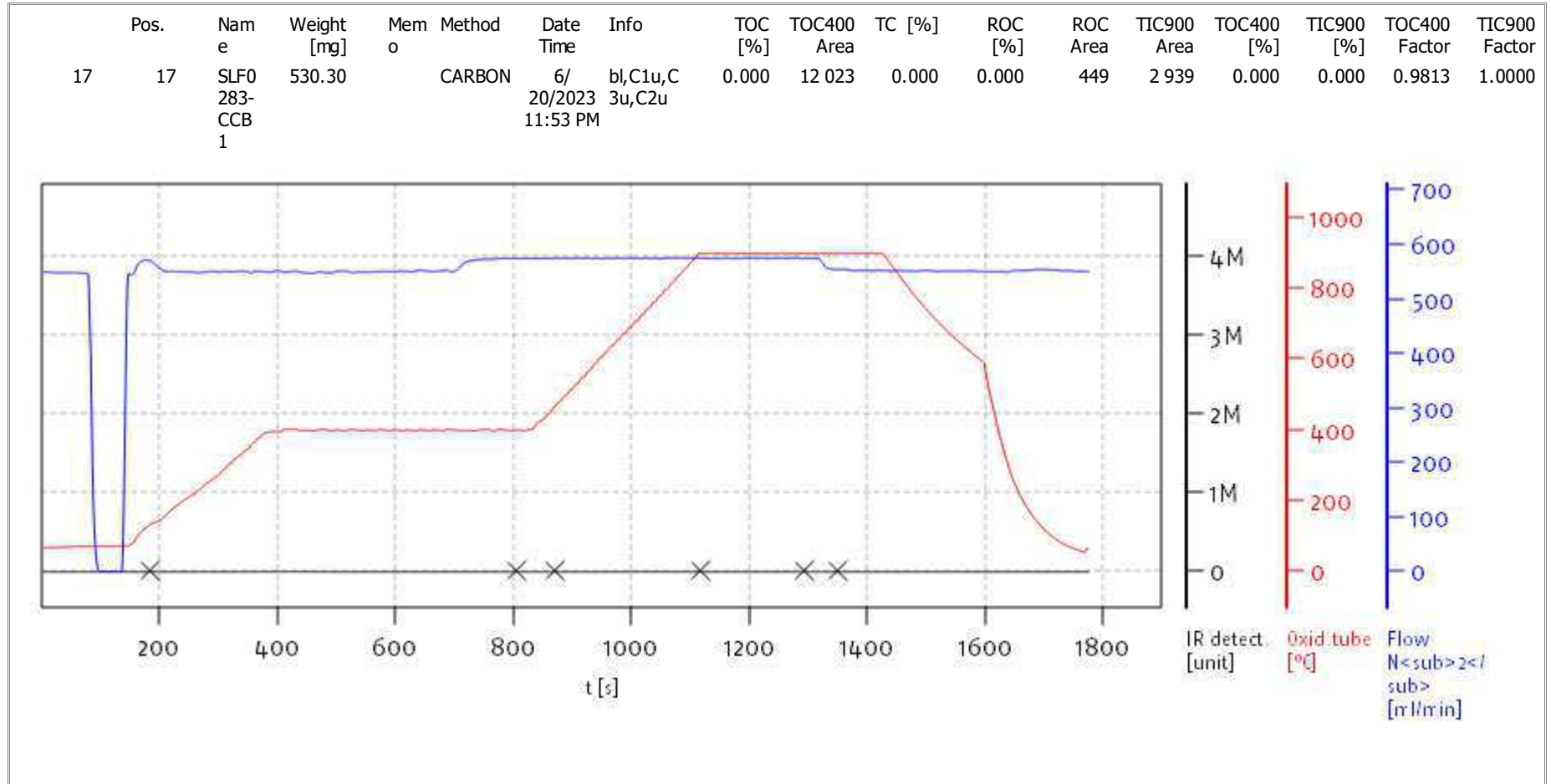
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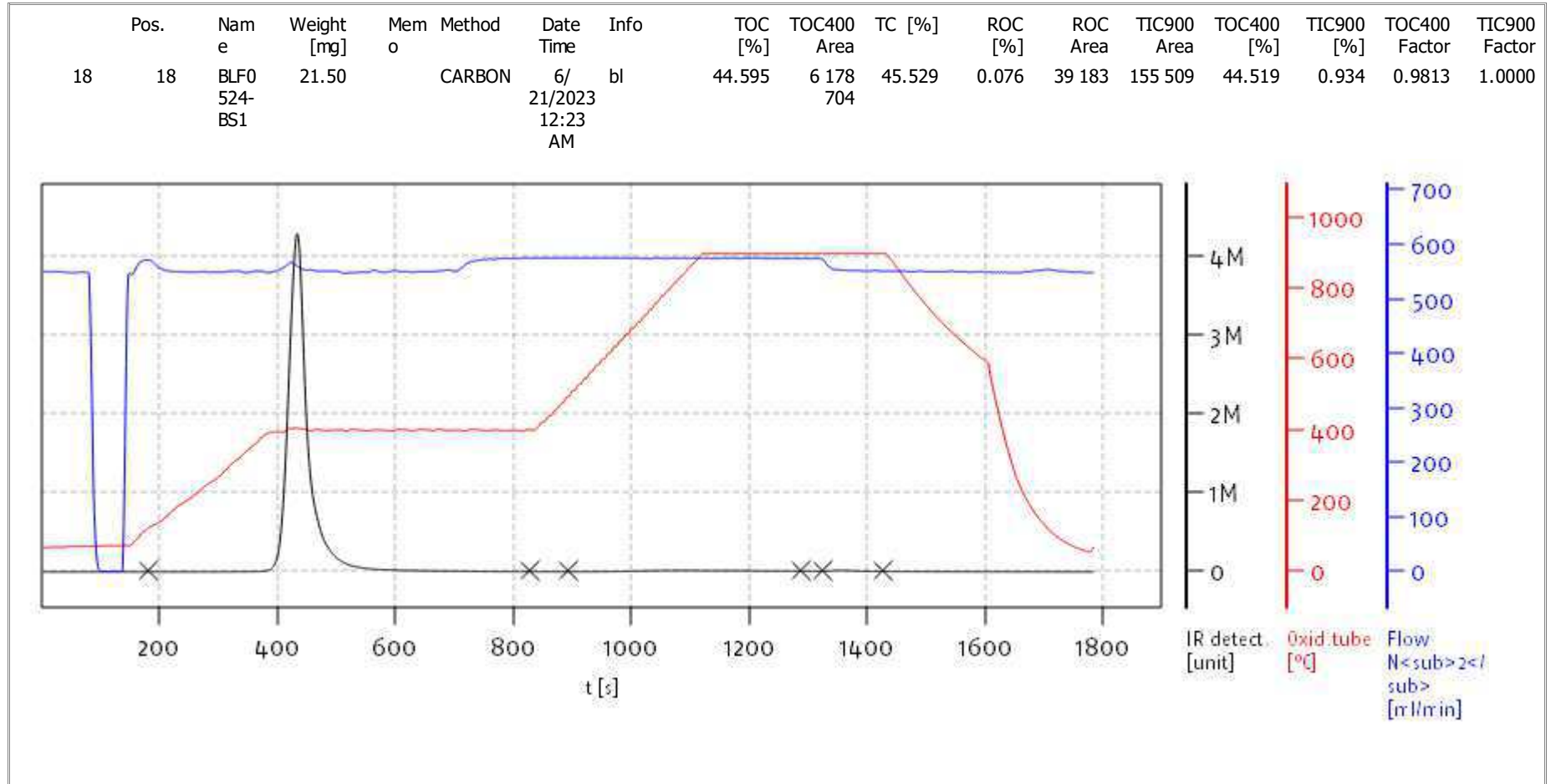
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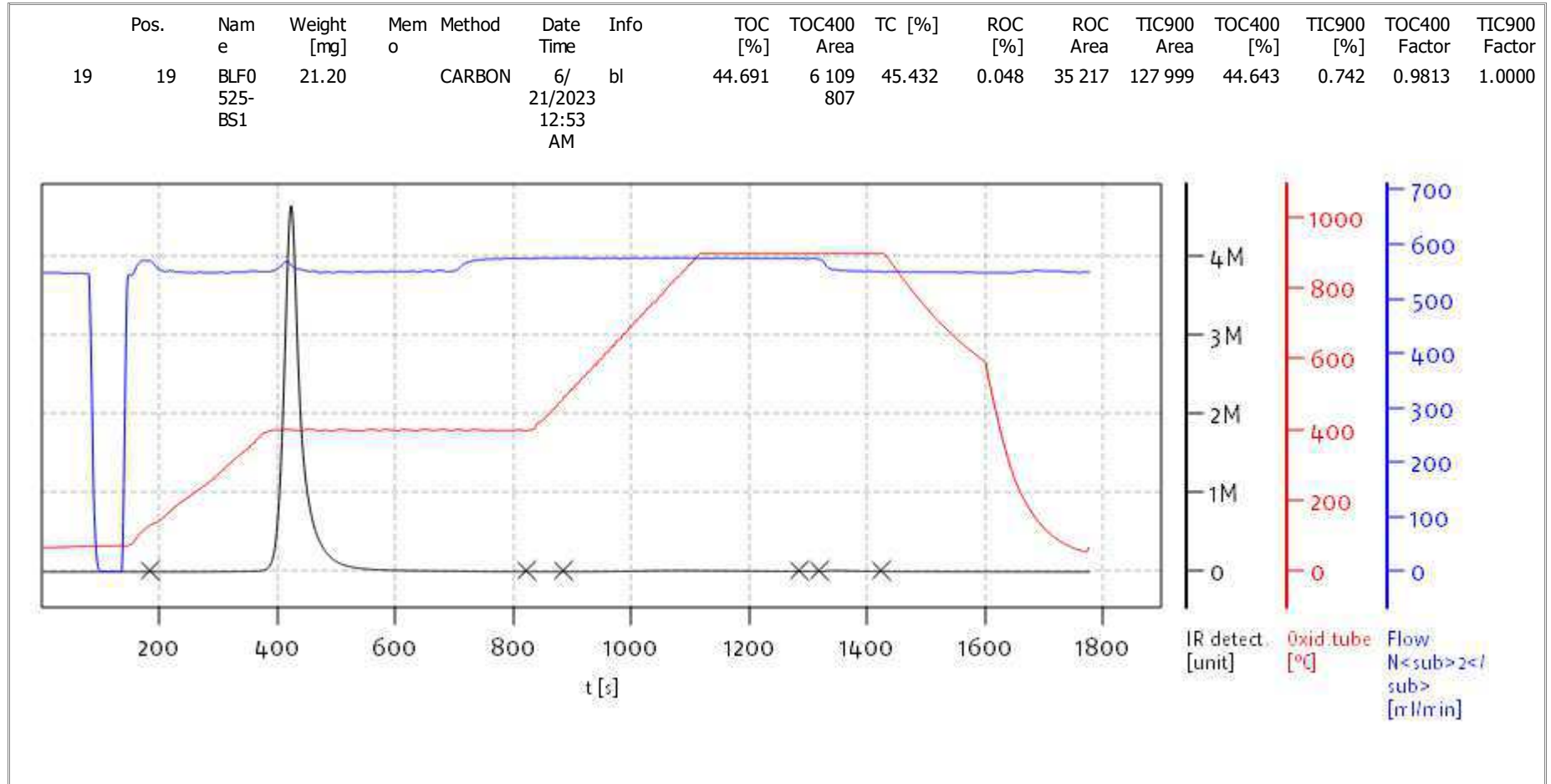
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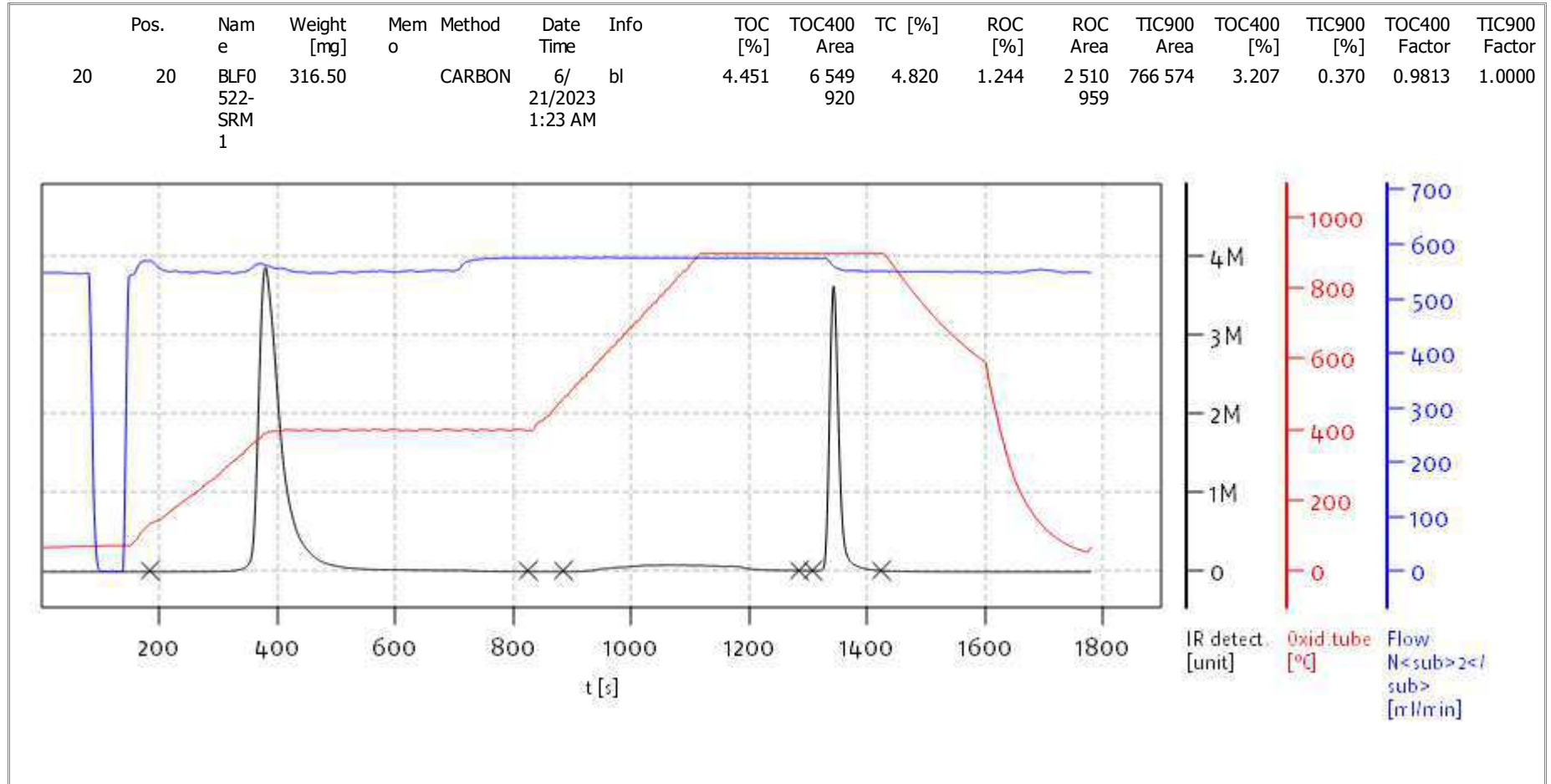
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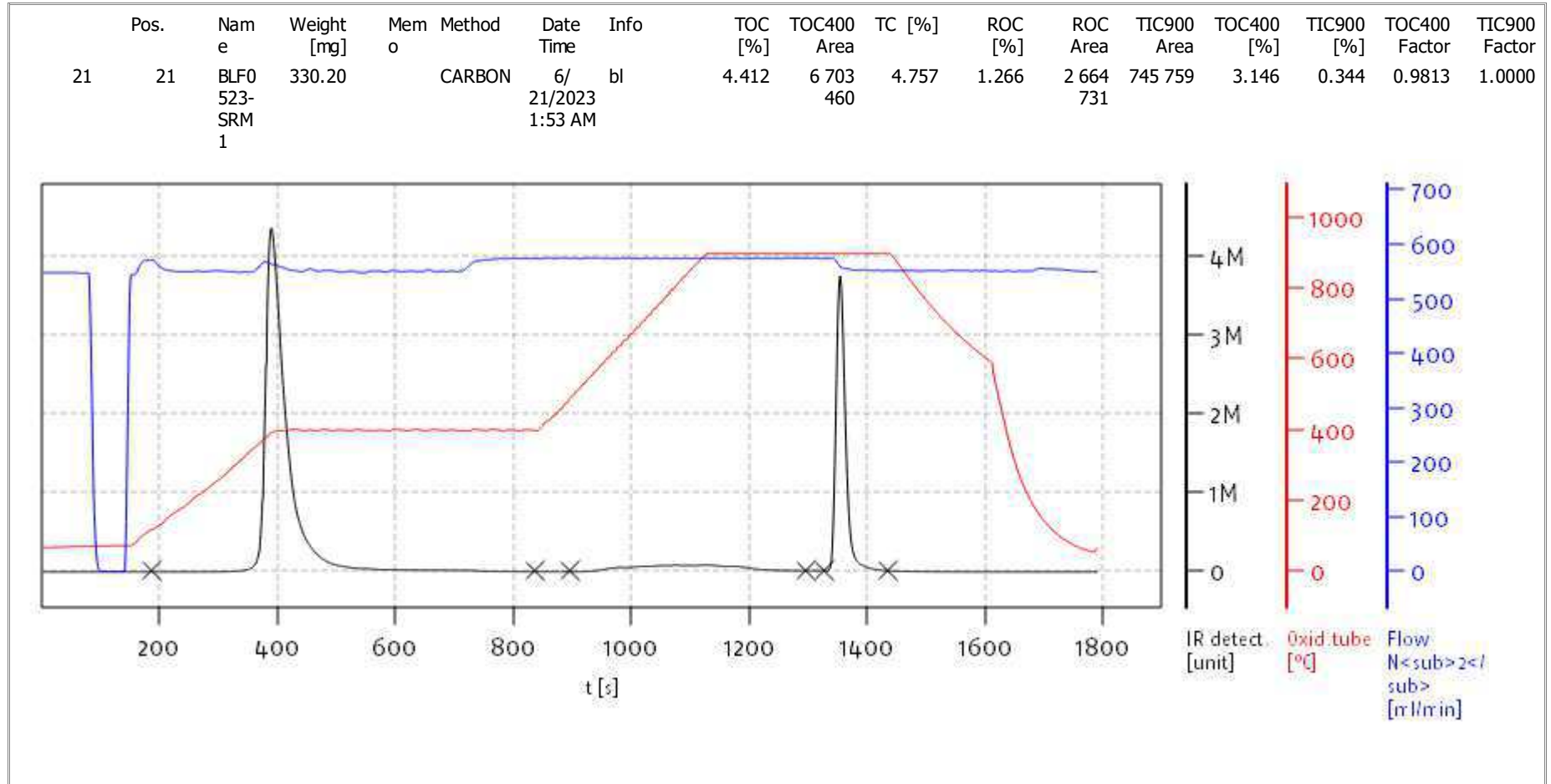
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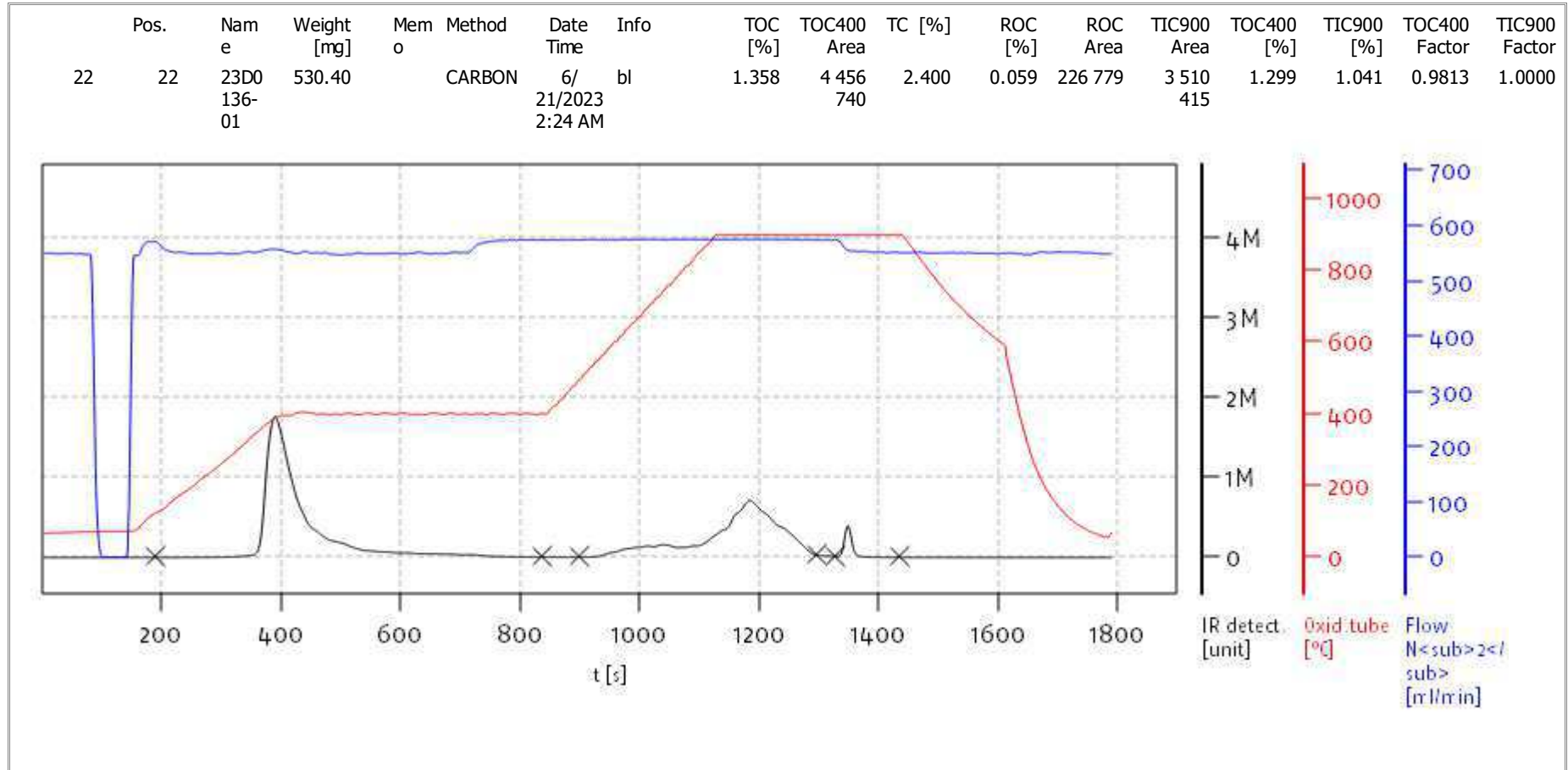
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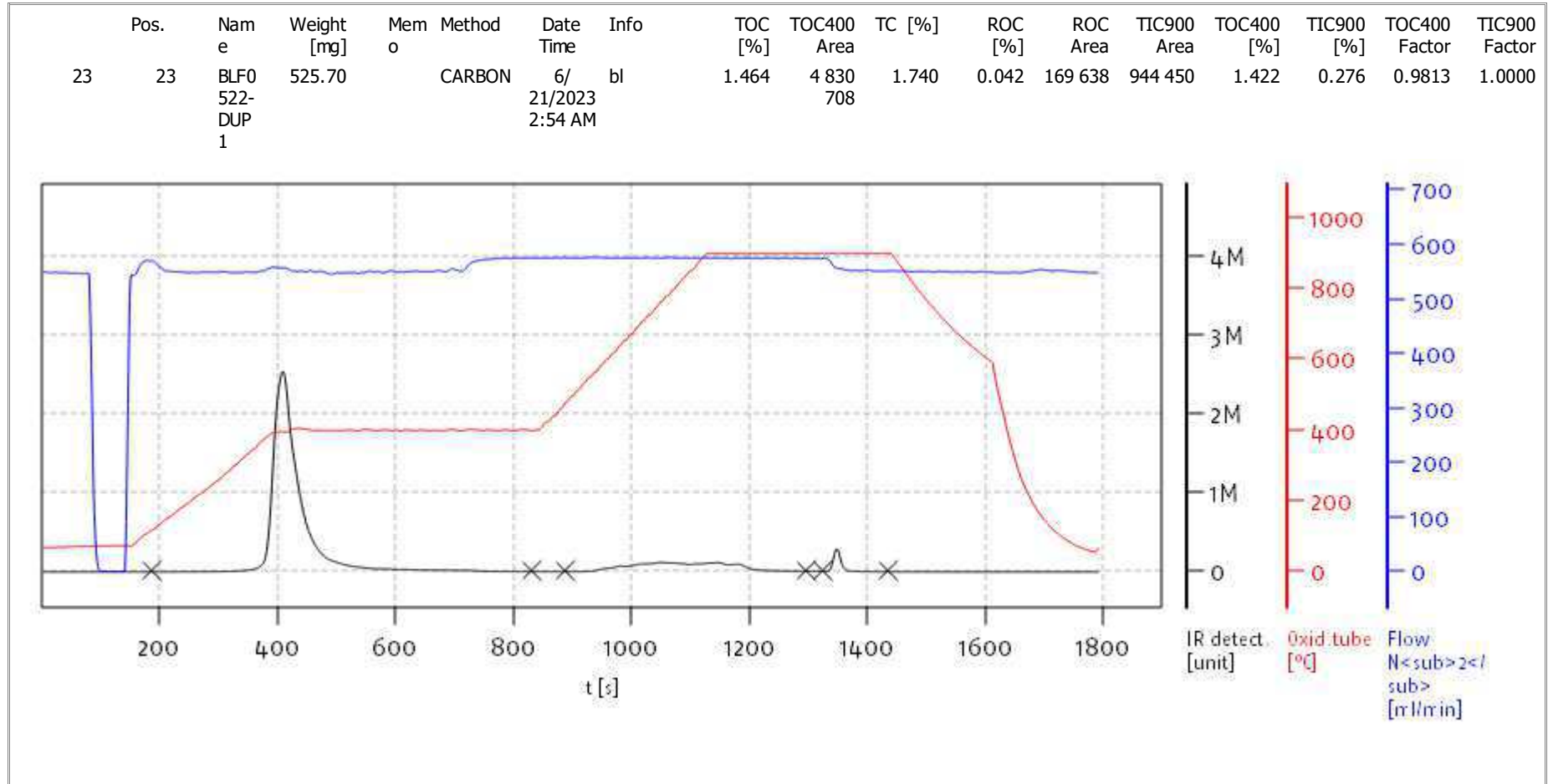
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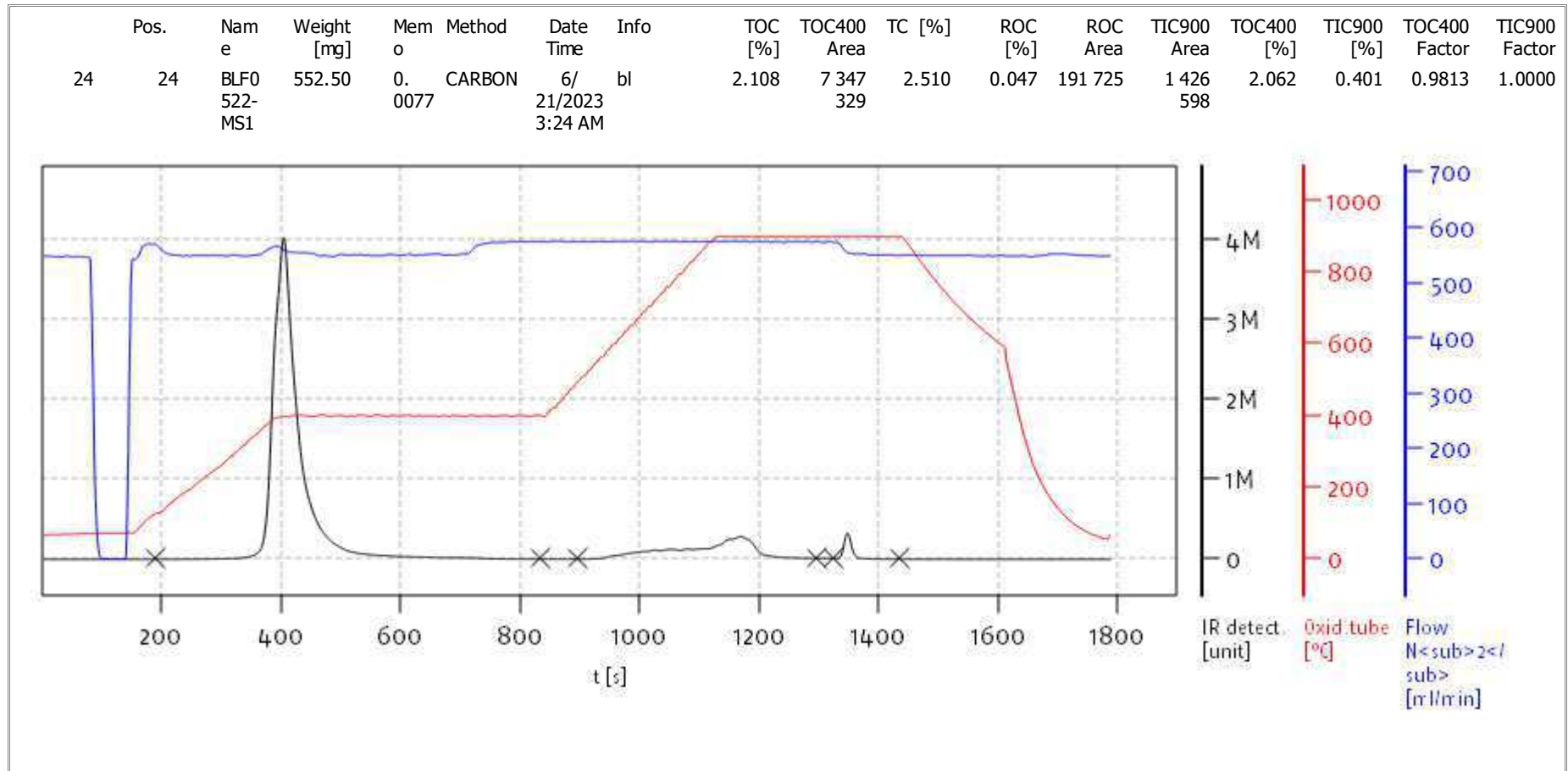
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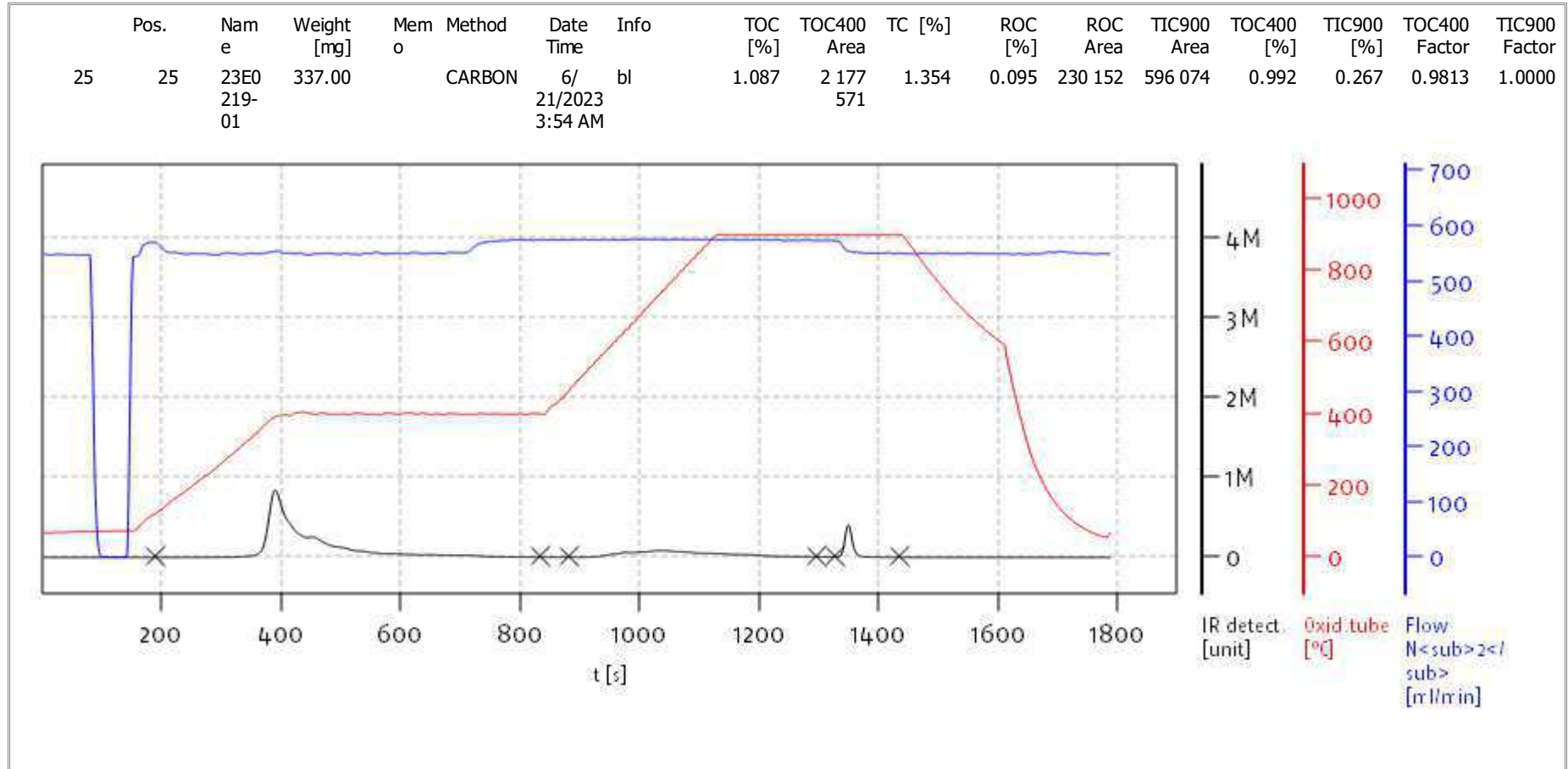
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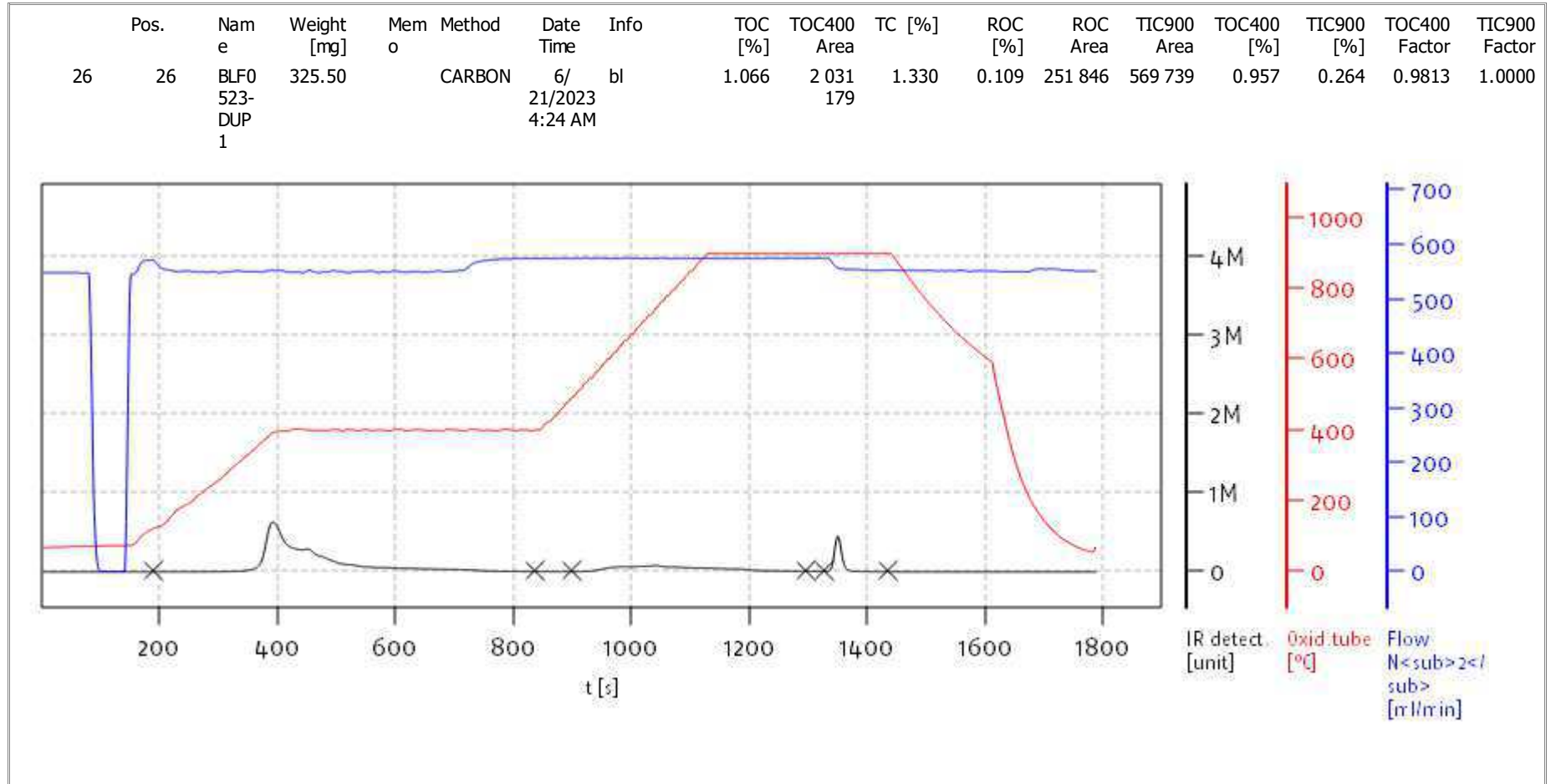
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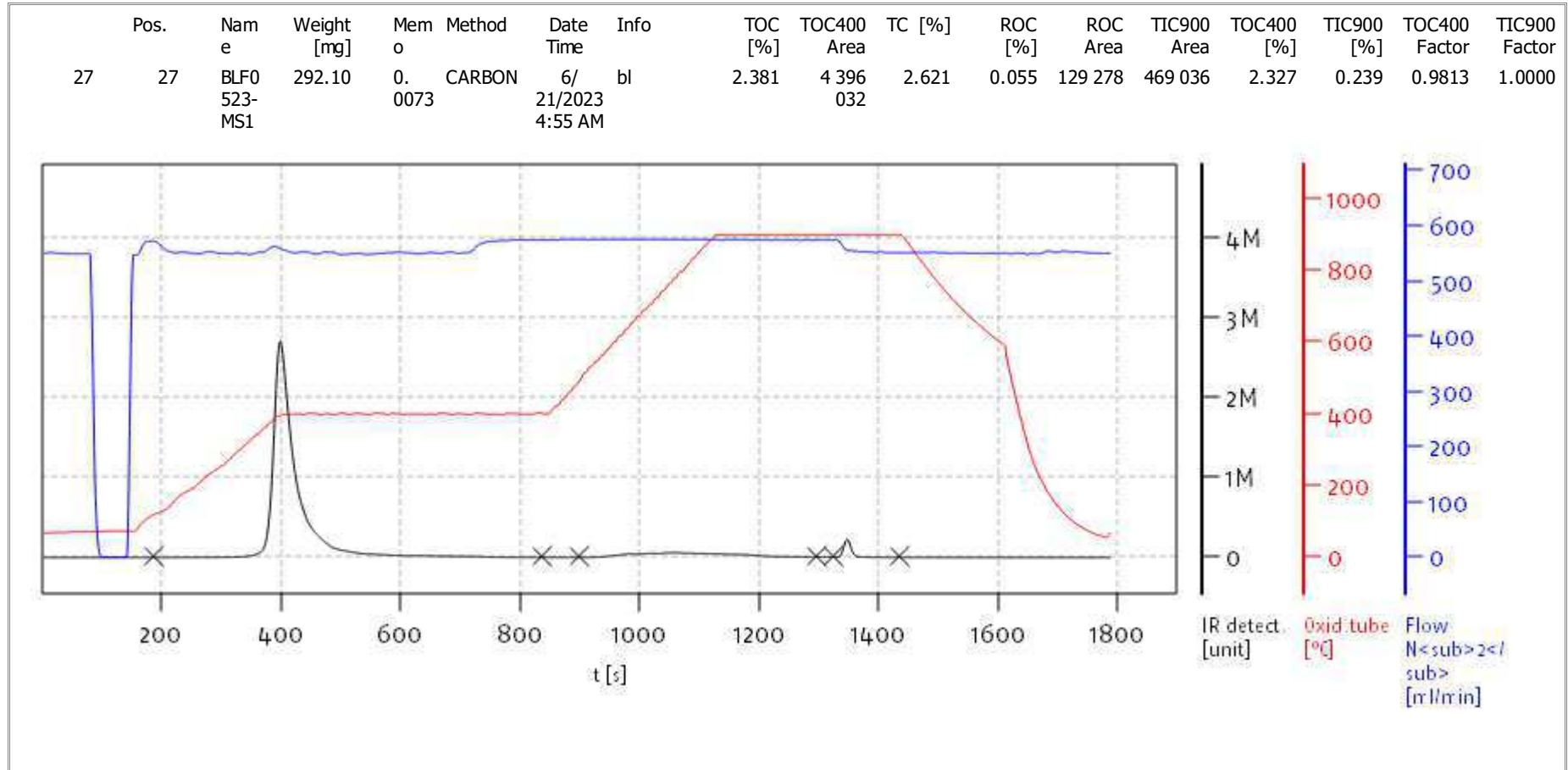
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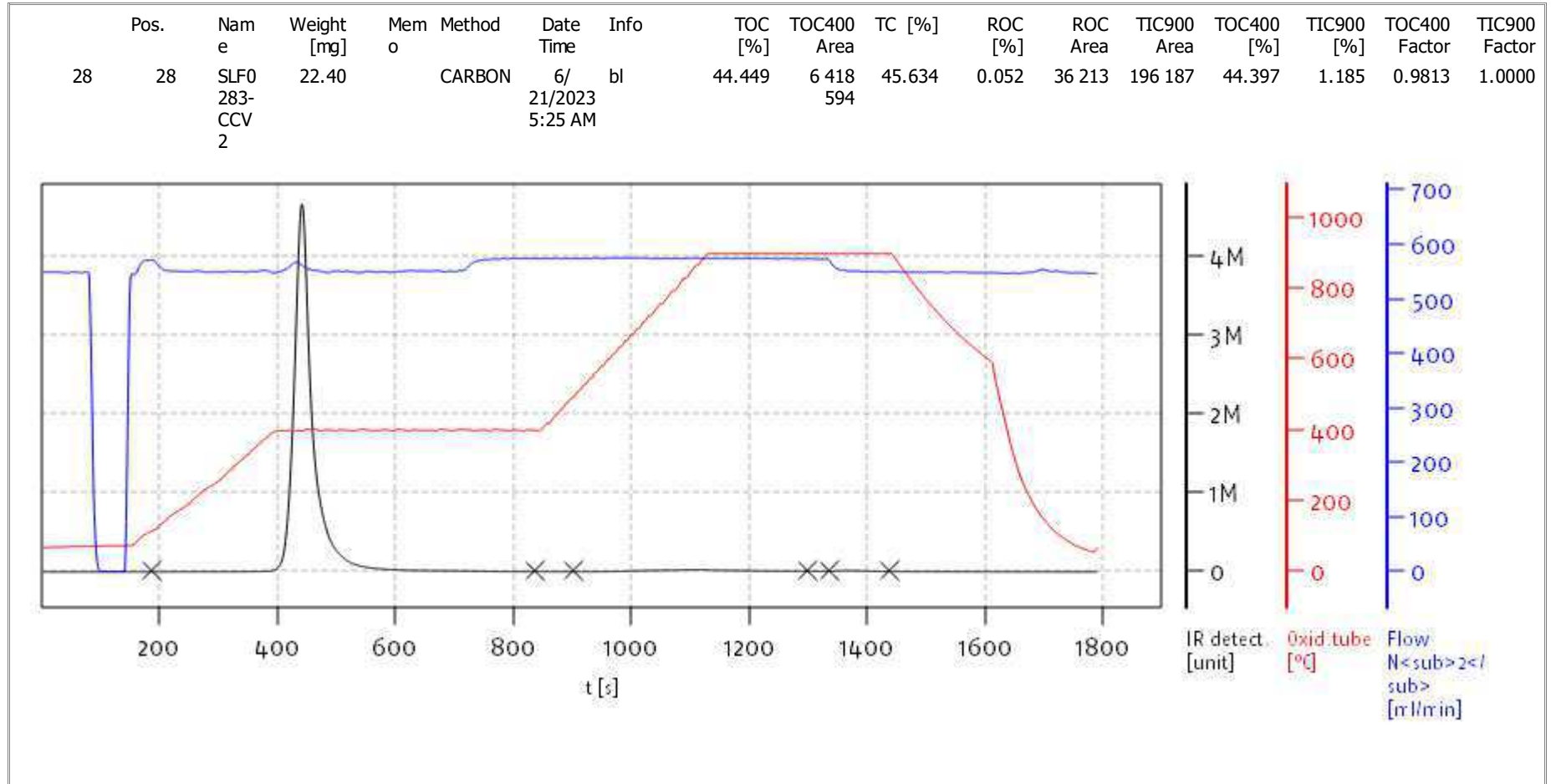
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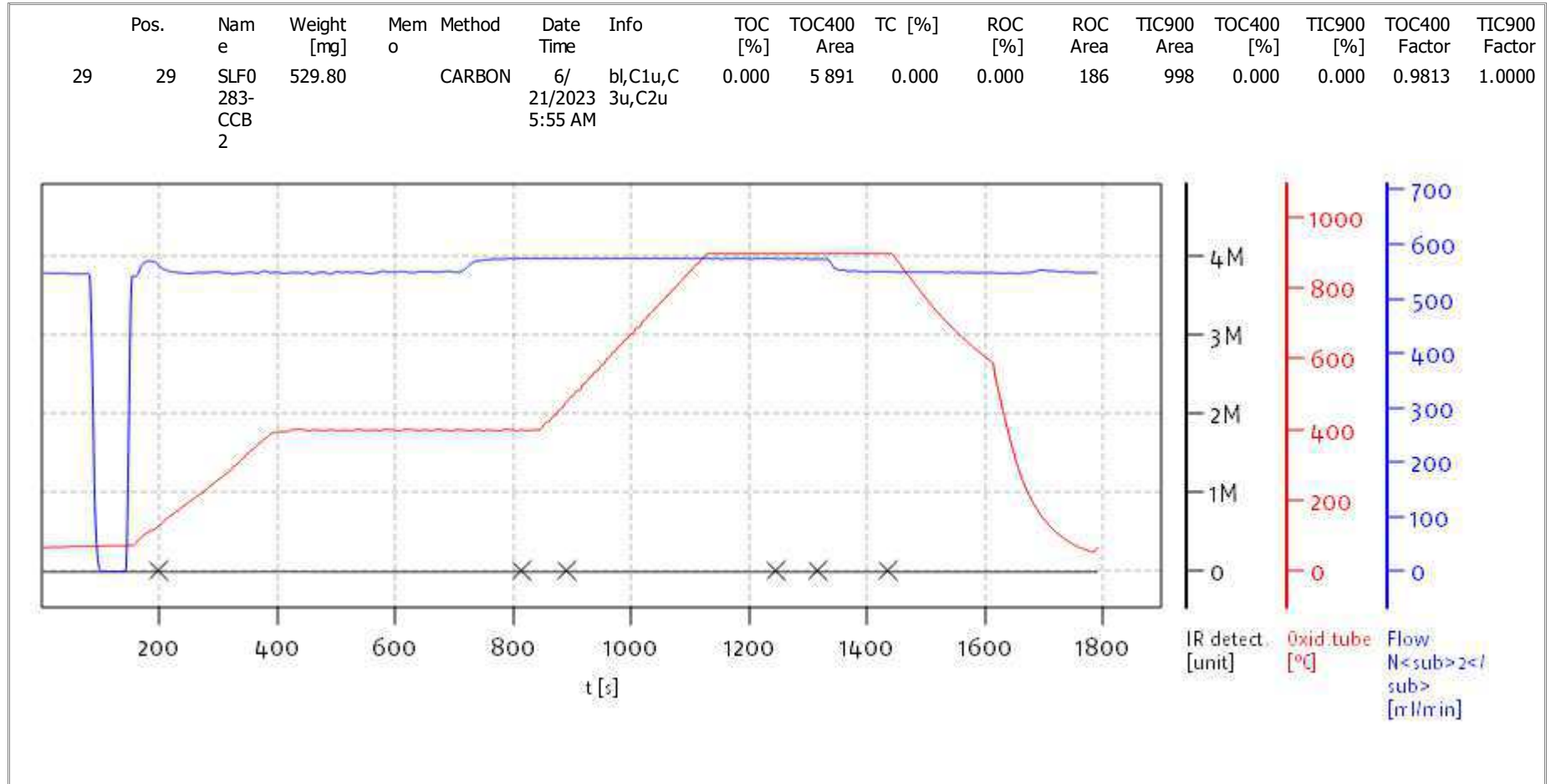
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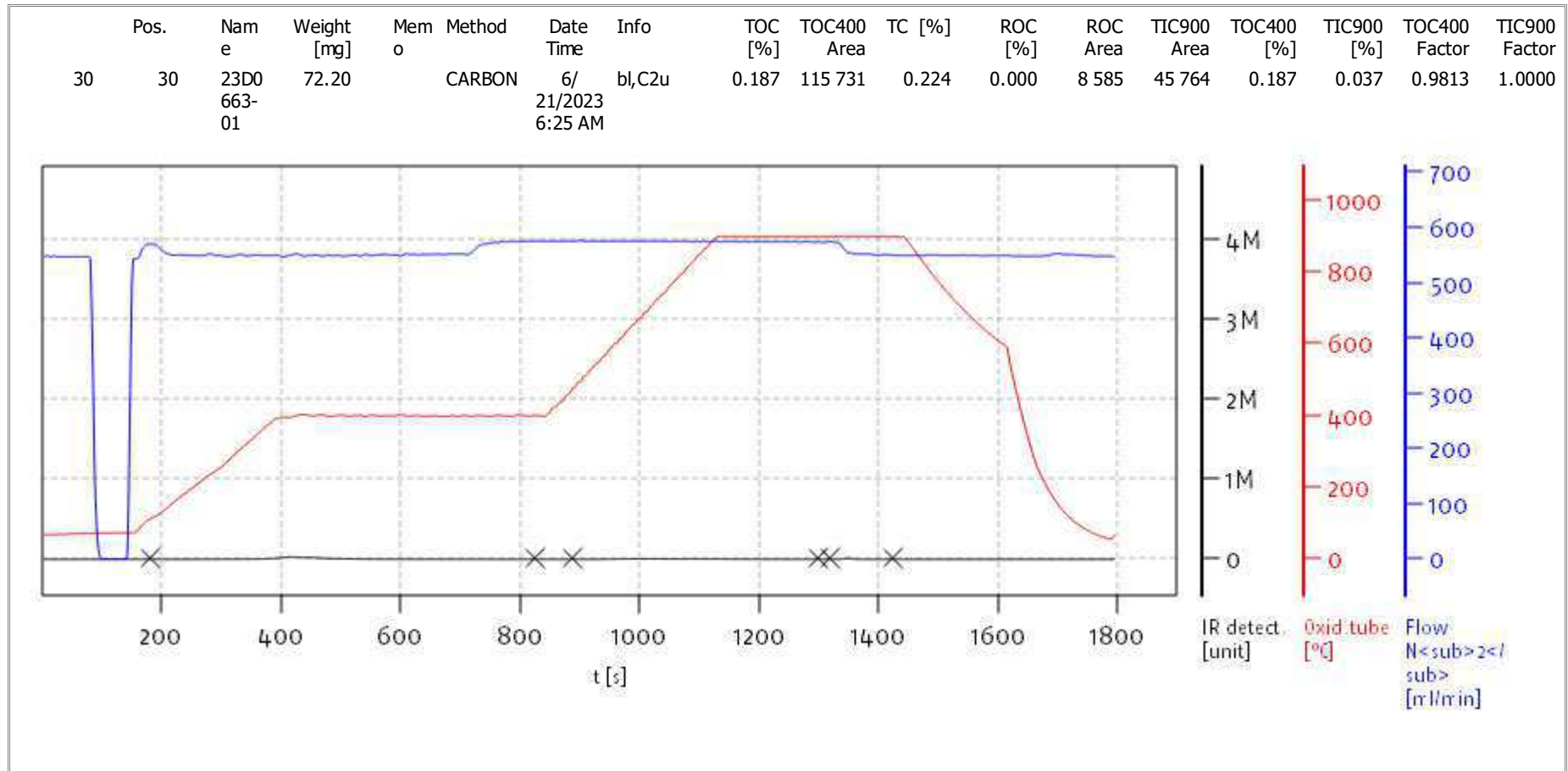
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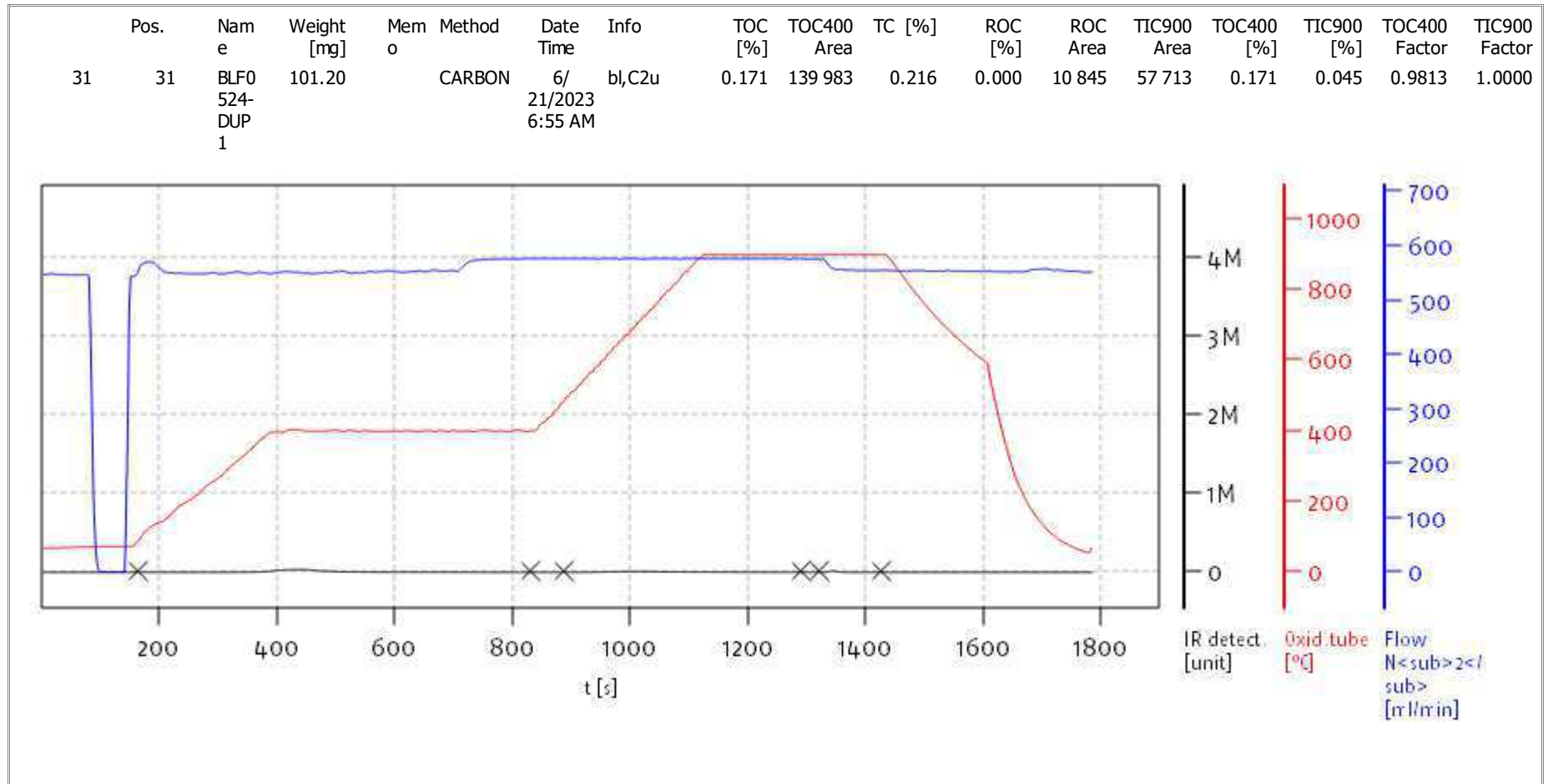
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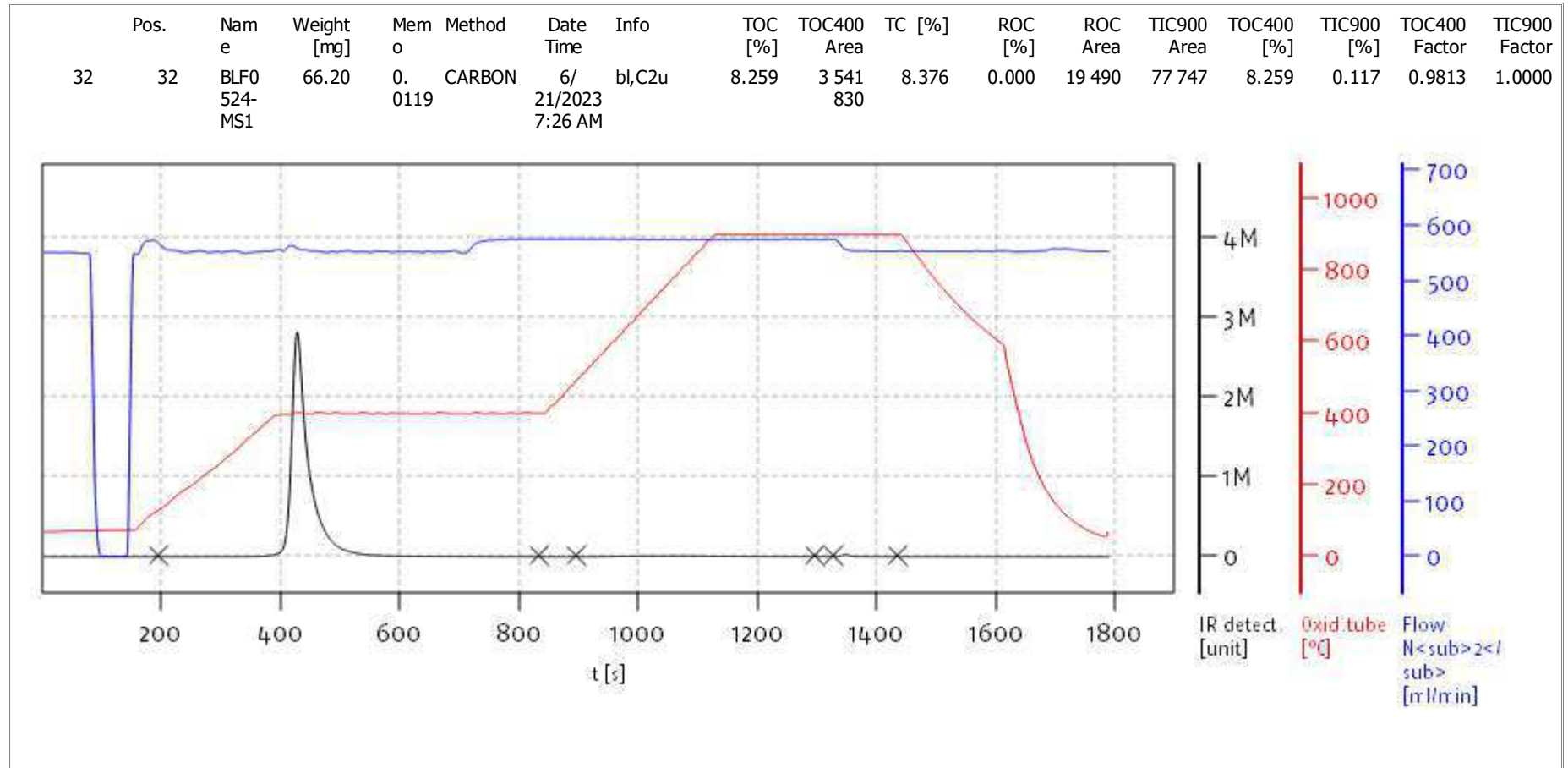
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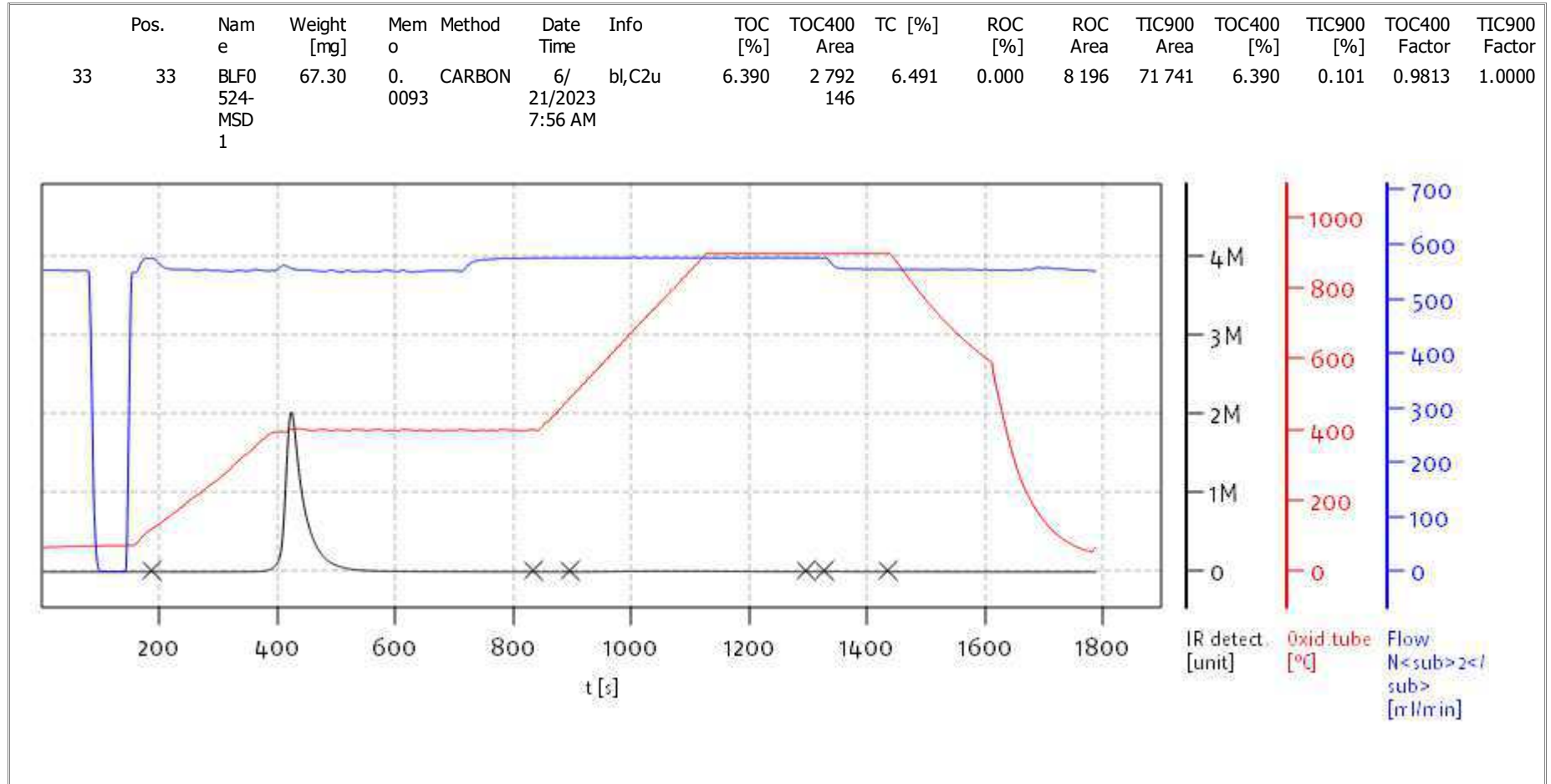
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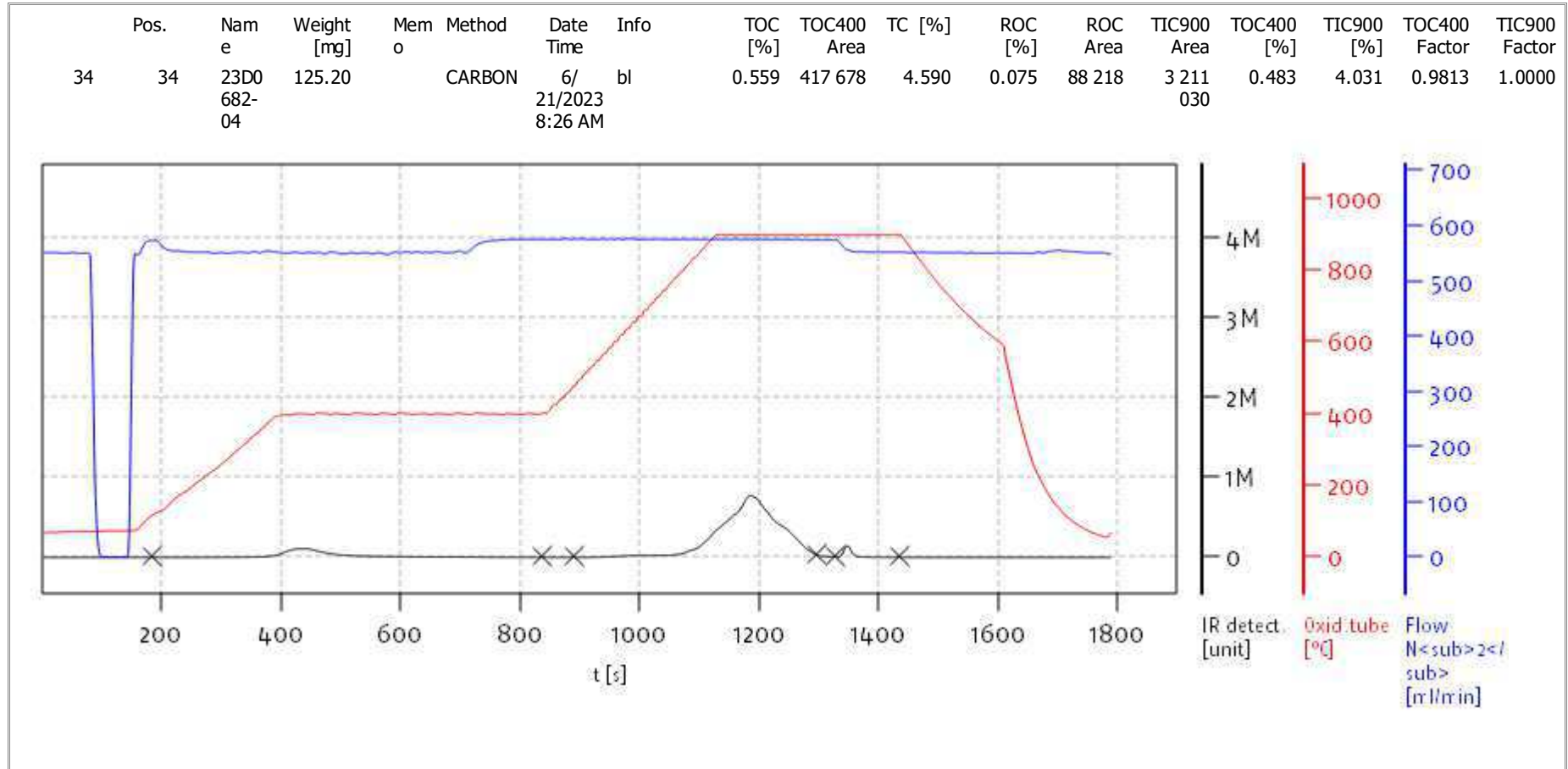
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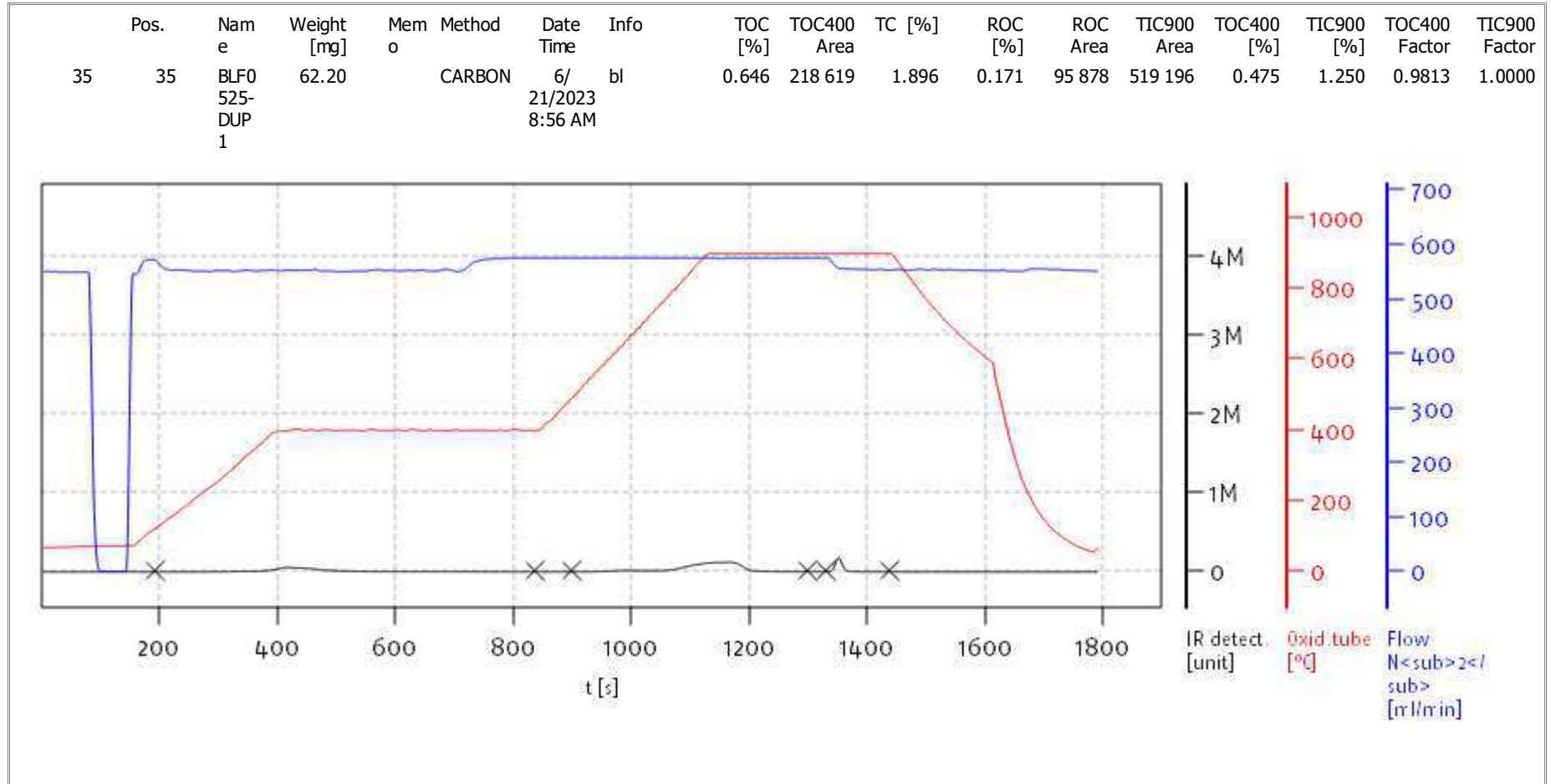
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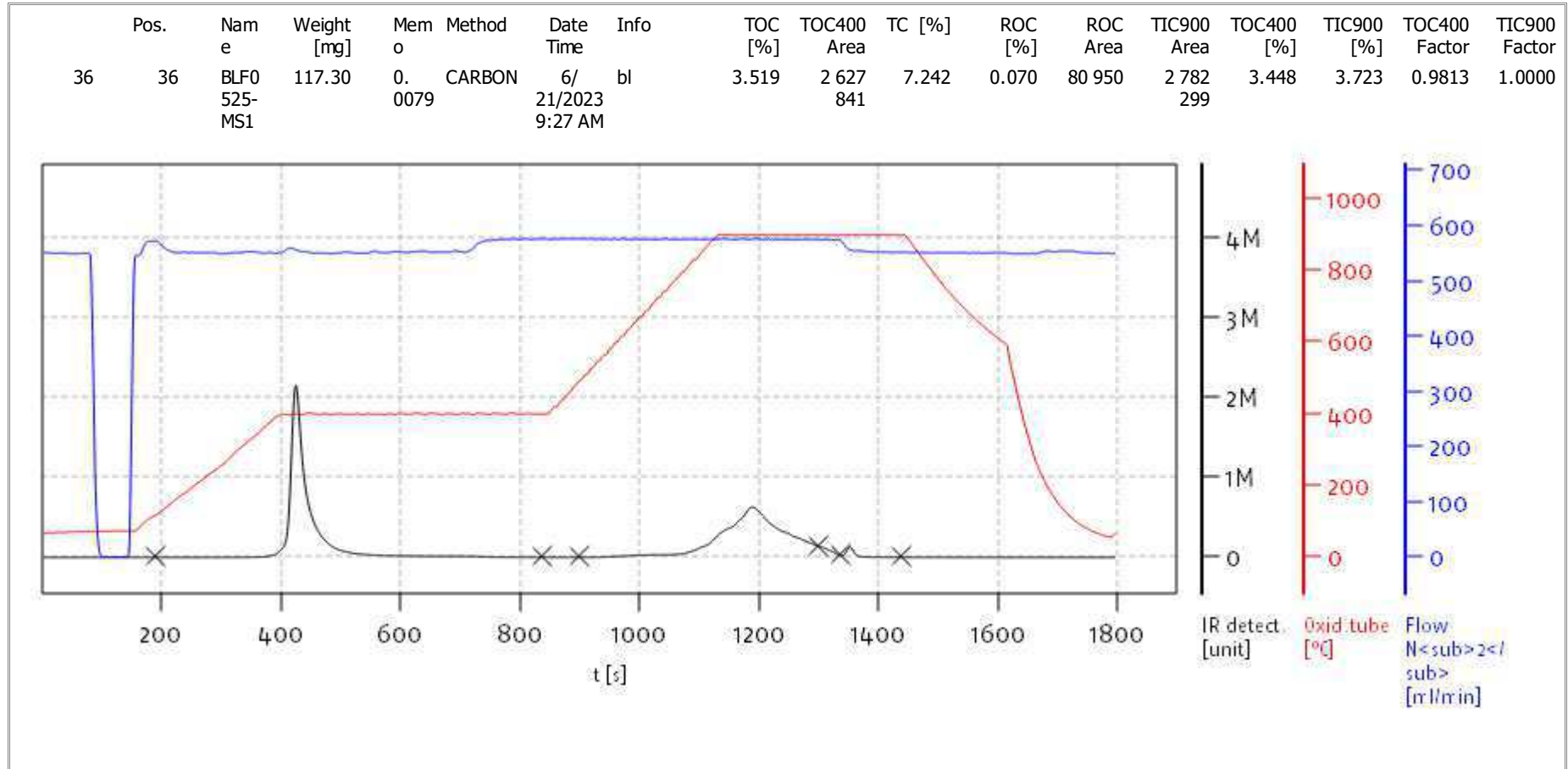
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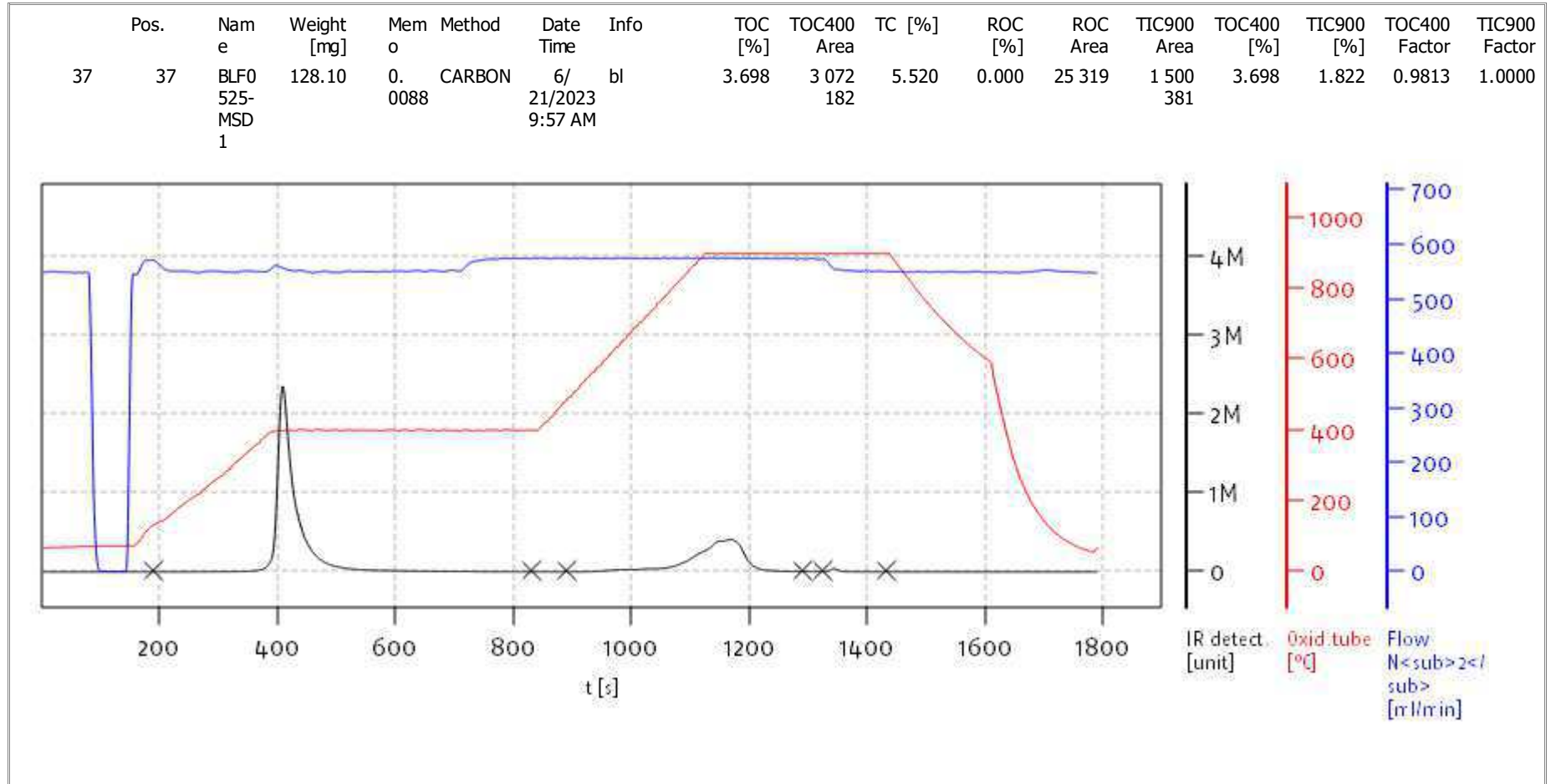
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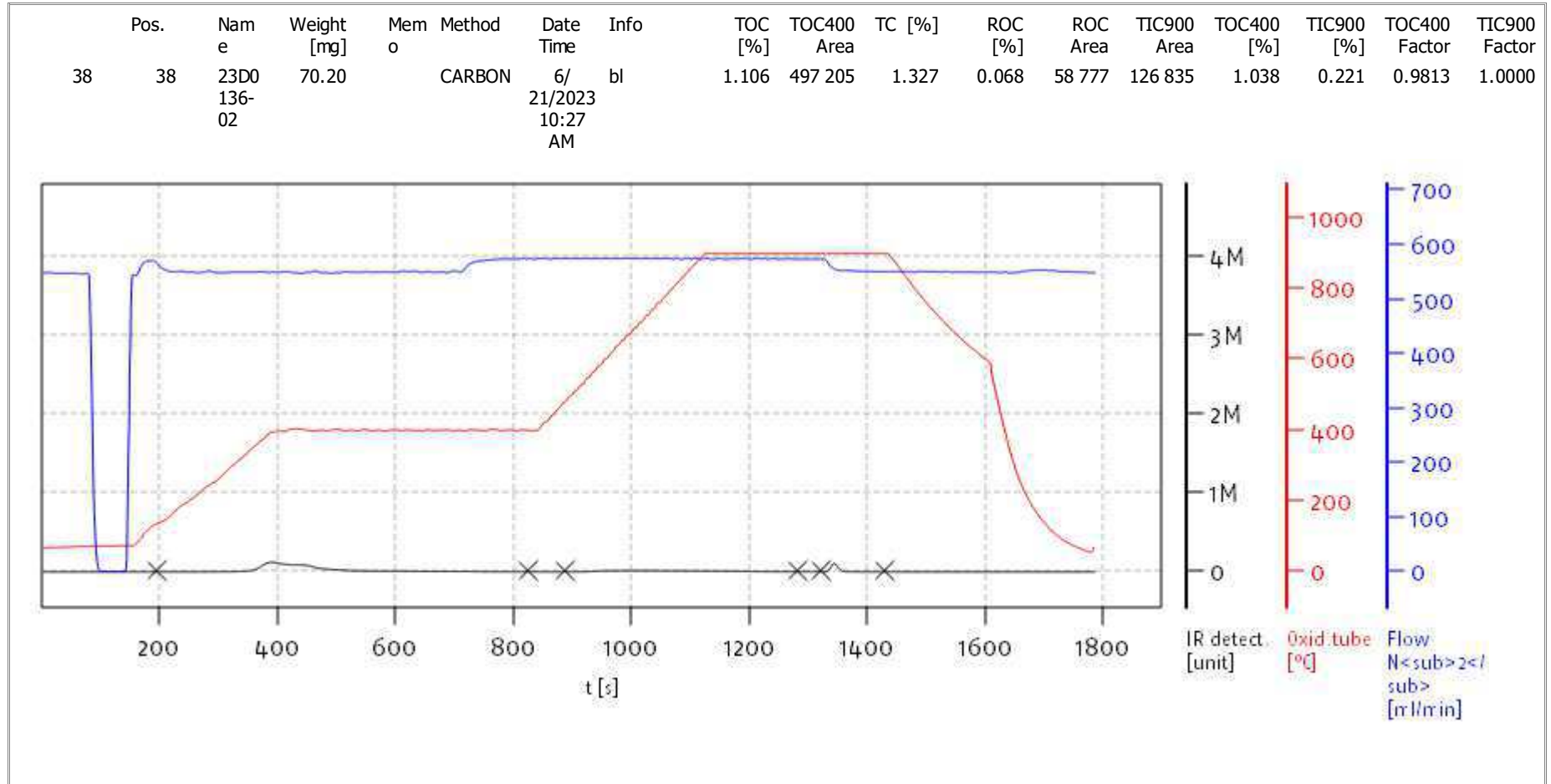
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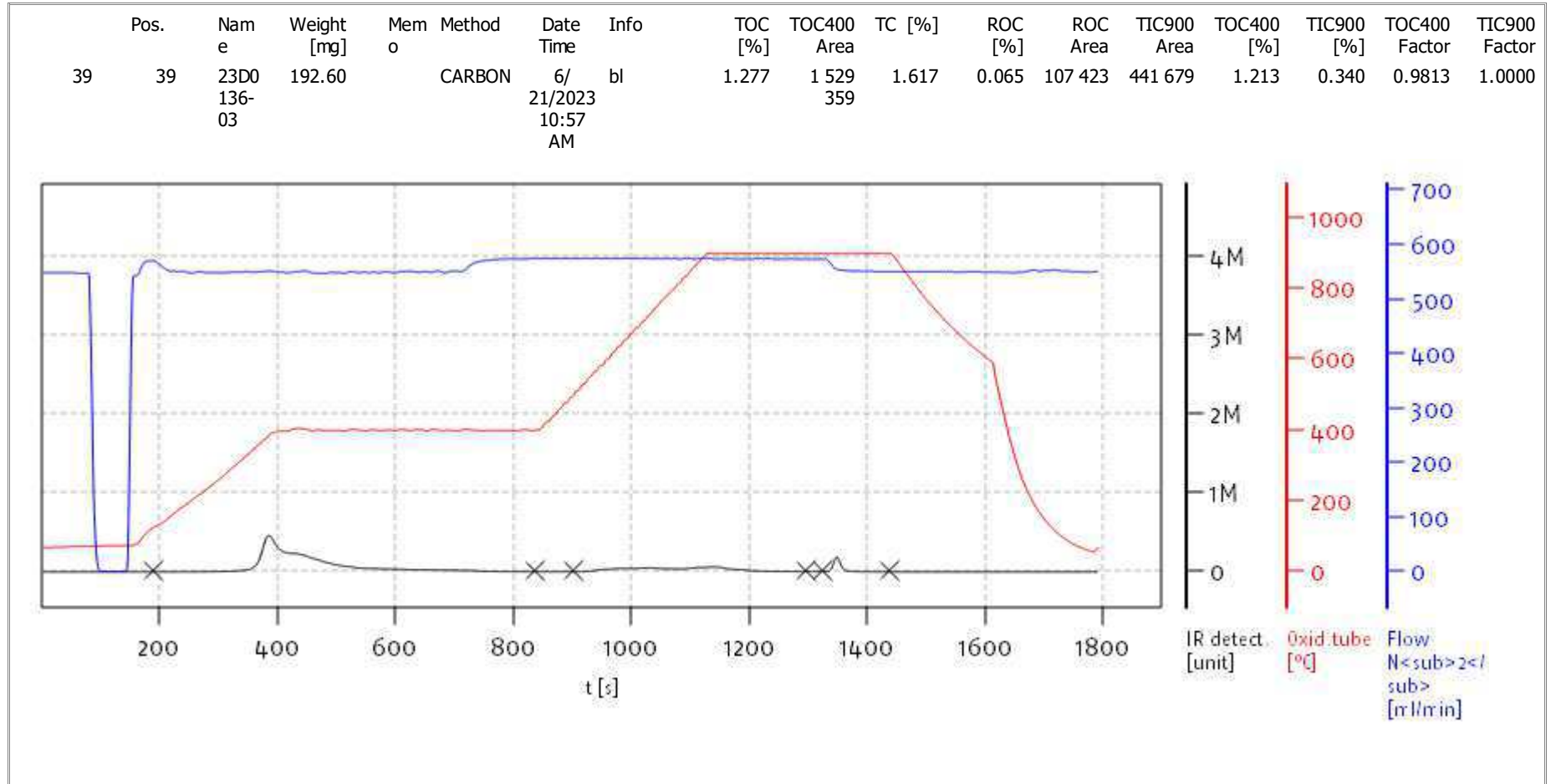
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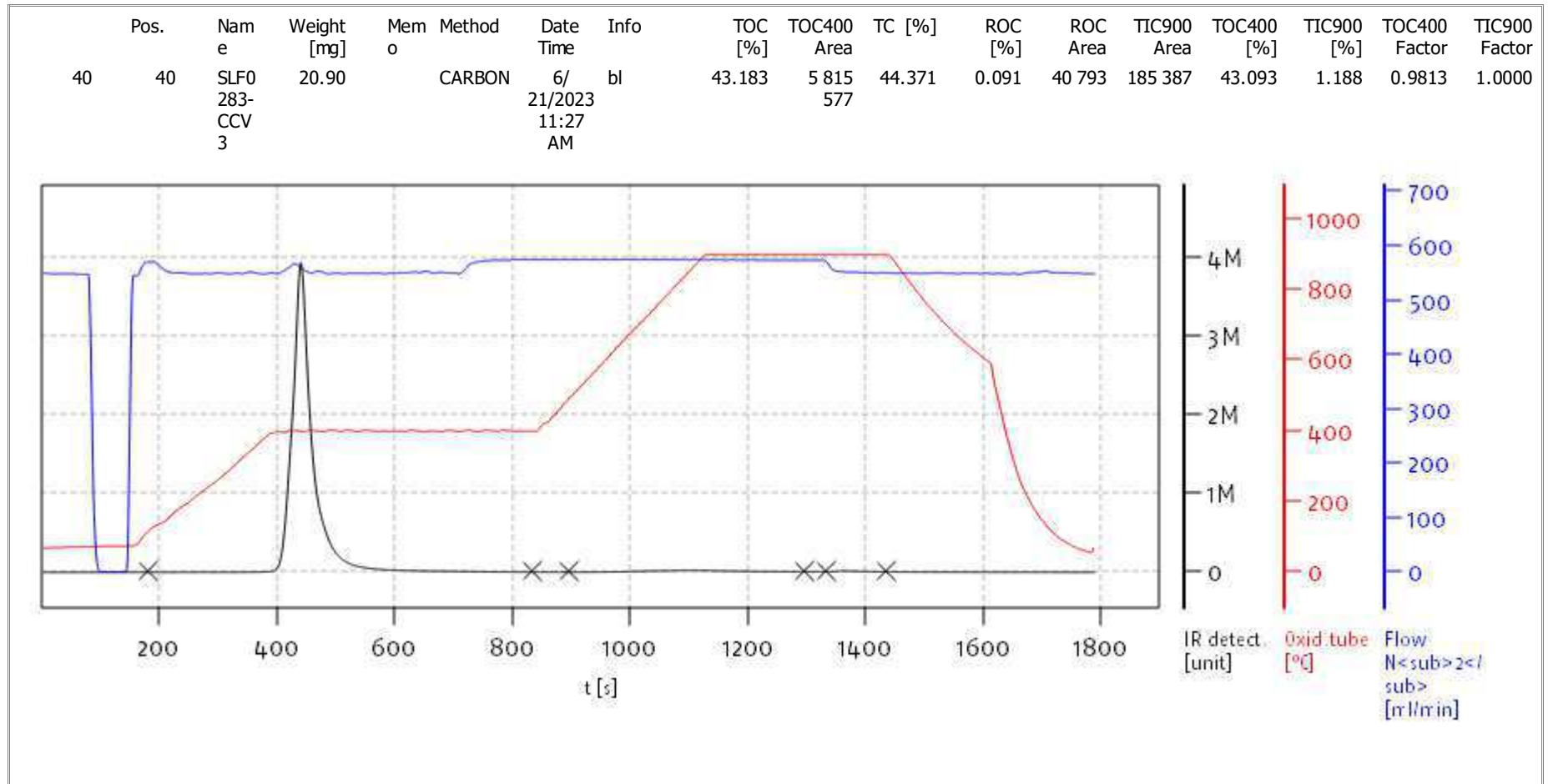
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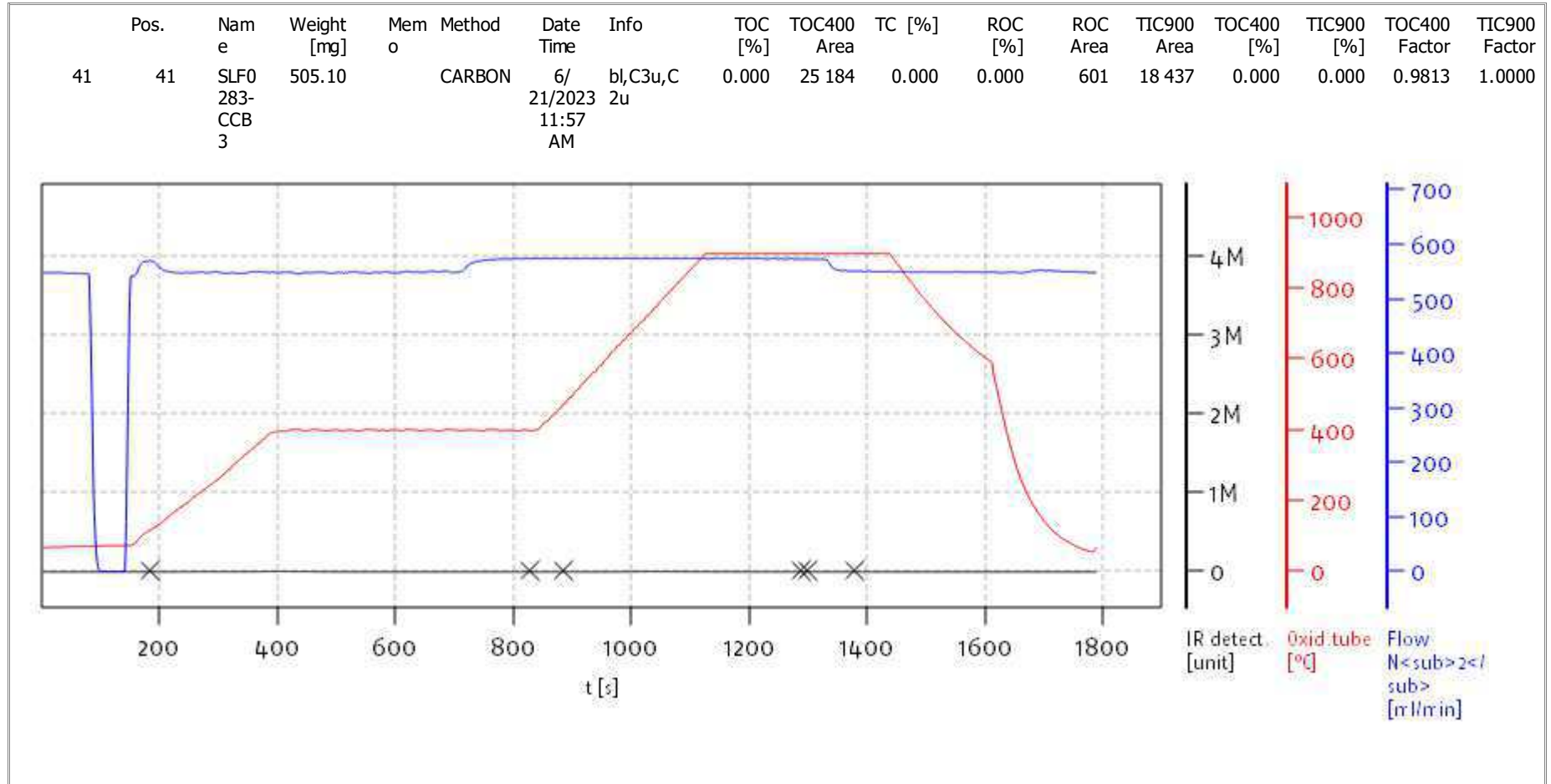
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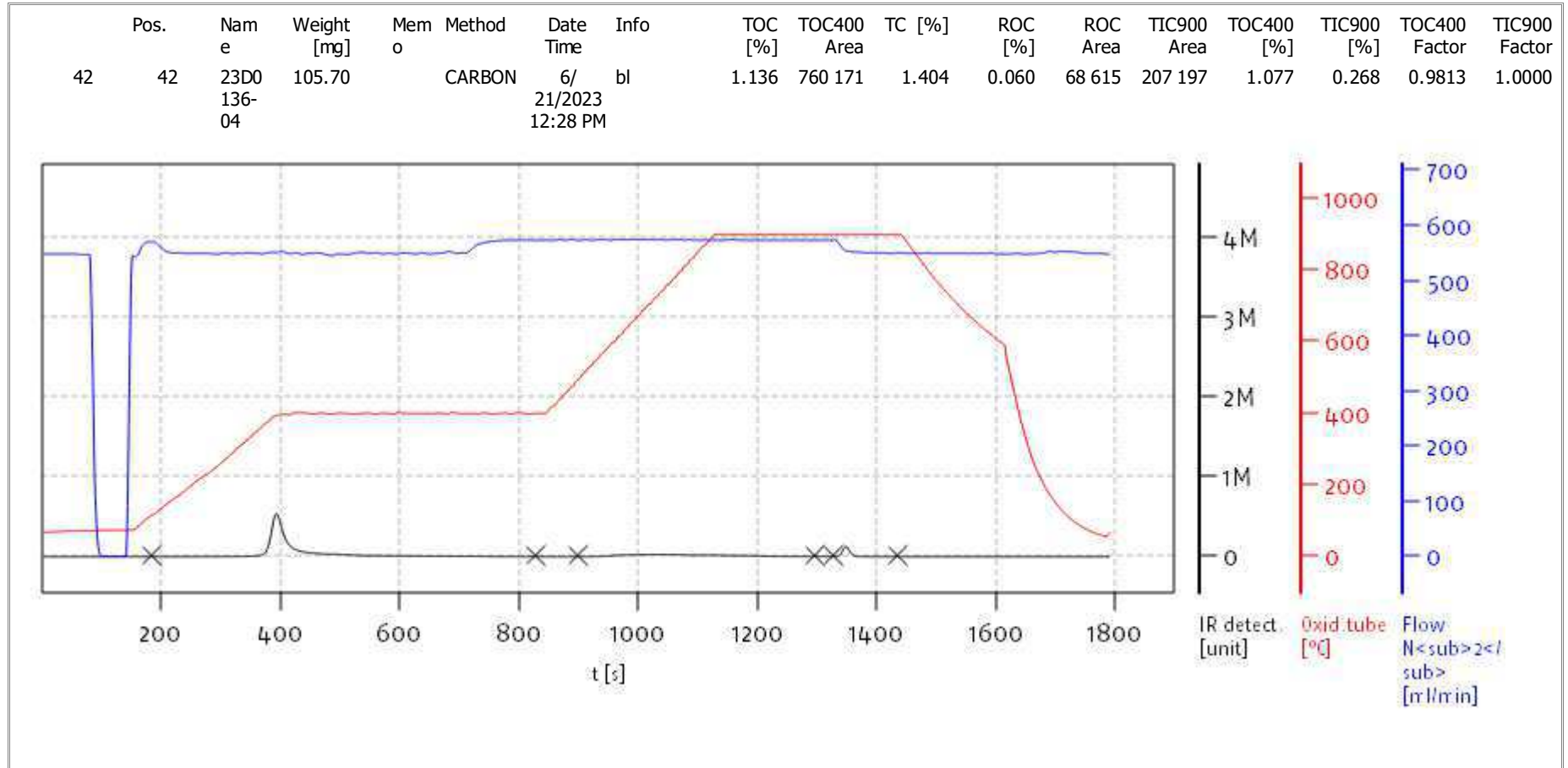
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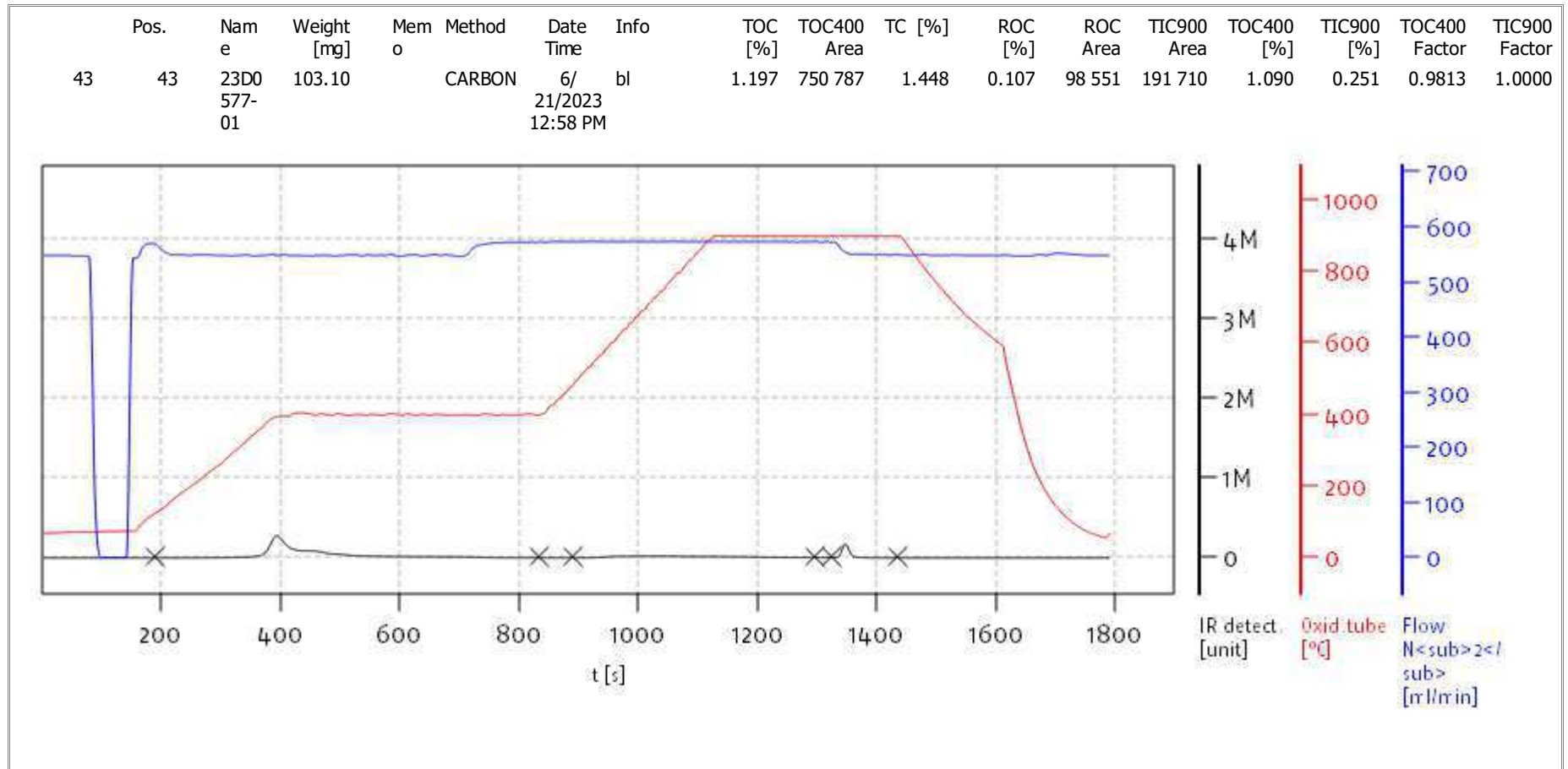
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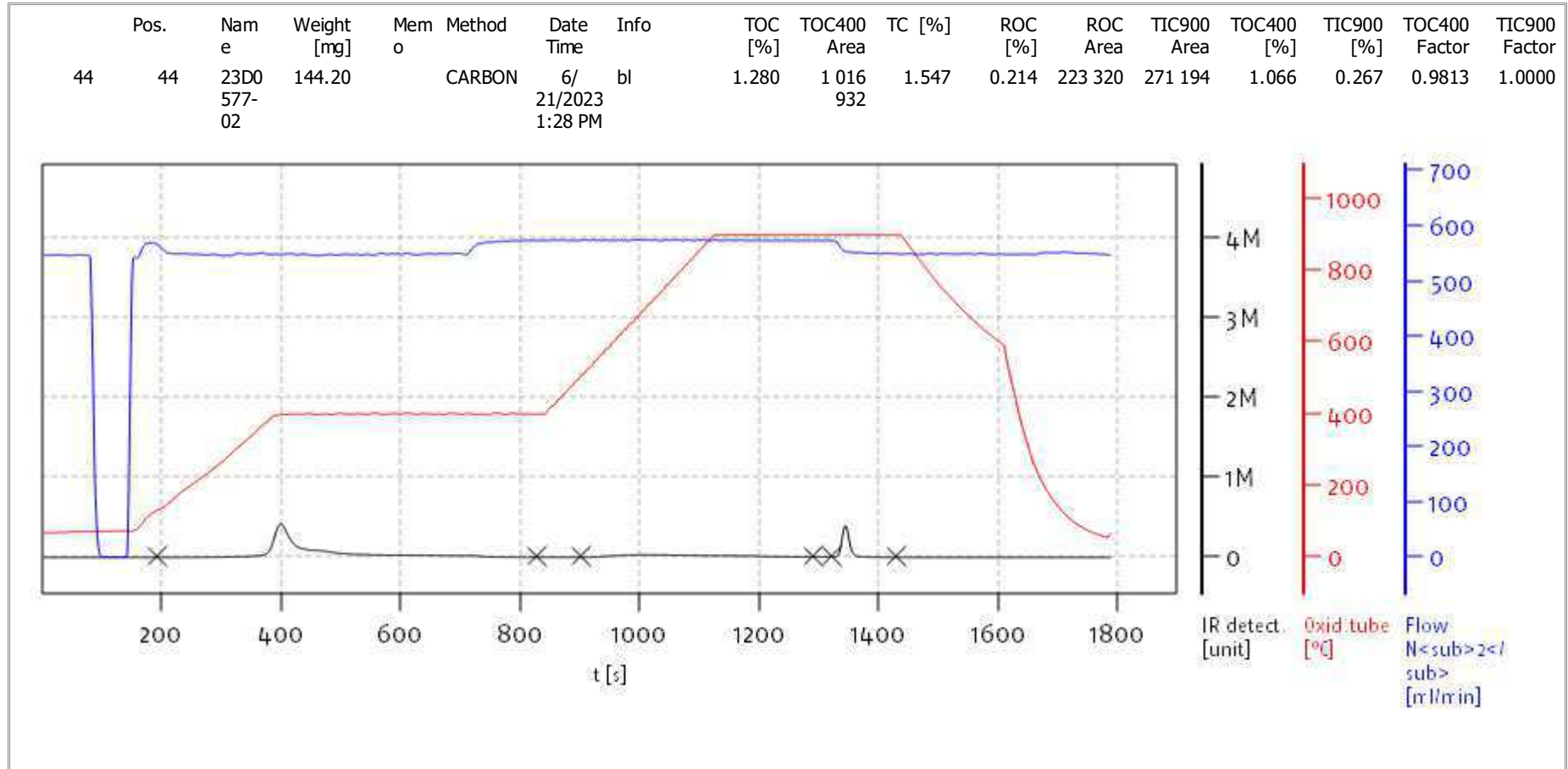
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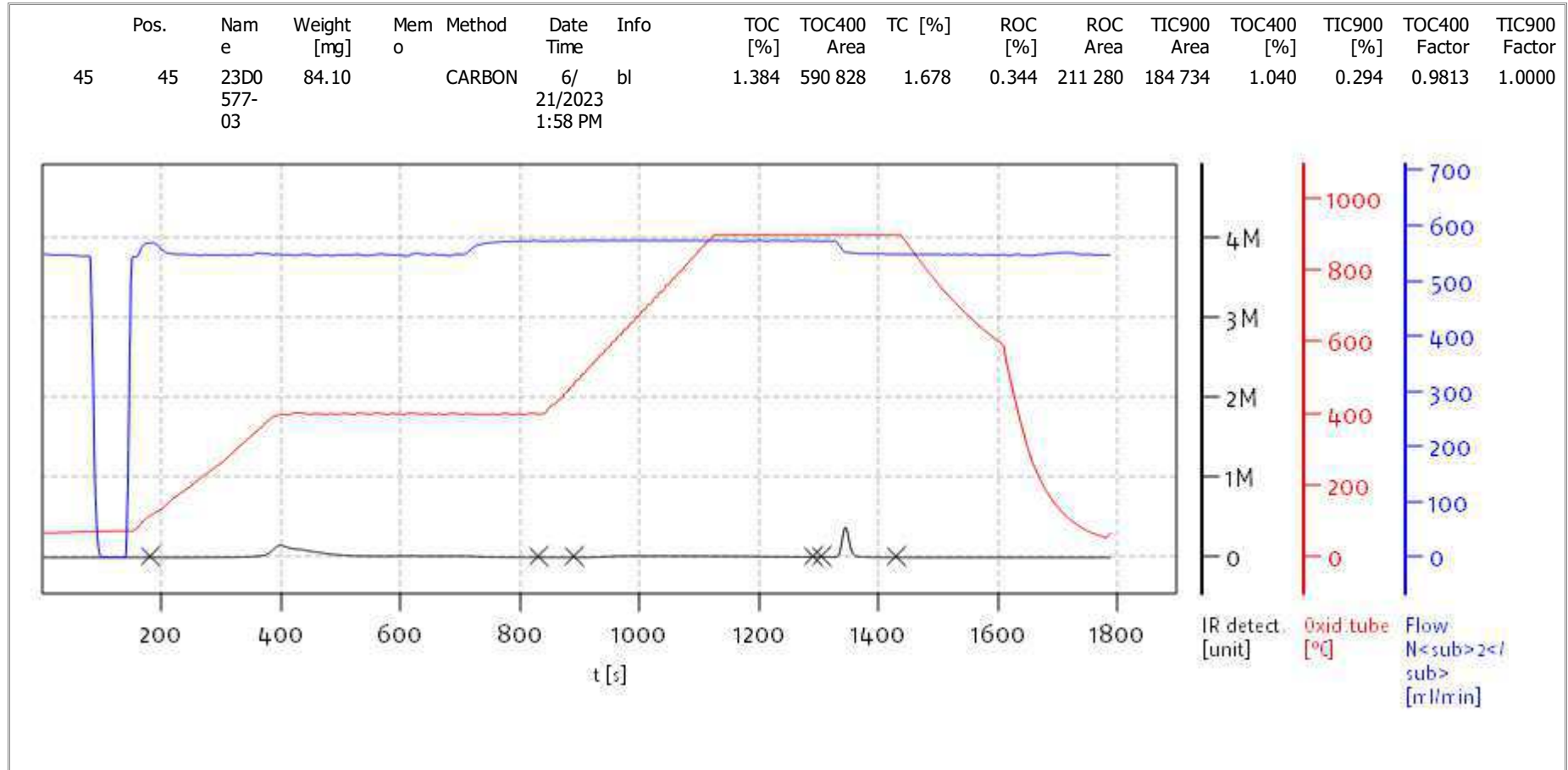
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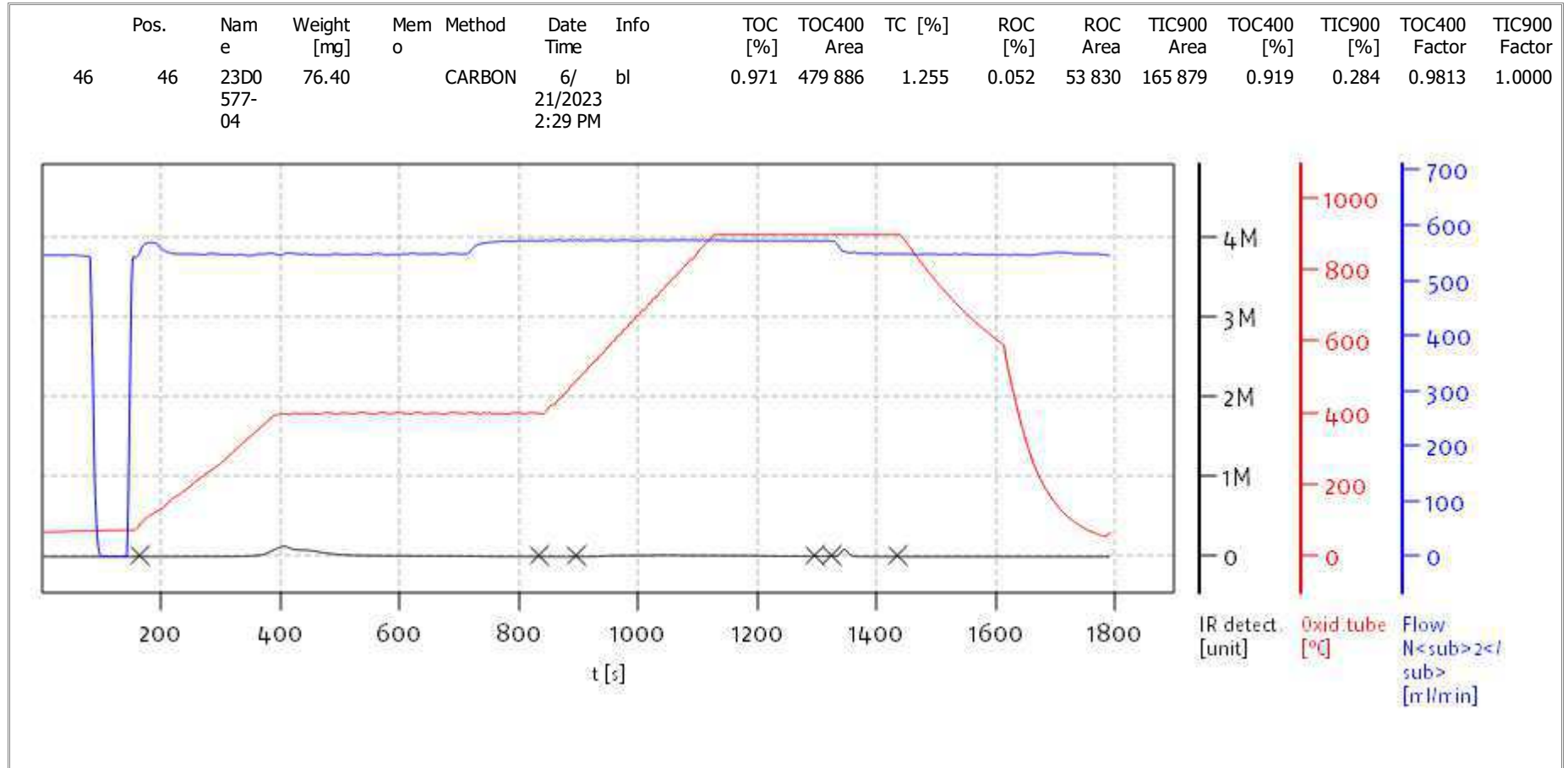
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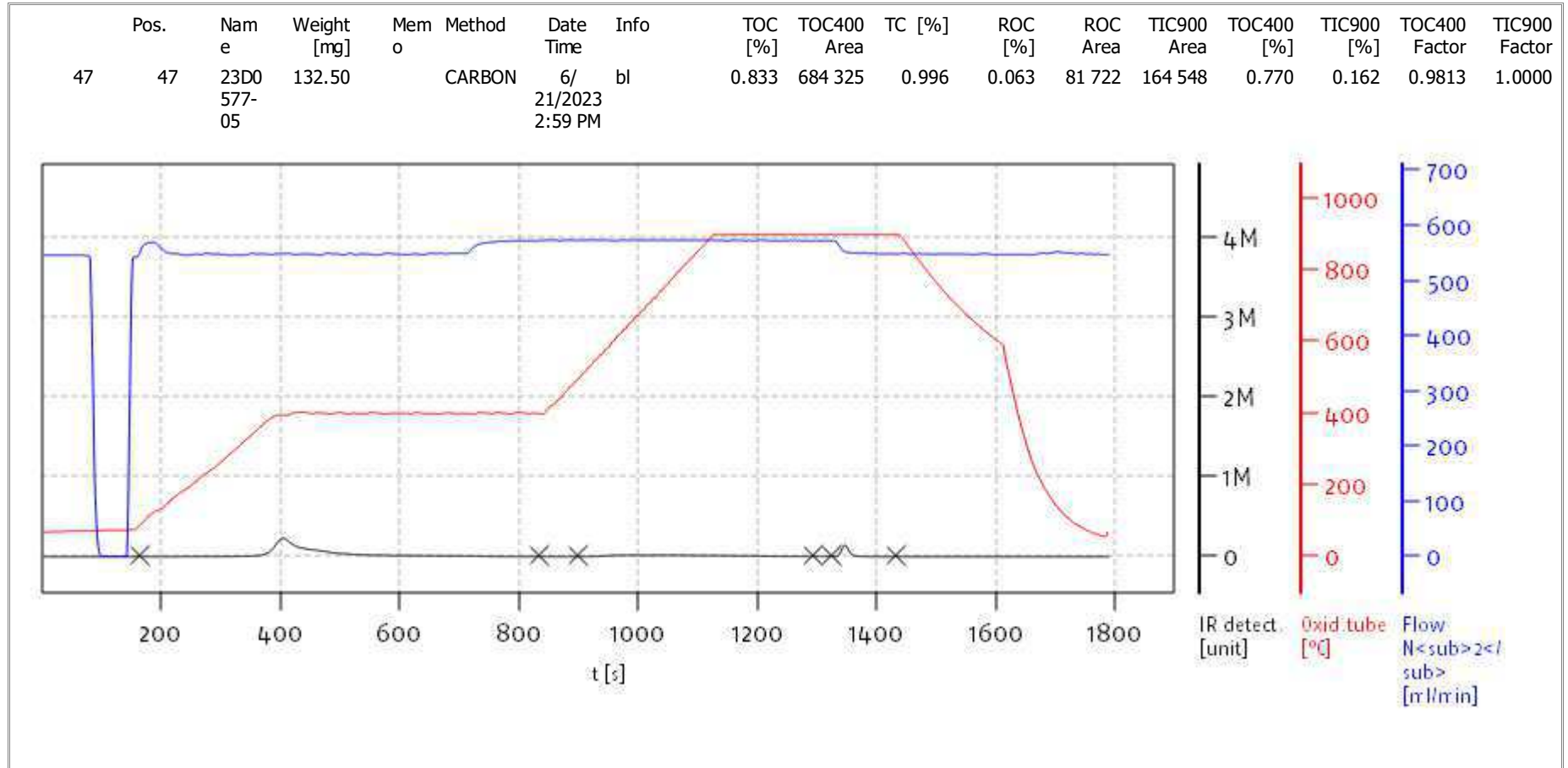
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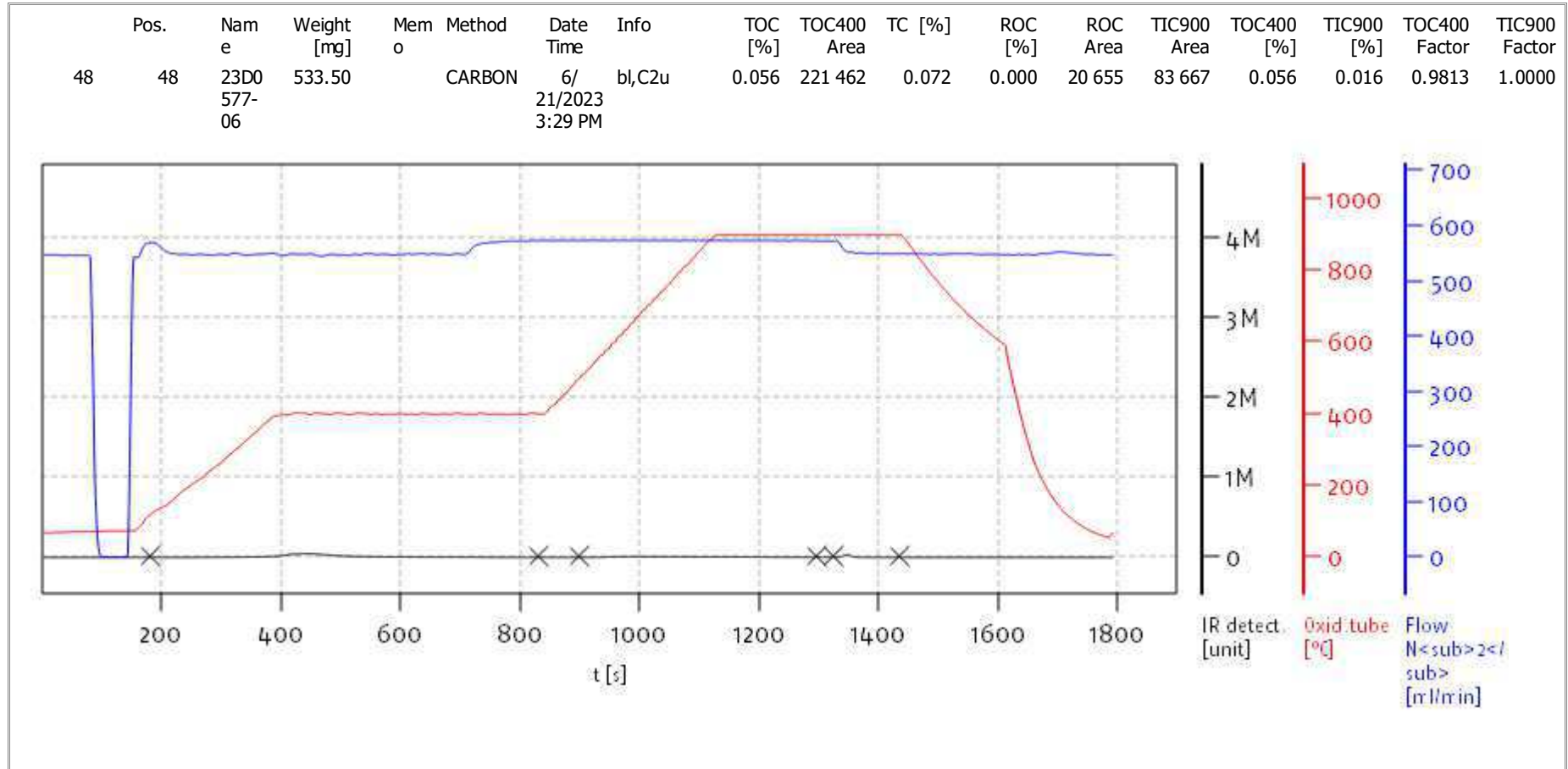
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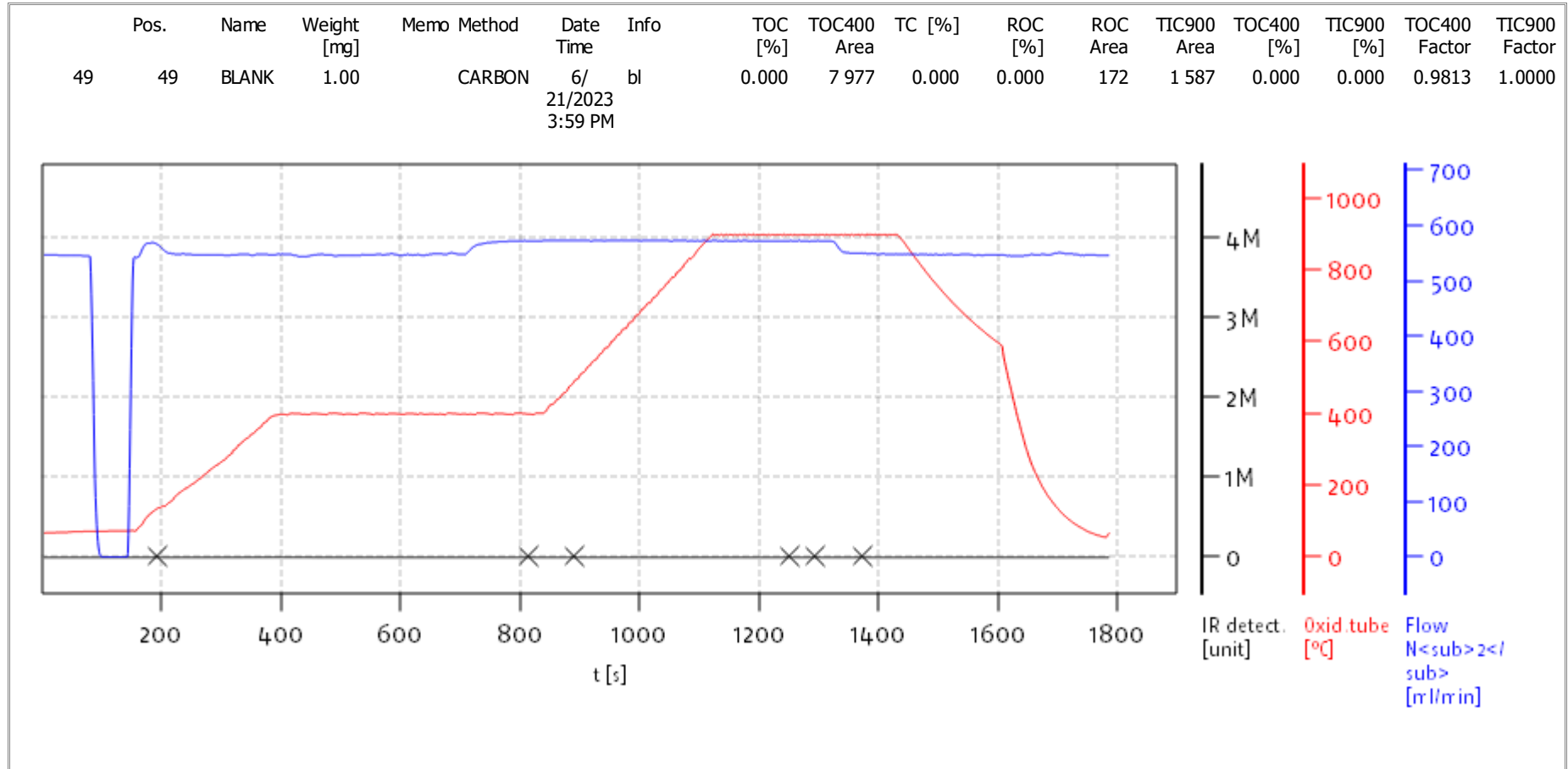
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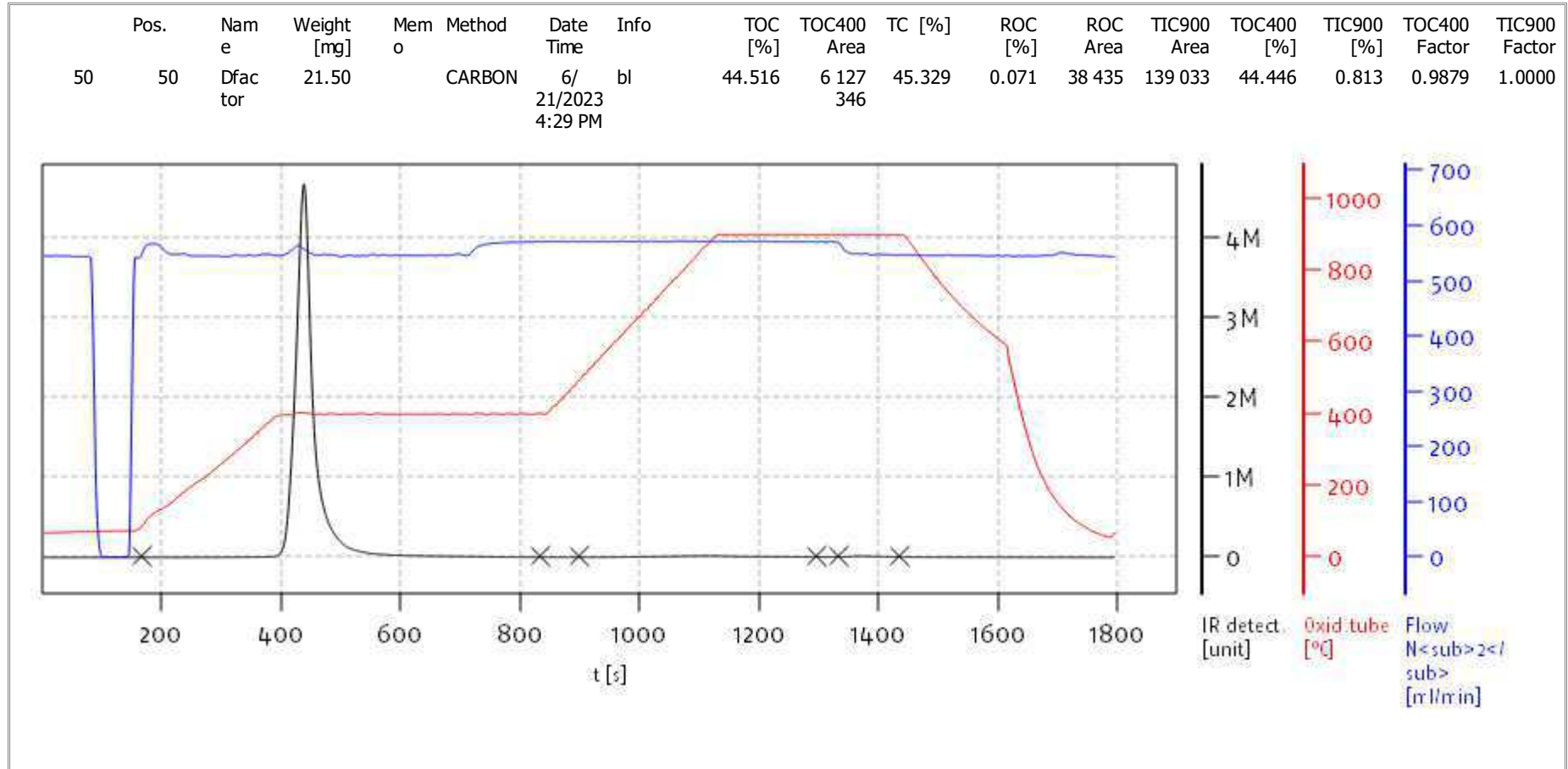
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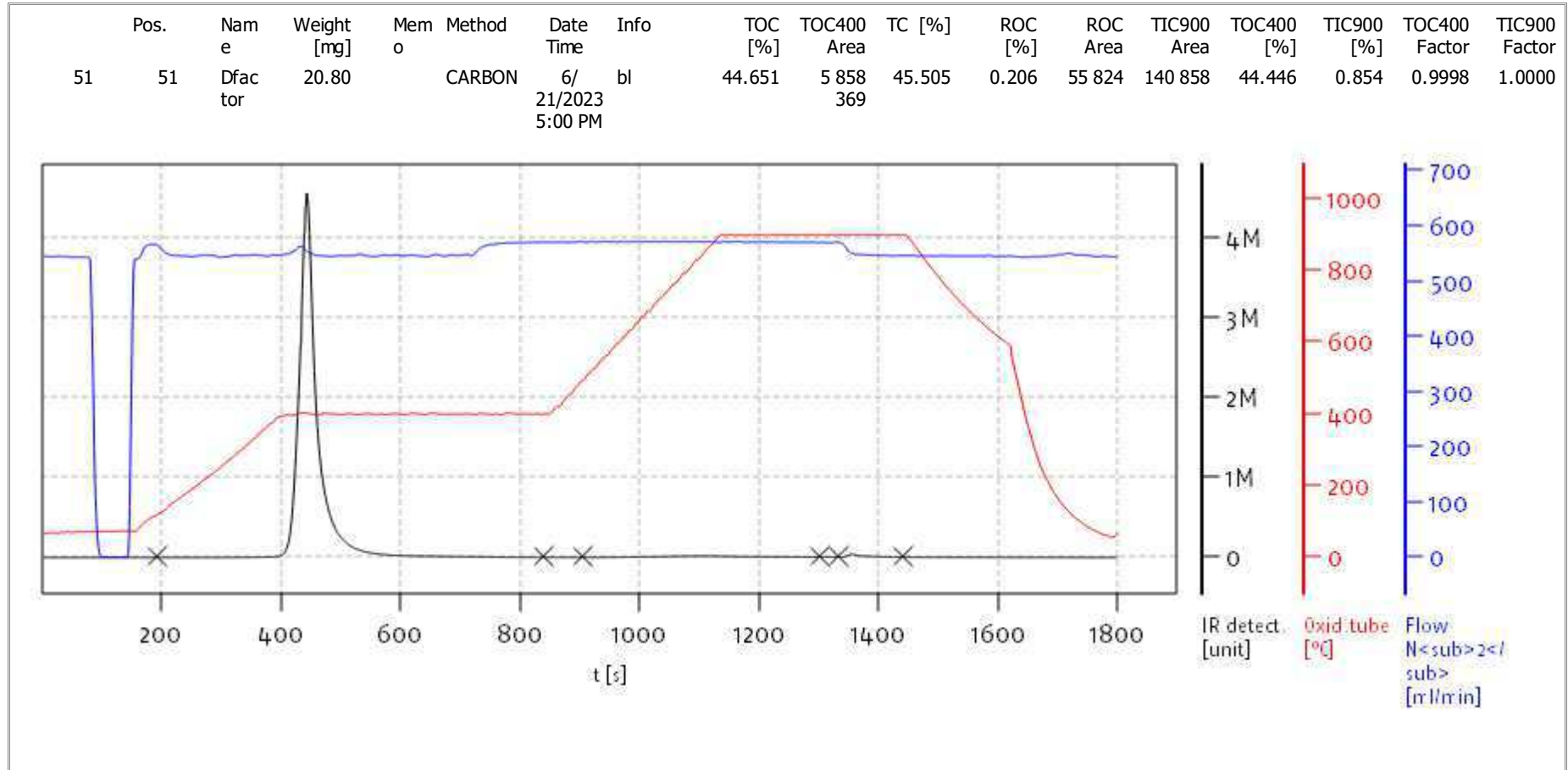
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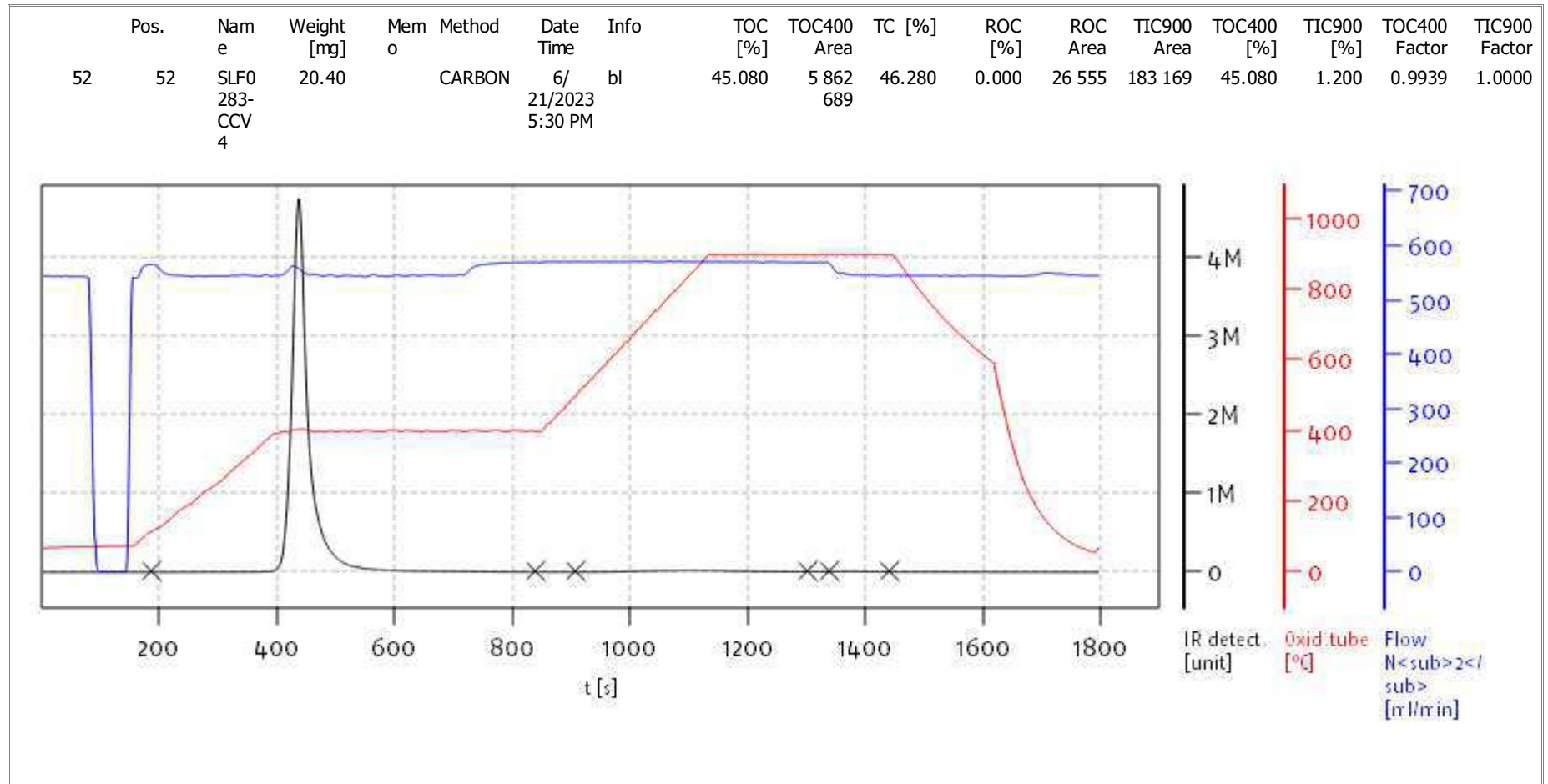
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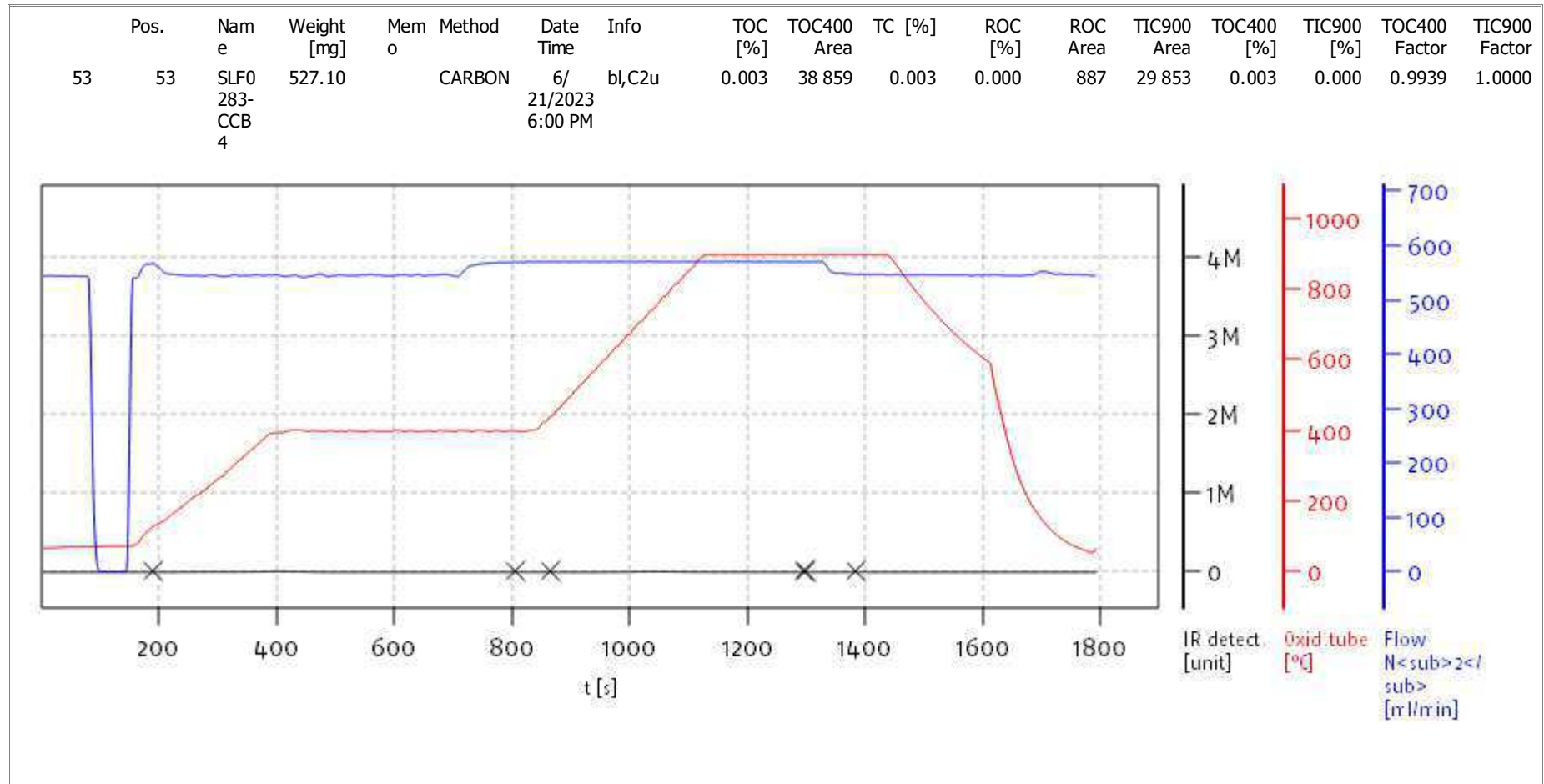
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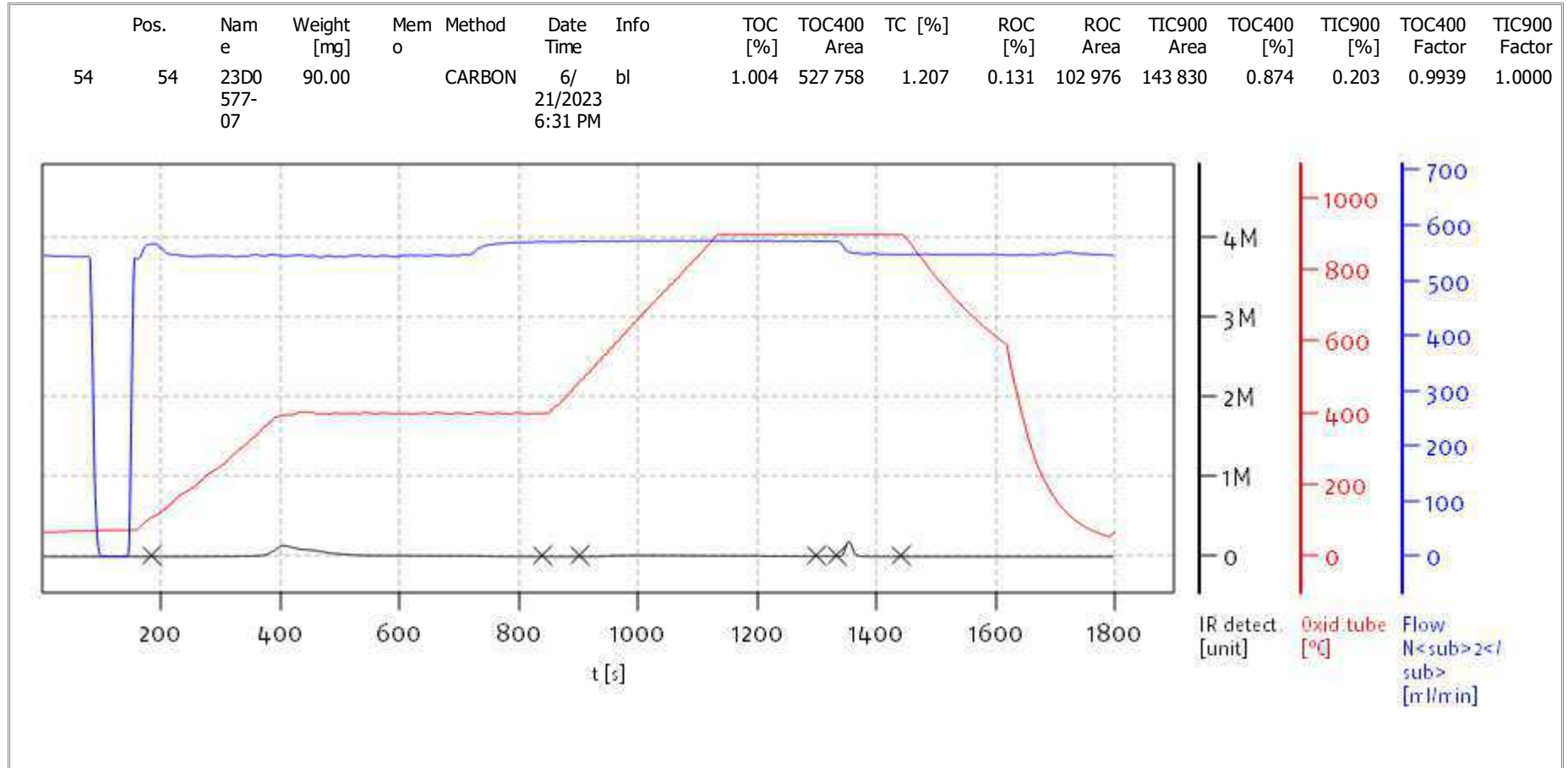
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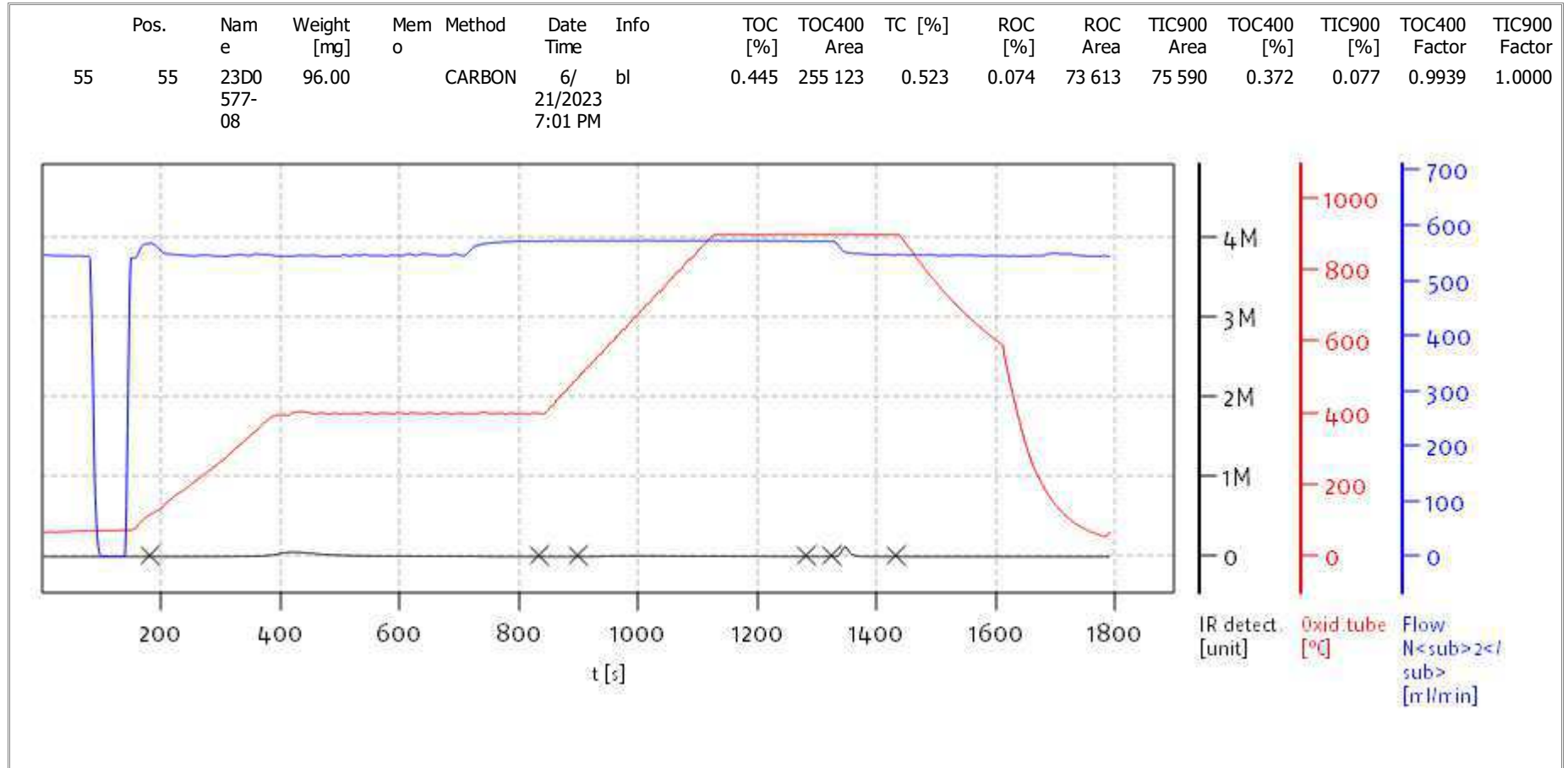
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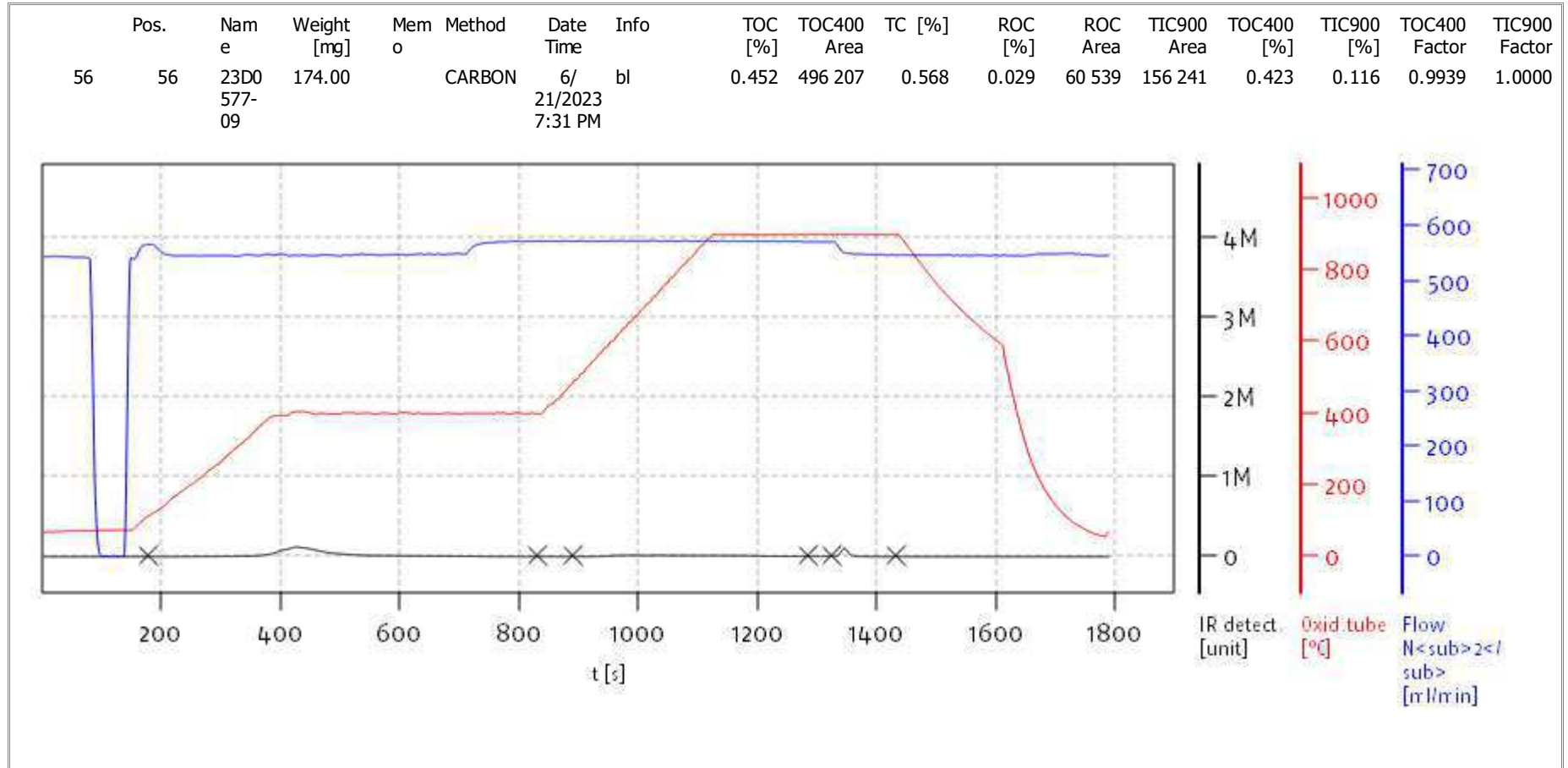
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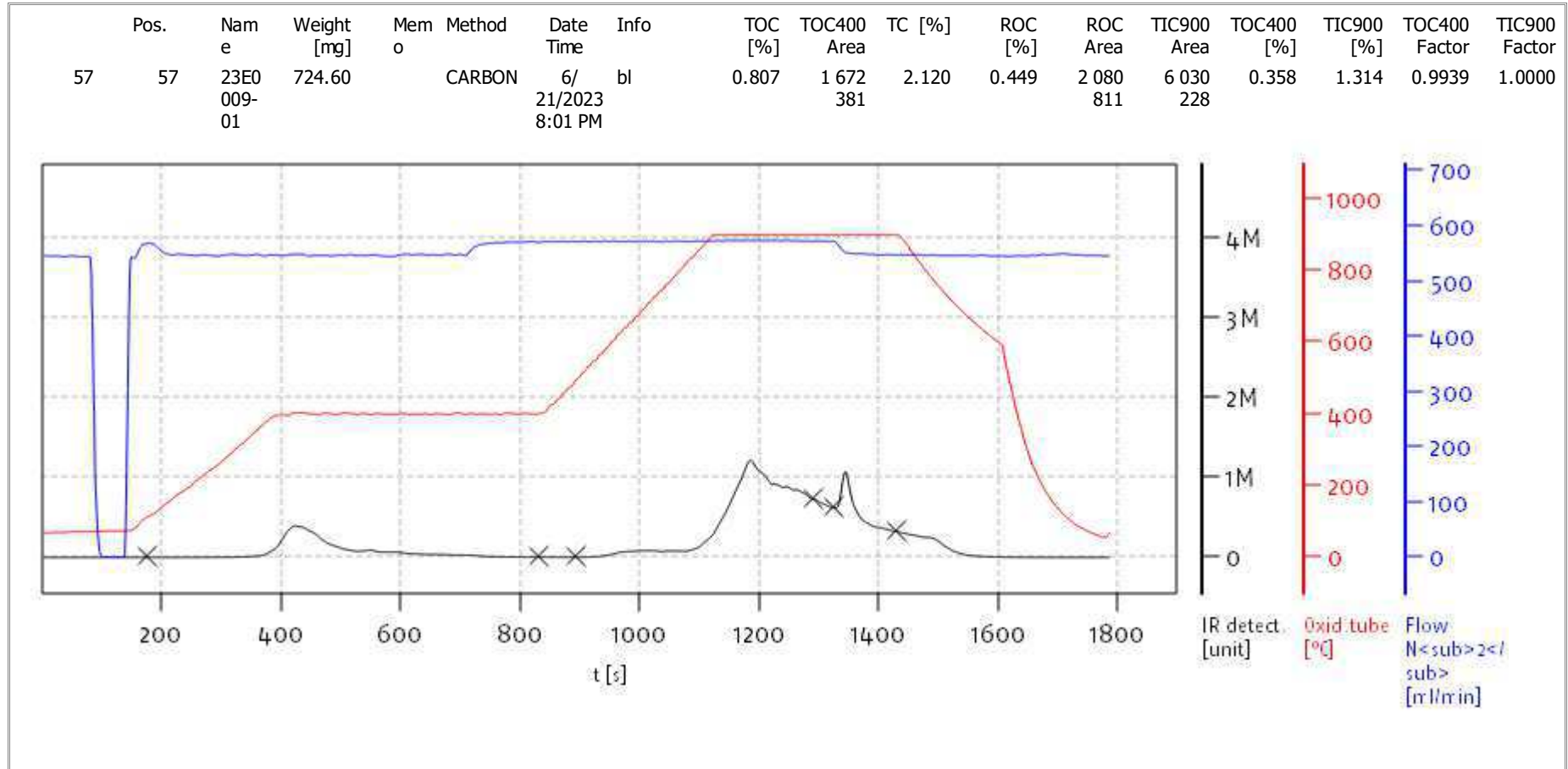
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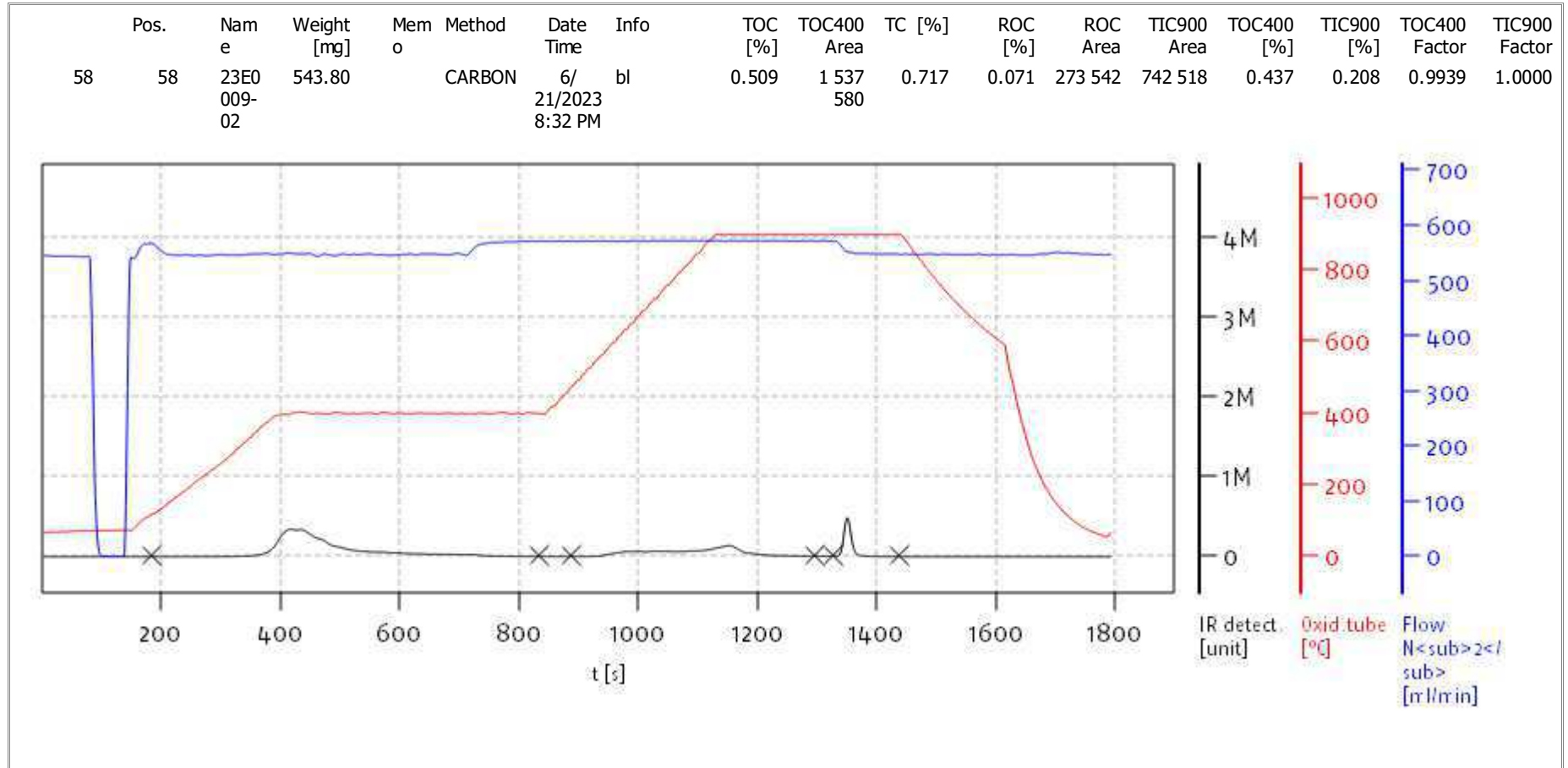
Date: Fri Jun 23 12:52:31 2023



solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

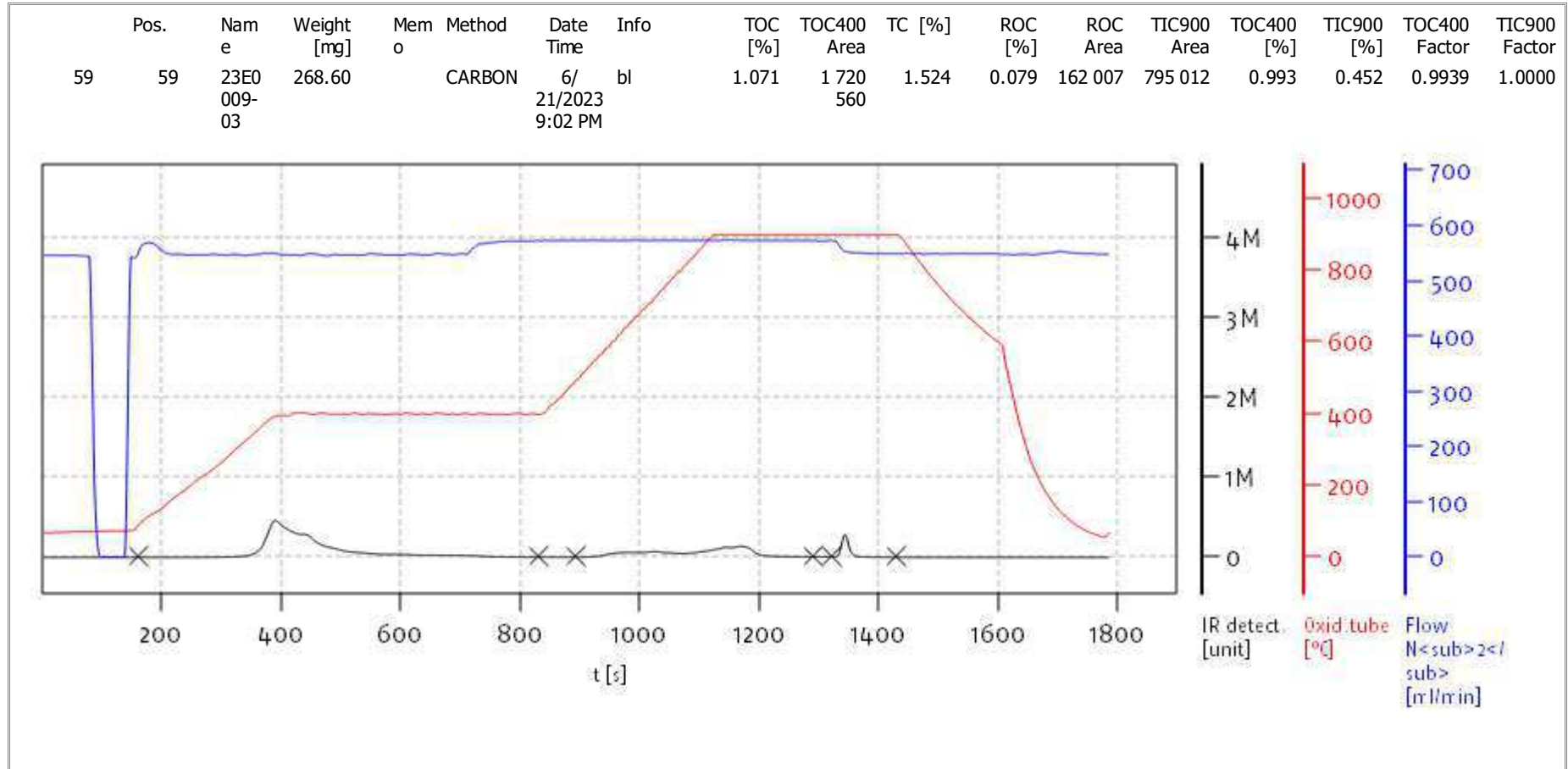
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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



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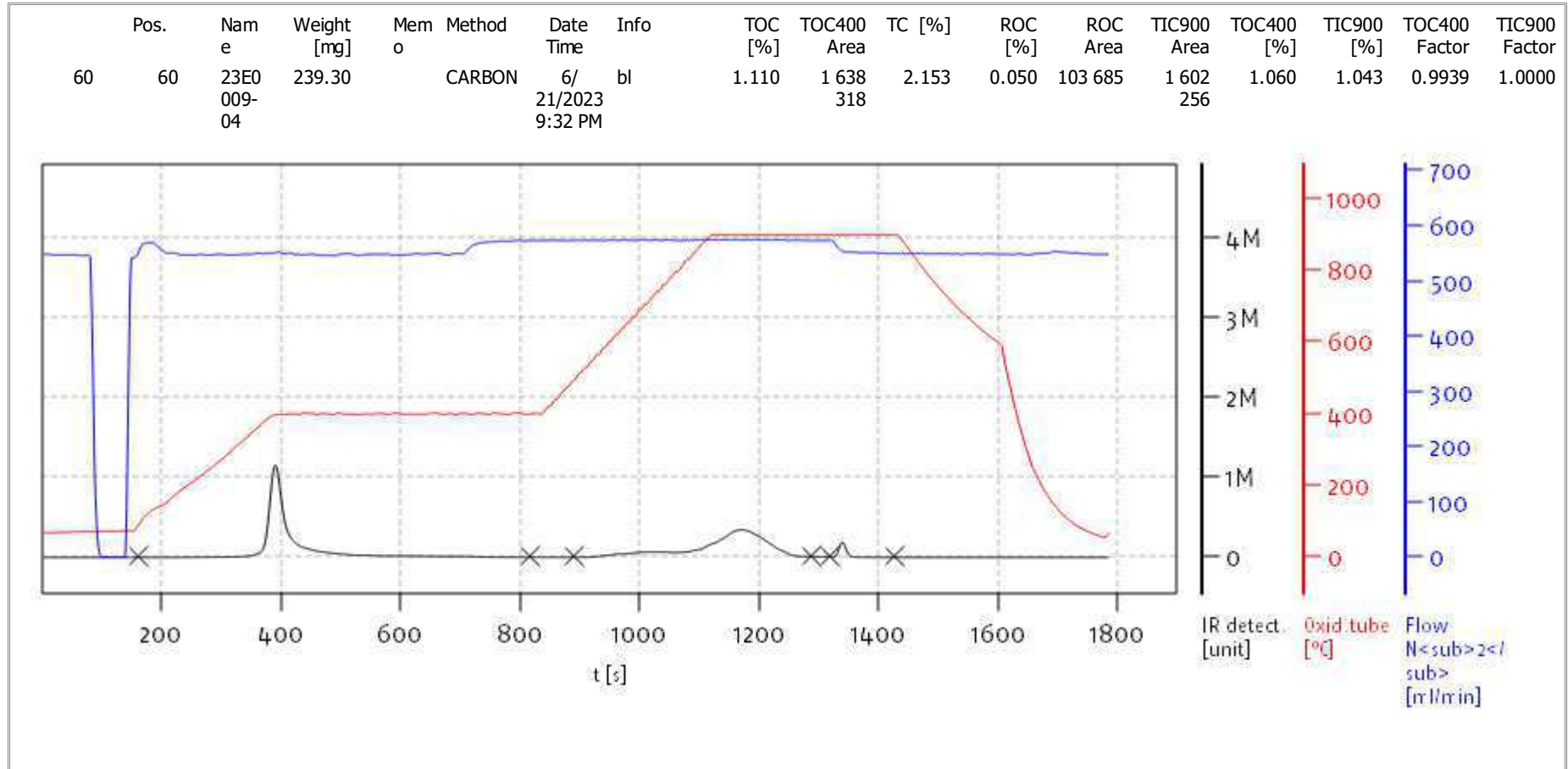
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Soli TOC Cube, Carbon
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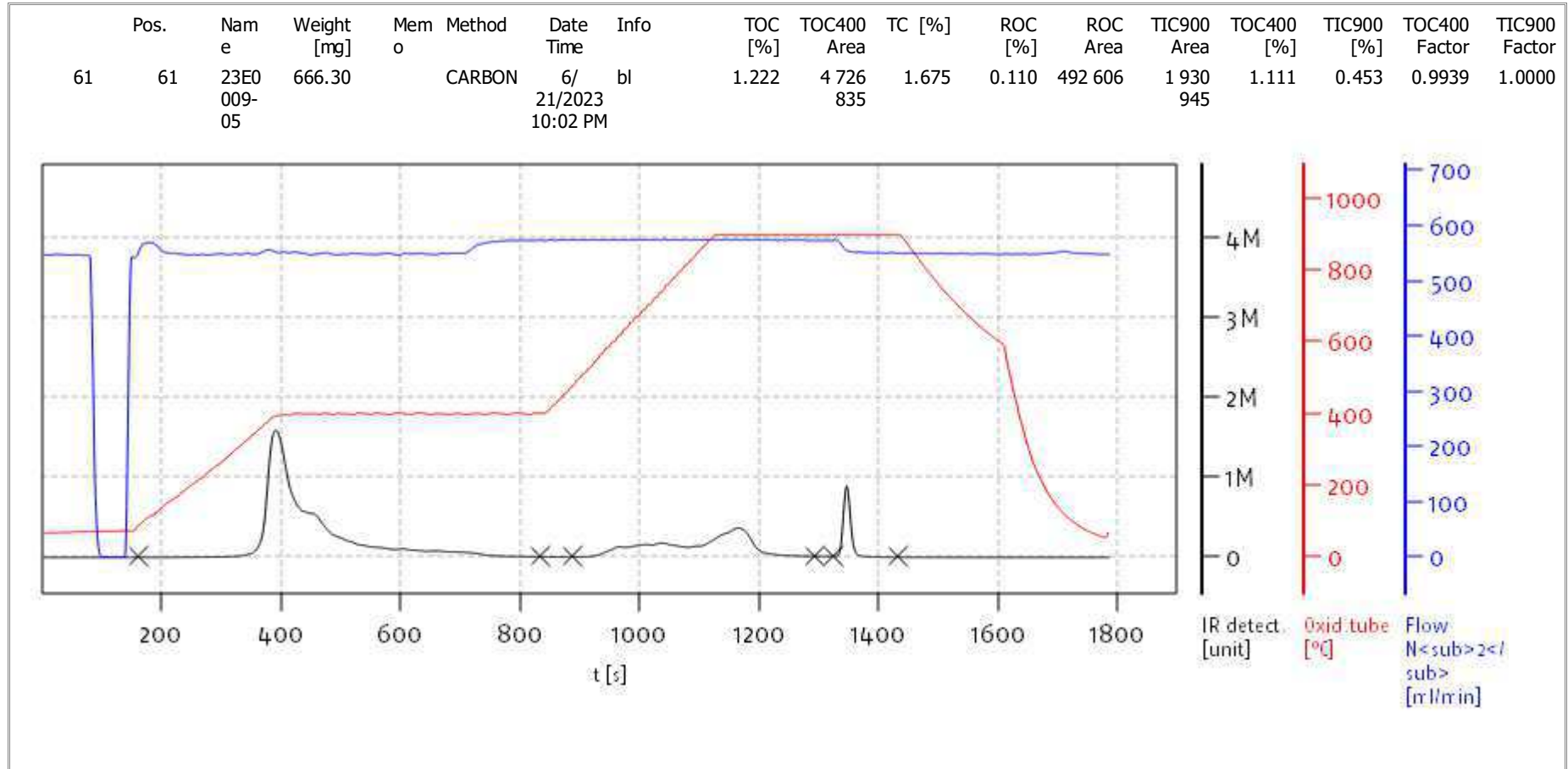
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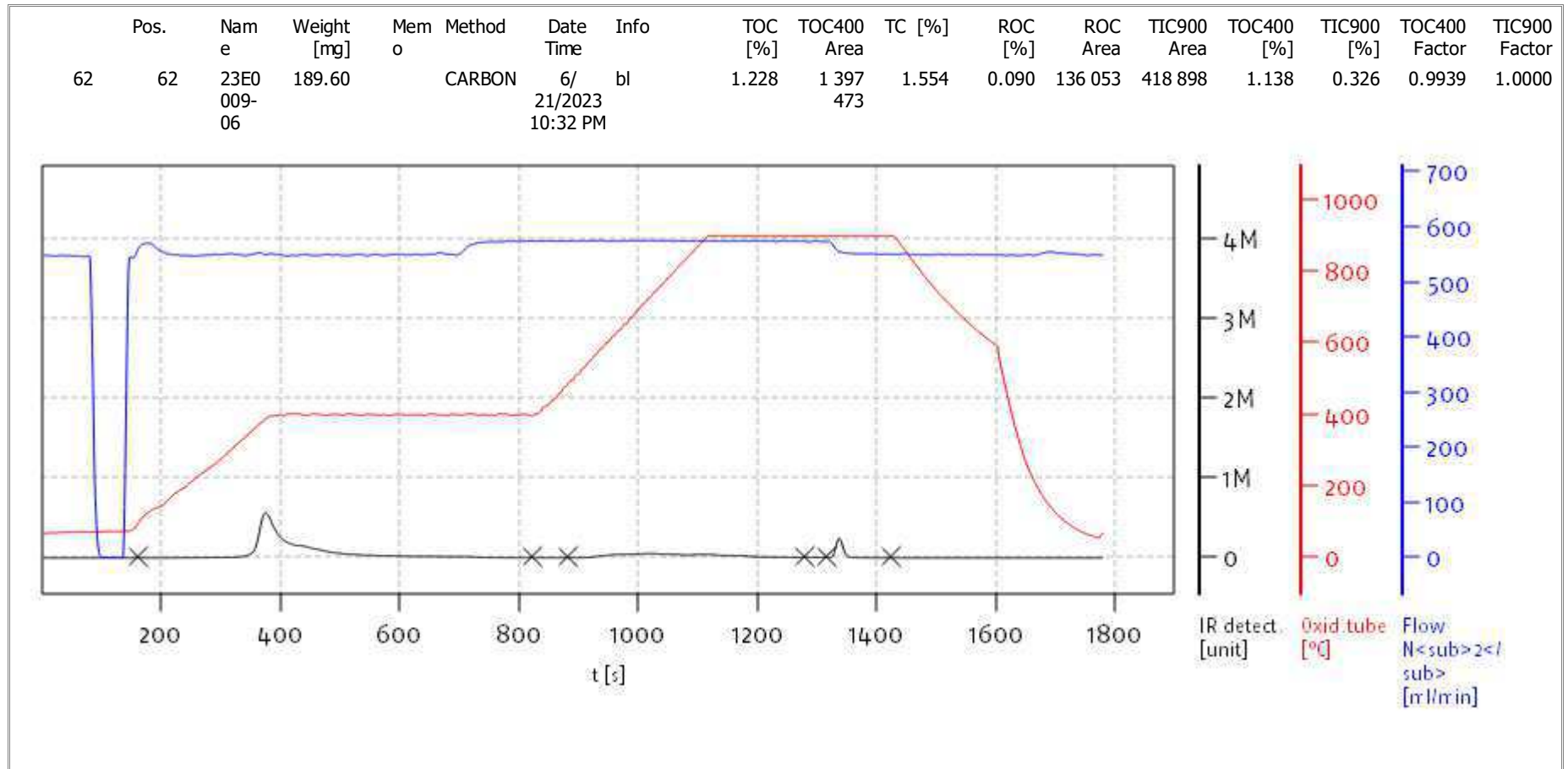
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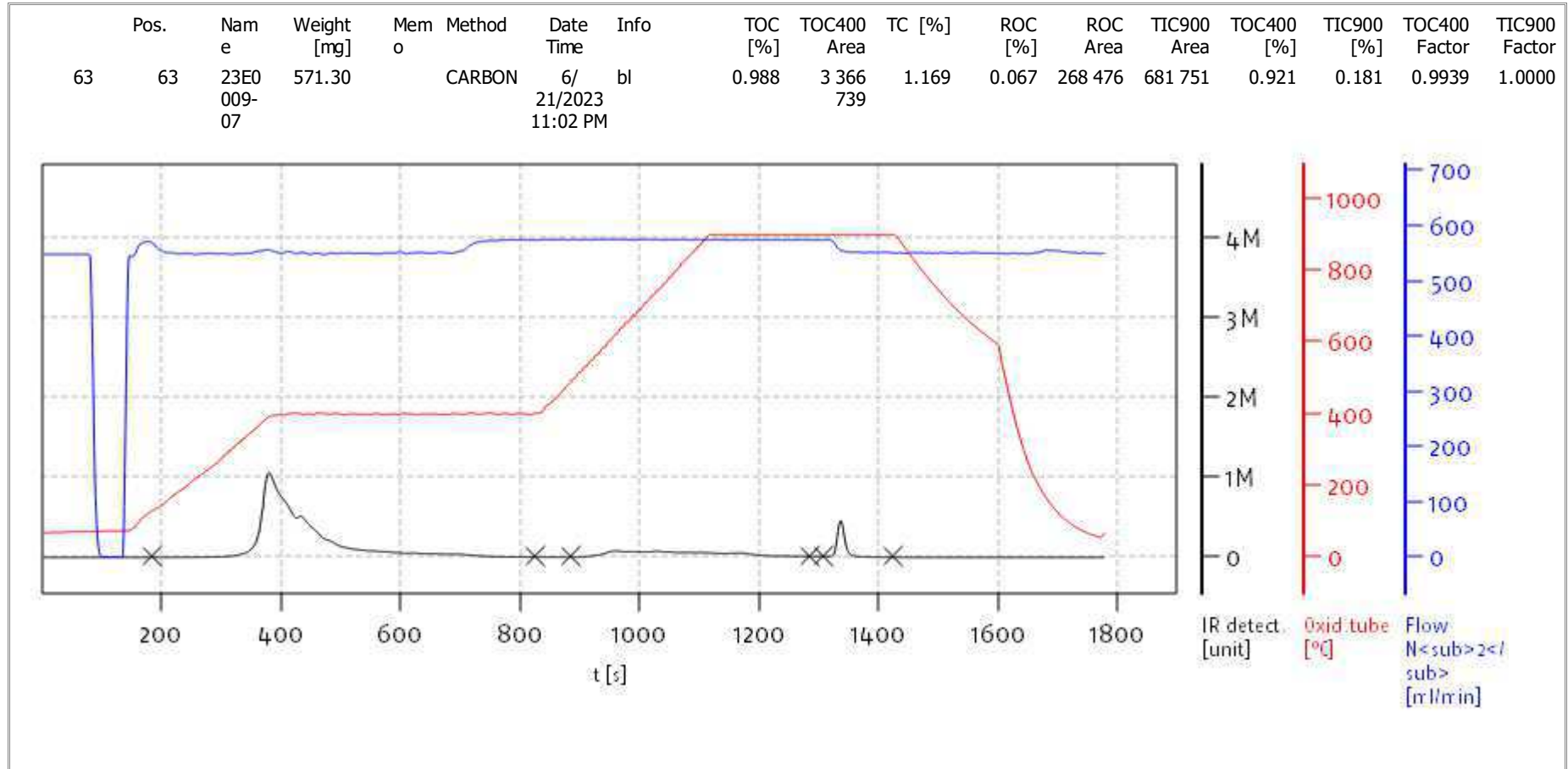
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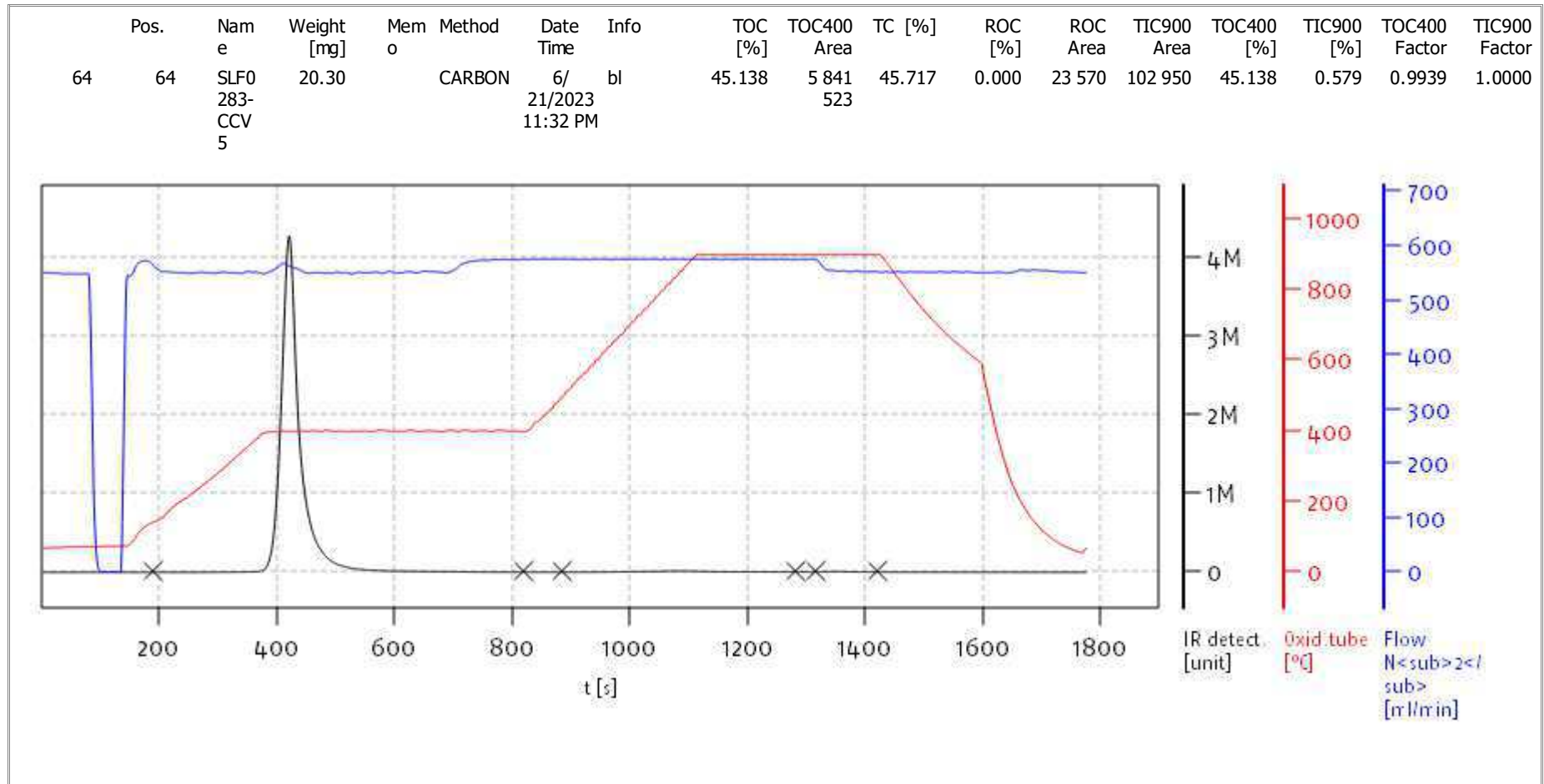
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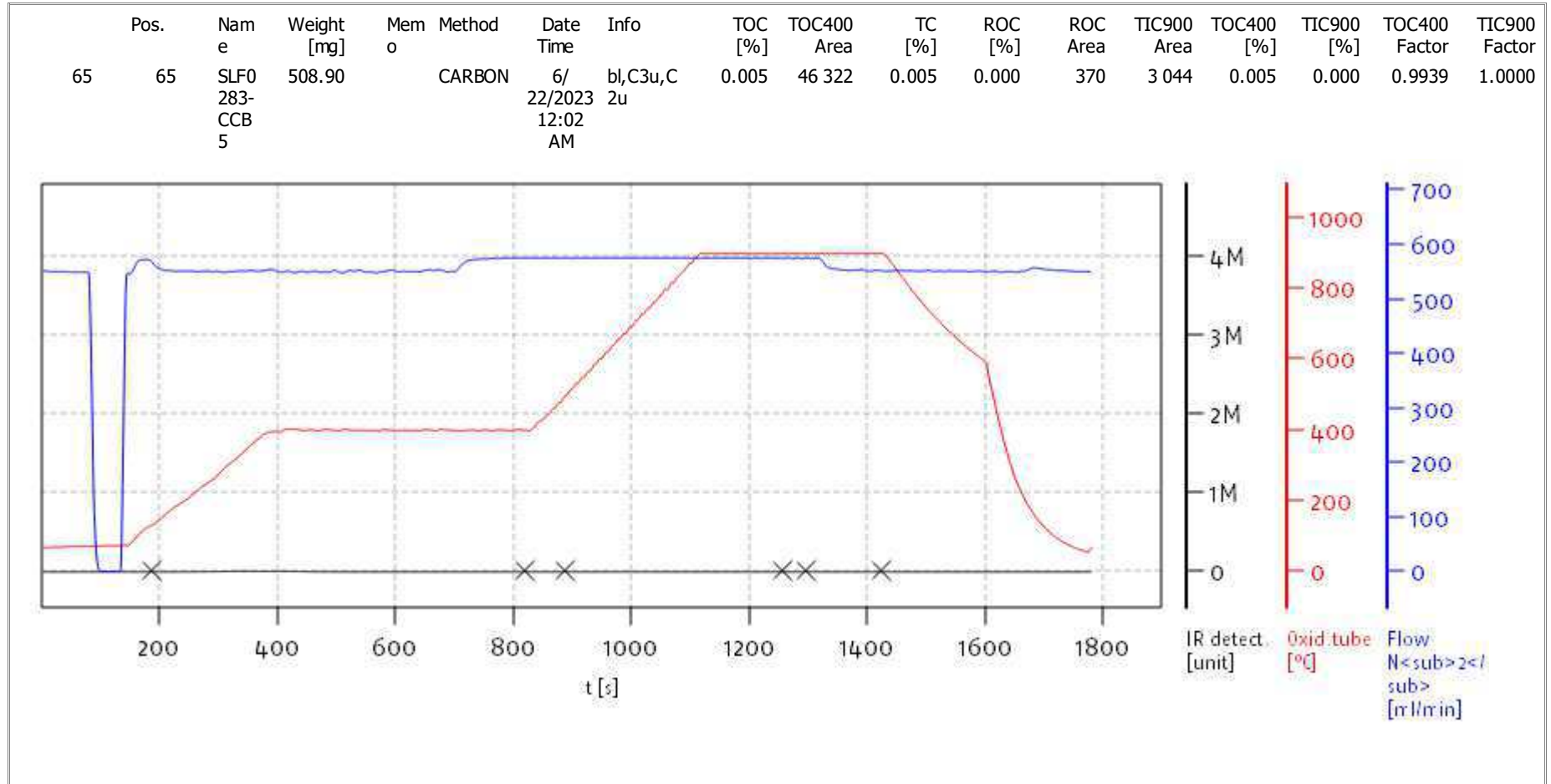
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solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Sequence: SLF0370

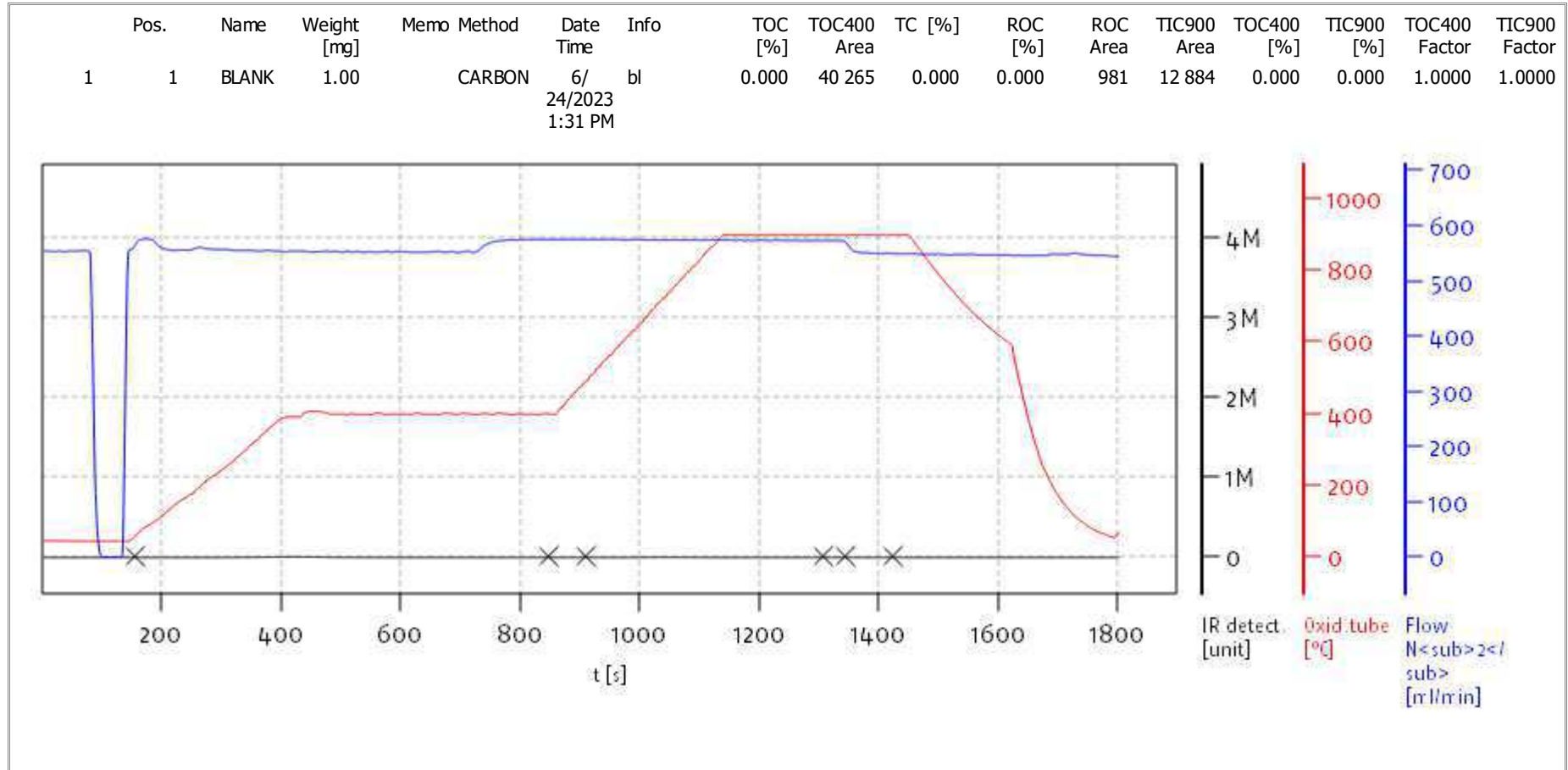
Instrument: TOC Cube

Calibration: GE00052

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
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Initial Cal Blank	SLF0370-ICB1	CubeData_06262023@1011-004	NA	06/24/23 15:31
Reference	BLF0522-SRM2	CubeData_06262023@1011-008	Solid	06/24/23 17:32
Calibration Check	SLF0370-CCV1	CubeData_06262023@1011-015	NA	06/24/23 21:02
Calibration Blank	SLF0370-CCB1	CubeData_06262023@1011-016	NA	06/24/23 21:32
Calibration Check	SLF0370-CCV2	CubeData_06262023@1011-027	NA	06/25/23 03:04
Calibration Blank	SLF0370-CCB2	CubeData_06262023@1011-028	NA	06/25/23 03:35
Calibration Check	SLF0370-CCV3	CubeData_06262023@1011-039	NA	06/25/23 09:07
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Soli TOC Cube, Carbon
Balance: BAL3
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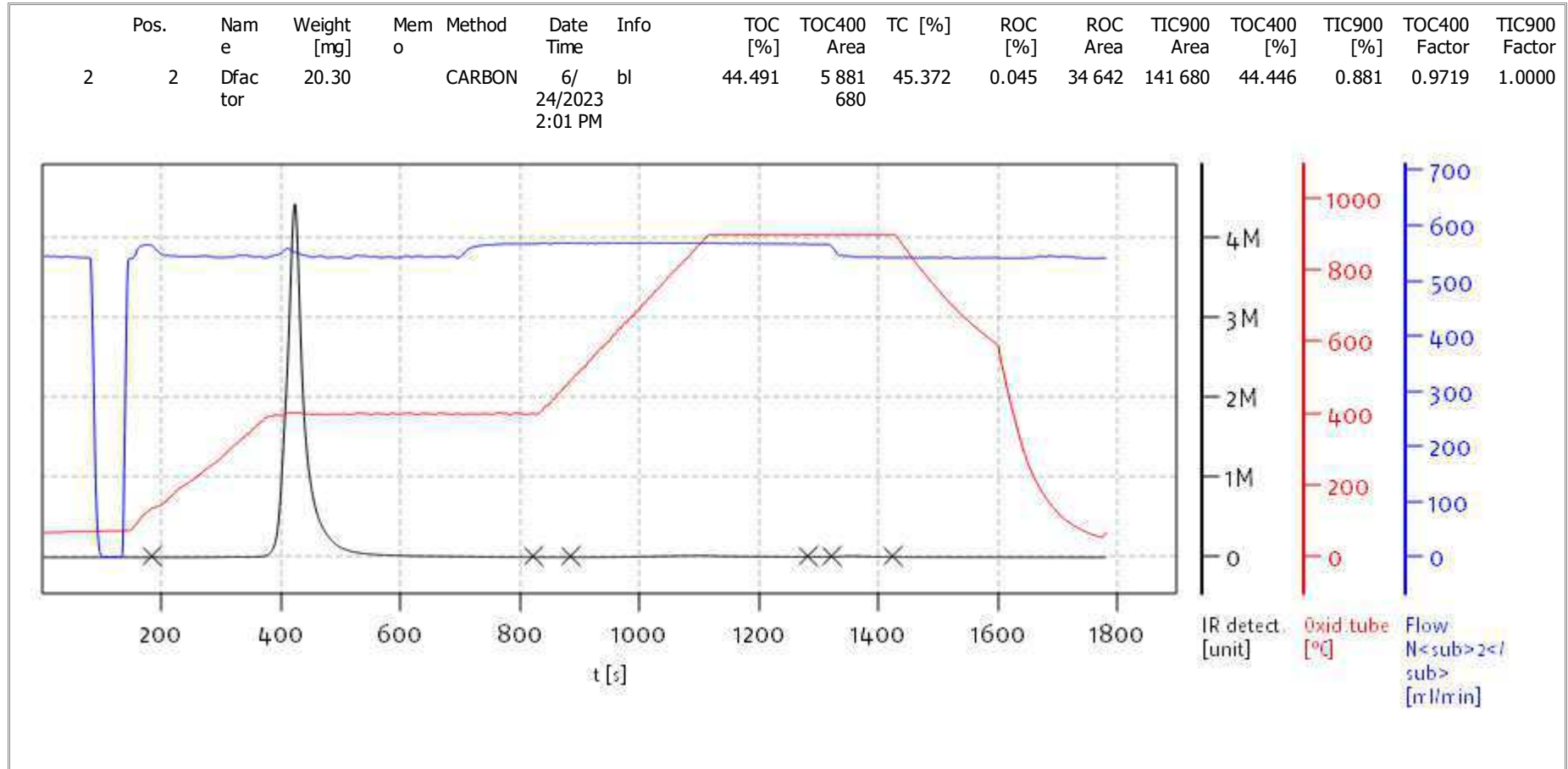
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Mode CCC



Soli TOC Cube, Carbon
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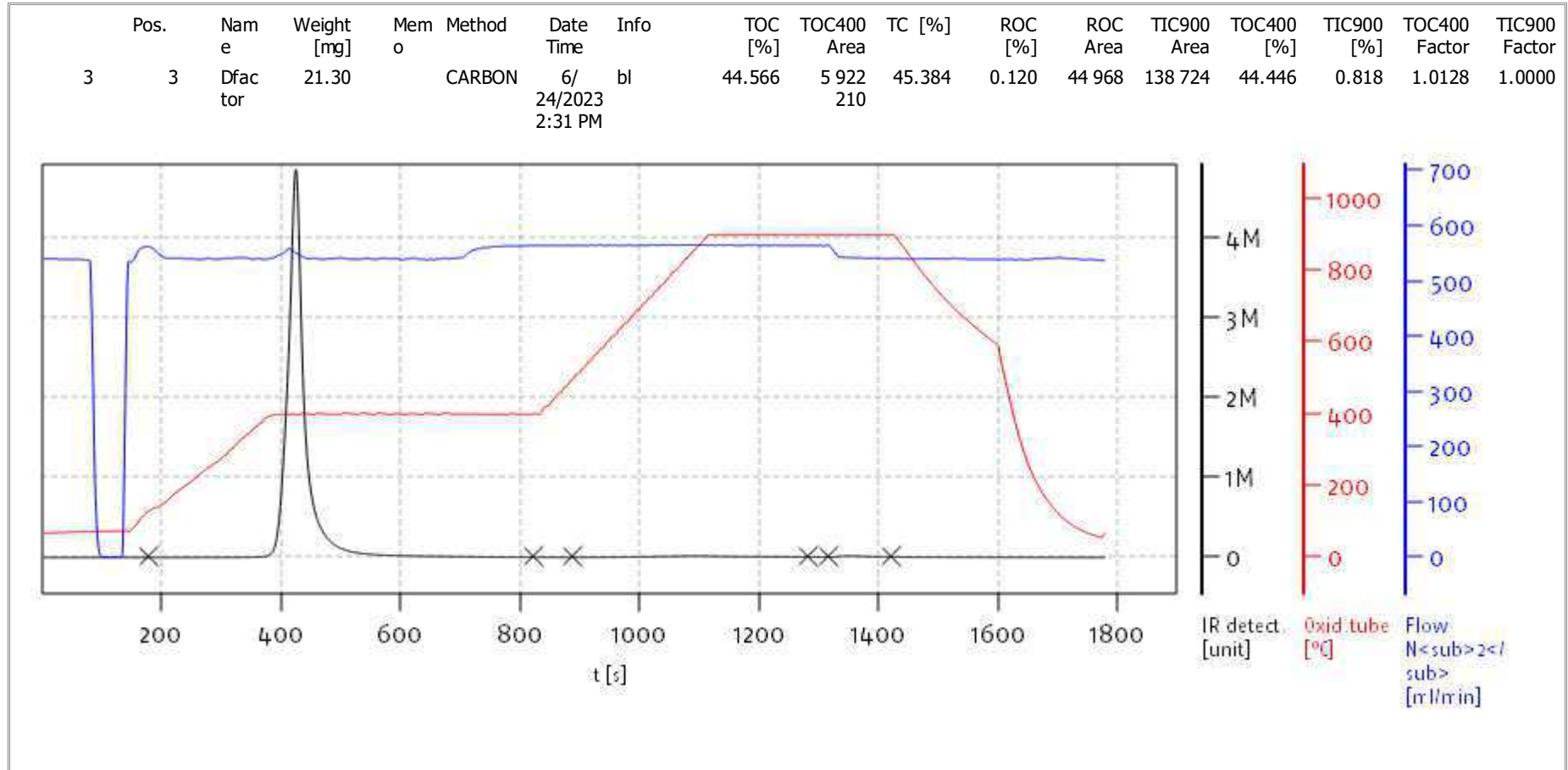
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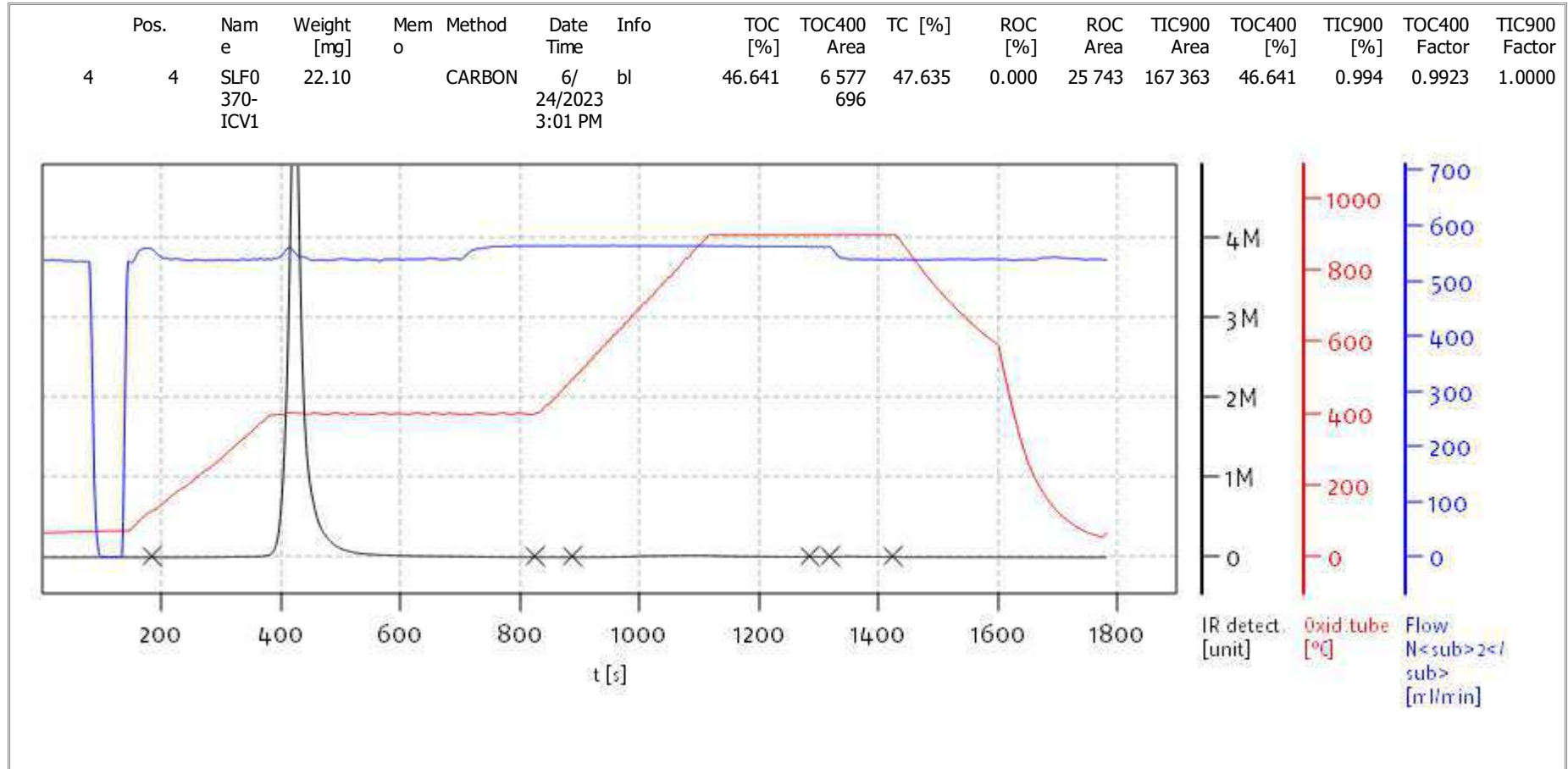
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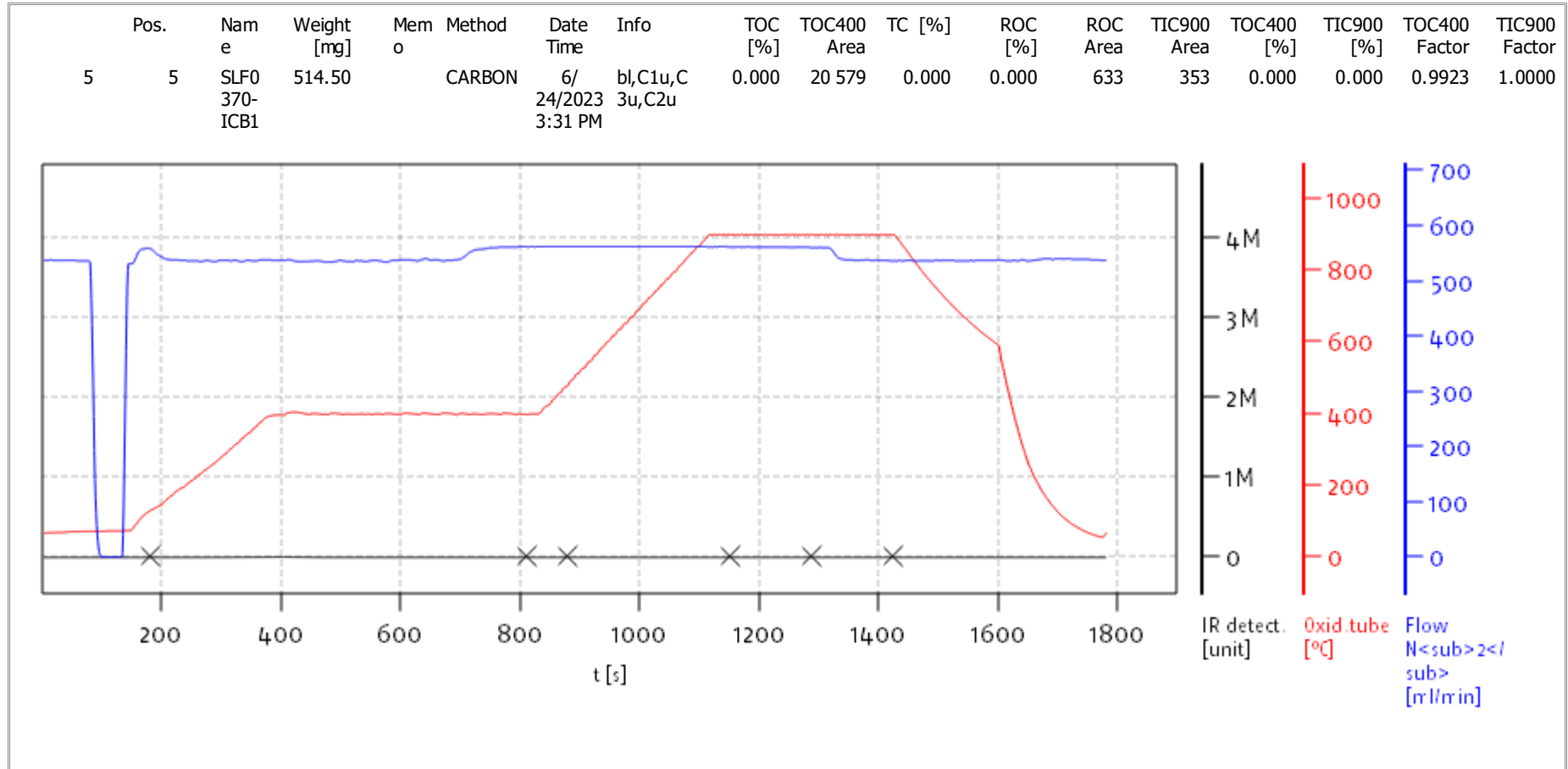
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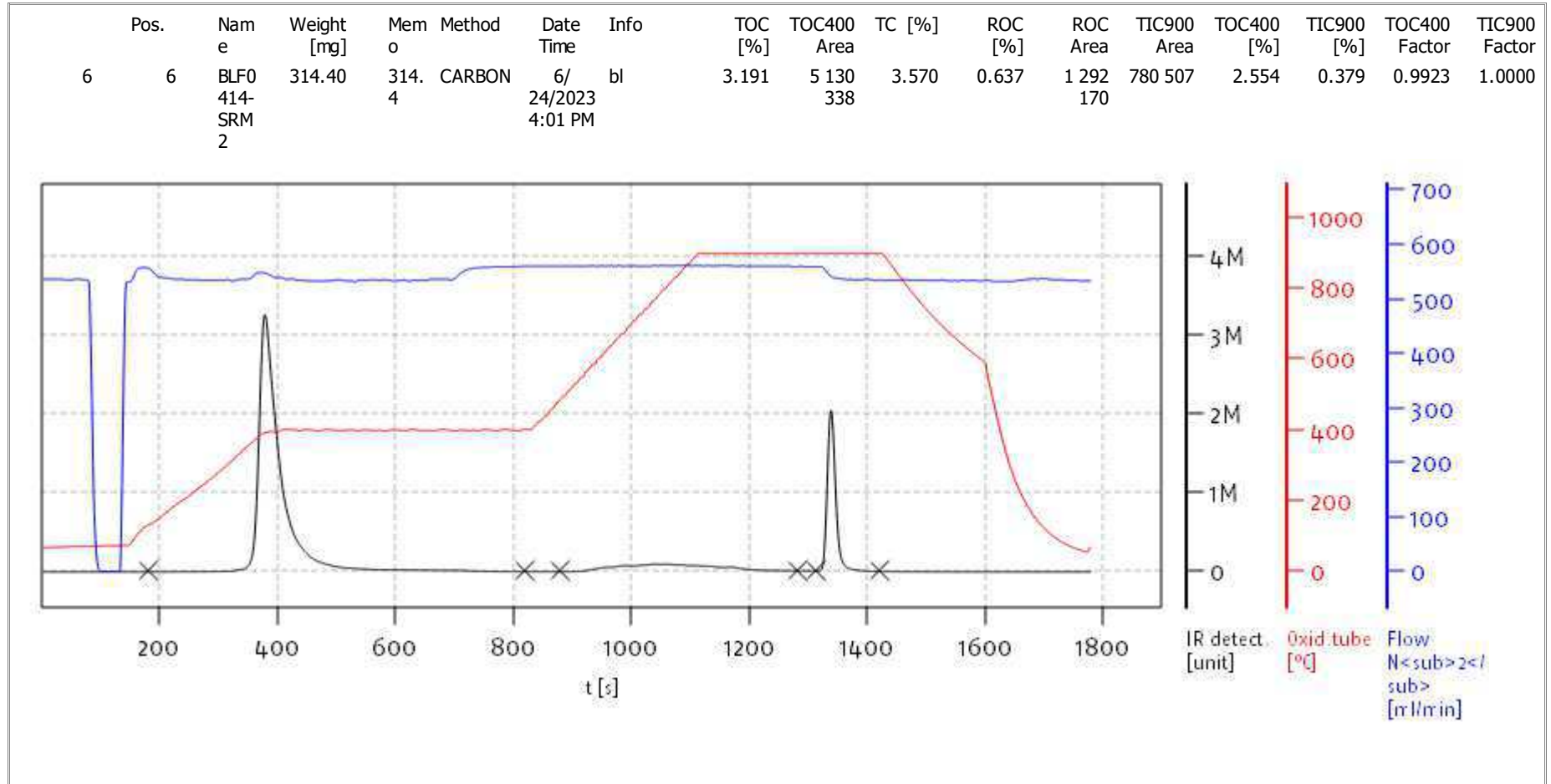
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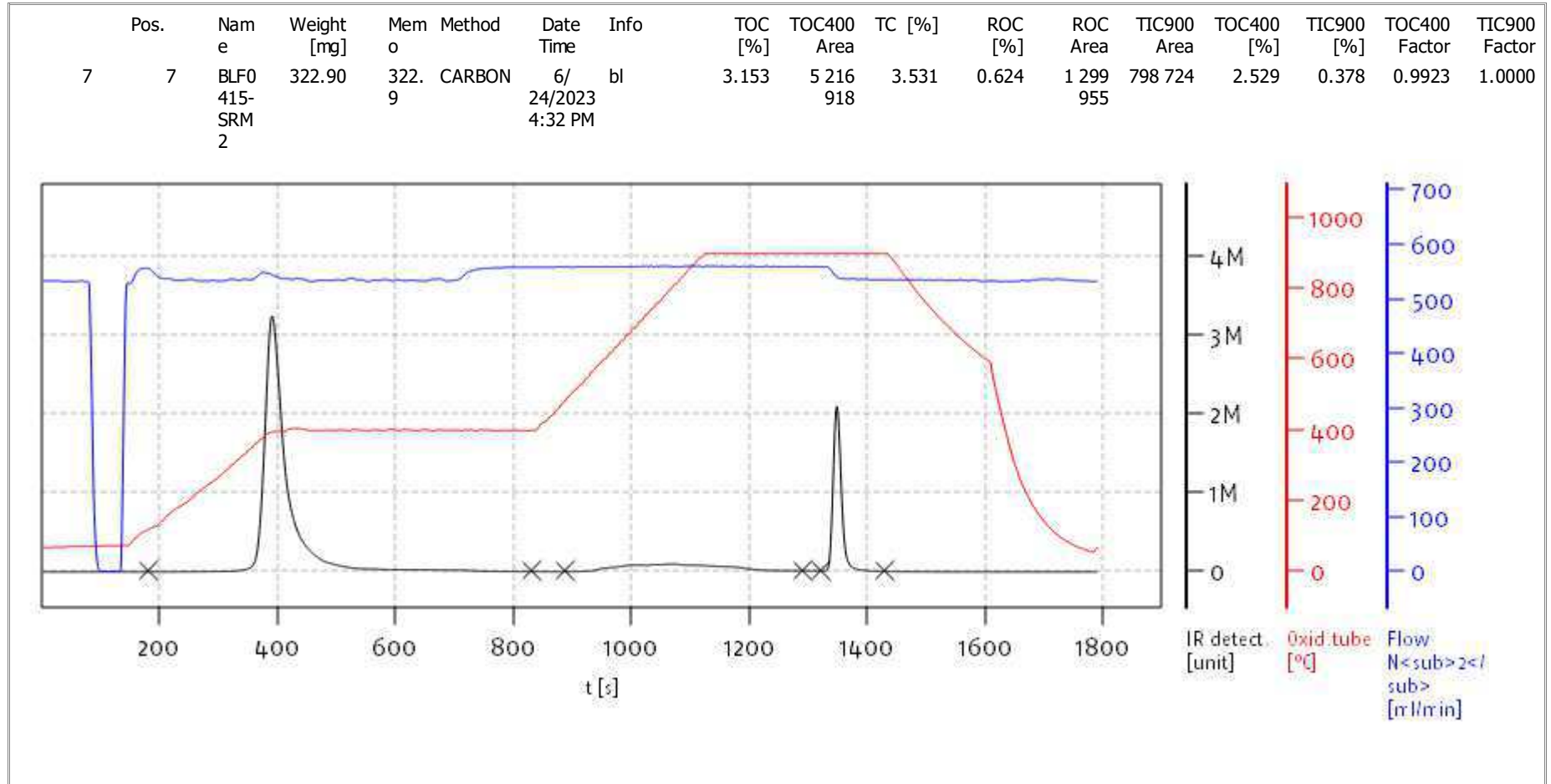
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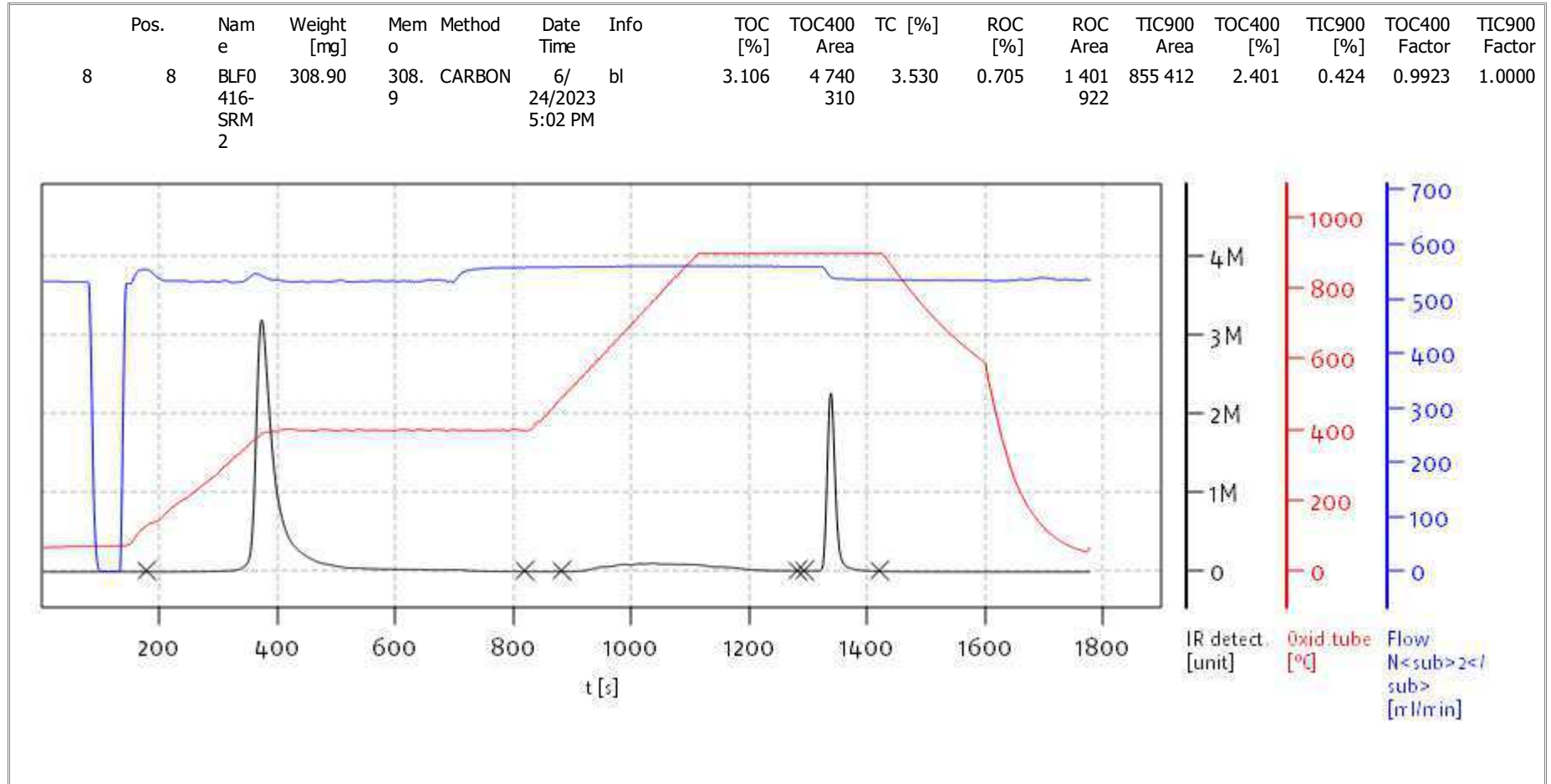
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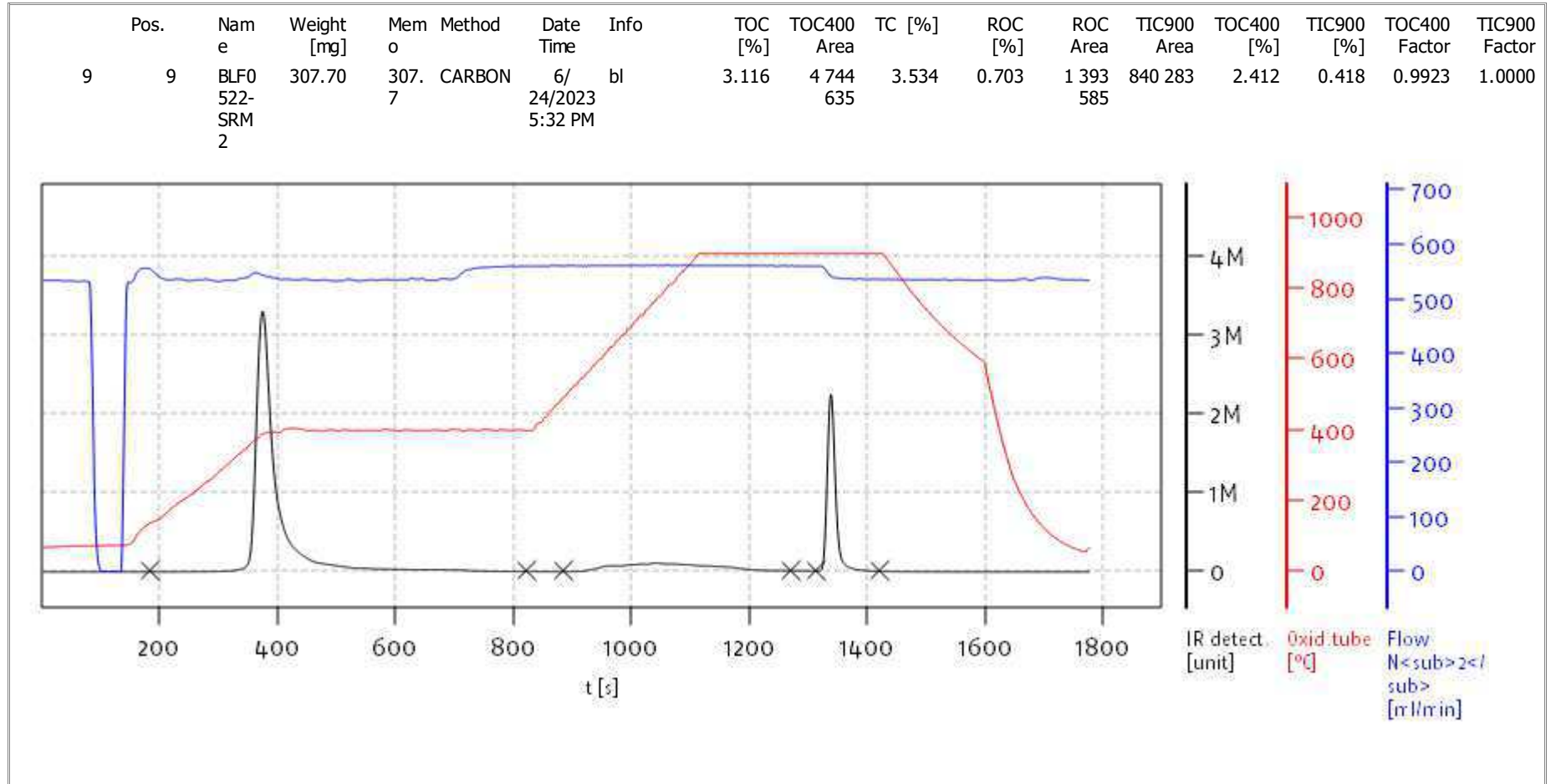
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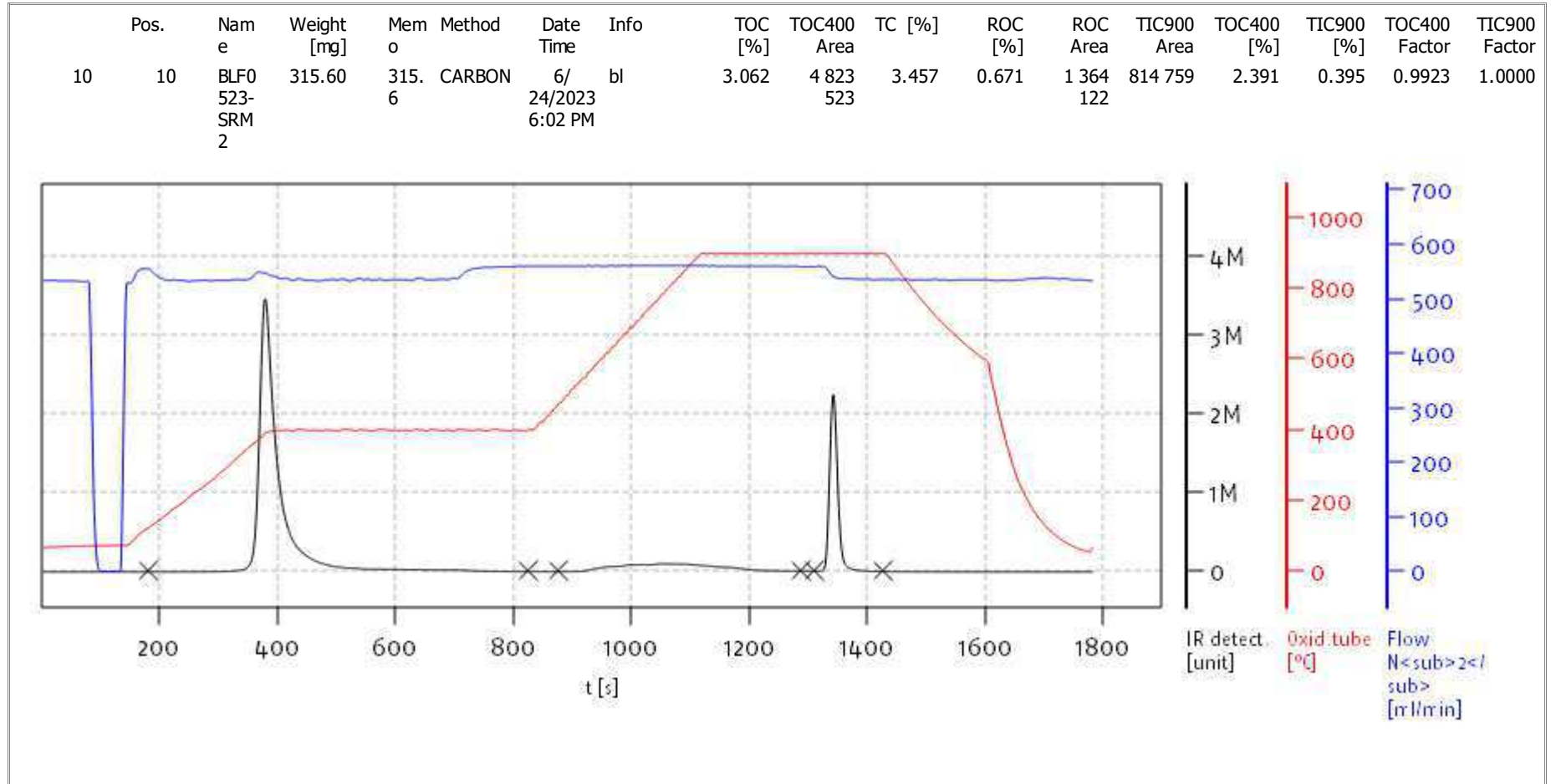
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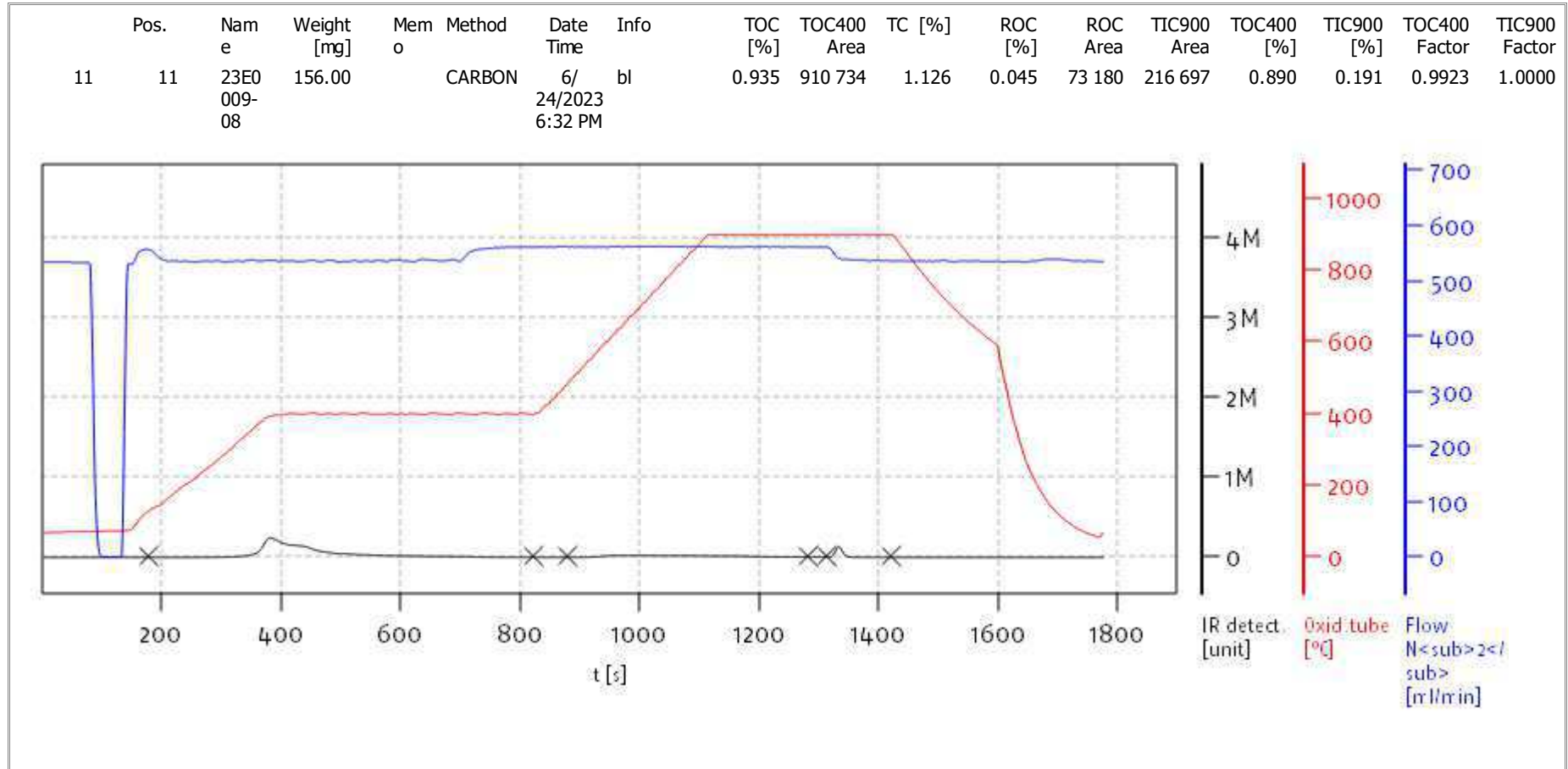
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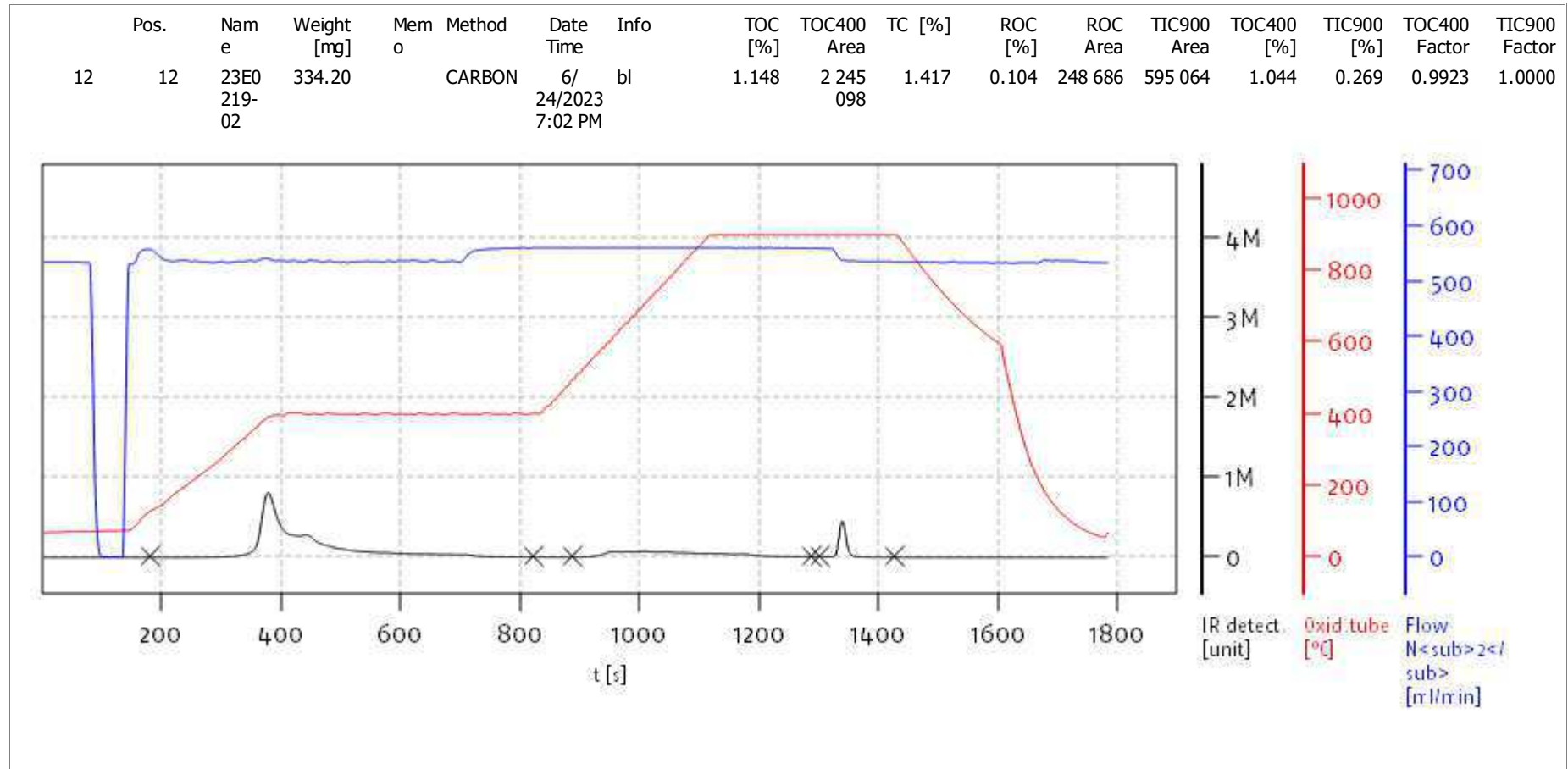
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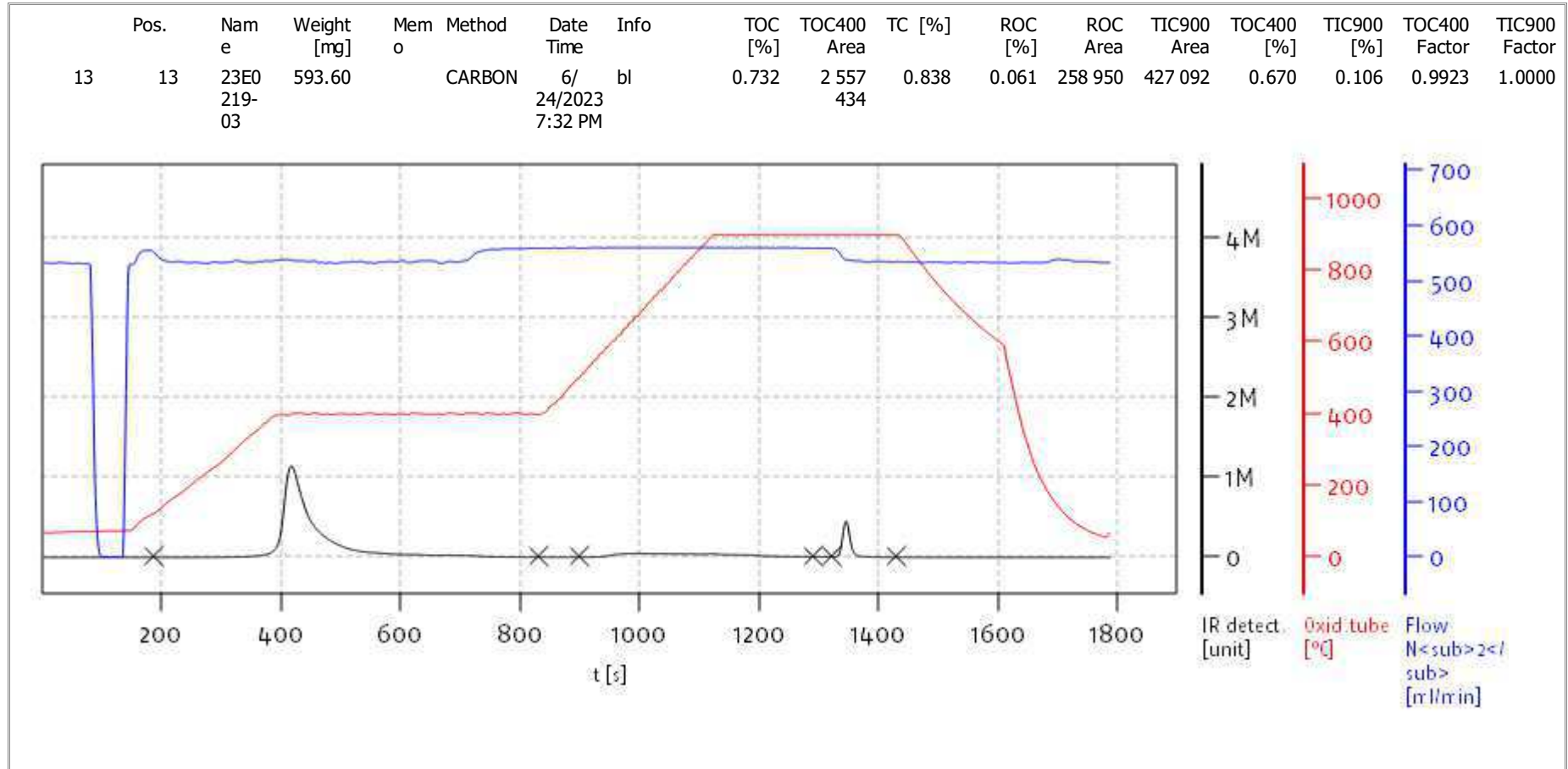
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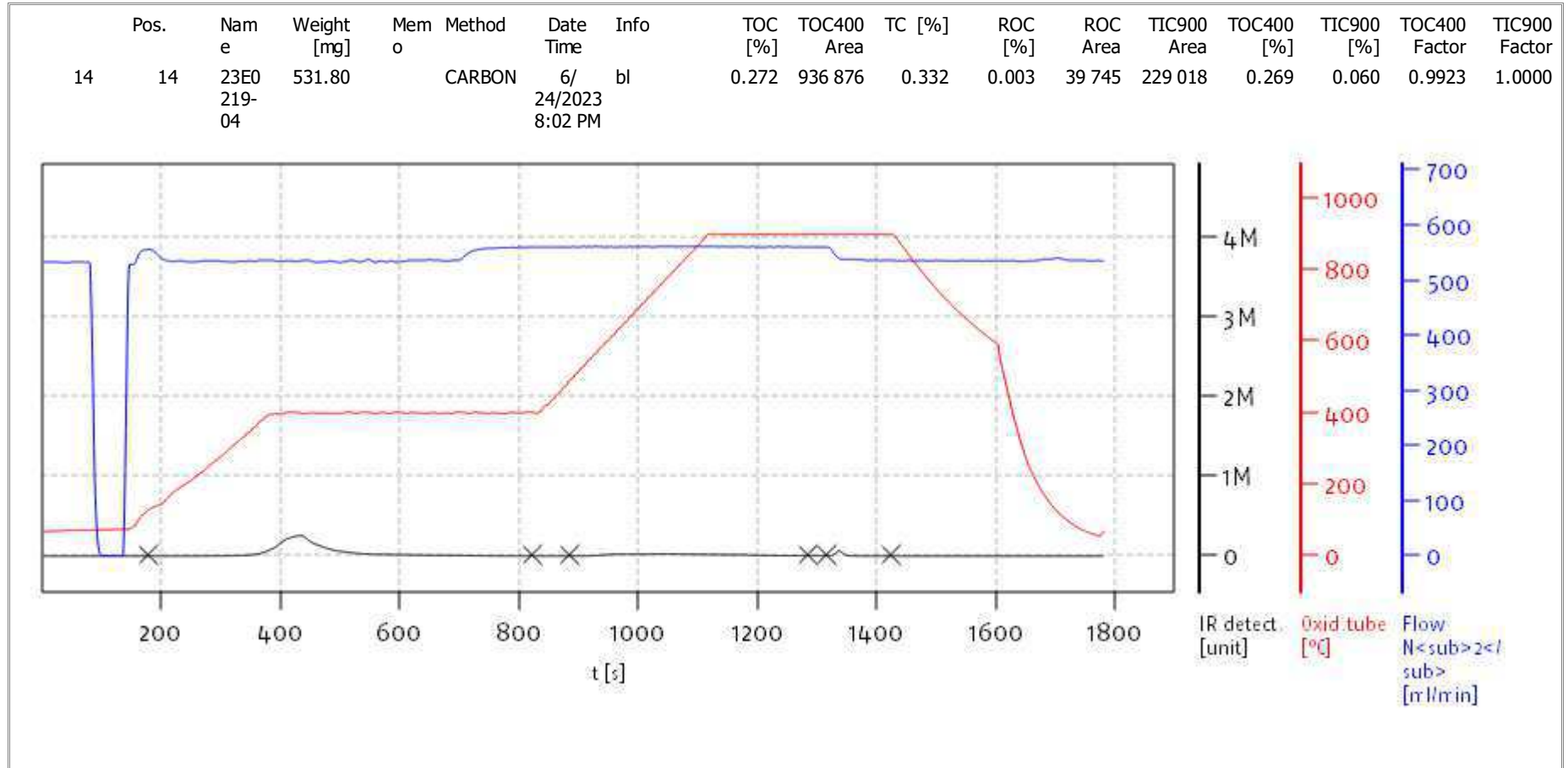
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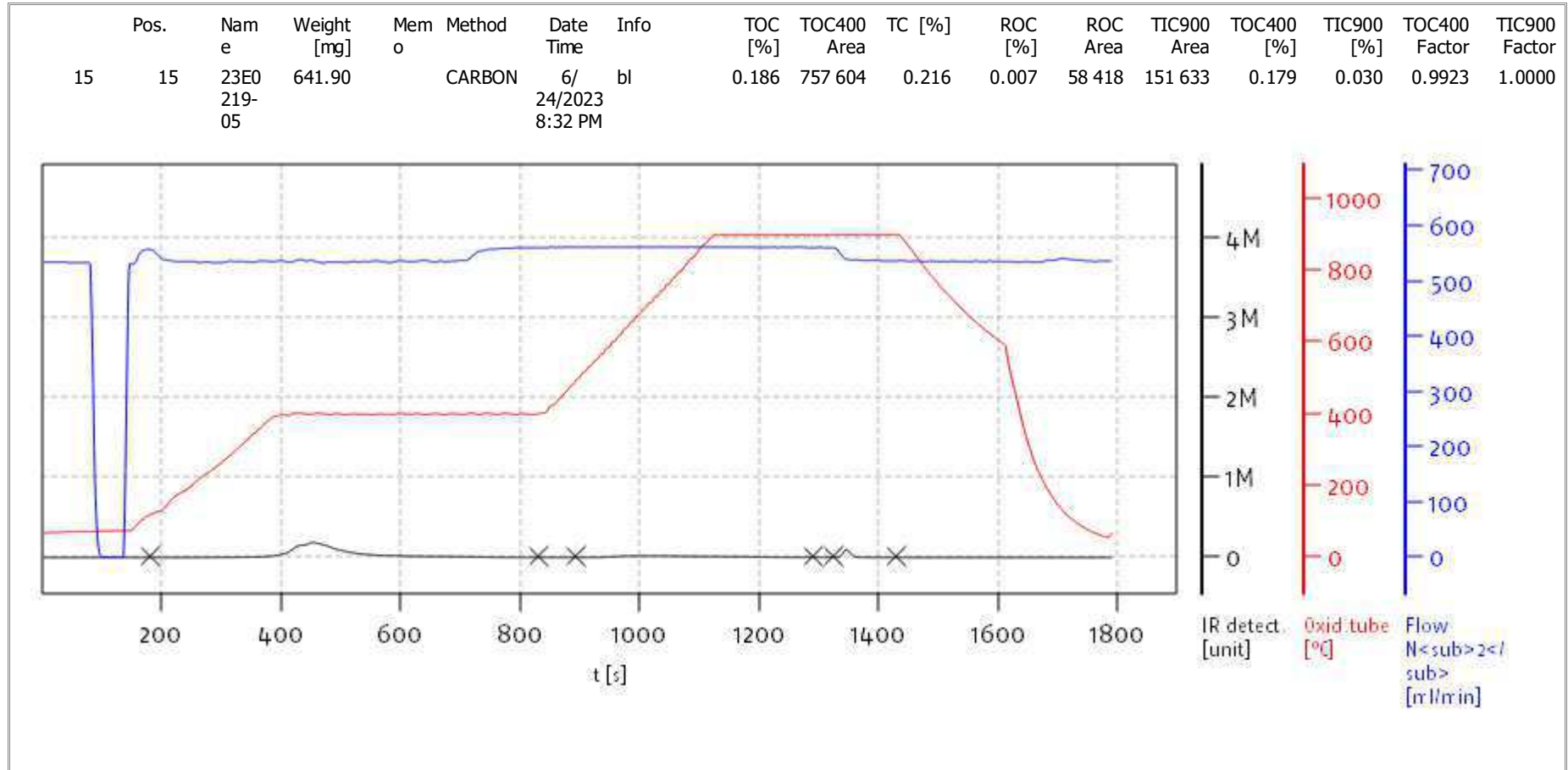
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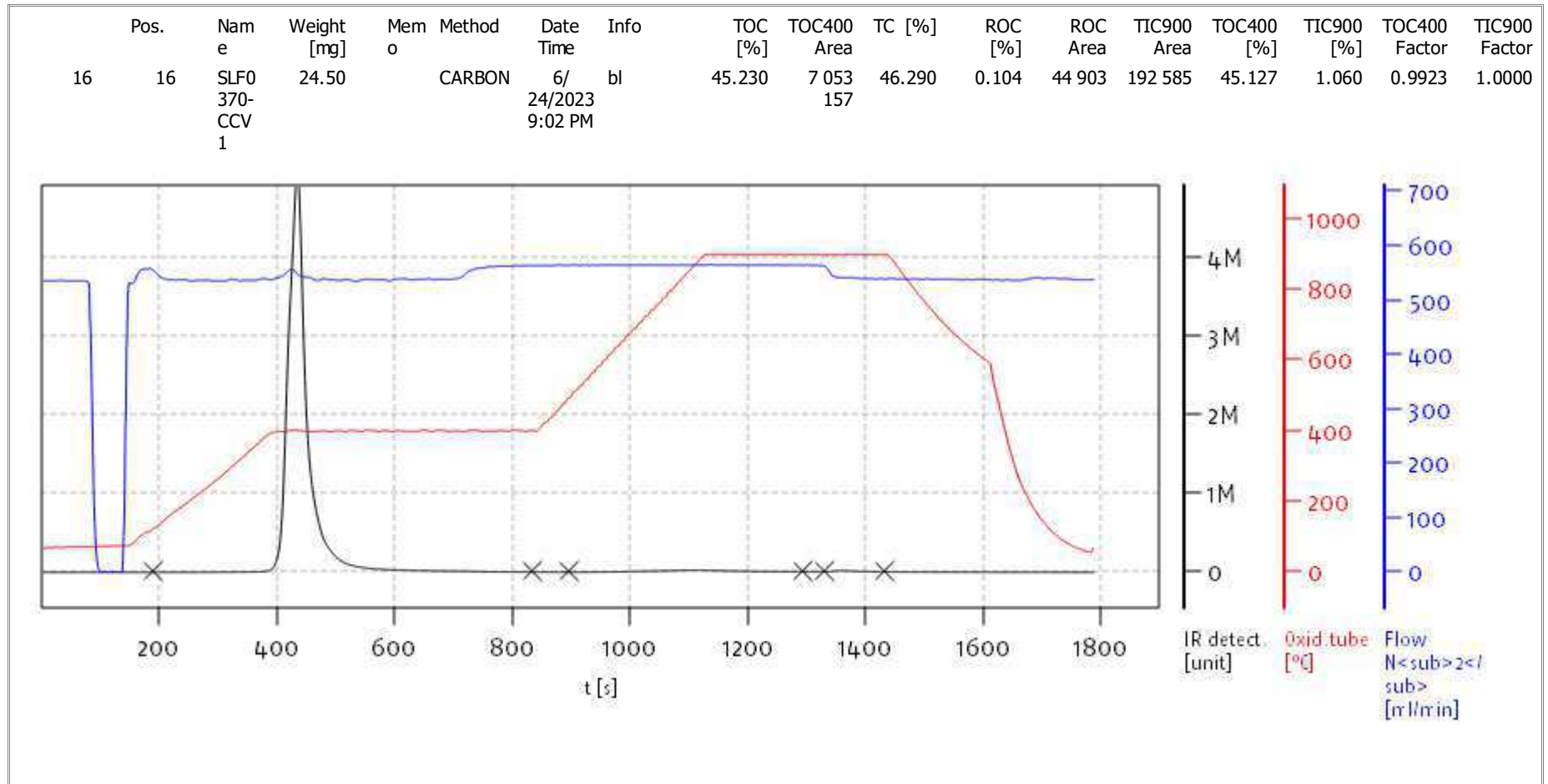
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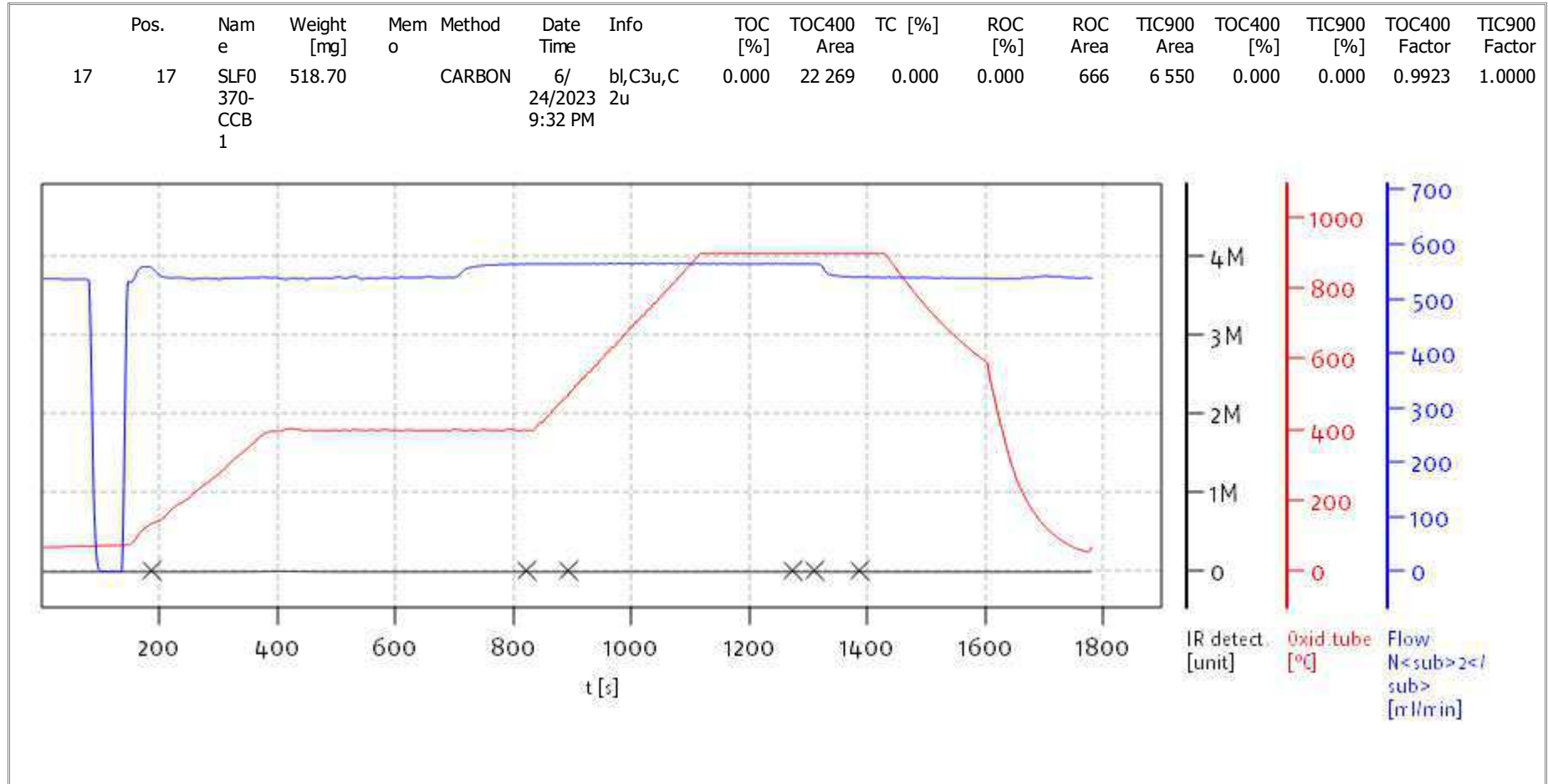
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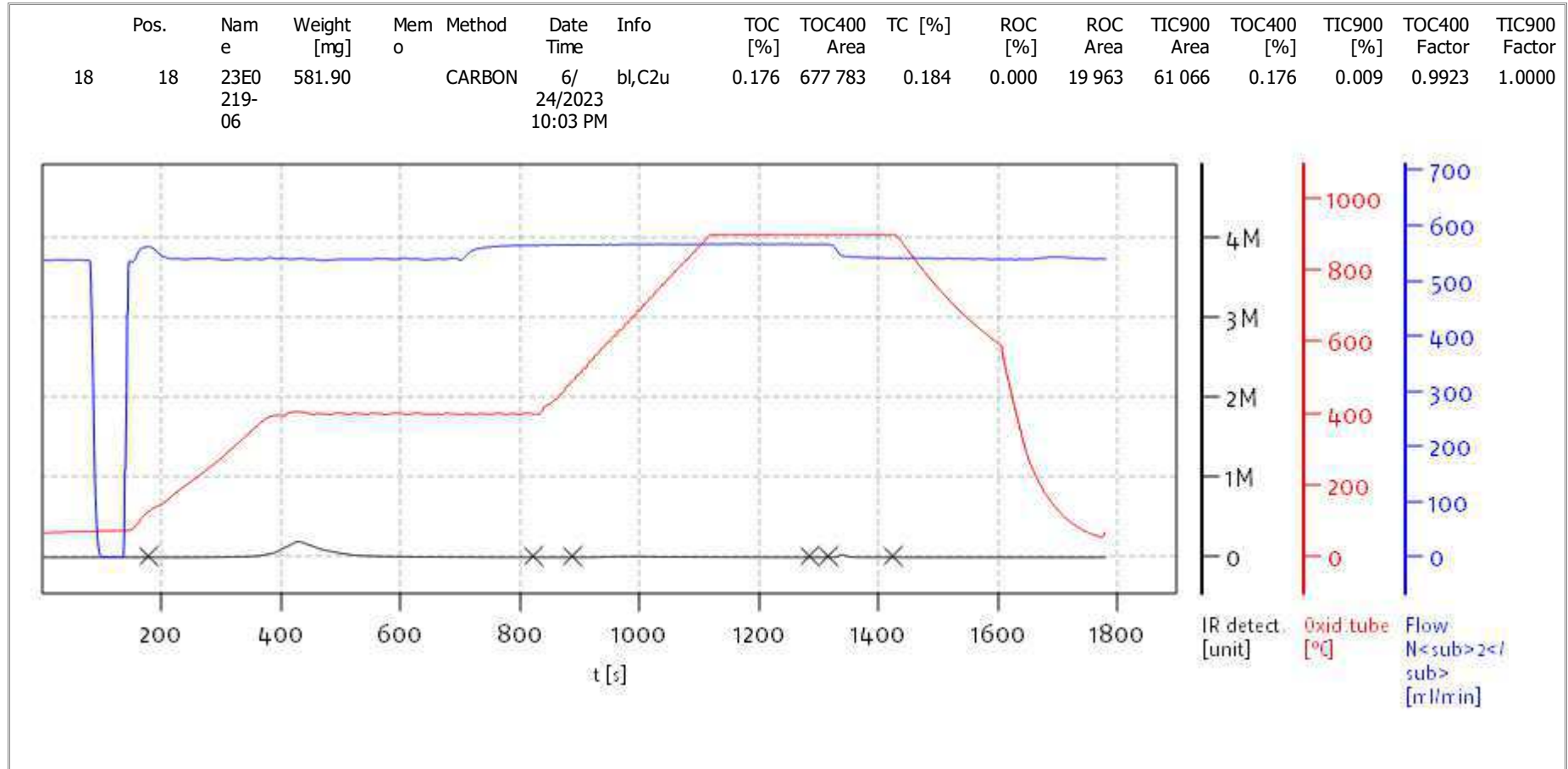
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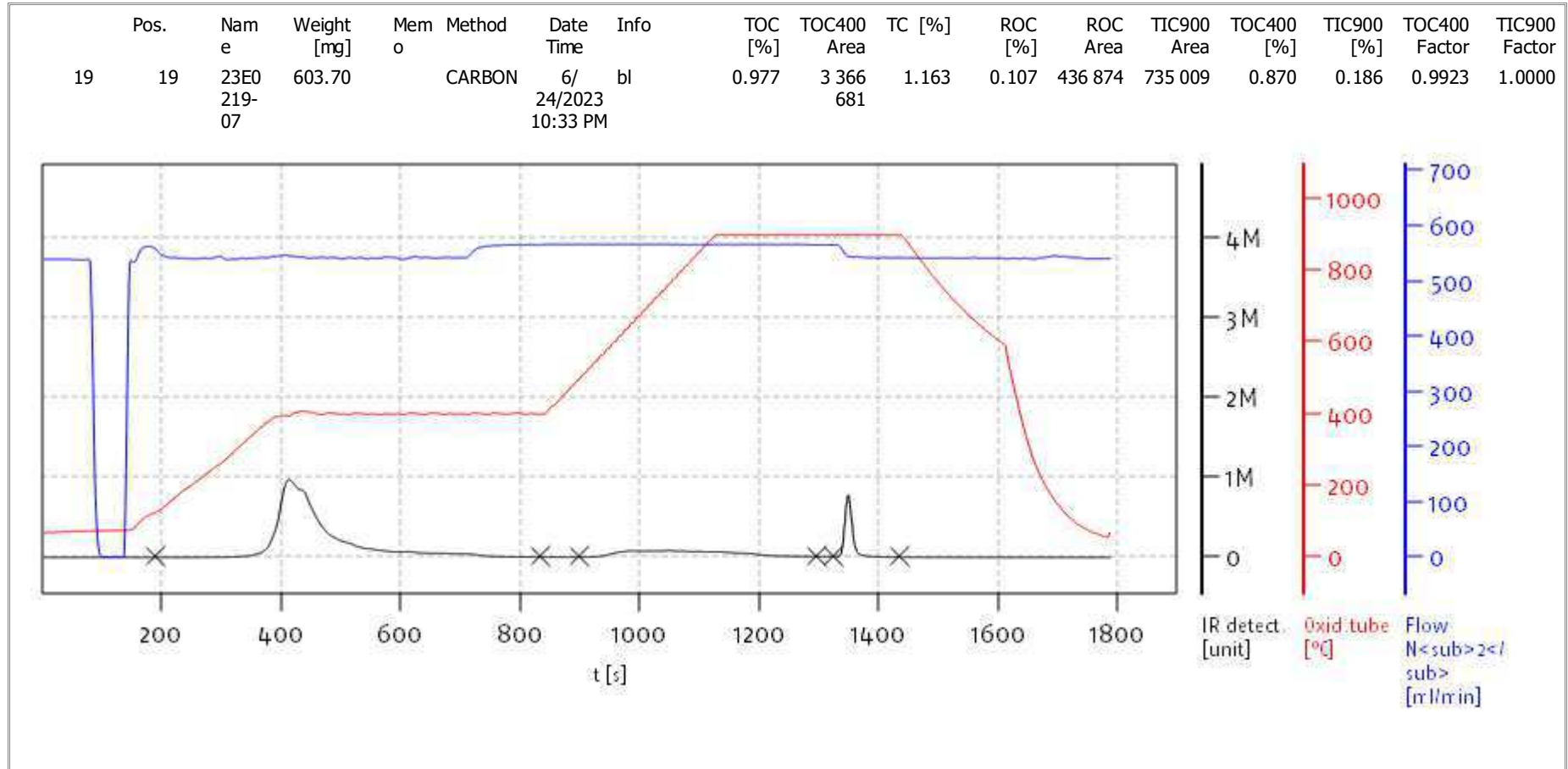
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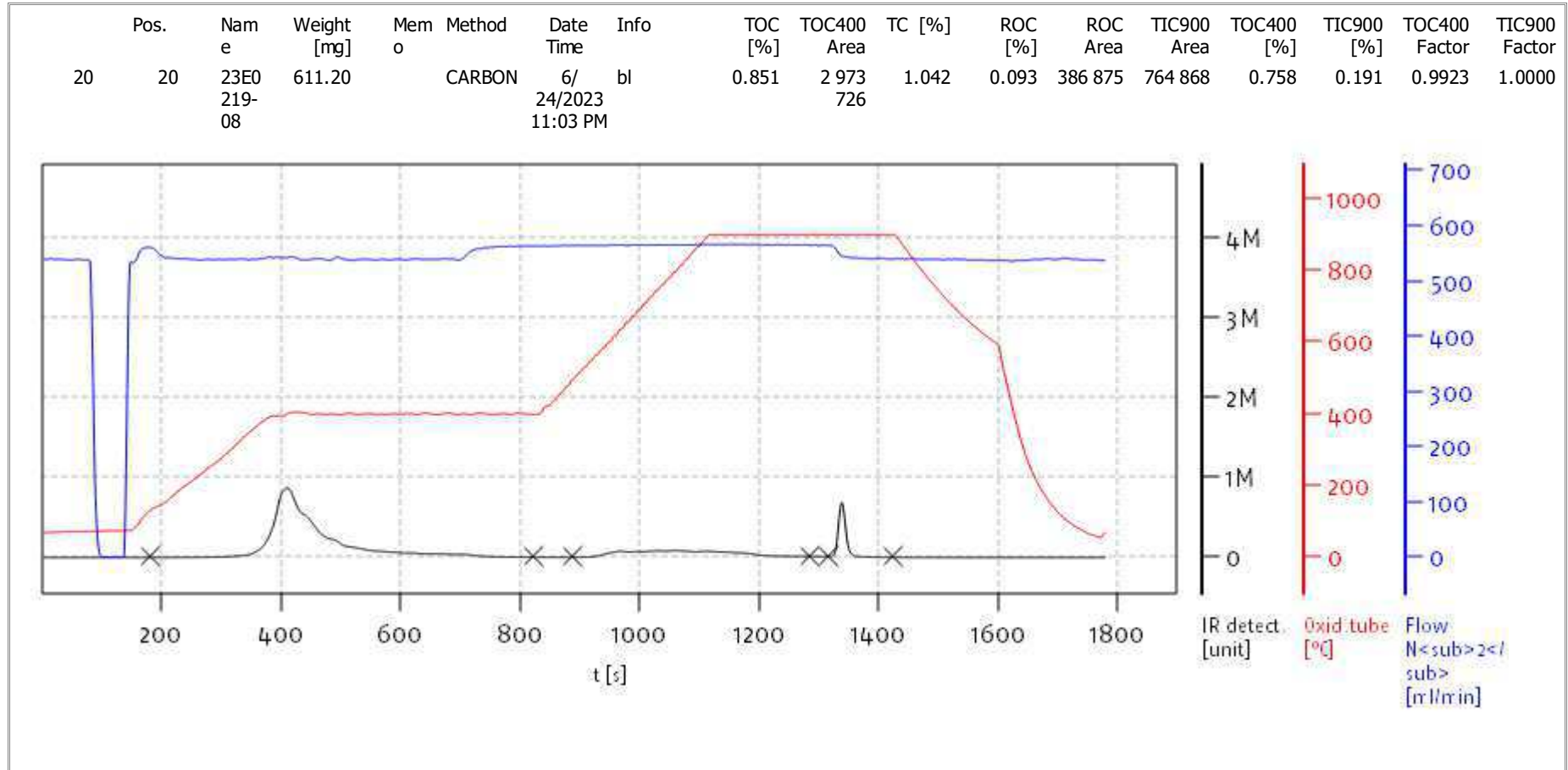
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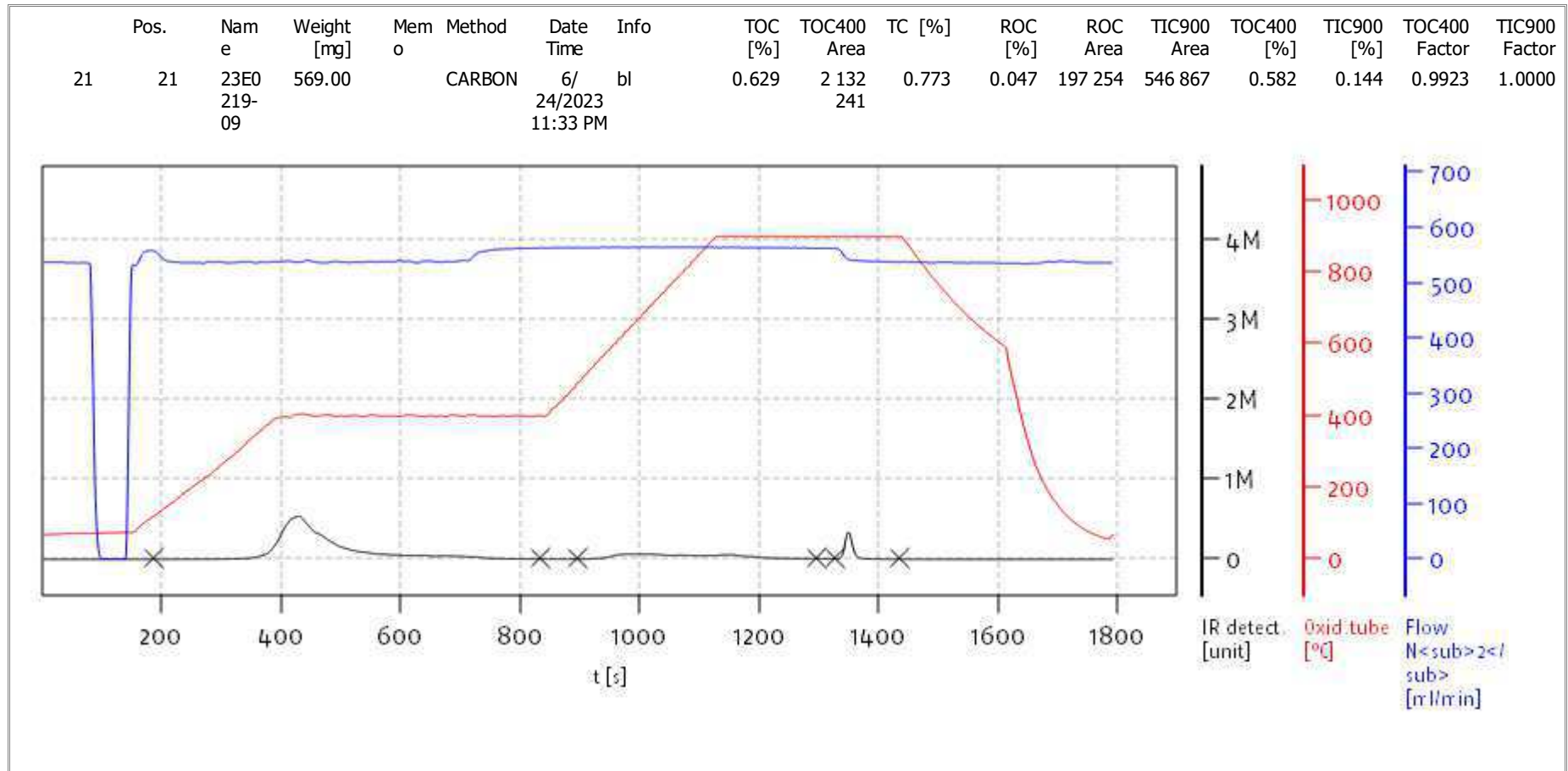
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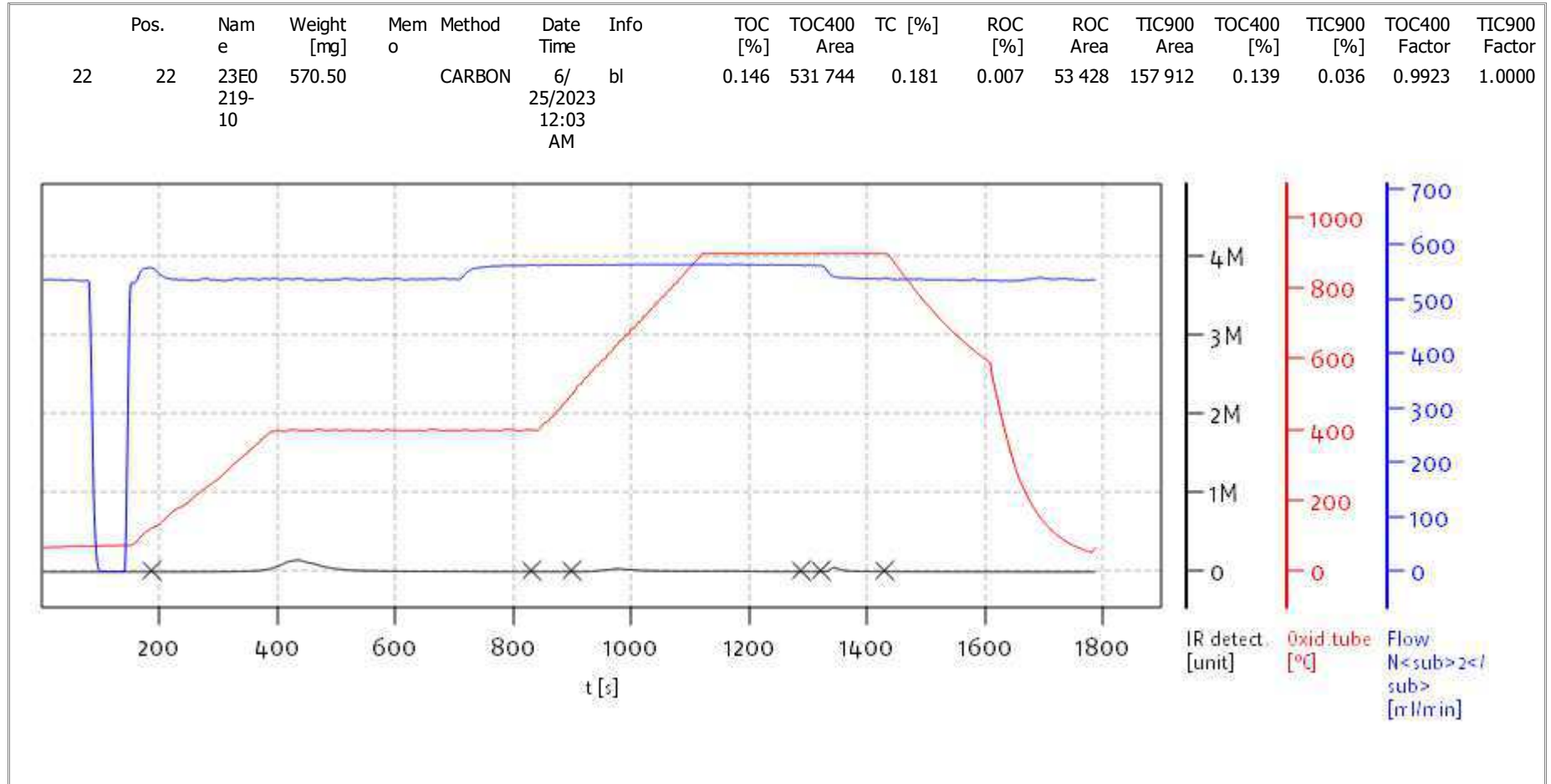
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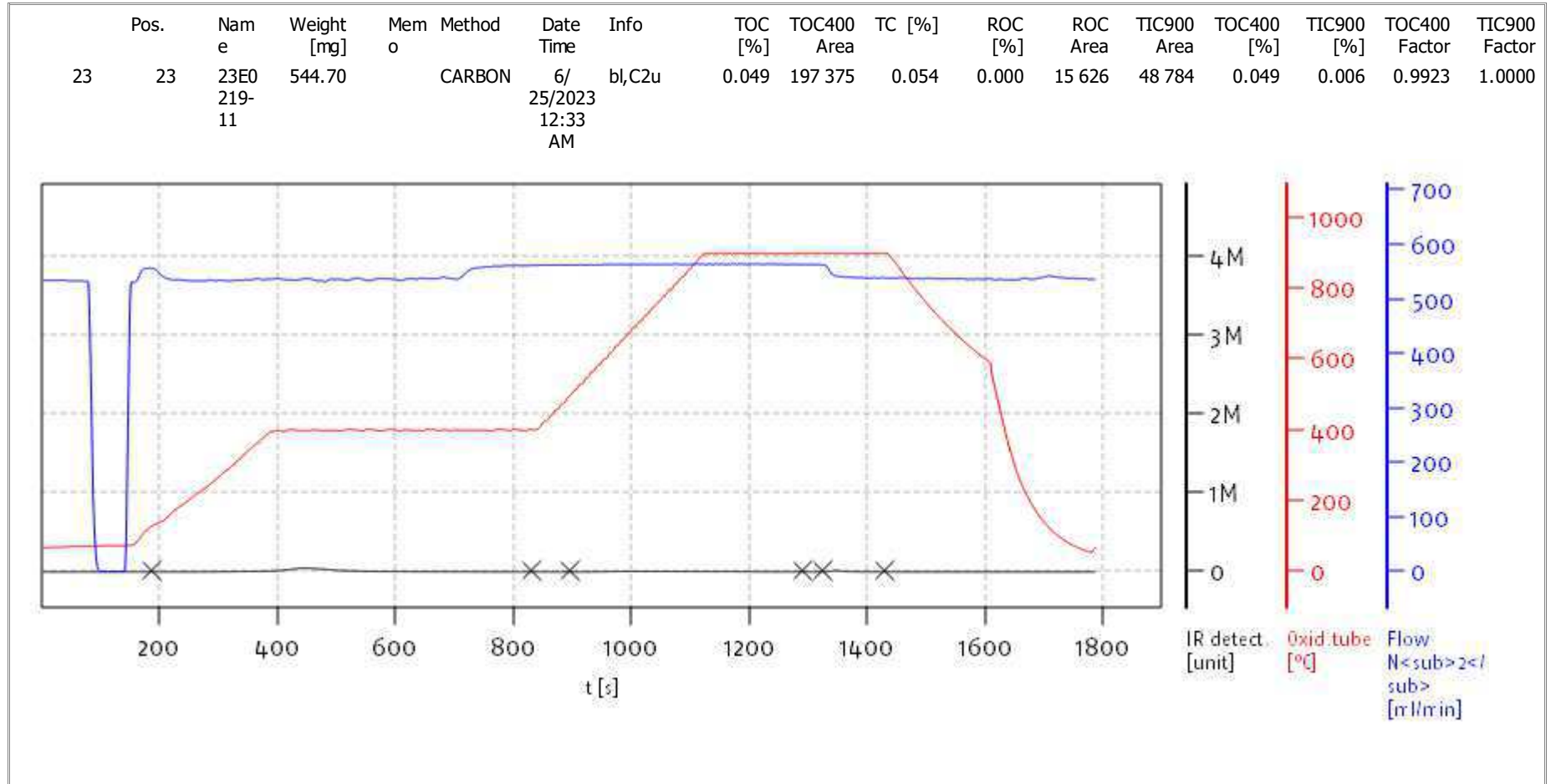
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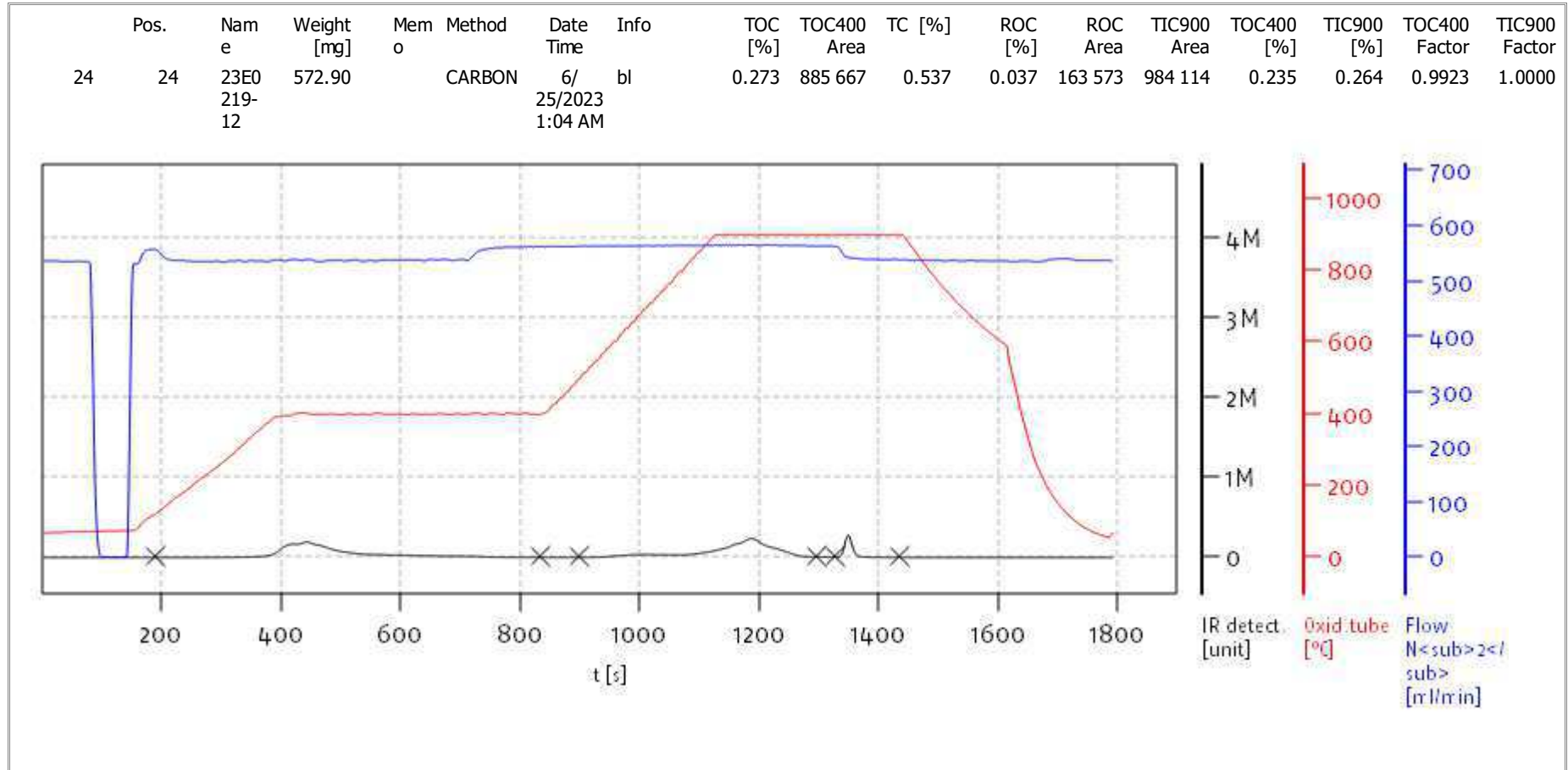
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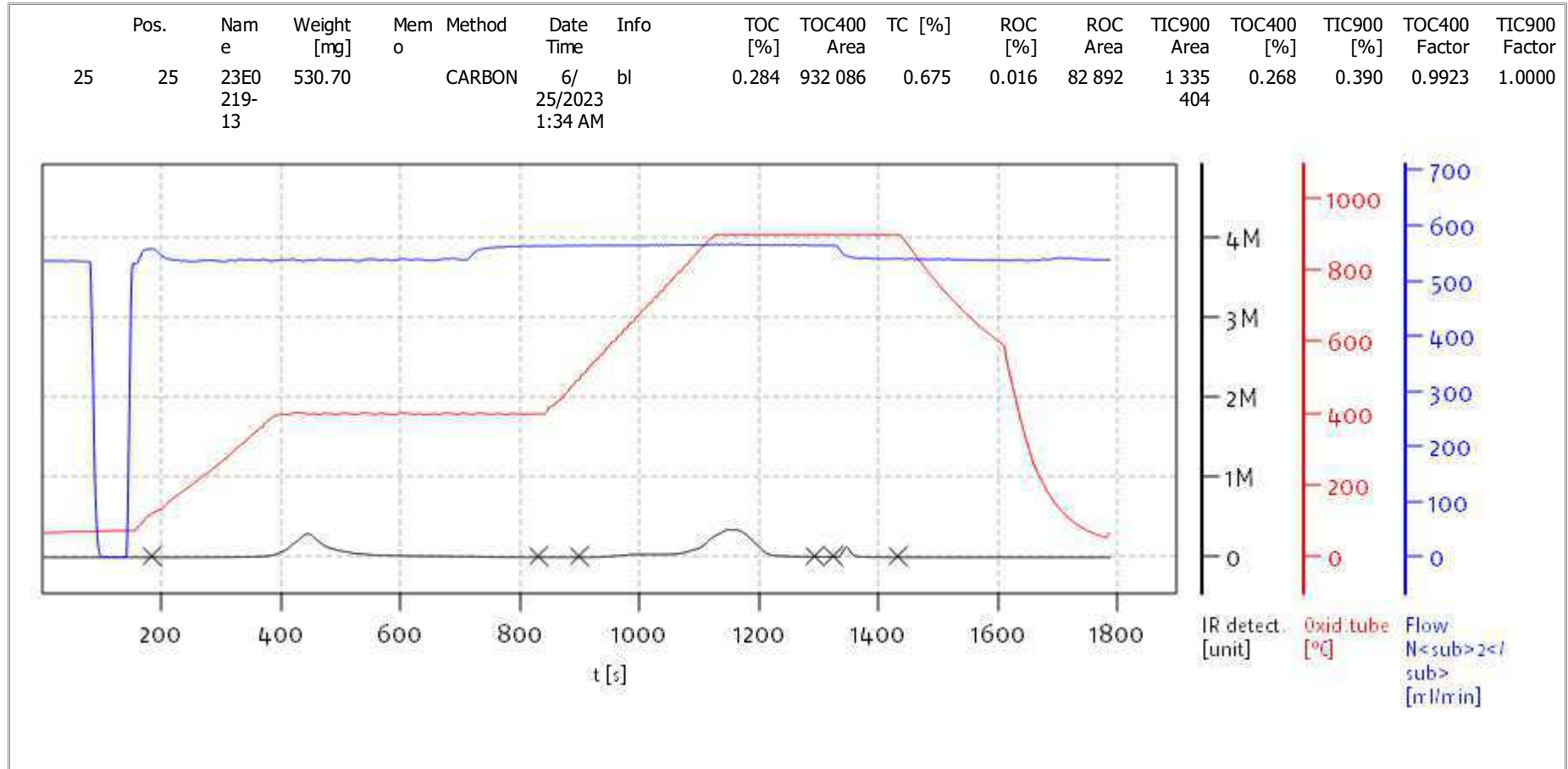
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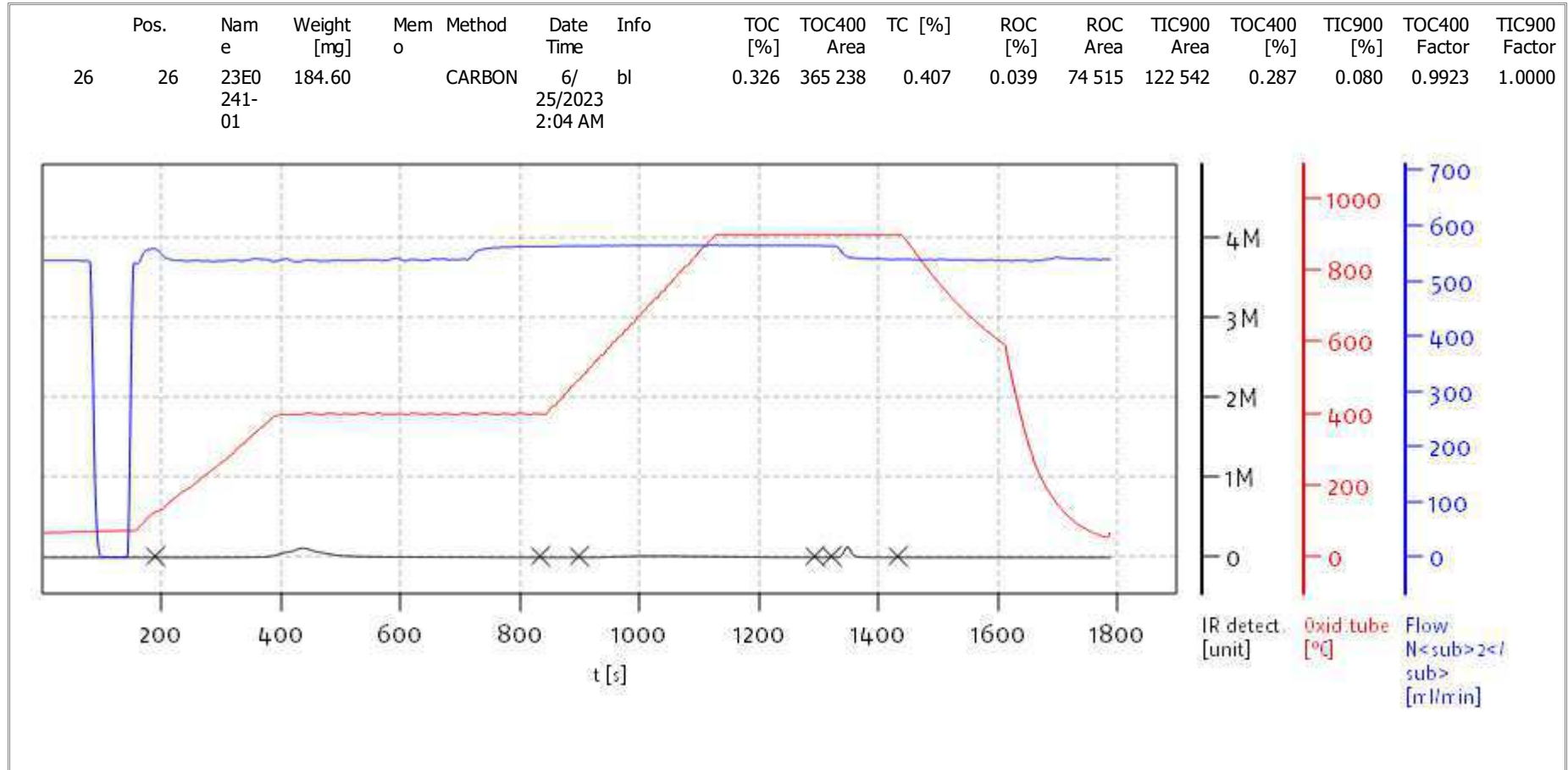
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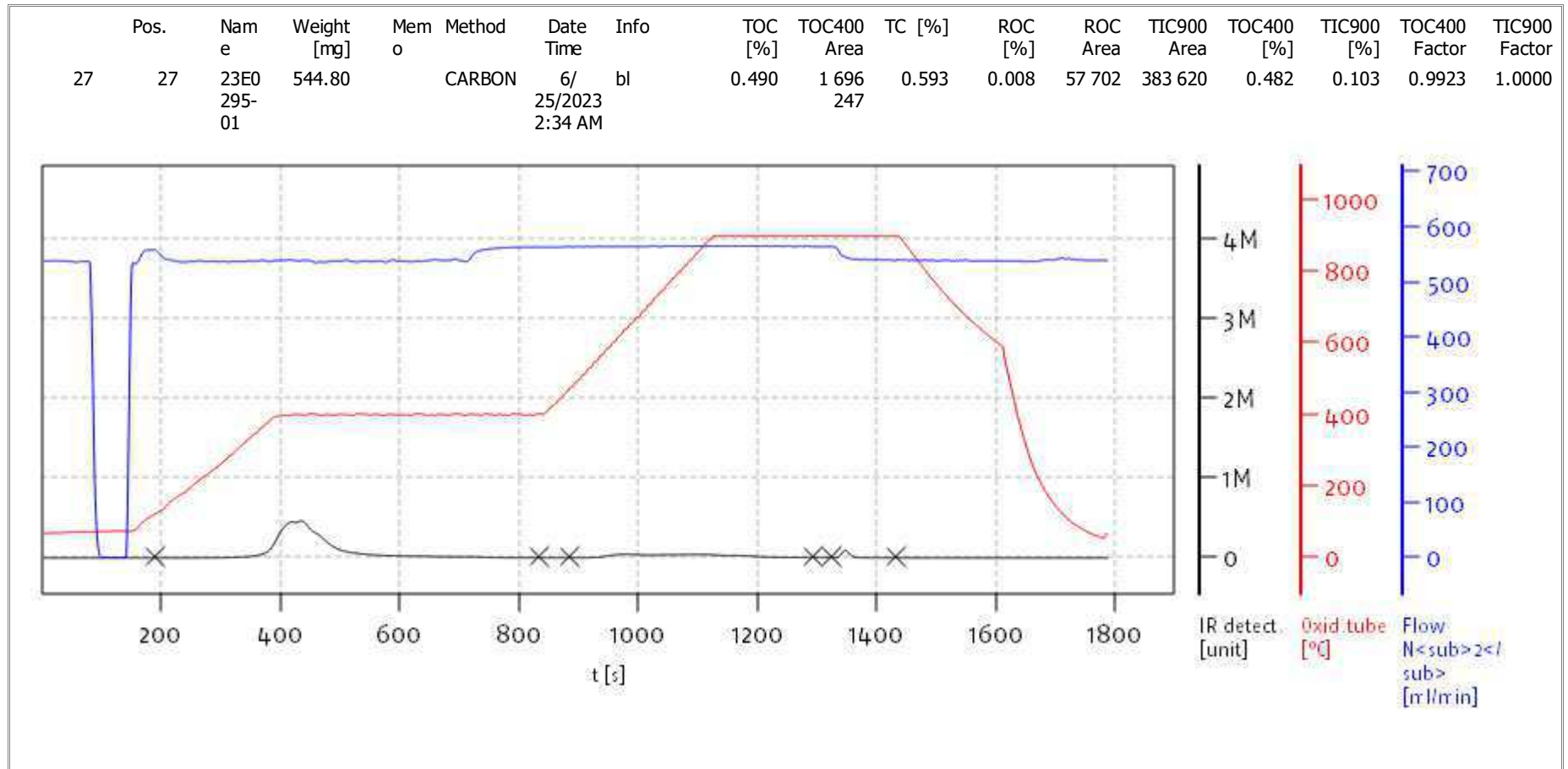
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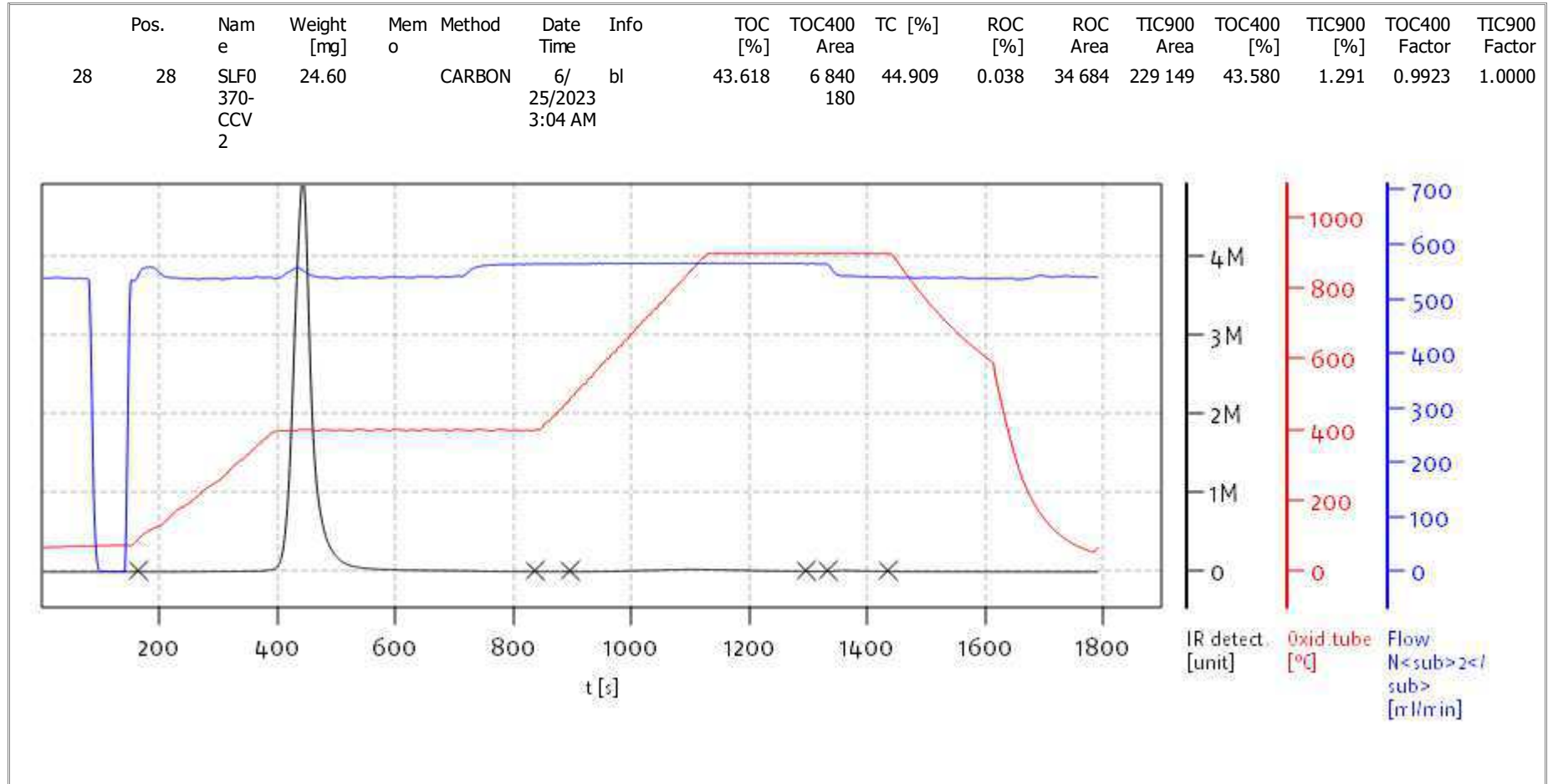
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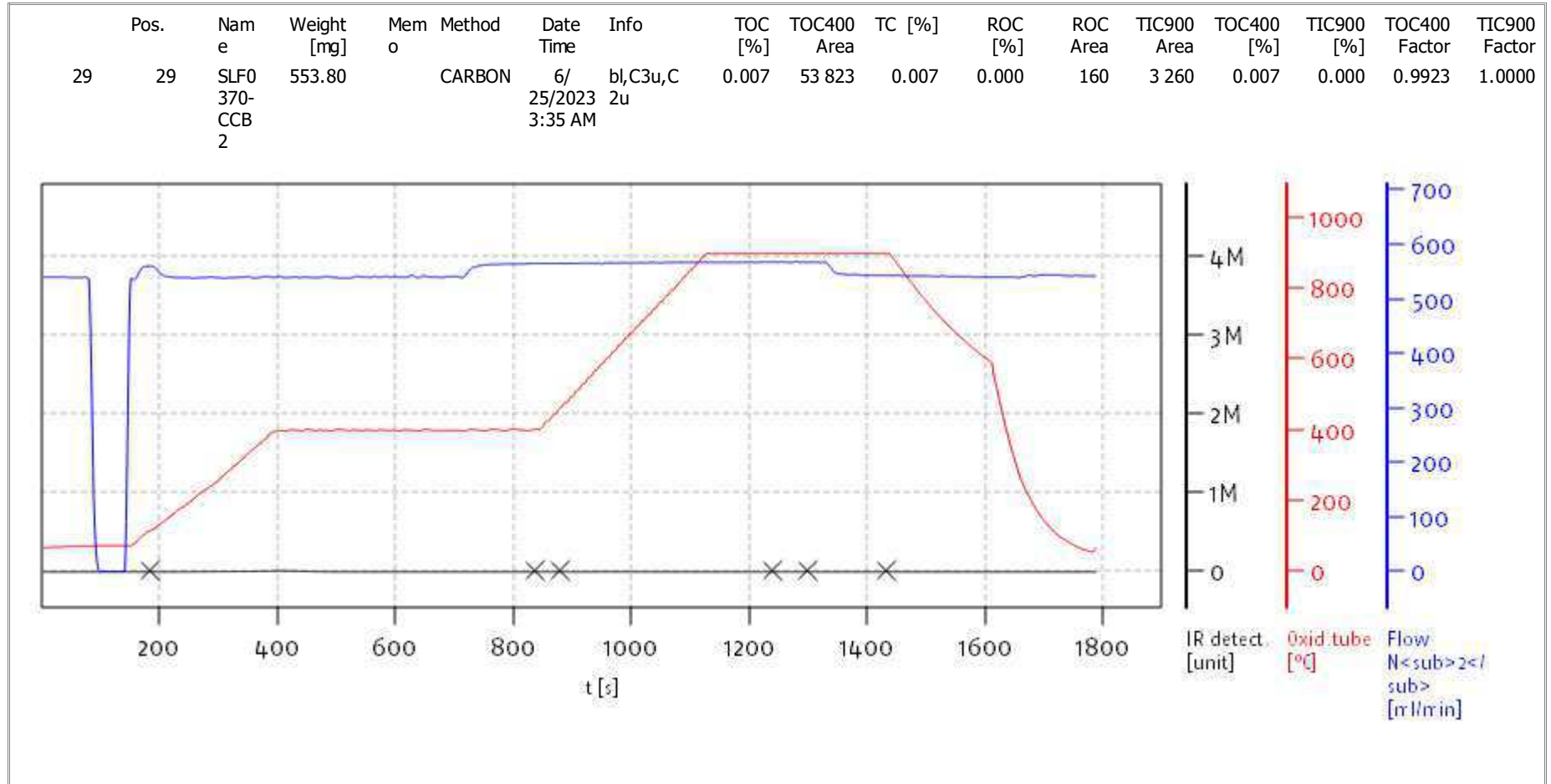
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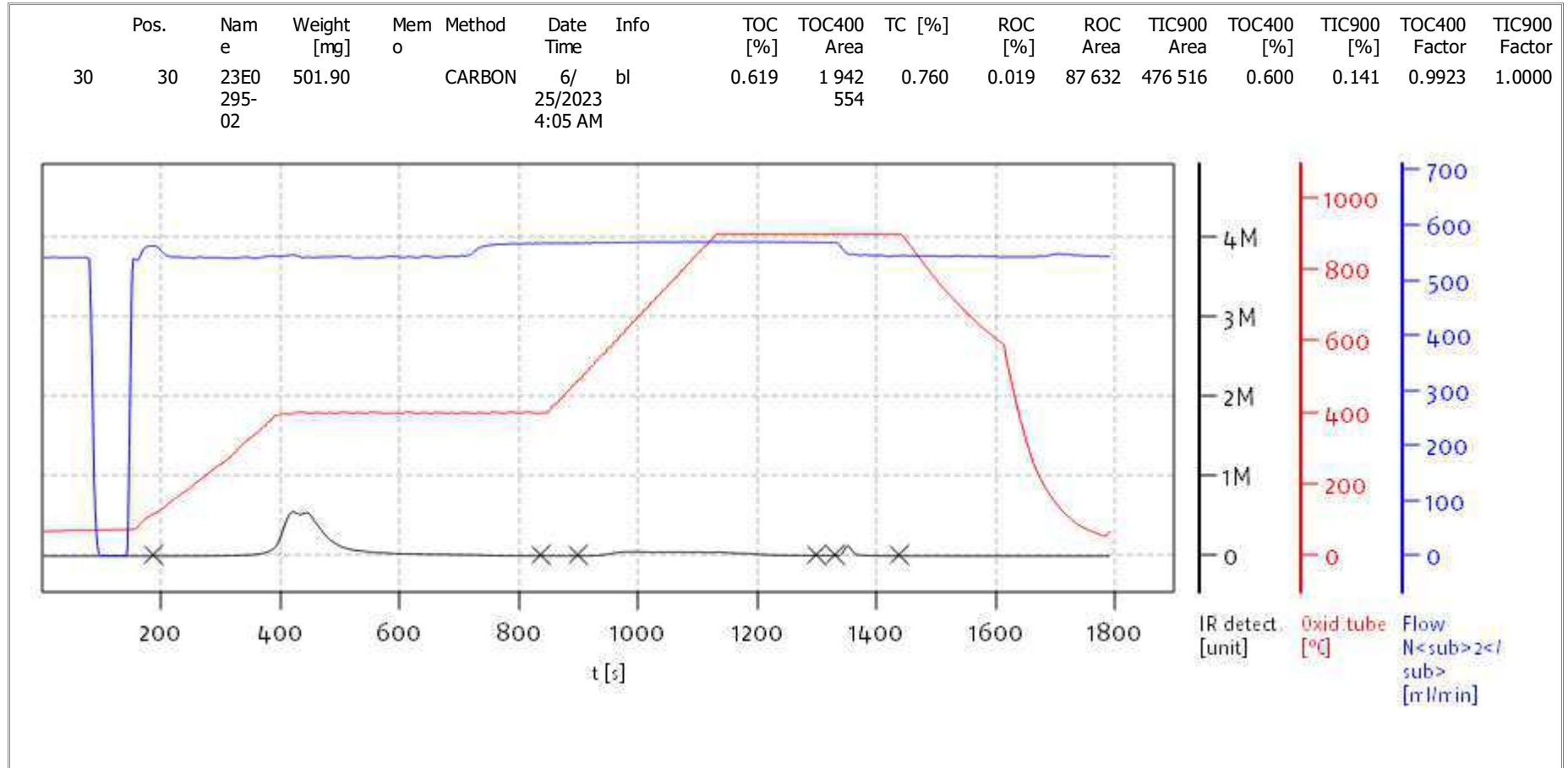
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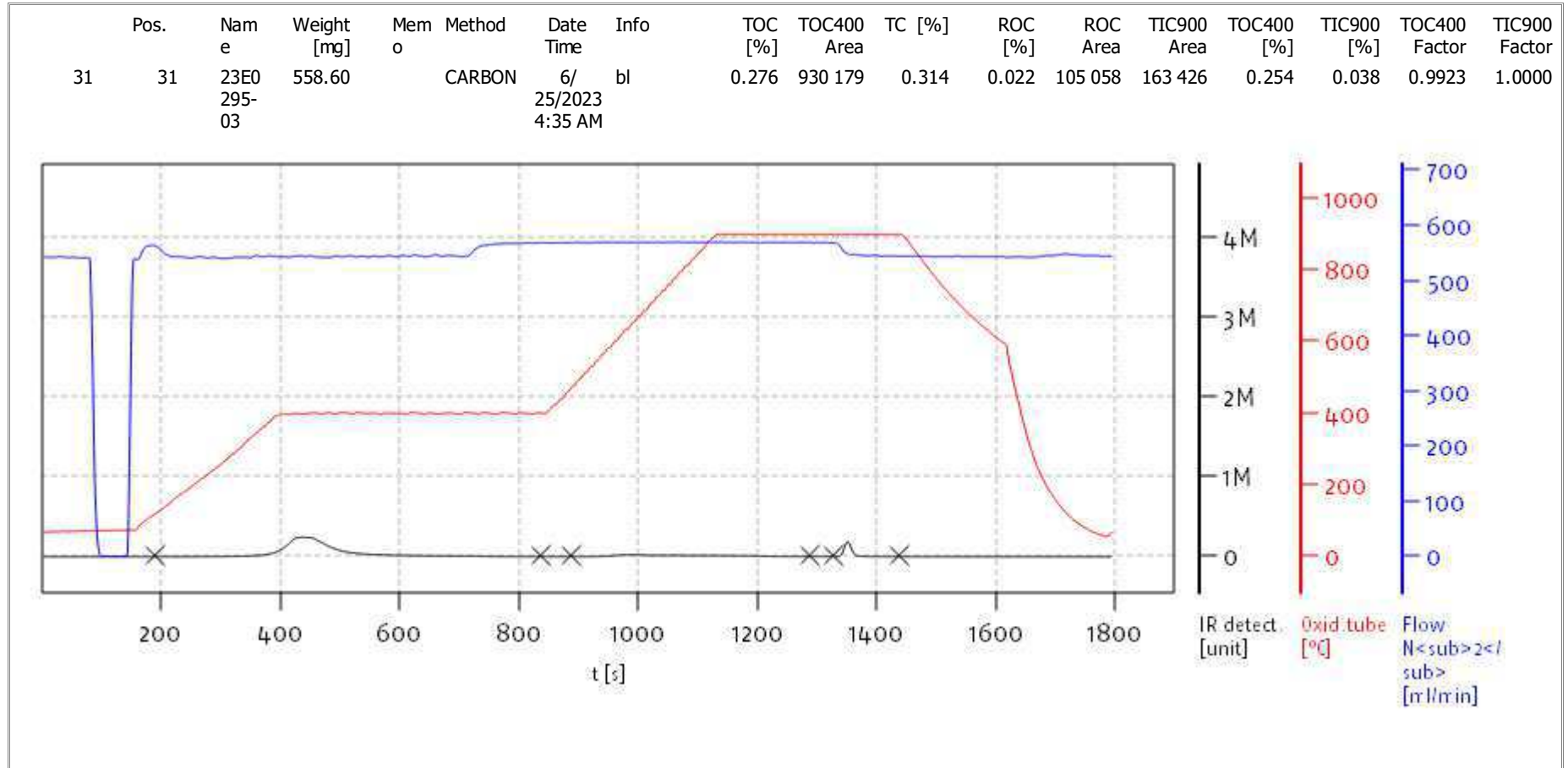
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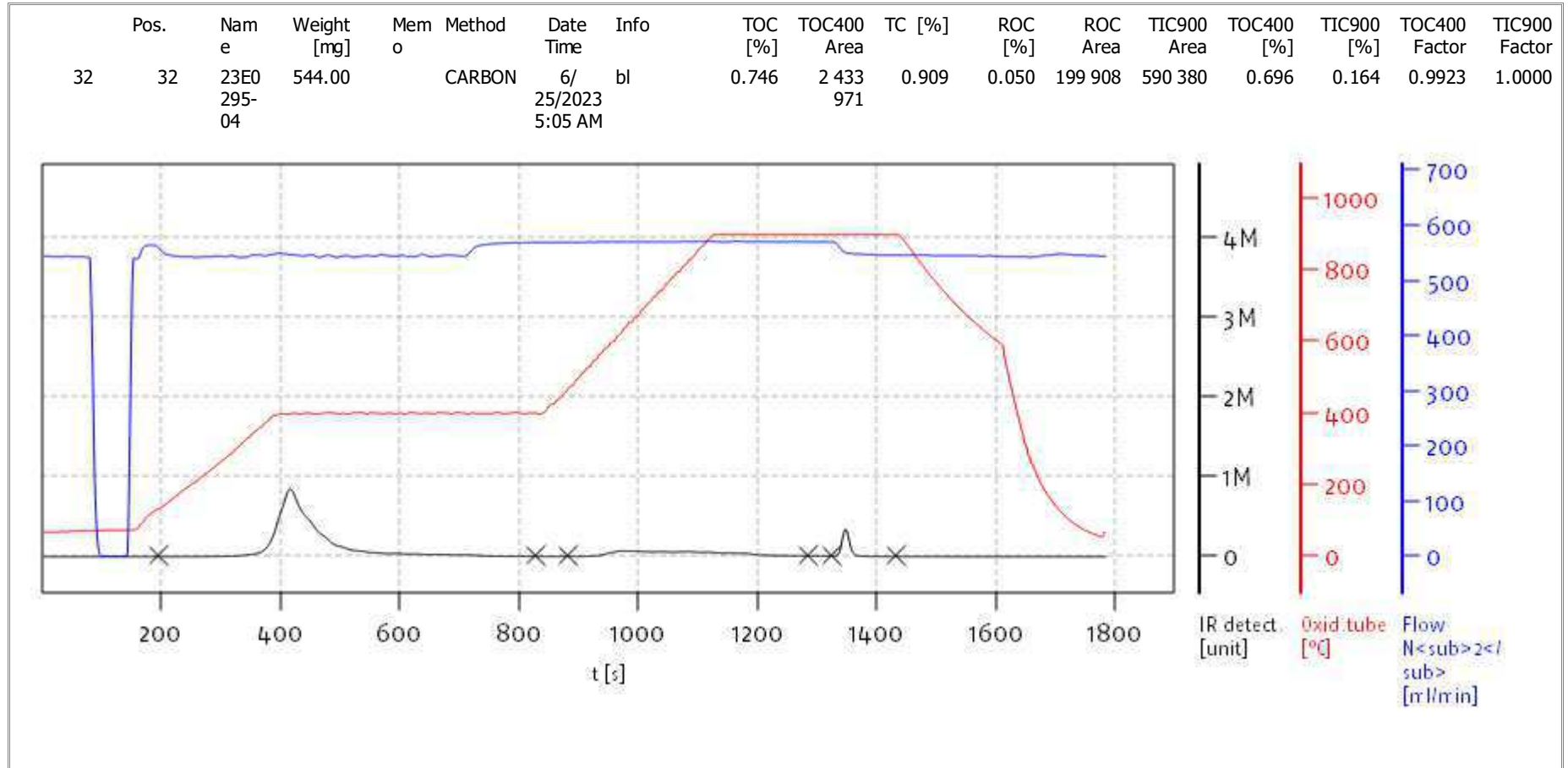
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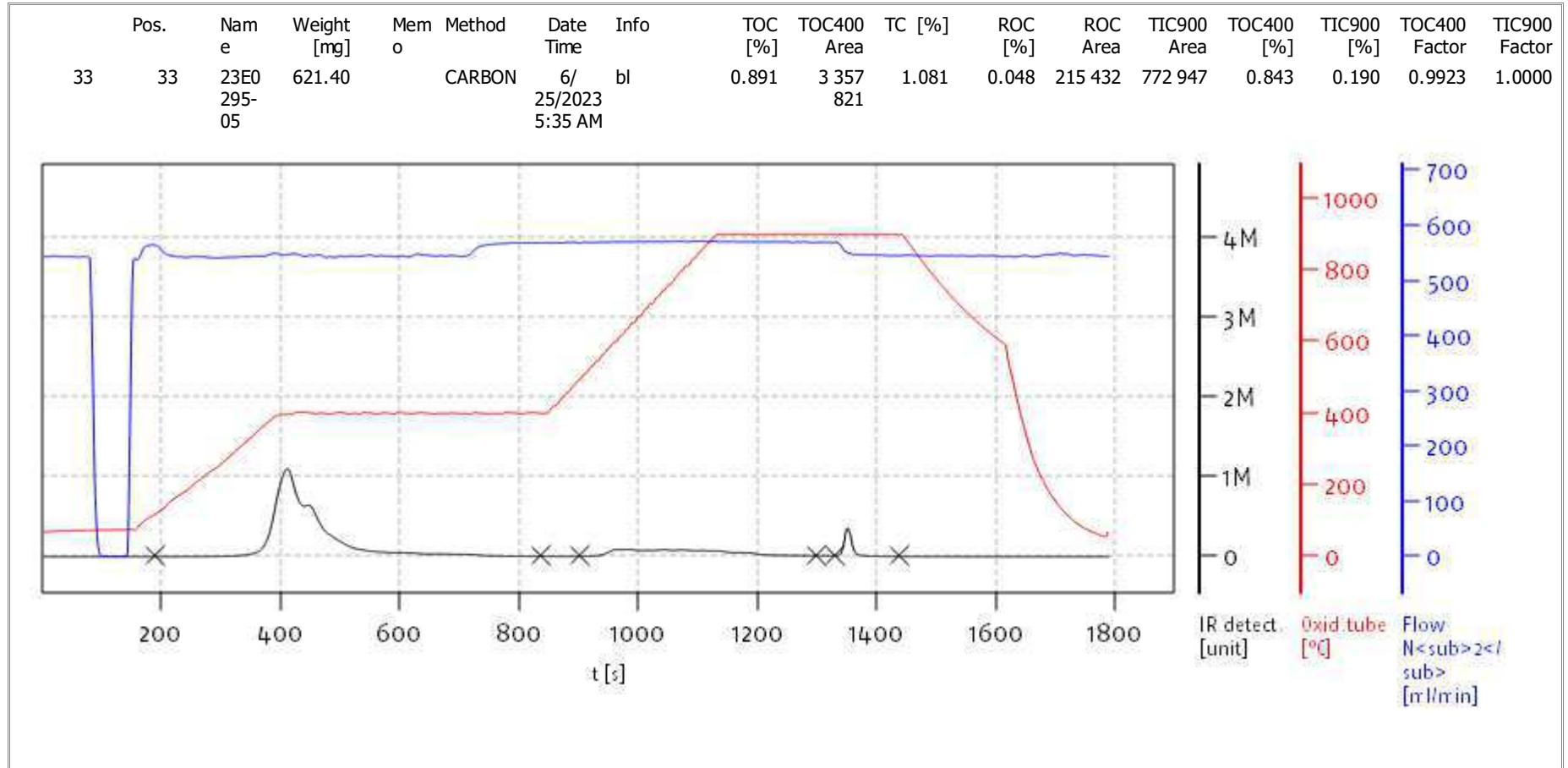
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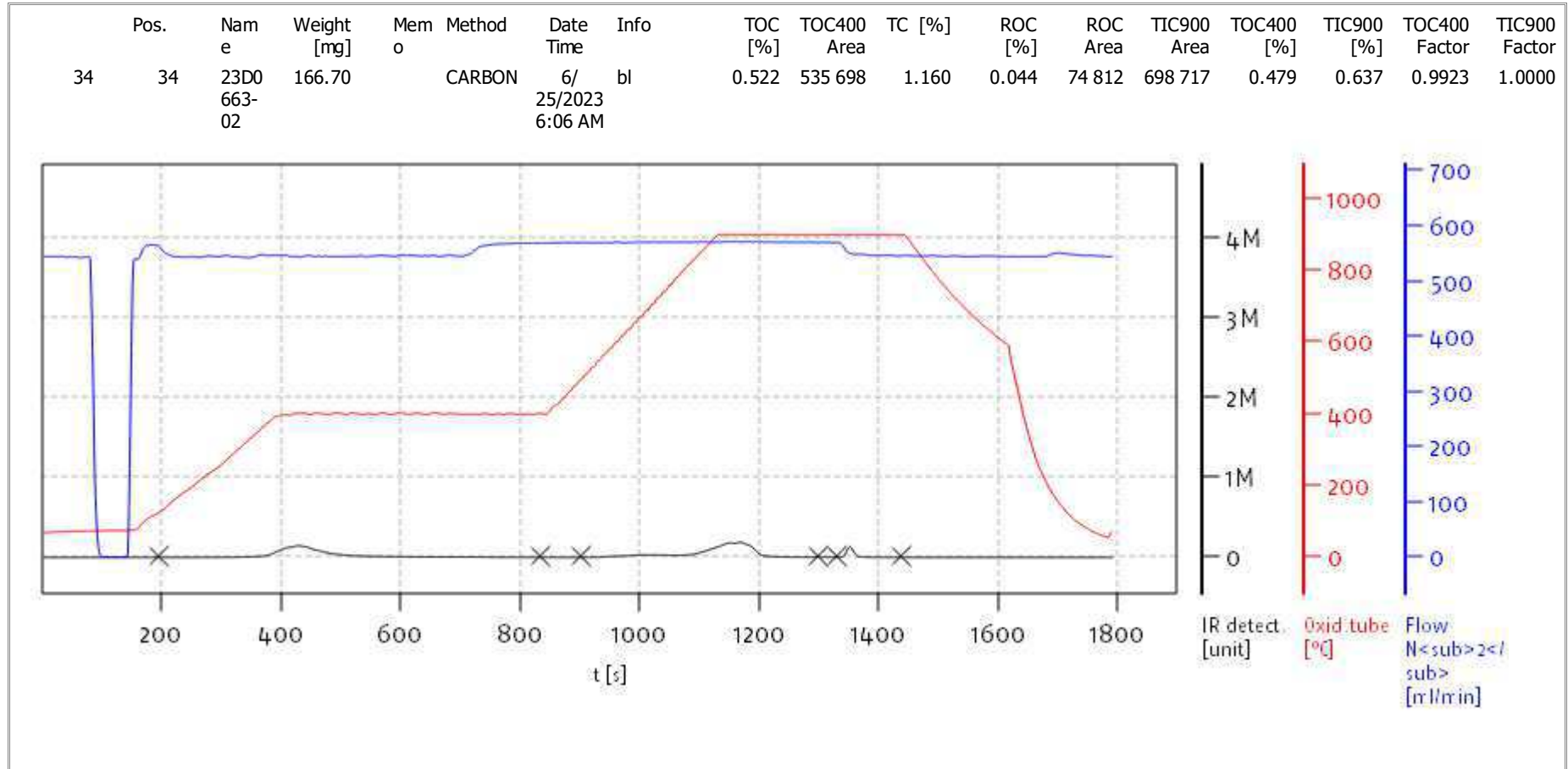
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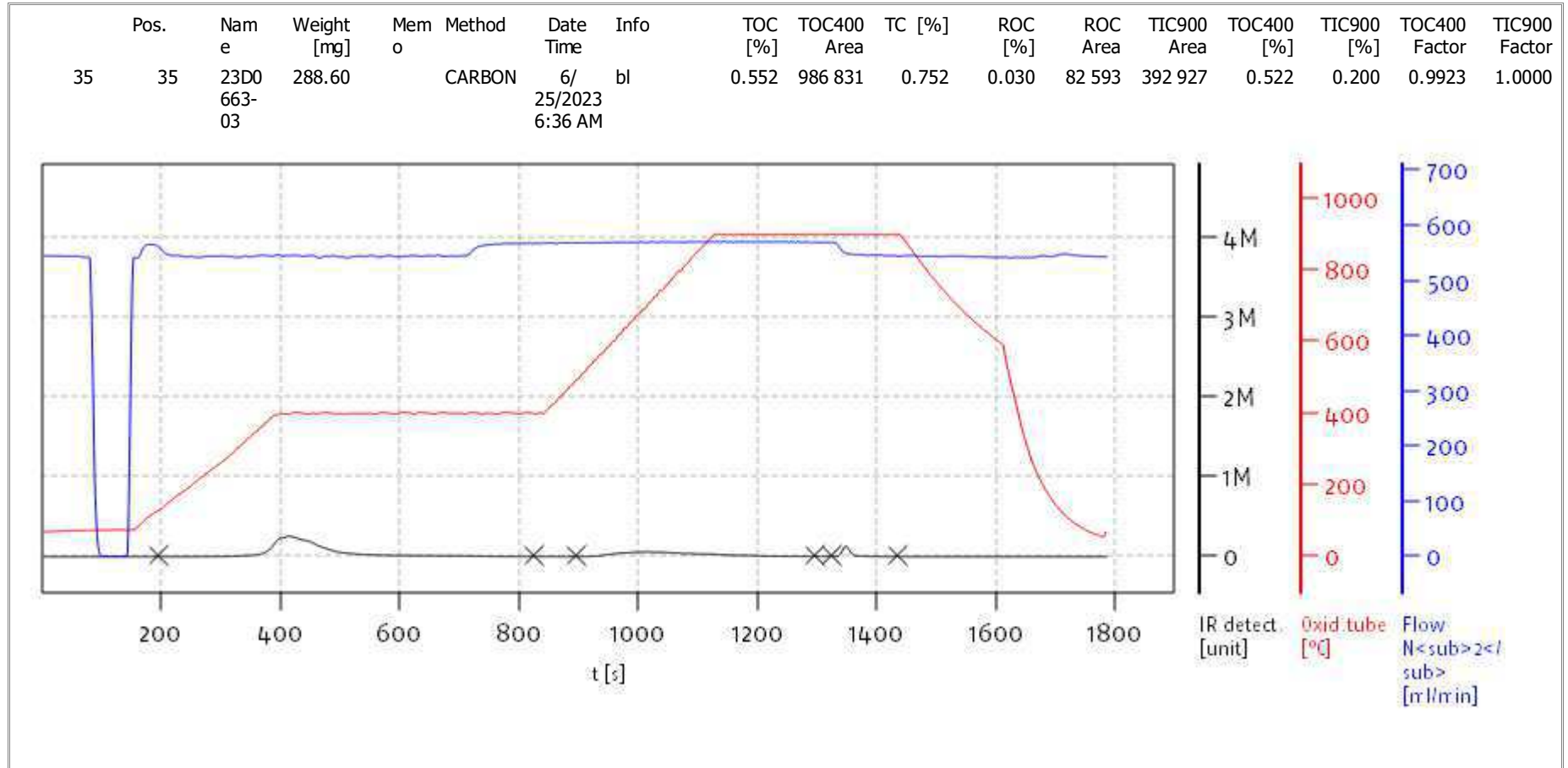
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solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

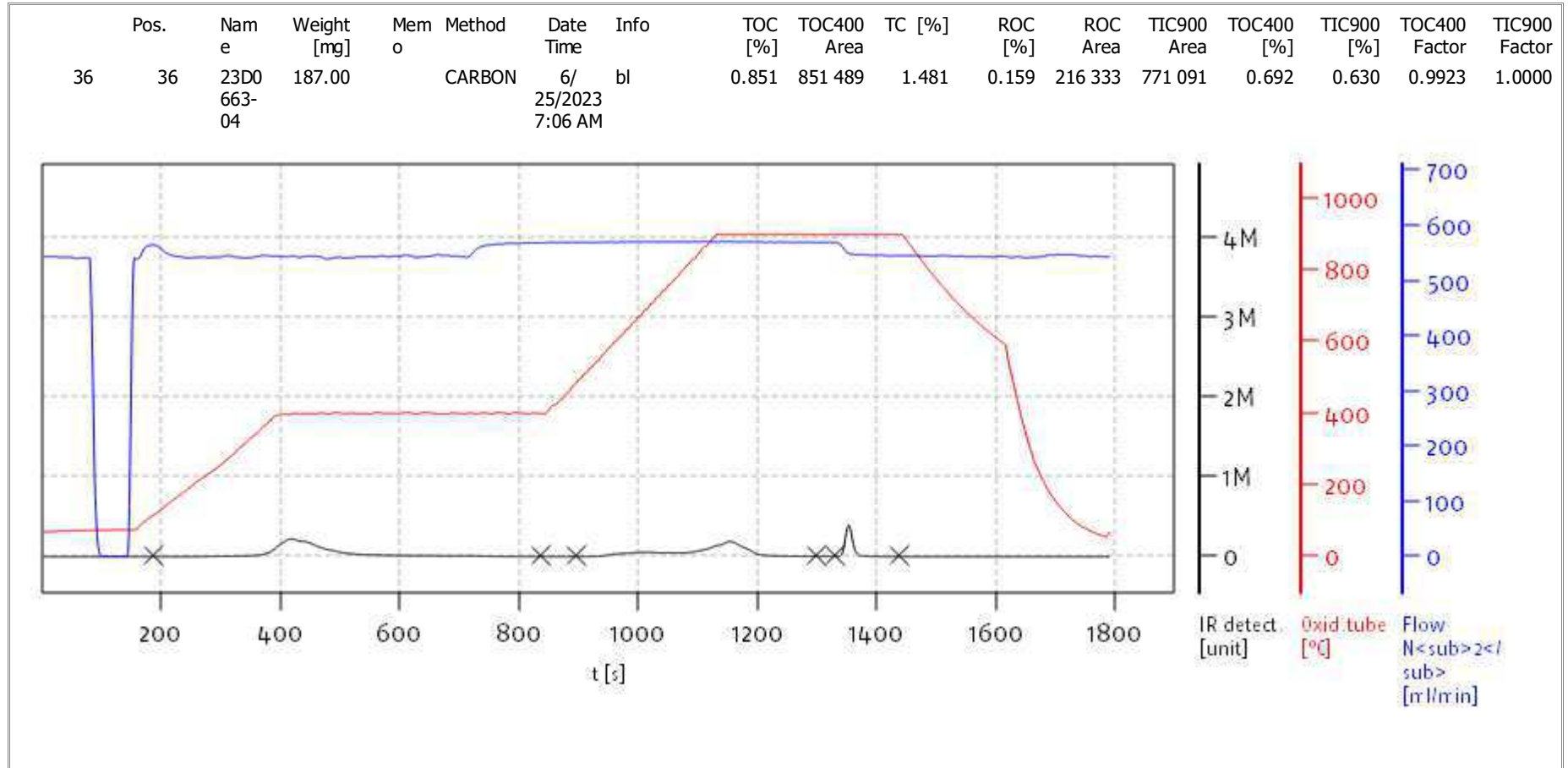
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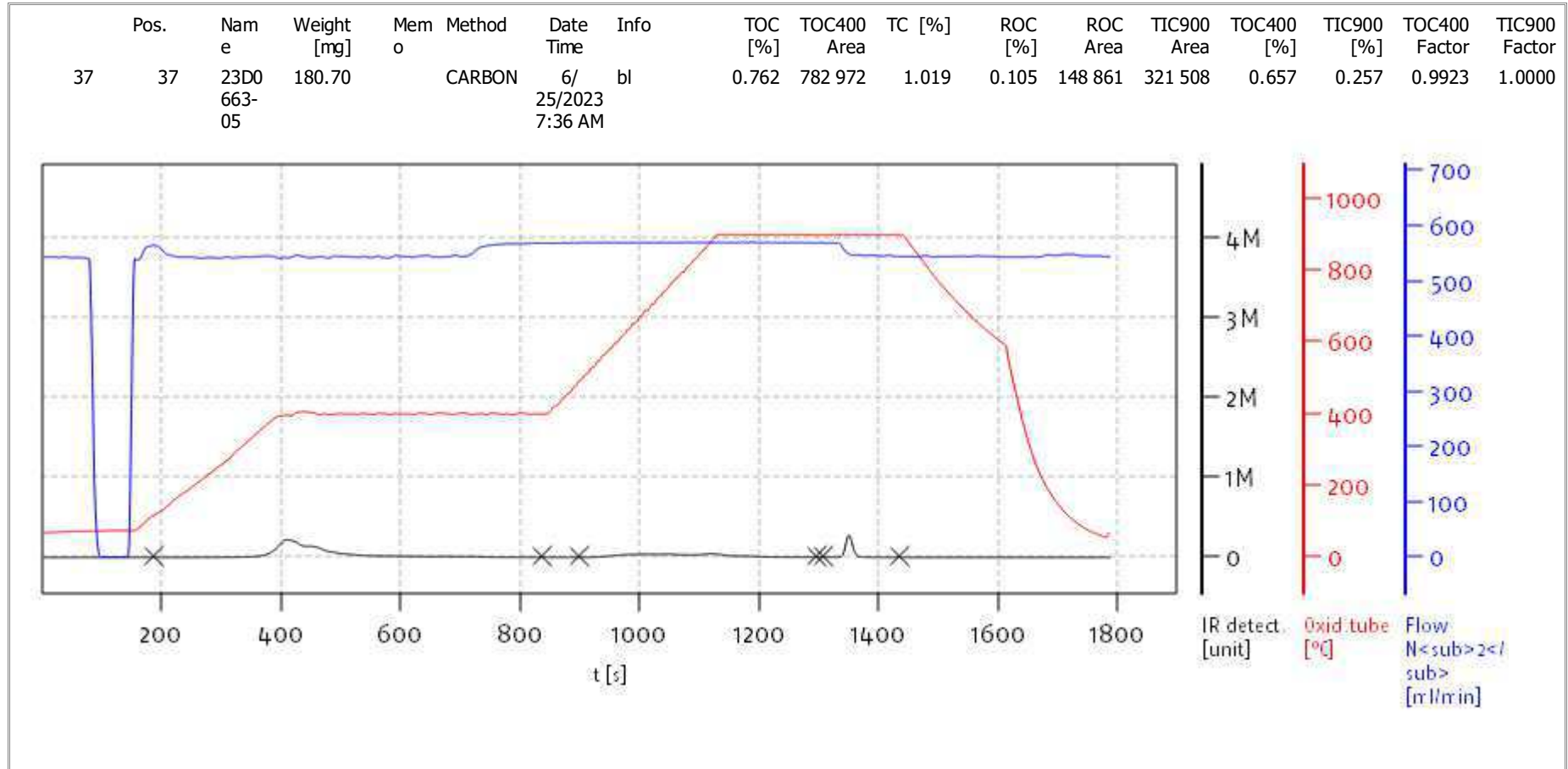
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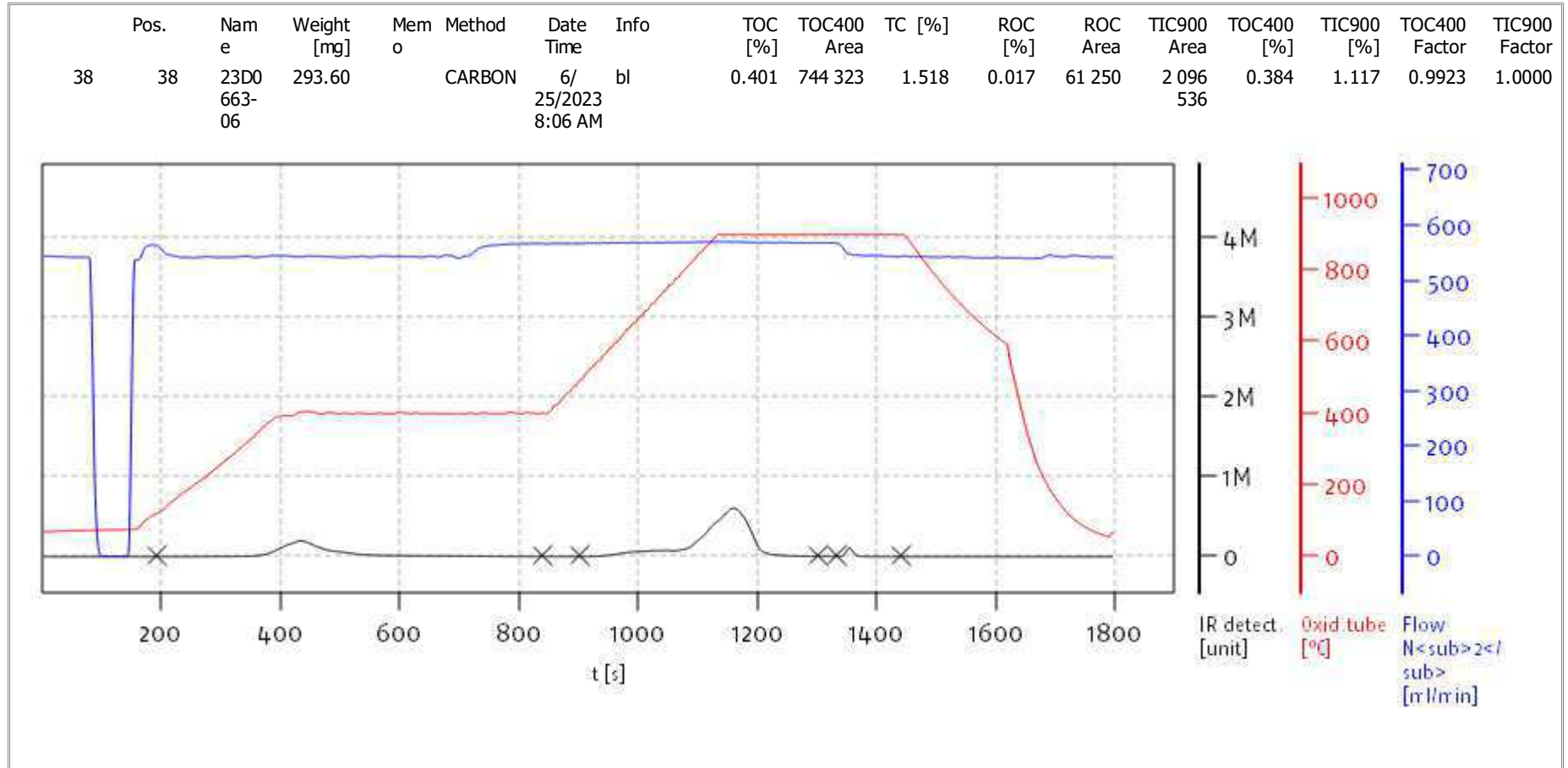
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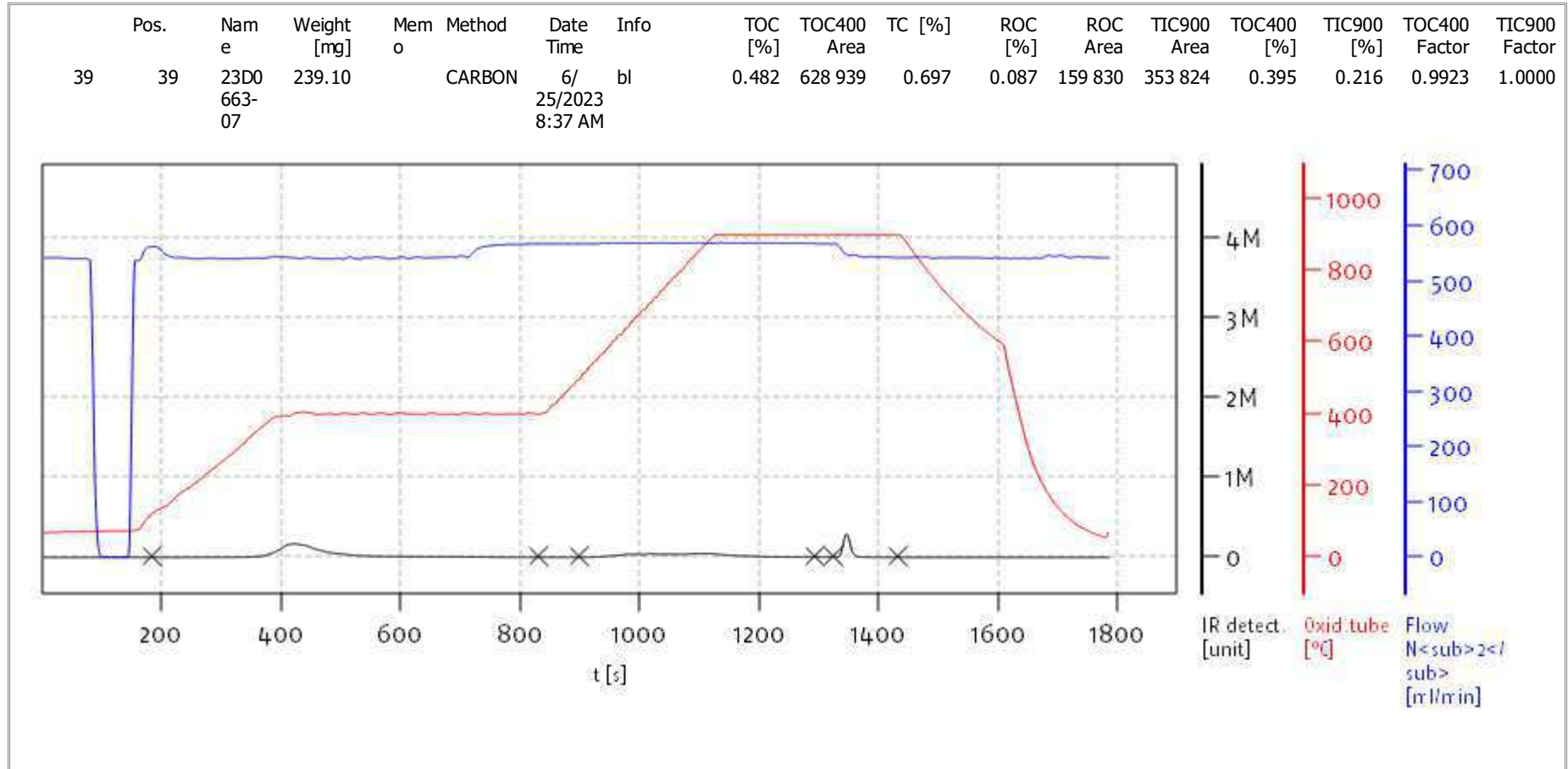
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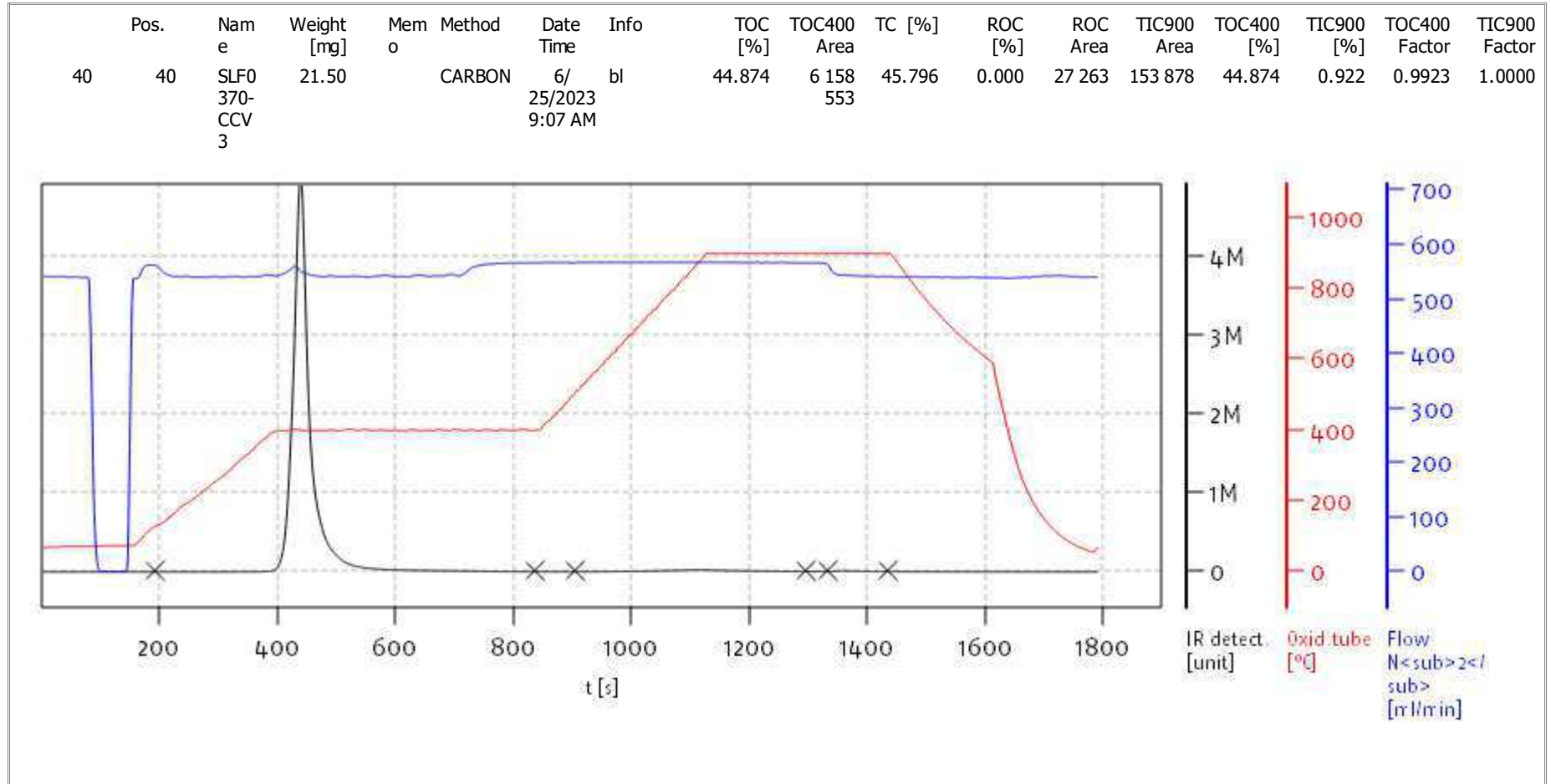
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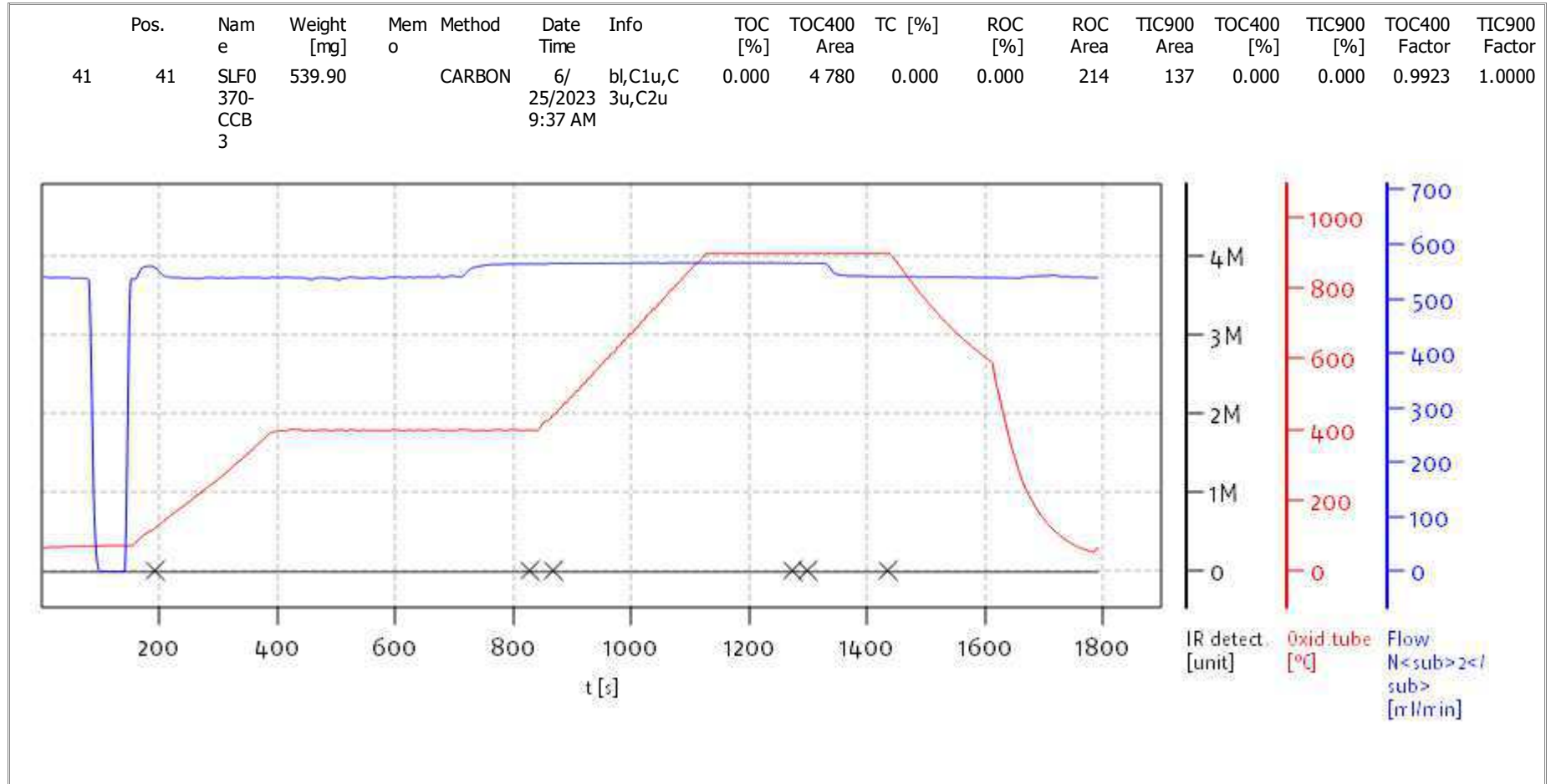
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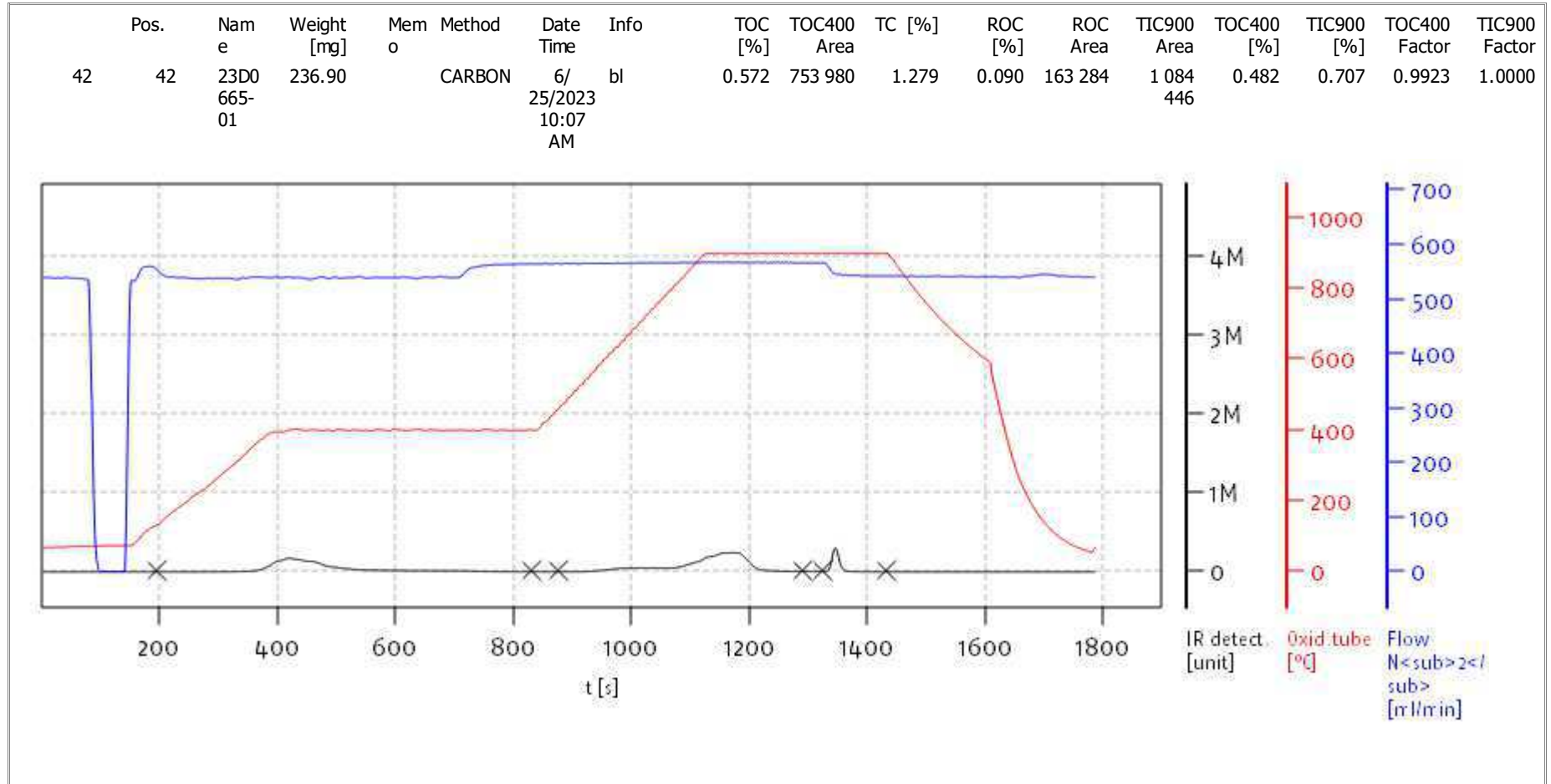
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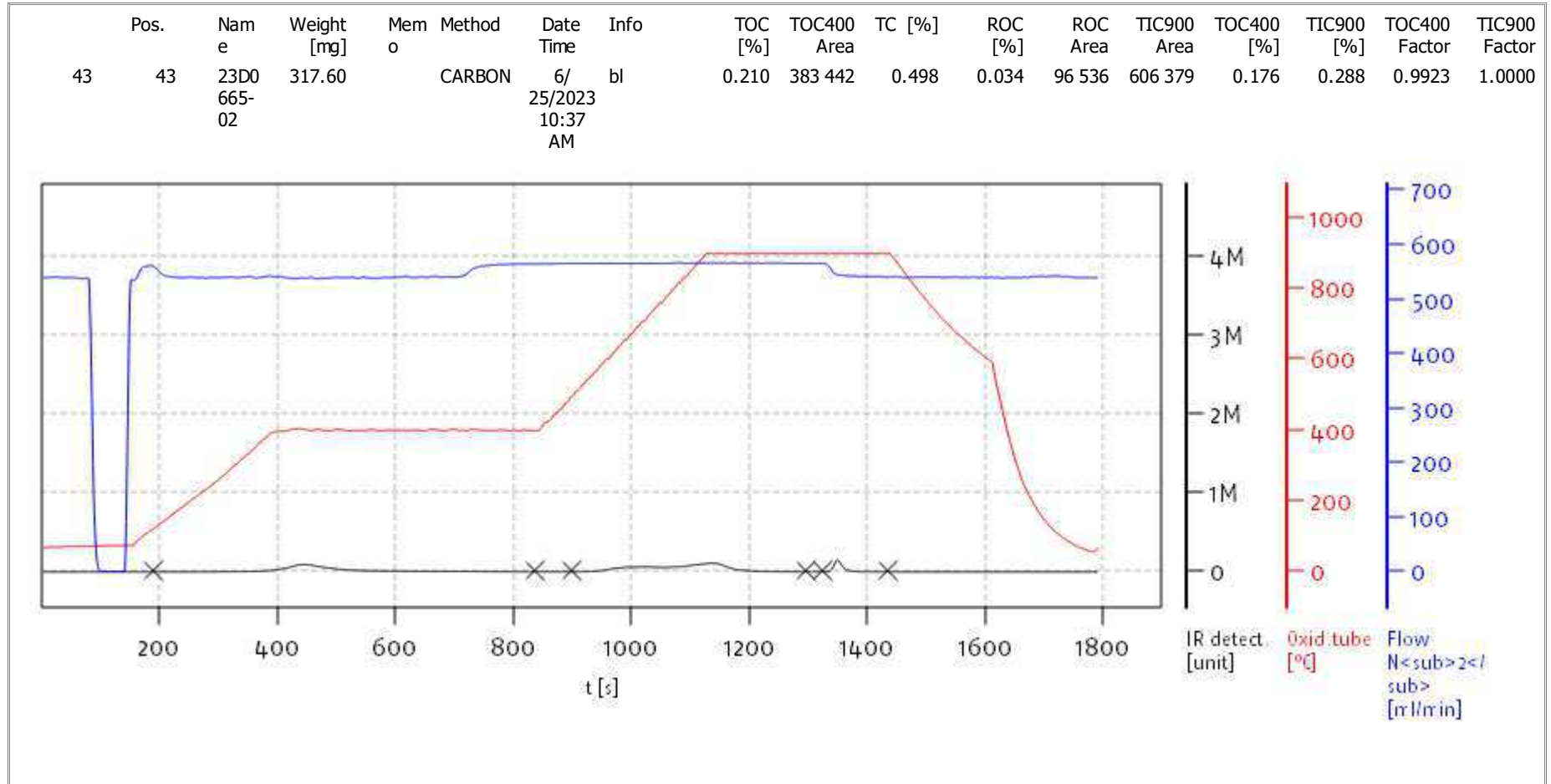
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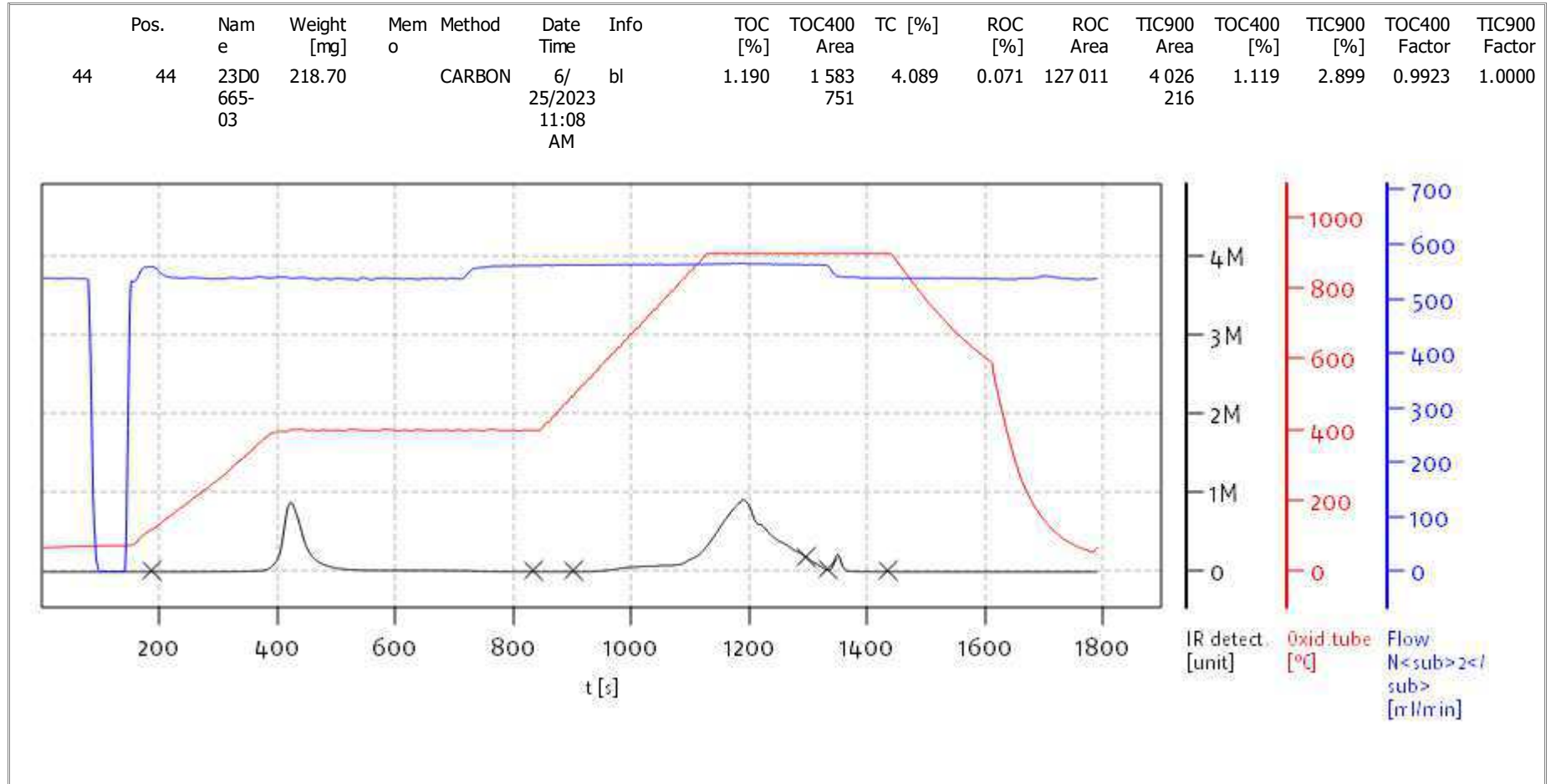
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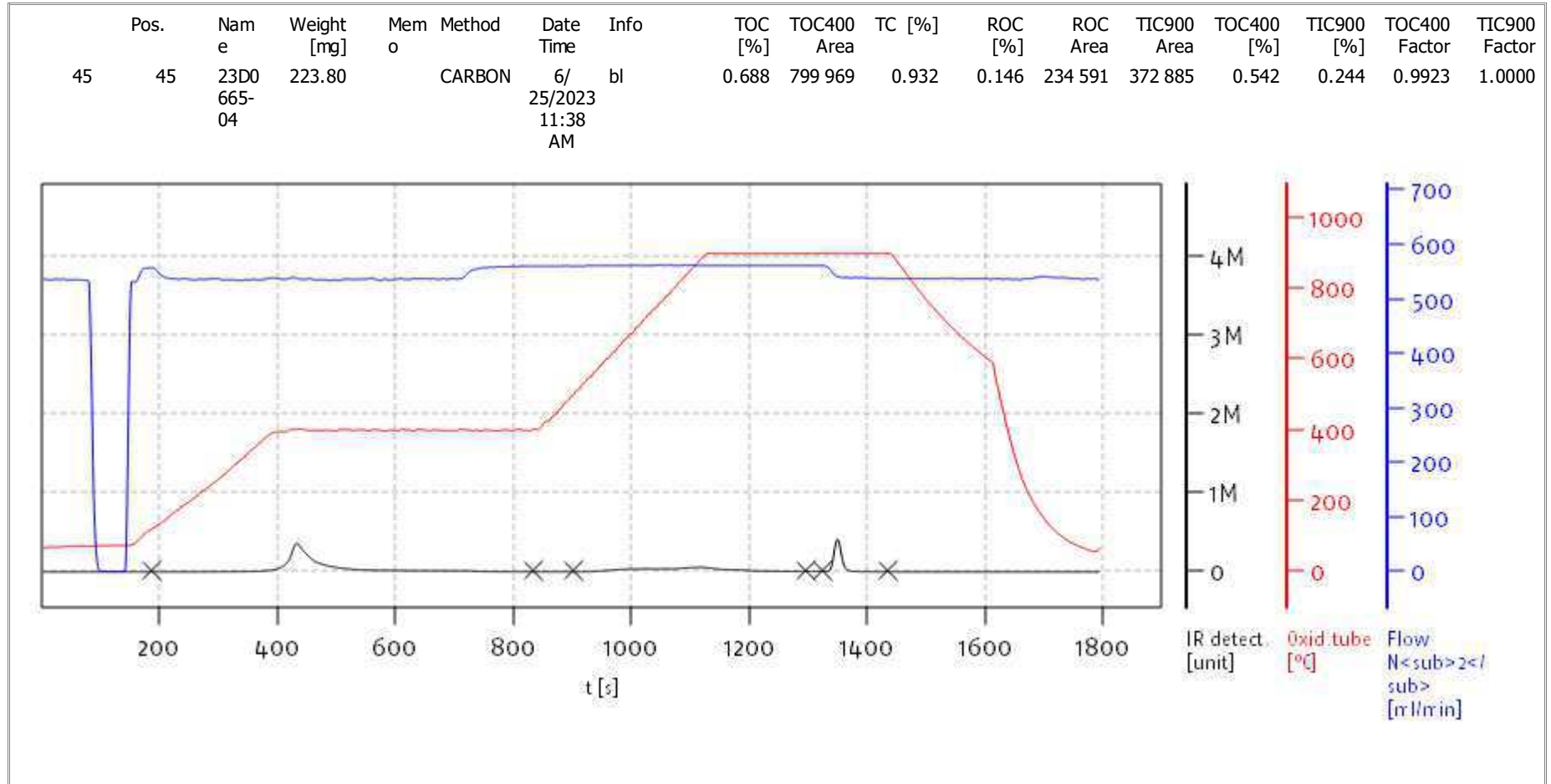
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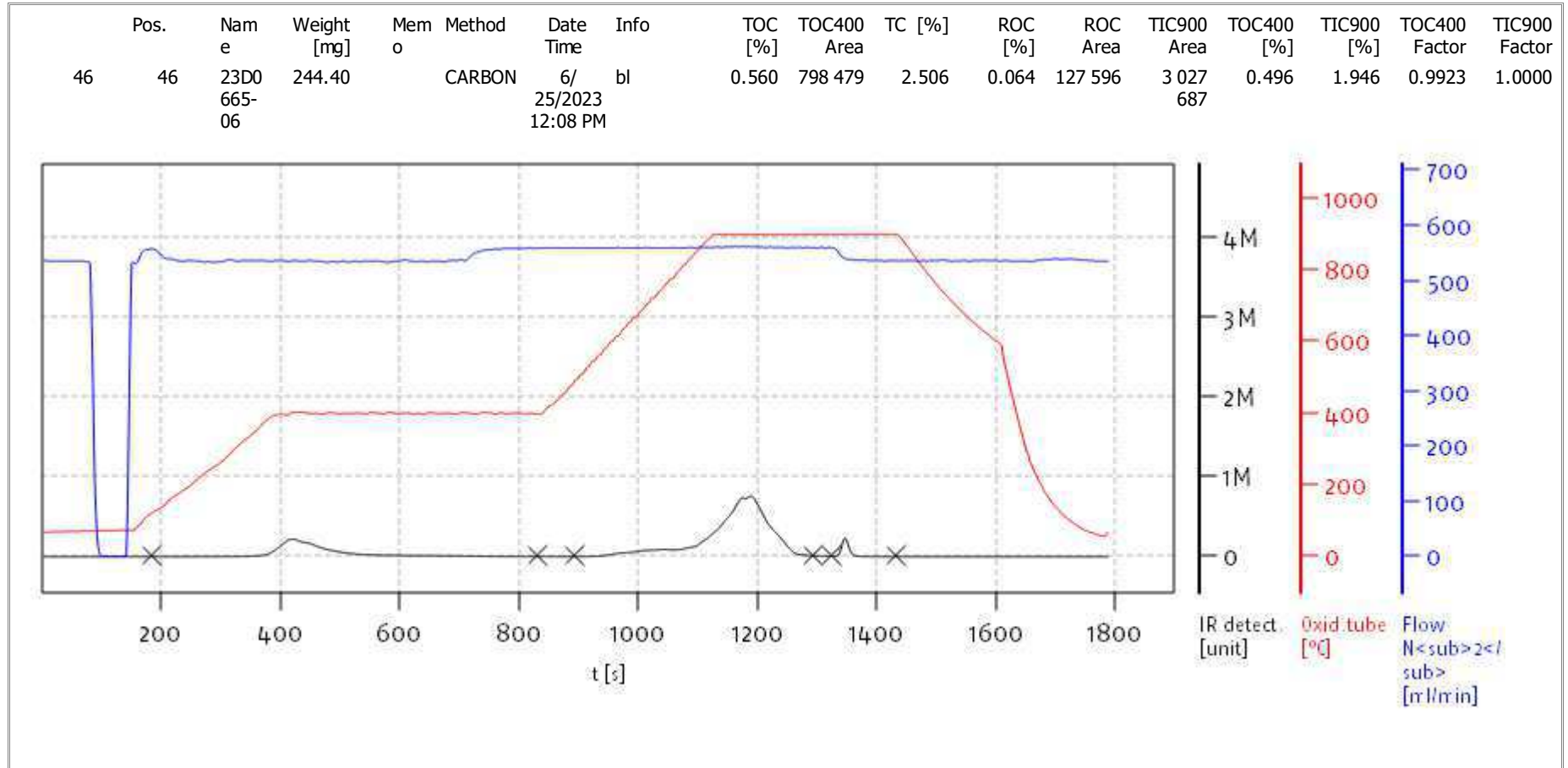
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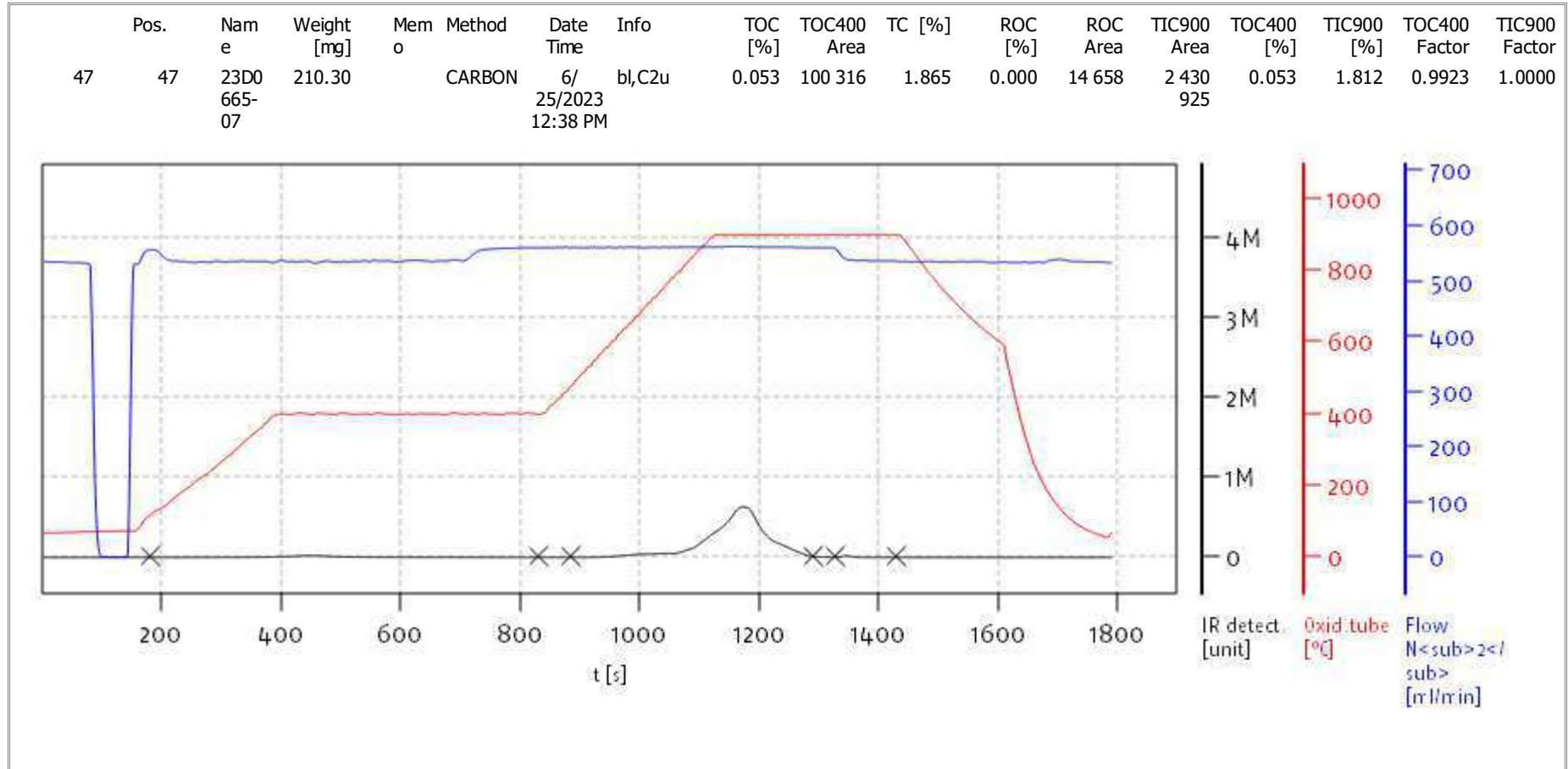
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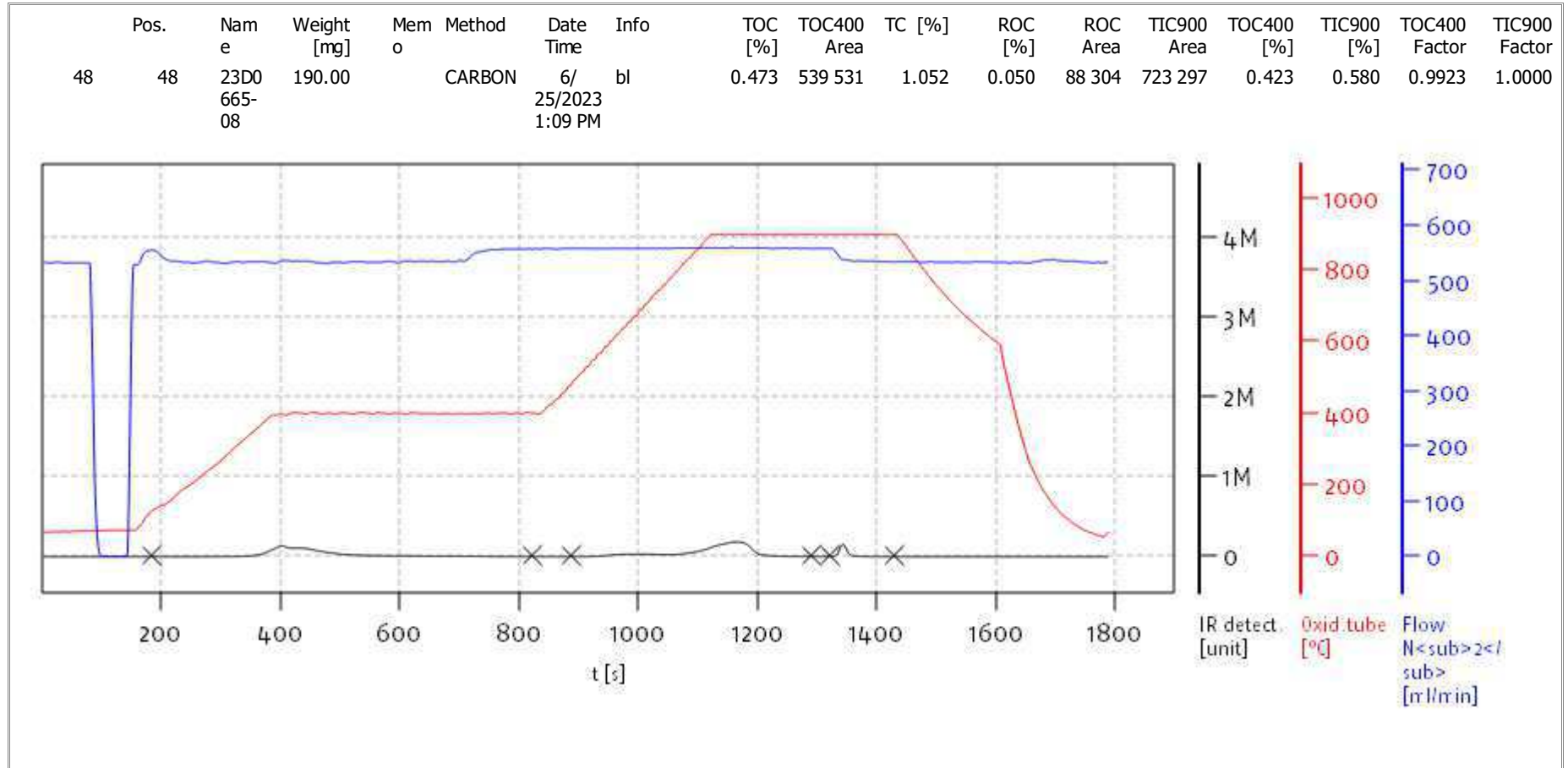
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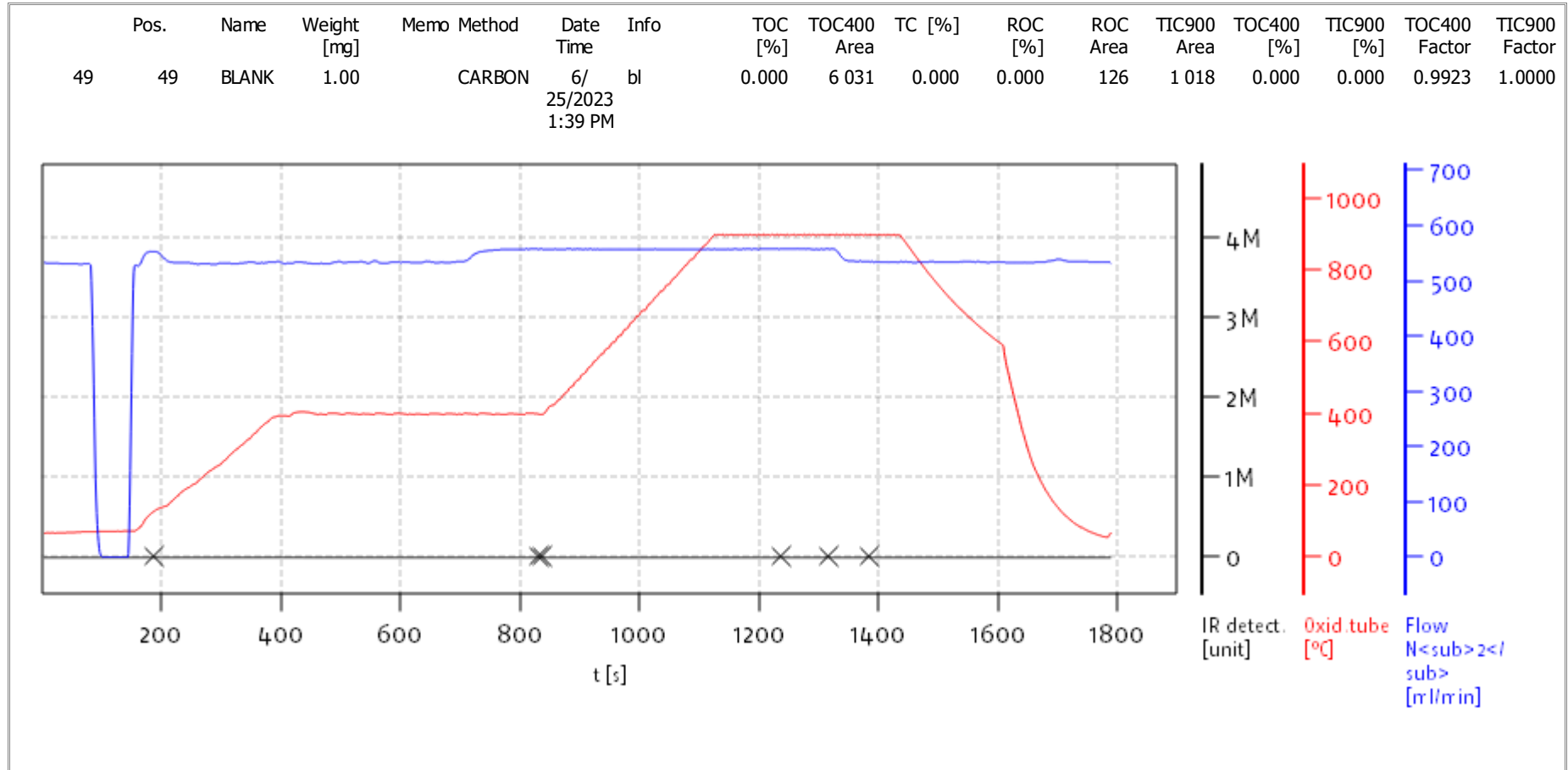
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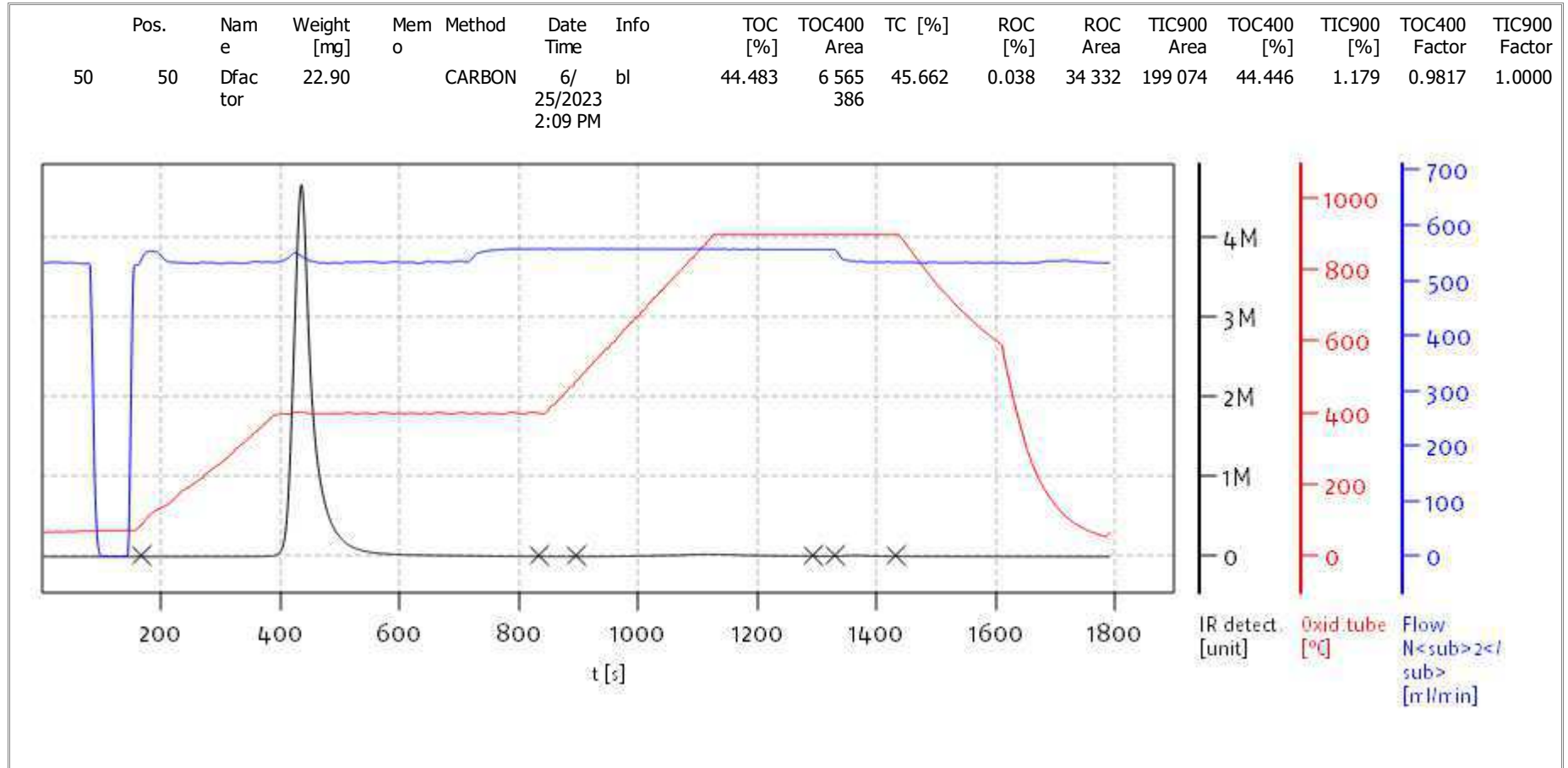
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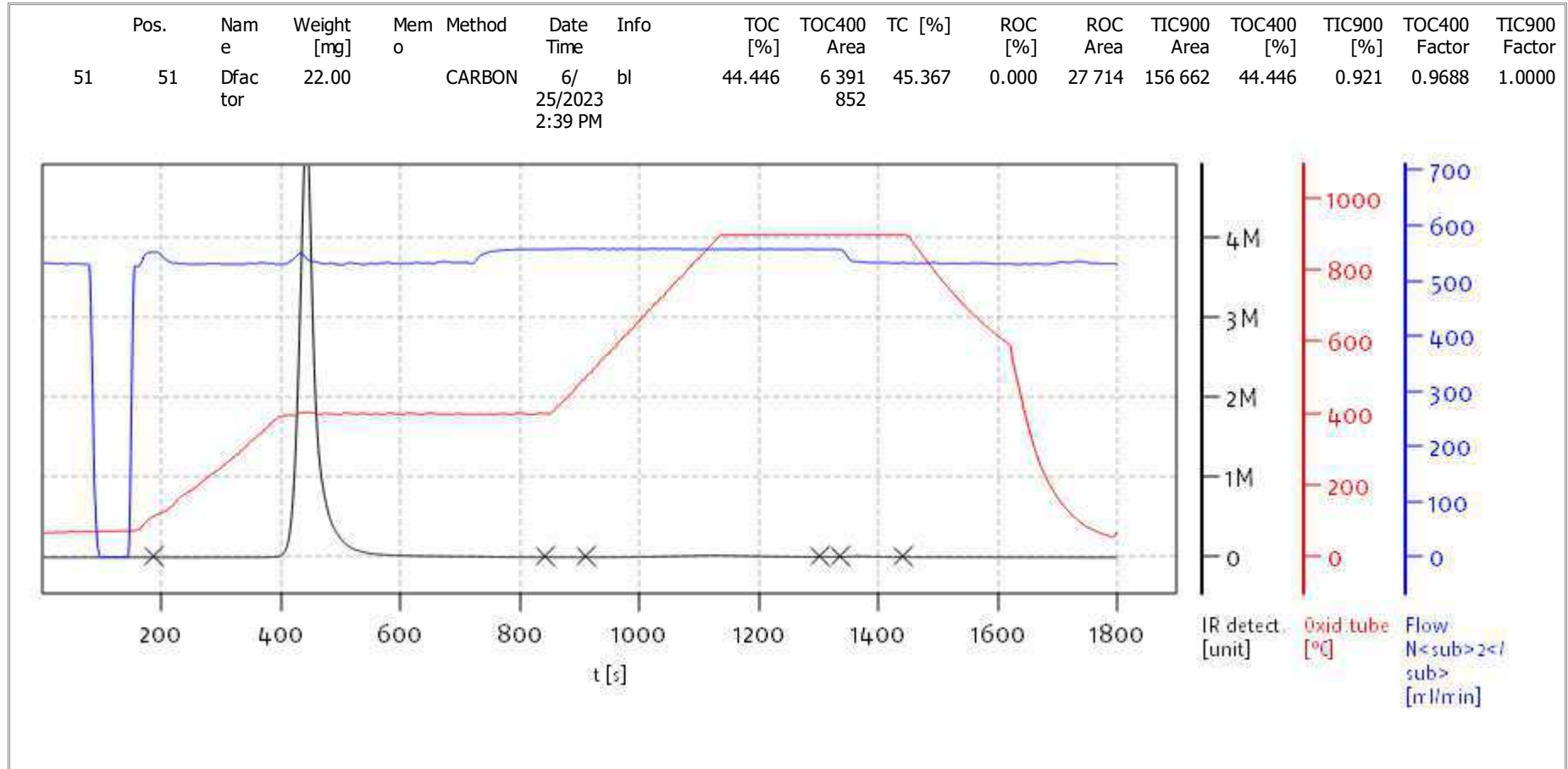
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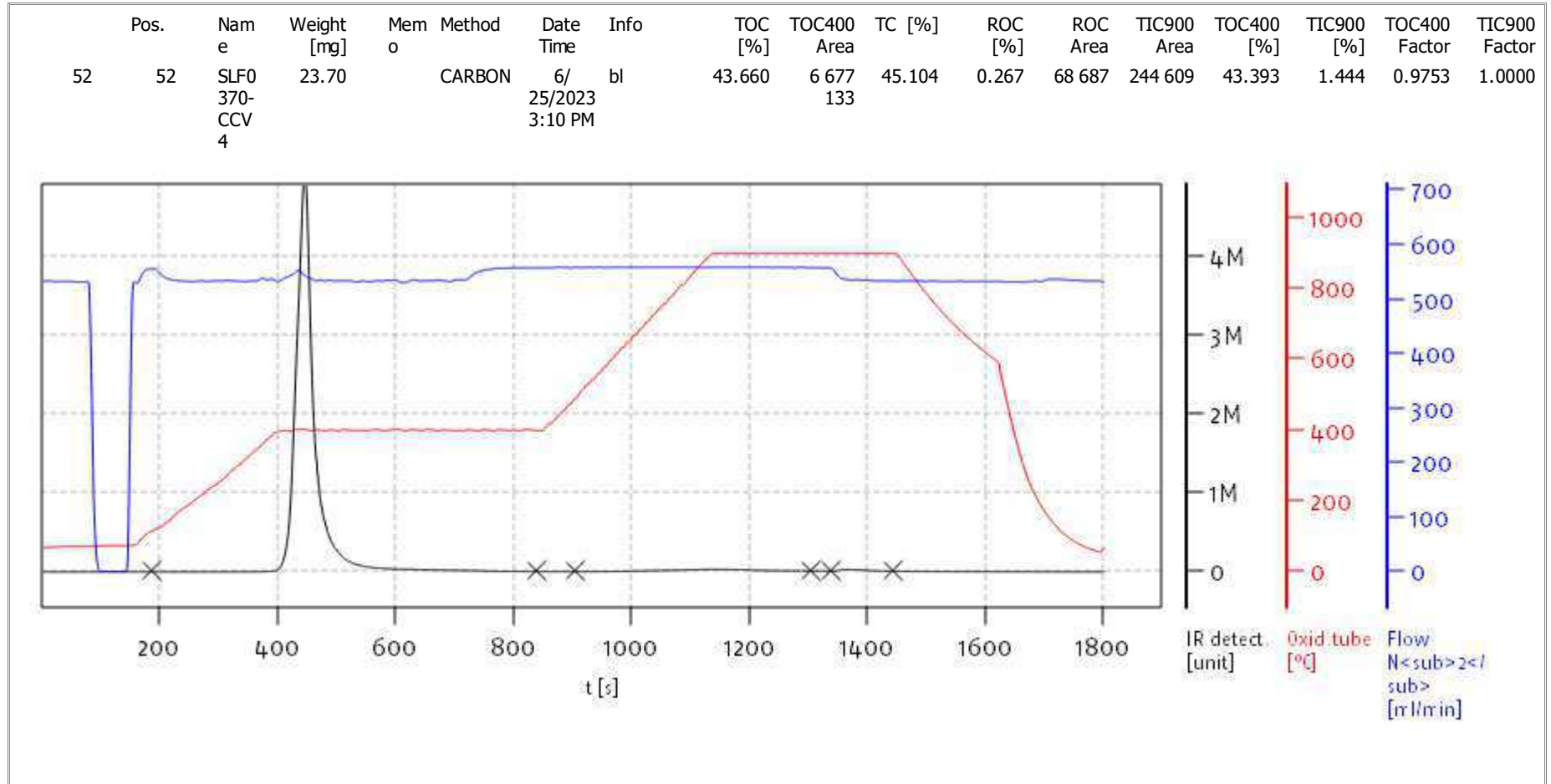
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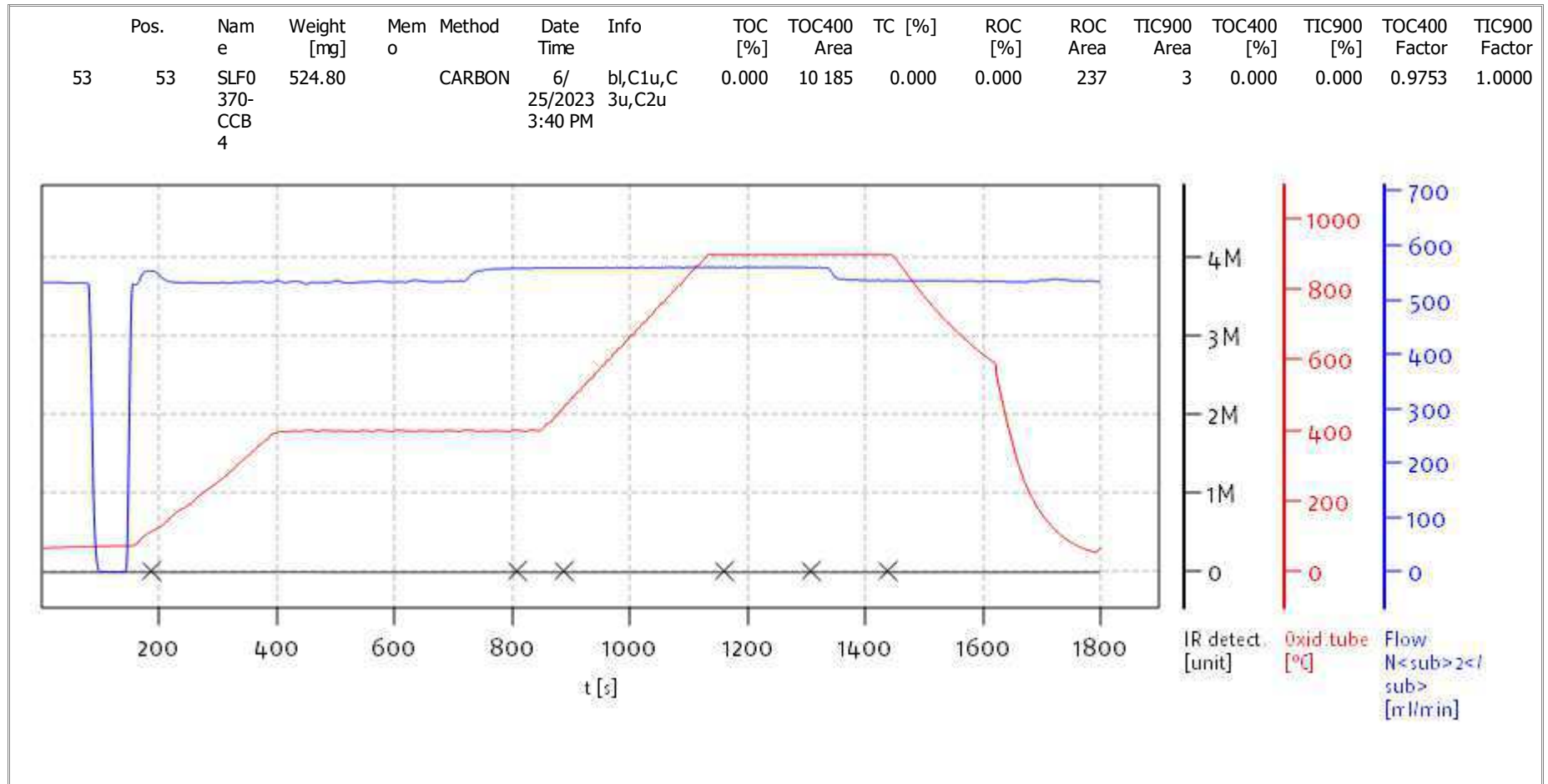
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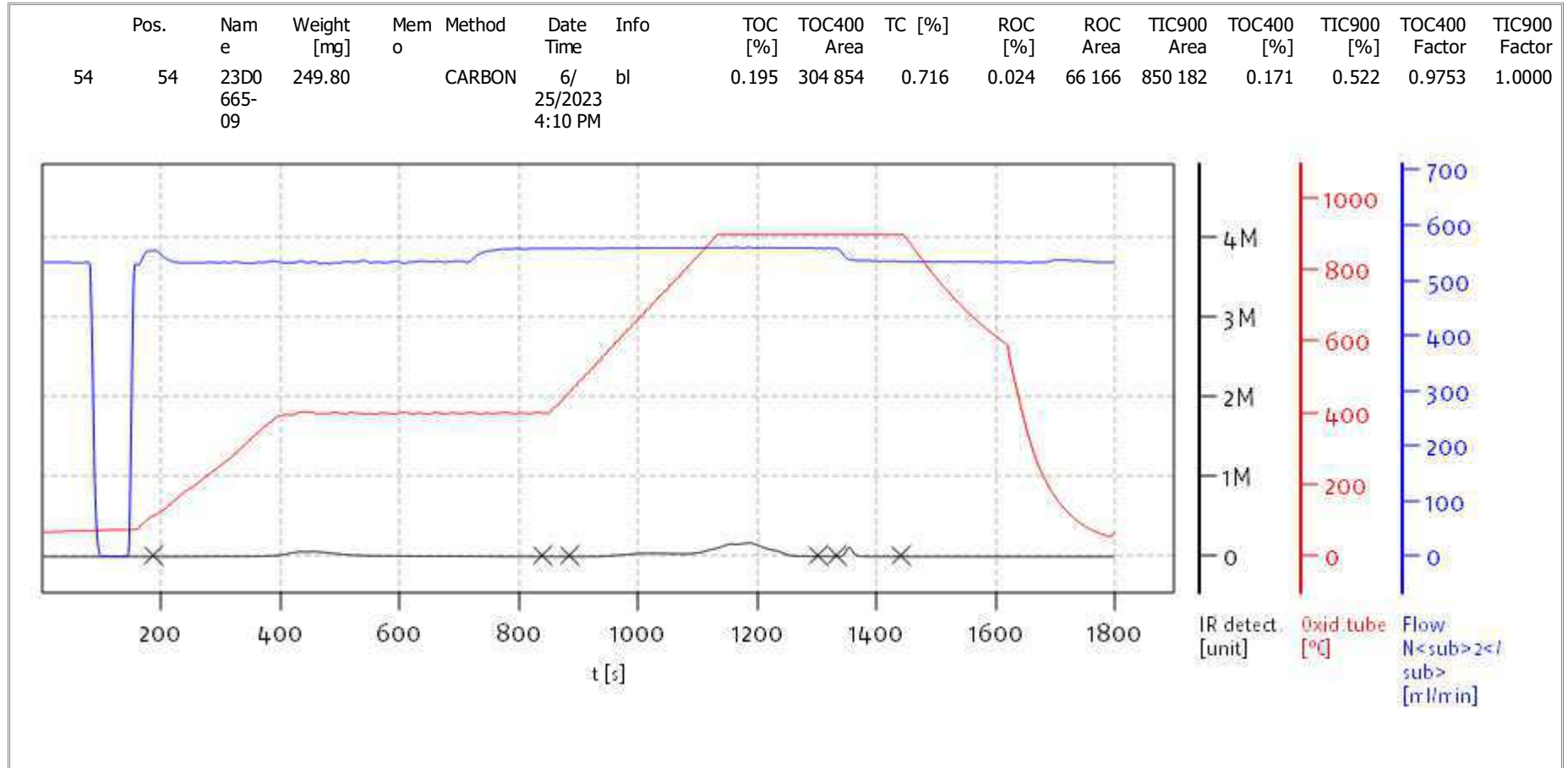
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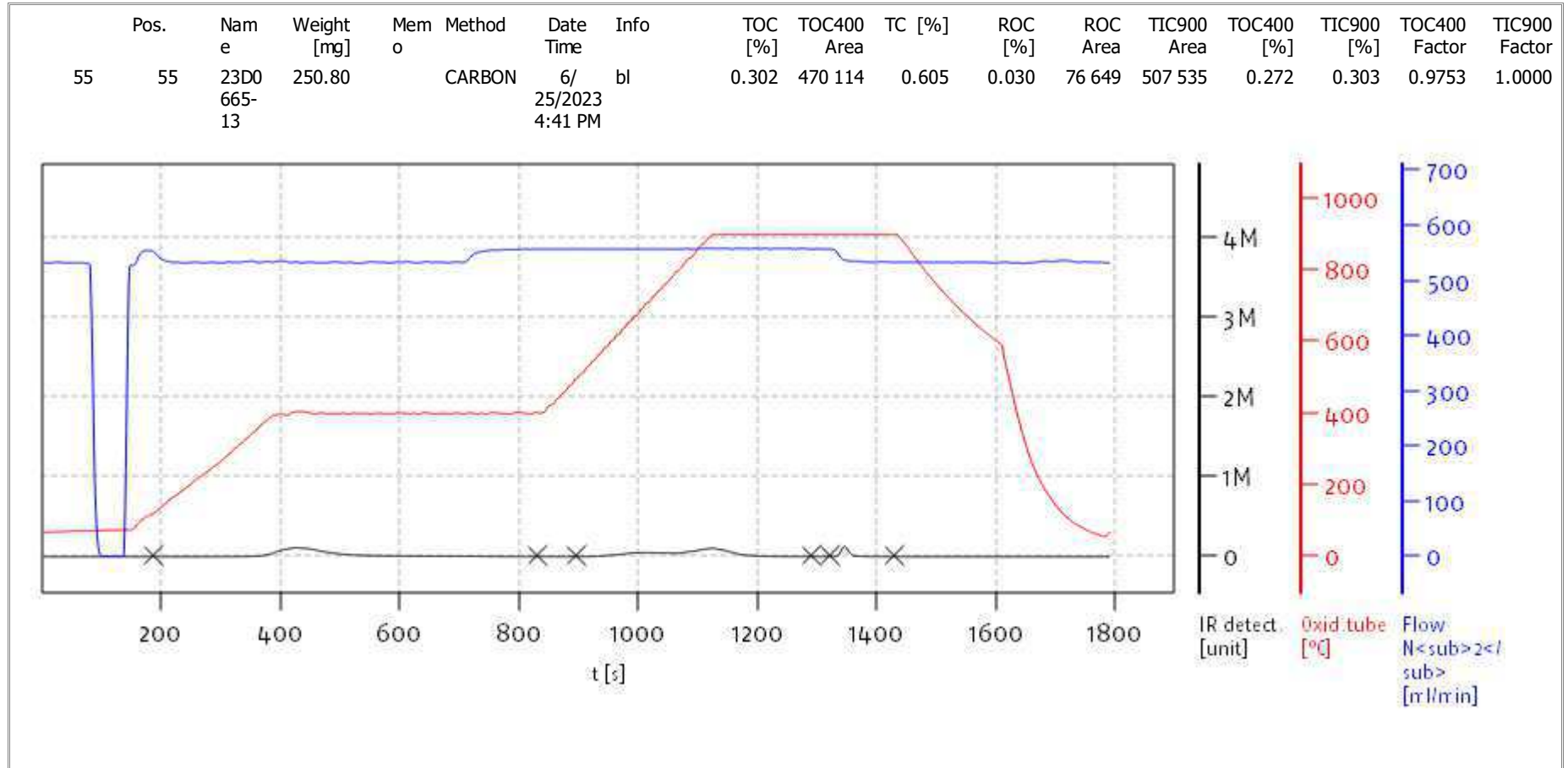
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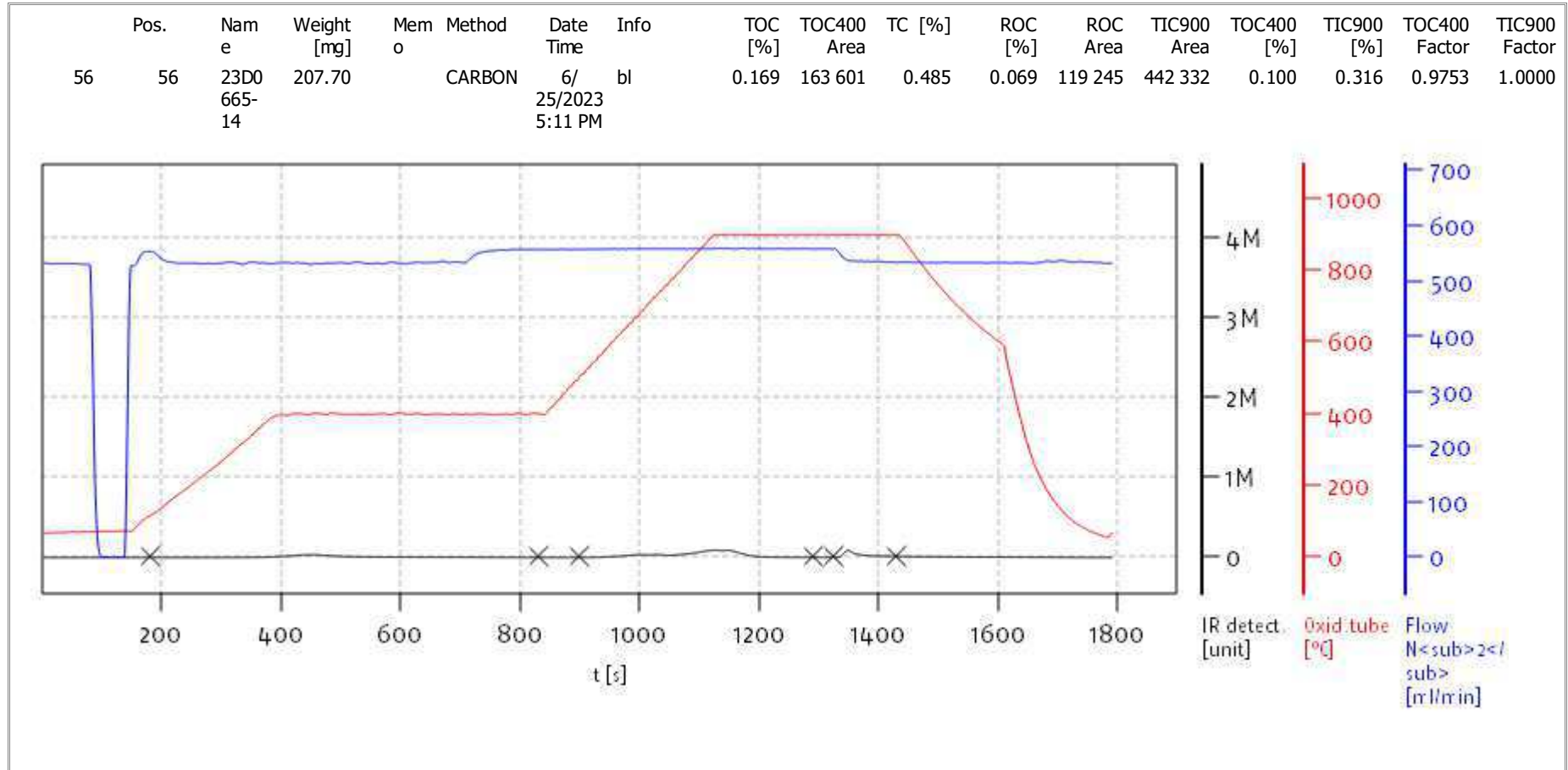
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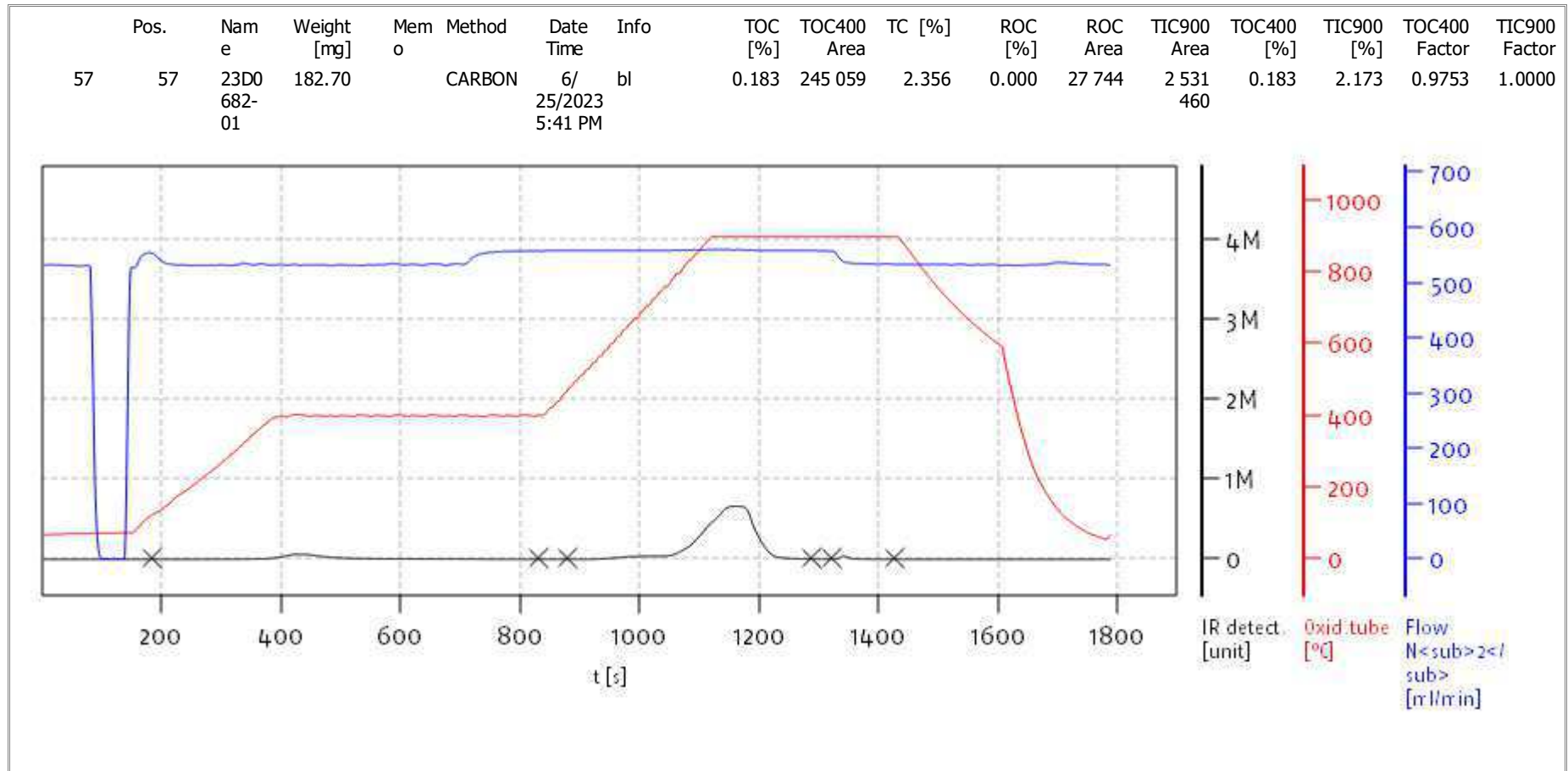
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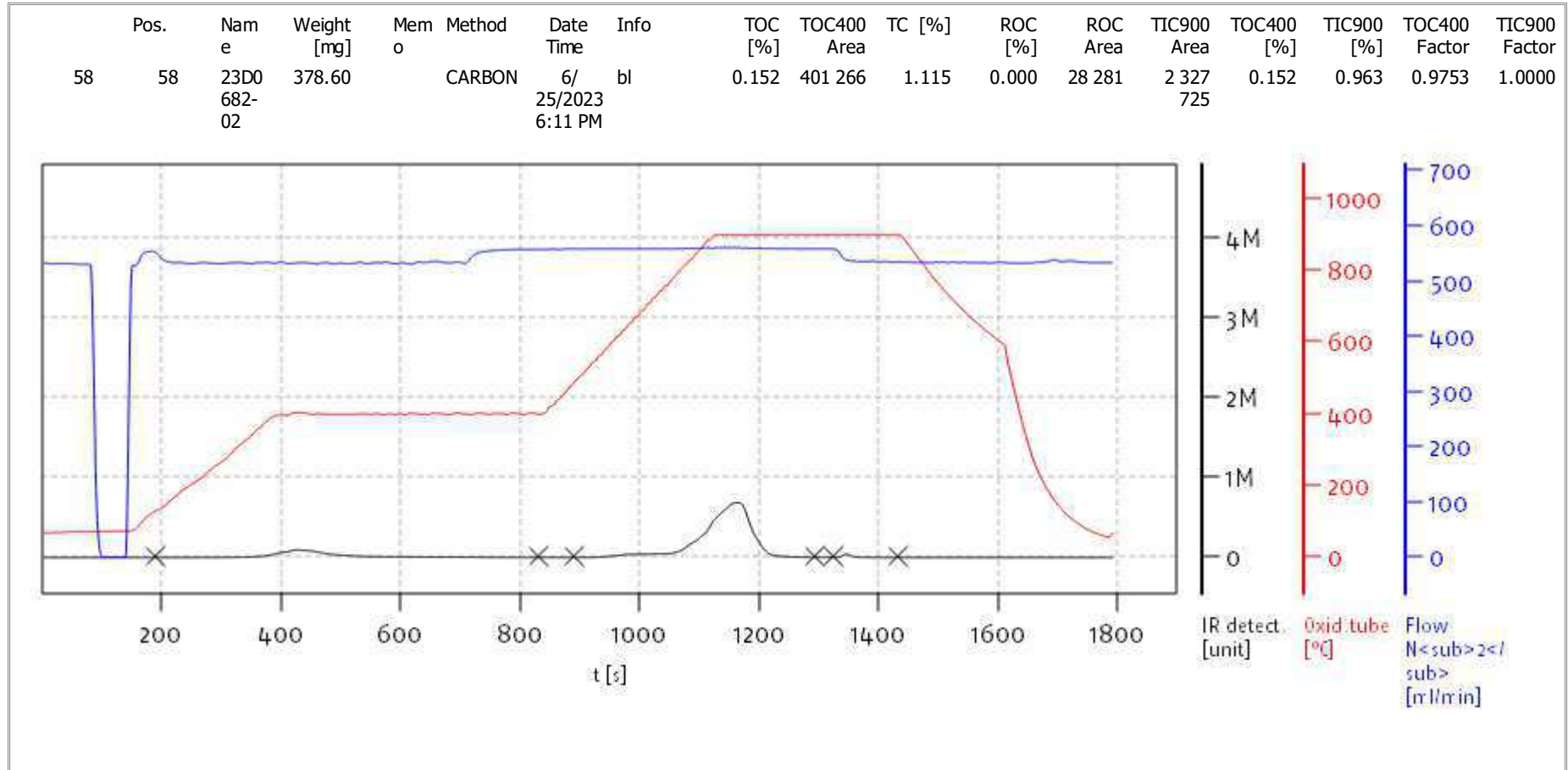
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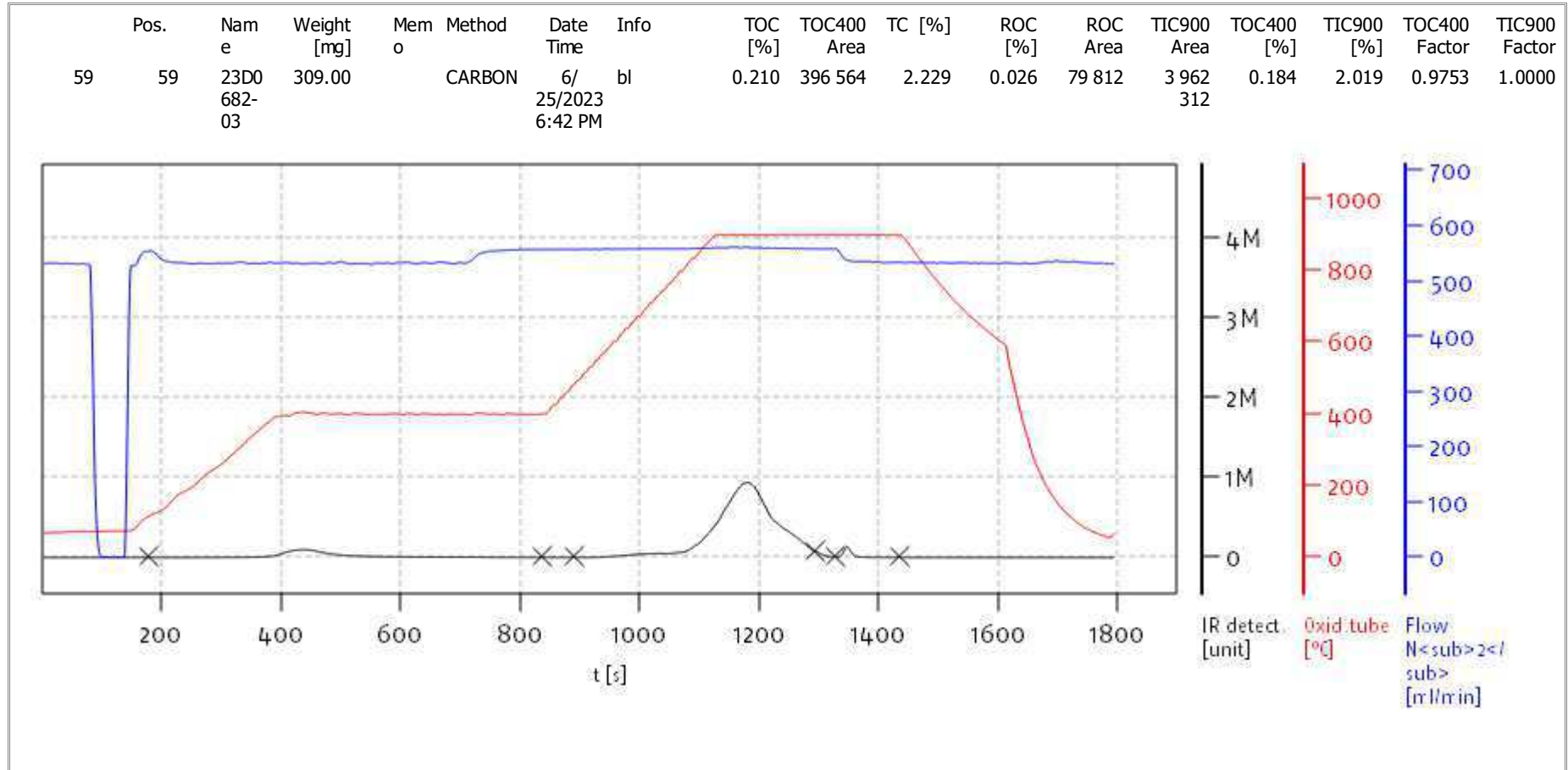
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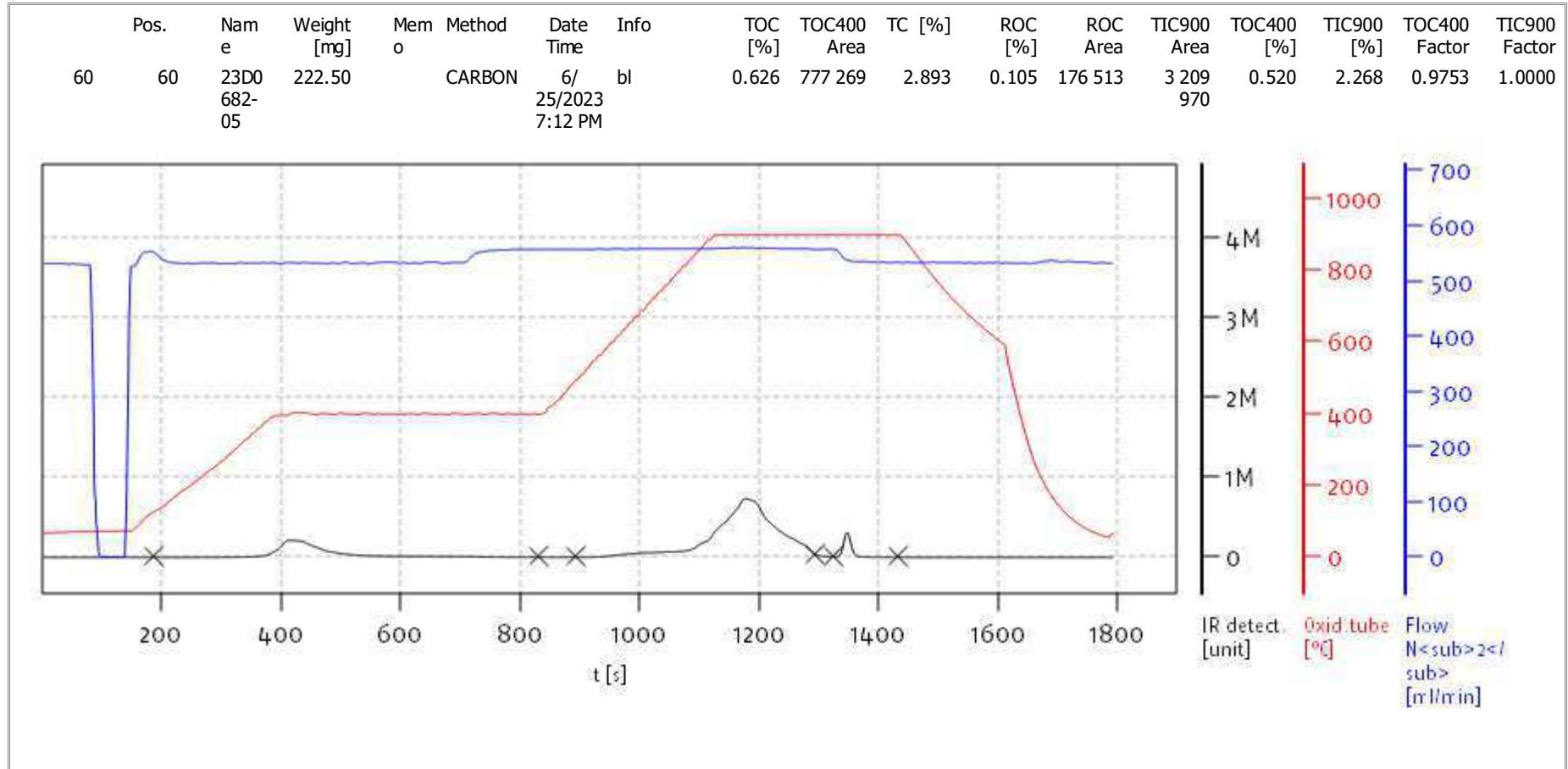
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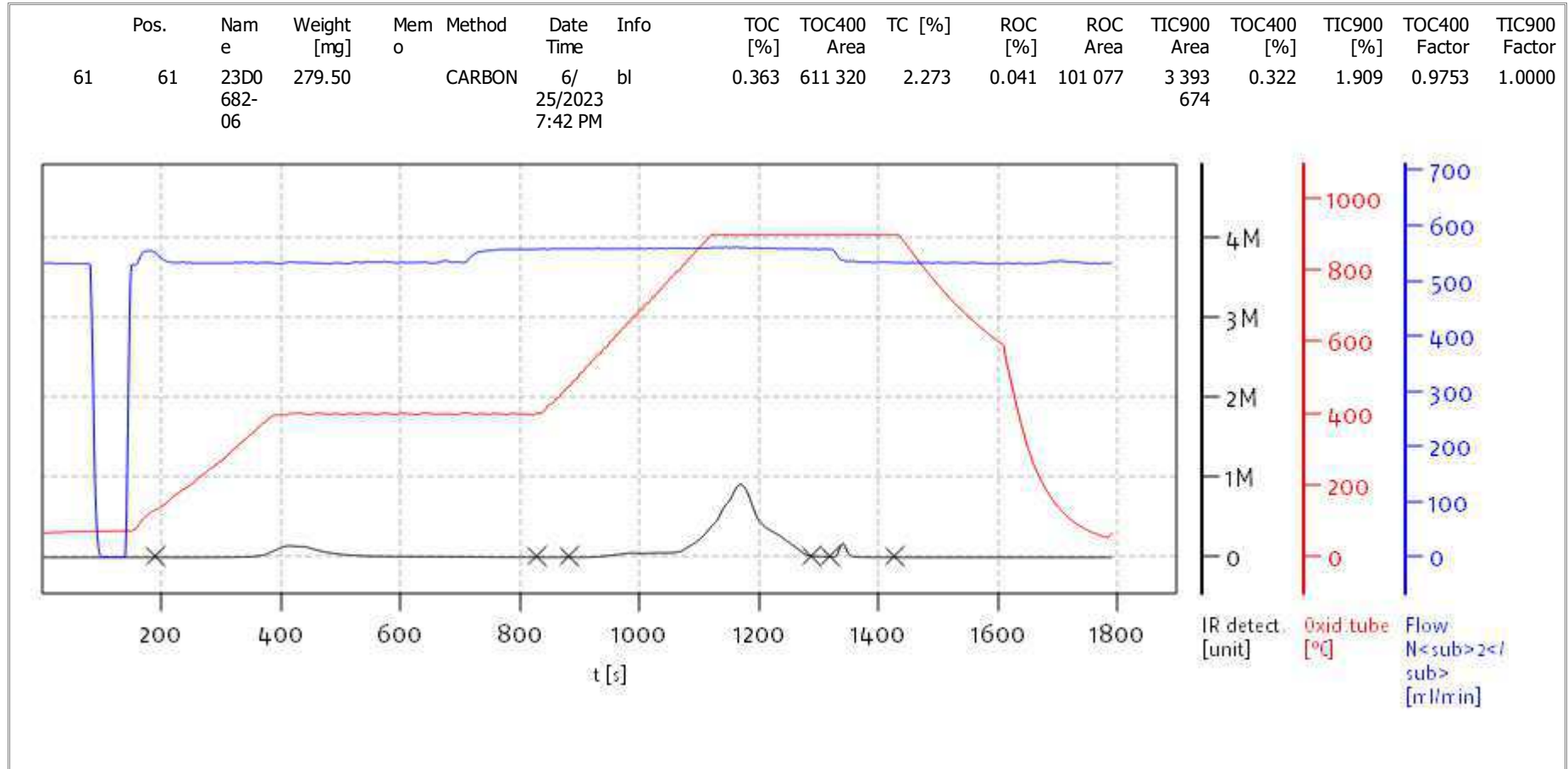
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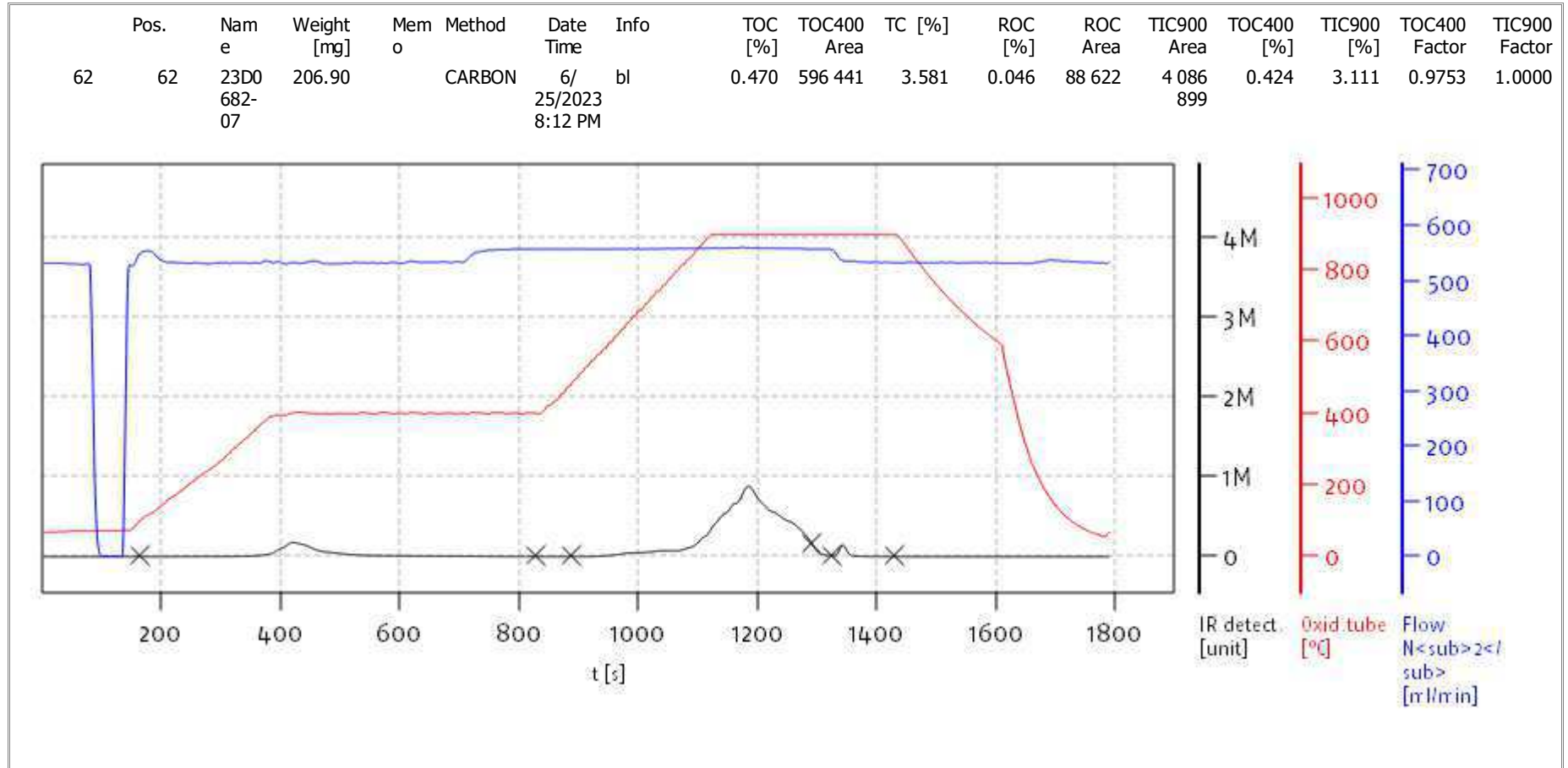
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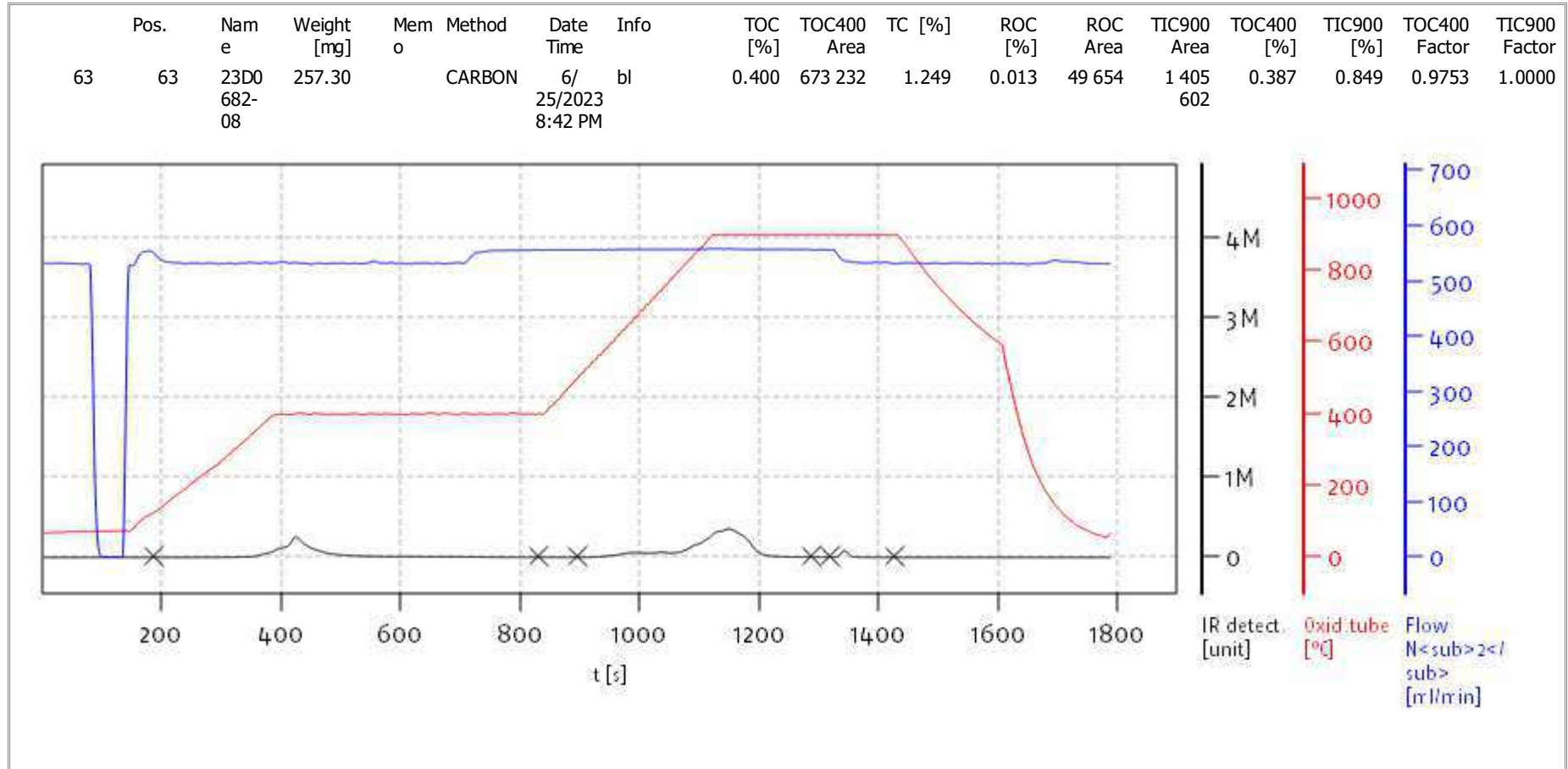
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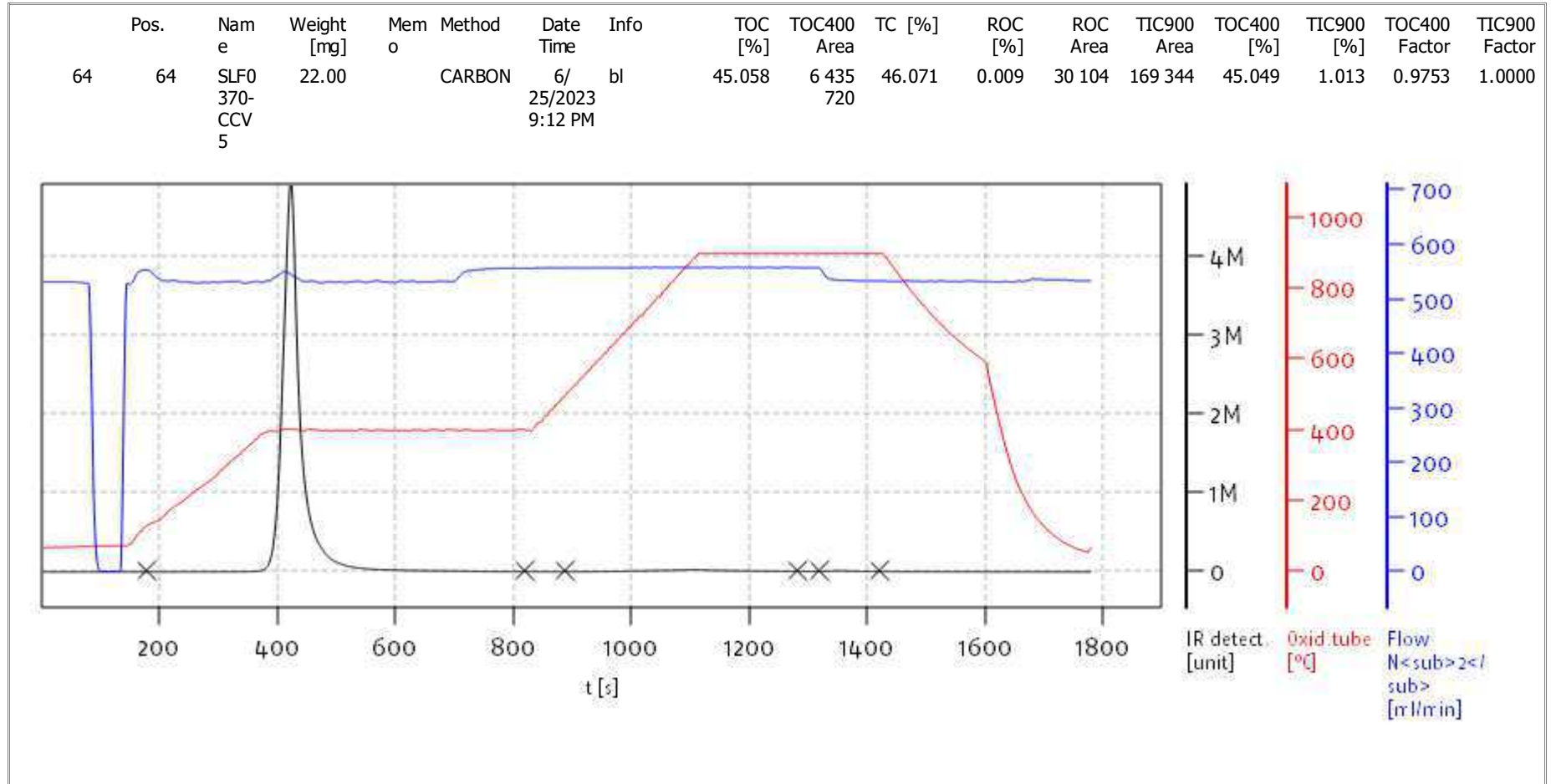
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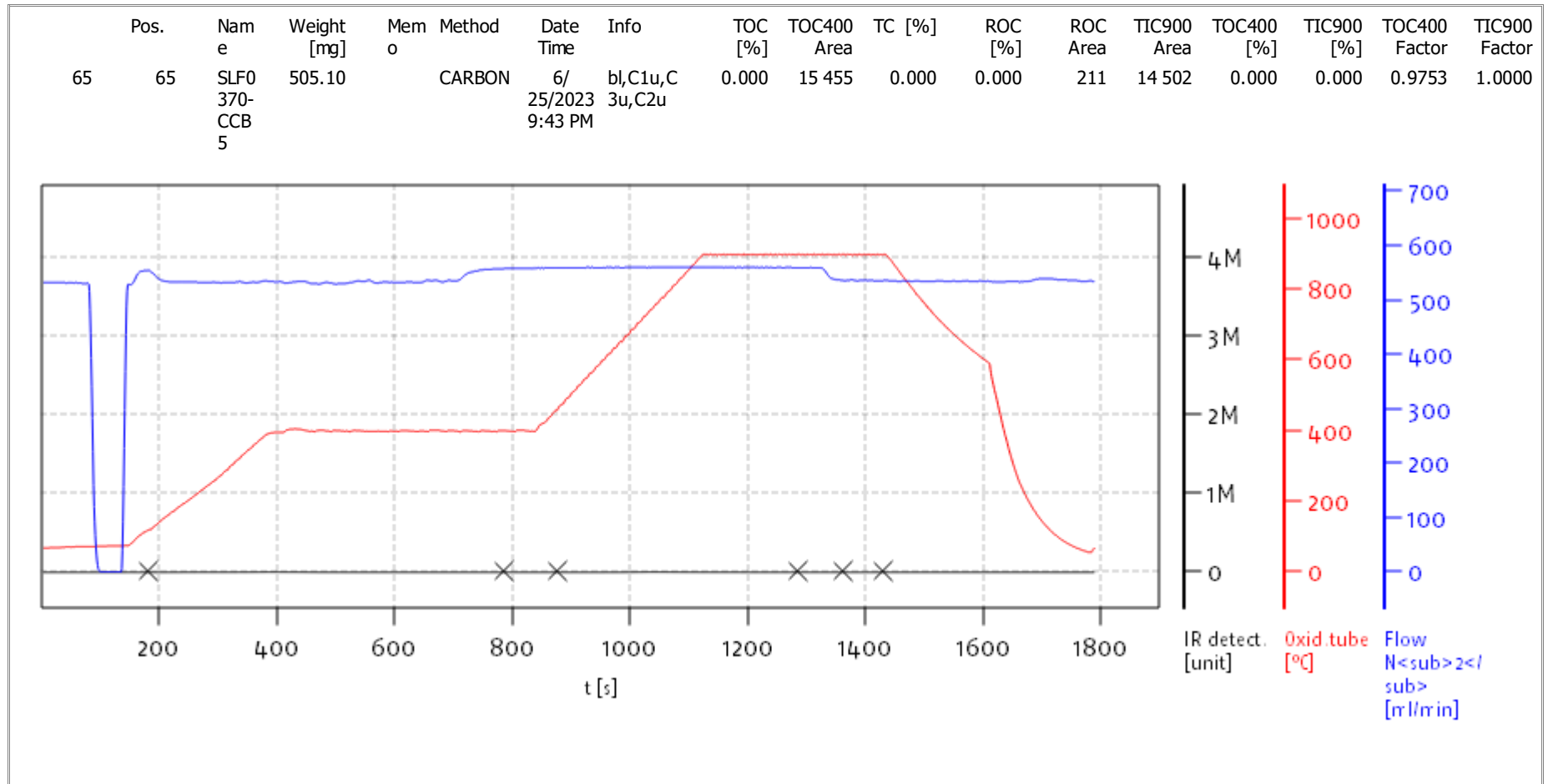
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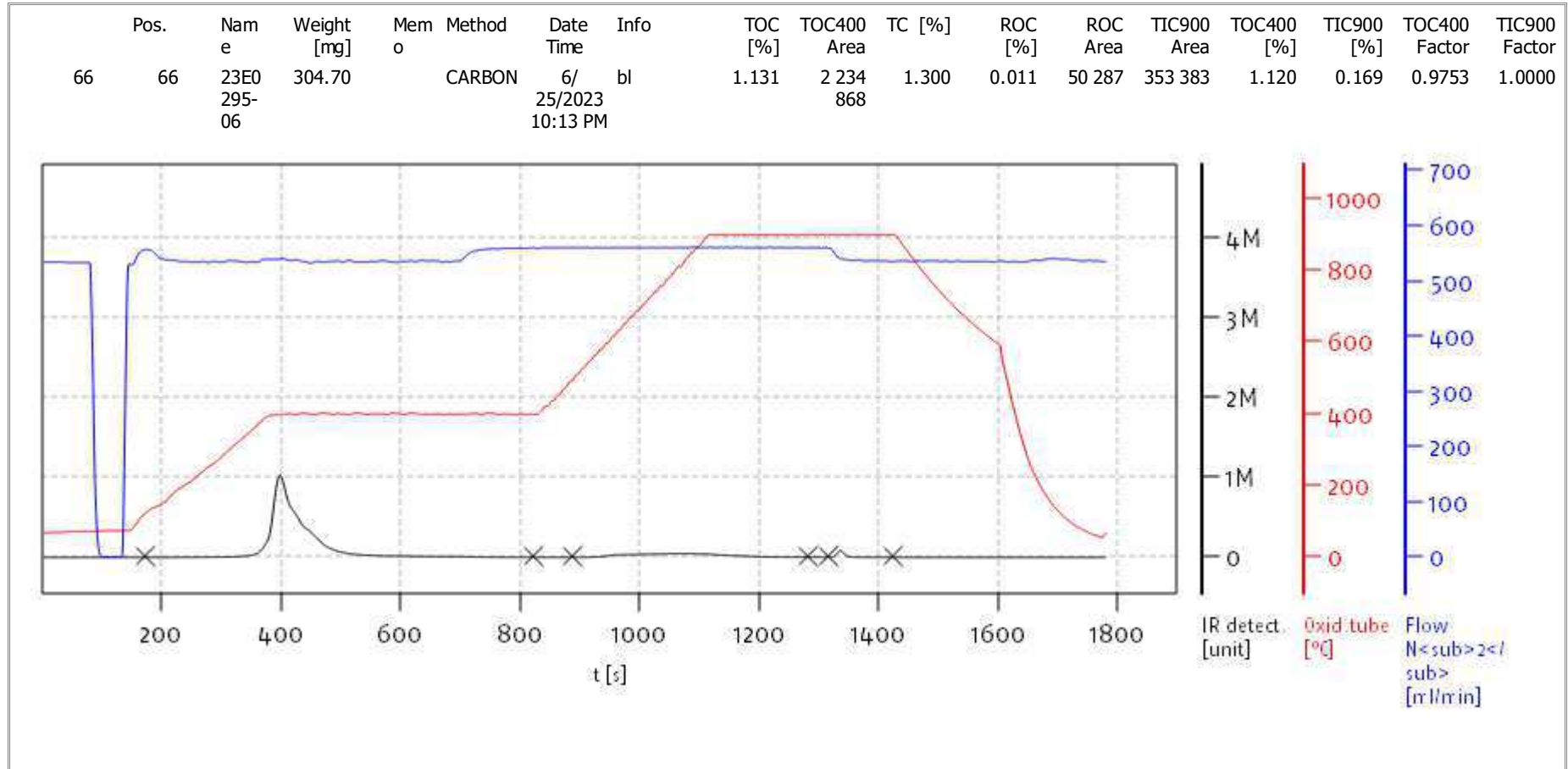
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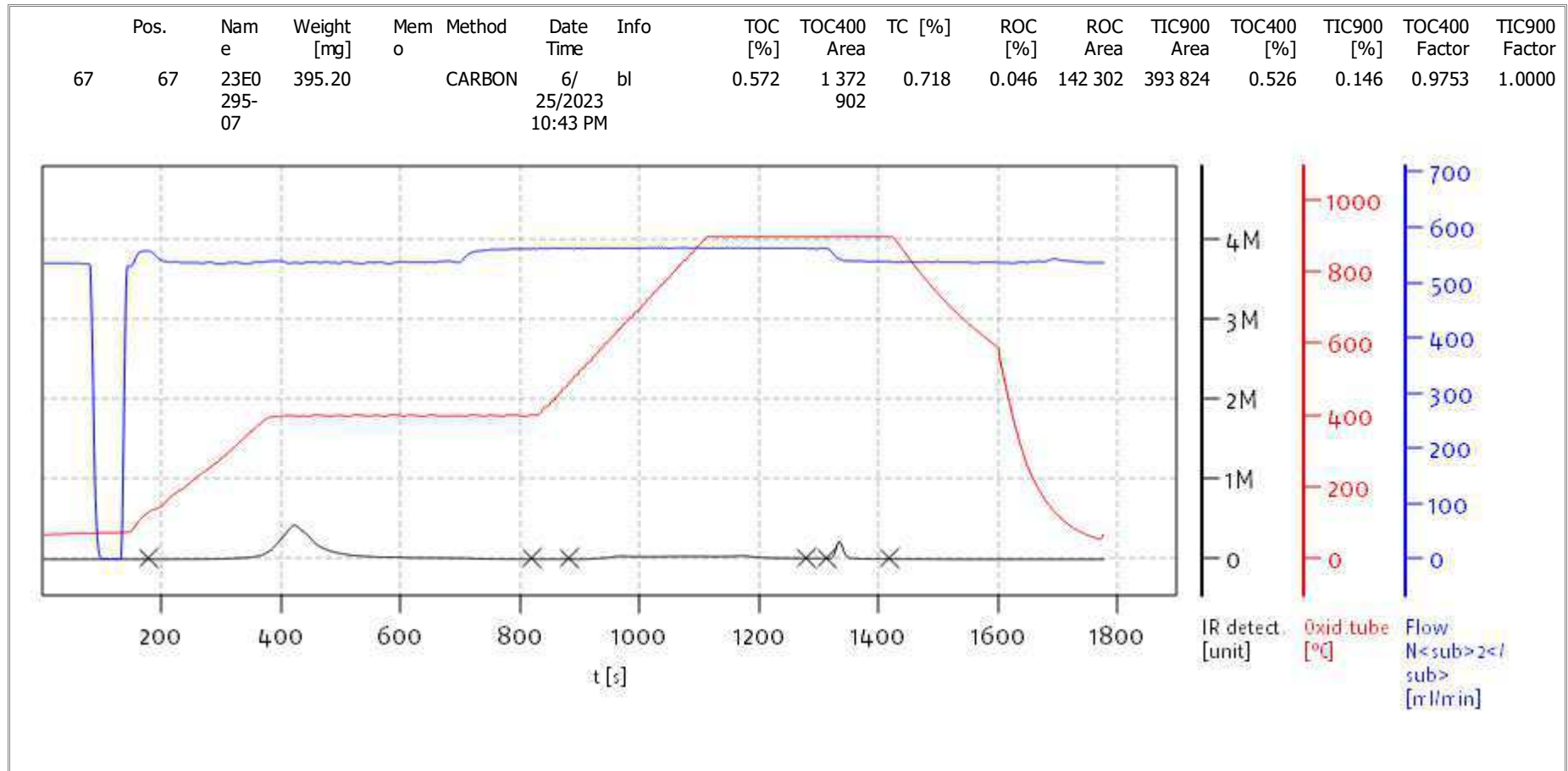
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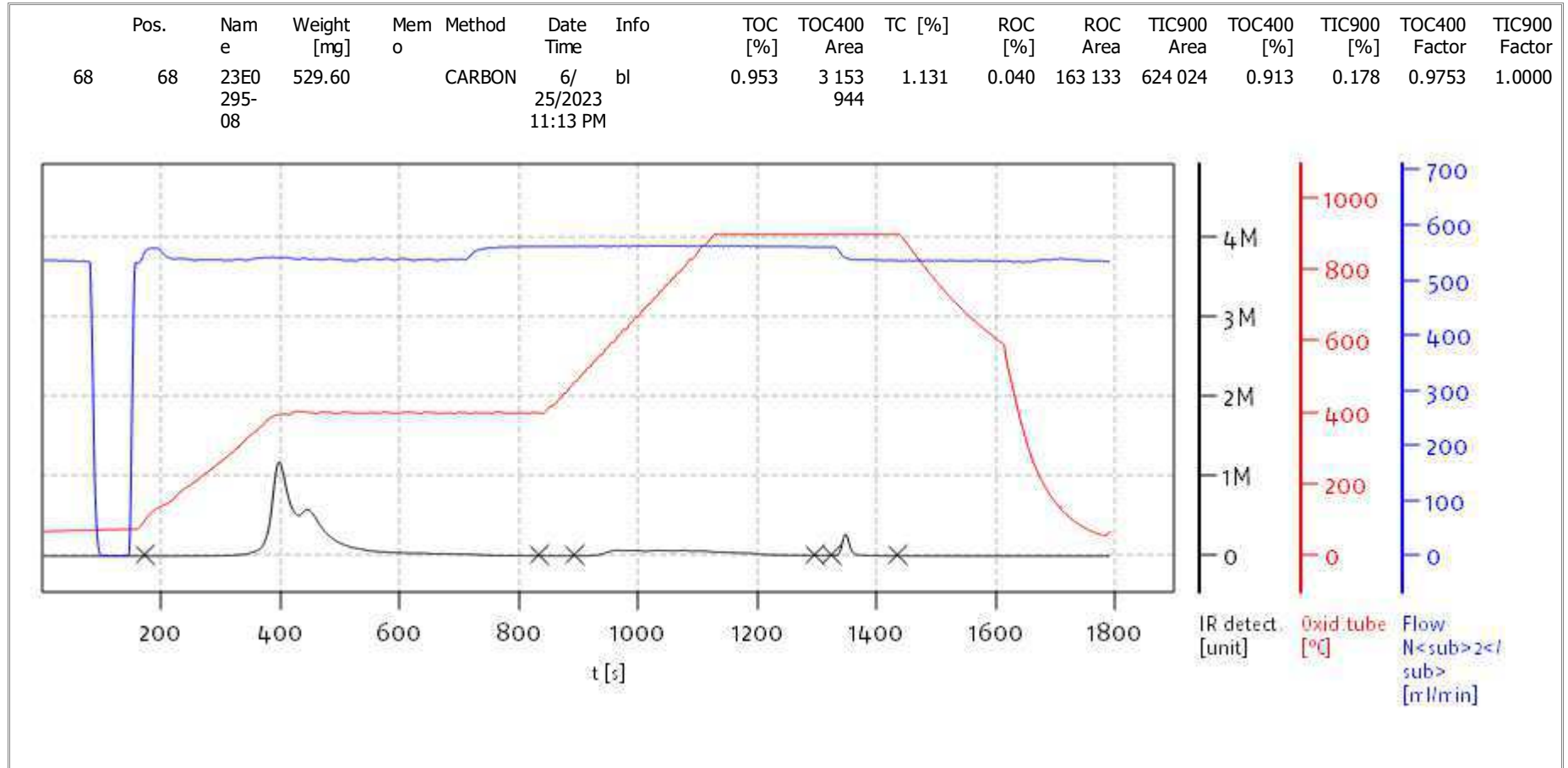
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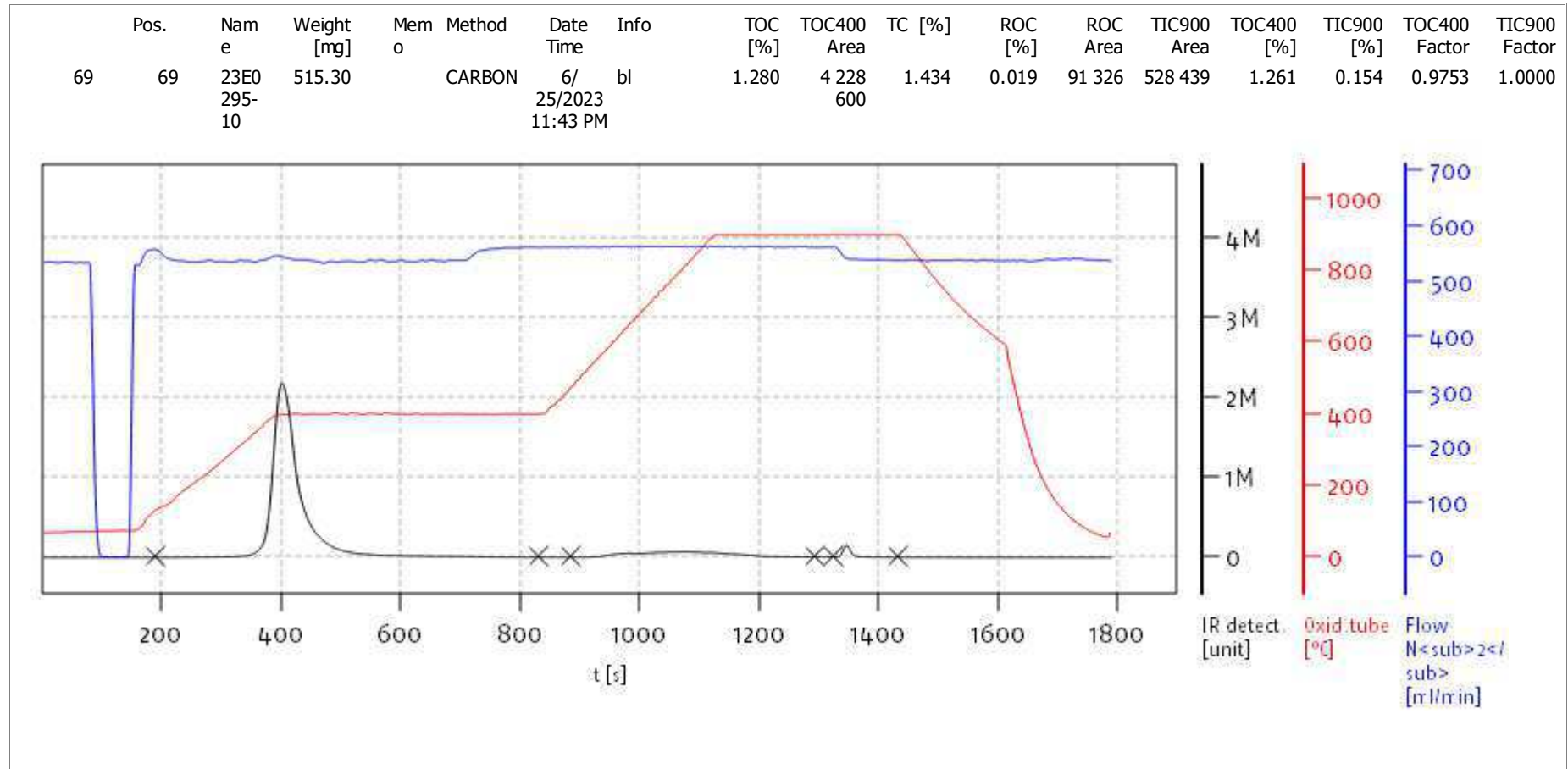
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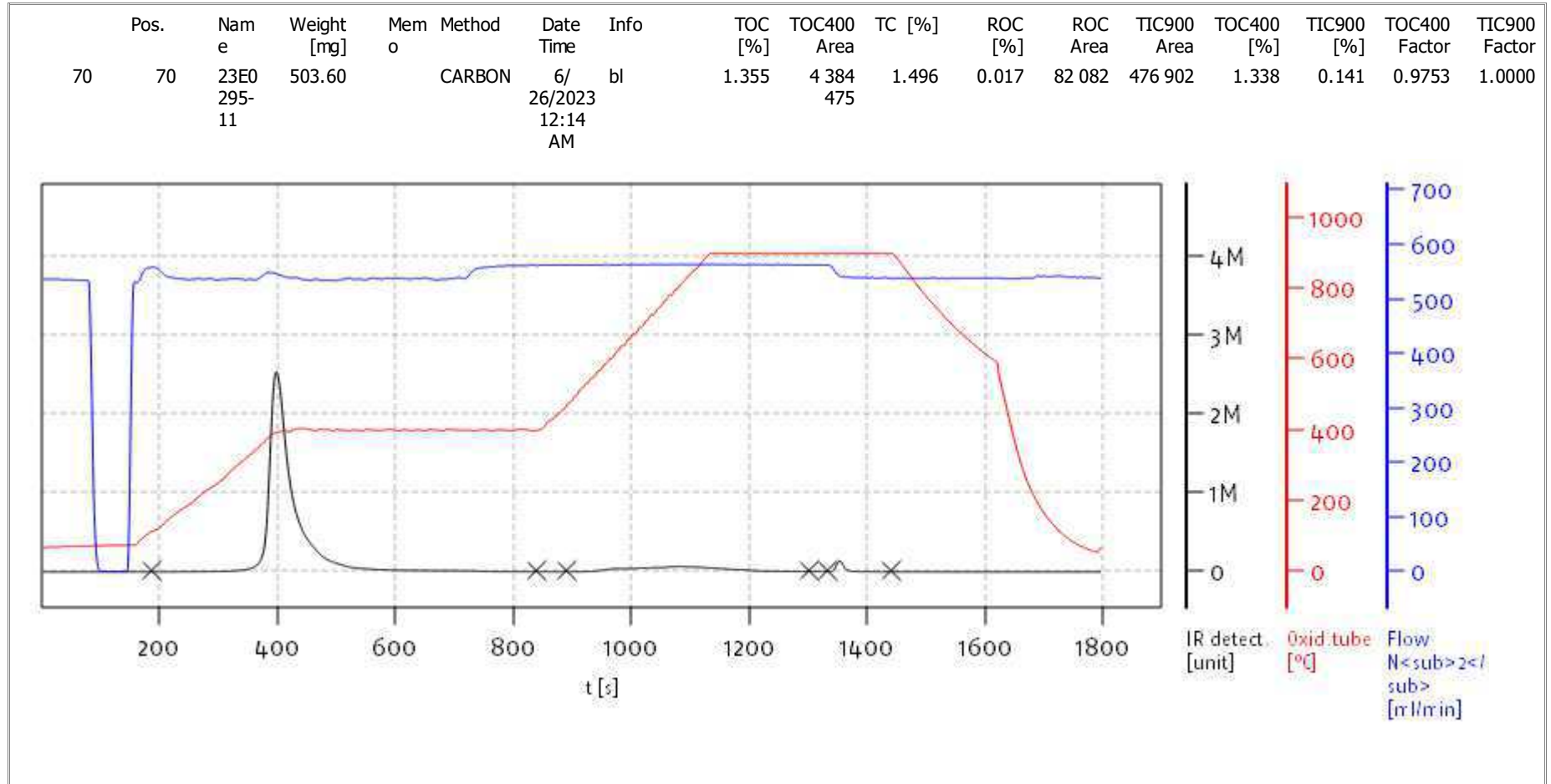
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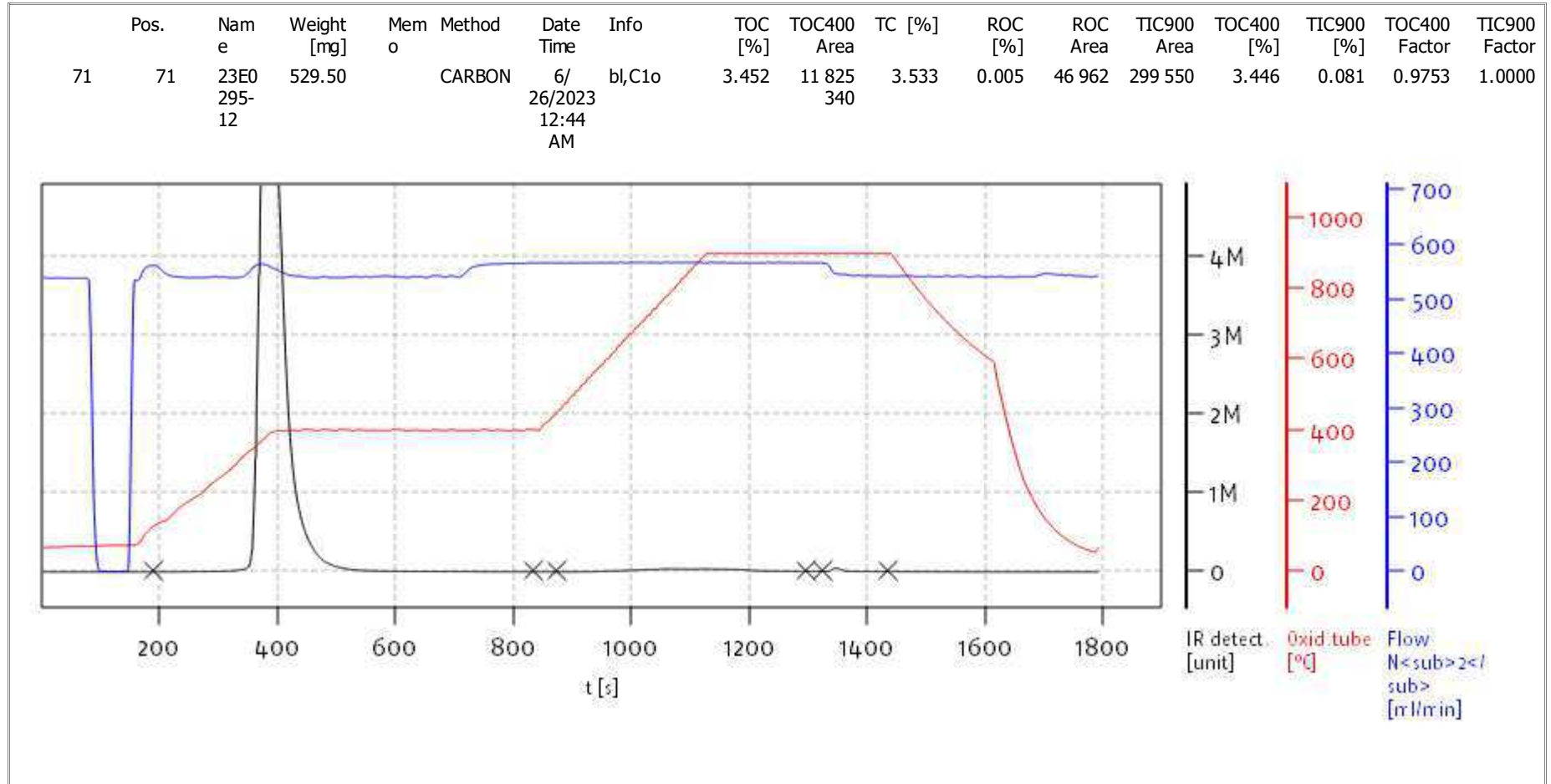
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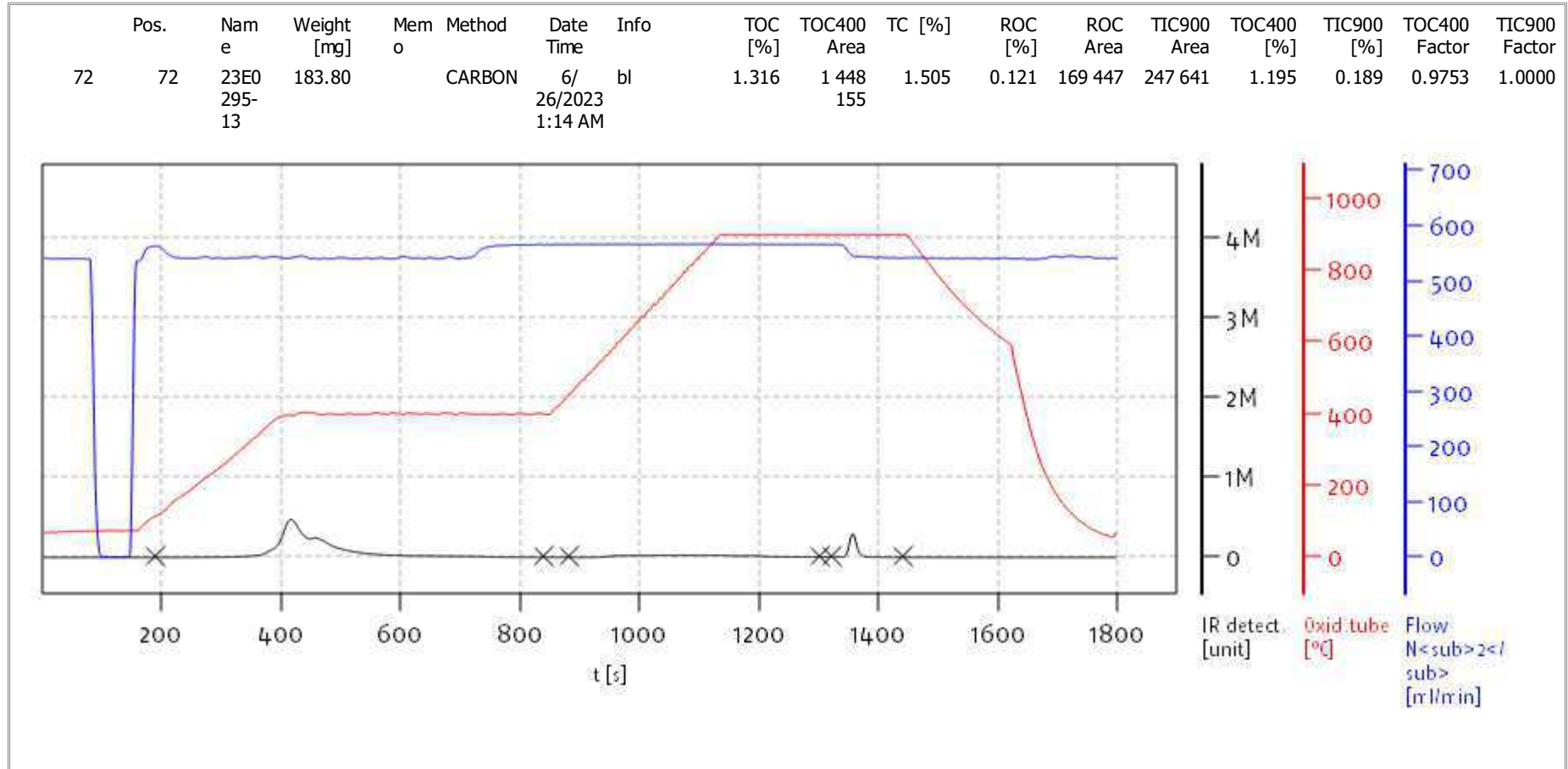
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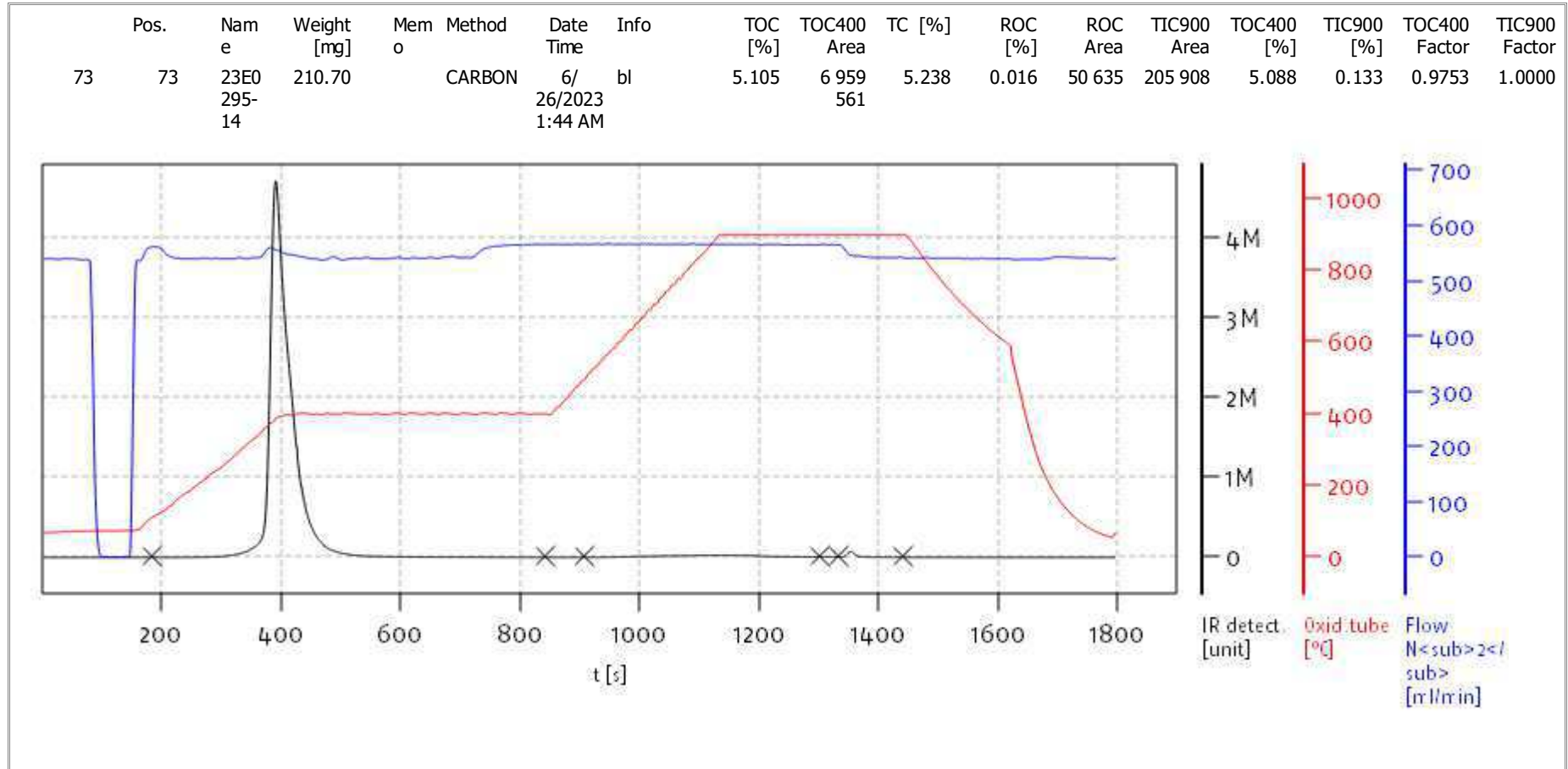
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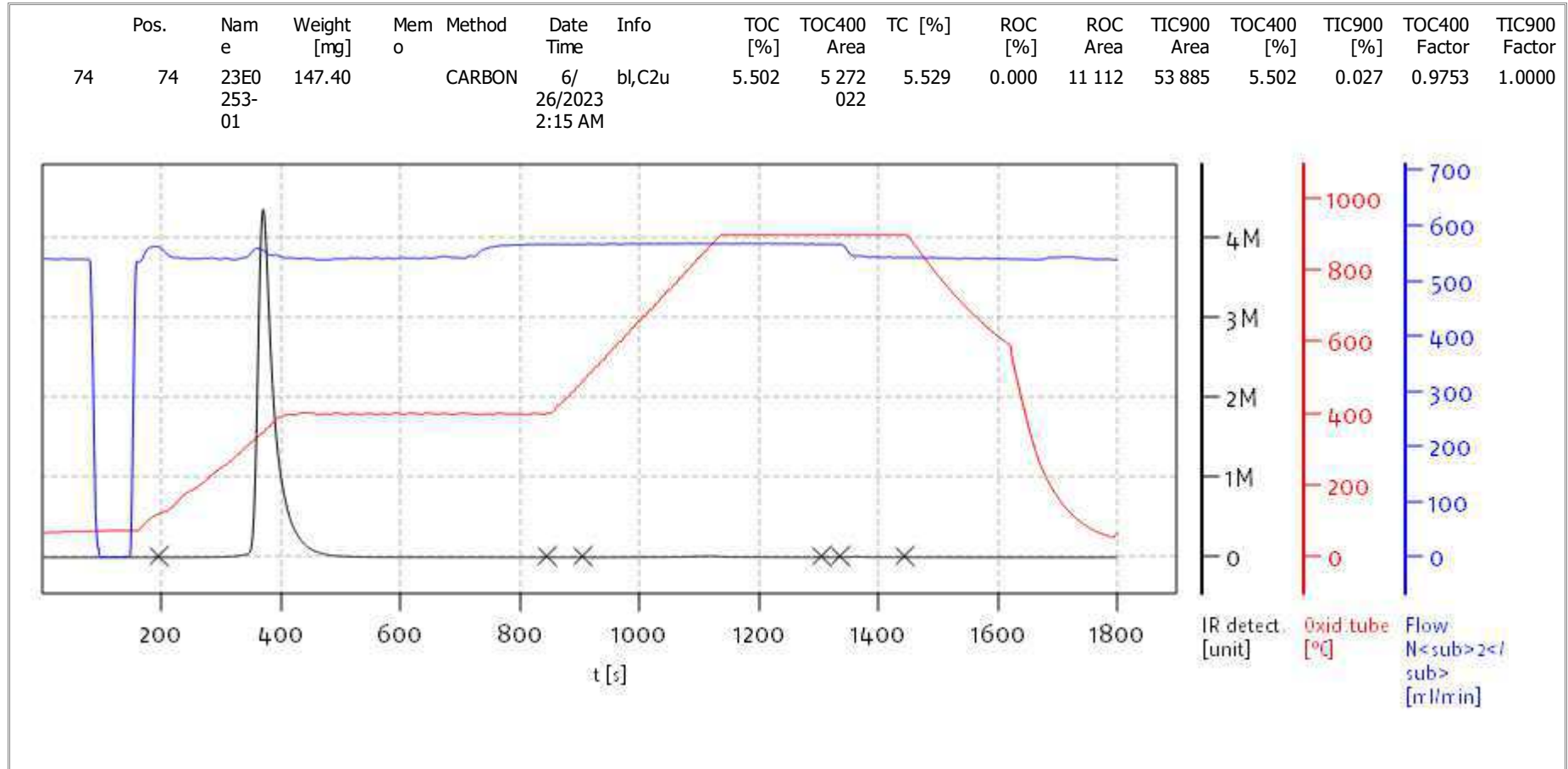
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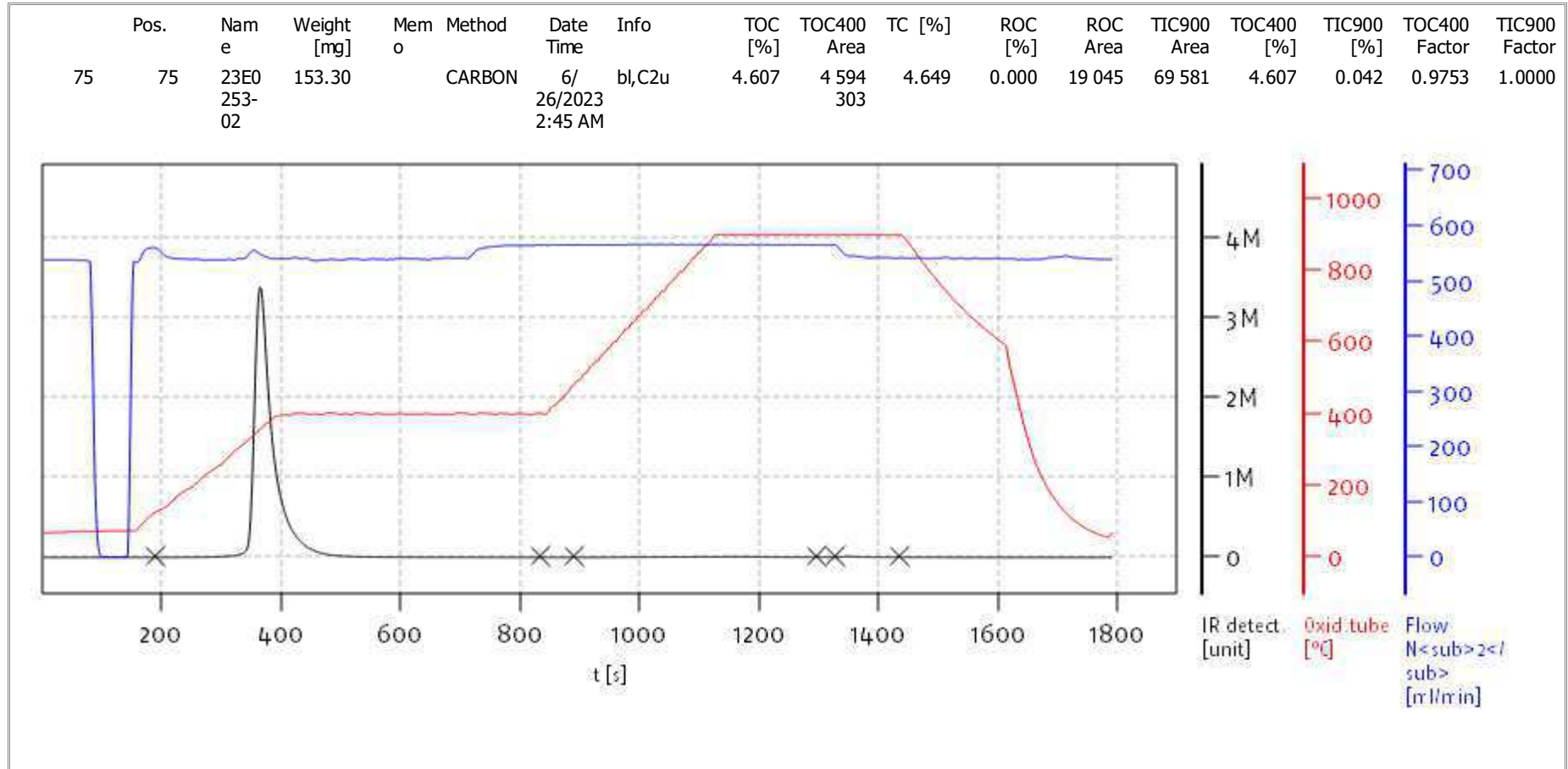
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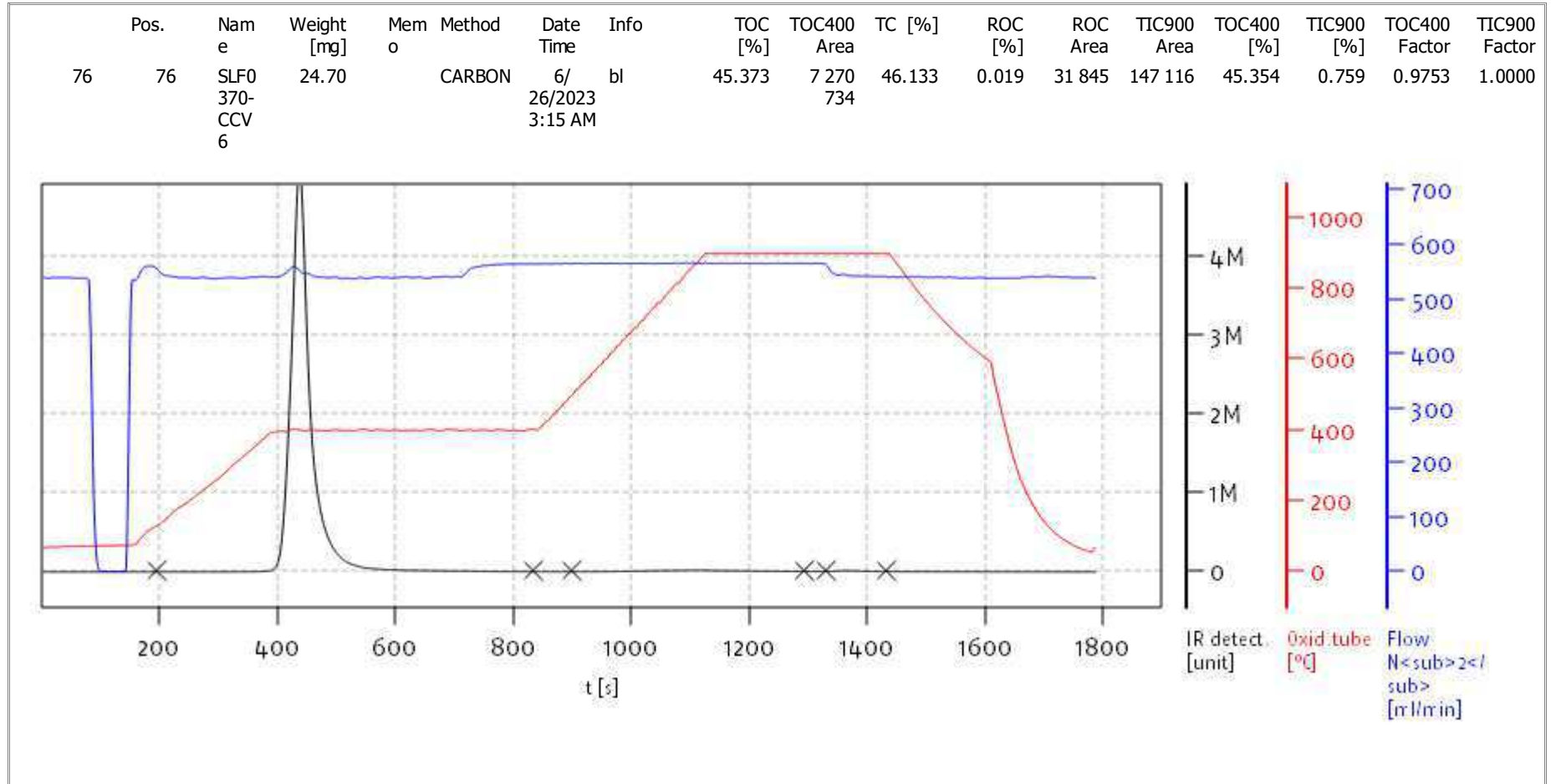
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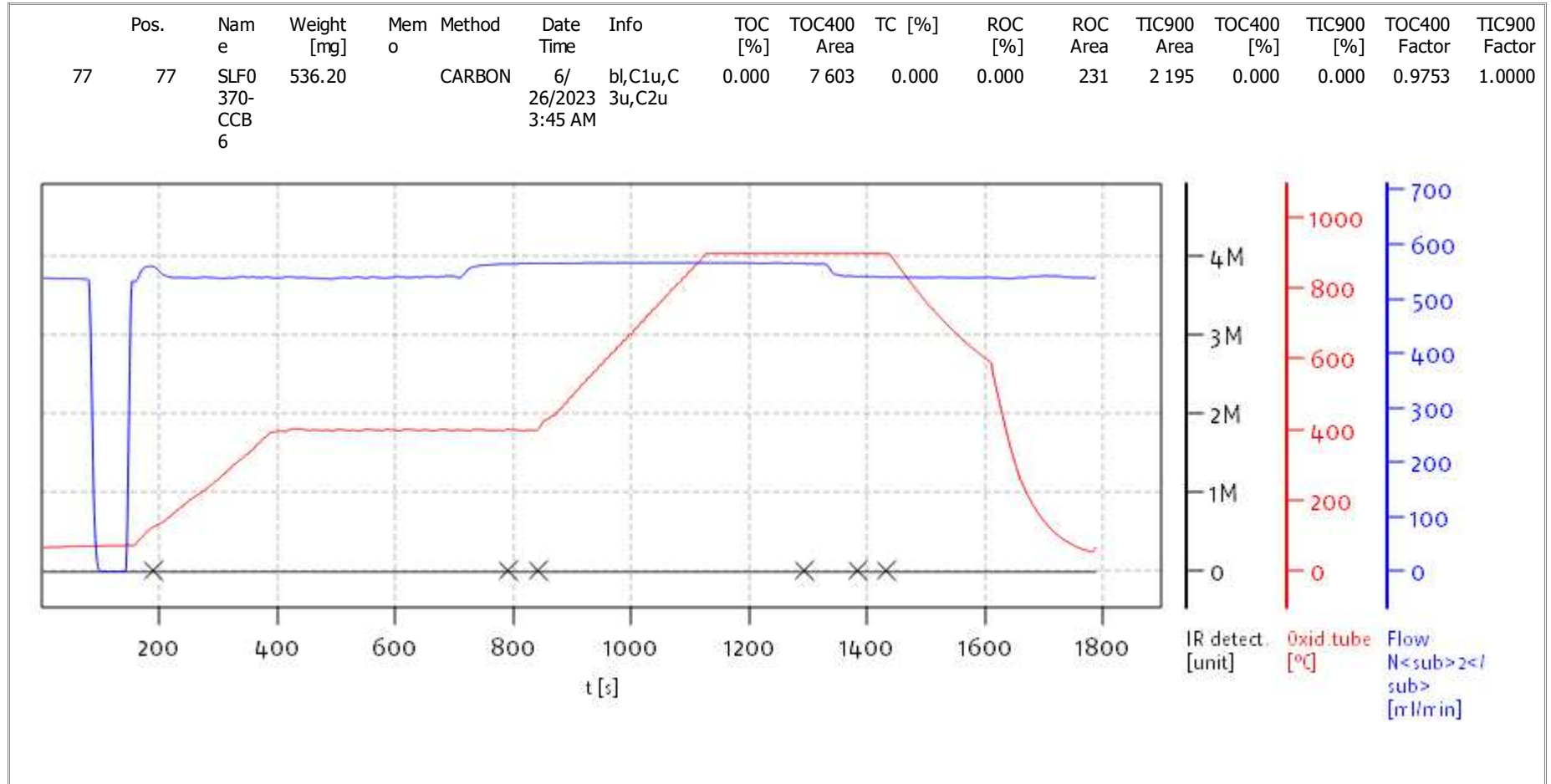
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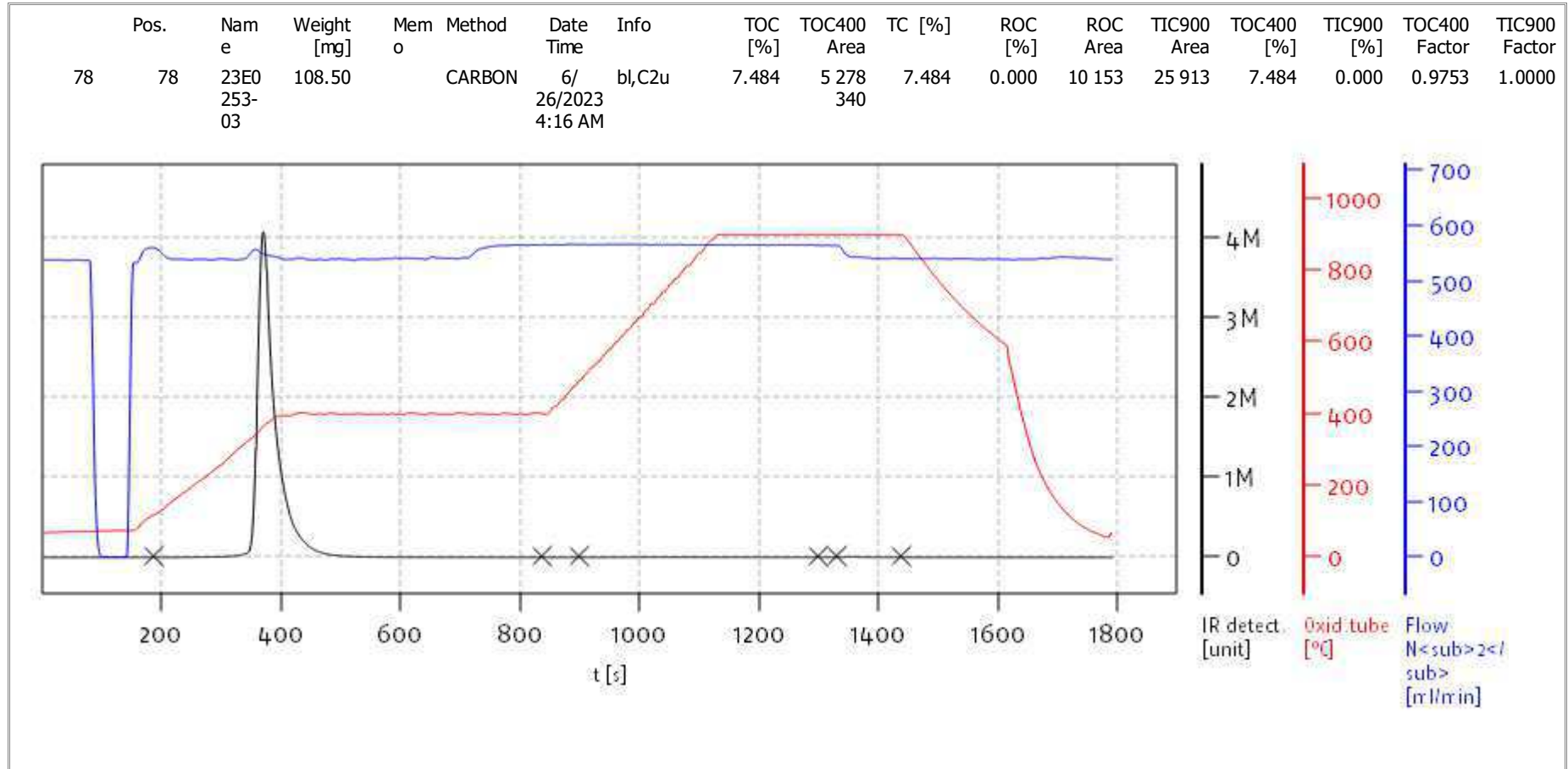
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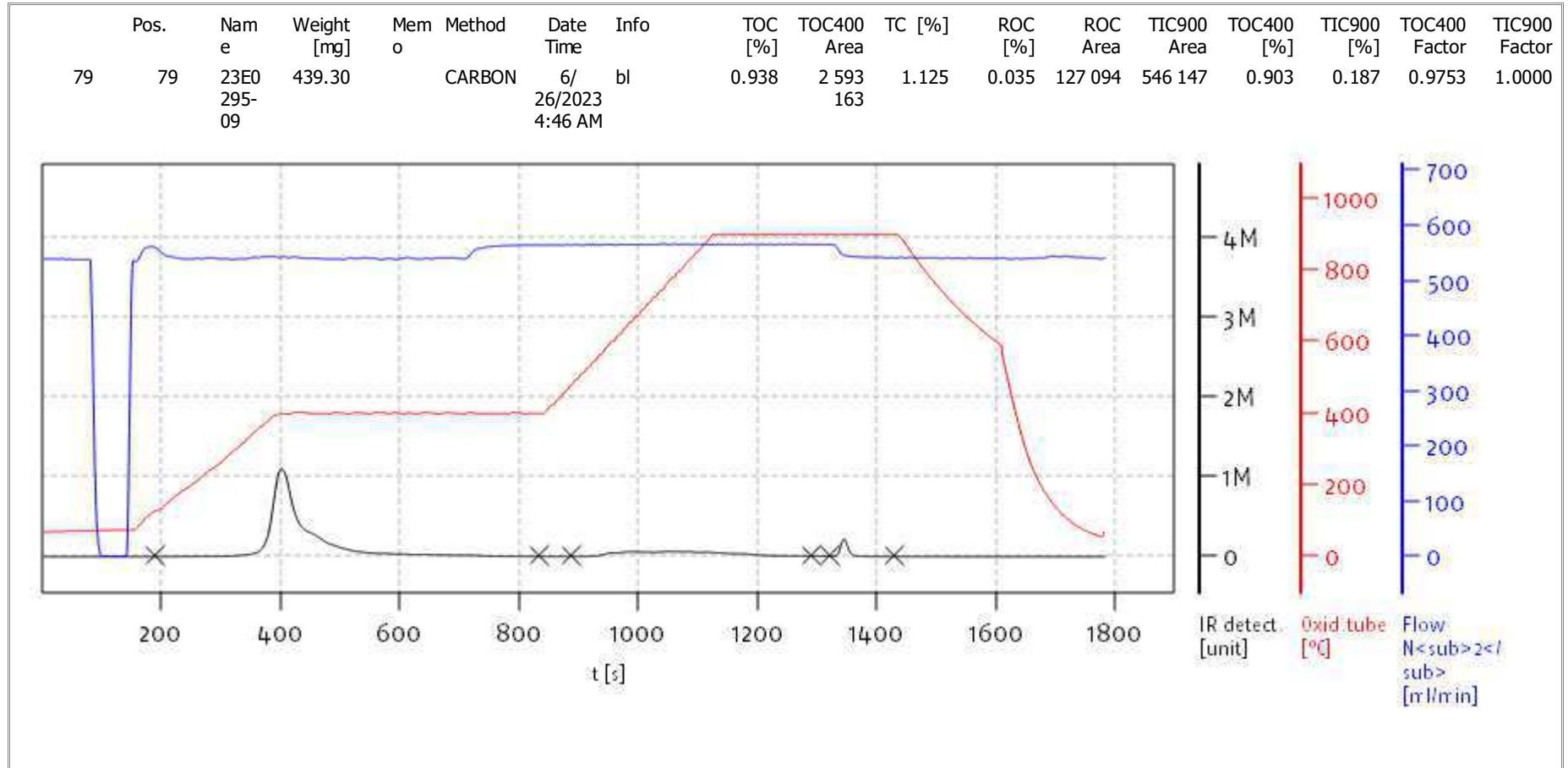
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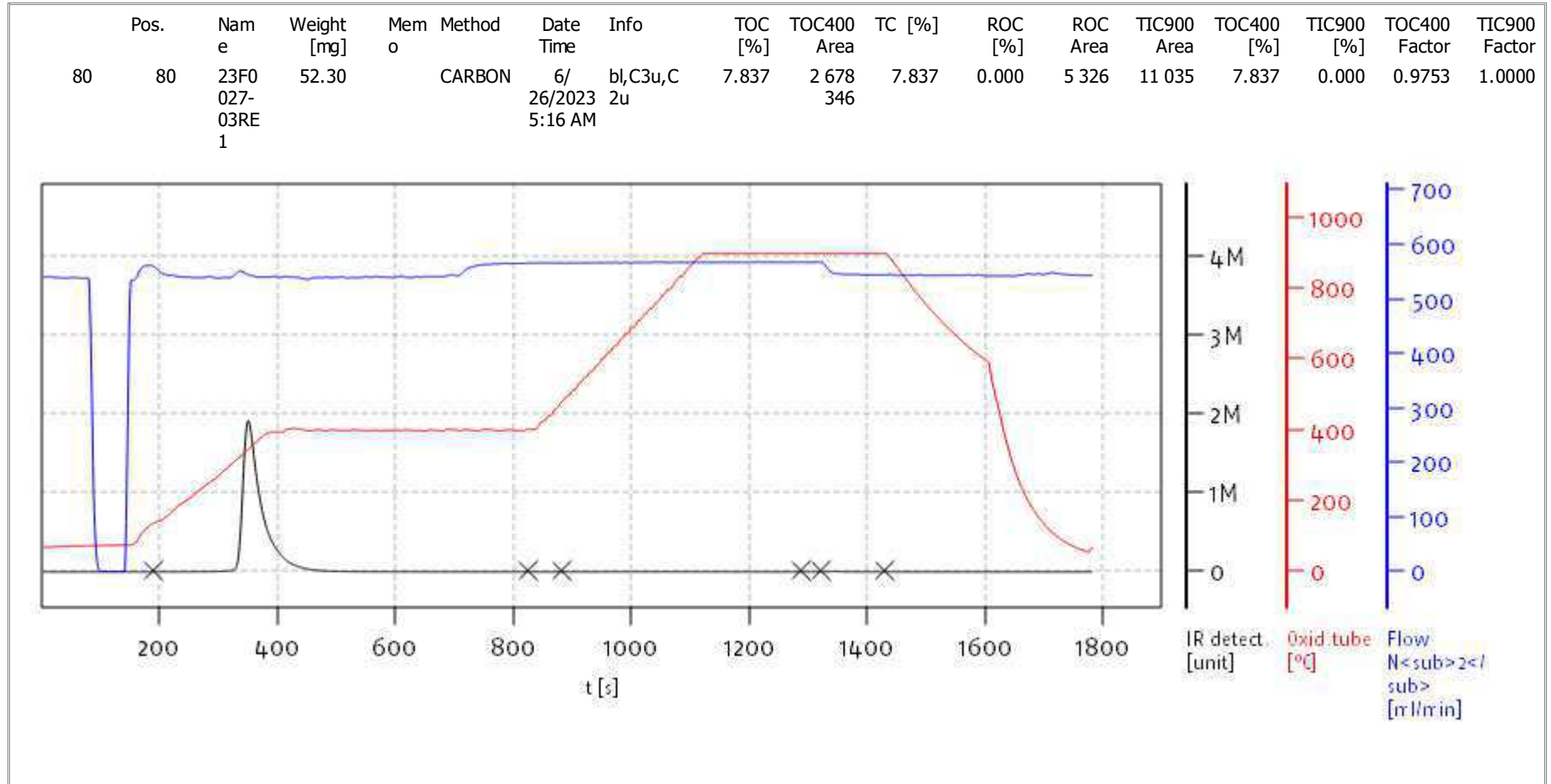
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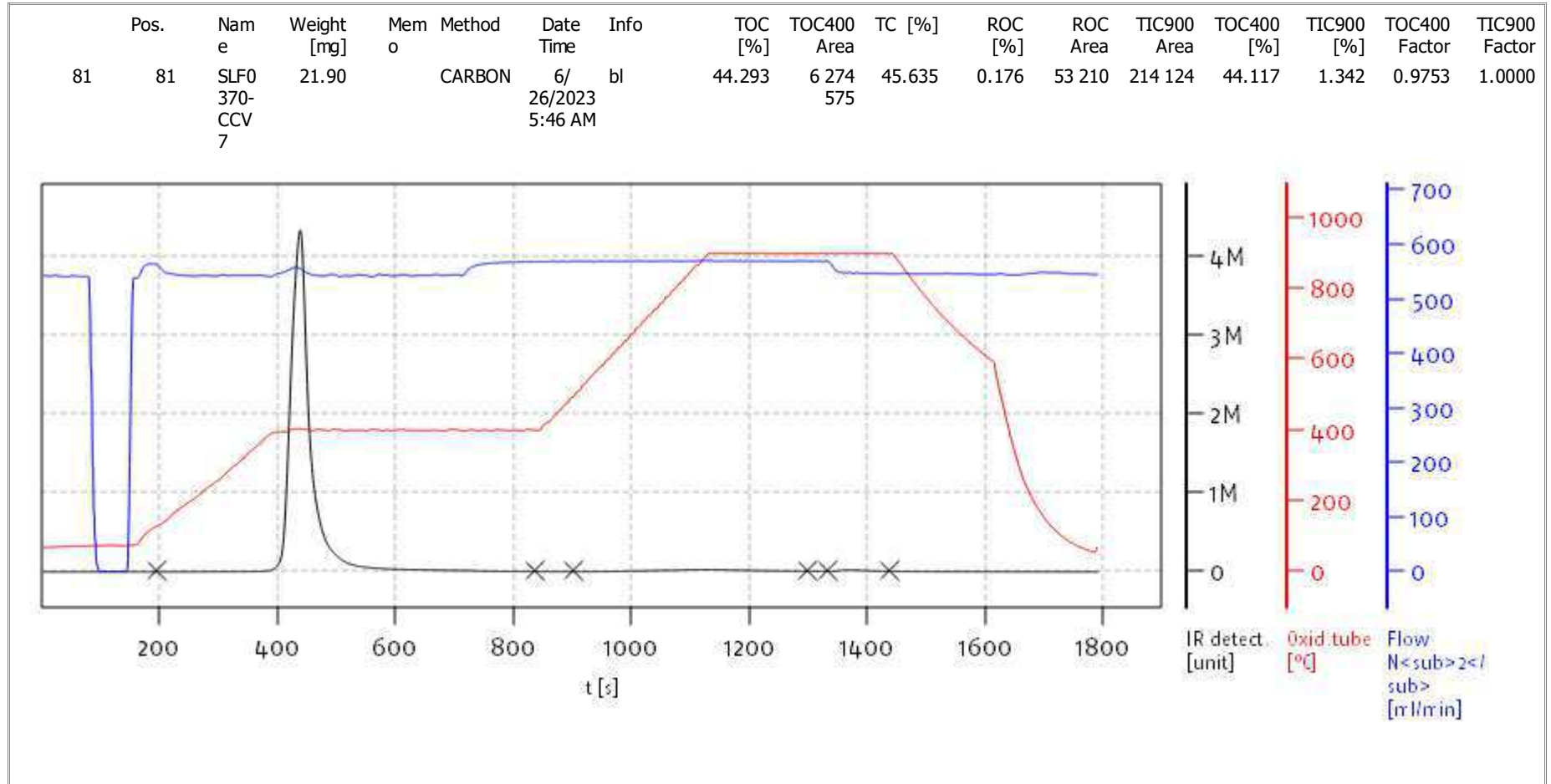
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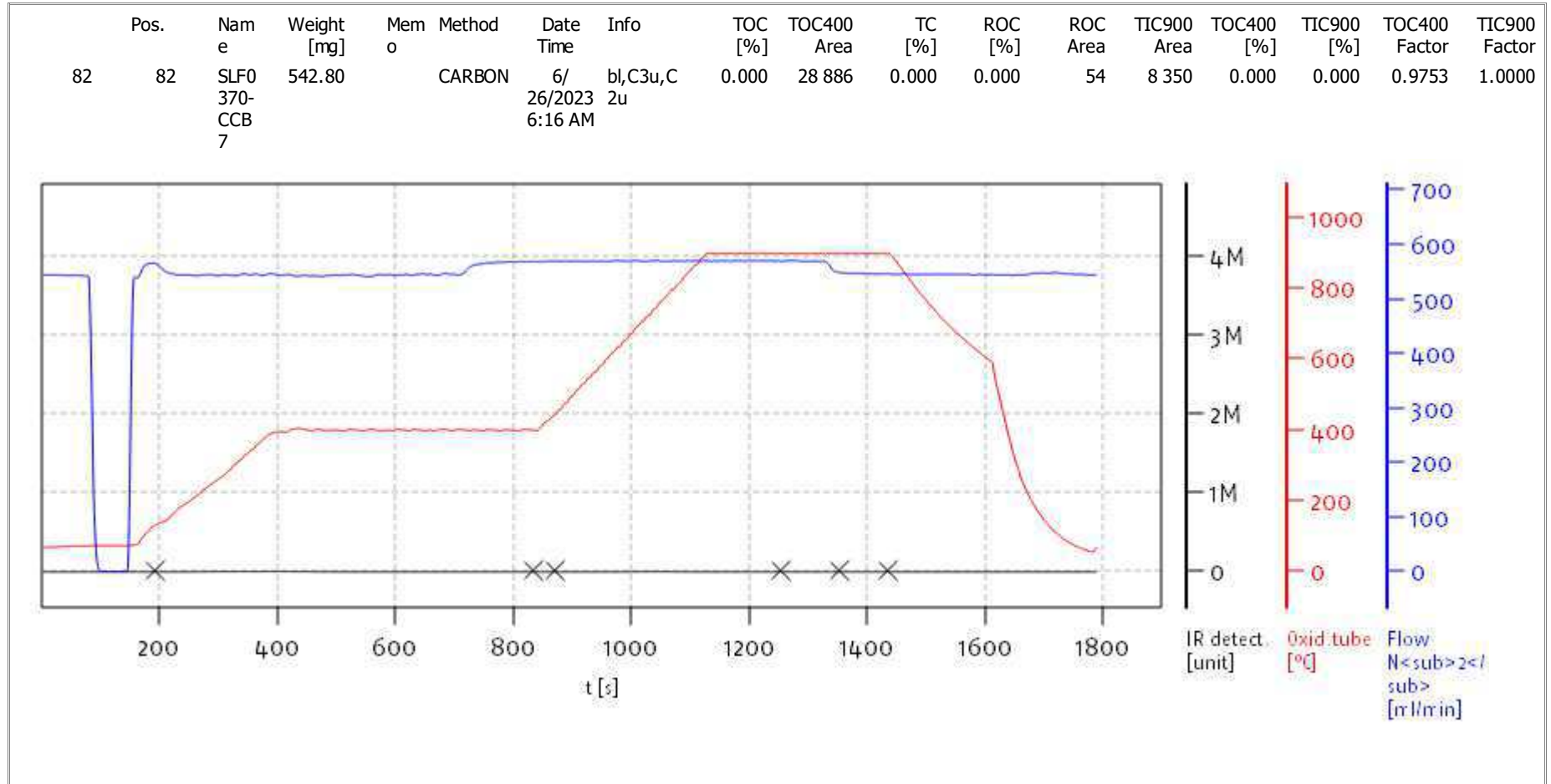
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Name:

Access: solITOC superuser

Date: Mon Jun 26 10:08:08 2023



solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Calibration: GE00052

Instrument: TOC Cube

Calibration Date: 05/17/2023 10:07

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Total Organic Carbon	0.0081413	2824365	0.015378	1908831	0.02171	2161539	0.030153	2354094	0.04523	1647690	0.060306	1529782
Total Carbon	0.0081413	2824365	0.015378	1908831	0.02171	2161539	0.030153	2354094	0.04523	1647690	0.060306	1529782
Total Inorganic Carbon	0.0081413	2824365	0.015378	1908831	0.02171	2161539	0.030153	2354094	0.04523	1647690	0.060306	1529782
% Soot	0.0081413	2824365	0.015378	1908831	0.02171	2161539	0.030153	2354094	0.04523	1647690	0.060306	1529782



INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Calibration: GE00052

Instrument: TOC Cube

Calibration Date: 05/17/2023 10:07

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Total Organic Carbon	0.075081	1526165	0.092268	1411324	0.12031	1696235	0.15107	1646548	0.24	1507392	0.306	1652209
Total Carbon	0.075081	1526165	0.092268	1411324	0.12031	1696235	0.15107	1646548	0.24	1507392	0.306	1652209
Total Inorganic Carbon	0.075081	1526165	0.092268	1411324	0.12031	1696235	0.15107	1646548	0.24	1507392	0.306	1652209
% Soot	0.075081	1526165	0.092268	1411324	0.12031	1696235	0.15107	1646548	0.24	1507392	0.306	1652209



INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Calibration: GE00052

Instrument: TOC Cube

Calibration Date: 05/17/2023 10:07

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Total Organic Carbon	0.426	1366392	0.606	1382589	0.894	1387318	1.206	1393572	1.506	1392225	1.806	1387100
Total Carbon	0.426	1366392	0.606	1382589	0.894	1387318	1.206	1393572	1.506	1392225	1.806	1387100
Total Inorganic Carbon	0.426	1366392	0.606	1382589	0.894	1387318	1.206	1393572	1.506	1392225	1.806	1387100
% Soot	0.426	1366392	0.606	1382589	0.894	1387318	1.206	1393572	1.506	1392225	1.806	1387100



INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Calibration: GE00052

Instrument: TOC Cube

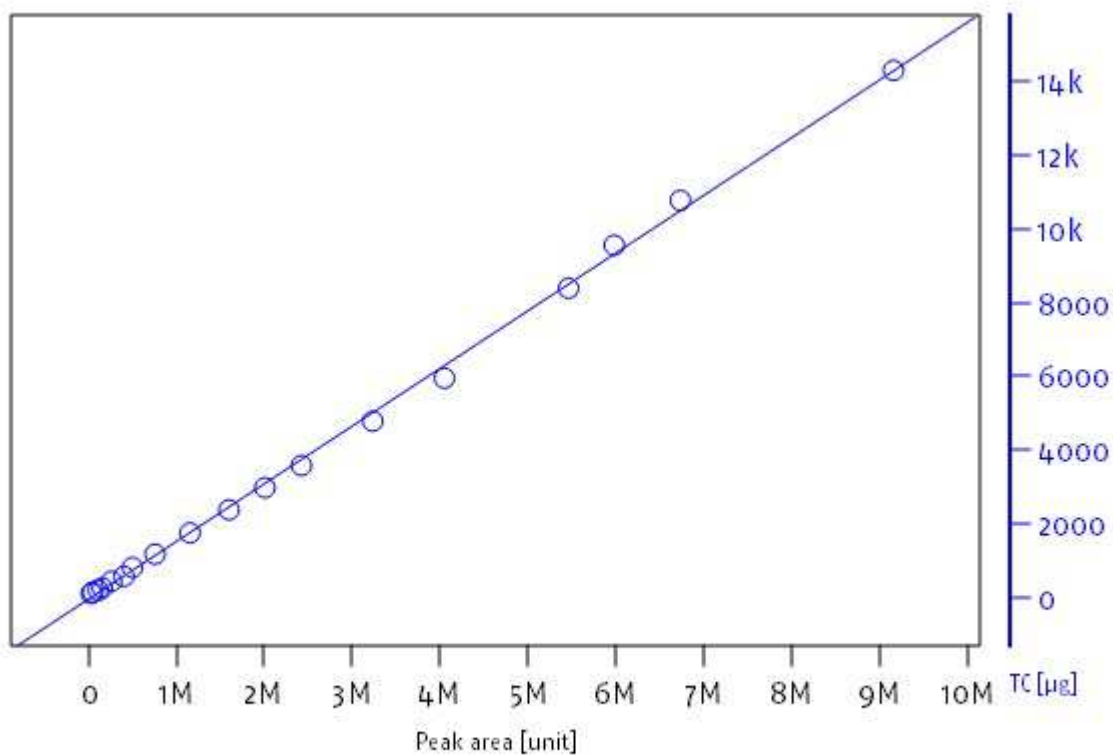
Calibration Date: 05/17/2023 10:07

Compound	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Total Organic Carbon	2.406	1383080	2.988	1392309	4.206	1321832	4.788	1266559	5.394	1264318	7.152	1292654
Total Carbon	2.406	1383080	2.988	1392309	4.206	1321832	4.788	1266559	5.394	1264318	7.152	1292654
Total Inorganic Carbon	2.406	1383080	2.988	1392309	4.206	1321832	4.788	1266559	5.394	1264318	7.152	1292654
% Soot	2.406	1383080	2.988	1392309	4.206	1321832	4.788	1266559	5.394	1264318	7.152	1292654

Calibration parameters TC, Whole range

a	+9.122373e-03
b	+1.560792e-06
c	+0.000000e+00
d	+0.000000e+00
e	+0.000000e+00
r	0.998690
r_old	0.998690
Proc.-SD	155.562438 µg

Calibration graph TC, Whole range



Name:

Access: solITOC superuser

Date: Thu May 18 10:02:15 2023



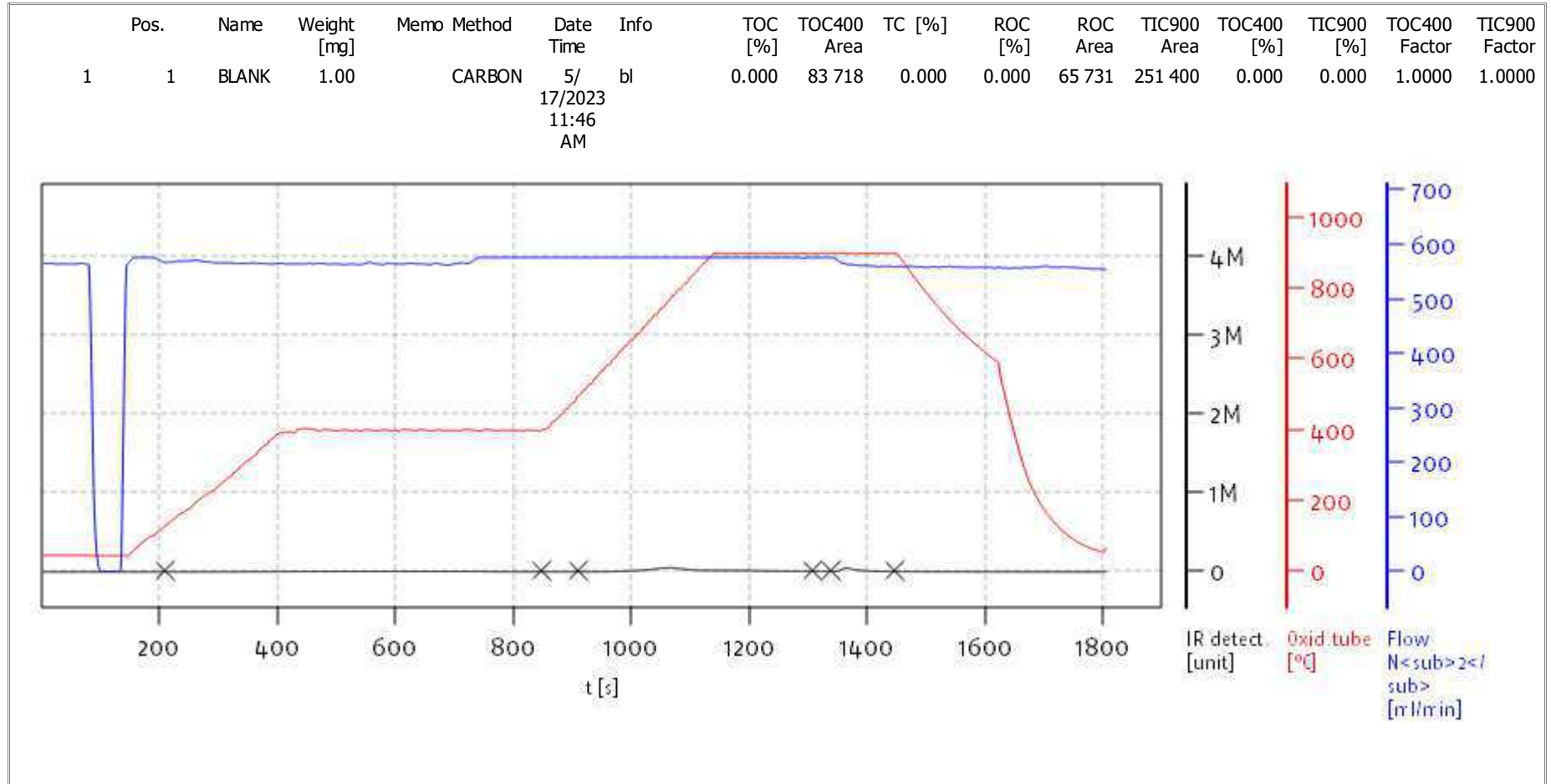
solITOC V2.0.2 (31015f9) 2018-11-19

Serial No: 0300.181017

Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

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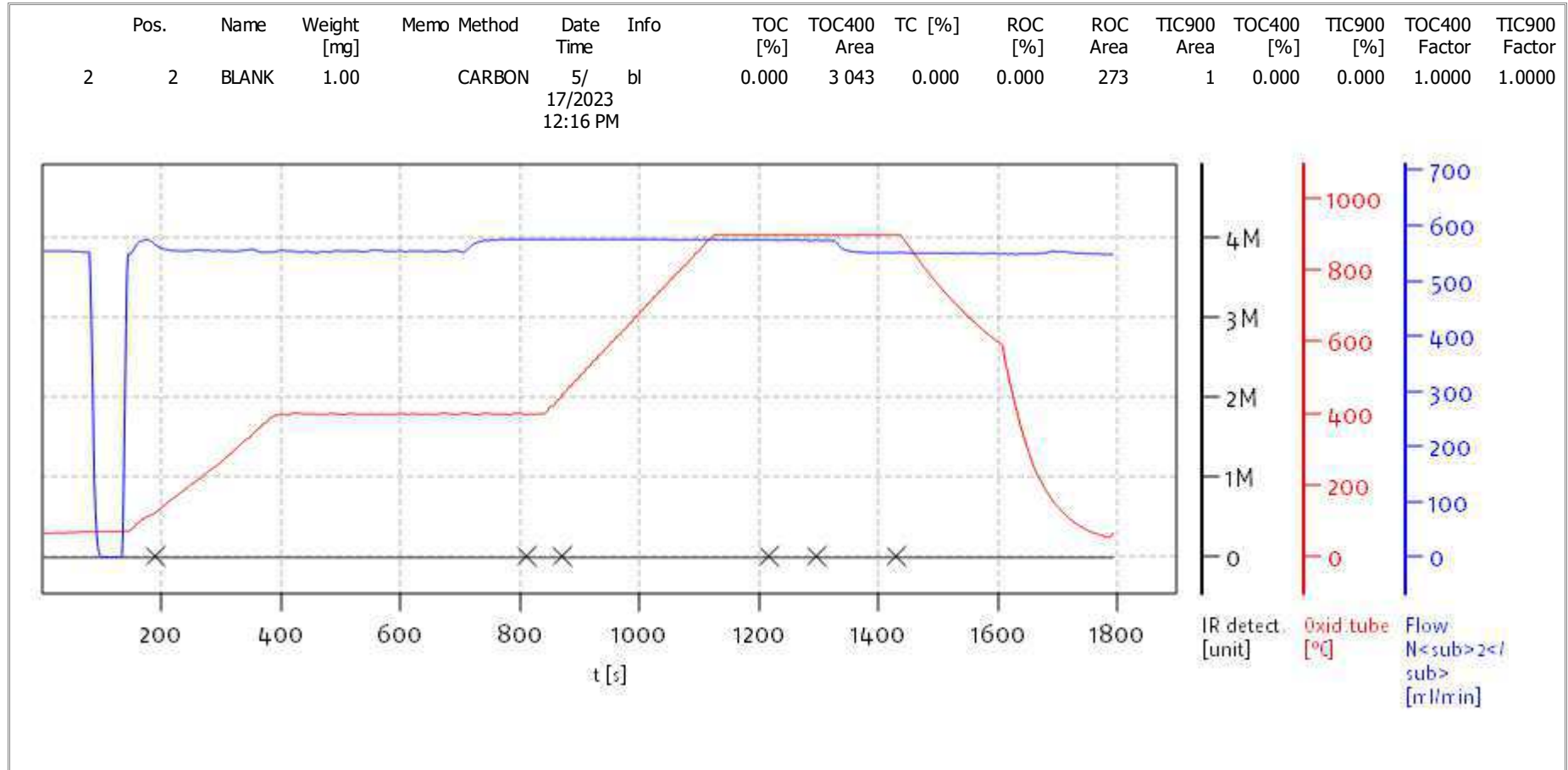
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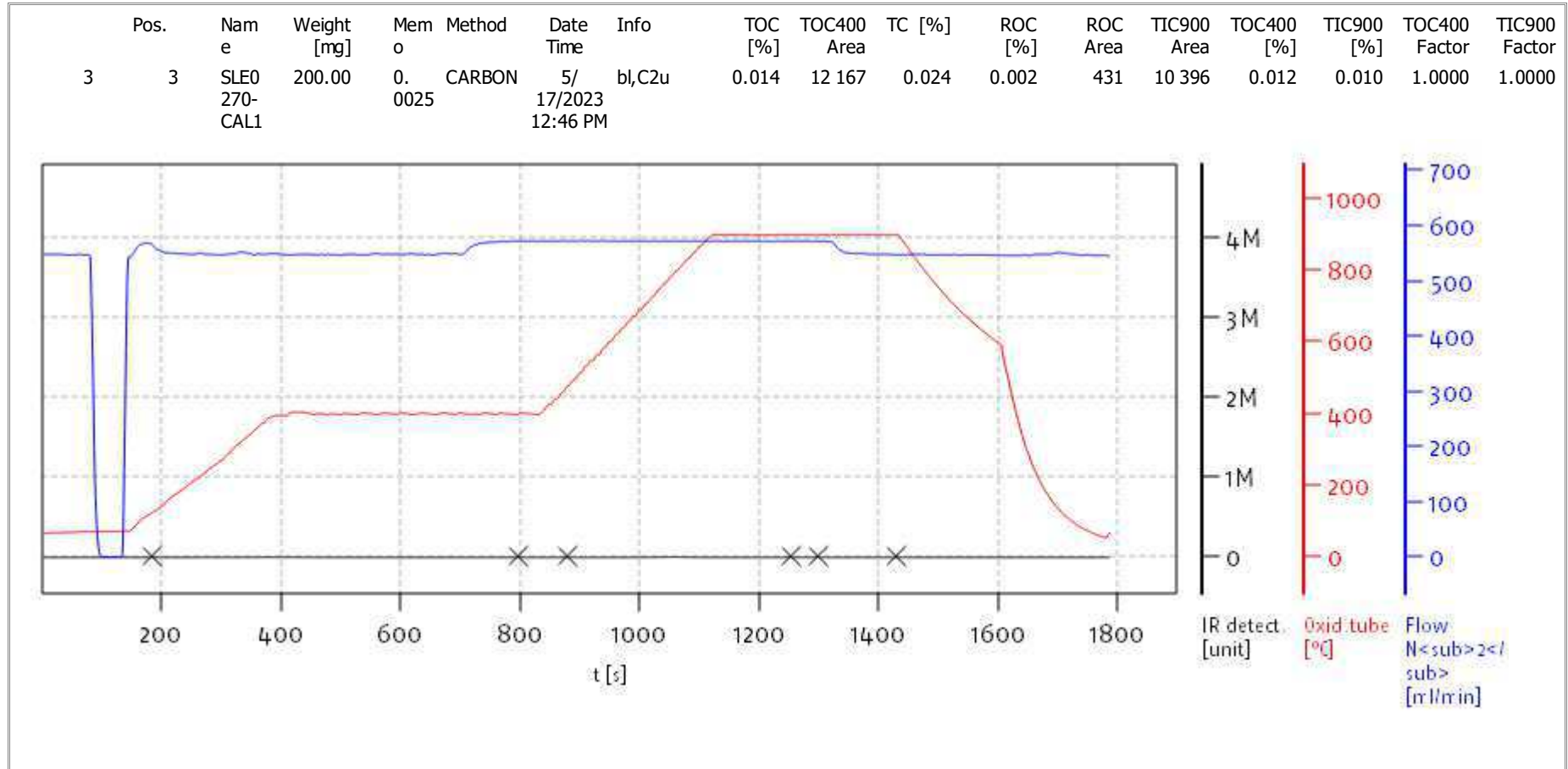
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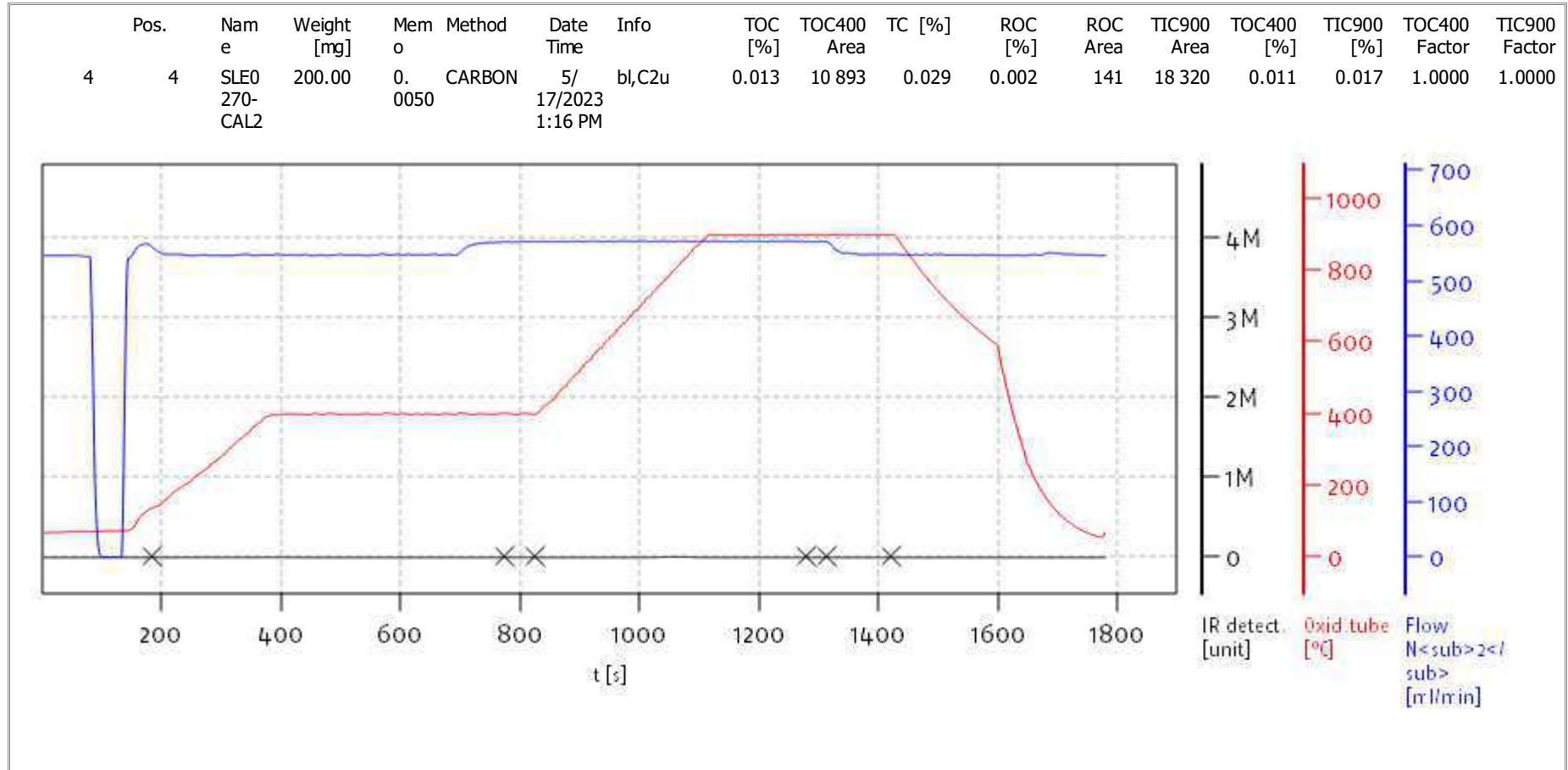
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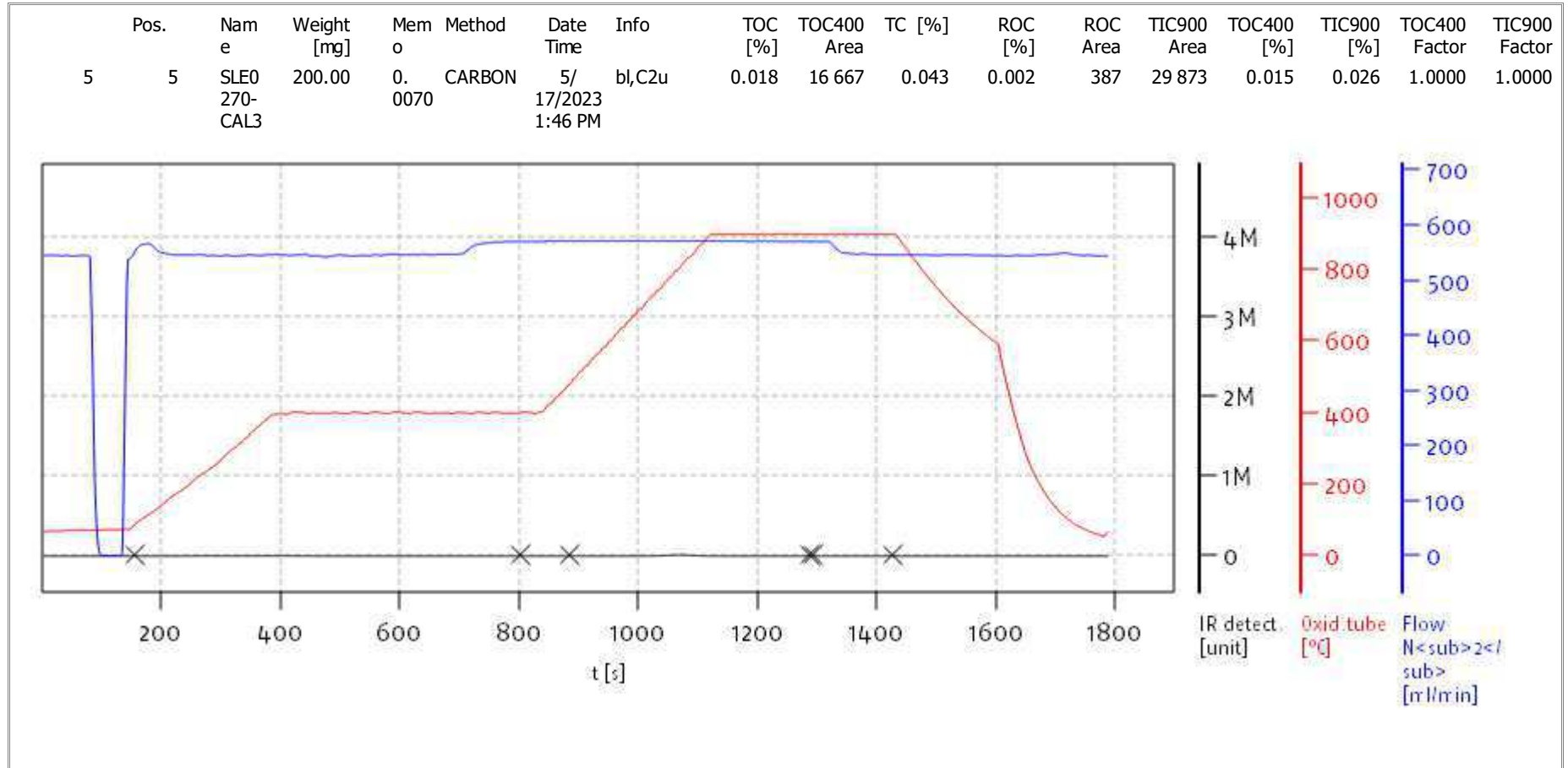
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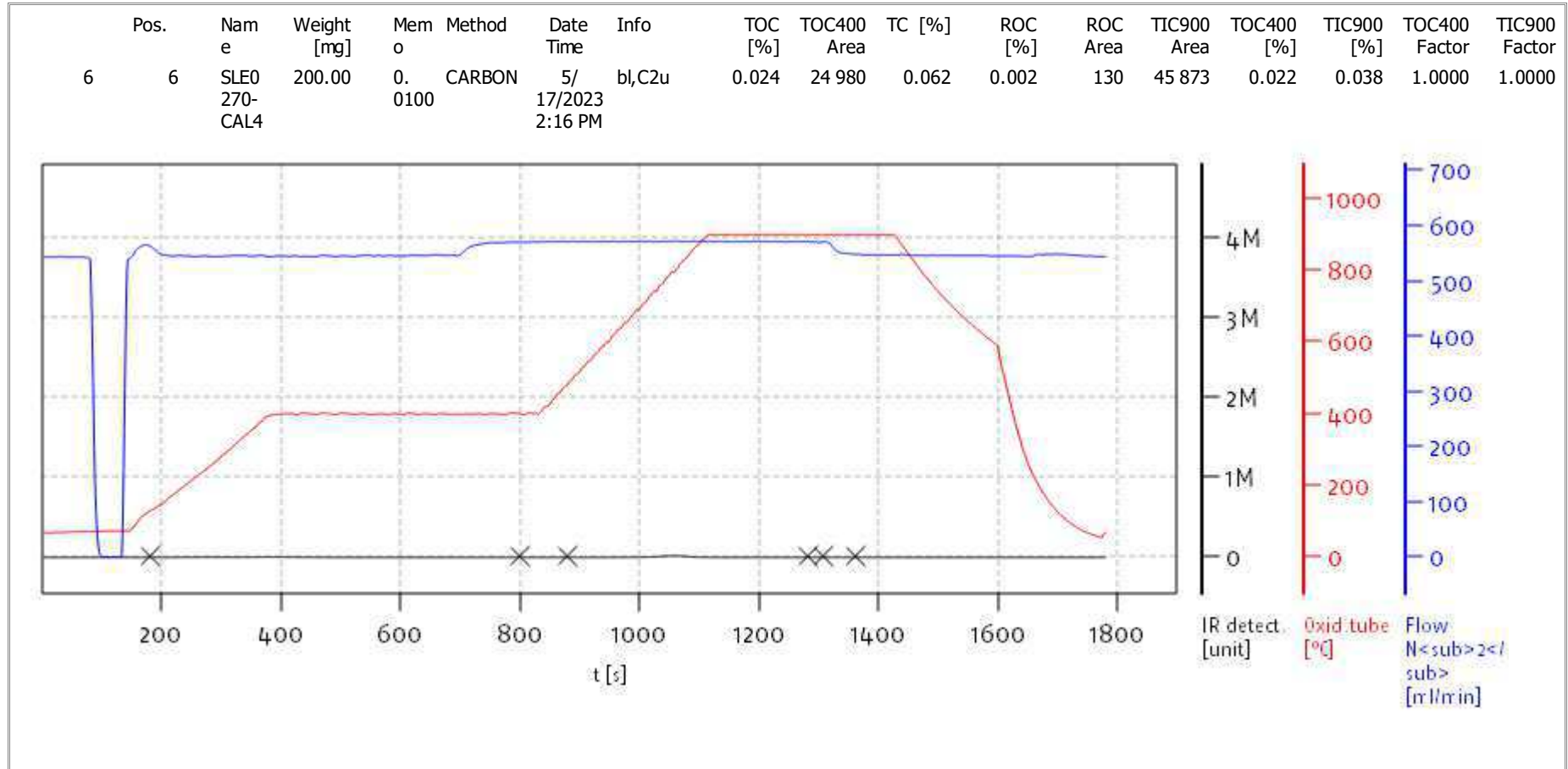
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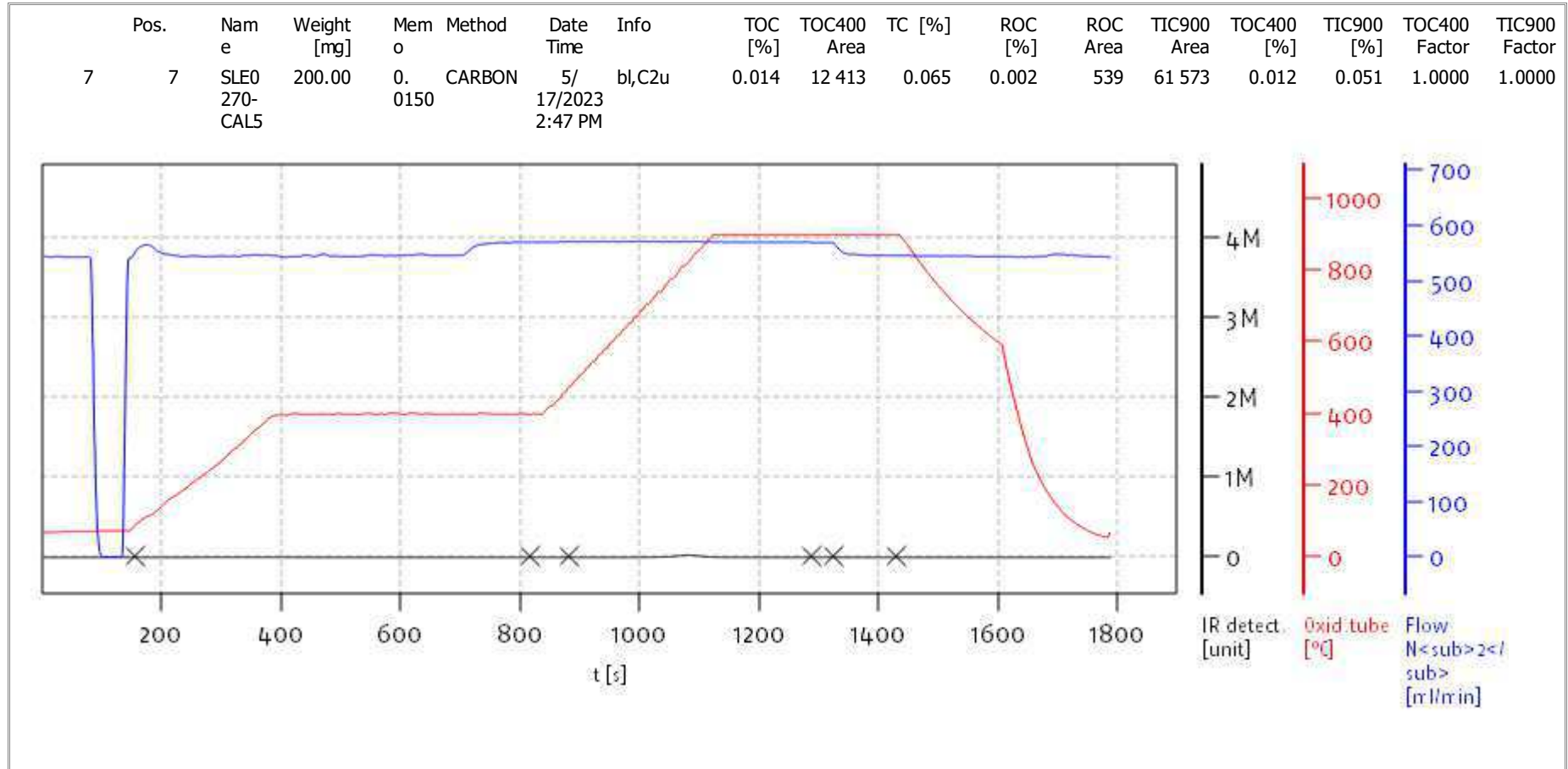
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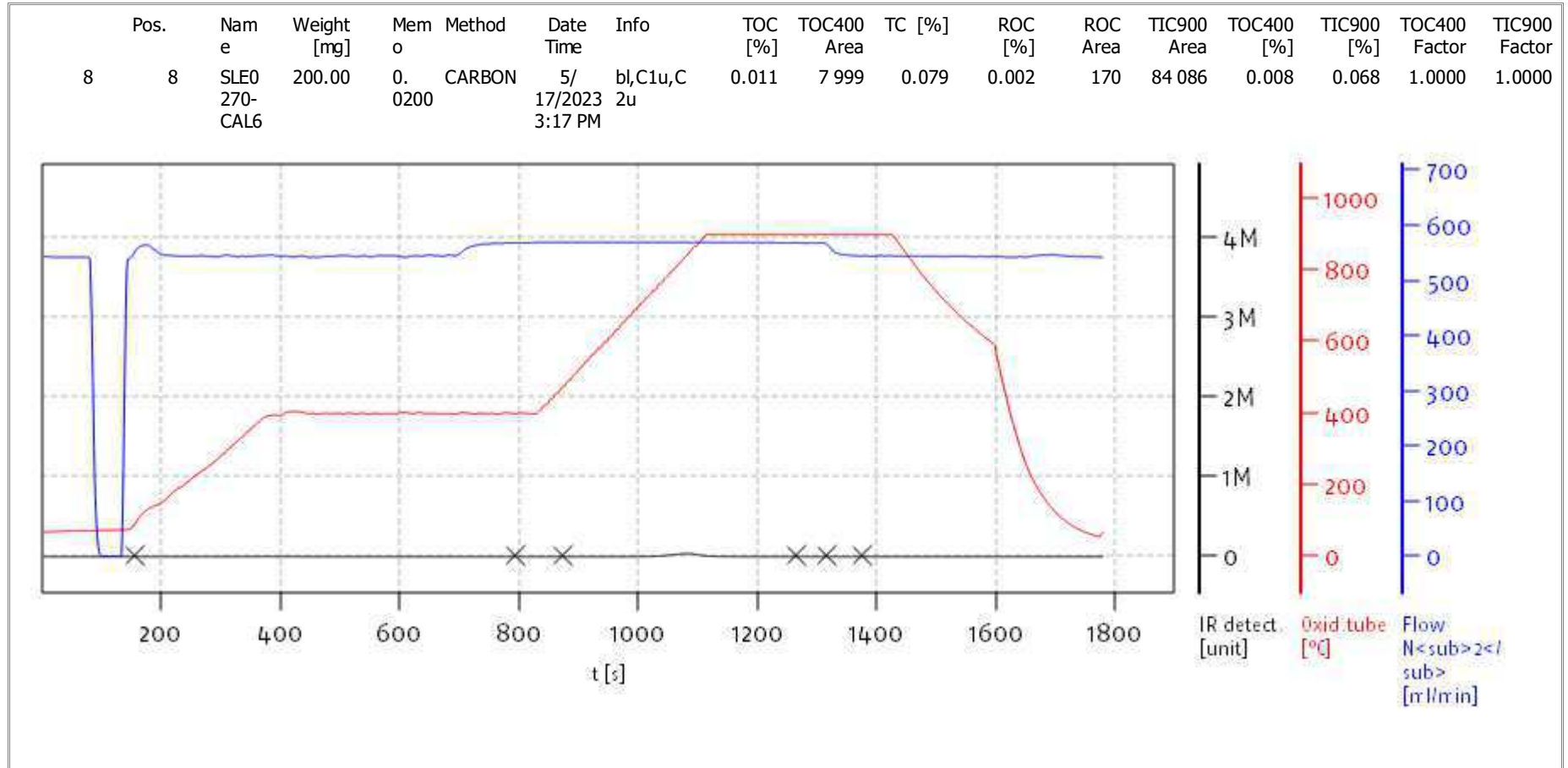
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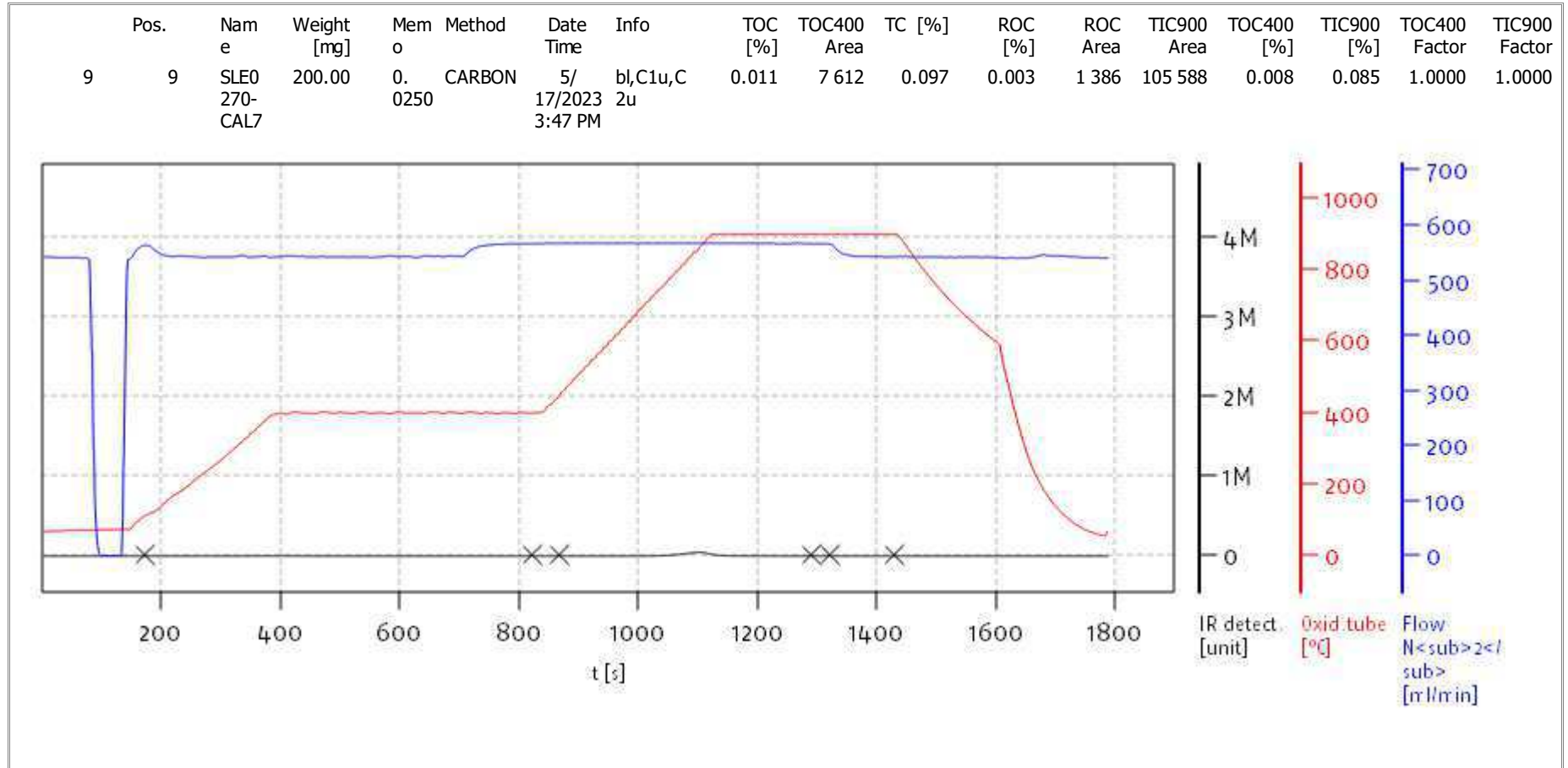
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Soli TOC Cube, Carbon
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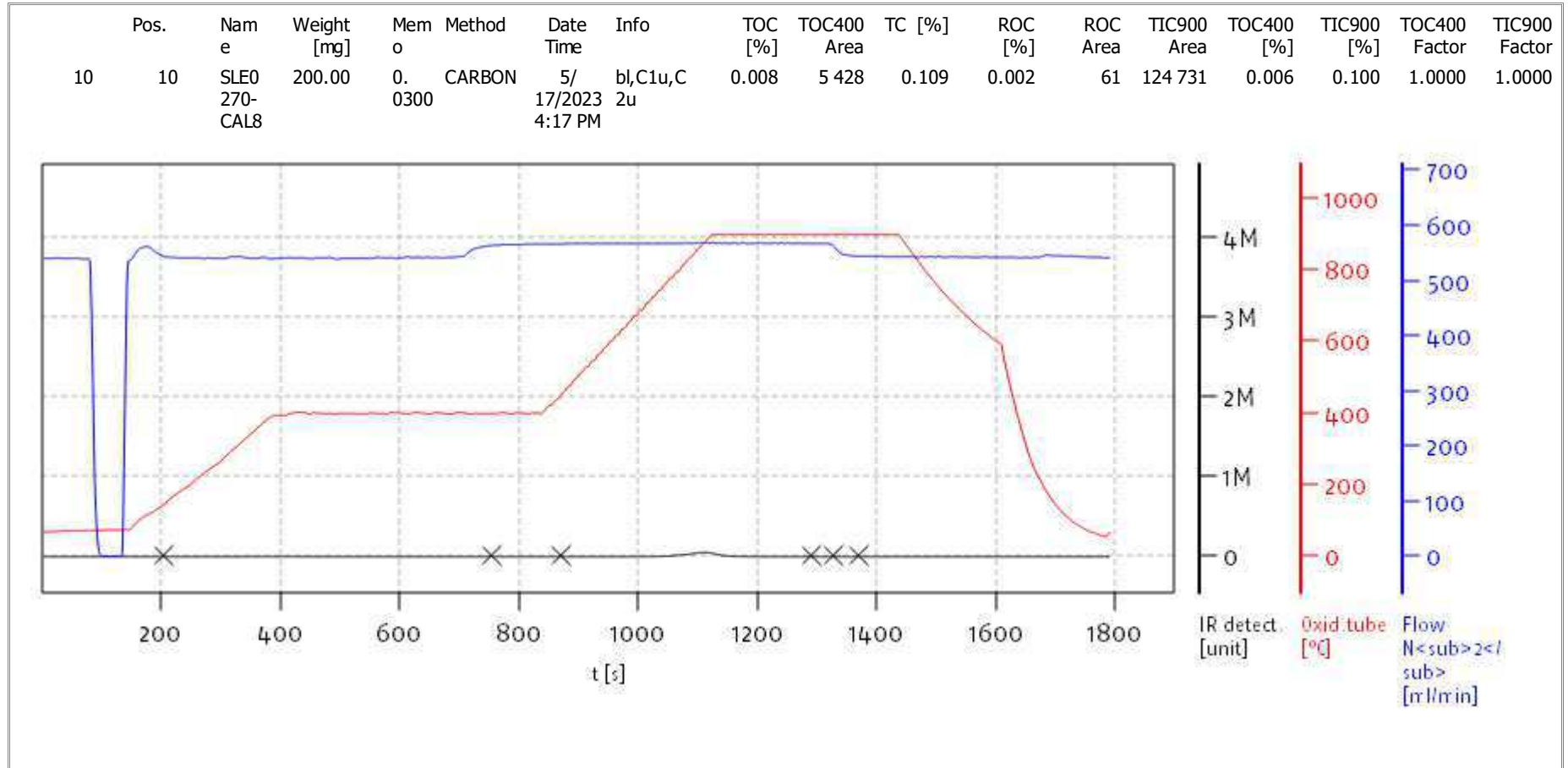
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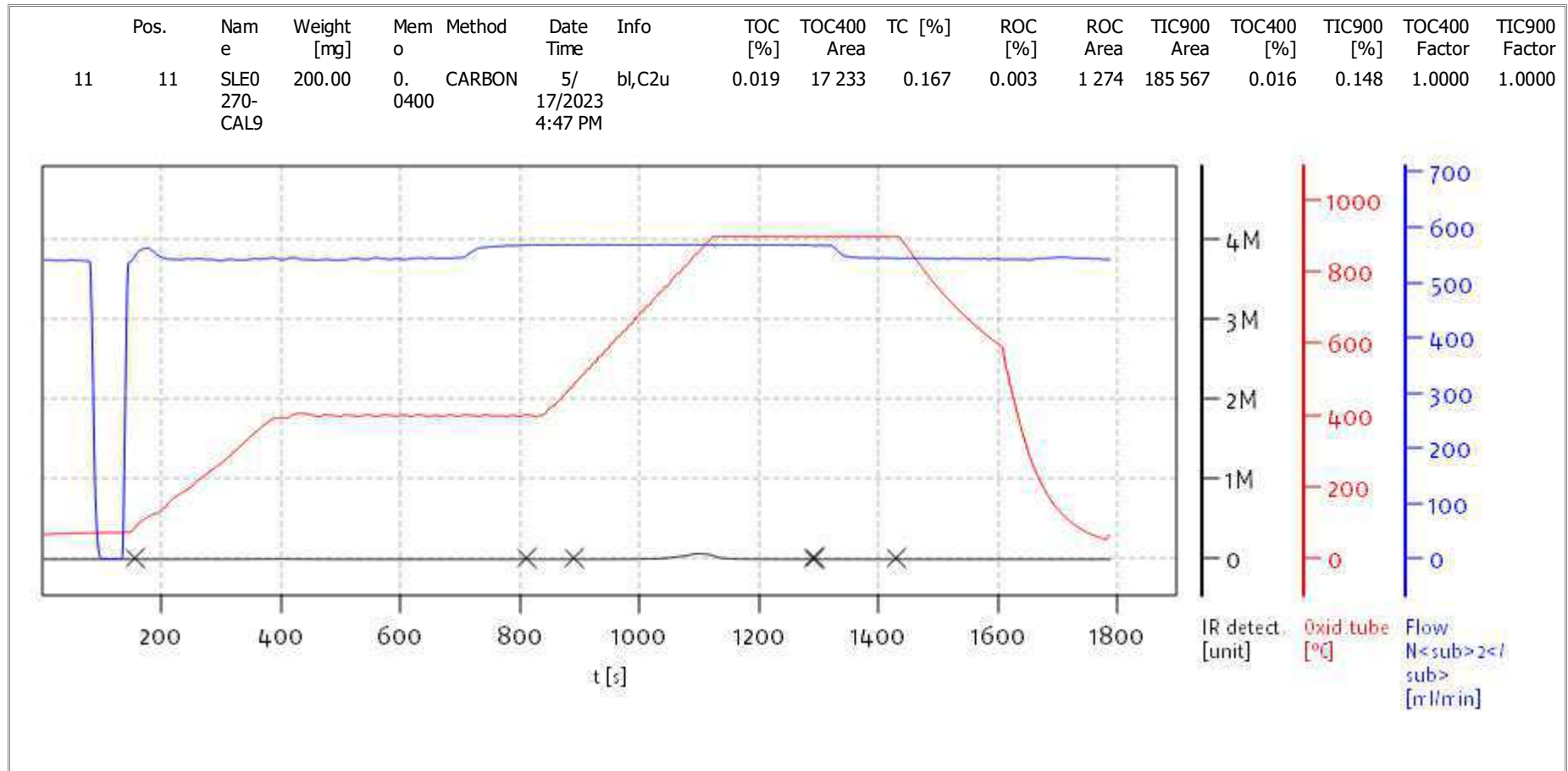
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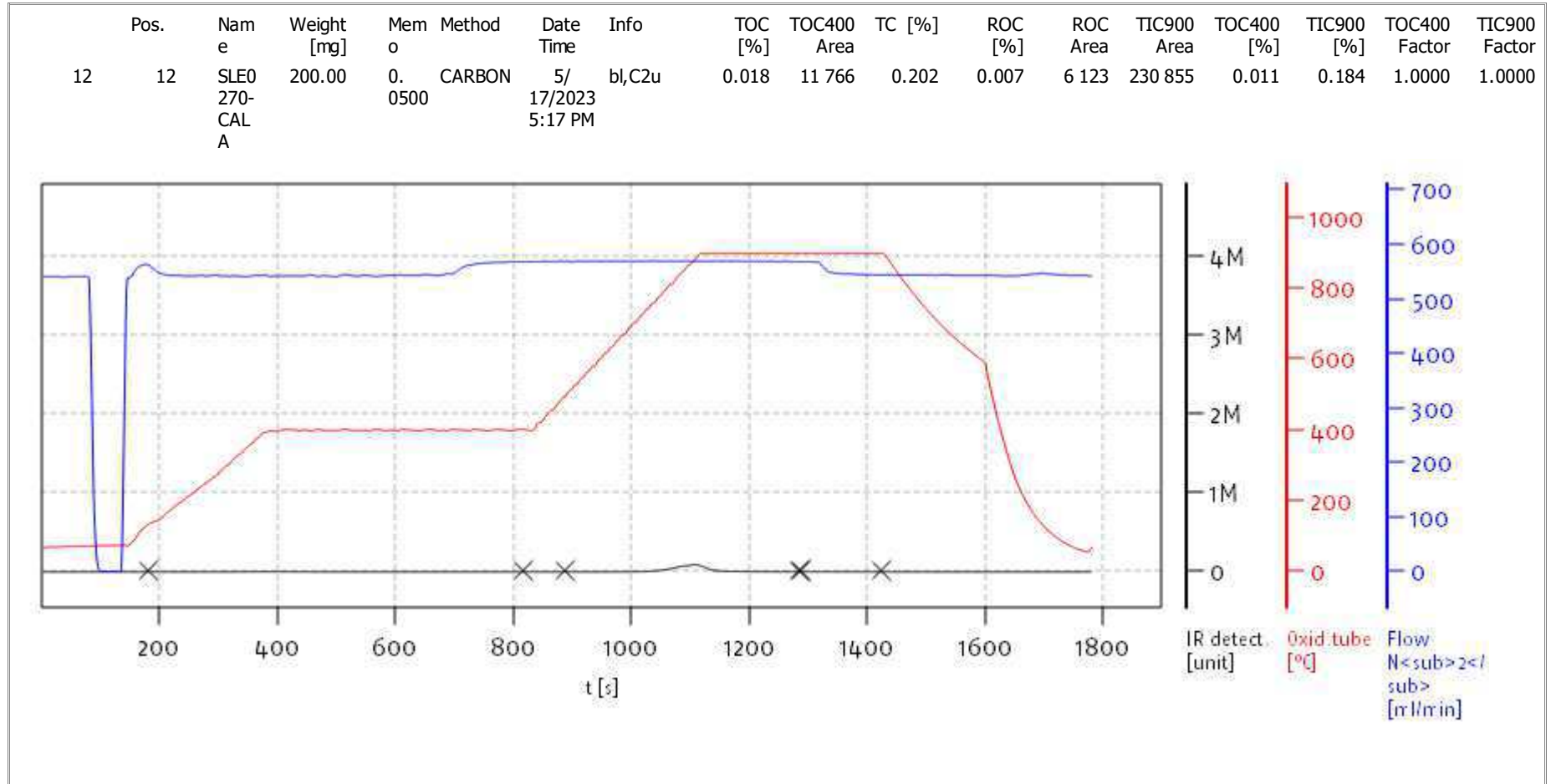
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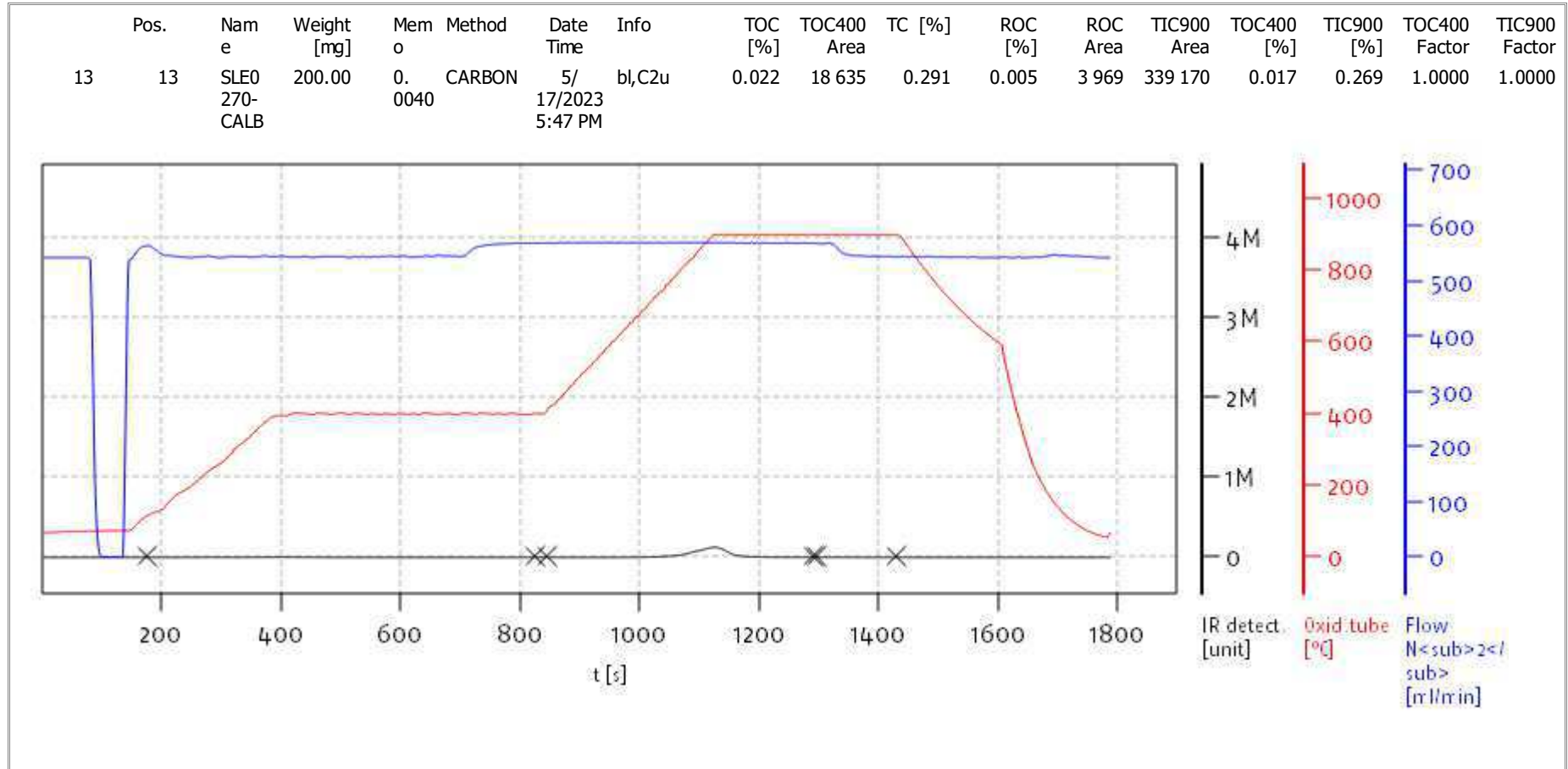
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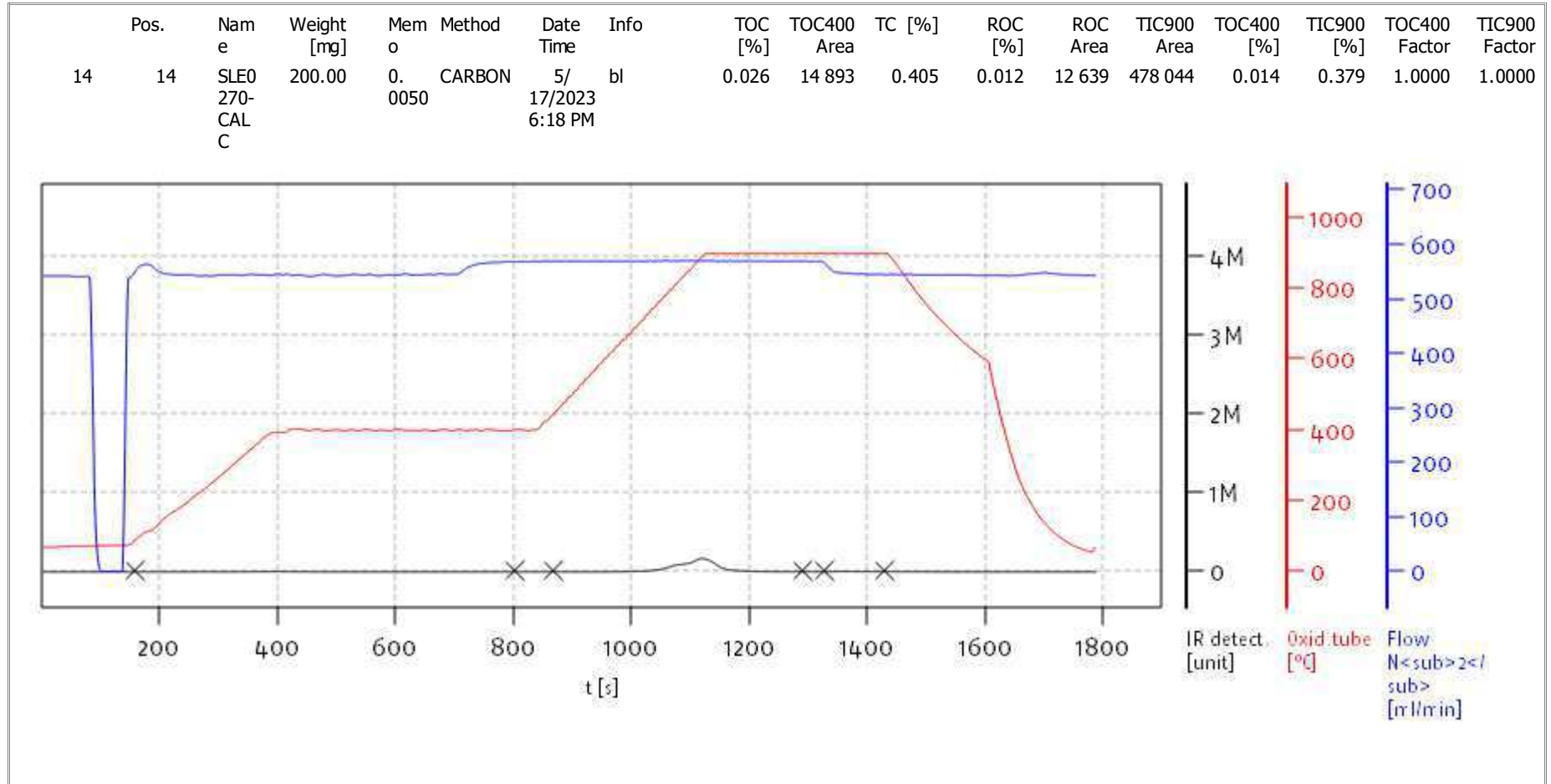
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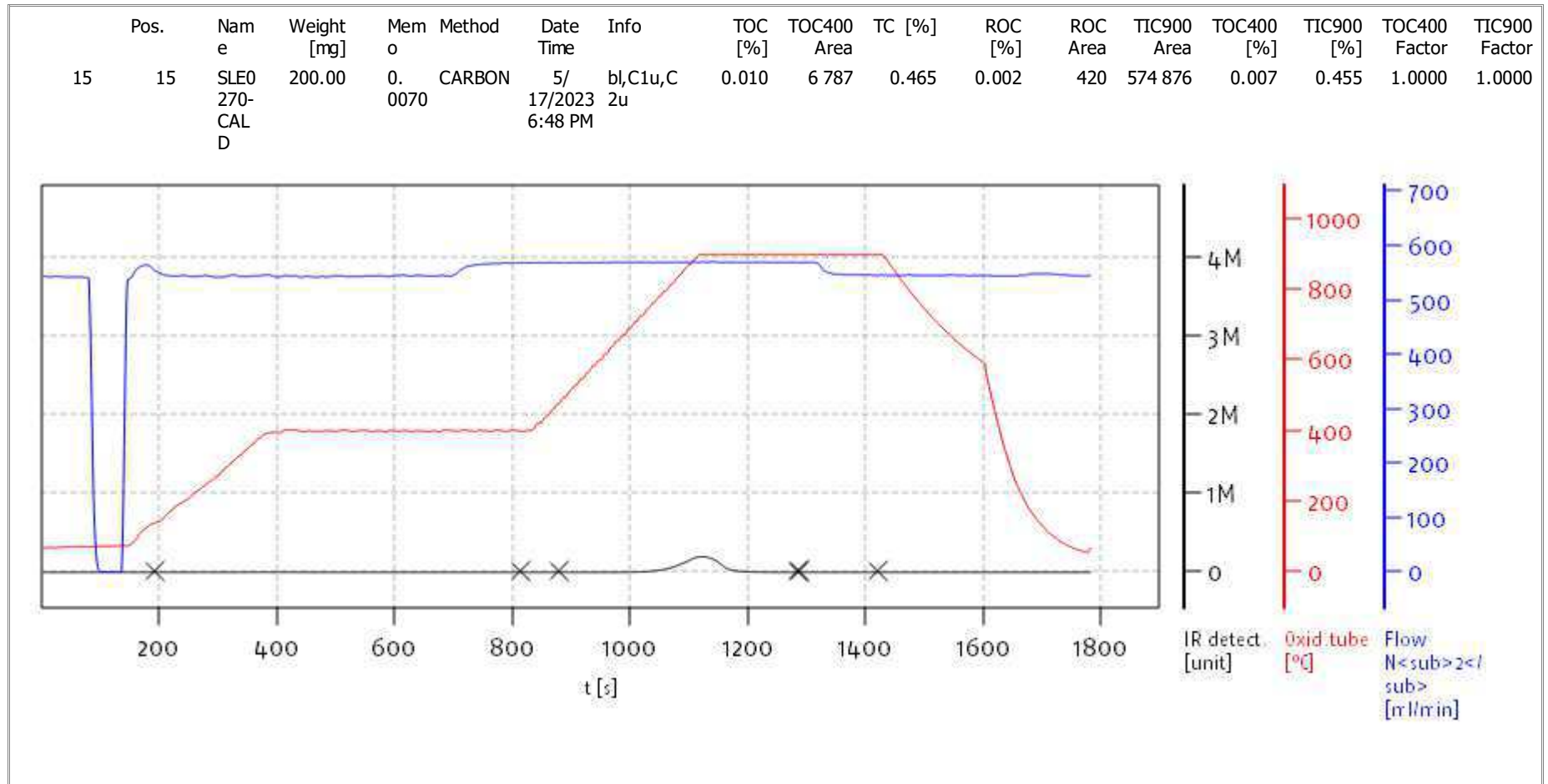
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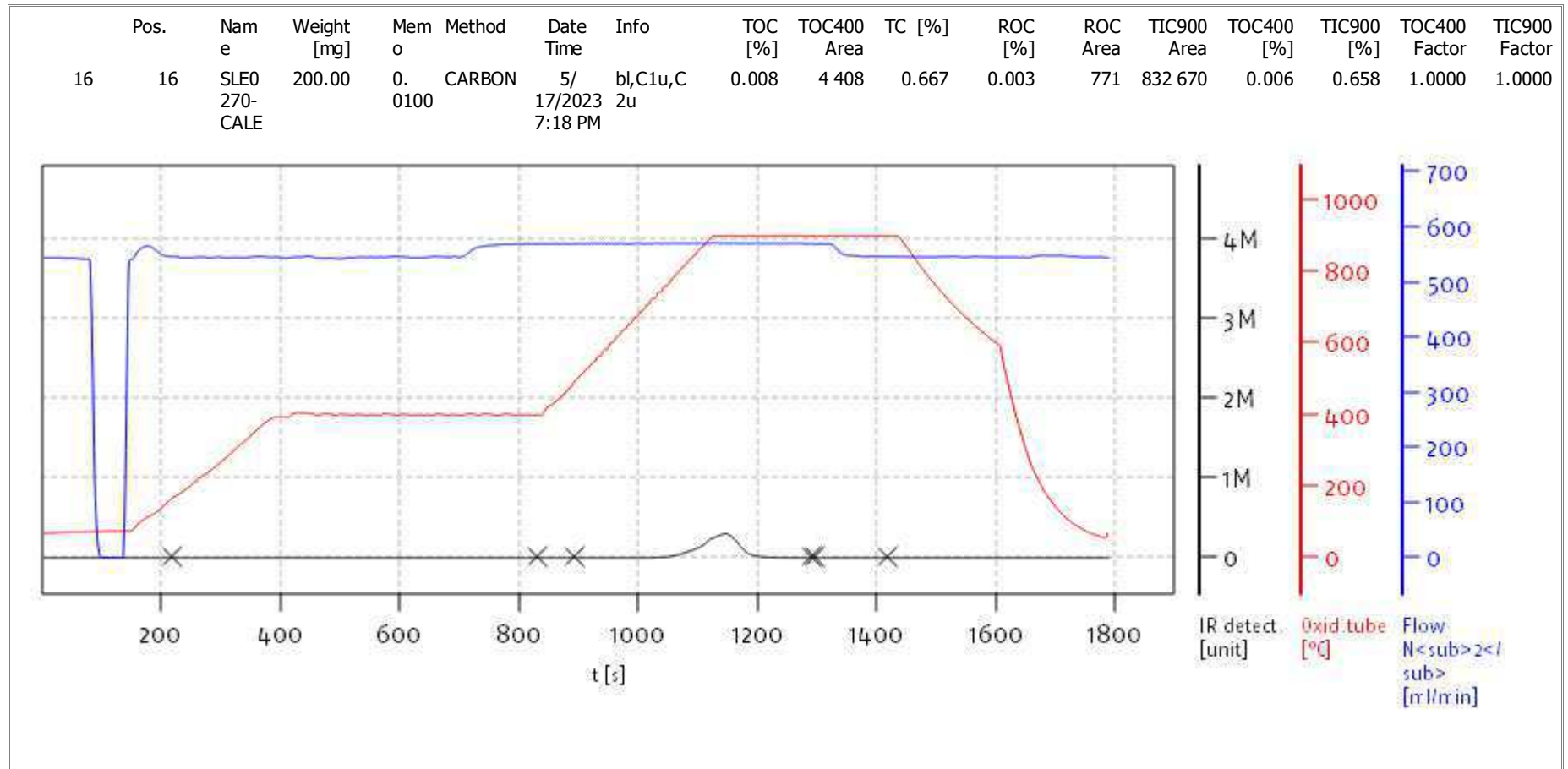
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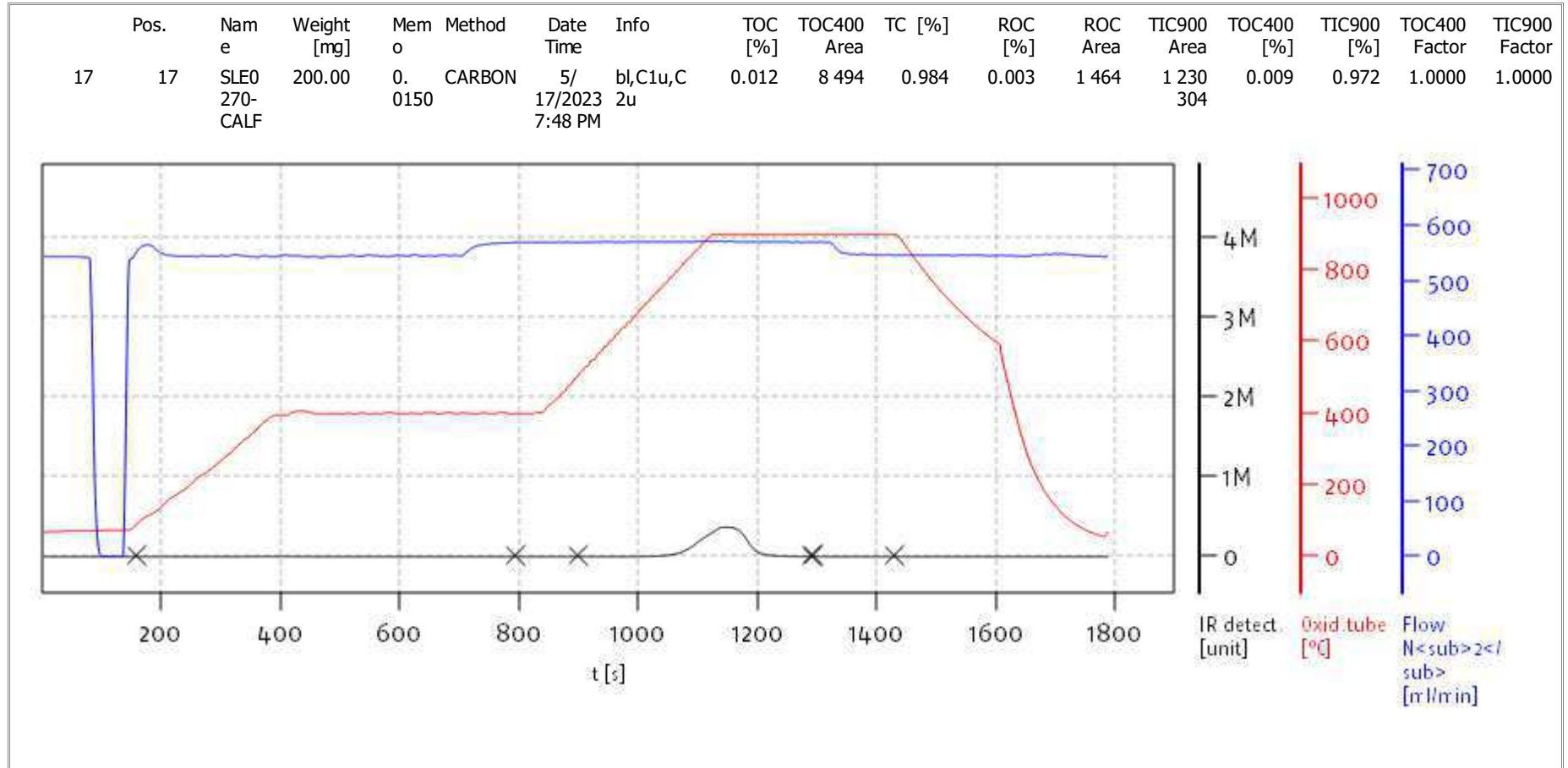
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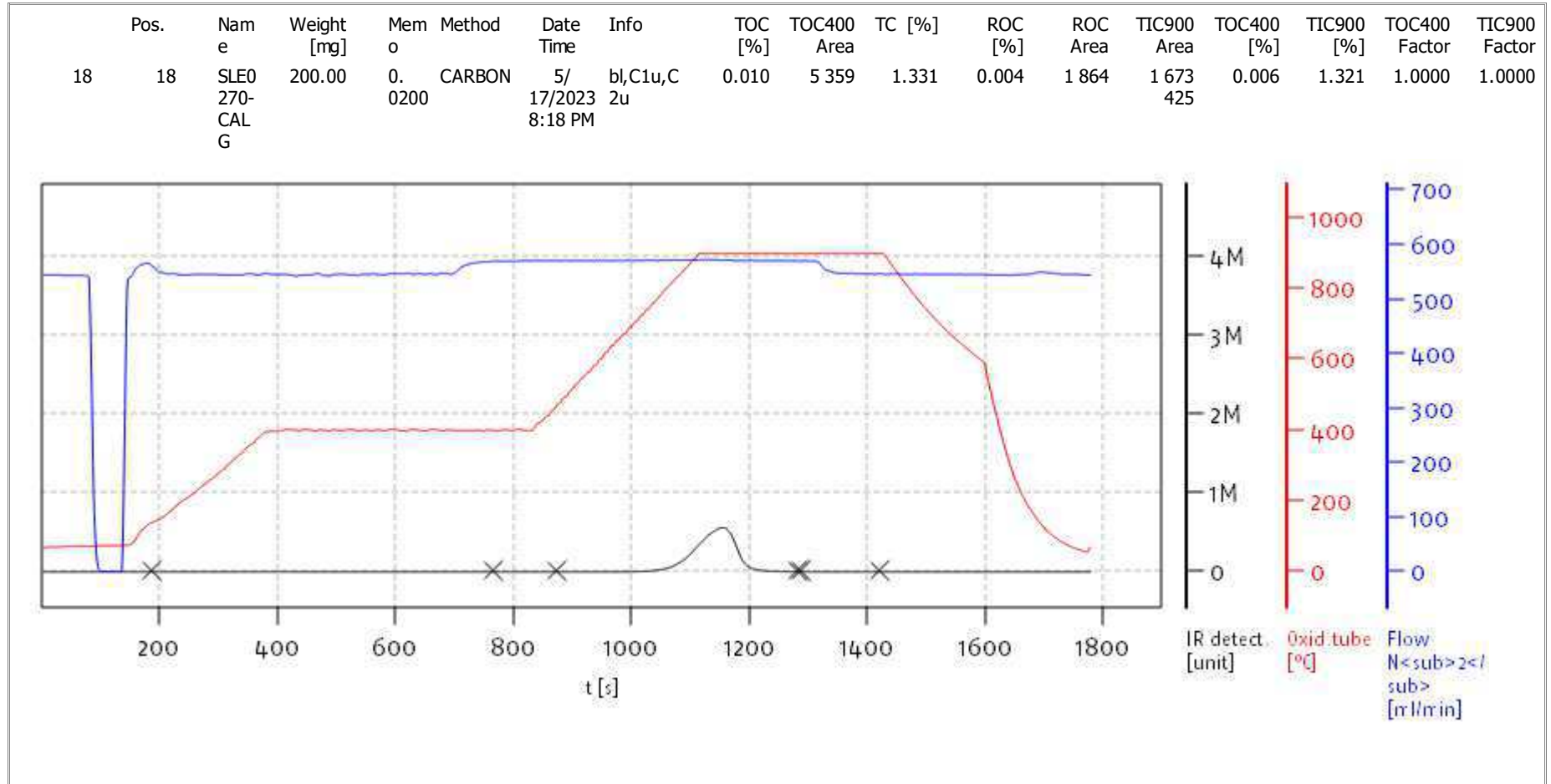
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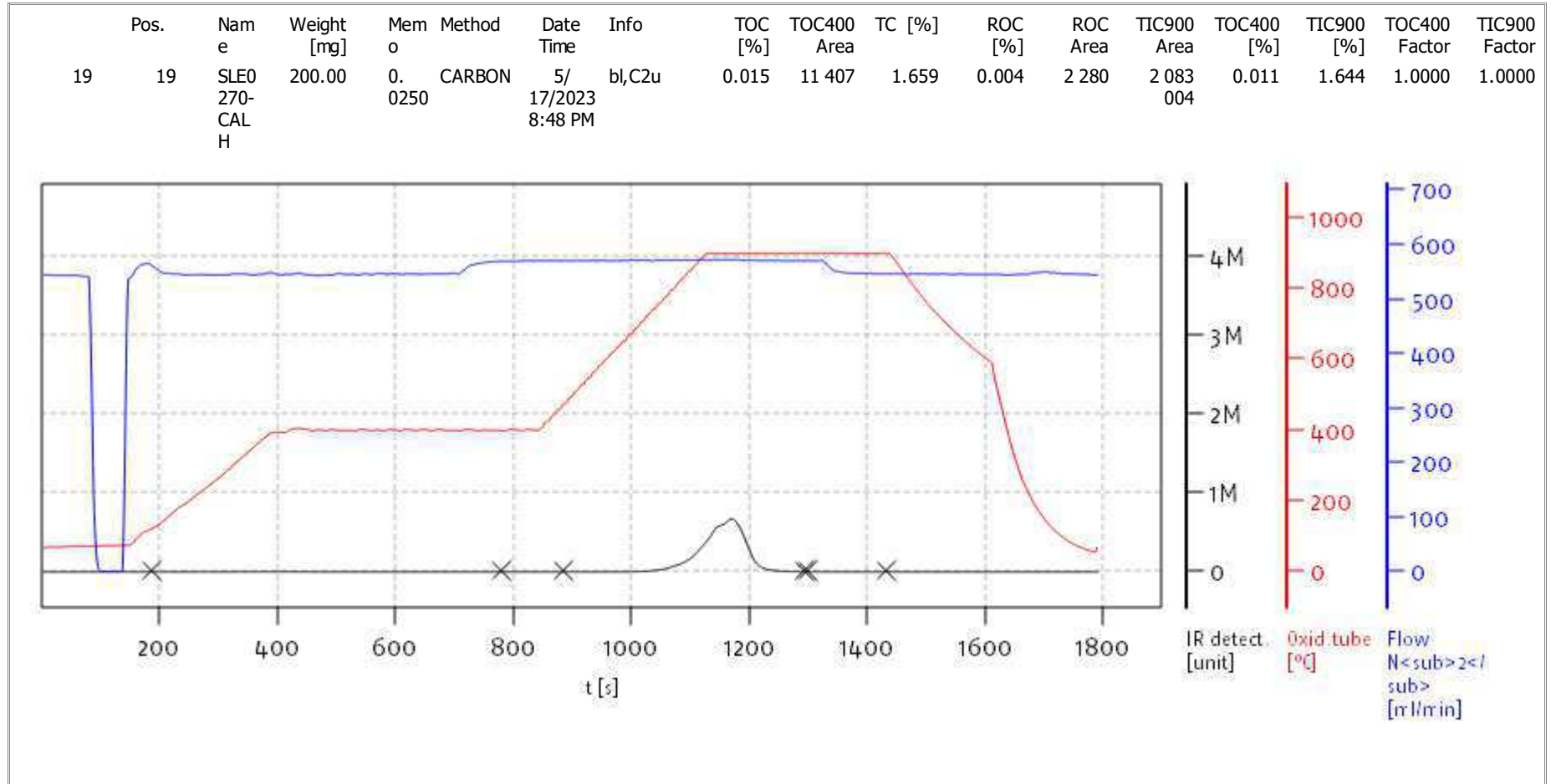
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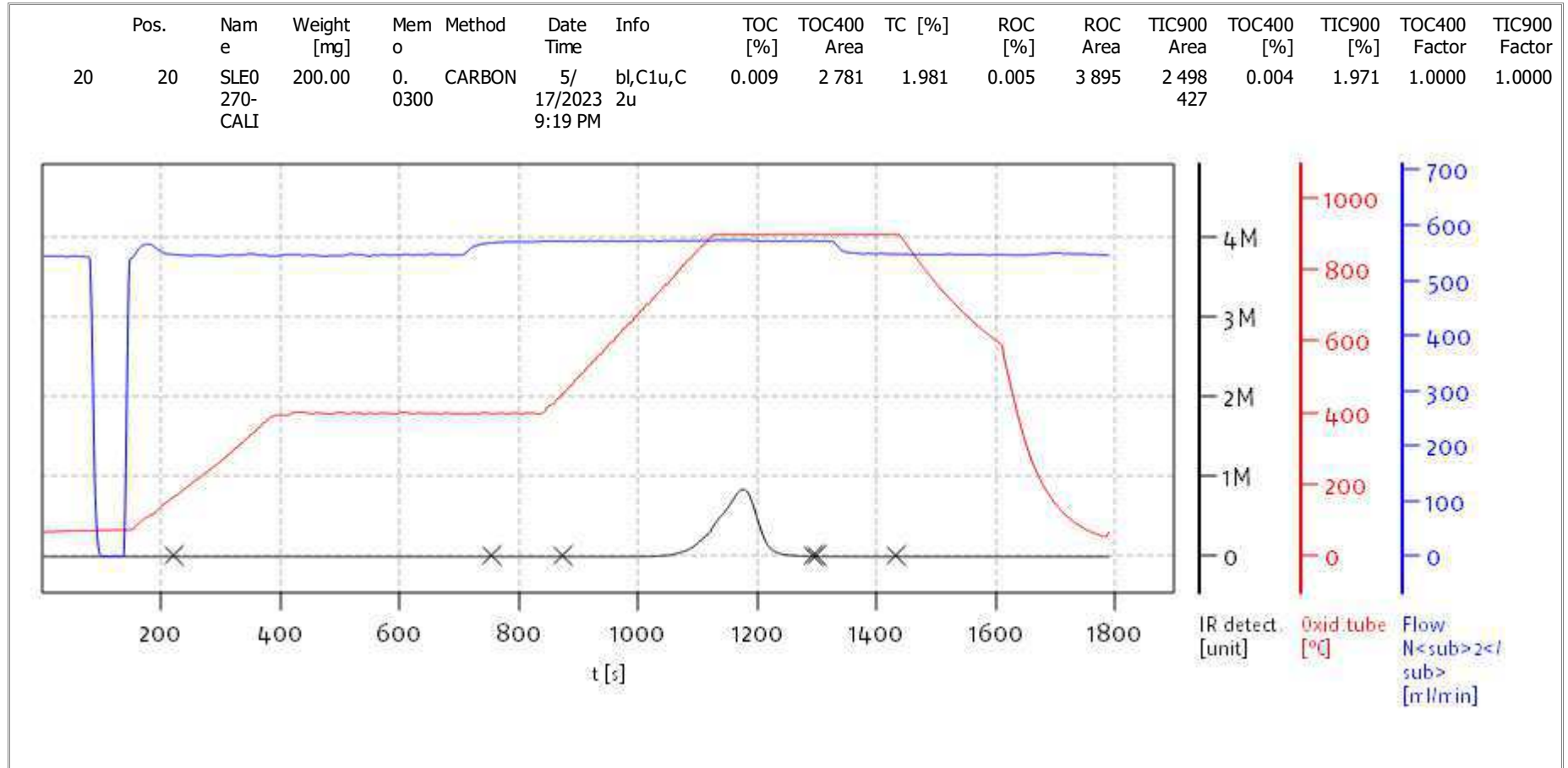
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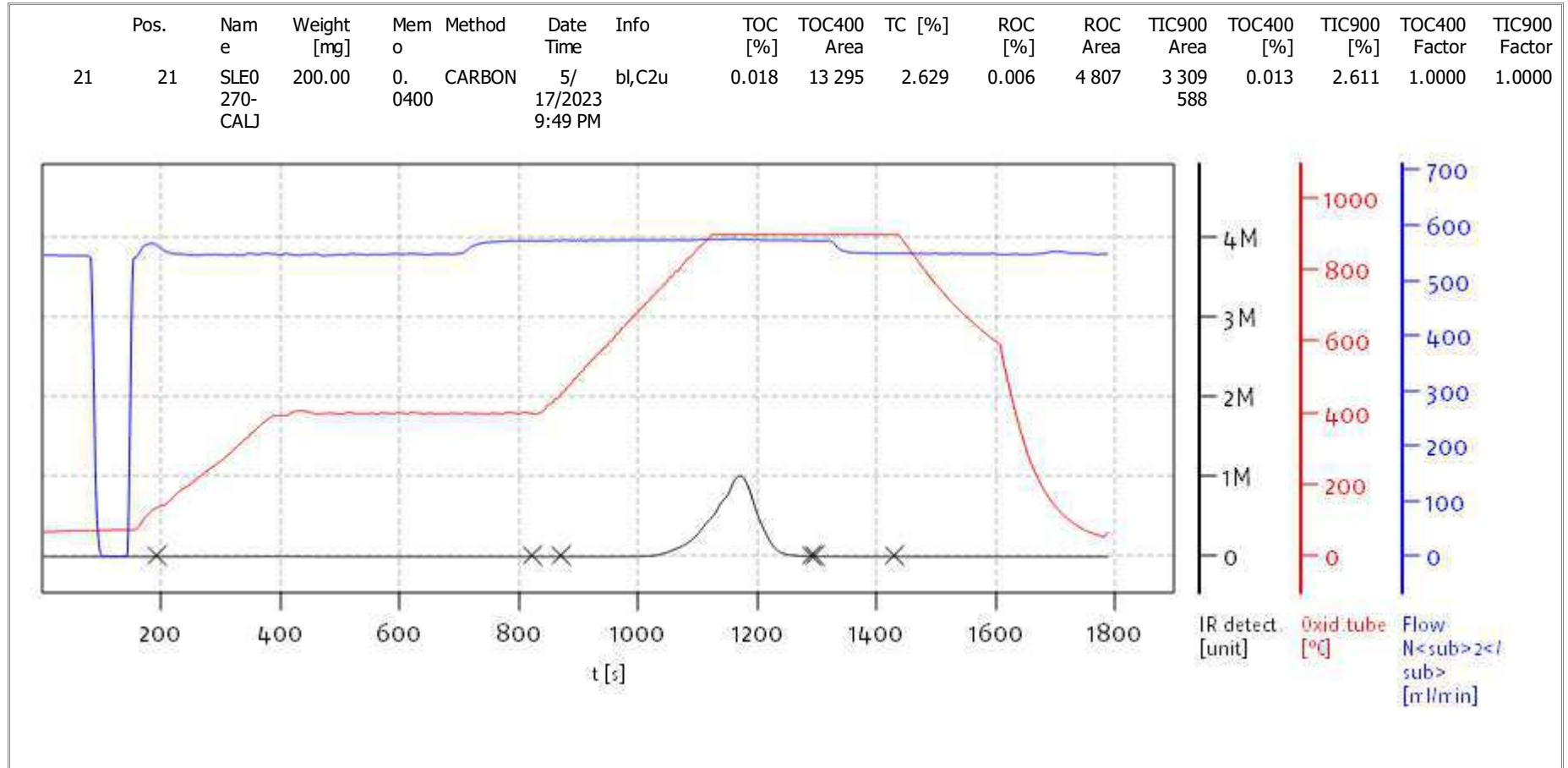
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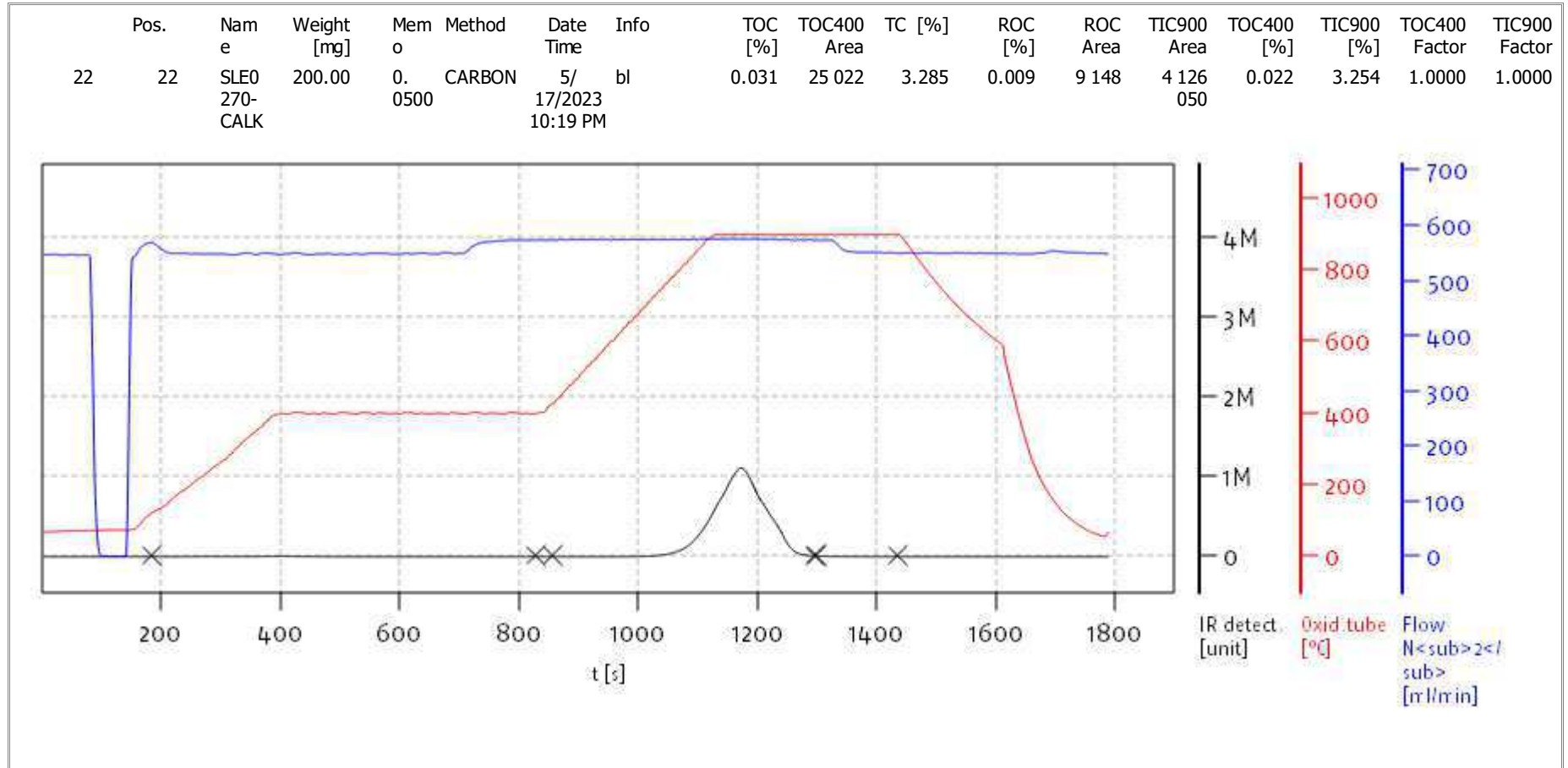
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Soli TOC Cube, Carbon
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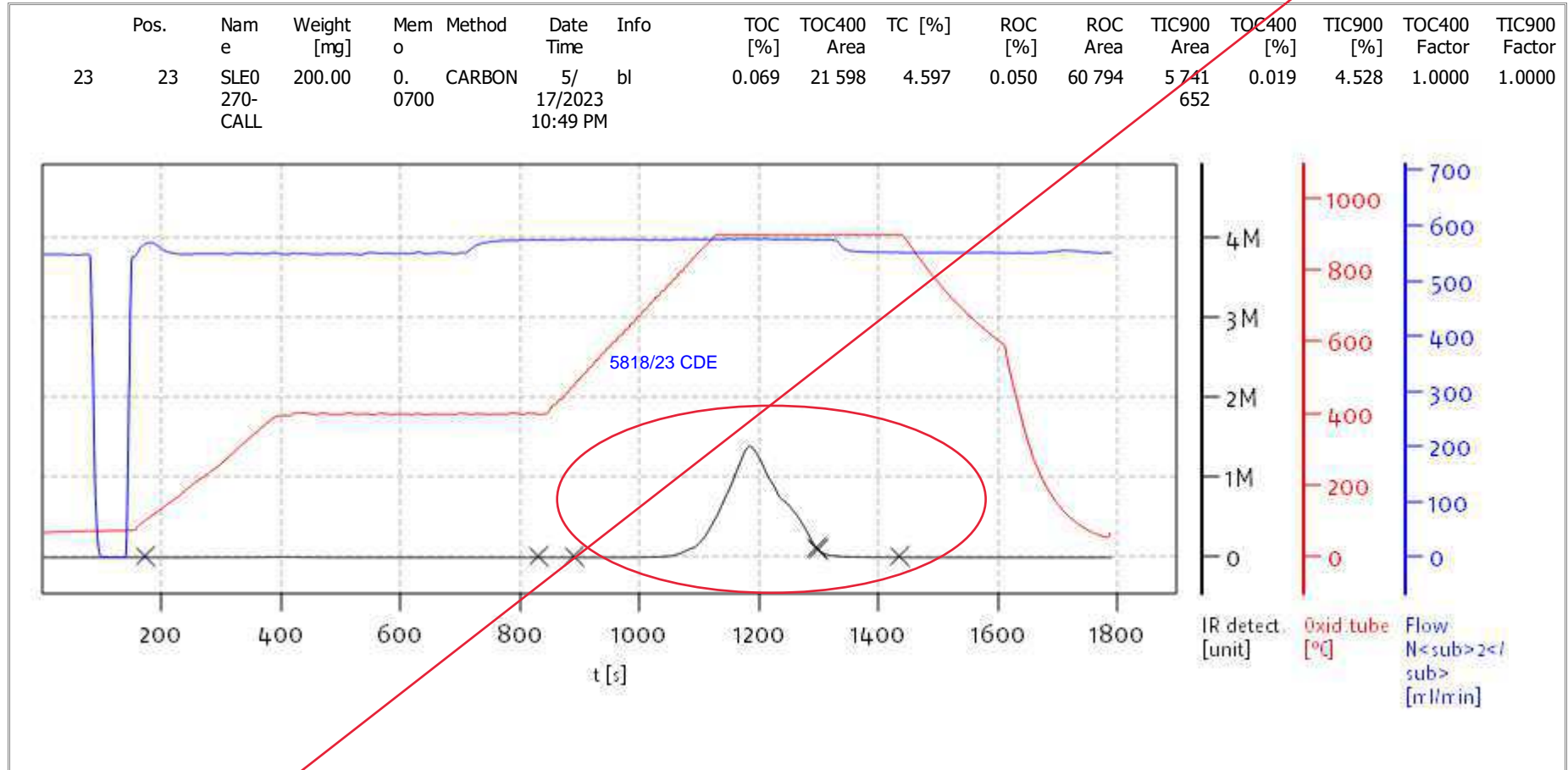
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solITOC V2.0.2 (31015f9) 2018-11-19
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Soli TOC Cube, Carbon
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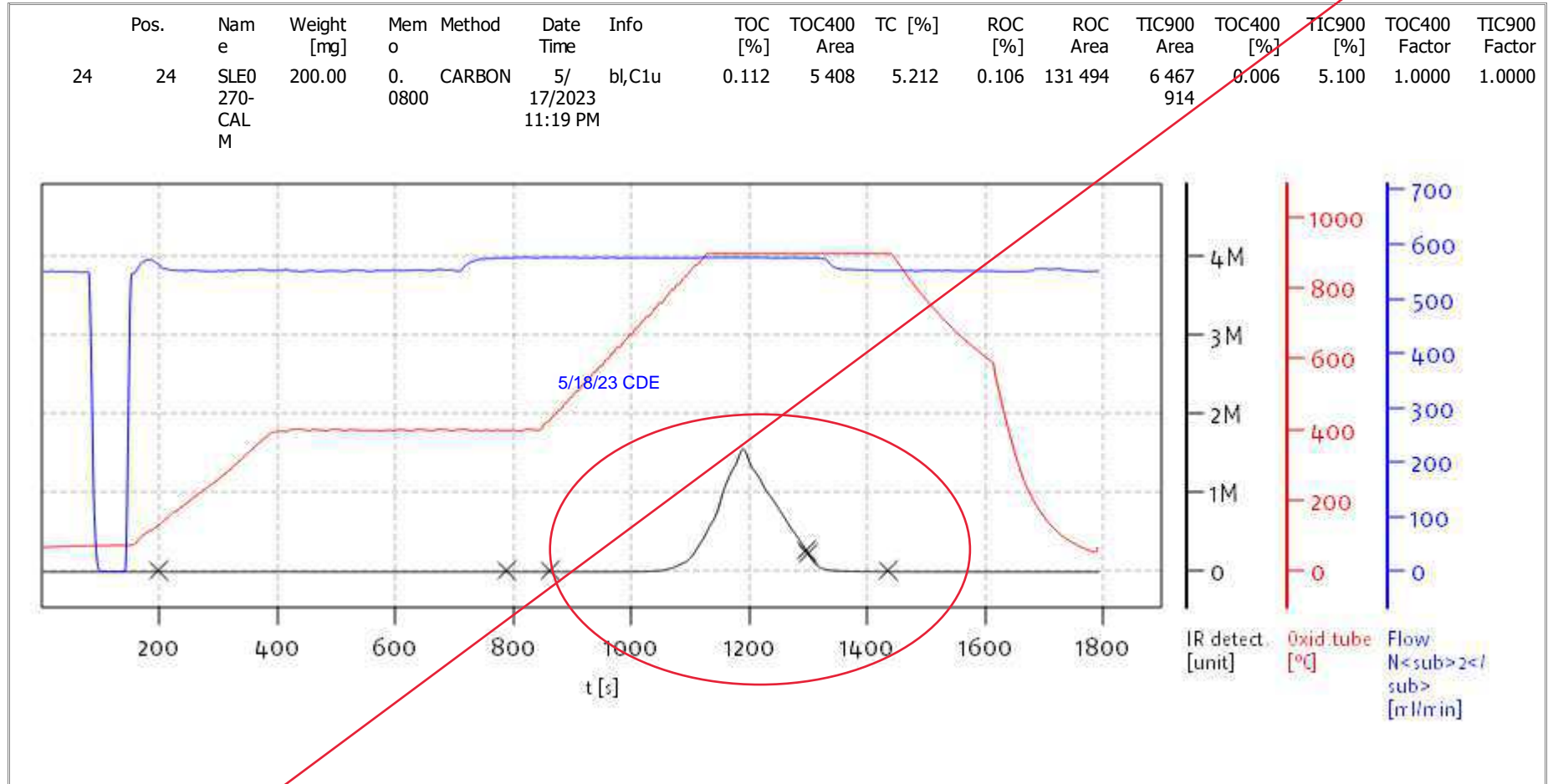
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Soli TOC Cube, Carbon
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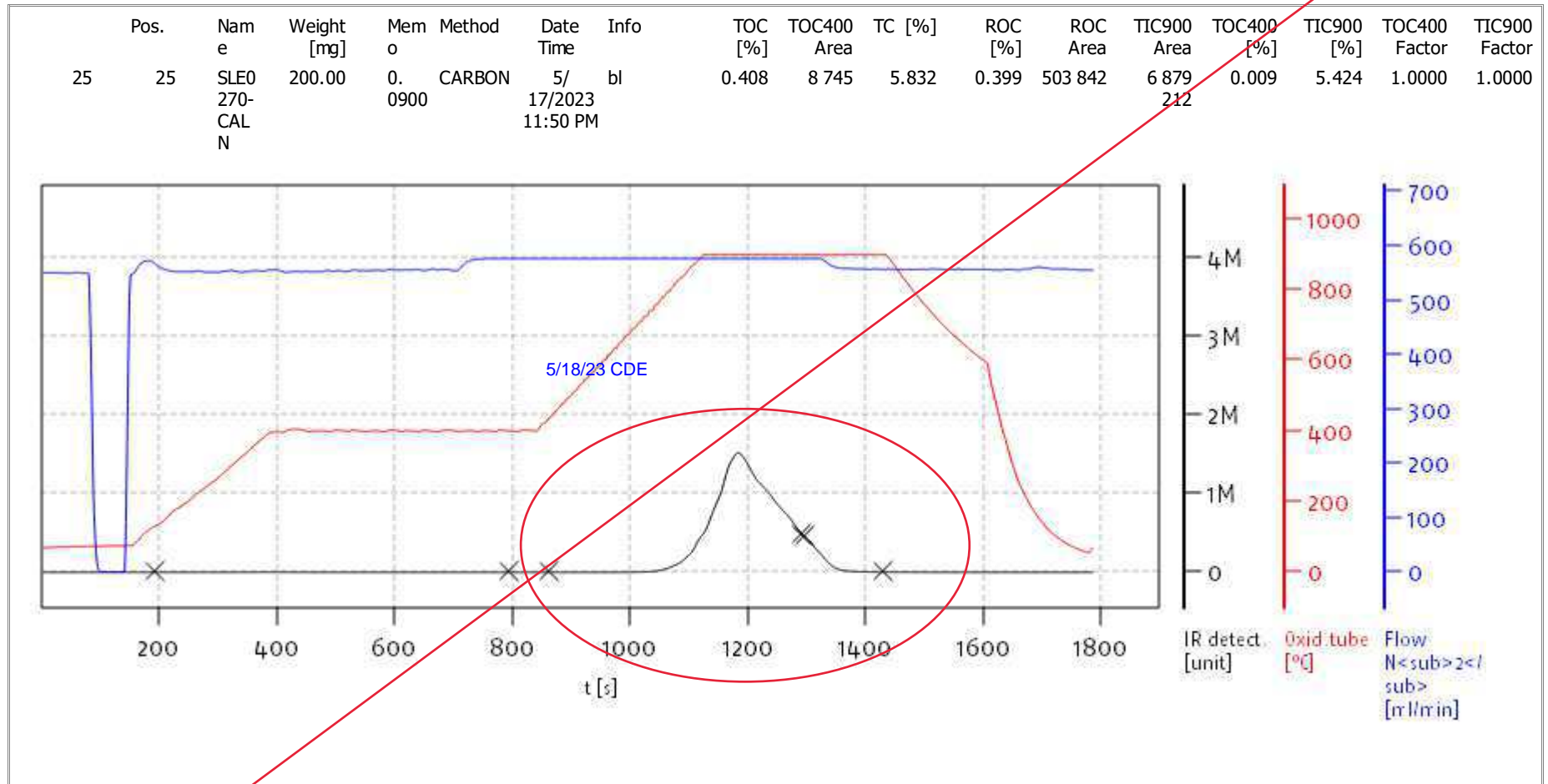
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solITOC V2.0.2 (31015f9) 2018-11-19
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Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

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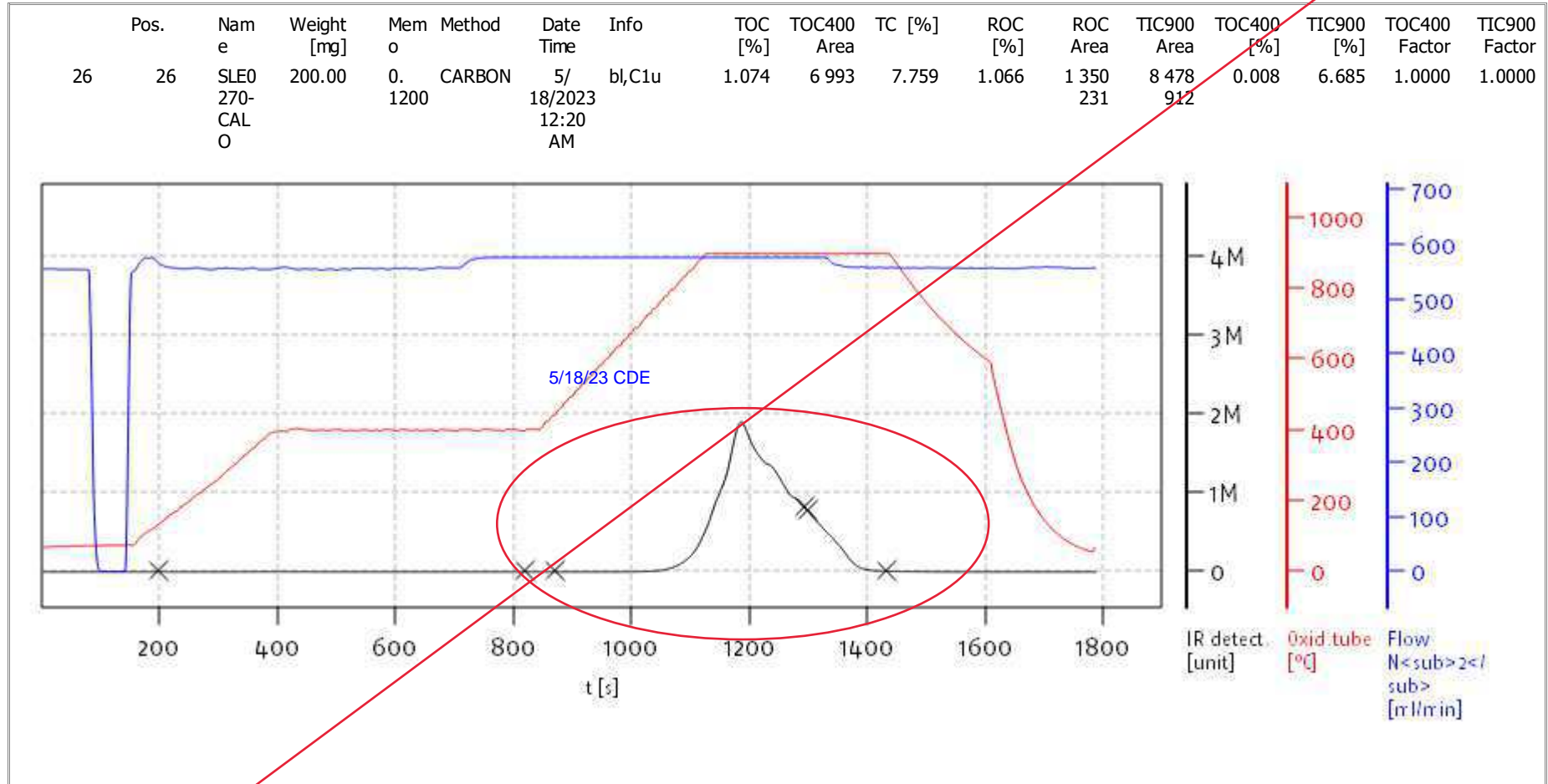
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Soli TOC Cube, Carbon
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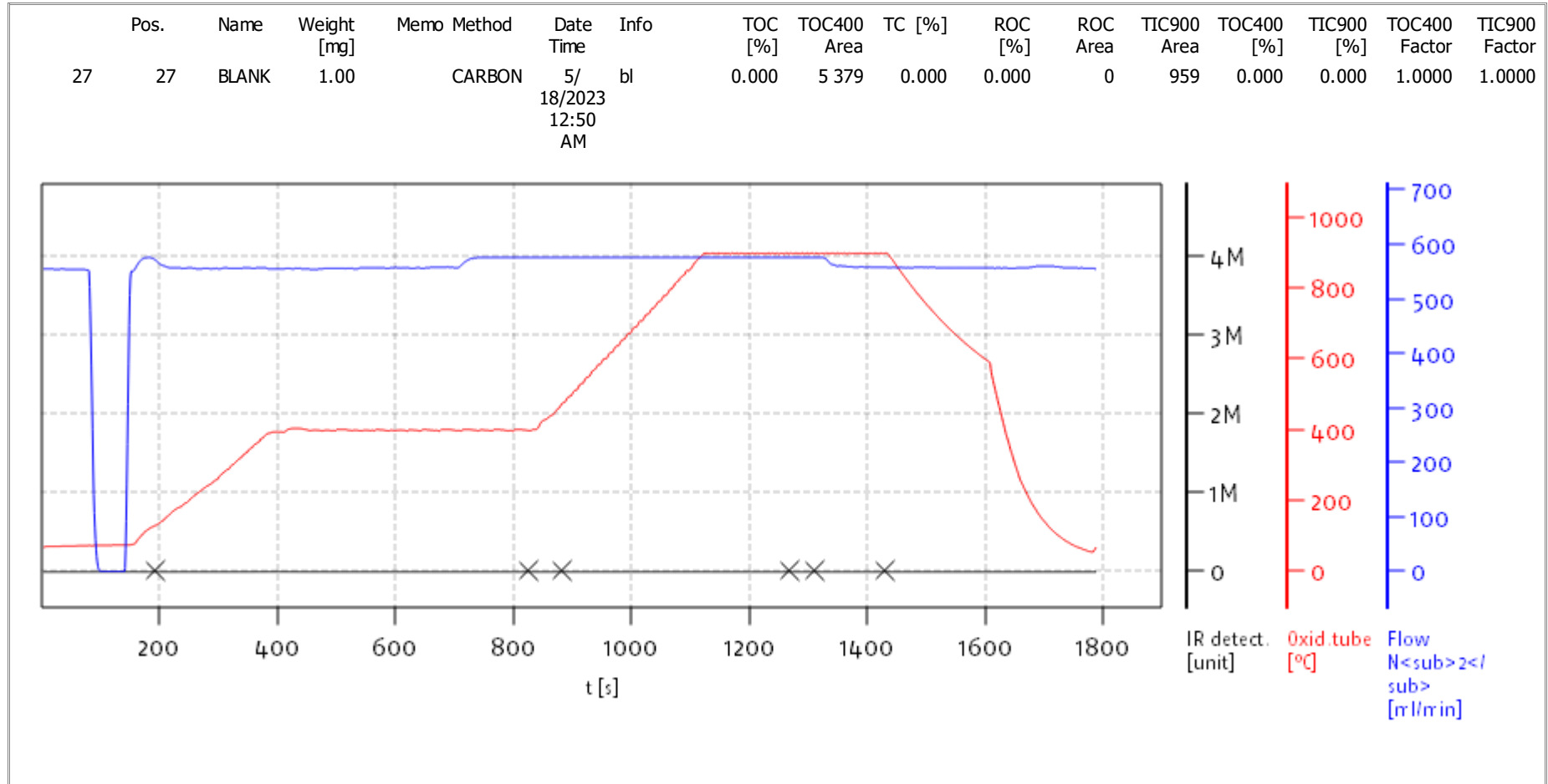
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Balance: BAL3
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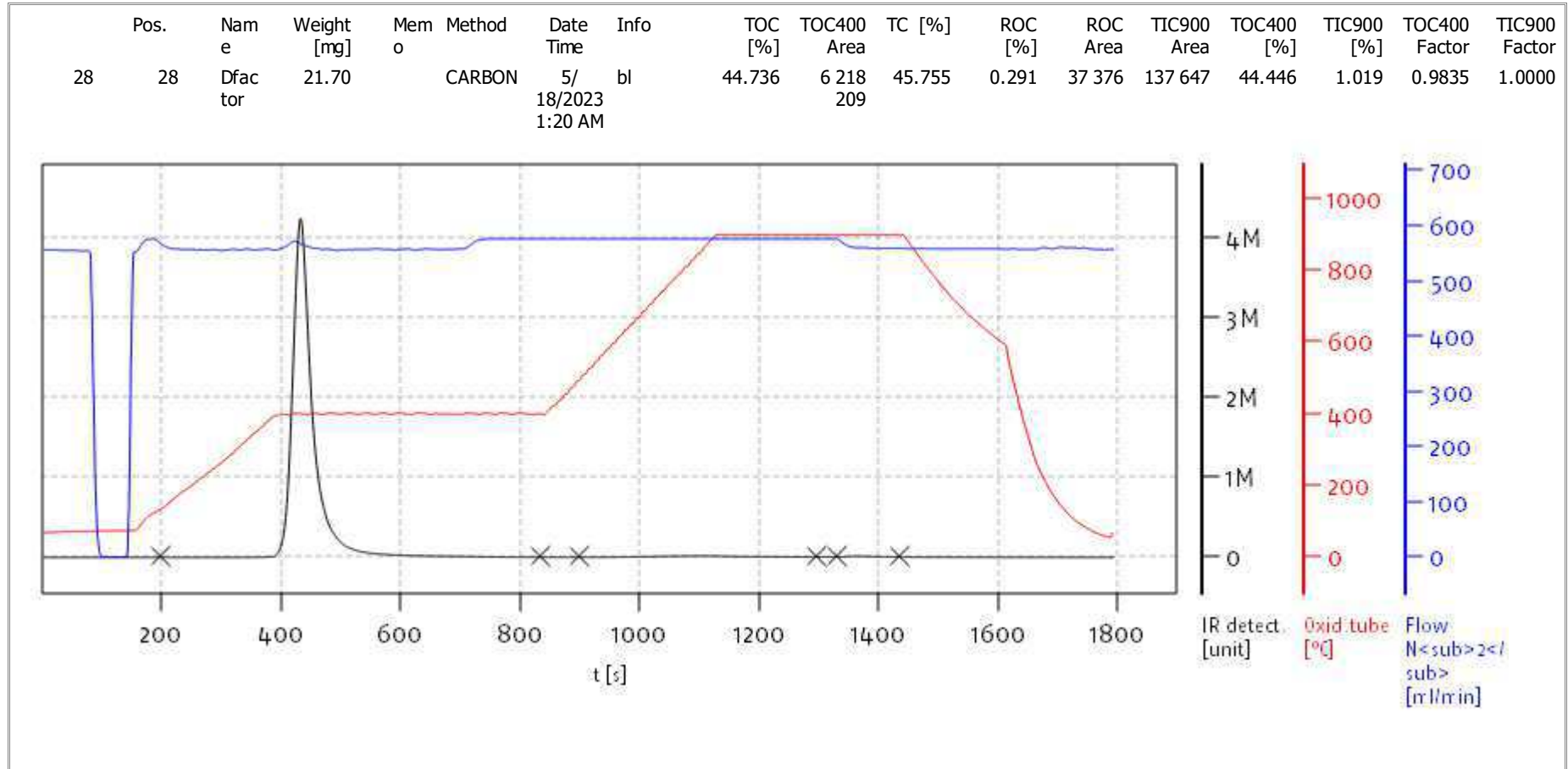
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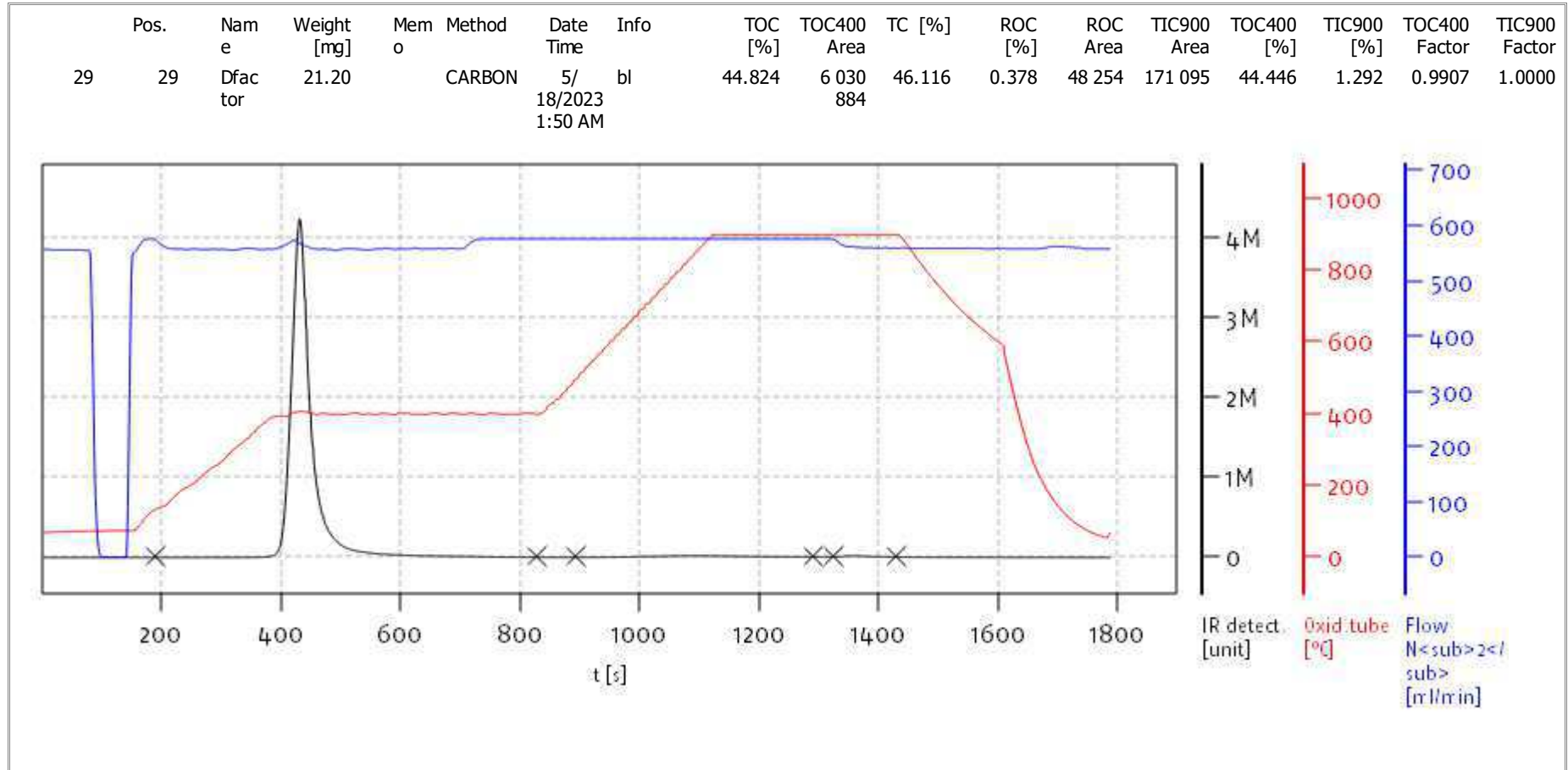
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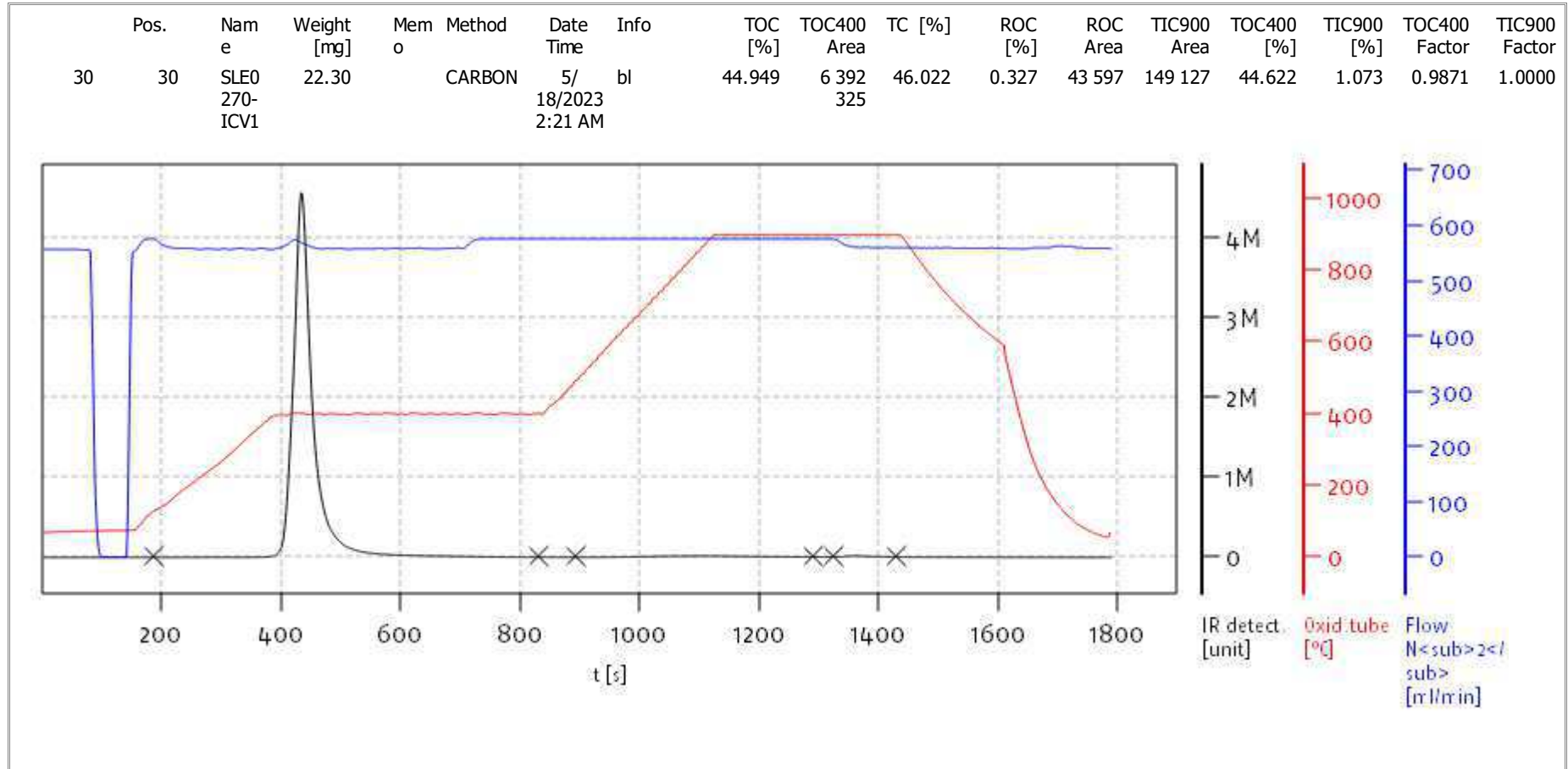
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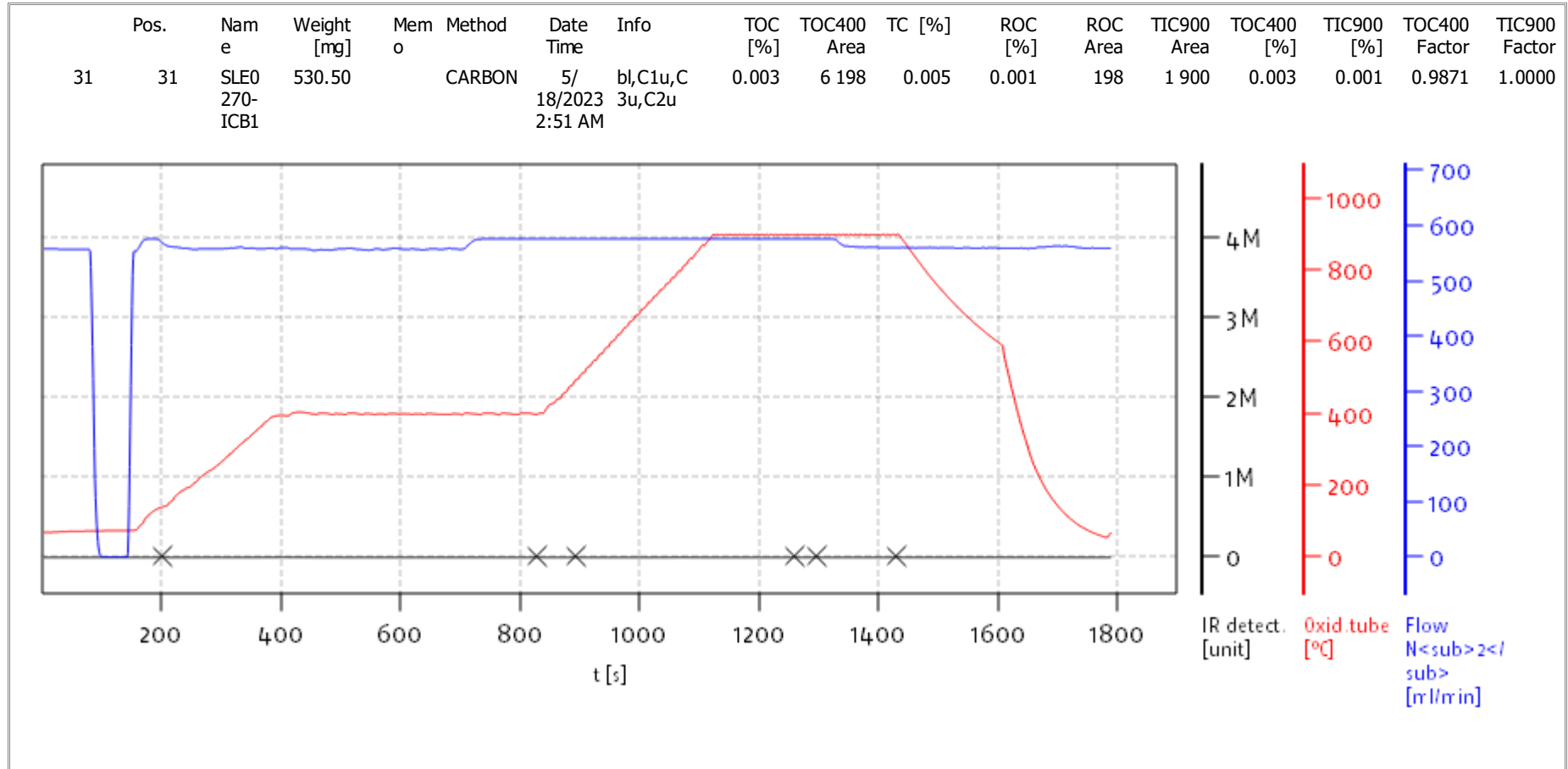
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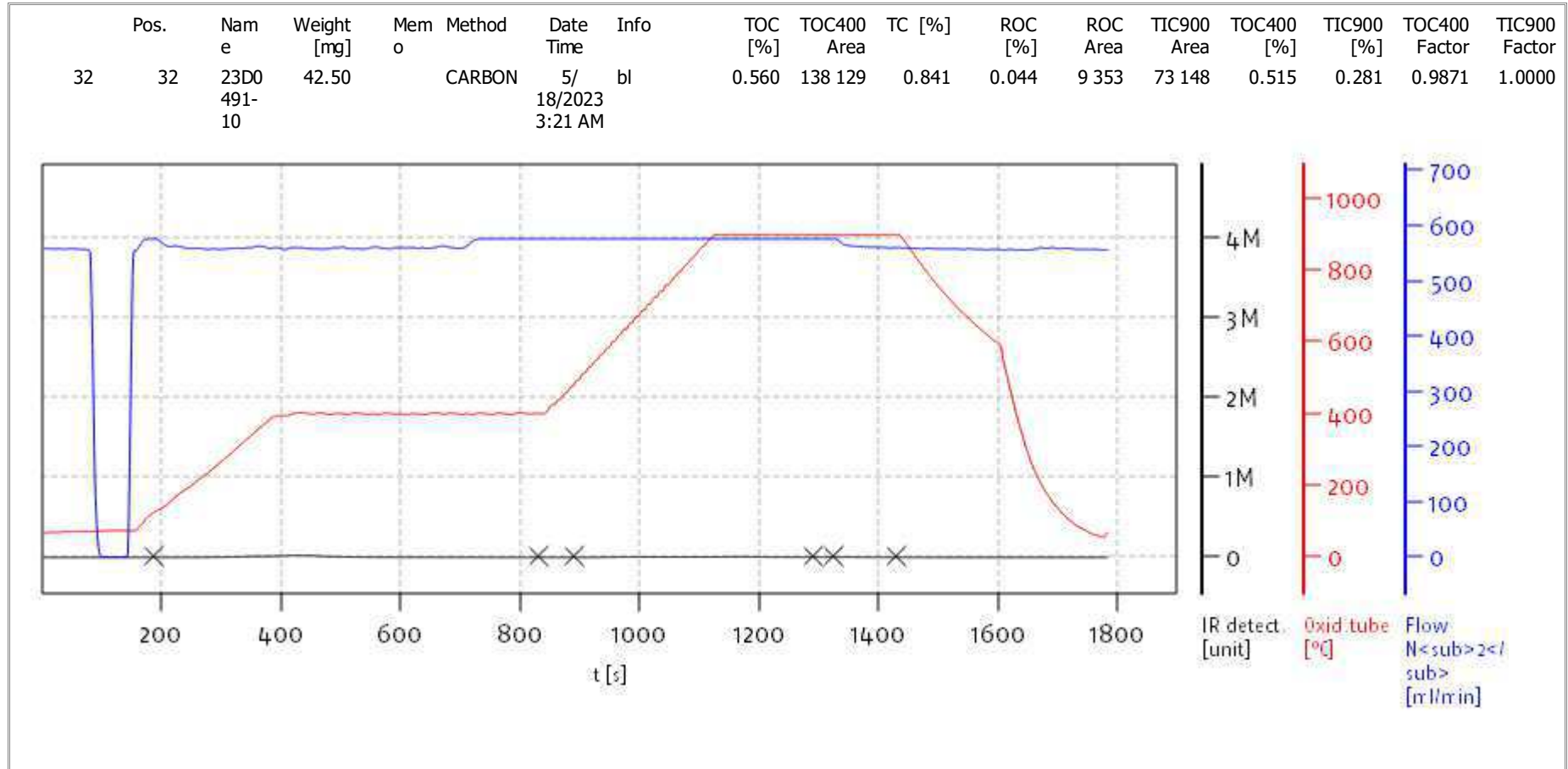
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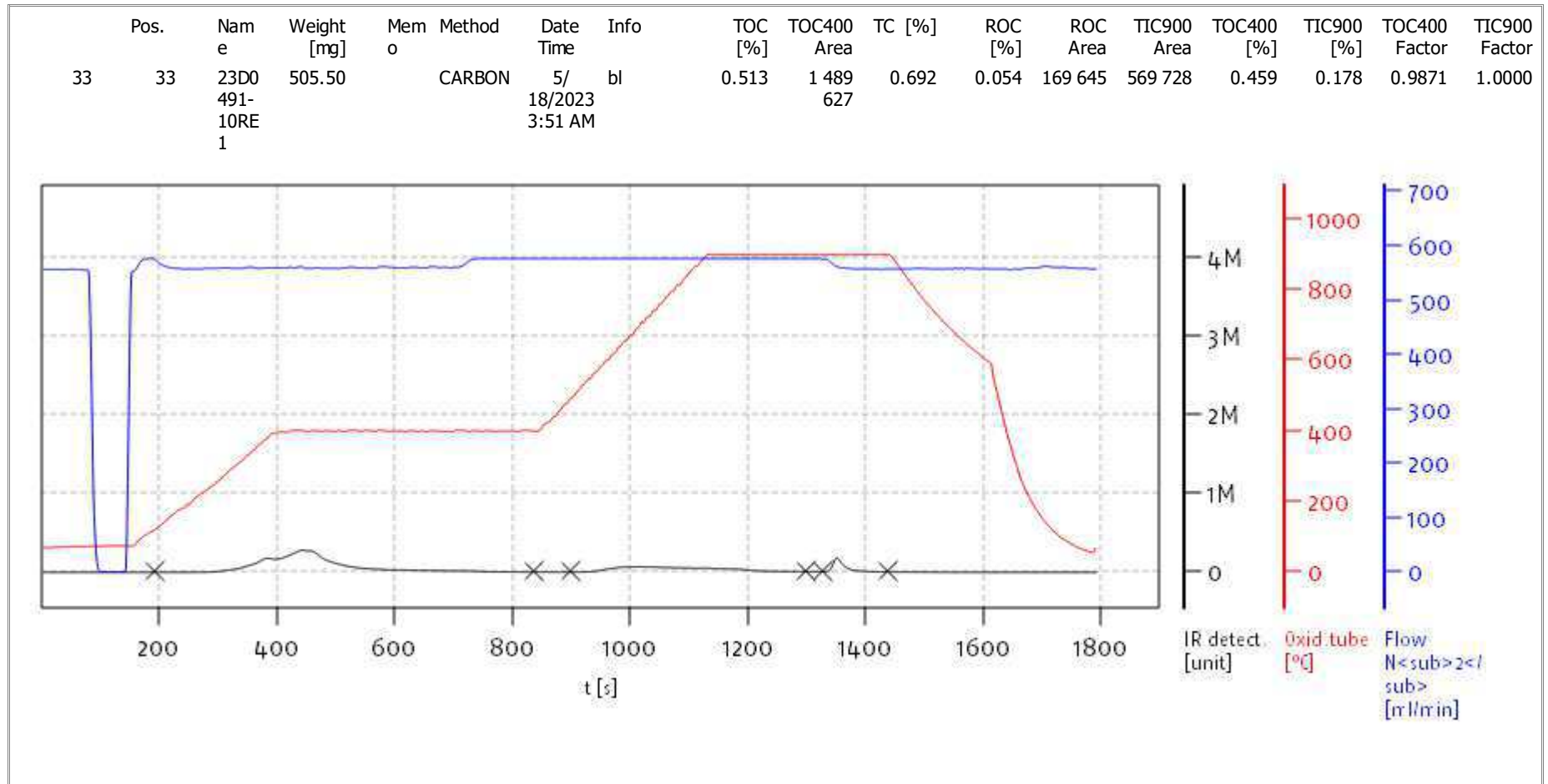
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Balance: BAL3
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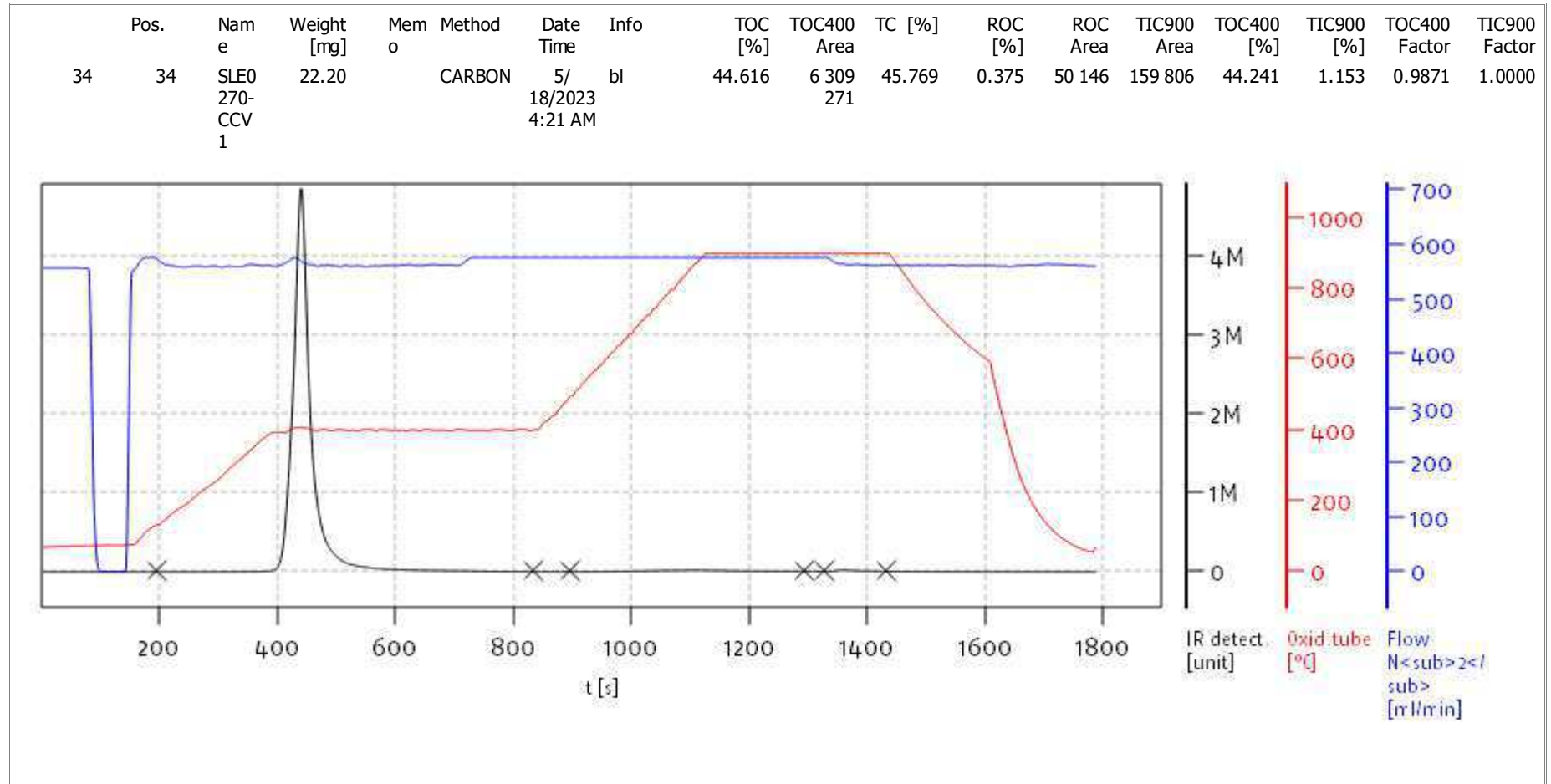
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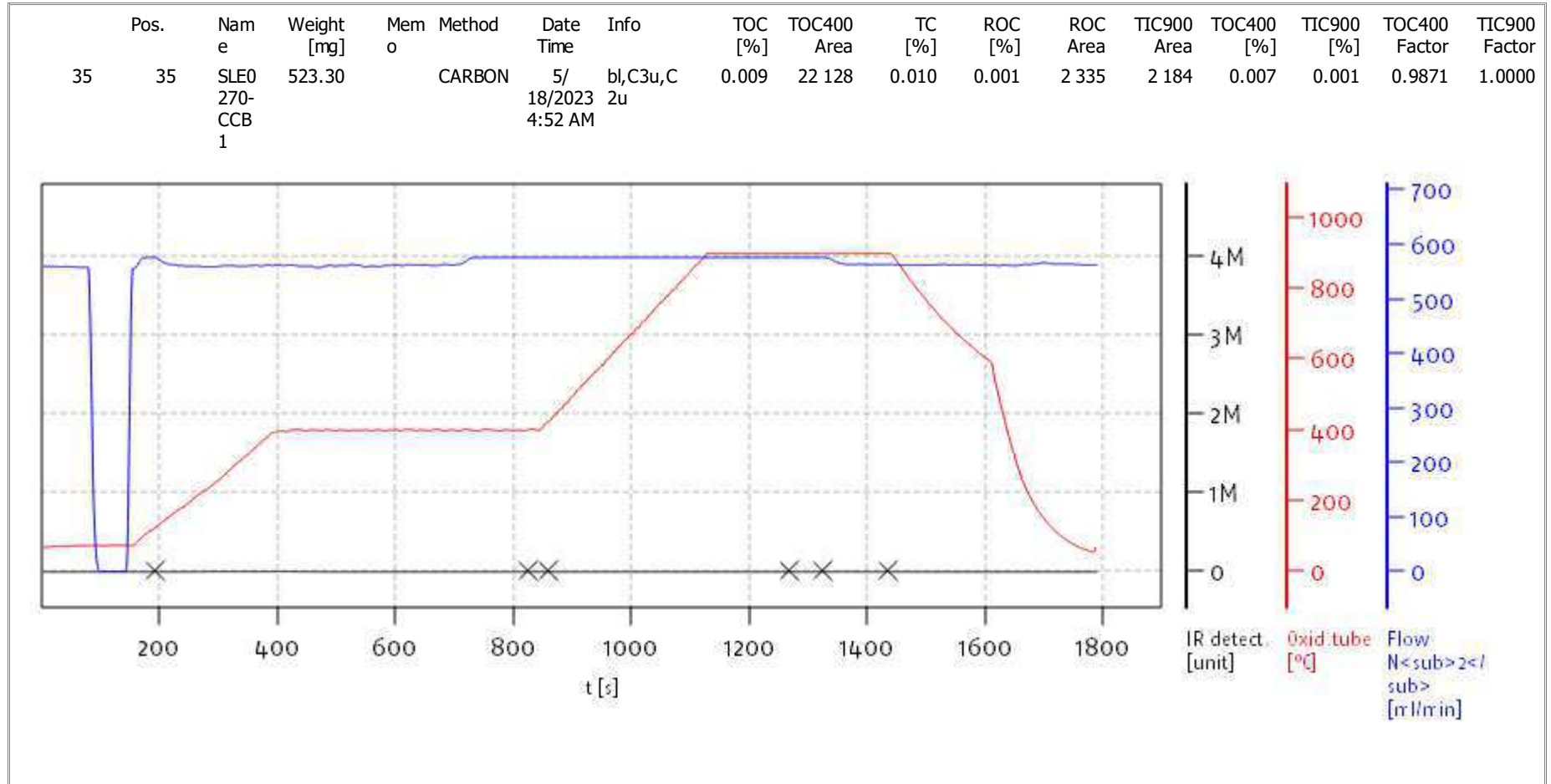
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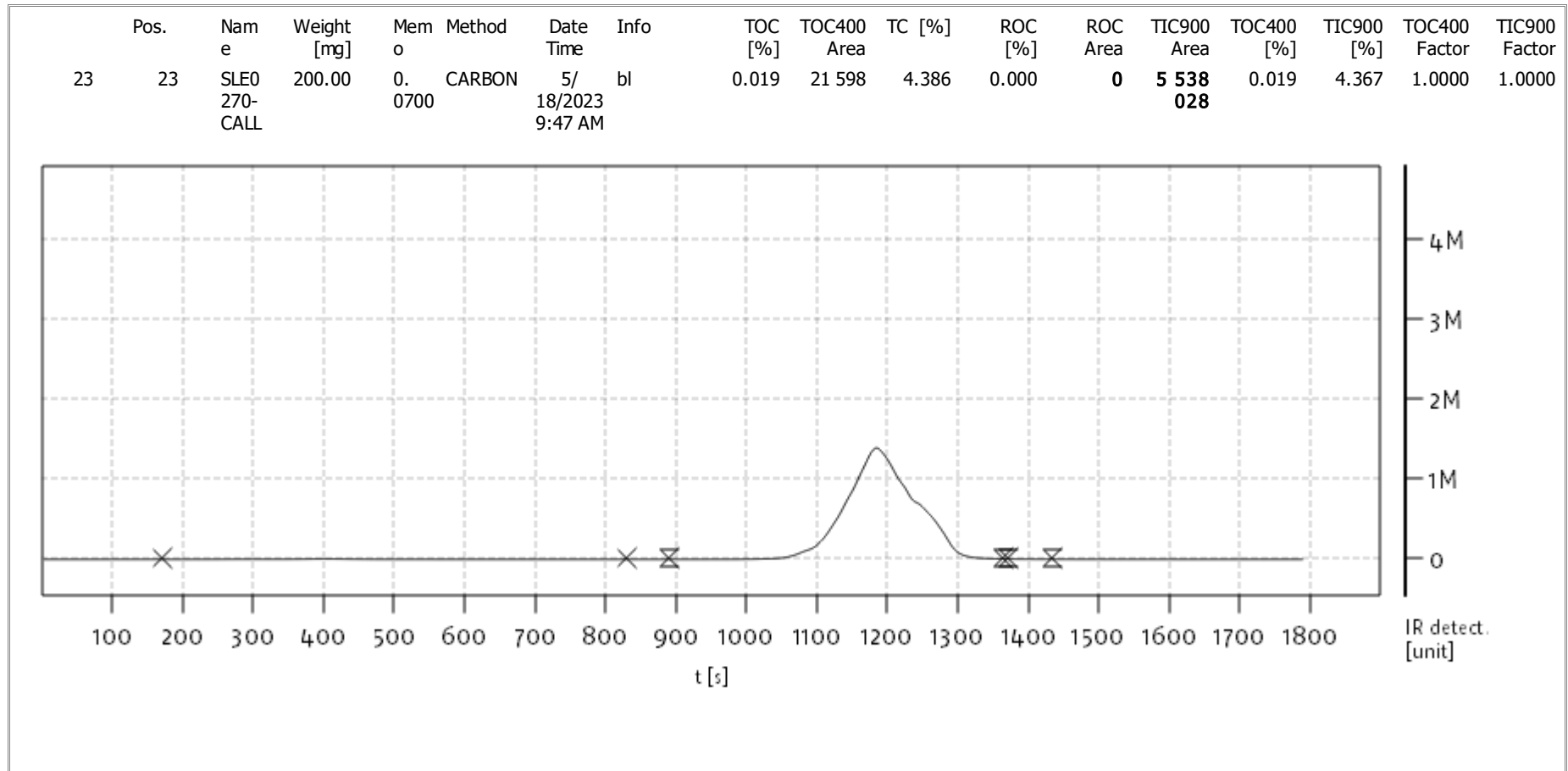
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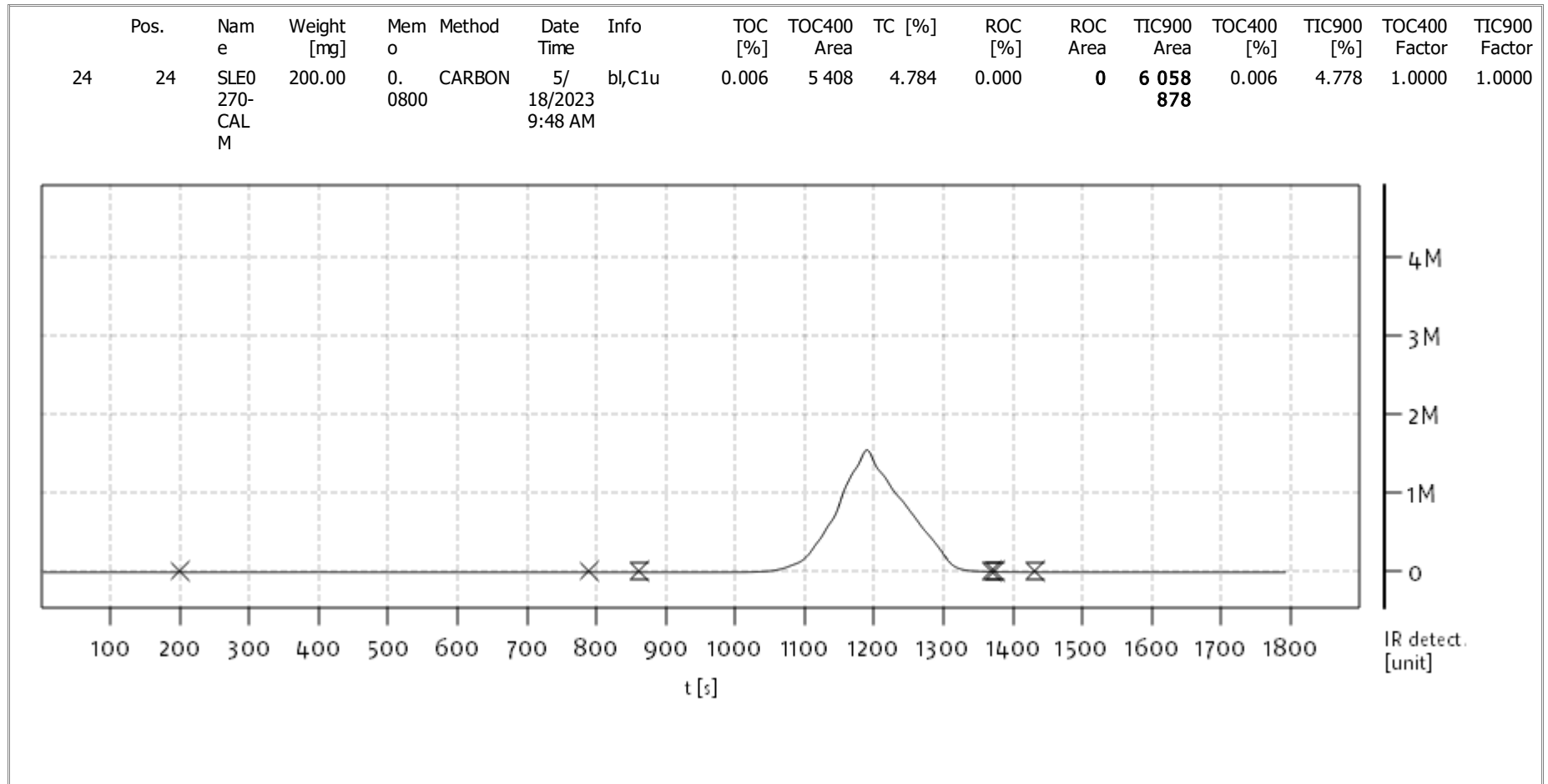
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Analyst: CDE



Name:

Access: solITOC superuser

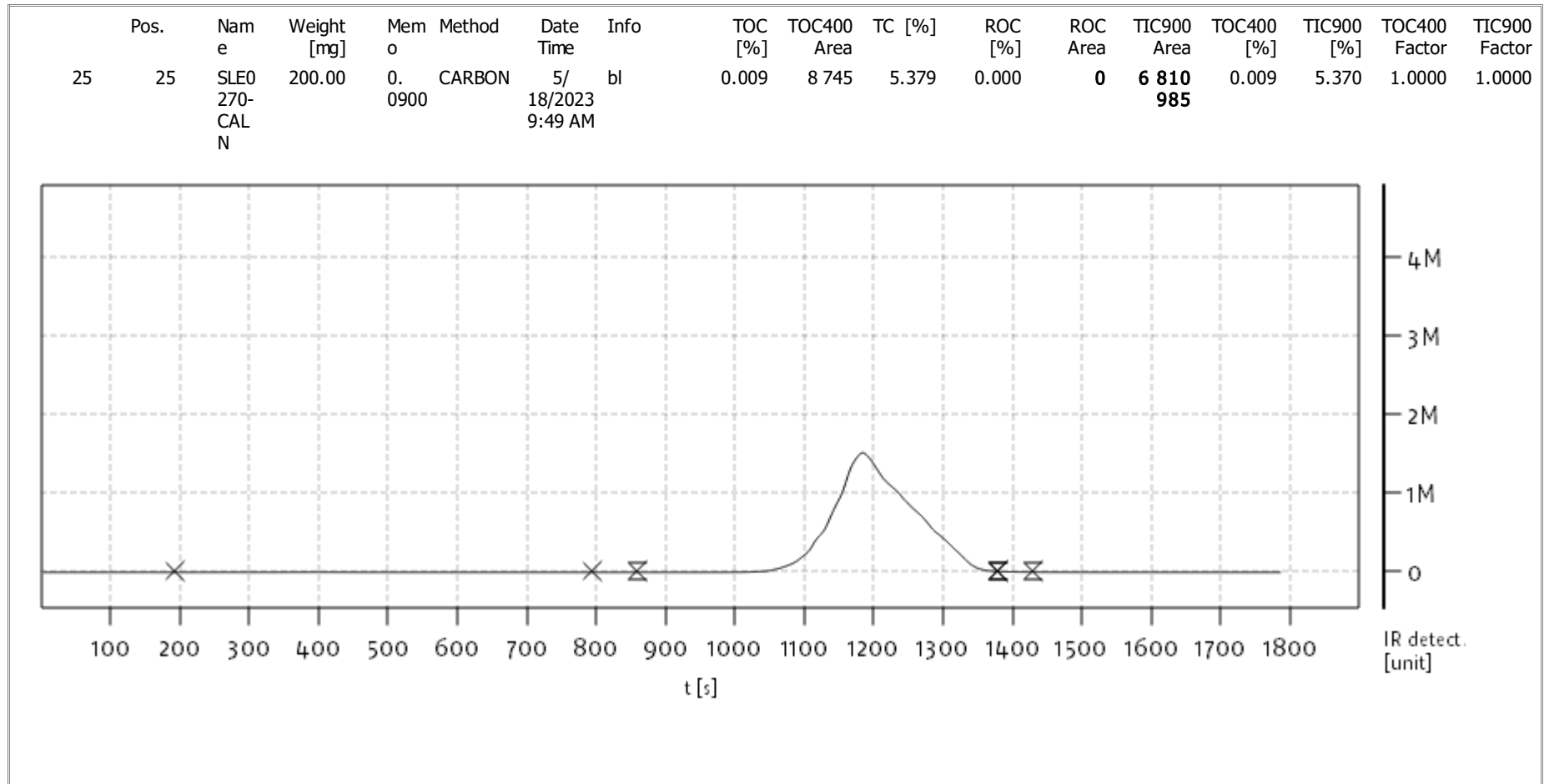
Date: Thu May 18 09:50:12 2023



solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

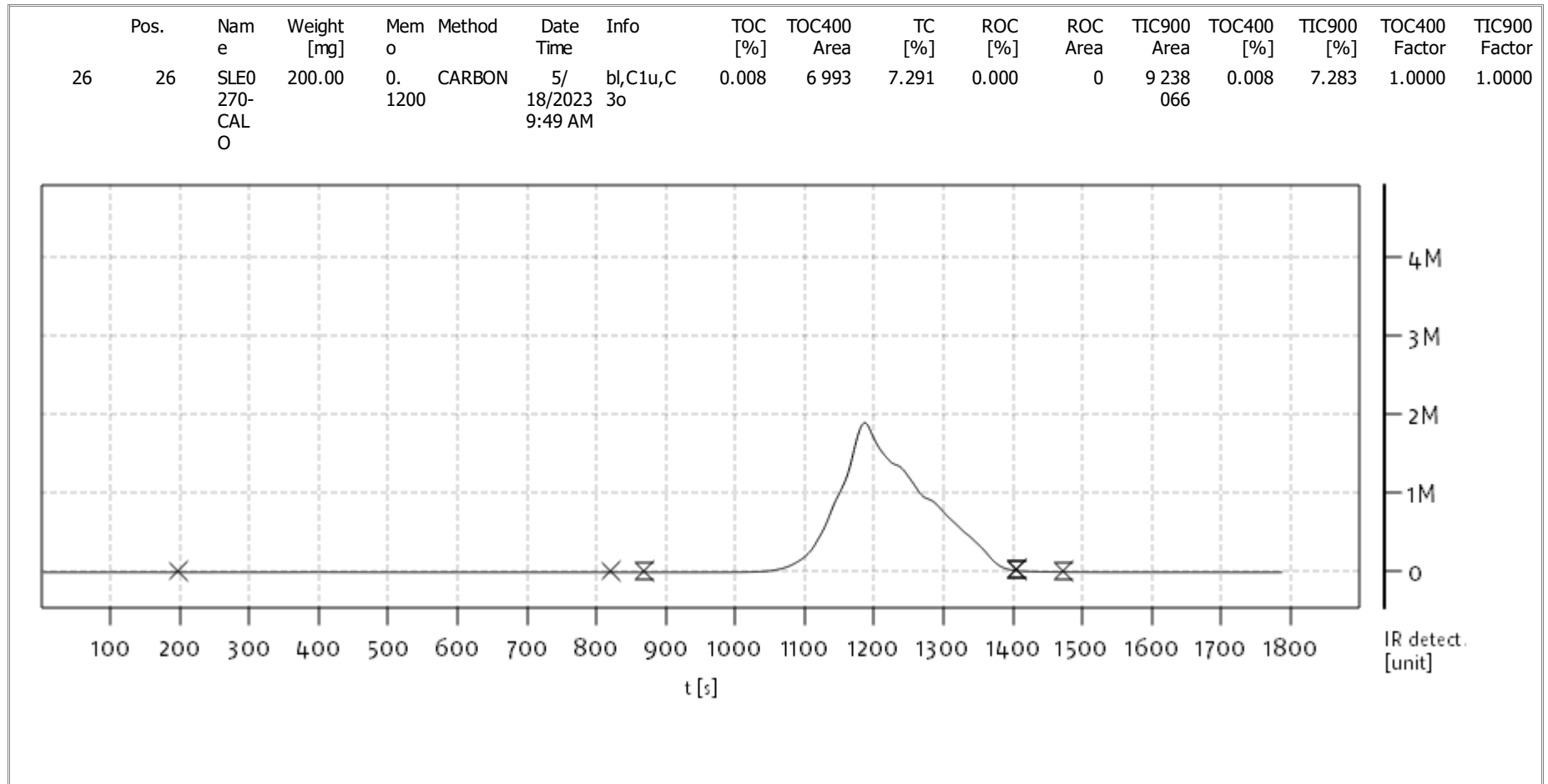
Date: Thu May 18 09:50:12 2023



solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE



Name:

Access: solITOC superuser

Date: Thu May 18 09:50:12 2023



solITOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC



INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Instrument ID: TOC Cube

Calibration: GE00052

Sequence: SLE0270

Date Analyzed: 05/18/23 02:51

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLE0270-ICB1	Total Organic Carbon	0.003	0.02	0.02	%	
SLE0270-CCB1	Total Organic Carbon	0.009	0.02	0.02	%	



INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Instrument ID: TOC Cube

Calibration: GE00052

Sequence: SLF0283

Date Analyzed: 06/20/23 17:53

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLF0283-ICB1	Total Organic Carbon	0.00	0.02	0.02	%	
SLF0283-CCB1	Total Organic Carbon	0.00	0.02	0.02	%	
SLF0283-CCB2	Total Organic Carbon	0.00	0.02	0.02	%	
SLF0283-CCB3	Total Organic Carbon	0.00	0.02	0.02	%	
SLF0283-CCB4	Total Organic Carbon	0.003	0.02	0.02	%	
SLF0283-CCB5	Total Organic Carbon	0.005	0.02	0.02	%	



INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Instrument ID: TOC Cube

Calibration: GE00052

Sequence: SLF0370

Date Analyzed: 06/24/23 15:31

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLF0370-ICB1	Total Organic Carbon	0.00	0.02	0.02	%	
SLF0370-CCB1	Total Organic Carbon	0.00	0.02	0.02	%	
SLF0370-CCB2	Total Organic Carbon	0.007	0.02	0.02	%	
SLF0370-CCB3	Total Organic Carbon	0.00	0.02	0.02	%	
SLF0370-CCB4	Total Organic Carbon	0.00	0.02	0.02	%	
SLF0370-CCB5	Total Organic Carbon	0.00	0.02	0.02	%	
SLF0370-CCB6	Total Organic Carbon	0.00	0.02	0.02	%	
SLF0370-CCB7	Total Organic Carbon	0.00	0.02	0.02	%	



**INITIAL AND CONTINUING
CALIBRATION CHECK
EPA 9060A m**

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Instrument ID: TOC Cube

Calibration: GE00052

Control Limit: +/- 10.00%

Sequence: SLE0270

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SLE0270-ICV1	Total Organic Carbon	44.446	45.4	102	%	EPA 9060A m
	Total Carbon	44.446	45.4	102	%	EPA 9060A m
	Total Inorganic Carbon	0.0000	45.4		%	EPA 9060A m
	% Soot	0.0000	45.4		%	EPA 9060A m
SLE0270-CCV1	Total Organic Carbon	44.446	45.2	102	%	EPA 9060A m
	Total Carbon	44.446	45.2	102	%	EPA 9060A m
	Total Inorganic Carbon	0.0000	45.2		%	EPA 9060A m
	% Soot	0.0000	45.2		%	EPA 9060A m

* Values outside of QC limits



**INITIAL AND CONTINUING
CALIBRATION CHECK**
EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Instrument ID: TOC Cube

Calibration: GE00052

Control Limit: +/- 10.00%

Sequence: SLF0283

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SLF0283-ICV1	Total Organic Carbon	44.446	44.3	99.7	%	EPA 9060A m
SLF0283-CCV1	Total Organic Carbon	44.446	43.8	98.5	%	EPA 9060A m
SLF0283-CCV2	Total Organic Carbon	44.446	44.4	100	%	EPA 9060A m
SLF0283-CCV3	Total Organic Carbon	44.446	43.2	97.2	%	EPA 9060A m
SLF0283-CCV4	Total Organic Carbon	44.446	45.1	101	%	EPA 9060A m
SLF0283-CCV5	Total Organic Carbon	44.446	45.1	102	%	EPA 9060A m

* Values outside of QC limits



INITIAL AND CONTINUING
CALIBRATION CHECK
EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Instrument ID: TOC Cube

Calibration: GE00052

Control Limit: +/- 10.00%

Sequence: SLF0370

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SLF0370-ICV1	Total Organic Carbon	44.446	46.6	105	%	EPA 9060A m
SLF0370-CCV1	Total Organic Carbon	44.446	45.2	102	%	EPA 9060A m
SLF0370-CCV2	Total Organic Carbon	44.446	43.6	98.1	%	EPA 9060A m
SLF0370-CCV3	Total Organic Carbon	44.446	44.9	101	%	EPA 9060A m
SLF0370-CCV4	Total Organic Carbon	44.446	43.7	98.2	%	EPA 9060A m
SLF0370-CCV5	Total Organic Carbon	44.446	45.1	101	%	EPA 9060A m
SLF0370-CCV6	Total Organic Carbon	44.446	45.4	102	%	EPA 9060A m
SLF0370-CCV7	Total Organic Carbon	44.446	44.3	99.7	%	EPA 9060A m

* Values outside of QC limits



STANDARD REFERENCE MATERIAL RECOVERY

EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Matrix: Solid

Laboratory ID: BLF0522-SRM2

Batch: BLF0522

Initial/Final: 0.3077 g / 0.3077 g

Preparation: No Prep Wet Chem

Analyzed: 06/24/2023 17:32

Standard ID: L005590

Expires: 04/14/2032

Standard Lot#: 1941 B

Description: 1941B- Organics in Marine Sediment

ANALYTE	TRUE (% wet)	FOUND (% wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	2.9900	3.12	0.02	0.02		104	80 - 120

* Values outside of QC limits



HOLDING TIME SUMMARY

Analysis: EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW22-SC778G 23D0577-01	12/09/22 07:56	12/09/22 16:40	06/19/23 13:26	192	180	06/21/23 12:58			*
LDW22-SC777J 23D0577-02	12/09/22 08:52	12/09/22 16:40	06/19/23 13:26	192	180	06/21/23 13:28			*
LDW22-SC777K 23D0577-03	12/09/22 08:52	12/09/22 16:40	06/19/23 13:26	192	180	06/21/23 13:58			*
LDW22-SC777L 23D0577-04	12/09/22 08:52	12/09/22 16:40	06/19/23 13:26	192	180	06/21/23 14:29			*
LDW22-SC777M 23D0577-05	12/09/22 08:52	12/09/22 16:40	06/19/23 13:26	192	180	06/21/23 14:59			*
LDW22-SC760I 23D0577-06	12/07/22 13:30	12/09/22 16:40	06/19/23 13:26	193	180	06/21/23 15:29			*
LDW21-SC572J 23D0577-07	06/30/21 13:45	12/09/22 16:40	06/19/23 13:26	718	180	06/21/23 18:31			*
LDW21-SC572K 23D0577-08	06/30/21 13:45	12/09/22 16:40	06/19/23 13:26	718	180	06/21/23 19:01			*
LDW21-SC572L 23D0577-09	06/30/21 13:45	12/09/22 16:40	06/19/23 13:26	718	180	06/21/23 19:31			*

* Indicates hold time exceedance.



**METHOD DETECTION
AND REPORTING LIMITS**

EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 23D0577

Client: Anchor QEA, LLC

Project: AOC4 UR Phase 3

Matrix: Solid

Instrument: TOC Cube

Analyte	MDL	RL	Units
Total Organic Carbon	0.02	0.02	%



Analytical Standard Record
Standard ID: B000871

Printed: 5/25/2023 9:17:22AM

Description:	Calcium Carbonate 99.9% for Calibration	Expires:	31-Oct-2030
Standard Type:	Reagent	Prepared:	28-Jun-2013
Solvent:	NA/I2605	Prepared By:	Susan Dunnihoo
Final Volume (mls):	500	Department:	Conventionals
Vials:	1	Last Edit:	08-Jul-2019 12:16 by CDE
Vendor:	Mallinckrodt	Lot #:	4072 KDHD
Vendor Catalog #:	4072-03		

Comments

Analyte	CAS Number	Concentration	Units
Total Organic Carbon		120000	ppm
Total Inorganic Carbon		120000	ppm
Total Carbon		120000	ppm
Calcium carbonate	471-34-1	1000000	ppm
% Soot		120000	ppm



MP Biomedicals, LLC

29525 Fountain Parkway
Solon, Ohio 44139

Telephone: 440/337-1200
Toll Free: 800/854-0530

Fax: 440/337-1180
web: www.mpbio.com

Certificate of Analysis

Product Description: Microcrystalline Cellulose Powder_
Catalog Number: 191499_
Lot: Q9483_

Formula: (C₆H₁₀O₅)_n
CAS #: 9004-34-6
Physical Description: White Powder

Formula Weight: N/A
Storage: 15 - 30°C


Test	Specification	Result
Identity Test	Passes	Passes
Purity	97.0 - 102.0%	97.0 - 102.0%
Moisture	<5.0%	3.4%
Particle Size/Mesh	Wt %	
+60 mesh	<8%	<1%
+200 mesh	>45%	55%
pH	5 - 7	6.73
Residue on Ignition	<0.05%	<0.05%
Water Soluble Substances	<12.0 mg/5 g	4.5 mg/5 g
Heavy Metals	<10 ppm	<10 ppm

H001822

Microcrystalline Cellulose Powder (TOC)
Expires 11/30/2022
Prepared By Casey English 2/22/2019

Identification A & B: Passes
Bulk Density: 0.29 g/ml
Bulk Density (graduated cylinder): 0.31 g/ml
Conductivity: 18 µS/cm
Starch: Negative
Ether Soluble Substances: 0.01%
Total Aerobic microbial Count: 100 cfu/g
Total Mold and Yeast Count: 20 cfu/g
Staphylococcus aureus: Absent/1 g
Pseudomonas aeruginosa: Absent/1 g
E. coli: Absent/1 g
Salmonella: Absent/10 g
Particle size:

- 450 mesh: 77%
- d10: 37 um
- d50: 139 um
- d90: 271 um
TUP: <9/600 cm²
Degree of brightness: >88%
Powder flow-angle of repose: <42°
Recommended Retest Date: 11/30/2022



07/26/2018 - John Huang, PhD
MP Biomedicals, LLC.
Quality Control Manager

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<mailto:biotech@mpbio.com>
<http://www.mpbio.com>

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MP Biomedicals, LLC

29525 Fountain Parkway
Solon, Ohio 44139

Telephone: 440/337-1200
Toll Free: 800/854-0530

Fax: 440/337-1180
web: www.mpbio.com

Certificate of Analysis

Product Description: Microcrystalline Cellulose Powder_
Catalog Number: 191499_
Lot: Q9483_

Formula: (C₆H₁₀O₅)_n

CAS #: 9004-34-6

Physical Description: White Powder

Formula Weight: N/A

Storage: 15 - 30°C

Test	Specification	Result
Identity Test	Passes	Passes
Purity	97.0 - 102.0%	97.0 - 102.0%
Moisture	<5.0%	3.4%
Particle Size/Mesh	Wt %	
+60 mesh	<8%	<1%
+200 mesh	>45%	55%
pH	5 - 7	6.73
Residue on Ignition	<0.05%	<0.05%
Water Soluble Substances	<12.0 mg/5 g	4.5 mg/5 g
Heavy Metals	<10 ppm	<10 ppm

H001822

Microcrystalline Cellulose Powder (TOC)

Expires 11/30/2022

Prepared By Casey English 2/22/2019

Identification A & B: Passes

Bulk Density: 0.29 g/ml

Bulk Density (graduated cylinder): 0.31 g/ml

Conductivity: 18 µS/cm

Starch: Negative

Ether Soluble Substances: 0.01%

Total Aerobic microbial Count: 100 cfu/g

Total Mold and Yeast Count: 20 cfu/g

Staphylococcus aureus: Absent/1 g

Pseudomonas aeruginosa: Absent/1 g

E. coli: Absent/1 g

Salmonella: Absent/10 g

Particle size:

- 450 mesh: 77%
- d10: 37 um
- d50: 139 um
- d90: 271 um
TUP: <9/600 cm²
Degree of brightness: >88%
Powder flow-angle of repose: <42°
Recommended Retest Date: 11/30/2022



07/26/2018 - John Huang, PhD
MP Biomedicals, LLC.
Quality Control Manager

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Online Ordering, MSDSs, certificates of analysis and data sheets now available on our web site
Technical Service: 1-800-279-5490 (440-337-1200) Customer Service: 1-800-854-0530 (440-337-1200)

Standard Reference Material® 1941b
Organics in Marine Sediment
CERTIFICATE OF ANALYSIS

Purpose: This Standard Reference Material (SRM) is marine sediment collected at the mouth of the Baltimore (MD) Harbor. SRM 1941b is intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine sediment and similar matrices. Non-certified values are also provided for total organic carbon (TOC), total carbon, hydrogen, and nitrogen. All of the constituents for which certified and non-certified values are provided in SRM 1941b were naturally present in the sediment before processing.

Description: A unit of SRM 1941b consists of a bottle containing 50 g of radiation-sterilized, freeze-dried sediment.

Certified Values: Certified mass fraction values for PAHs, PCB congeners, and chlorinated pesticides are provided in Table 1 through Table 3. The certified values for the PAHs, PCB congeners, and chlorinated pesticides are based on the agreement of results obtained at NIST from two or more chemically independent analytical techniques along with results from an interlaboratory comparison study [1]. A NIST certified value is a value for which NIST has the highest confidence in its accuracy in that all known or suspected sources of bias have been investigated or taken into account [1].

Non-Certified Values: Non-certified values are provided in the Appendix A.

Additional Information: Additional information is provided in Appendices B-D.

Period of Validity: The certified values delivered by SRM 1941b are valid within the measurement uncertainty specified until 14 April 2032. The certified values are nullified if the material is stored or used improperly, damaged, contaminated, or otherwise modified.

Maintenance of Certified Values: NIST will monitor this SRM over the period of its validity. If substantive technical changes occur that affect the certification, NIST will issue an amended certificate through the NIST SRM website (<https://www.nist.gov/srm>) and notify registered users. SRM users can register online from a link available on the NIST SRM website or fill out the user registration form that is supplied with the SRM. Registration will facilitate notification. Before making use of any of the values delivered by this material, users should verify they have the most recent version of this documentation, available through the NIST SRM website (<https://www.nist.gov/srm>).

Table 1. Certified Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions ^(a) ($\mu\text{g}/\text{kg}$)
Naphthalene ^(b,c,d,e,f,g)	848 \pm 95 ^(h)
Fluorene ^(b,c,d,e,f,g)	85 \pm 15 ^(h)
Phenanthrene ^(b,c,d,e,f,g)	406 \pm 44 ^(h)
Anthracene ^(b,c,d,e,f,g)	184 \pm 18 ^(h)
3-Methylphenanthrene ^(b,c,d)	105 \pm 13 ^(h)
2-Methylphenanthrene ^(b,c,d)	128 \pm 14 ^(h)
1-Methylphenanthrene ^(b,c,d,g)	73.2 \pm 5.9 ^(h)
Fluoranthene ^(b,c,d,e,f,g)	651 \pm 50 ^(h)
Pyrene ^(b,c,d,e,f,g)	581 \pm 39 ^(h)
Benz[<i>a</i>]anthracene ^(b,c,d,e,f,g)	335 \pm 25 ^(h)
Chrysene ^(d,f)	291 \pm 31 ^(h)
Triphenylene ^(d,f)	108 \pm 5 ⁽ⁱ⁾
Benzo[<i>b</i>]fluoranthene ^(c,e)	453 \pm 21 ^(h)
Benzo[<i>k</i>]fluoranthene ^(b,c,d,e)	225 \pm 18 ^(h)
Benzo[<i>e</i>]pyrene ^(b,c,d,g)	325 \pm 25 ^(h)
Benzo[<i>a</i>]pyrene ^(b,c,d,f,g)	358 \pm 17 ^(h)
Perylene ^(b,c,d,f,g)	397 \pm 45 ^(h)
Benzo[<i>ghi</i>]perylene ^(b,c,d,f,g)	307 \pm 45 ^(h)
Indeno[1,2,3- <i>cd</i>]pyrene ^(b,c,d,f,g)	341 \pm 57 ^(h)
Dibenz[<i>a,j</i>]anthracene ^(b,c,d,f)	48.9 \pm 4.6 ^(h)
Dibenz[<i>a,c</i>]anthracene ^(c,f)	36.7 \pm 5.2 ^(h)
Dibenz[<i>a,h</i>]anthracene ^(c,f)	53 \pm 10 ^(h)
Benzo[<i>b</i>]chrysene ^(b,c,d,f)	53 \pm 12 ^(h)
Picene ^(b,c,d)	46.6 \pm 4.7 ^(h)

^(a) Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

^(b) GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.

^(c) GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.

^(d) GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

^(e) LC-FL (total) of total PAH fraction after PFE with DCM.

^(f) LC-FL (isomer) of isomeric PAH fractions after PFE with DCM.

^(g) 1999 Interlaboratory Comparison Study [2] with 21 to 29 laboratories submitting data for each PAH.

^(h) Certified values are weighted means of the results from two to six analytical methods [3]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [4,5]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

⁽ⁱ⁾ The certified value is an unweighted mean of the results from two analytical methods. The uncertainty listed with the value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [6] with a pooled, within-method variance following the ISO/JCGM Guide [4,5]. The measurand is the total mass fraction of the constituent listed and the value is metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 2. Certified Mass Fraction Values for PCB Congeners^(a) in SRM 1941b

PCB Congeners		Mass Fractions ^(b) ($\mu\text{g}/\text{kg}$)
PCB 8	(2,4'-Dichlorobiphenyl) ^(c,d,e,f,g)	1.65 \pm 0.19 ^(h)
PCB 18	(2,2',5'-Trichlorobiphenyl) ^(c,d,e,f,g)	2.39 \pm 0.29 ^(h)
PCB 28	(2,4,4'-Trichlorobiphenyl) ^(c,d,e,f,g)	4.52 \pm 0.57 ^(h)
PCB 31	(2,4',5'-Trichlorobiphenyl) ^(c,e,f)	3.18 \pm 0.41 ^(h)
PCB 44	(2,2',3,5'-Tetrachlorobiphenyl) ^(c,d,e,f,g)	3.85 \pm 0.20 ⁽ⁱ⁾
PCB 49	(2,2',4,5'-Tetrachlorobiphenyl) ^(c,d,e,f)	4.34 \pm 0.28 ⁽ⁱ⁾
PCB 52	(2,2',5,5'-Tetrachlorobiphenyl) ^(c,d,e,f,g)	5.24 \pm 0.28 ⁽ⁱ⁾
PCB 66	(2,3',4,4'-Tetrachlorobiphenyl) ^(c,e,f,g,i)	4.96 \pm 0.53 ⁽ⁱ⁾
PCB 87	(2,2',3,4,5'-Pentachlorobiphenyl) ^(c,d,f,i)	1.14 \pm 0.16 ^(h)
PCB 95	(2,2',3,5',6'-Pentachlorobiphenyl) ^(c,e,f,g)	3.93 \pm 0.62 ⁽ⁱ⁾
PCB 99	(2,2',4,4',5'-Pentachlorobiphenyl) ^(c,d,e,f,g)	2.90 \pm 0.36 ⁽ⁱ⁾
PCB 101	(2,2',4,5,5'-Pentachlorobiphenyl) ^(c,e,f,g,i)	5.11 \pm 0.34 ⁽ⁱ⁾
PCB 105	(2,3,3',4,4'-Pentachlorobiphenyl) ^(c,d,e,f,g,i)	1.43 \pm 0.10 ⁽ⁱ⁾
PCB 110	(2,3,3',4',6'-Pentachlorobiphenyl) ^(c,e,f,i)	4.62 \pm 0.36 ⁽ⁱ⁾
PCB 118	(2,3',4,4',5'-Pentachlorobiphenyl) ^(c,d,e,f,g,i)	4.23 \pm 0.19 ⁽ⁱ⁾
PCB 128	(2,2',3,3',4,4'-Hexachlorobiphenyl) ^(c,d,e,f,g,i)	0.696 \pm 0.044 ⁽ⁱ⁾
PCB 138	(2,2',3,4,4',5'-Hexachlorobiphenyl) ^(c,e,f,i)	3.60 \pm 0.28 ⁽ⁱ⁾
PCB 149	(2,2',3,4',5',6'-Hexachlorobiphenyl) ^(c,d,e,i)	4.35 \pm 0.26 ^(h)
PCB 153	(2,2',4,4',5,5'-Hexachlorobiphenyl) ^(c,d,e,f,g,i)	5.47 \pm 0.32 ⁽ⁱ⁾
PCB 156	(2,3,3',4,4',5'-Hexachlorobiphenyl) ^(c,d,e,f,i)	0.507 \pm 0.090 ⁽ⁱ⁾
PCB 170	(2,2',3,3',4,4',5'-Heptachlorobiphenyl) ^(c,d,e,f,g,i)	1.35 \pm 0.09 ⁽ⁱ⁾
PCB 180	(2,2',3,4,4',5,5'-Heptachlorobiphenyl) ^(c,d,e,f,g,i)	3.24 \pm 0.51 ⁽ⁱ⁾
PCB 183	(2,2',3,4,4',5',6'-Heptachlorobiphenyl) ^(c,d,e,i)	0.979 \pm 0.087 ^(h)
PCB 187	(2,2',3,4',5,5',6'-Heptachlorobiphenyl) ^(c,d,e,f,g,i)	2.17 \pm 0.22 ⁽ⁱ⁾
PCB 194	(2,2',3,3',4,4',5,5'-Octachlorobiphenyl) ^(c,d,e,i)	1.04 \pm 0.06 ^(h)
PCB 195	(2,2',3,3',4,4',5,6'-Octachlorobiphenyl) ^(c,e,g,i)	0.645 \pm 0.060 ⁽ⁱ⁾
PCB 201	(2,2',3,3',4,5',6',6'-Octachlorobiphenyl) ^(c,e,i)	0.777 \pm 0.034 ^(h)
PCB 206	(2,2',3,3',4,4',5,5',6'-Nonachlorobiphenyl) ^(c,e,f,g,i)	2.42 \pm 0.19 ⁽ⁱ⁾
PCB 209	Decachlorobiphenyl ^(c,d,e,f,g,i)	4.86 \pm 0.45 ⁽ⁱ⁾

^(a) PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [7] and later revised by Schulte and Malisch [8] to conform to IUPAC rules, except PCB 201. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 201 is listed as PCB 200.

^(b) Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

^(c) GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

^(d) GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

^(e) GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

^(f) GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.

^(g) 1999 Interlaboratory Comparison Study [2] with 13 to 31 laboratories submitting data for each PCB congener.

^(h) Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [6] with a pooled, within method variance following the ISO/JCGM Guide [4,5]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

⁽ⁱ⁾ Certified values are weighted means of the results from three to six analytical methods [3]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [4,5]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

^(j) GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

Table 3. Certified Mass Fraction Values for Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions ^(a) ($\mu\text{g}/\text{kg}$)
Hexachlorobenzene ^(b,c,d,e)	5.83 \pm 0.38 ^(f)
<i>cis</i> -Chlordane ^(b,c,d,e,g)	0.85 \pm 0.11 ^(h)
<i>trans</i> -Chlordane ^(b,c,e)	0.566 \pm 0.093 ^(f)
<i>cis</i> -Nonachlor ^(b,e,g)	0.378 \pm 0.053 ^(f)
<i>trans</i> -Nonachlor ^(b,c,d,e,g)	0.438 \pm 0.073 ^(f)
4,4'-DDE ^(b,d,e,g)	3.22 \pm 0.28 ^(h)
4,4'-DDD ^(b,d,e,g)	4.66 \pm 0.46 ^(h)

^(a) Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

^(b) GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

^(c) GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

^(d) GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.

^(e) 1999 Interlaboratory Comparison Study [2] with 13 to 31 laboratories submitting data for each pesticide.

^(f) Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [6] with a pooled, within-method variance following the ISO/JCGM Guide [4,5]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

^(g) GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

^(h) Certified values are weighted means of the results from three to five analytical methods [3]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [4,5]. The measurand is the total mass fraction of the chlorinated pesticides listed and the values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Safety: This material is naturally occurring marine sediment from an urban area and may contain constituents of unknown toxicities; therefore, caution and care should be exercised during its handling and use.

Storage: SRM 1941b must be stored in its original bottle at temperatures less than 30 °C and away from direct sunlight.

Use: Prior to removal of subsamples for analysis, the contents of the bottle should be mixed. The mass fractions of constituents in SRM 1941b are reported on a dry-mass basis. The SRM, as received, contains a mass fraction of approximately 2.4 % moisture (see "Conversion to Dry-Mass Basis"). The sediment sample should be dried to a constant mass before weighing for analysis; or a separate subsample of the sediment should be removed from the bottle at the time of analysis and dried to determine the mass fraction on a dry-mass basis. If the constituents of interest are volatile, then the moisture must be determined with a separate subsample.

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Certificate Revision History: 25 April 2022 (Change of period of validity; updated format; editorial changes); 16 January 2015 (Corrected IUPAC name for PCB-56 and PCB-107; editorial changes); 10 June 2014 (Units corrected from mg/kg to µg/kg in Tables 8 and 9; editorial changes); 10 April 2012 (Reference value added for alkylated PAH groups, hopanes, and steranes; extension of certification period; editorial changes); 01 December 2011 (Extension of certification period; editorial changes); 16 August 2004 (Reference values for the butyl tins removed; editorial changes); 15 July 2002 (Original certificate date).

Certain commercial equipment, instruments, or materials may be identified in this Certificate of Analysis to adequately specify the experimental procedure. Such identification does not imply recommendation or endorsement by the National Institute of Standards and Technology, nor does it imply that the materials or equipment identified are necessarily the best available for the purpose.

Users of this SRM should ensure that the Certificate of Analysis in their possession is current. This can be accomplished by contacting the Office of Reference Materials 100 Bureau Drive, Stop 2300, Gaithersburg, MD 20899-2300; telephone (301) 975-2200; e-mail srminfo@nist.gov; or the Internet at <https://www.nist.gov/srm>.

* * * * * End of Certificate of Analysis * * * * *

APPENDIX A

Non-Certified Values: Non-certified mass fraction values for additional PAHs (some in combination), additional PCB congeners, and additional chlorinated pesticides are provided in Table A1 through Table A4. Non-certified values for alkylated PAH groups are provided in Table A5 and for selected hopanes and steranes in Table A6. A non-certified value for total organic carbon is provided in Table A7. Non-certified values are values that are the best estimate of the true value; however, the values do not meet the NIST criteria for certification and are provided with associated uncertainties that may reflect only measurement precision, may not include all sources of uncertainty, or may reflect a lack of sufficient statistical agreement among multiple analytical methods [1].

Additional Non-Certified Mass Fraction Values: Non-certified mass fraction values are provided in Table A8 for carbon, hydrogen, and nitrogen.

Table A1. Non-certified Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions ^(a) ($\mu\text{g}/\text{kg}$)		
1-Methylnaphthalene ^(b,c,d,e)	127	\pm	14 ^(f)
2-Methylnaphthalene ^(b,c,d,e)	276	\pm	53 ^(f)
2,6-Dimethylnaphthalene ^(b,c,d,e)	75.9	\pm	4.5 ^(f)
2,3,5-Trimethylnaphthalene ^(b,c,d,e)	25.5	\pm	5.1 ^(f)
Biphenyl ^(b,c,d,e)	74.0	\pm	8.0 ^(f)
Acenaphthylene ^(b,c,d,e)	53.3	\pm	6.4 ^(f)
Acenaphthene ^(b,c,d,e)	38.4	\pm	5.2 ^(f)
9-Methylphenanthrene ^(e)	63.5	\pm	2.5 ^(g)
4-Methylphenanthrene and 9-Methylphenanthrene ^(b,d)	80.1	\pm	4.8 ^(f)
2-Methylanthracene ^(c,d)	36	\pm	15 ^(f)
8-Methylfluoranthene ^(b)	49.5	\pm	2.7 ^(g)
7-Methylfluoranthene ^(b)	45.4	\pm	1.5 ^(g)
1-Methylfluoranthene ^(b)	42.4	\pm	2.1 ^(g)
3-Methylfluoranthene ^(b)	28.8	\pm	1.3 ^(g)
2-Methylpyrene ^(b)	78.7	\pm	4.0 ^(g)
4-Methylpyrene ^(b)	66.4	\pm	2.6 ^(g)
1-Methylpyrene ^(b)	52.5	\pm	2.3 ^(g)
Acphenanthrene ^(d)	30.5	\pm	1.9 ^(g)
Benzo[<i>c</i>]phenanthrene ^(b,c,d)	58	\pm	15 ^(f)
Benzo[<i>a</i>]fluoranthene ^(b,c,d)	73	\pm	18 ^(f)
Benzo[<i>j</i>]fluoranthene ^(e)	217	\pm	5 ^(g)
Indeno[1,2,3- <i>cd</i>]fluoranthene ^(d)	9.63	\pm	0.34 ^(g)
Pentaphene ^(d)	25.3	\pm	1.0 ^(g)

^(a) Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

^(b) GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.

^(c) GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.

^(d) GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

^(e) 1999 Interlaboratory Comparison Study [2] with 14 to 26 laboratories submitting data for each PAH.

^(f) Non-certified values are weighted means of the results from two to four analytical methods [3]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [4,5]. The measurand is the total mass fraction of PAHs listed as determined by the methods indicated. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

^(g) Non-certified values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U , is calculated as $U = k u_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k , is determined from the Student's t -distribution for the associated degrees of freedom (19 for footnote b and 5 for footnotes c and d) and 95 % confidence level for each analyte. The measurand is the total mass fraction of the PAHs listed as determined by the method indicated. The values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table A2. Non-certified Mass Fraction Values for PAHs of Molecular Mass 300 and 302 in SRM 1941b

PAHs of Molecular Mass 300 and 302	Mass Fractions ^(a,b,c) ($\mu\text{g}/\text{kg}$)	
Coronene	72.6	\pm 4.7
Dibenzo[<i>b,e</i>]fluoranthene	10.3	\pm 0.3
Naphtho[1,2- <i>b</i>]fluoranthene	91.0	\pm 3.1
Naphtho[1,2- <i>k</i>]fluoranthene and Naphtho[2,3- <i>j</i>]fluoranthene	79.8	\pm 2.5
Naphtho[2,3- <i>b</i>]fluoranthene	23.5	\pm 0.3
Dibenzo[<i>b,k</i>]fluoranthene	95.6	\pm 3.1
Dibenzo[<i>a,k</i>]fluoranthene	26.6	\pm 0.4
Dibenzo[<i>j,l</i>]fluoranthene	63.8	\pm 1.8
Dibenzo[<i>a,l</i>]pyrene	11.1	\pm 1.0
Naphtho[2,3- <i>k</i>]fluoranthene	10.7	\pm 0.6
Naphtho[1,2- <i>a</i>]pyrene	16.7	\pm 1.4
Naphtho[2,3- <i>e</i>]pyrene	33.2	\pm 2.3
Dibenzo[<i>a,e</i>]pyrene	76.1	\pm 3.6
Naphtho[2,1- <i>a</i>]pyrene	59.2	\pm 1.8
Dibenzo[<i>e,l</i>]pyrene	35.0	\pm 2.4
Naphtho[2,3- <i>a</i>]pyrene	16.5	\pm 0.6
Benzo[<i>b</i>]perylene	38.2	\pm 1.2
Dibenzo[<i>a,l</i>]pyrene	25.5	\pm 1.0
Dibenzo[<i>a,h</i>]pyrene	6.94	\pm 0.29

^(a) Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

^(b) Non-certified values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U , is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k , is determined from the Student's t -distribution for two degrees of freedom and 95 % confidence level for each analyte. The measurand is the total mass fraction of the constituent listed as determined by the method indicated. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

^(c) GC/MS on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM [9].

Table A3. Non-certified Mass Fraction Values for PCB Congeners^(a) in SRM 1941b

PCB Congeners			Mass Fractions ^(b,c) (µg/kg)		
PCB	45	(2,2',3,6-Tetrachlorobiphenyl) ^(d,e)	0.73	±	0.12
PCB	56	(2,3,3',4'-Tetrachlorobiphenyl) ^(d,f,g)	1.21	±	0.11
PCB	63	(2,3,4',5-Tetrachlorobiphenyl) ^(e,f,g)	0.213	±	0.040
PCB	70	(2,3',4',5-Tetrachlorobiphenyl) ^(e,f,g)	4.99	±	0.29
PCB	74	(2,4,4',5-Tetrachlorobiphenyl) ^(e,f,g)	2.04	±	0.15
PCB	77	(3,3',4,4'-Tetrachlorobiphenyl) ^(h)	0.31	±	0.03
PCB	107	(2,3,3',4',5-Pentachlorobiphenyl) ^(d,e,f,g)	0.628	±	0.028
PCB	132	(2,2',3,3',4,6'-Hexachlorobiphenyl) ^(d,f,g)	1.28	±	0.27
PCB	146	(2,2',3,4',5,5'-Hexachlorobiphenyl) ^(e,f,g)	1.22	±	0.12
PCB	158	(2,3,3',4,4',6-Hexachlorobiphenyl) ^(d,e,f,g)	0.65	±	0.15
PCB	163	(2,3,3',4',5,6-Hexachlorobiphenyl) ^(e,f,g)	1.28	±	0.06
PCB	174	(2,2',3,3',4,5,6'-Heptachlorobiphenyl) ^(d,e,f,g)	1.51	±	0.39
PCB	193	(2,3,3',4',5,5',6-Heptachlorobiphenyl) ^(d,e,f,g)	0.292	±	0.075

^(a) PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [7] and later revised by Schulte and Malisch [8] to conform with IUPAC rules, except PCB 107. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 107 is listed as PCB 108.

^(b) Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

^(c) For these PCB congeners except PCB 77, the non-certified values are unweighted means of the results from two to four analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [6] with a pooled within-method variance following the ISO/JCGM Guide [4,5]. For PCB 77, the non-certified value is the mean of results obtained by NIST using one analytical technique. The expanded uncertainty, U , is calculated as $U = k u_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k , is determined from the Student's t -distribution corresponding to two degrees of freedom and 95 % confidence level for PCB 77. The measurand is the total mass fraction of the PCB Congeners listed as determined by the method or methods indicated. The values listed are metrologically traceable to the SI unit of mass, expressed as microgram per kilogram on a dry-mass basis.

^(d) GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

^(e) GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

^(f) GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

^(g) GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

^(h) GC/MS NICI on a 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC-ECD (I) fractionated using a PYE column.

Table A4. Non-certified Mass Fraction Values for Selected Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions ^(a,b) (µg/kg)		
2,4'-DDE ^(c,d)	0.38	±	0.12
4,4'-DDT ^(e,f)	1.12	±	0.42

^(a) Mass Fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

^(b) The non-certified values are unweighted means of the results from two analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [6] with a pooled, within-method variance following the ISO/JCGM Guide [4,5]. The measurand is the total mass fraction of the chlorinated pesticides listed as determined by the methods indicated. The values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

^(c) GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

^(d) GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

^(e) GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.

^(f) 1999 Interlaboratory Comparison Study [2] with 10 laboratories submitting data for 4,4'-DDT.

Table A5. Non-certified Mass Fraction Values for Alkylated PAH Groups in SRM 1941b

Alkylated PAH Group	Mass Fraction ^(a,b) (µg/kg)
C2-decalins	18 ± 5
C4-decalins	41 ± 4
C2-naphthalenes	187 ± 53
C3-naphthalenes	158 ± 42
C1-benzothiophenes	25 ± 14
C2-benzothiophenes	20 ± 11
C3-benzothiophenes	22 ± 13
C4-benzothiophenes	18 ± 5
C1-fluorenes	57 ± 18
C2-fluorenes	122 ± 43
C3-fluorenes	128 ± 31
C1-phenanthrenes/anthracenes	313 ± 99
C2-phenanthrenes/anthracenes	247 ± 62
C3-phenanthrenes/anthracenes	165 ± 46
C4-phenanthrenes/anthracenes	87 ± 36
C1-dibenzothiophenes	54 ± 13
C2-dibenzothiophenes	91 ± 18
C3-dibenzothiophenes	84 ± 15
C4-dibenzothiophenes	57 ± 13
C1-fluoranthenes/pyrenes	252 ± 48
C2-fluoranthenes/pyrenes	205 ± 38
C3-fluoranthenes/pyrenes	102 ± 22
C4-fluoranthenes/pyrenes	121 ± 59
C1-benzanthracenes/chrysenes/triphenylenes	208 ± 43
C2-benzanthracenes/chrysenes/triphenylenes	120 ± 24
C3-benzanthracenes/chrysenes/triphenylenes	73 ± 31
C4-benzanthracenes/chrysenes/triphenylenes	41 ± 11

^(a) The non-certified mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U , is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$. The measurand is the total mass fraction of the alkylated PAH groups listed as determined by the interlaboratory study methods. The values listed are metrologically traceable to the SI unit of mass fraction, expressed as micrograms per kilogram on a dry-mass basis.

^(b) Data from the interlaboratory study [10].

Table A6. Non-certified Mass Fraction Values for Hopanes and Steranes in SRM 1941b

Hopane or Sterane	Mass Fraction ^(a,b) (µg/kg)
17 α (H)-22,29,30-Trisnorhopane	54 ± 18
17 α (H)-21 β (H)-30-Norhopane	137 ± 21
17 α (H)-21 β (H)-30-Hopane	215 ± 44
17 α (H)-21 β (H)-22R-Homohopane	44 ± 10
17 α (H)-21 β (H)-22S-Homohopane	48 ± 13
5 α (H)-14 α (H),17 α (H)-Cholestane 20R	41 ± 11
5 α (H)-14 β (H),17 β (H)-Cholestane 20R	27 ± 6
5 α (H)-14 β (H),17 β (H)-24-Methylcholestane 20R	21 ± 8
5 α (H)-14 α (H),17 α (H)-24-Ethylcholestane 20R	19 ± 5
5 α (H)-14 β (H),17 β (H)-24-Ethylcholestane 20R	41 ± 9

^(a) The non-certified mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U , is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$. The measurand is the total mass fraction of the constituent listed as determined by the methods used during the interlaboratory study. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

^(b) Data from the interlaboratory study [10].

Table A7. Non-certified Mass Fraction Value for Total Organic Carbon in SRM 1941b

Total Organic Carbon (TOC) $2.99 \% \pm 0.24 \%^{(a,b)}$

^(a) Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.

^(b) The non-certified value for total organic carbon is a weighted mean value from routine measurements made by two laboratories [1]. The uncertainty listed is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance. The reporting follows the ISO/JCGM Guides [11]. The measurand is the total mass fraction of TOC listed as determined by the methods indicated. The values listed are metrologically traceable to the SI unit of mass, expressed as a percent on a dry-mass basis.

Table A8. Additional Non-Certified Mass Fraction Values for SRM 1941b

Elements	Mass Fractions ^(a) (%)
Carbon	3.3
Hydrogen	1.2
Nitrogen	<0.5

^(a) Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.

Maintenance of Non-Certified Values: NIST will monitor this material to the end of its period of validity. If substantive technical changes occur that affect the non-certified values during this period, NIST will update this Appendix and notify registered users. SRM users can register online from a link available on the NIST SRM website or fill out the user registration form that is supplied with the SRM. Registration will facilitate notification. Before making use of any of the values delivered by this material, users should verify they have the most recent version of this documentation, available through the NIST SRM website (<https://www.nist.gov/srm>).

* * * * * End of Appendix A * * * * *

APPENDIX B

Coordination of the technical measurements leading to the certification of this material was under the leadership of S.A. Wise of the NIST Chemical Sciences Division and M.M. Schantz, formerly of NIST

Analytical measurements for the certification of SRM 1941b were performed at NIST by J.R. Kucklick, D.L. Poster, and L.L. Yu of the NIST Chemical Sciences Division and B.J. Porter, M.M. Schantz, P. Schubert, and S. Tutschku, formerly of NIST.

Measurements for TOC were provided by a commercial laboratory and T.L. Wade of the Geochemical and Environmental Research Group, Texas A&M University (College Station, TX). The carbon, hydrogen, and nitrogen data were provided by a commercial laboratory. Results for the PAHs, PCBs, and chlorinated pesticides from 38 laboratories (see Appendix C) that participated in an interlaboratory comparison exercise coordinated by NIST were used. Results for the alkylated PAH groups, hopanes, and steranes from 33 laboratories (see Appendix D) that participated in another interlaboratory comparison exercise coordinated by NIST were also used.

Collection and preparation of SRM 1941b were performed by M.P. Cronise and C.N. Fales of the NIST Office of Reference Materials and B.J. Porter and M.M. Schantz, formerly of the NIST Chemical Sciences Division. The sediment material was collected with the assistance of G.G. Lauenstein, J. Collier, and J. Lewis (National Oceanic and Atmospheric Administration, Silver Spring, MD).

Consultation on the statistical design of the experimental work and evaluation of the data were provided by S.D. Leigh and J.H. Yen of the NIST Statistical Engineering Division.

Support aspects involved in the issuance of this SRM were coordinated through the NIST Office of Reference Materials.

Sample Collection and Preparation: The sediment used to prepare this SRM was collected from the Chesapeake Bay at the mouth of the Baltimore (MD) Harbor near the Francis Scott Key Bridge (39°12.3'N and 76°31.4'W). This location is very near the site where SRM 1941 and SRM 1941a were collected. The sediment was collected using a Kynar-coated modified Van Veen-type grab sampler. A total of approximately 3300 kg of wet sediment was collected from the site. The sediment was freeze-dried, sieved at 150 μm (100 % passing), homogenized in a cone blender, radiation sterilized (^{60}Co), and then packaged in screw-capped amber glass bottles each containing approximately 50 g.

Conversion to Dry-Mass Basis: The results for the constituents in SRM 1941b are reported on a dry-mass basis; however, the material "as received" contains residual moisture. The amount of moisture in SRM 1941b was determined by measuring the mass loss after freeze-drying subsamples of 1.1 g to 1.3 g for four days at 1 Pa with a $-10\text{ }^{\circ}\text{C}$ shelf temperature and a $-50\text{ }^{\circ}\text{C}$ condenser temperature. The moisture content in SRM 1941b at the time of the certification analyses was $2.39\% \pm 0.08\%$ (95 % confidence level). Analytical results for the organic constituents were determined on an as-received basis and then converted to a dry-mass basis by dividing by the conversion factor of 0.9761 (gram dry mass per gram as-received mass).

Polycyclic Aromatic Hydrocarbons: The general approach used for the value assignment of the PAHs in SRM 1941b was similar to that reported in detail elsewhere [11]. The approach consisted of combining results from analyses using various combinations of different extraction techniques and solvents, clean-up/isolation procedures, and chromatographic separation and detection techniques: Soxhlet extraction and pressurized-fluid extraction (PFE) using dichloromethane (DCM) or a hexane/acetone mixture, cleanup of the extracts using solid-phase extraction (SPE) or normal-phase liquid chromatography (LC), followed by analysis using the following techniques: (1) reversed-phase liquid chromatography with fluorescence detection (LC-FL) analysis of the total PAH fraction, (2) reversed-phase LC-FL analysis of isomeric PAH fractions isolated by normal-phase LC (i.e., multidimensional LC), (3) gas chromatography/mass spectrometry (GC/MS) analysis of the PAH fraction on three stationary phases of different selectivity, i.e., a 5 % (all column compositions are given as mole fractions in %) phenyl-substituted methylpolysiloxane phase, a 50 % phenyl-substituted methylpolysiloxane phase, and a relatively non-polar proprietary phase.

Three sets of GC/MS results, designated as GC/MS (I), GC/MS (II), and GC/MS (III), were obtained using three columns with different selectivities for the separation of PAHs. For GC/MS (I) analyses, duplicate subsamples of approximately 1 g from ten bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added

to the extract to remove elemental sulfur. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 2 % DCM in hexane (all solvent concentrations are given as volume fractions in %). The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-5 MS, J&W Scientific, Folsom, CA). The GC/MS (II) analyses were performed using 5 g subsamples from six bottles of SRM 1941b. These samples were extracted using PFE with DCM. The high molecular mass compounds were removed from the extracts using size exclusion chromatography (SEC) with a preparative-scale divinylbenzene-polystyrene column (10 µm particle size with 10 nm diameter pores), and the sulfur was removed from the extracts by adding copper powder. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The analysis was by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-17 MS, J&W Scientific). For the GC/MS (III), 9 g subsamples from six bottles of SRM 1941b were Soxhlet-extracted for 18 h with 250 mL of a mixture of 50 % hexane/50 % acetone. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 µm film thickness; DB-XLB, J&W Scientific).

Two sets of LC-FL results, designated as LC-FL (total) and LC-FL (isomer), were used in the certification process. For the LC-FL (total), subsamples of approximately 1 g from six bottles of SRM 1941b were extracted using PFE with a mixture of 50 % hexane/50 % acetone. The extracts were concentrated and then processed through an aminopropylsilane SPE cartridge using 2 % DCM in hexane to obtain the total PAH fraction. For the LC-FL (isomer), a 5 g subsample from the six bottles was extracted using PFE with DCM and processed through an aminopropylsilane SPE cartridge using 10 % DCM in hexane; the PAH fraction was then fractionated further on a semi-preparative aminopropylsilane column (µBondapak NH₂, 9 mm i.d. × 30 cm, Waters Associates, Milford, MA) to isolate isomeric PAH fractions as described previously [12–15]. The total PAH fraction and the isomeric PAH fractions were analyzed using a 5 µm particle-size polymeric octadecylsilane (C₁₈) column (4.6 mm i.d. × 25 cm, Hypersil-PAH, Keystone Scientific, Inc., Bellefonte, PA) with wavelength-programmed fluorescence detection [13,14].

For the GC/MS and LC-FL measurements described above, selected perdeuterated PAHs were added to the sediment prior to solvent extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [2]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PAHs in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

Homogeneity Assessment for PAHs: The homogeneity of SRM 1941b was assessed by analyzing duplicate samples of approximately 1 g from ten bottles selected by stratified random sampling. Samples were extracted, processed, and analyzed as described above for GC/MS (I). No statistically significant differences among bottles were observed for the PAHs at this sample size.

PAH Isomers of Molecular Mass 300 and 302: For the determination of the molecular mass 300 and 302 isomers, three subsamples of approximately 5 g each were extracted using PFE with DCM. The extracts were then concentrated with a solvent change to hexane and passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-17MS, J&W Scientific). Perdeuterated dibenzo[*a,i*]pyrene was added to the sediment prior to extraction for use as an internal standard [9].

PCBs and Chlorinated Pesticides: The general approach used for the determination of PCBs and chlorinated pesticides in SRM 1941b consisted of combining results from analyses using various combinations of different extraction techniques and solvents, cleanup/isolation procedures, and chromatographic separation and detection techniques. Techniques and solvents included Soxhlet extraction and PFE using DCM or a hexane/acetone mixture, clean-up/isolation using SPE or LC, followed by analysis using GC/MS and gas chromatography with electron capture detection (GC-ECD) on two columns with different selectivity for the separation of PCBs and chlorinated pesticides. The analytical methods are described in detail elsewhere [11].

Six sets of results were obtained and designated as GC-ECD (I) A and B, GC/MS (I) A and B, GC/MS (II), and Interlaboratory Comparison Exercise. For the GC-ECD (I) analyses, approximately 10 g subsamples from six bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur, and SEC, as described above, was used to remove the high molecular mass compounds. The concentrated extract was then fractionated on a semi-preparative aminopropylsilane column to isolate two fractions containing:

(1) the PCBs and lower-polarity pesticides and (2) the more polar pesticides. GC-ECD analyses of the two fractions were performed on two columns of different selectivities for PCB separations: 0.25 mm × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-5, J&W Scientific), and a 0.25 mm × 60 m fused silica capillary column with a non-polar proprietary phase (0.25 µm film thickness; DB-XLB, J&W Scientific). The results from the 5 % phenyl phase are designated as GC-ECD (IA) and the results from the proprietary phase are designated as GC-ECD (IB). For the GC-ECD analyses, two PCB congeners that are not significantly present in the sediment extract (PCB 103 and PCB 198 [7,8]) and endosulfan I-*d*₈, 4,4'-DDE-*d*₈, 4,4'-DD-*d*₈, and 4,4'-DDT-*d*₈ were added to the sediment prior to extraction for use as internal standards for quantification purposes.

Two sets of results were obtained by GC/MS. For GC/MS (I), approximately 9 g subsamples from six bottles were Soxhlet- extracted with a mixture of 50 % hexane/50 % acetone for approximately 18 h. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS with two ionization modes, electron impact (EI) and negative ion chemical ionization (NICI). The GC/MS EI method, GC/MS (IA), used a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 µm film thickness; DB-XLB, J&W Scientific). The GC/MS NICI method, GC/MS (IB), used a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-5MS, J&W Scientific). The GC/MS (II) results were obtained in the same manner as the GC/MS (IA) analyses except that three subsamples were Soxhlet-extracted with DCM for approximately 18 h. For the GC/MS analyses, selected carbon-13 labeled PCB congeners and chlorinated pesticides were added to the sediment prior to extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PCB congeners and chlorinated pesticides in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

The non-certified value for PCB 77 was determined from a separate fraction. The samples were extracted and processed as for GC-ECD (I) above. The first (PCB and lower-polarity pesticide) fraction from the semi-preparative aminopropylsilane column was further fractionated using a Cosmosil PYE (pyrenylethyl group bonded) column (5 µm particle size, 4.6 mm i.d. × 25 cm ; Phenomenex, Torrance, CA) [16]. Three fractions were collected: the first fraction contained the pesticides and multi-*ortho* PCBs, the second fraction contained the polychlorinated naphthalenes, non-*ortho* PCB congeners, and some mono-*ortho* PCB congeners, and the third fraction removed the residual planar compounds from the column. The second fraction was analyzed by GC/MS NICI using the same column as GC/MS (IB) above. Carbon-13 labeled PCB 77 was used as an internal standard for quantification purposes.

Alkylated PAH Groups, Hopanes, and Steranes: SRM 1941b was used in an interlaboratory comparison exercise in 2011 [10]. Results from 33 laboratories that participated in this exercise were used in the determination of the non-certified values for alkylated PAH groups, hopanes, and steranes in SRM 1941b. Note that not all laboratories returned data for each analyte. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest. For the alkylated PAHs, the majority of the laboratories (>90 %) used the parent PAH for determination of the response factor for the corresponding alkylated group.

Total Organic Carbon (TOC): Two laboratories provided results for TOC using similar procedures. Briefly, subsamples of approximately 200 mg were reacted with 6 mol/L hydrochloric acid and rinsed with deionized water prior to combustion in a gas fusion furnace. The carbon monoxide and carbon dioxide produced were measured and compared to a blank for calculation of the percent TOC. Each laboratory analyzed subsamples from three bottles of SRM 1941b. One of the laboratories also analyzed three subsamples from three bottles of SRM 1941b for carbon, hydrogen, and nitrogen.

* * * * * End of Appendix B * * * * *

APPENDIX C

The laboratories listed below performed measurements that contributed to the certification of PAHs, PCBs, and chlorinated pesticides in SRM 1941b Organics in Marine Sediment.

Arthur D. Little, Inc (Cambridge, MA, USA)
Axys Analytical Services (Sidney, BC, Canada)
B & B Laboratories (College Station, TX, USA)
Battelle Ocean Sciences (Duxbury, MA, USA)
Bedford Institute of Oceanography (Dartmouth, NS, Canada)
California Department of Fish and Game (Rancho Cordova, CA, USA)
Central Contra Costa Sanitary District (Martinez, CA, USA)
Chesapeake Biological Laboratory (Solomons, MD, USA)
Centro de Investigaciones Energeticas Medioambientales y Tecnologicas (Madrid, Spain)
City of Los Angeles Environmental Monitoring Division (Playa del Rey, CA, USA)
City of San Jose Environmental Services Department (San Jose, CA, USA)
Columbia Analytical Services (Kelso, WA, USA)
East Bay Municipal Utility District (Oakland, CA, USA)
Florida Department of Environmental Protection (Tallahassee, FL, USA)
Manchester Environmental Laboratory (Port Orchard, WA, USA)
Murray State University (Murray, KY, USA)
Massachusetts Water Resources Authority Central Lab (Winthrop, MA, USA)
National Research Council of Canada (Ottawa, Ontario, Canada)
National Oceanic and Atmospheric Association (NOAA), National Marine Fisheries Service (NMFS), Auke Bay Laboratory (Juneau, AK, USA)
NOAA, National Ocean Service/Center for Coastal Environmental Health and Biomolecular Research (Charleston, SC, USA)
NOAA, NMFS, Sandy Hook Marine Laboratory (Highlands, NJ, USA)
NOAA, NMFS, Northwest Fisheries Science Center (Seattle, WA, USA)
Orange County Sanitation District (Fountain Valley, CA, USA)
Philip Analytical Services (Burlington, Ontario, Canada)
Serv de Hidrografia Naval (Buenos Aires, Argentina)
Skidaway Institute of Technology (Savannah, GA, USA)
Southwest Laboratory of Oklahoma (Broken Arrow, OK, USA)
Severn Trent Knoxville Laboratory (Knoxville, TN, USA)
Texas A&M University, Geochemical and Environmental Research Group (College Station, TX, USA)
Texas Parks and Wildlife Department (San Marcos, TX, USA)
University of California at Los Angeles, Institute of Geophysics and Planetary Physics (Los Angeles, CA, USA)
University of Connecticut, Environmental Research Institute (Storrs, CT, USA)
University of Rhode Island, Graduate School of Oceanography (Narragansett, RI, USA)
US Department of Agriculture, Environmental Chemistry Laboratory (Beltsville, MD, USA)
US Environmental Protection Agency, Atlantic Ecology Division (Narragansett, RI, USA)
US Geological Survey, National Water Quality Laboratory (Denver, CO, USA)
Woods Hole Group Environmental Lab (Raynham, MA, USA)
Wright State University (Dayton, OH, USA)

* * * * * End of Appendix C * * * * *

APPENDIX D

The laboratories listed below performed measurements that contributed to the certification of alkylated PAH groups, hopanes, and steranes in SRM 1941b Organics in Marine Sediment.

Alpha Analytical, Inc.; Mansfield, MA
Analytical Resources, Inc.; Tukwila, WA
Axy's Analytical Services; Sydney, BC, Canada
Battelle Analytical & Environmental Chemistry Laboratory; Duxbury, MA
Center for Laboratory Sciences; Pasco, WA
Columbia Analytical Services; Jacksonville, FL
Columbia Analytical Services; Rochester, NY
Columbia Analytical Services, Kelso, WA
Florida Department of Environmental Protection; Tallahassee, FL
Florida International University; North Miami, FL
Michigan Department of Natural Resources and Environment; Lansing, MI
Mississippi State Chemical Laboratory; Mississippi State, MS
NIST; Charleston, SC
NIST; Gaithersburg, MD
NOAA/NCCOS/NOS; Charleston, SC
NOAA/NMFS/Alaska Fisheries Science Center; Juneau, AK
NY State Department of Health; Albany, NY
Pace Analytical Services, Inc. Minneapolis; Minneapolis, MN
RJ Lee Group, Inc; Monroeville, PA
TDI/B&B Laboratories, Inc.; College Station, TX
TestAmerica Laboratories; Mobile, AL
TestAmerica Laboratories; West Sacramento, CA
TestAmerica Laboratories; University Park, IL
TestAmerica Laboratories; Schriever, LA
TestAmerica Laboratories; Edison, NJ
TestAmerica Laboratories; Knoxville, TN
TestAmerica Laboratories; Pittsburgh, PA
TestAmerica Laboratories; South Burlington, VT
TestAmerica Laboratories; Tacoma, WA
US Army Engineer Research and Development Center; Vicksburg, MS
USGS Columbia Environmental Research Center; Columbia, MO
University of Iowa, State Hygienic Laboratory; Iowa City, IO
Washington State Public Health Laboratories; Shoreline, WA

* * * * * End of Appendix D * * * * *



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Date Shipped:	May 18, 2023	
NIST Division:	646	
NIST Sales Order Number: Example (0800000)	O-0000049409	
Customer Purchase Order Number:		
Lot Number:	None	
Serial Number:	Not Serialized	
Purchased directly from NIST?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
CUSTOMER INFORMATION		
User First Name:		
User Surname:		
Organization/Company:		
Address:		
Address (continued):		
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	Response time with your request for a quote or order						
	Overall experience with order placement (via online, email, phone, or fax)						
Order Fulfillment	Once the order for available items was placed, timeliness of delivery						
	Carrier treatment of shipment						
	Packaging of SRM(s)						
Product	SRM Certificate or Report of Investigation information						
	Material Safety Data sheet or SRM Exemption Letter information						
	Overall SRM Quality						
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How did you hear about NIST Standard Reference Materials?

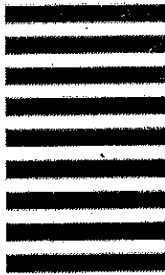
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GAITHERSBURG MD 20898-7139



SAFETY DATA SHEET

1. SUBSTANCE AND SOURCE IDENTIFICATION

Product Identifier

SRM Number: 1941b
SRM Name: Organics in Marine Sediment
Other Means of Identification: Not applicable.

Recommended Use of This Material and Restrictions of Use

This Standard Reference Material (SRM) is marine sediment collected at the mouth of the Baltimore (MD) Harbor. SRM 1941b is intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine sediment and similar matrices. All of the constituents for which certified and non-certified values are provided in SRM 1941b were naturally present in the sediment before processing. A unit of SRM 1941b consists of a bottle containing 50 g of radiation-sterilized, freeze-dried sediment.

Company Information

National Institute of Standards and Technology
 Standard Reference Materials Program
 100 Bureau Drive, Stop 2300
 Gaithersburg, Maryland 20899-2300

Telephone: 301-975-2200
 E-mail: SRMMSDS@nist.gov
 Website: <https://www.nist.gov/srm>

Emergency Telephone ChemTrec:
 1-800-424-9300 (North America)
 +1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION

Classification

Physical Hazard: Not classified.
Health Hazard: Not classified.

Label Elements

Symbol
 No Symbol/Pictogram

Signal Word
 Not applicable.

Hazard Statement(s): Not applicable.

Precautionary Statement(s): Not applicable.

Hazards Not Otherwise Classified: Not applicable.

Ingredients(s) with Unknown Acute Toxicity: Not applicable.

3. COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

Substance: Marine sediment

Other Designations: Sediment.

This material is naturally occurring marine sediment from an urban area. The material contains trace amounts of polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and should be handled with care. Components are listed in compliance with OSHA's 29 CFR 1910.1200; for the actual values see the Certificate of Analysis.

Hazardous Component(s)	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
Marine Sediment	Not available	Not available	100

4. FIRST AID MEASURES

Description of First Aid Measures:

Inhalation: If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration or oxygen by qualified personnel. Seek immediate medical attention.

Skin Contact: Wash skin with soap and water.

Eye Contact: Flush eyes with water for at least 15 minutes. If necessary, seek medical attention.

Ingestion: If adverse effects occur after ingestion, seek medical treatment.

Most Important Symptoms/Effects, Acute and Delayed: May cause irritation.

Indication of any immediate medical attention and special treatment needed, if necessary: If any of the above symptoms are present, seek medical attention if needed.

5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Negligible fire hazard. Avoid generating dust. See Section 9, "Physical and Chemical Properties" for flammability properties.

Extinguishing Media:

Suitable: Use extinguishing media appropriate for surrounding fire.

Unsuitable: None listed.

Specific Hazards Arising from the Chemical: None listed.

Special Protective Equipment and Precautions for Fire-Fighters: Avoid inhalation of material or combustion byproducts. Wear full protective clothing and NIOSH approved self-contained breathing apparatus (SCBA).

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Any accumulated material on surfaces should be removed and properly disposed of. Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection".

Methods and Materials for Containment and Clean up: Collect spilled material in appropriate container for disposal. Keep out of water supplies and sewers. Keep unnecessary people away, isolate hazard area and deny entry.

7. HANDLING AND STORAGE

Safe Handling Precautions: Minimize dust generation and accumulation on surfaces. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. See Section 8, "Exposure Controls and Personal Protection".

Storage: Store and handling in accordance with all current regulations and standards.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits: No occupational exposure limits have been established for marine sediment. This material is a particulate matter and adequate inhalation/respiratory protection should be used to minimize exposure. The exposure limits for Particulates Not Otherwise Regulated (PNOR) are applicable.

OSHA (PEL): 15 mg/m³ (TWA, total particulates not otherwise regulated)

OSHA (PEL) 5 mg/m³ (TWA, respirable particulates not otherwise regulated)

Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection: In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.

Respiratory Protection: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye/Face Protection: Wear splash resistant safety goggles with a face shield. An eye wash station should be readily available near areas of use.

Skin and Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Chemical-resistant gloves should be worn at all times when handling chemicals.

9. PHYSICAL AND CHEMICAL PROPERTIES

Descriptive Properties:

Appearance (physical state, color, etc.):	amorphous powder
Molecular Formula:	not applicable
Molar Mass (g/mol):	not applicable
Odor:	not available
Odor threshold:	not available
pH:	not available
Evaporation rate:	not applicable
Melting point/freezing point (°C):	not available
Specific Gravity (water=1)	not available
Vapor Pressure (mmHg):	not applicable
Vapor Density (air = 1):	not applicable
Viscosity (cP):	not applicable
Solubility(ies):	not available
Partition coefficient (n-octanol/water):	not available
Particle Size:	<150 µm

Thermal Stability Properties:

Autoignition Temperature (°C):	not available
Thermal Decomposition (°C):	not available
Initial boiling point and boiling range (°C):	not available
Explosive Limits, LEL (Volume %):	not available
Explosive Limits, UEL (Volume %):	not available
Flash Point (°C):	not available
Flammability (solid, gas):	not available

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressure.

Stability: X Stable Unstable

Possible Hazardous Reactions: None listed.

Conditions to Avoid: Avoid generating dust.

Incompatible Materials: None listed.

Fire/Explosion Information: See Section 5, "Fire Fighting Measures".

Hazardous Decomposition: Thermal decomposition will produce oxides of carbon.

Hazardous Polymerization: Will Occur X Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: X Inhalation X Skin Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Generated dust may cause irritation if inhaled.

Potential Health Effects (Acute, Chronic and Delayed):

Inhalation: Generated dust may cause irritation.

Skin Contact: May cause mechanical irritation.

Eye Contact: May cause mechanical irritation.

Ingestion: No data available.

Numerical Measures of Toxicity:

Acute Toxicity: Not classified; no data available.

Skin Corrosion/Irritation: Not classified; no data available.

Serious Eye damage/ Eye irritation: Not classified; no data available.

Respiratory Sensitization: Not classified; no data available.

Skin Sensitization: Not classified; no data available.

Germ Cell Mutagenicity: Not classified; no data available.

Carcinogenicity: Not classified.

Listed as a Carcinogen/Potential Carcinogen _____ Yes X No
Marine sediment is not listed by NTP, IARC or OSHA as a carcinogen.

Reproductive Toxicity: Not classified; no data available.

Specific Target Organ Toxicity, Single Exposure: Not classified; no data available.

Specific Target Organ Toxicity, Repeated Exposure: Not classified; no data available.

Aspiration Hazard: Not classified; no data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data: No data available.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose of waste in accordance with all applicable federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: Not regulated by DOT or IATA.

15. REGULATORY INFORMATION

U.S. Regulations:

CERCLA Sections 102a/103 (40 CFR 302.4): Not regulated.

SARA Title III Section 302 (40 CFR 355.30): Not regulated.

SARA Title III Section 304 (40 CFR 355.40): Not regulated.

SARA Title III Section 313 (40 CFR 372.65): Not regulated.

OSHA Process Safety (29 CFR 1910.119): Not regulated.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE HEALTH: No.
CHRONIC HEALTH: No.
FIRE: No.
REACTIVE: No.
PRESSURE: No.

State Regulations:

California Proposition 65: Not listed.

U.S. TSCA Inventory: Not listed.

TSCA 12(b), Export Notification: Not listed.

Canadian Regulations:

WHMIS Information: Not provided for this material.

16. OTHER INFORMATION

Issue Date: 21 April 2022

Sources: 29 CFR Occupational Health and Safety Office (OSHA) 1910.1000, *Limits for Air Contaminants*, Table Z-1; available at <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1000TABLEZ1> (accessed Apr 2022).

Center for Disease Control (CDC) NIOSH Pocket Guide to Chemical Hazards, *Particulates not otherwise regulated*; available at <https://www.cdc.gov/niosh/npg/npgd0480.html> (accessed Apr 2022).

Key of Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	NRC	Nuclear Regulatory Commission
ALI	Annual Limit on Intake	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
CFR	Code of Federal Regulations	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	REL	Recommended Exposure Limit
EC50	Effective Concentration, 50 %	RM	Reference Material
EINECS	European Inventory of Existing Commercial Chemical Substances	RQ	Reportable Quantity
EPCRA	Emergency Planning and Community Right-to-Know Act	RTECS	Registry of Toxic Effects of Chemical Substances
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act
IATA	International Air Transportation Agency	SCBA	Self-Contained Breathing Apparatus
IDLH	Immediately Dangerous to Life and Health	SRM	Standard Reference Material
LC50	Lethal Concentration, 50 %	STEL	Short Term Exposure Limit
LD50	Lethal Dose, 50 %	TLV	Threshold Limit Value
LEL	Lower Explosive Limit	TPQ	Threshold Planning Quantity
MSDS	Material Safety Data Sheet	TSCA	Toxic Substances Control Act
NIOSH	National Institute for Occupational Safety and Health	TWA	Time Weighted Average
NIST	National Institute of Standards and Technology	UEL	Upper Explosive Limit
		WHMIS	Workplace Hazardous Materials Information System

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Bill To Address:

Analytical Resources, LLC
 4611 134th Place S.
 #100
 Tukwila, WA 98168-3240

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Analytical Resources, LLC
 4611 134th Place S.
 #100
 Tukwila, WA 98168-3240

Ship via	FedEx Priority Over Night	Account #		VAT #	
Sales Rep	srmauto	Email	bob.congleton@arilabs.com	Customs / EORI #	
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Total # of Pieces	1

