Analytical Resources, Incorporated
Analytical Chemists and Consultants

01 September 2021

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

RE: Lower Duwamish AOC4

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)	Associated SDG ID(s)
21G0303	N/A

Susan Dunnihoo
Digitally signed by Susan Dunnihoo
Date: 2021.09.01 17:53:36 -07'00'

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, Inc.

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.

Susan Dunnihoo, Director, Client Services

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

21G0303

1 of 1

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3996

Project/Client Name: Duwamish AOCU
Project Number: 180067-02.02
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: ARI
Attn: Sue Dunnihoo
Shipper: Courier
Form filled out by: Nicolas Eckhardt

Shipping Date: 7/21/21
Airbill Number: —
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	PCBs	TOC/TOTAL SOLIDS	Archive					Comments / Instructions [Jar tag number(s)]
7/20/2021	1639	LDW21-IT694 A	3	Sediment	X	X	X					
↓	↓	LDW21-IT694 B	3	↓	X	X	X					
↓	1639	LDW21-IT694 C	3	↓	X	X	X					
7/20/2021	1639	LDW21-IT694 E	3	sediment	X	X	X					
		Total Number of Containers	12	Purchase Order / Statement of Work # CLF-052021-ARI								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Brandi Quinlisk	Jacob Leath	Print name:	
Signature: Brandi Quinlisk	Company: ARI	Signature:	Company:
Company: Windward		Company:	
Date/Time: 7/21/21 10:47	Date/Time: 07/21/2021 1047	Date/Time:	Date/Time:

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

To be completed by Laboratory upon sample receipt:

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

Wind Ward environmental LLC
200 1st Ave W, Suite 500
Seattle, WA 98119
206.378.1364

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Windward/Archer

Project Name: Lower Duwamish AOC4

COC No(s): 3986 NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 21G0303

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 1047 3.8 ____ ____ ____ ____ ____

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

Temp Gun ID#: DOO 5006

Cooler Accepted by: JM Date: 07/21/2021 Time: 1047

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	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: SC Date: 7/26/21 Time: 0950 Labels checked by: SC

*** 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:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Anchor QEA, LLC	Project:	Lower Duwamish AOC4	
1201 3rd Ave, Suite 2600	Project Number:	180067-02.02	**Reported:**
Seattle, WA 98101	Project Manager:	Cindy Fields	09/01/2021 17:39

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
21G0303-01	LDW21-IT694A	Solid	07/20/21 16:39	07/21/21 10:47
21G0303-02	LDW21-IT694B	Solid	07/20/21 16:39	07/21/21 10:47
21G0303-03	LDW21-IT694C	Solid	07/20/21 16:39	07/21/21 10:47
21G0303-04	LDW21-IT694E	Solid	07/20/21 16:39	07/21/21 10:47

Anchor QEA, LLC	Project: Lower Duwamish AOC4	
1201 3rd Ave, Suite 2600	Project Number: 180067-02.02	**Reported:**
Seattle WA, 98101	Project Manager: Cindy Fields	01-Sep-2021 17:39

Case Narrative

Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Work Order: 21G0303

Sample receipt

Samples as listed on the preceding page were received 21-Jul-2021 10:47 under ARI work order 21G0303. For details regarding sample receipt, please refer to the Cooler Receipt Form. Mercury aliquots were frozen to meet QAPP requirements.

PCB Aroclors - EPA Method SW8082A

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

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

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

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

Wet Chemistry

The sample(s) were prepared and analyzed within the recommended holding times.

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 TOC batc BJH0062 matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits, reported under work order 21G0269.

QUALIFIERS AND NOTES

Qualifier	Definition
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.
D	The reported value is from a dilution
*	Flagged value is not within established control limits.
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

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT694A

Dual Column

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0303
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0303-01 B	File ID:	08142134ECD7.D
Sampled:	07/20/21 16:39	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 05:28
% Solids:	74.62	Preparation:	EPA 3546 (Microwave)	Initial/Final:	16.8 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0212	Calibration:	EH00034
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	1	1	4.0	1.6	4.0	U
11097-69-1	Aroclor 1254	2	1	19.2	1.6	4.0	
11096-82-5	Aroclor 1260	1	1	127	0.6	4.0	P1

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9769*	*7.08*	*88.7*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9769*	*6.14*	*76.9*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9769*	*5.31*	*66.5*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9769*	*5.31*	*66.6*	*44 - 120*	

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

Data file 1: /210814.b/08142134ECD7.D
Data file 2: /210814.b/210814.b/08142134ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0303-01
Client ID:
Injection Date: 15-AUG-2021 05:28
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.064	-0.003	98534	5.409	-0.004	227872	30.8	26.6	14.4	Tetrachloro-m-xylene
13.157	-0.009	108577	13.840	-0.007	558619	35.5	26.6	28.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	264959	2.4
Hexabromobiphenyl	425681	337077	-20.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	665534	-7.7
Hexabromobiphenyl	863111	944904	9.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.713	0.054	348	3.7	1	7.050	-0.005	1354	3.6
Aroclor-1016	2	7.023	-0.010	1984	6.9	2	7.639	-0.012	9970	11.7
Aroclor-1016	3	7.170	-0.009	381	3.0	3	7.871	0.014	4968	14.9
Aroclor-1016	4	7.278	-0.011	709	8.8	4	8.098	-0.007	3229	16.0
Total Col1Ave (4 peaks):				5.6		Total Col2Ave (4 peaks):			11.6	RPD = 70*
Corrected Ave (3 peaks):				4.5		Corrected Ave (3 peaks):			10.1	RPD = 76*
Aroclor-1221	1	4.037	0.021	405	19.4	1	4.635	-0.042	16227	324.8
Aroclor-1221	2	5.392	-0.059	3079	93.9	2	6.086	0.014	16106	140.8
Aroclor-1221	3	5.772	0.048	2379	26.8	3	6.411	0.001	14032	70.4
Total Col1Ave (3 peaks):				46.7		Total Col2Ave (3 peaks):			178.7	RPD = 117*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.037	0.019	405	31.5	1	4.635	-0.044	16227	545.5
Aroclor-1232	2	5.772	0.046	2379	34.1	2	7.050	-0.008	1354	7.8
Aroclor-1232	3	7.023	-0.010	1984	18.6	3	7.639	-0.012	9970	28.7
Aroclor-1232	4	7.956	-0.016	2051	46.8	4	8.514	-0.008	2171	24.0
Total Col1Ave (4 peaks):				32.7		Total Col2Ave (4 peaks):			151.5	RPD = 129*
Corrected Ave (3 peaks):				28.1		Corrected Ave (3 peaks):			20.1	RPD = 33
Aroclor-1242	1	6.713	0.053	348	4.8	1	7.050	-0.007	1354	4.4
Aroclor-1242	2	7.023	-0.011	1984	9.1	2	7.639	-0.014	9970	15.0
Aroclor-1242	3	8.370	-0.012	7750	62.9	3	8.936	-0.021	7323	23.6
Aroclor-1242	4	8.665	-0.011	13162	261.3	4	9.010	-0.028	6896	19.6
Total Col1Ave (4 peaks):				84.5		Total Col2Ave (4 peaks):			15.6	RPD = 138*
Corrected Ave (3 peaks):				25.6		Corrected Ave (3 peaks):			13.0	RPD = 65*
Aroclor-1248	1	7.794	-0.006	964	8.7	1	8.098	-0.007	3229	11.7
Aroclor-1248	2	7.956	-0.014	2051	14.2	2	8.514	-0.006	2171	6.5
Aroclor-1248	3	8.370	-0.010	7750	36.5	3	8.936	-0.017	7323	13.7
Aroclor-1248	4	8.665	-0.011	13162	108.6	4	9.409	0.029	6923	15.2
Total Col1Ave (4 peaks):				42.0		Total Col2Ave (4 peaks):			11.8	RPD = 112*
Corrected Ave (3 peaks):				19.8		Corrected Ave (3 peaks):			10.6	RPD = 60*
Aroclor-1254	1	8.665	-0.012	13162	57.6	1	9.232	-0.007	43547	76.9
Aroclor-1254	2	8.735	-0.013	4382	41.4	2	9.320	-0.013	10328	31.1
Aroclor-1254	3	9.036	-0.009	5691	38.2	3	9.751	-0.012	9745	22.6
Aroclor-1254	4	9.162	-0.017	18889	66.4	4	9.915	0.001	111931	117.0
Aroclor-1254	5	9.849	-0.022	29167	163.2	5	10.147	-0.004	226792	233.8
Total Col1Ave (5 peaks):				73.3		Total Col2Ave (5 peaks):			96.3	RPD = 27
Corrected Ave (4 peaks):				50.9		Corrected Ave (4 peaks):			61.9	RPD = 20
Aroclor-1260	1	10.375	-0.009	101113	666.7	1	11.418	-0.008	327620	417.1
Aroclor-1260	2	10.693	-0.010	83914	563.8	2	11.670	-0.009	961911	421.3
Aroclor-1260	3	11.042	-0.011	237434	590.2	3	12.252	-0.009	590638	402.3
Aroclor-1260	4	11.441	-0.014	131174	731.9	4	12.963	-0.009	279655	398.5
Aroclor-1260	5	11.546	-0.009	55657	620.2	NS	---			----
Total Col1Ave (5 peaks):				634.6		Total Col2Ave (4 peaks):			409.8	RPD = 43*
Corrected Ave (4 peaks):				610.2		Corrected Ave (3 peaks):			406.0	RPD = 40*
Aroclor-1262	1	10.375	-0.009	101113	491.6	1	10.961	-0.009	359856	311.4
Aroclor-1262	2	11.441	-0.013	131174	984.8	2	11.670	-0.016	961911	394.5
Aroclor-1262	3	11.617	-0.010	68669	357.6	3	12.181	-0.007	338896	313.2
Aroclor-1262	4	12.265	-0.009	56917	361.1	4	12.963	-0.010	279655	277.3
Total Col1Ave (4 peaks):				548.8		Total Col2Ave (4 peaks):			324.1	RPD = 51*
Corrected Ave (3 peaks):				403.4		Corrected Ave (3 peaks):			300.6	RPD = 29
Aroclor-1268	1	11.546	-0.011	55657	123.1	1	12.181	-0.019	338896	124.8
Aroclor-1268	2	11.617	-0.009	68669	144.8	2	12.252	-0.015	590638	199.4
Aroclor-1268	3	12.019	0.018	31145	83.5	3	12.633	-0.011	15678	6.1
Aroclor-1268	4	12.760	-0.012	13676	11.4	4	12.841	0.058	159631	252.0
Total Col1Ave (4 peaks):				90.7		Total Col2Ave (4 peaks):			145.6	RPD = 46*

Corrected Ave (3 peaks): 72.6 Corrected Ave (3 peaks): 110.1 RPD = 41*

Total PCB Area Col1 (5.167 - 13.066) = 1802690 Col1 Total PCB = 0.7 ppm*

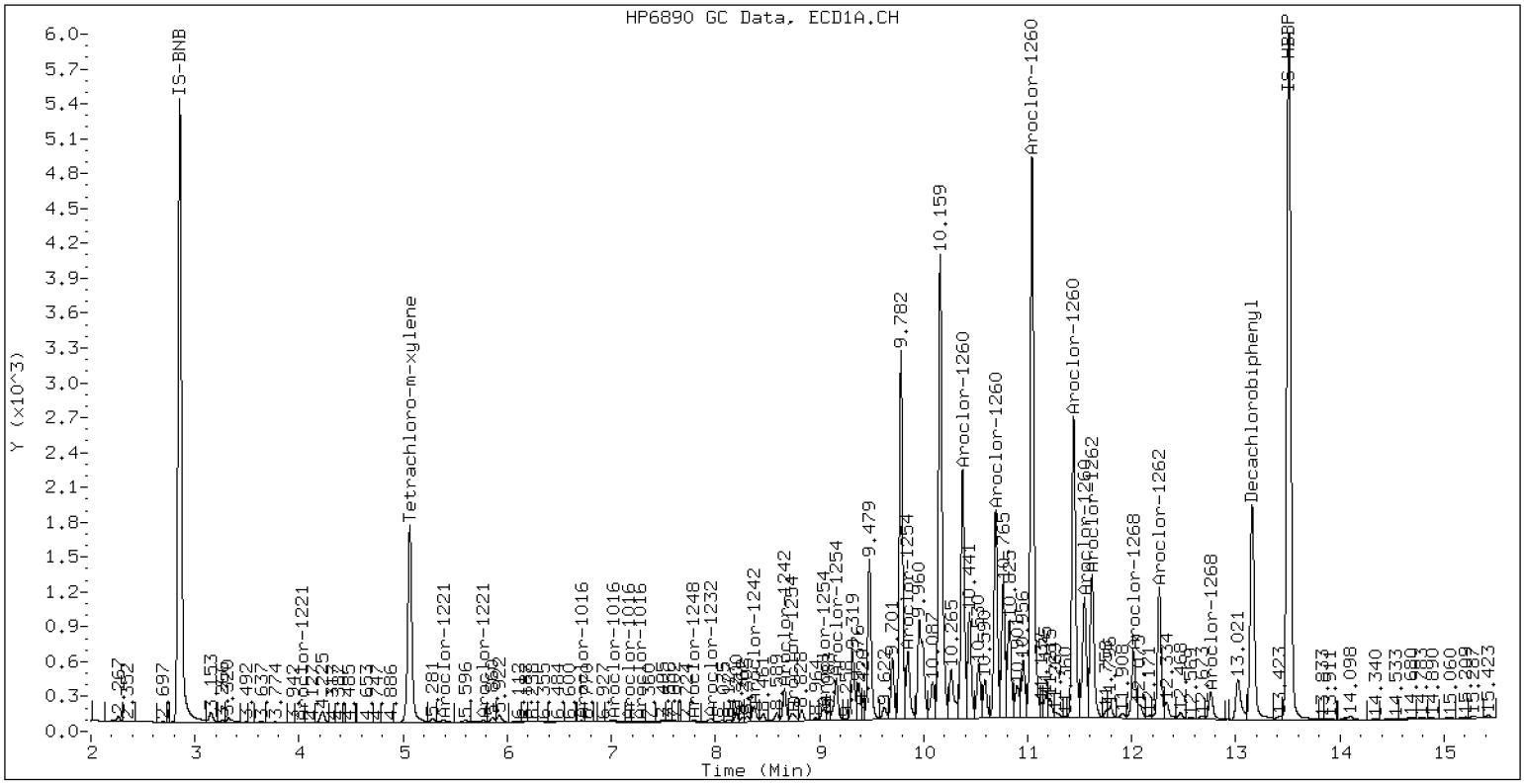
Total PCB Area Col2 (5.167 - 13.066) = 6441695 Col2 Total PCB = 0.7 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

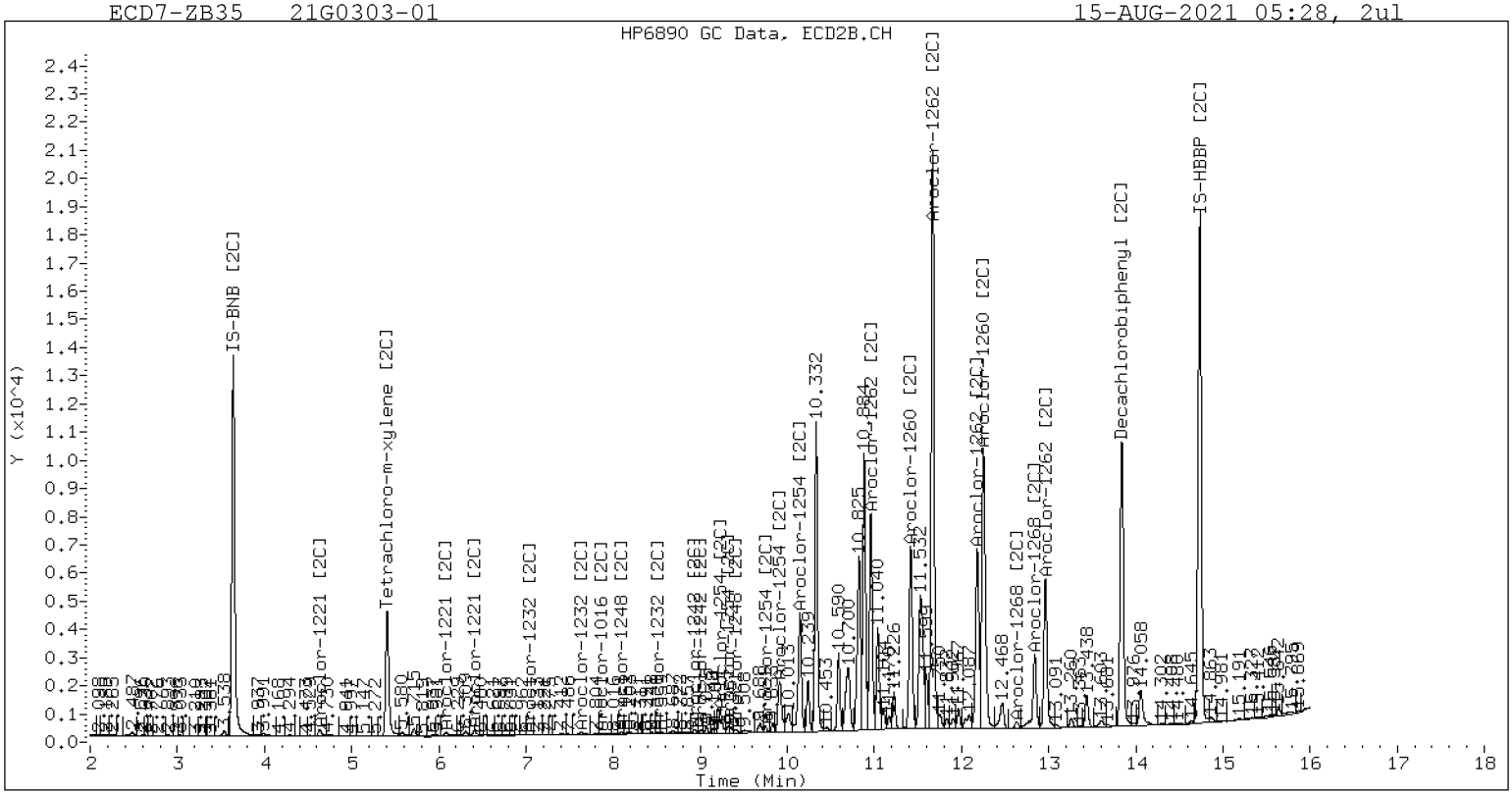
PCB Dual Column Chromatograms

ECD7-ZB5 21G0303-01 15-AUG-2021 05:28, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 21G0303-01 15-AUG-2021 05:28, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT694B

Dual Column

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0303
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0303-02 B	File ID:	08142135ECD7.D
Sampled:	07/20/21 16:39	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 05:48
% Solids:	69.29	Preparation:	EPA 3546 (Microwave)	Initial/Final:	18.08 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0212	Calibration:	EH00034
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	1	1	4.0	1.6	4.0	U
11097-69-1	Aroclor 1254	1	1	4.0	1.6	4.0	U
11096-82-5	Aroclor 1260	1	1	2.7	0.6	4.0	J

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9824*	*7.18*	*89.9*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9824*	*6.74*	*84.5*	*44 - 120*	

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

Data file 1: /210814.b/08142135ECD7.D
Data file 2: /210814.b/210814.b/08142135ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0303-02
Client ID:
Injection Date: 15-AUG-2021 05:48
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.061	-0.006	99325	5.406	-0.007	210749	33.8	27.6	20.1	Tetrachloro-m-xylene
13.154	-0.011	92504	13.839	-0.008	477954	36.0	27.0	28.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	243254	-6.0
Hexabromobiphenyl	425681	283270	-33.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	593856	-17.6
Hexabromobiphenyl	863111	797222	-7.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.709	0.049	307	3.6	1	7.042	-0.013	872	2.6
Aroclor-1016	2	7.061	0.028	731	2.8	2	7.619	-0.032	4605	6.1
Aroclor-1016	3	7.159	-0.020	312	2.6	3	7.867	0.009	3217	10.8
Aroclor-1016	4	7.234	-0.055	415	5.6	4	8.095	-0.011	1258	7.0
Total Col1Ave (4 peaks):					3.6	Total Col2Ave (4 peaks):				6.6 RPD = 58*
Corrected Ave (3 peaks):					3.8	Corrected Ave (3 peaks):				5.2 RPD = 54*
Aroclor-1221	1	4.038	0.023	537	28.0	1	4.674	-0.002	5212	116.9
Aroclor-1221	2	5.387	-0.064	1936	64.3	2	6.083	0.011	5532	54.2
Aroclor-1221	3	5.715	-0.009	703	8.6	3	6.403	-0.006	4455	25.1
Total Col1Ave (3 peaks):					33.6	Total Col2Ave (3 peaks):				65.4 RPD = 64*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.038	0.021	537	45.5	1	4.674	-0.005	5212	196.4
Aroclor-1232	2	5.715	-0.011	703	11.0	2	7.042	-0.016	872	5.6
Aroclor-1232	3	7.061	0.028	731	7.5	3	7.619	-0.032	4605	14.8
Aroclor-1232	4	7.954	-0.018	664	16.5	4	8.548	0.026	3036	37.5
Total Col1Ave (4 peaks):					20.1	Total Col2Ave (4 peaks):				63.6 RPD = 104*
Corrected Ave (3 peaks):					11.6	Corrected Ave (3 peaks):				19.3 RPD = 50*
Aroclor-1242	1	6.709	0.049	307	4.6	1	7.042	-0.015	872	3.2
Aroclor-1242	2	7.061	0.027	731	3.7	2	7.619	-0.034	4605	7.8
Aroclor-1242	3	8.361	-0.020	1017	9.0	3	8.968	0.011	3803	13.7
Aroclor-1242	4	8.650	-0.026	1280	27.7	4	9.051	0.014	4883	15.5
Total Col1Ave (4 peaks):					11.2	Total Col2Ave (4 peaks):				10.1 RPD = 11
Corrected Ave (3 peaks):					5.7	Corrected Ave (3 peaks):				8.2 RPD = 36
Aroclor-1248	1	7.784	-0.016	314	3.1	1	8.095	-0.011	1258	5.1
Aroclor-1248	2	7.954	-0.017	664	5.0	2	8.548	0.028	3036	10.1
Aroclor-1248	3	8.361	-0.018	1017	5.2	3	8.968	0.015	3803	8.0
Aroclor-1248	4	8.650	-0.026	1280	11.5	4	9.413	0.033	5004	12.3
Total Col1Ave (4 peaks):					6.2	Total Col2Ave (4 peaks):				8.9 RPD = 36
Corrected Ave (3 peaks):					4.4	Corrected Ave (3 peaks):				7.7 RPD = 54*
Aroclor-1254	1	8.650	-0.027	1280	6.1	1	9.274	0.034	8128	16.1
Aroclor-1254	2	8.766	0.018	244	2.5	2	9.352	0.019	3890	13.1
Aroclor-1254	3	9.026	-0.019	795	5.8	3	9.827	0.064	5724	14.9
Aroclor-1254	4	9.156	-0.022	1034	4.0	4	9.885	-0.029	3286	3.8
Aroclor-1254	5	9.843	-0.027	1016	6.2	5	10.143	-0.009	10415	12.0
Total Col1Ave (5 peaks):					4.9	Total Col2Ave (5 peaks):				12.0 RPD = 84*
Corrected Ave (4 peaks):					4.6	Corrected Ave (4 peaks):				11.0 RPD = 82*
Aroclor-1260	1	10.370	-0.014	2036	16.0	1	11.415	-0.011	5725	8.6
Aroclor-1260	2	10.685	-0.017	1464	11.7	2	11.664	-0.014	15949	8.3
Aroclor-1260	3	11.035	-0.018	3970	11.7	3	12.247	-0.014	11337	9.2
Aroclor-1260	4	11.435	-0.020	2304	15.3	4	12.961	-0.011	5631	9.5
Aroclor-1260	5	11.537	-0.018	1063	14.1	NS	---			----
Total Col1Ave (5 peaks):					13.8	Total Col2Ave (4 peaks):				8.9 RPD = 43*
Corrected Ave (4 peaks):					13.2	Corrected Ave (3 peaks):				8.7 RPD = 41*
Aroclor-1262	1	10.370	-0.014	2036	11.8	1	10.959	-0.011	6122	6.3
Aroclor-1262	2	11.435	-0.019	2304	20.6	2	11.664	-0.021	15949	7.8
Aroclor-1262	3	11.611	-0.016	1425	8.8	3	12.168	-0.020	14443	15.8
Aroclor-1262	4	12.257	-0.017	885	6.7	4	12.961	-0.012	5631	6.6
Total Col1Ave (4 peaks):					12.0	Total Col2Ave (4 peaks):				9.1 RPD = 27
Corrected Ave (3 peaks):					9.1	Corrected Ave (3 peaks):				6.9 RPD = 28
Aroclor-1268	1	11.537	-0.020	1063	2.8	1	12.168	-0.032	14443	6.3
Aroclor-1268	2	11.611	-0.014	1425	3.6	2	12.247	-0.020	11337	4.5
Aroclor-1268	3	12.005	0.005	1389	4.4	3	12.634	-0.010	7765	3.6
Aroclor-1268	4	12.748	-0.024	1741	1.7	4	12.780	-0.003	4516	8.5
Total Col1Ave (4 peaks):					3.1	Total Col2Ave (4 peaks):				5.7 RPD = 59*

Corrected Ave (3 peaks): 2.7 Corrected Ave (3 peaks): 4.8 RPD = 56*

Total PCB Area Col1 (5.167 - 13.066) = 90349 Col1 Total PCB = 0.0 ppm*

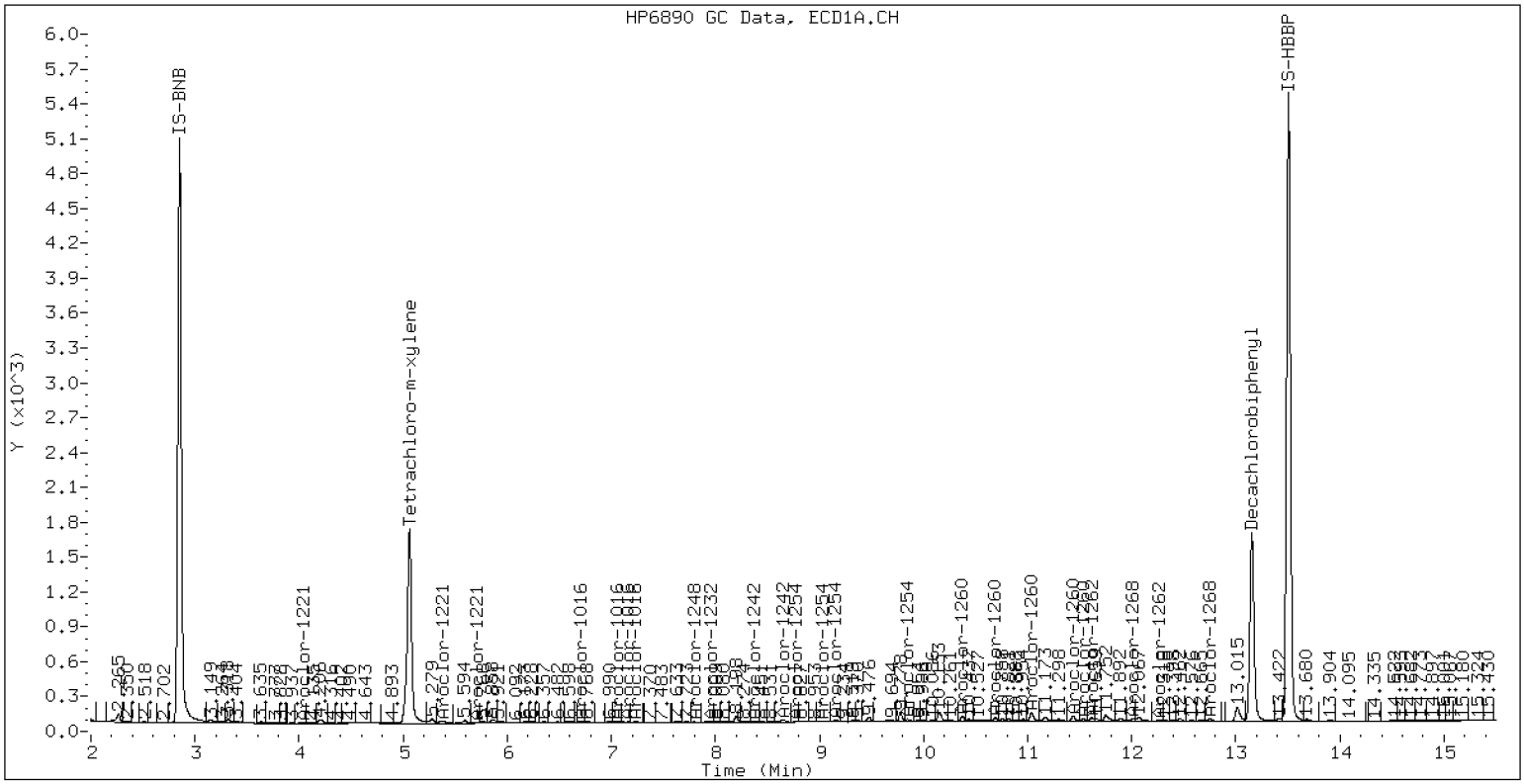
Total PCB Area Col2 (5.167 - 13.066) = 609652 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

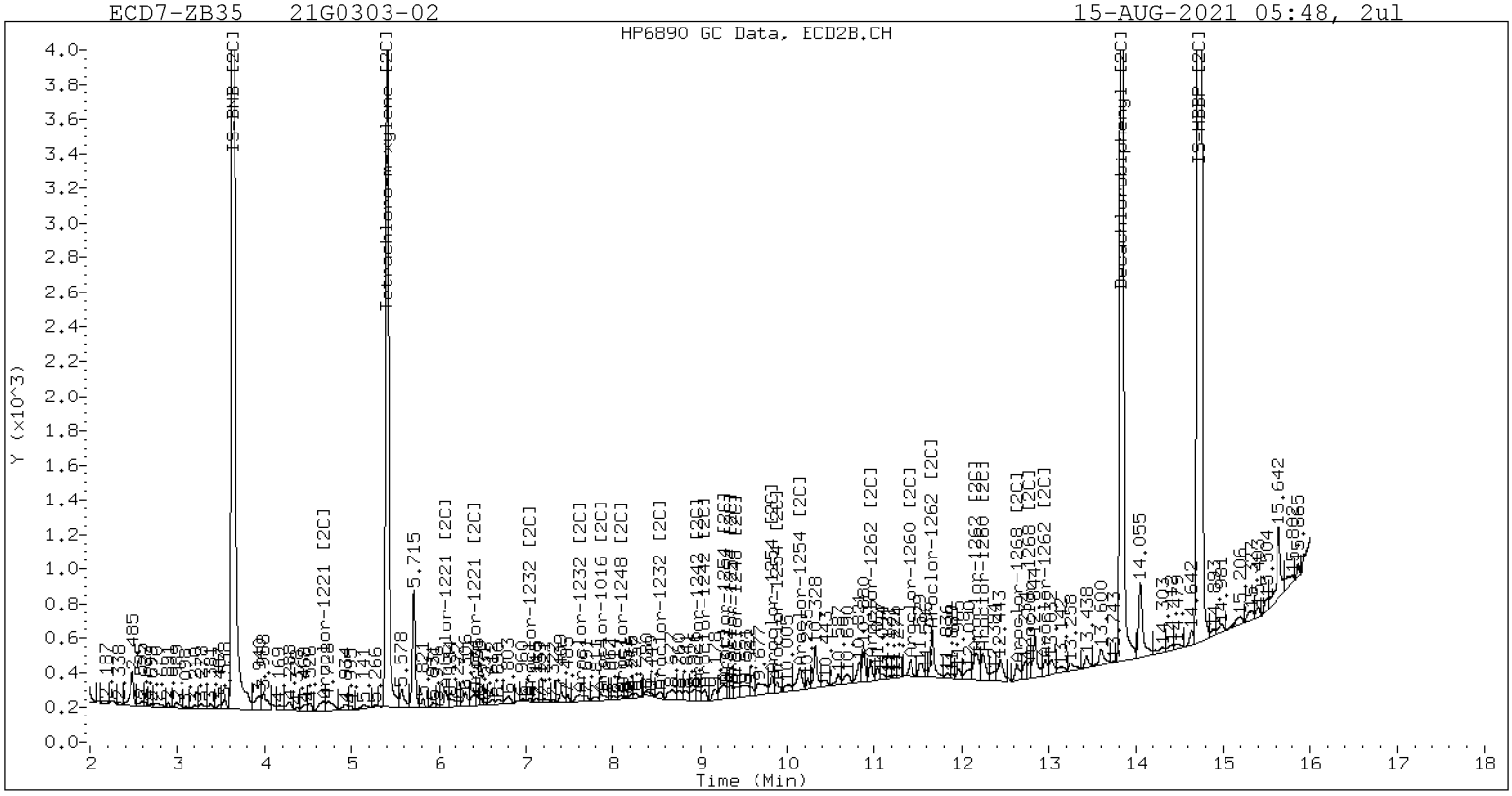
PCB Dual Column Chromatograms

ECD7-ZB5 21G0303-02 15-AUG-2021 05:48, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 21G0303-02 15-AUG-2021 05:48, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT694C

Dual Column

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0303
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0303-03 B	File ID:	08142136ECD7.D
Sampled:	07/20/21 16:39	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 06:09
% Solids:	72.47	Preparation:	EPA 3546 (Microwave)	Initial/Final:	17.27 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0212	Calibration:	EH00034
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	1	1	4.0	1.6	4.0	U
11097-69-1	Aroclor 1254	1	1	4.0	1.6	4.0	U
11096-82-5	Aroclor 1260	1	1	4.0	0.6	4.0	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9900*	*7.37*	*92.2*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9900*	*6.71*	*83.9*	*44 - 120*	

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

Data file 1: /210814.b/08142136ECD7.D
Data file 2: /210814.b/210814.b/08142136ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0303-03
Client ID:
Injection Date: 15-AUG-2021 06:09
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.065	-0.002	106494	5.409	-0.004	271079	33.6	30.2	10.6	Tetrachloro-m-xylene
13.155	-0.010	108088	13.840	-0.007	575821	36.9	28.2	26.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	262442	1.4
Hexabromobiphenyl	425681	322852	-24.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	698769	-3.1
Hexabromobiphenyl	863111	918136	6.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.708	0.048	664	7.1	1	7.050	-0.005	1190	3.0
Aroclor-1016	2	7.067	0.034	1309	4.6	2	7.633	-0.018	6119	6.9
Aroclor-1016	3	7.159	-0.020	339	2.7	3	7.874	0.016	3727	10.7
Aroclor-1016	4	7.229	-0.060	320	4.0	4	8.097	-0.009	1967	9.3
Total Col1Ave (4 peaks):					4.6	Total Col2Ave (4 peaks):				7.4 RPD = 47*
Corrected Ave (3 peaks):					3.7	Corrected Ave (3 peaks):				6.4 RPD = 52*
Aroclor-1221	1	4.040	0.024	229	11.0	1	4.746	0.070	6902	131.6
Aroclor-1221	2	5.376	-0.075	1510	46.5	2	6.086	0.014	10207	85.0
Aroclor-1221	3	5.772	0.048	302	3.4	3	6.398	-0.011	4671	22.3
Total Col1Ave (3 peaks):					20.3	Total Col2Ave (3 peaks):				79.6 RPD = 119*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.040	0.022	229	18.0	1	4.746	0.067	6902	221.0
Aroclor-1232	2	5.772	0.046	302	4.4	2	7.050	-0.008	1190	6.5
Aroclor-1232	3	7.067	0.033	1309	12.4	3	7.633	-0.018	6119	16.8
Aroclor-1232	4	7.941	-0.031	2052	47.2	4	8.540	0.018	2504	26.3
Total Col1Ave (4 peaks):					20.5	Total Col2Ave (4 peaks):				67.6 RPD = 107*
Corrected Ave (3 peaks):					11.6	Corrected Ave (3 peaks):				16.5 RPD = 35
Aroclor-1242	1	6.708	0.047	664	9.2	1	7.050	-0.007	1190	3.7
Aroclor-1242	2	7.067	0.032	1309	6.1	2	7.633	-0.020	6119	8.8
Aroclor-1242	3	8.369	-0.012	1135	9.3	3	8.936	-0.020	3627	11.1
Aroclor-1242	4	8.660	-0.016	828	16.6	4	9.055	0.018	2722	7.4
Total Col1Ave (4 peaks):					10.3	Total Col2Ave (4 peaks):				7.7 RPD = 28
Corrected Ave (3 peaks):					8.2	Corrected Ave (3 peaks):				6.6 RPD = 21
Aroclor-1248	1	7.801	0.001	486	4.4	1	8.097	-0.008	1967	6.8
Aroclor-1248	2	7.941	-0.030	2052	14.3	2	8.540	0.020	2504	7.1
Aroclor-1248	3	8.369	-0.010	1135	5.4	3	8.936	-0.016	3627	6.5
Aroclor-1248	4	8.660	-0.015	828	6.9	4	9.404	0.024	4417	9.3
Total Col1Ave (4 peaks):					7.8	Total Col2Ave (4 peaks):				7.4 RPD = 5
Corrected Ave (3 peaks):					5.6	Corrected Ave (3 peaks):				6.8 RPD = 20
Aroclor-1254	1	8.660	-0.016	828	3.7	1	9.198	-0.042	4106	6.9
Aroclor-1254	2	8.775	0.027	730	7.0	2	9.363	0.030	2854	8.2
Aroclor-1254	3	8.944	-0.101	638	4.3	3	9.827	0.063	14338	31.6
Aroclor-1254	4	9.155	-0.024	1137	4.0	4	9.896	-0.018	2280	2.3
Aroclor-1254	5	9.843	-0.028	412	2.3	5	10.142	-0.009	12107	11.9
Total Col1Ave (5 peaks):					4.3	Total Col2Ave (5 peaks):				12.2 RPD = 96*
Corrected Ave (4 peaks):					3.6	Corrected Ave (4 peaks):				7.3 RPD = 68*
Aroclor-1260	1	10.377	-0.007	326	2.2	1	11.428	0.002	1040	1.4
Aroclor-1260	2	10.698	-0.005	770	5.4	2	11.667	-0.011	7265	3.3
Aroclor-1260	3	11.037	-0.017	1539	4.0	3	12.253	-0.007	3092	2.2
Aroclor-1260	4	11.442	-0.013	787	4.6	4	12.965	-0.006	3068	4.5
Aroclor-1260	5	11.534	-0.021	420	4.9	NS	---			----
Total Col1Ave (5 peaks):					4.2	Total Col2Ave (4 peaks):				2.8 RPD = 40
Corrected Ave (4 peaks):					3.9	Corrected Ave (3 peaks):				2.3 RPD = 54*
Aroclor-1262	1	10.377	-0.007	326	1.7	1	10.972	0.002	2288	2.0
Aroclor-1262	2	11.442	-0.013	787	6.2	2	11.667	-0.018	7265	3.1
Aroclor-1262	3	11.619	-0.008	1057	5.7	3	12.162	-0.026	21647	20.6
Aroclor-1262	4	12.261	-0.013	654	4.3	4	12.965	-0.008	3068	3.1
Total Col1Ave (4 peaks):					4.5	Total Col2Ave (4 peaks):				7.2 RPD = 47*
Corrected Ave (3 peaks):					3.9	Corrected Ave (3 peaks):				2.7 RPD = 35
Aroclor-1268	1	11.534	-0.023	420	1.0	1	12.162	-0.038	21647	8.2
Aroclor-1268	2	11.619	-0.006	1057	2.3	2	12.253	-0.014	3092	1.1
Aroclor-1268	3	11.989	-0.011	1239	3.5	3	12.634	-0.010	8188	3.3
Aroclor-1268	4	12.753	-0.018	2416	2.1	4	12.737	-0.046	2728	4.4
Total Col1Ave (4 peaks):					2.2	Total Col2Ave (4 peaks):				4.3 RPD = 63*

Corrected Ave (3 peaks): 1.8 Corrected Ave (3 peaks): 2.9 RPD = 48*

Total PCB Area Col1 (5.167 - 13.066) = 61903 Col1 Total PCB = 0.0 ppm*

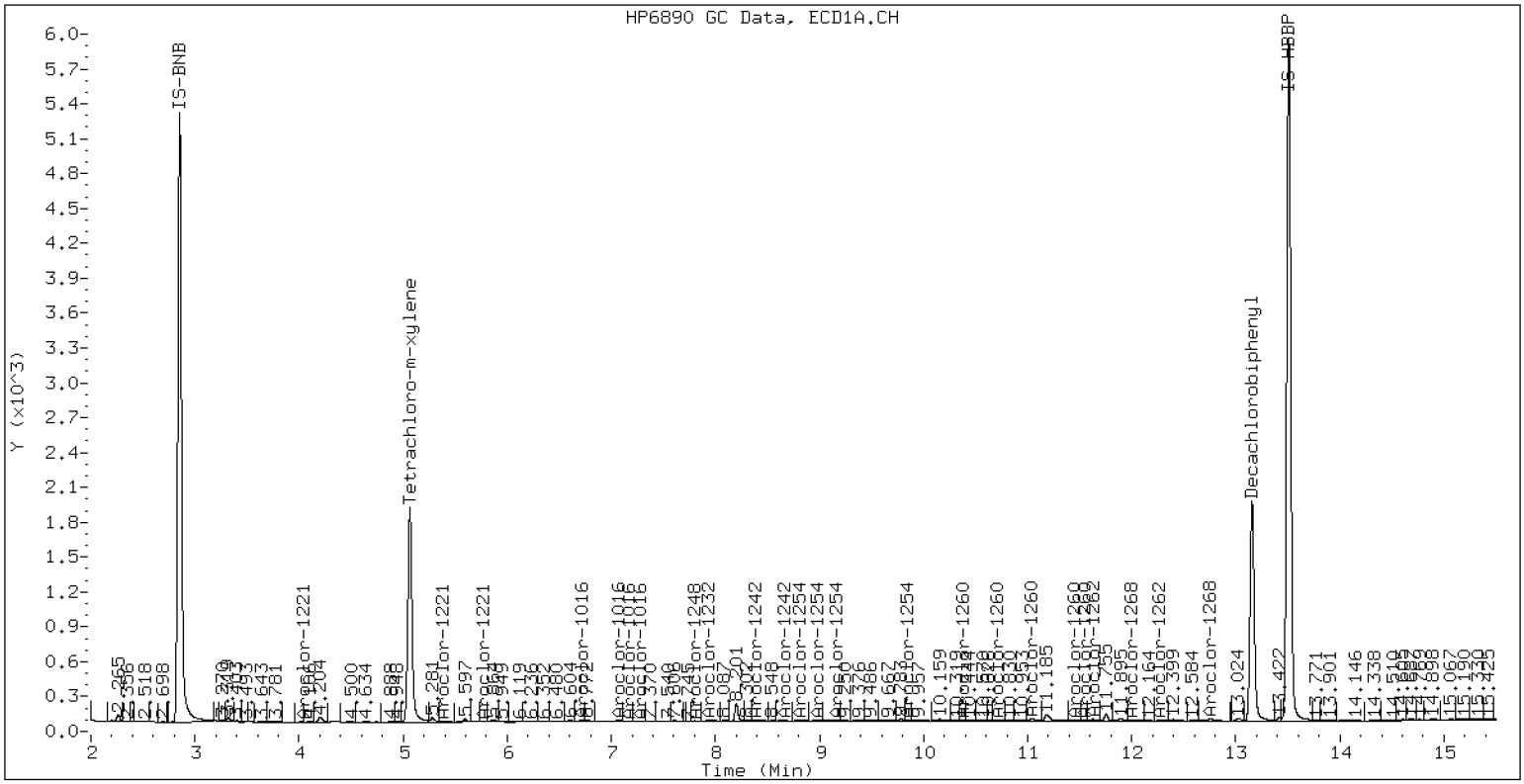
Total PCB Area Col2 (5.167 - 13.066) = 629072 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

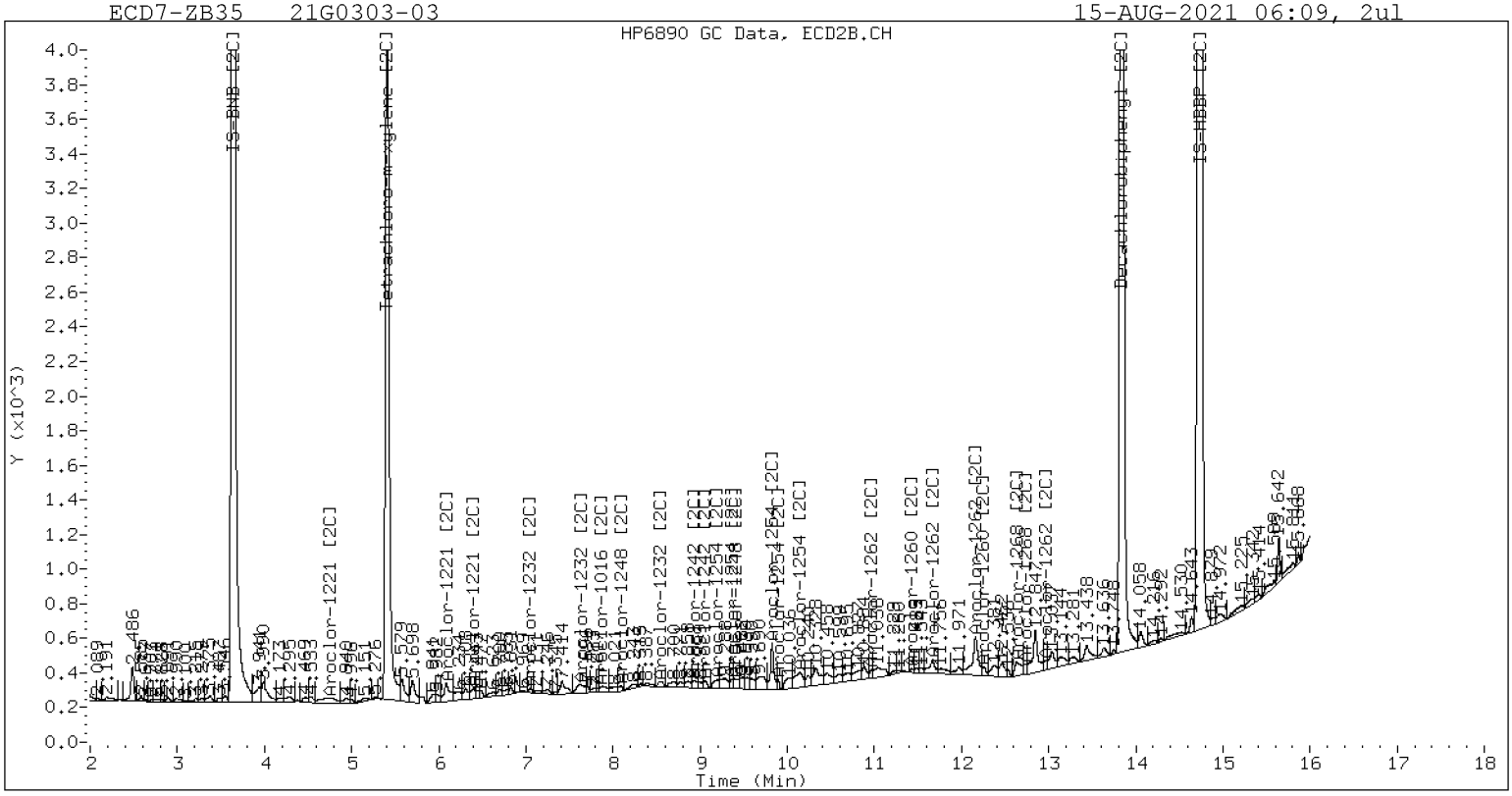
PCB Dual Column Chromatograms

ECD7-ZB5 21G0303-03 15-AUG-2021 06:09, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 21G0303-03 15-AUG-2021 06:09, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dual Column

LDW21-IT694E

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0303
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0303-04 B	File ID:	08142137ECD7.D
Sampled:	07/20/21 16:39	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 06:29
% Solids:	80.64	Preparation:	EPA 3546 (Microwave)	Initial/Final:	15.5 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0212	Calibration:	EH00034
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	1	1	4.0	1.6	4.0	U
11097-69-1	Aroclor 1254	1	1	4.0	1.6	4.0	U
11096-82-5	Aroclor 1260	1	1	4.0	0.6	4.0	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*8.0005*	*7.90*	*98.8*	*40 - 126*	
Tetrachlorometaxylene	*1*	*8.0005*	*7.55*	*94.3*	*44 - 120*	

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

Data file 1: /210814.b/08142137ECD7.D
Data file 2: /210814.b/210814.b/08142137ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0303-04
Client ID:
Injection Date: 15-AUG-2021 06:29
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	0.001	124737	5.412	-0.001	346236	37.7	35.3	6.8	Tetrachloro-m-xylene
13.162	-0.003	170482	13.846	-0.001	924774	39.5	37.1	6.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	273521	5.7
Hexabromobiphenyl	425681	475431	11.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	764134	6.0
Hexabromobiphenyl	863111	1122841	30.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.637	-0.023	245	2.5	1	7.126	0.071	545	1.3
Aroclor-1016	2	7.075	0.042	236	0.8	2	7.662	0.011	3155	3.2
Aroclor-1016	3	---			0.0	3	7.891	0.033	1058	2.8
Aroclor-1016	4	---			0.0	4	8.119	0.013	1971	8.5
		Col1Ave: <3 Quant Peaks					Col2Ave:		3.9	
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.089	0.017	4453	33.9
Aroclor-1221	3	---			0.0	3	6.404	-0.005	2047	8.9
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	5.784	0.057	181	2.5	2	7.126	0.068	545	2.7
Aroclor-1232	3	7.075	0.042	236	2.1	3	7.662	0.011	3155	7.9
Aroclor-1232	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1242	1	6.637	-0.023	245	3.3	1	7.126	0.069	545	1.6
Aroclor-1242	2	7.075	0.041	236	1.1	2	7.662	0.009	3155	4.1
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	9.091	0.054	9553	23.6
		Col1Ave: <3 Quant Peaks					Col2Ave:		9.8	
Aroclor-1248	1	---			0.0	1	8.119	0.013	1971	6.2
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	9.413	0.033	5901	11.3
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1254	1	---			0.0	1	9.240	0.001	5307	8.2
Aroclor-1254	2	---			0.0	2	9.413	0.080	5901	15.5
Aroclor-1254	3	8.986	-0.059	190	1.2	3	9.761	-0.002	1598	3.2
Aroclor-1254	4	9.180	0.001	277	0.9	4	9.915	0.000	1280	1.2
Aroclor-1254	5	9.879	0.008	710	3.8	5	10.153	0.002	4921	4.4
		Total Col1Ave (3 peaks):		2.0	Total Col2Ave (5 peaks):				6.5	RPD = 105*
		Corrected Ave: < 3 Peaks			Corrected Ave (4 peaks):				4.2	
Aroclor-1260	1	10.390	0.006	299	1.4	1	11.426	0.000	948	1.0
Aroclor-1260	2	---			0.0	2	11.684	0.006	2191	0.8
Aroclor-1260	3	11.053	-0.000	175	0.3	3	12.252	-0.008	1778	1.0
Aroclor-1260	4	11.457	0.002	166	0.7	4	12.985	0.014	930	1.1
Aroclor-1260	5	---			0.0	NS	---			----
		Total Col1Ave (3 peaks):		0.8	Total Col2Ave (4 peaks):				1.0	RPD = 23
		Corrected Ave: < 3 Peaks			Corrected Ave (3 peaks):				0.9	
Aroclor-1262	1	10.390	0.006	299	1.0	1	10.965	-0.005	437	0.3
Aroclor-1262	2	11.457	0.002	166	0.9	2	11.684	-0.001	2191	0.8
Aroclor-1262	3	---			0.0	3	12.178	-0.010	6220	4.8
Aroclor-1262	4	12.277	0.003	321	1.4	4	12.985	0.013	930	0.8
		Total Col1Ave (3 peaks):		1.1	Total Col2Ave (4 peaks):				1.7	RPD = 40
		Corrected Ave: < 3 Peaks			Corrected Ave (3 peaks):				0.6	
Aroclor-1268	1	---			0.0	1	12.178	-0.022	6220	1.9
Aroclor-1268	2	---			0.0	2	12.252	-0.015	1778	0.5
Aroclor-1268	3	11.993	-0.008	824	1.6	3	12.635	-0.009	3016	1.0
Aroclor-1268	4	12.767	-0.005	2147	1.3	4	12.780	-0.003	2134	2.8
		Col1Ave: <3 Quant Peaks					Col2Ave:		1.6	

Total PCB Area Col1 (5.167 - 13.066) = 29240 Col1 Total PCB = 0.0 ppm*

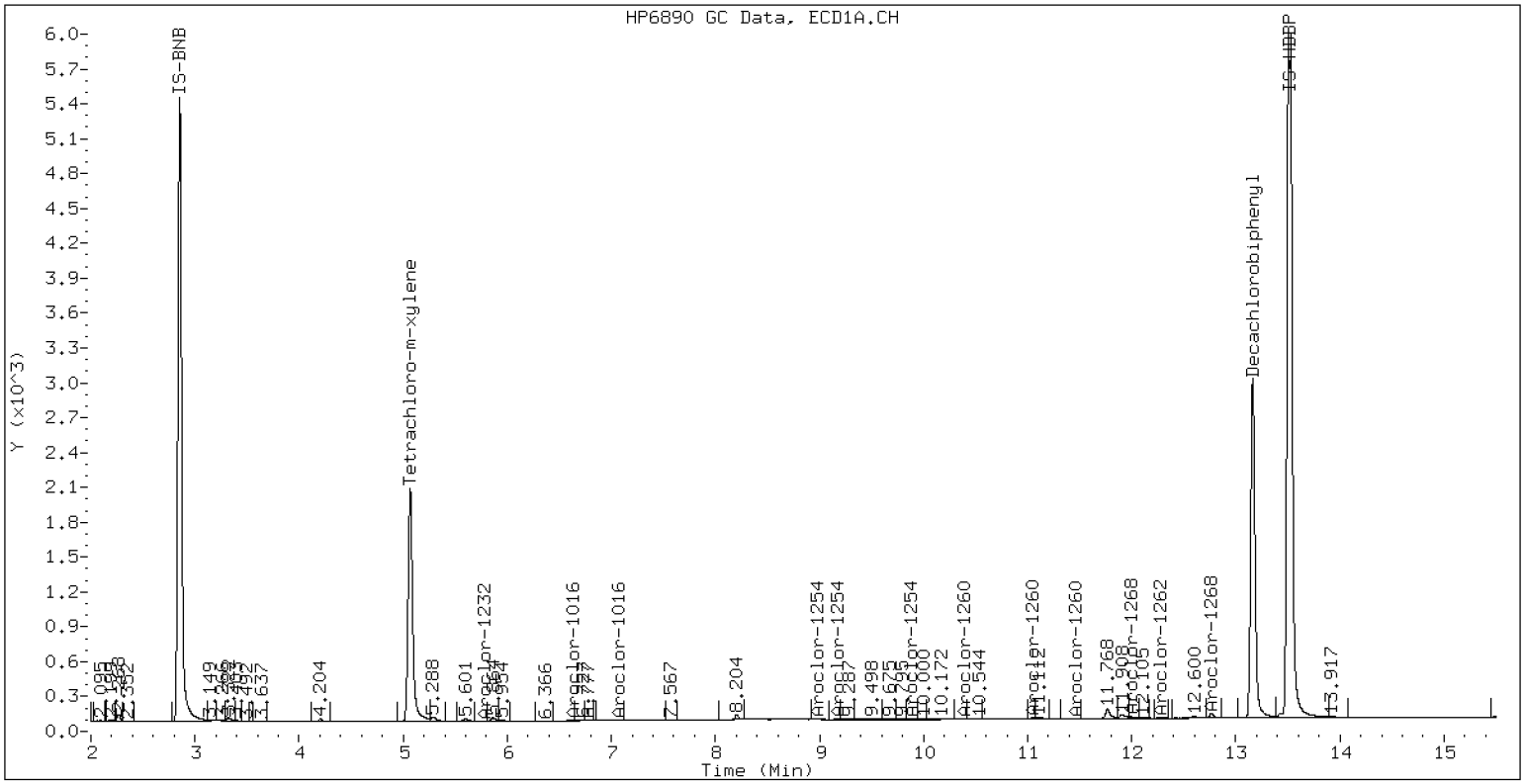
Total PCB Area Col2 (5.167 - 13.066) = 488758 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 21G0303-04 15-AUG-2021 06:29, 2ul



ZB-5 Manual Integration: NO

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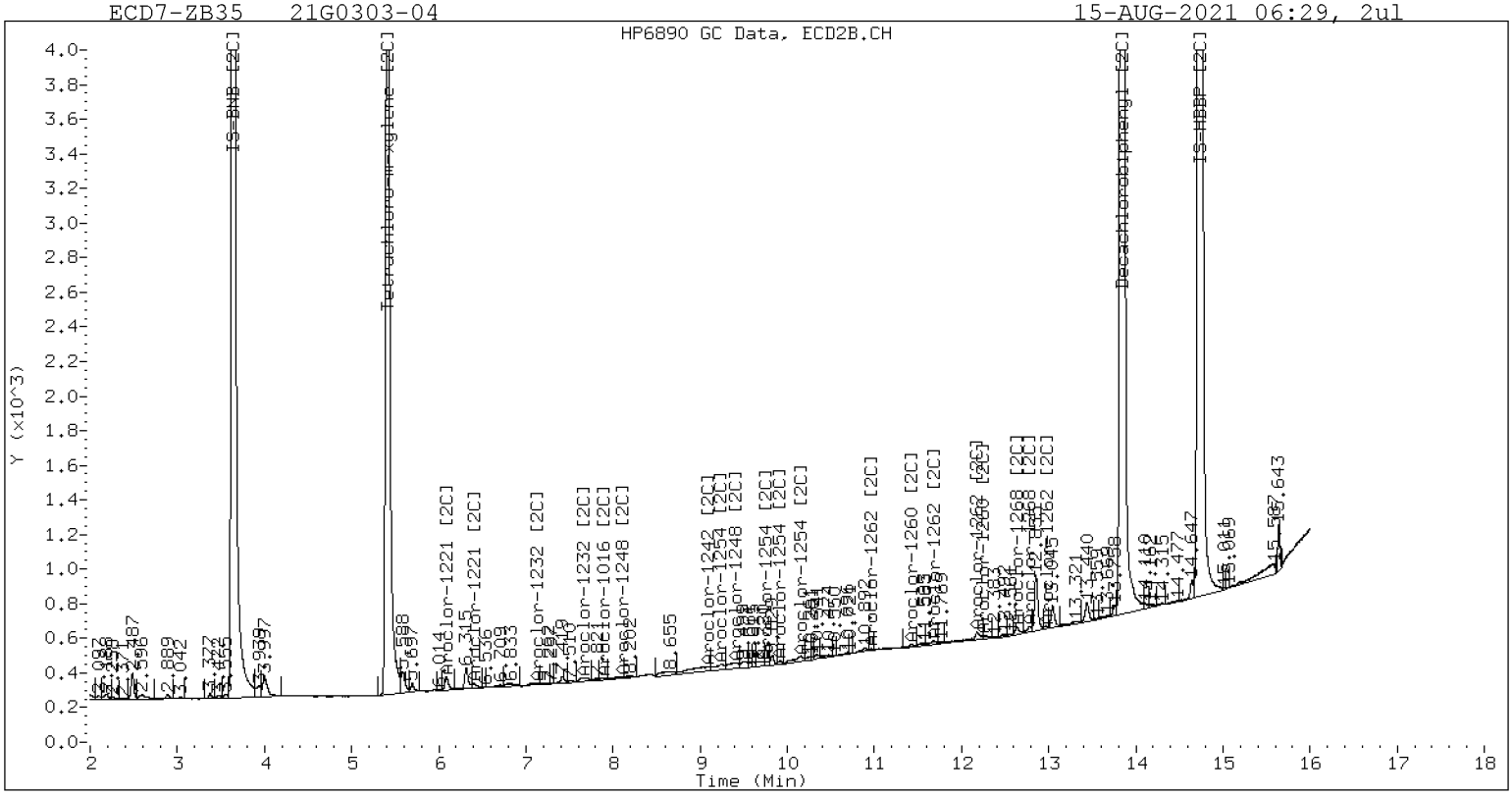


ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

PREPARATION BATCH SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0303
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Batch:	BJH0034	Batch Matrix:	Solid	Preparation:	EPA 3546 (Microwave)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-IT694A	21G0303-01	08142134ECD7.D	08/03/21 11:35	
LDW21-IT694B	21G0303-02	08142135ECD7.D	08/03/21 11:35	
LDW21-IT694C	21G0303-03	08142136ECD7.D	08/03/21 11:35	
LDW21-IT694E	21G0303-04	08142137ECD7.D	08/03/21 11:35	
Blank	BJH0034-BLK1	08142131ECD7.D	08/03/21 11:35	
LCS	BJH0034-BS1	08142132ECD7.D	08/03/21 11:35	
LDW21-IT694E	BJH0034-MS1	08142138ECD7.D	08/03/21 11:35	
LDW21-IT694E	BJH0034-MSD1	08142139ECD7.D	08/03/21 11:35	
Reference	BJH0034-SRM1	08142133ECD7.D	08/03/21 11:35	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BJH0034

Prepared using: EPA 3546 (Microwave)

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

Matrix: Solid **Date Prepared:** 08/03/21 **Balance ID:** B146462614 **Set Up By:** CTD 8/3/21

WO Comments

21G0303: <G> BPR Project batch as mcuh 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, MS/MSD </E>
<H>BPR J006840-43, Dup </H>
21G0305: <G> BPR Project batch as mcuh 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, MS/MSD </E>
<H>BPR J006840-43, Dup </H>
21G0306: <G> BPR Project batch as mcuh 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, MS/MSD </E>
<H> J006840-43, Dup </H>

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) Target Dry: 12.5 (Wet)	Actual	(REQ) Acid C/U (5mL)	(REQ) Sulfur C/U (5mL) 1 2 3	(REQ) Silica Gel C/U (2:5)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
21G0303-01 B	74.6	(16.75)	16.80	5mL	5mL	2mL	2.5	1.0	
21G0303-02 B	69.3	(18.04)	18.08	5mL	5mL	2mL	2.5	1.0	
21G0303-03 B	72.5	(17.25)	17.27	5mL	5mL	2mL	2.5	1.0	
21G0303-04 B	80.6	(15.50)	15.50	5mL	5mL	2mL	2.5	1.0	
21G0305-01 B	53.8	(23.23)	23.29	5mL	5mL	2mL	2.5	1.0	
21G0305-02 B	64.8	(19.29)	19.32	5mL	5mL	2mL	2.5	1.0	
21G0305-03 B	54.8	(22.80)	22.80	5mL	5mL	2mL	2.5	1.0	
21G0305-04 B	63.4	(19.72)	19.73	5mL	5mL	2mL	2.5	1.0	
21G0305-05 B	60.1	(20.80)	20.87	5mL	5mL	2mL	2.5	1.0	
21G0305-06 B	60.5	(20.66)	20.70	5mL	5mL	2mL	2.5	1.0	
21G0305-07 B	64.9	(19.26)	19.26	5mL	5mL	2mL	2.5	1.0	
21G0305-08 B	70.6	(17.70)	17.77	5mL	5mL	2mL	2.5	1.0	
21G0305-09 B	57.4	(21.77)	21.80	5mL	5mL	2mL	2.5	1.0	
21G0305-10 B	58.5	(21.36)	21.36	5mL	5mL	2mL	2.5	1.0	
21G0306-01 B	73.9	(16.93)	16.94	5mL	5mL	2mL	2.5	1.0	
21G0306-02 B	73.5	(17.01)	17.01	5mL	5mL	2mL	2.5	1.0	

Batch QC

Lab Number	% Solids	Initial (g) Target Dry: 12.5 (Wet)	Actual	(REQ) Acid C/U (5mL)	(REQ) Sulfur C/U (5mL) 1 2 3	(REQ) Silica Gel C/U (2:5)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BJH0034-BLK1	100.0	(12.50)	12.50	5mL	5mL	2mL	2.5	1.0	(10g Actual Wt.)
BJH0034-BS1	100.0	(12.50)	12.50	5mL	5mL	2mL	2.5	1.0	(10g Actual Wt.)
BJH0034-MS1	80.6	(15.50)	15.50	5mL	5mL	2mL	2.5	1.0	Use 21G0303-04
BJH0034-MSD1	80.6	(15.50)	15.50	5mL	5mL	2mL	2.5	1.0	Use 21G0303-04
BJH0034-SRM1	100.0	~~(12.50)~~ (2.50) +1g DI H2O	2.50	5mL	5mL	2mL	2.5	1.0	Use J006842

08/03/21 — Client ID verified By — Date

CTD 8/12/21 — Preparation Reviewed By — Date

08/03/21 11:35 — Extraction Date and Time

Printed: 8/3/2021 8:46:40AM

3099F
Page 1 of 2

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BJH0034

Prepared using: EPA 3546 (Microwave)

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

WO Comments

21G0303: <G> BPR Project batch as mcuh 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, MS/MSD </E>
<H>BPR J006840-43, Dup </H>
21G0305: <G> BPR Project batch as mcuh 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, MS/MSD </E>
<H>BPR J006840-43, Dup </H>
21G0306: <G> BPR Project batch as mcuh 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, MS/MSD </E>
<H> J006840-43, Dup </H>

Prep Steps

Microwave

1 2 3

CT 08/03/21

Analyst/Date

KD
100°C
Hexane Exchange
(2 X 20 mL)

1 2 3 4 5 6

AA/RM 080921

Analyst/Date

TurboVap
Pre Cleanups

1 2 3 4 5

CT 8/12/21

Analyst/Date

TurboVap
Post Cleanups

1 2 3 4 5

CT 8/12/21

Analyst/Date

Vialing

CT 8/12/21

Analyst/Date

Reagents Used

Station/Reagent	Standard ID
Microwave Analyst: CT Date: 08/03/21	
Anhydrous Sodium Sulfate	J007778
Neutral Glass Wool	J006768
1:1 Hexane/Acetone	J007652
Hexane	J006933
KD Analyst: AA/RM Date: 080921	
Hexane	J005194
Anhydrous Sodium Sulfate	J008034
Vialing Analyst: CT Date: 8/12/21	
Hexane	J005194
Concentrated Sulfuric Acid	J006313
Tetrabutylammonium hydrogensulfate (TBAS)	J007842
Sodium Sulfite	J007354
Silica Gel (SPE) Darts	J007869

Surrogates & Spike Standards Used

Type	Vial ID / Standard ID	Vol uL	Analyst	Witness
Surrogate 2µg/mL	N J006926 Exp: 08/08/2021	50µL	CT	
Spike 20µg/mL	1 J004905 Exp: 11/07/2021	63µL	CT	

(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 inthe 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).

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BJH0034

Prepared using: EPA 3546 (Microwave)

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

WO Comments

21G0303: <G> BPR Project batch as mcuh 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, MS/MSD </E>
<H>BPR J006840-43, Dup </H>
21G0305: <G> BPR Project batch as mcuh 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, MS/MSD </E>
<H>BPR J006840-43, Dup </H>
21G0306: <G> BPR Project batch as mcuh 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, MS/MSD </E>
<H> J006840-43, Dup </H>

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	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: PCB Extraction Batch BJH0034

Total Solids Batch: BJ60688 Work Order(s): 2160303

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☑ Standing Water Decanted (Not shared)= 01-03	08/02/21
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Previously Frozen =	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☑ Share Samples Y / N	08/02/21
☑ Multiple Jars Y / N	08/02/21
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: PCB Extraction Batch BJ160854

Total Solids Batch: BJ160689 Work Order(s): 2160305

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☑ Standing Water Decanted (Not shared)= 01, 02, 04-09	08/02/21
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Previously Frozen =	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☑ Share Samples Y / N	08/02/21
☑ Multiple Jars Y / N	08/02/21
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

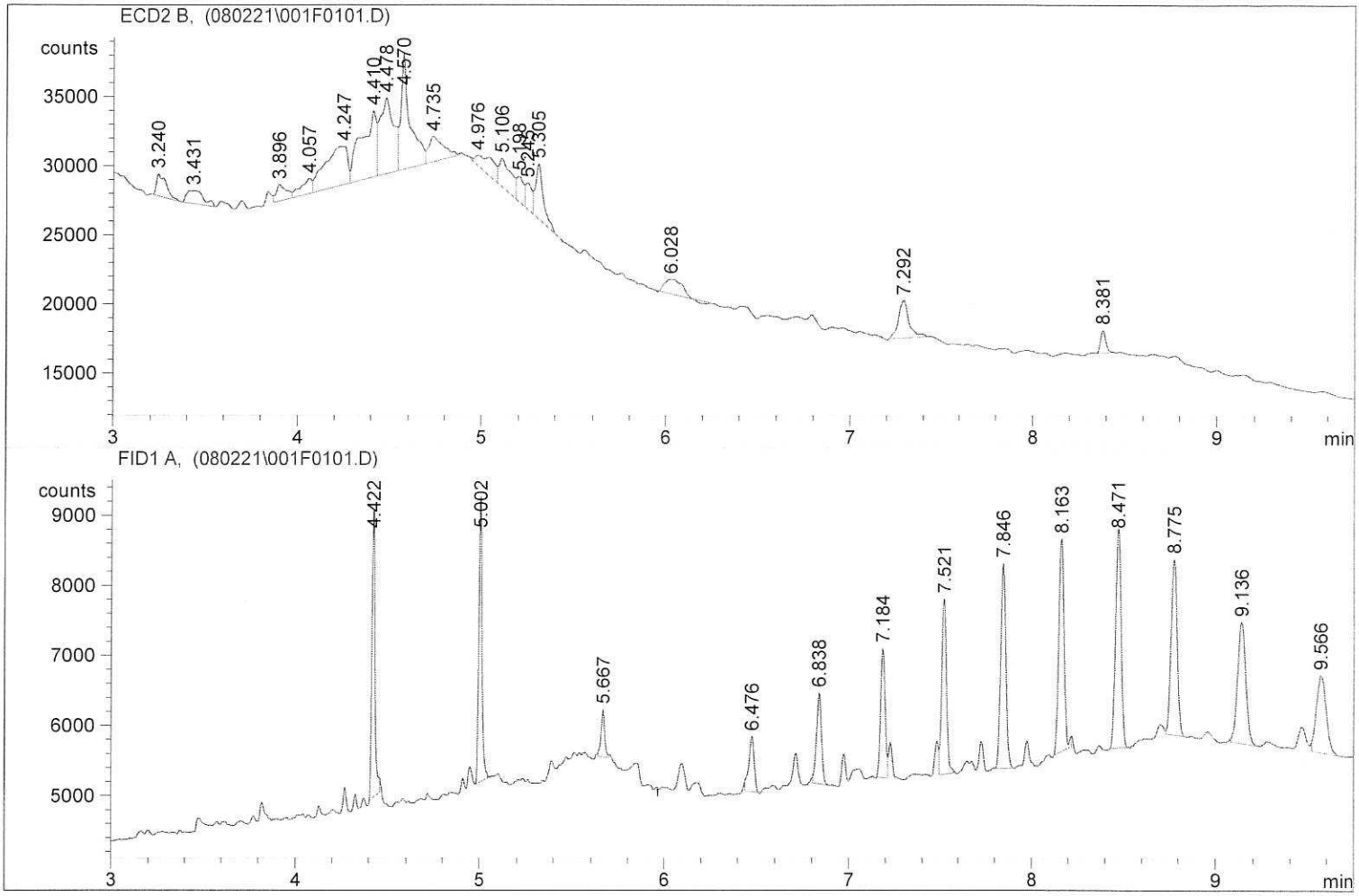
Organic Extractions Laboratory Analyst Notes

Extraction Parameter: PCB Extraction Batch BJH0034

Total Solids Batch: BJ00690 Work Order(s): 2160306

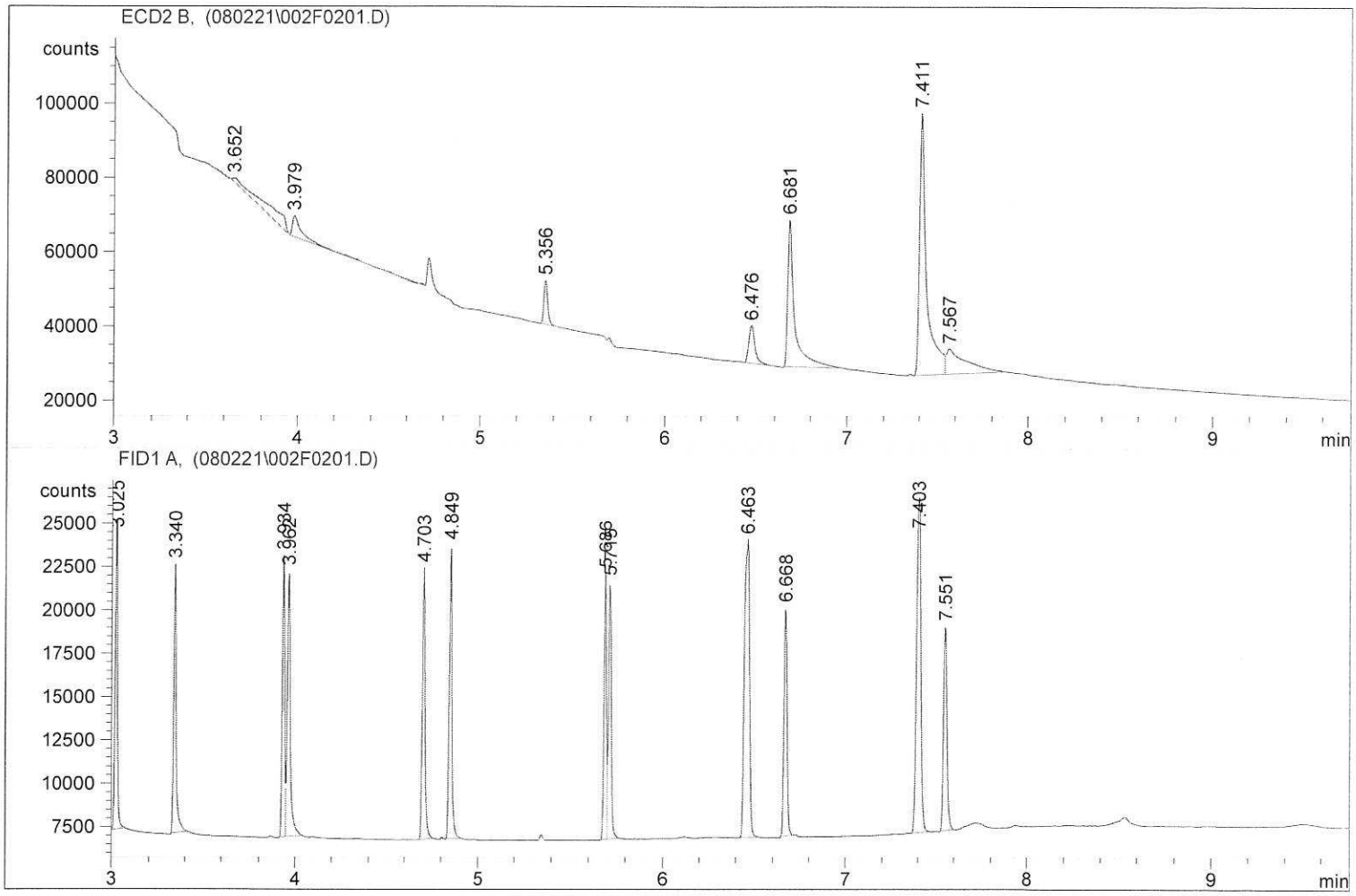
Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☑ Standing Water Decanted (Not shared)= 01, 02	08/02/21
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☑ Organics (Leaves/sticks/grass)= 01,02	08/02/21
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Previously Frozen =	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☑ Share Samples Y / N	08/02/21
☑ Multiple Jars Y / N	08/02/21
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Injection Date	: 8/2/2021 11:41:48 AM	Seq. Line :	1
Sample Name	: DCM RINSE	Location :	Vial 1
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



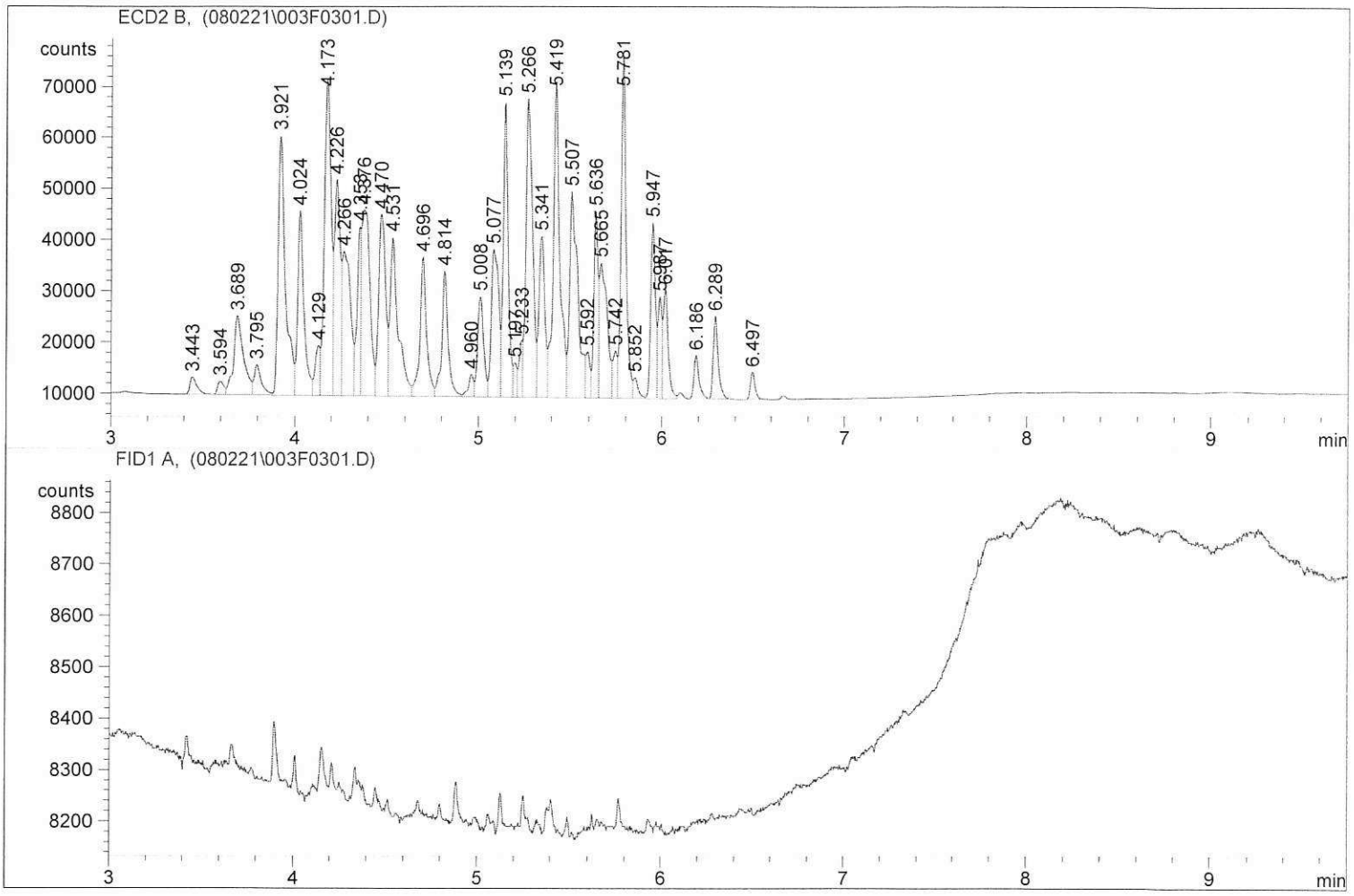
*** End of Report ***

Injection Date	: 8/2/2021 11:56:10 AM	Seq. Line :	2
Sample Name	: PNA STD 10PPM	Location :	Vial 2
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



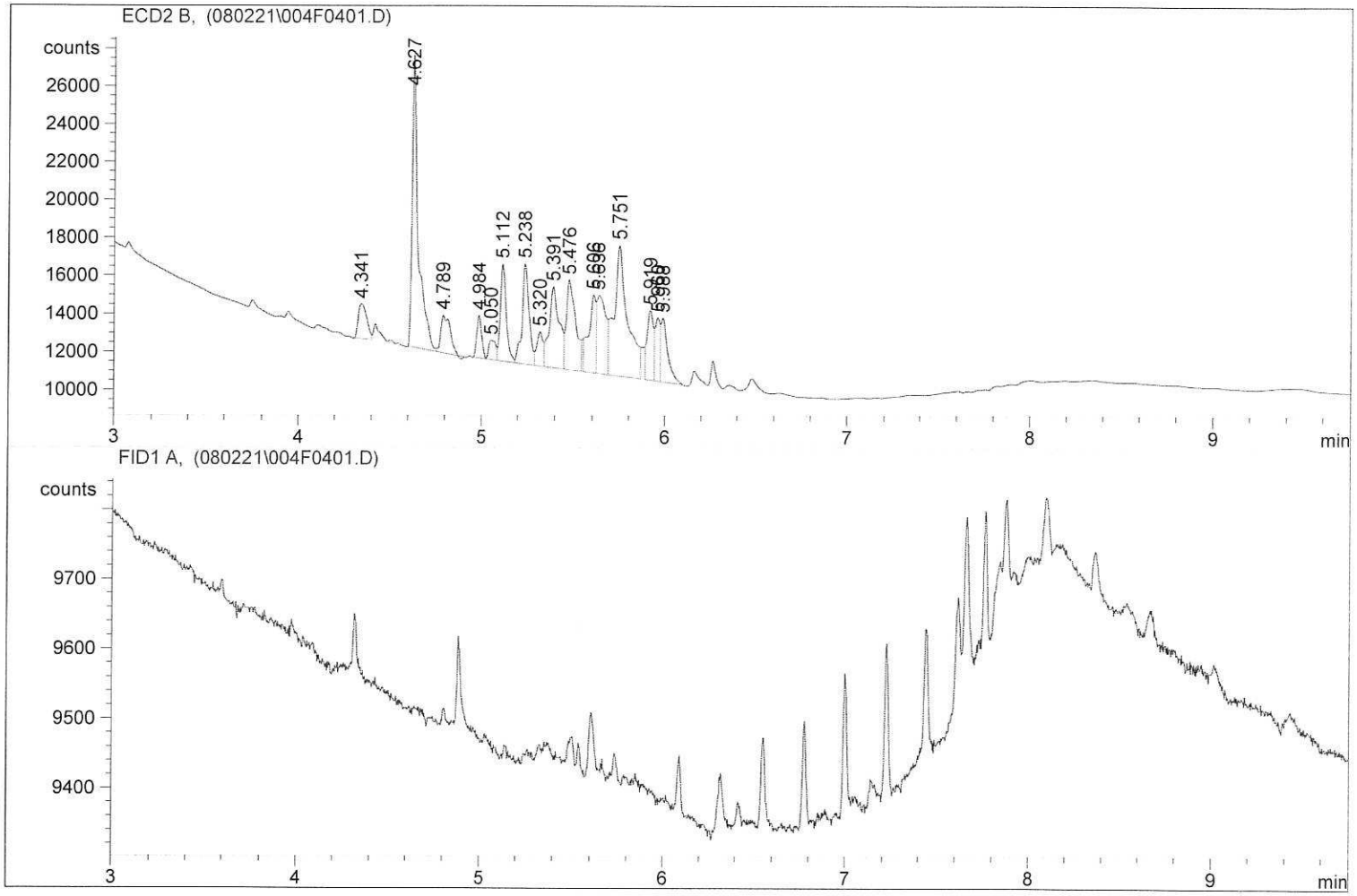
*** End of Report ***

Injection Date	: 8/2/2021 12:10:35 PM	Seq. Line :	3
Sample Name	: AR 1660 1PPM	Location :	Vial 3
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



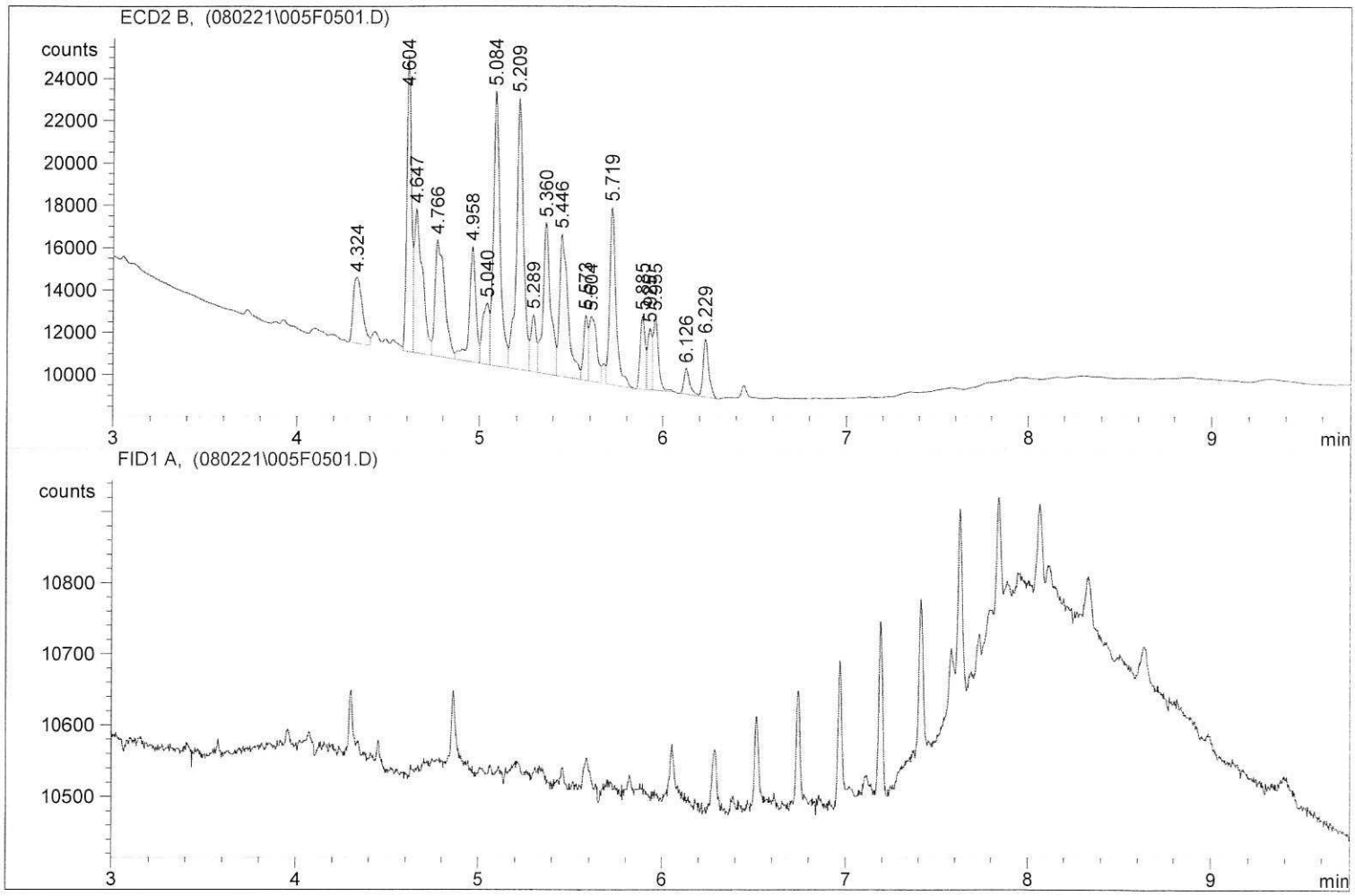
*** End of Report ***

Injection Date	: 8/2/2021 12:24:28 PM	Seq. Line :	4
Sample Name	: 21G0306 1	Location :	Vial 4
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



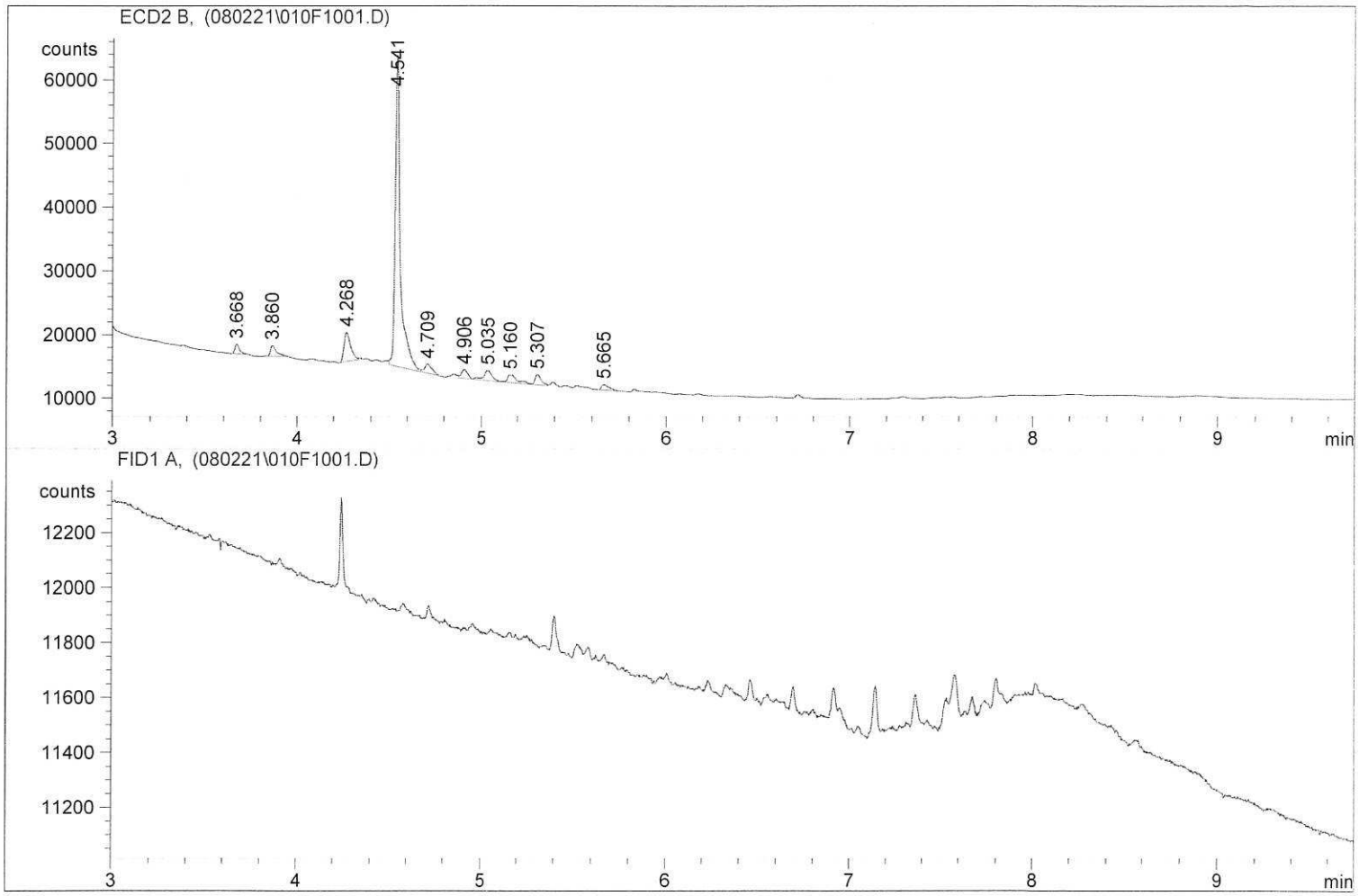
*** End of Report ***

Injection Date	: 8/2/2021 12:38:03 PM	Seq. Line :	5
Sample Name	: 21G0306 2	Location :	Vial 5
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



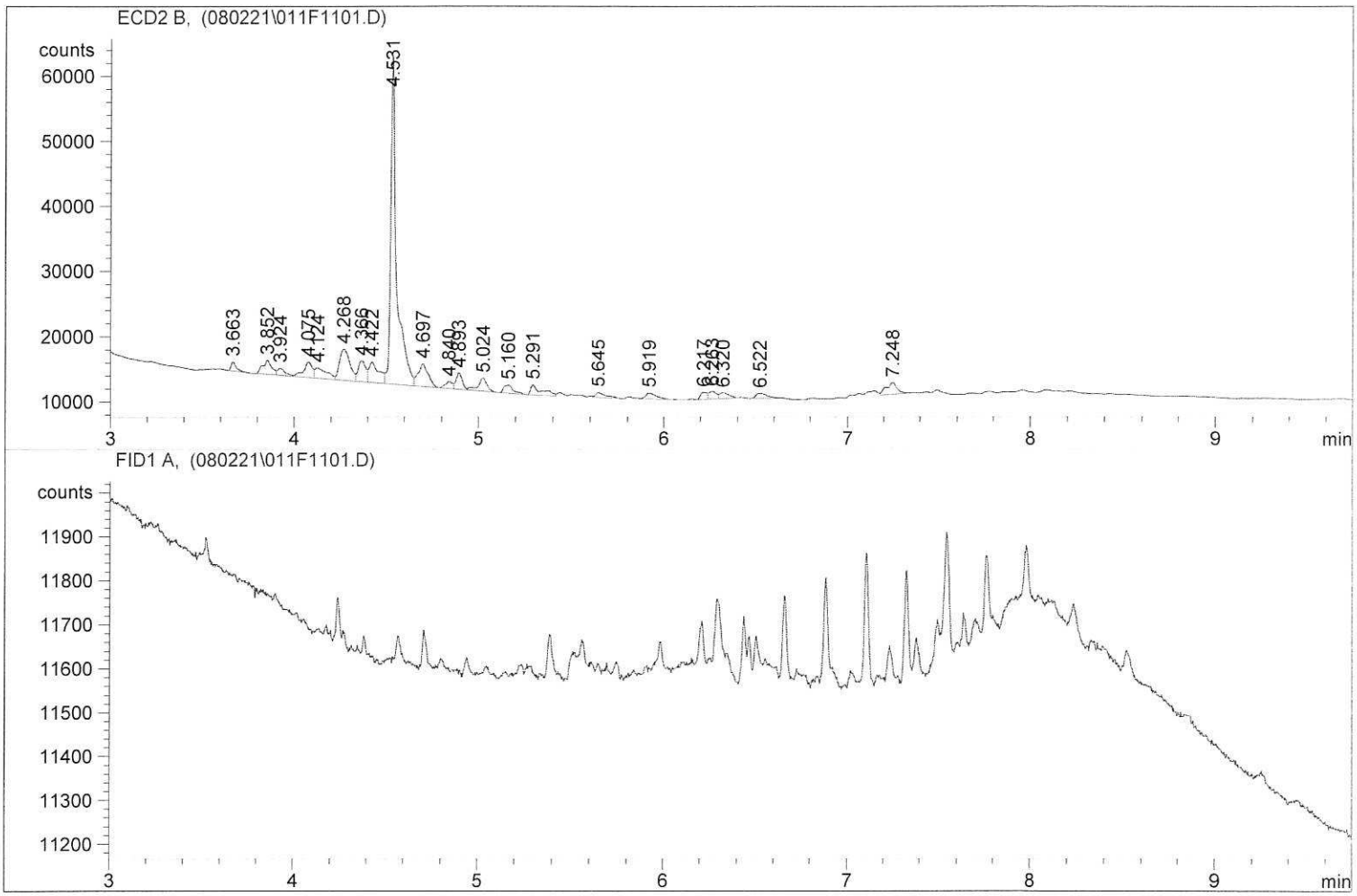
*** End of Report ***

Injection Date	: 8/2/2021 1:47:44 PM	Seq. Line :	10
Sample Name	: 21G0305 1	Location :	Vial 10
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



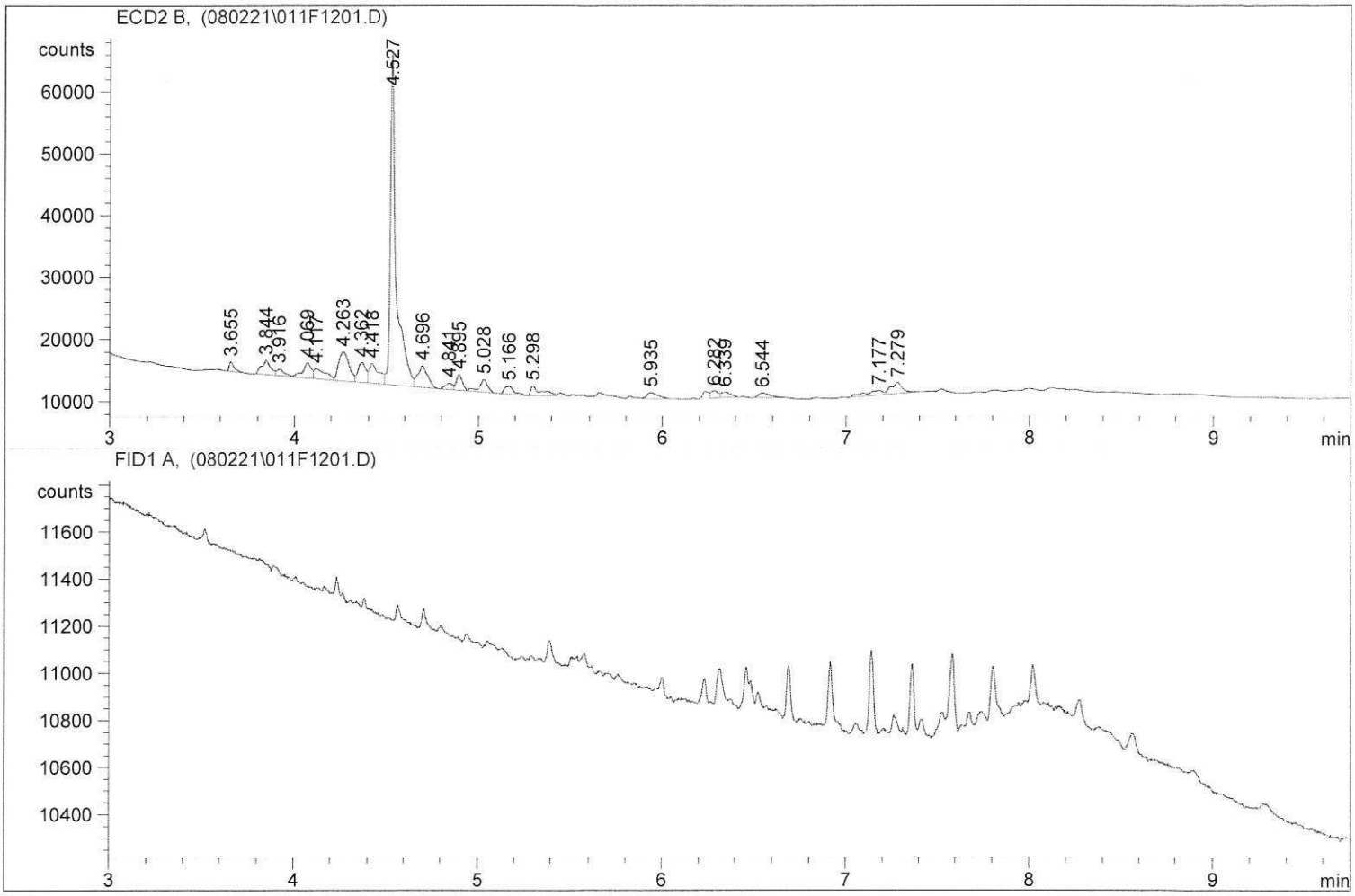
*** End of Report ***

Injection Date	: 8/2/2021 2:01:23 PM	Seq. Line :	11
Sample Name	: 21G0305 2	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



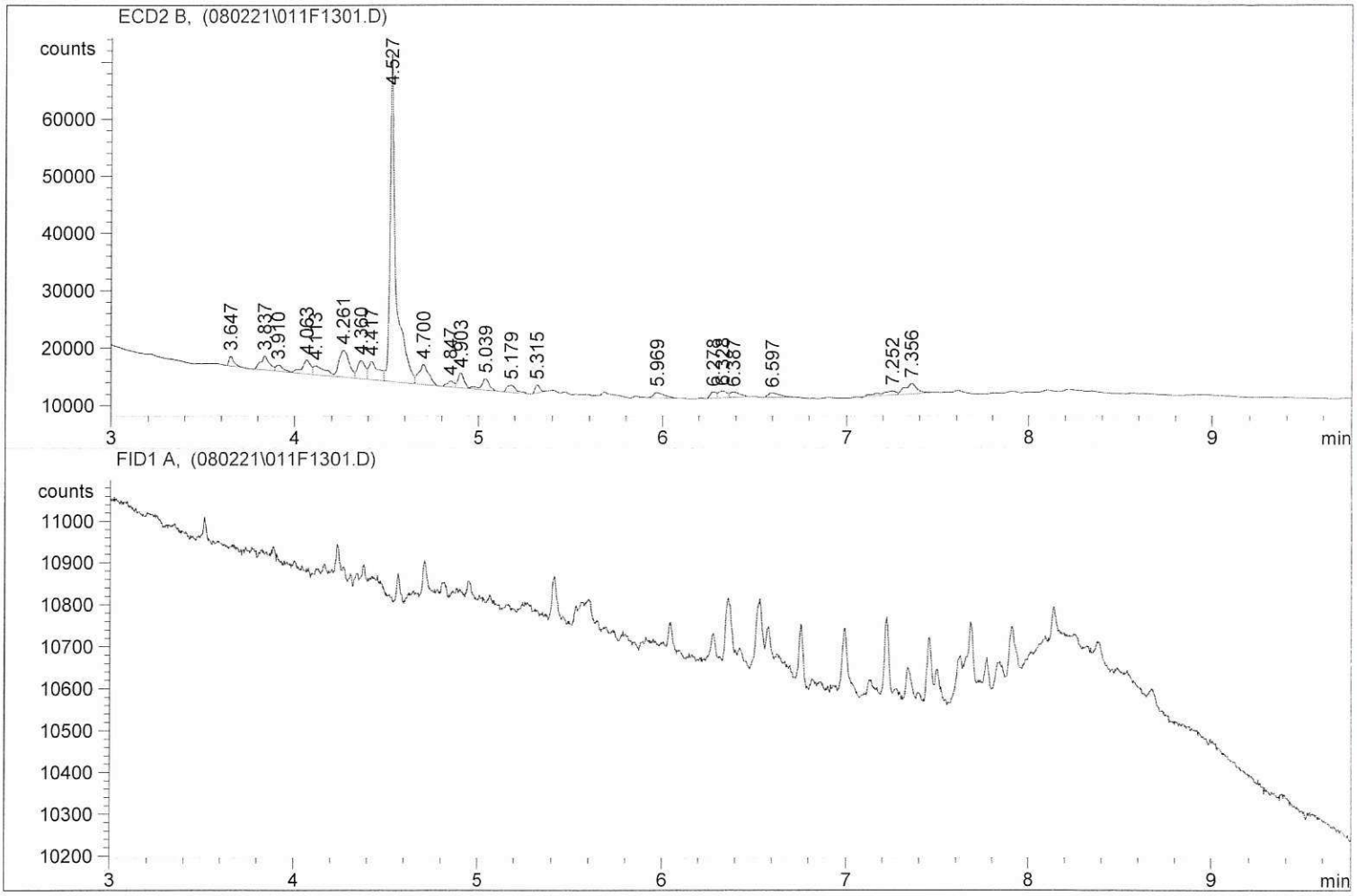
*** End of Report ***

Injection Date	: 8/2/2021 2:15:34 PM	Seq. Line :	12
Sample Name	: 21G0305 3	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



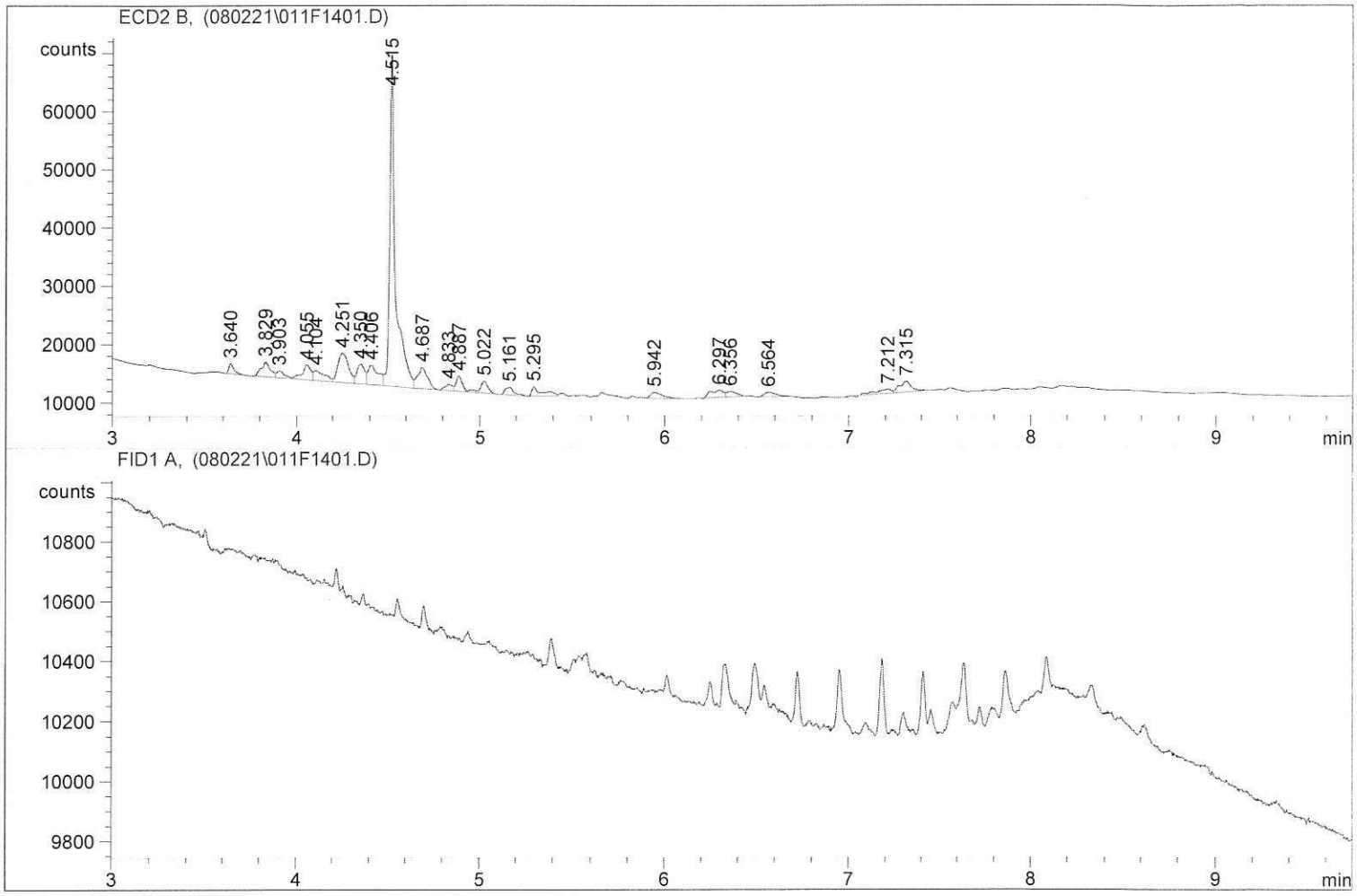
*** End of Report ***

Injection Date	: 8/2/2021 2:29:12 PM	Seq. Line :	13
Sample Name	: 21G0305 4	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



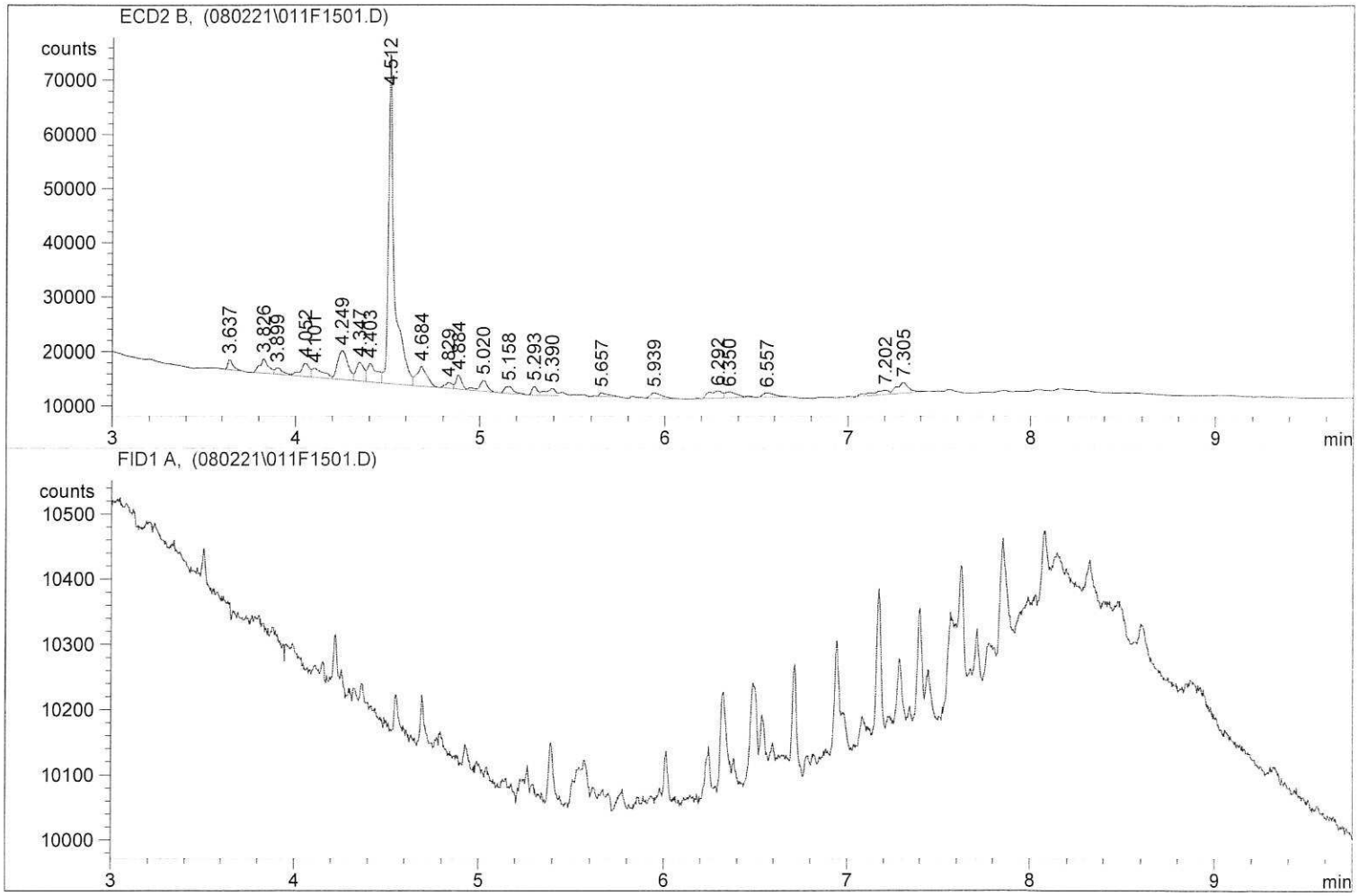
*** End of Report ***

Injection Date	: 8/2/2021 2:43:16 PM	Seq. Line :	14
Sample Name	: 21G0305 5	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



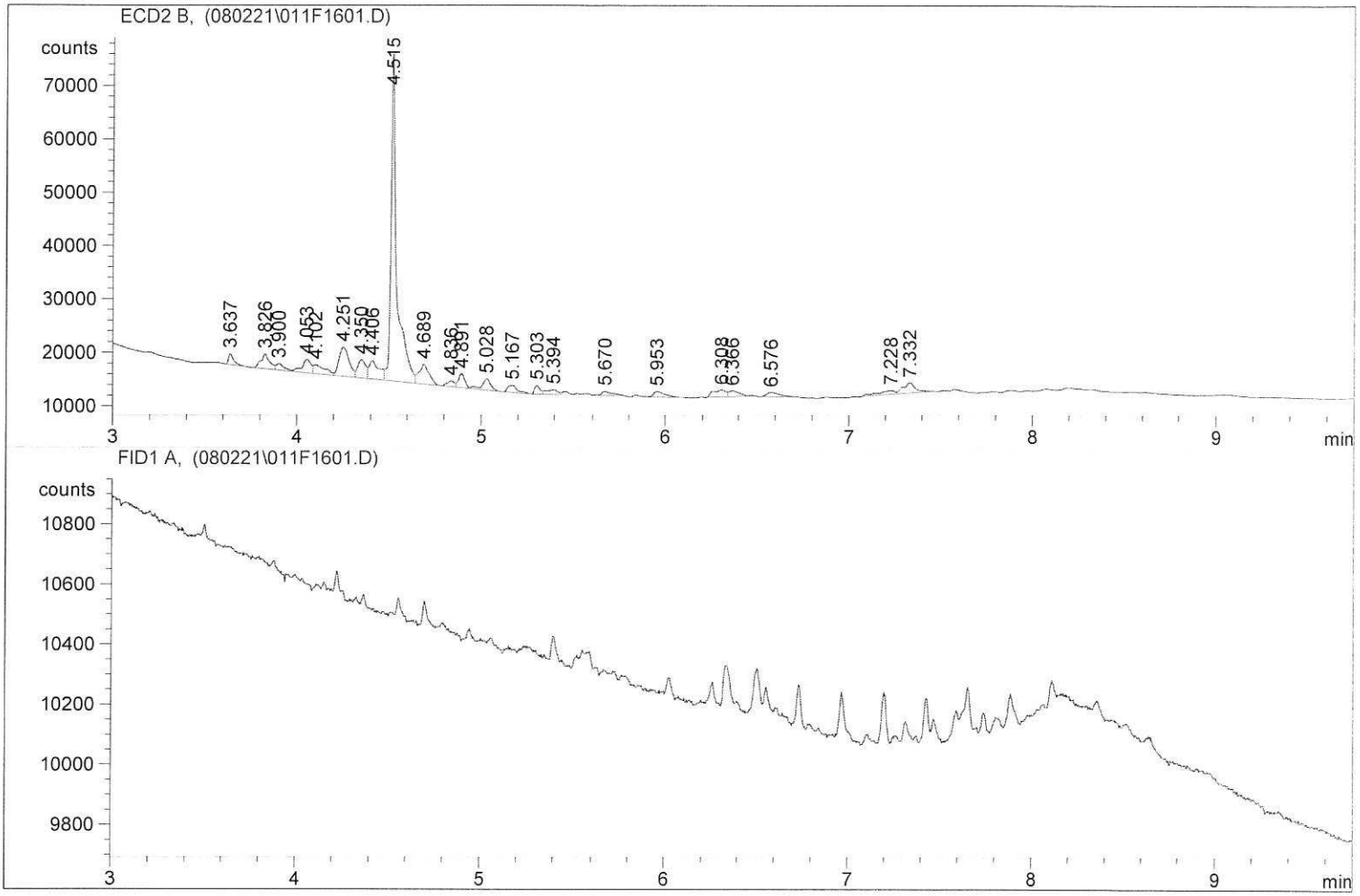
*** End of Report ***

Injection Date	: 8/2/2021 2:56:52 PM	Seq. Line :	15
Sample Name	: 21G0305 6	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



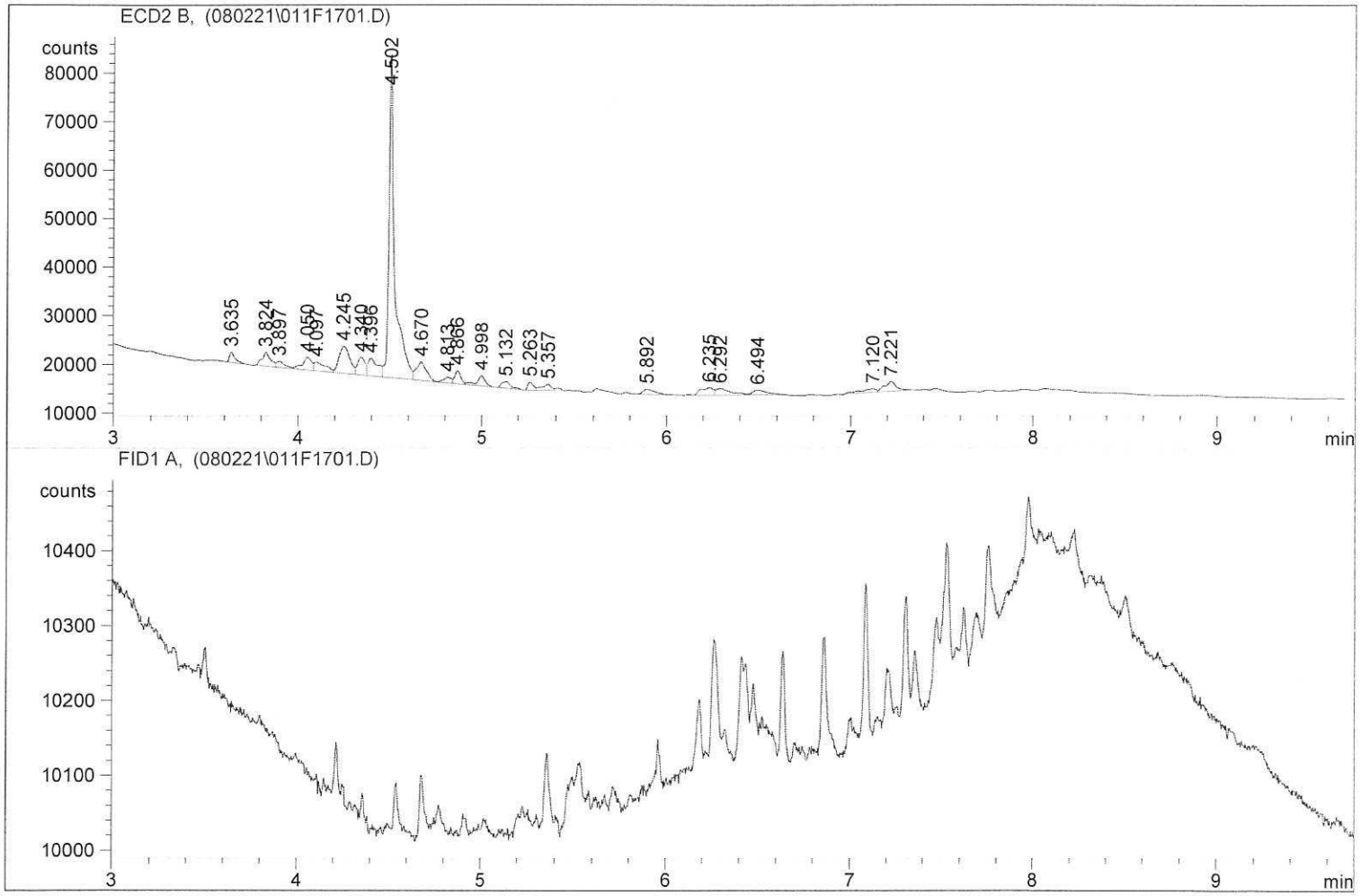
*** End of Report ***

Injection Date	: 8/2/2021 3:10:59 PM	Seq. Line :	16
Sample Name	: 21G0305 7	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



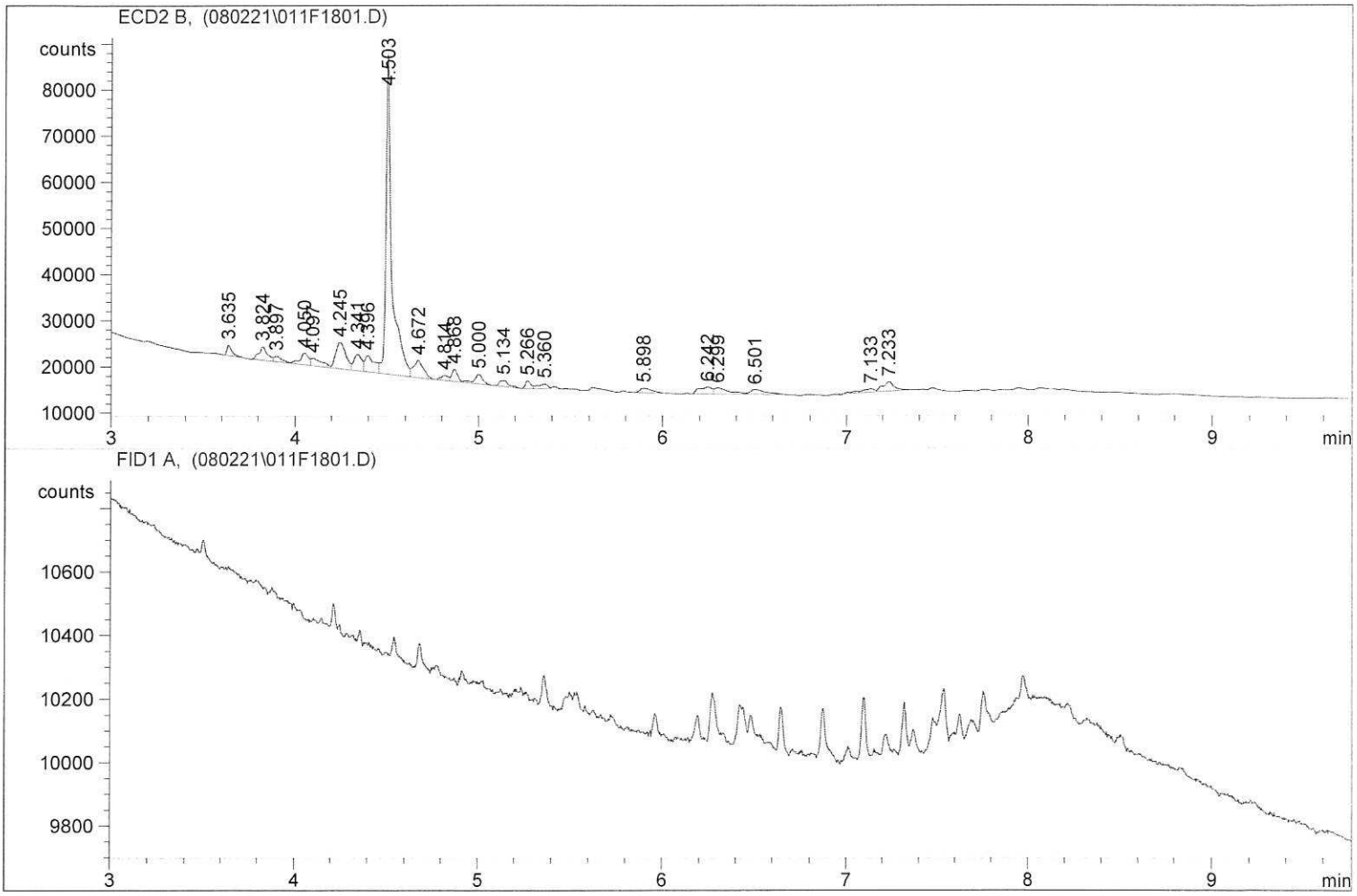
*** End of Report ***

Injection Date	: 8/2/2021 3:24:40 PM	Seq. Line :	17
Sample Name	: 21G0305 8	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



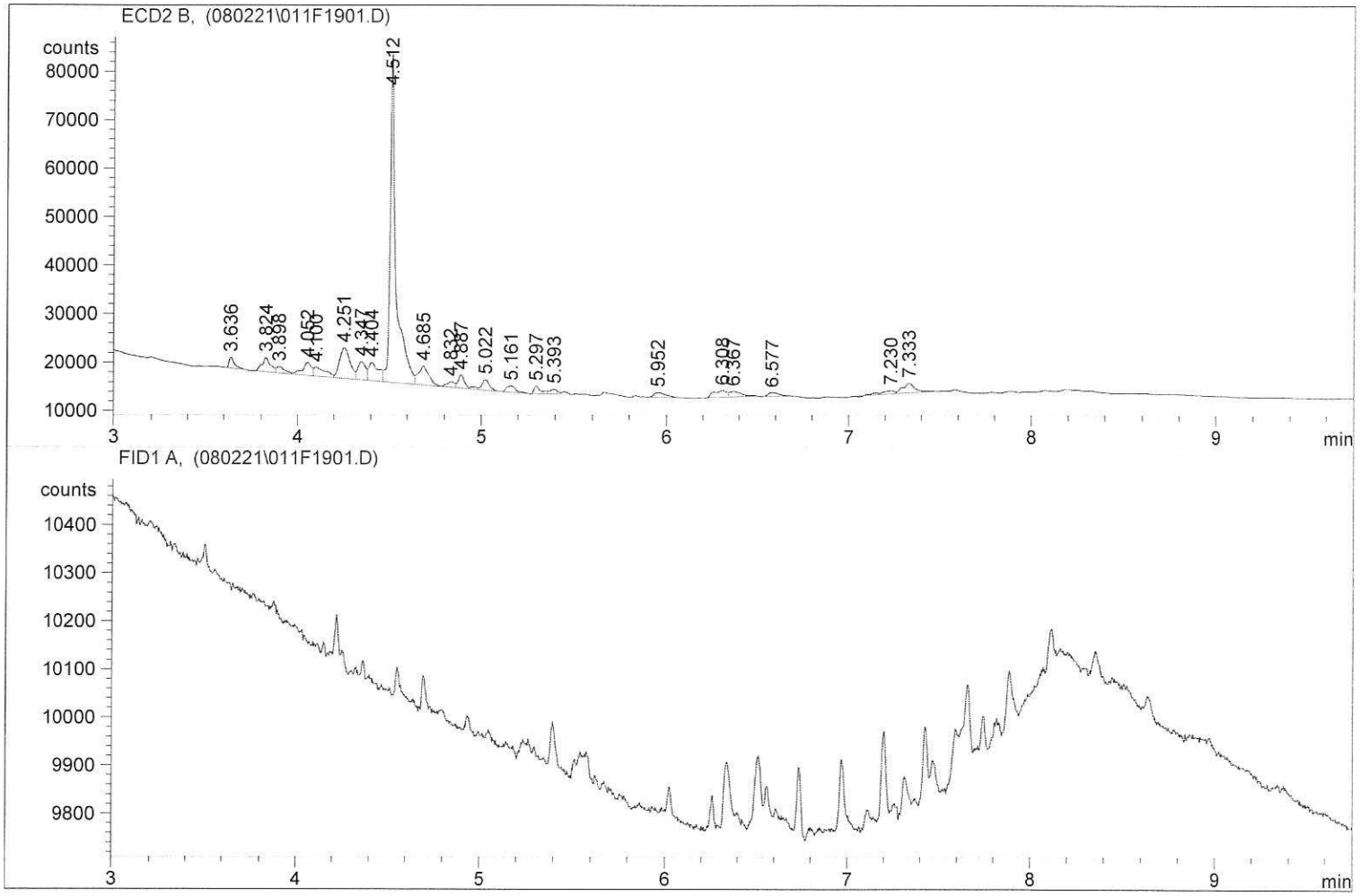
*** End of Report ***

Injection Date	: 8/2/2021 3:38:42 PM	Seq. Line :	18
Sample Name	: 21G0305 9	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



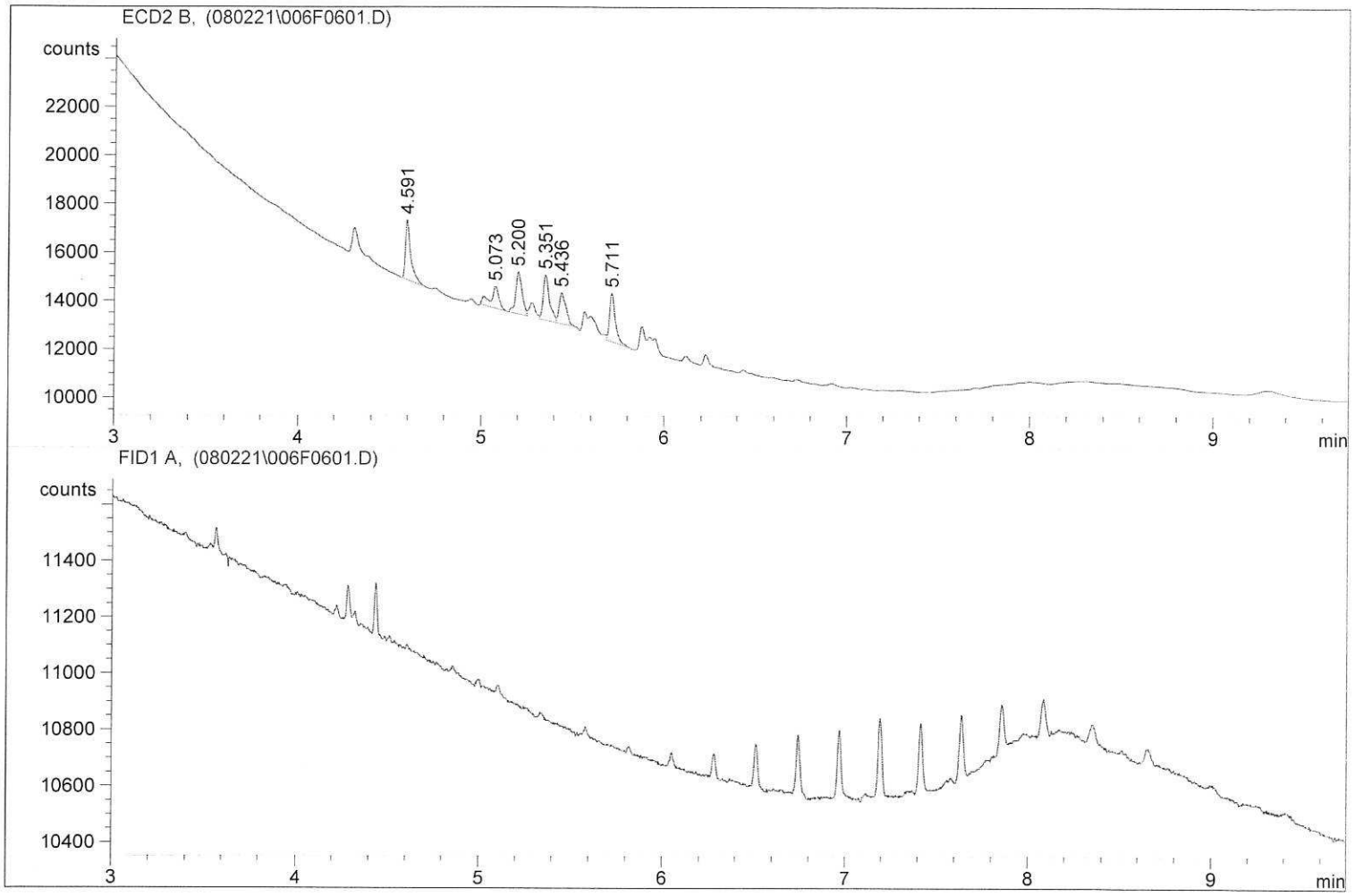
*** End of Report ***

Injection Date	: 8/2/2021 3:52:25 PM	Seq. Line :	19
Sample Name	: 21G0305 10	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



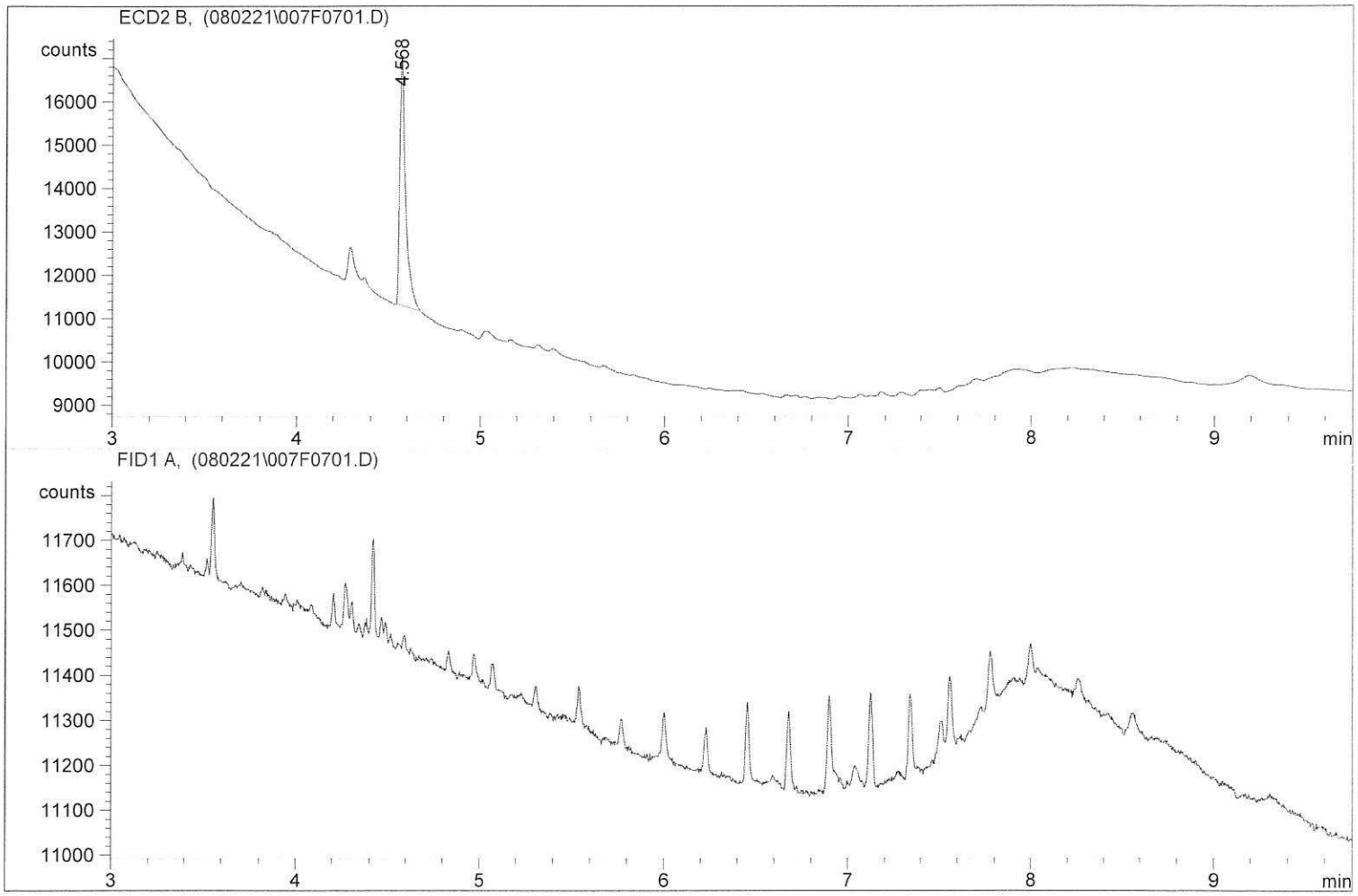
*** End of Report ***

Injection Date	: 8/2/2021 12:52:11 PM	Seq. Line :	6
Sample Name	: 21G0303 1	Location :	Vial 6
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



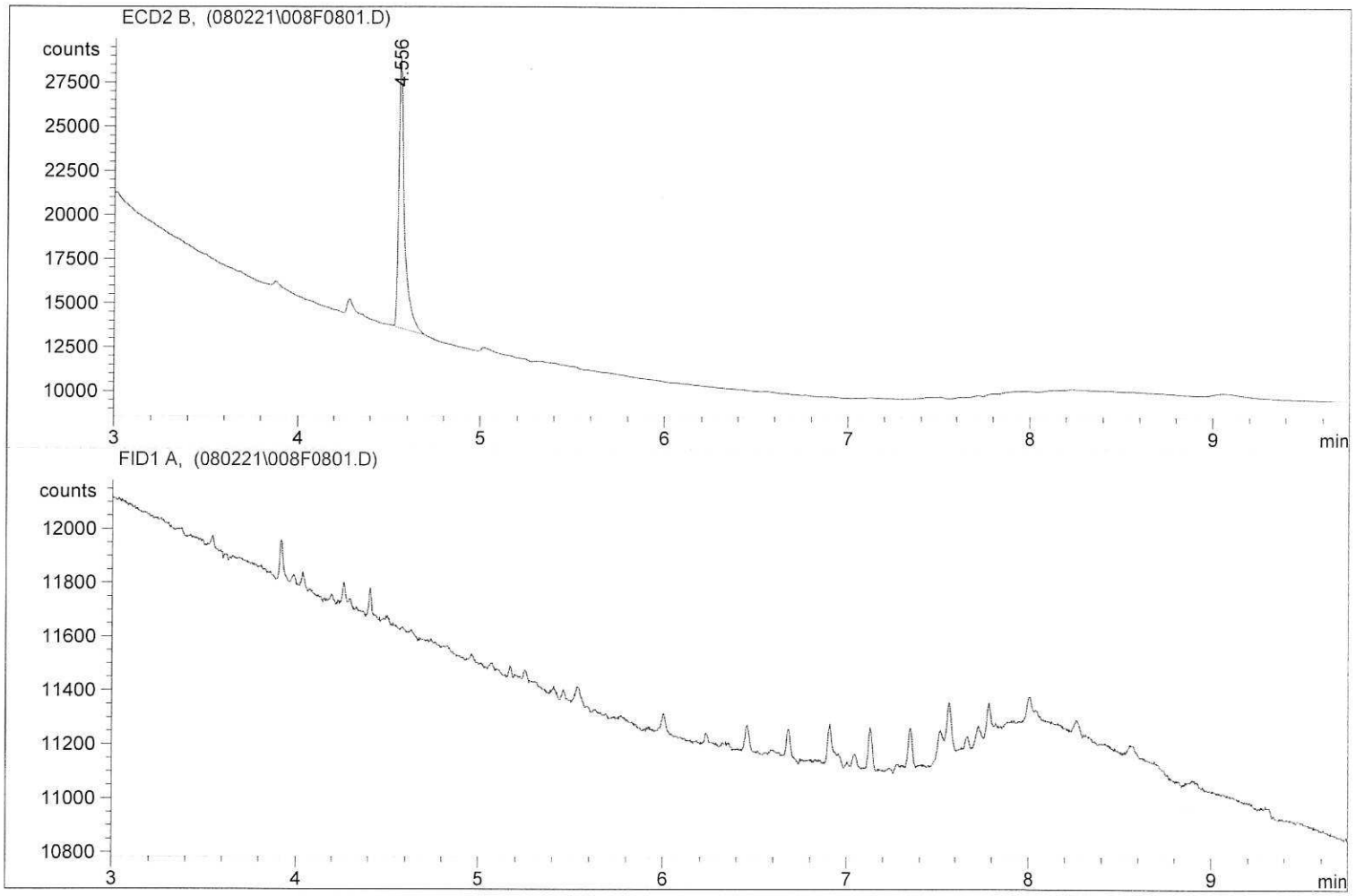
*** End of Report ***

Injection Date	: 8/2/2021 1:05:44 PM	Seq. Line :	7
Sample Name	: 21G0303 2	Location :	Vial 7
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



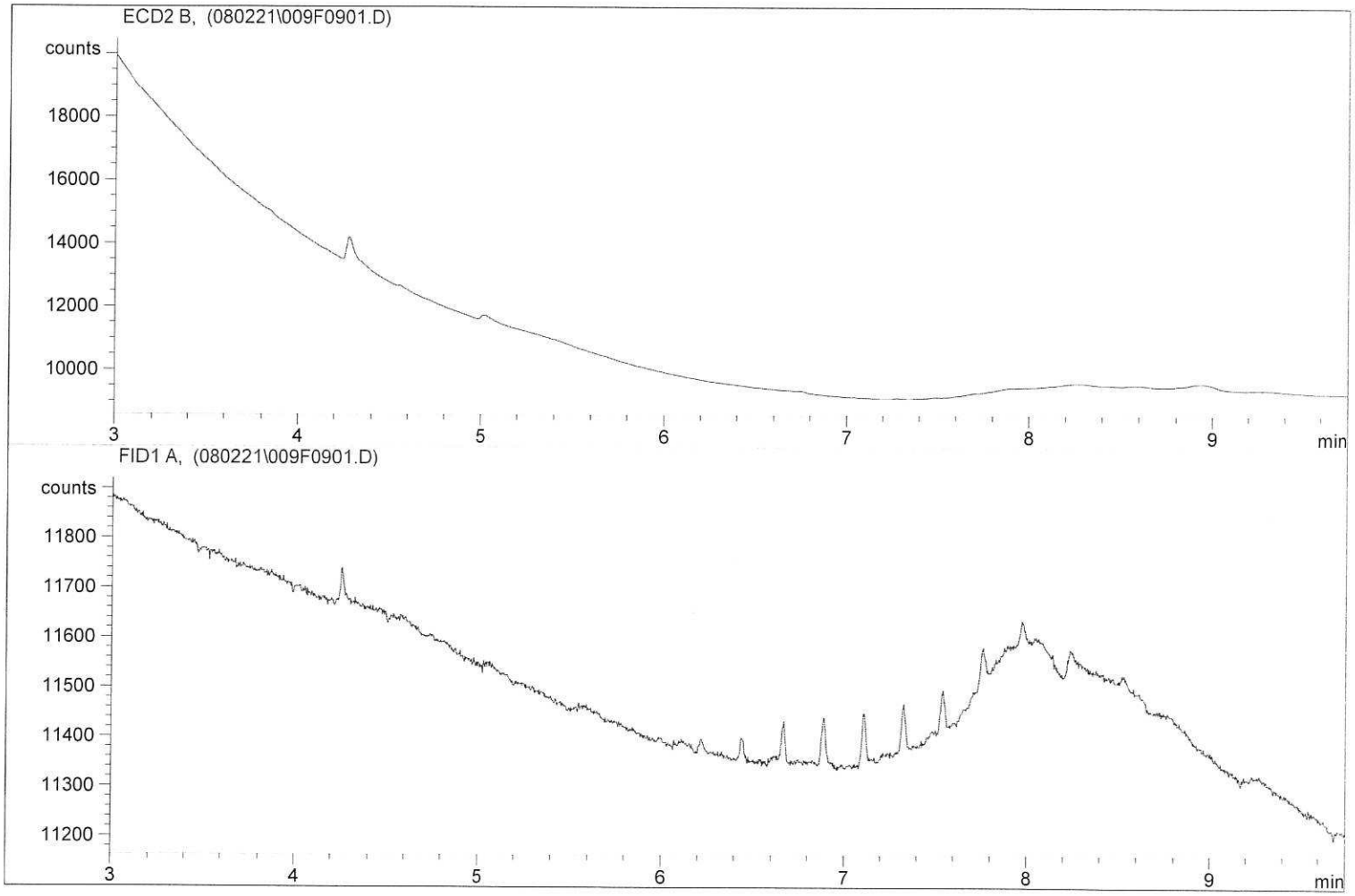
*** End of Report ***

Injection Date	: 8/2/2021 1:20:00 PM	Seq. Line :	8
Sample Name	: 21G0303 3	Location :	Vial 8
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



*** End of Report ***

Injection Date	: 8/2/2021 1:33:37 PM	Seq. Line :	9
Sample Name	: 21G0303 4	Location :	Vial 9
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



*** End of Report ***

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Cleanup Batch:	CJH0111	Cleanup Type:	Sulfuric Acid
Cleanup Method:	EPA 3665A Sulfuric Acid Cleanup	Analysis:	EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	BJH0034-BLK1	08142131ECD7.D	08/12/2021	
Reference	BJH0034-SRM1	08142133ECD7.D	08/12/2021	
Matrix Spike Dup	BJH0034-MSD1	08142139ECD7.D	08/12/2021	
LCS	BJH0034-BS1	08142132ECD7.D	08/12/2021	
LDW21-IT694A	21G0303-01	08142134ECD7.D	08/12/2021	
LDW21-IT694E	21G0303-04	08142137ECD7.D	08/12/2021	
LDW21-IT694C	21G0303-03	08142136ECD7.D	08/12/2021	
LDW21-IT694B	21G0303-02	08142135ECD7.D	08/12/2021	
Matrix Spike	BJH0034-MS1	08142138ECD7.D	08/12/2021	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CJH0111

Matrix: Solid **Cleanup using: Organics - EPA 3665A Sulfuric Acid Cleanup** **Printed: 8/12/2021 8:13:48PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21G0306-02	B	LDW21-SC550FD	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0306-01	B	LDW21-SC550	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-07	B	LDW21-SC530	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-08	B	LDW21-SC540	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-09	B	LDW21-SC574	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-10	B	LDW21-SC551	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-03	B	LDW21-IT694C	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-04	B	LDW21-IT694E	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-01	B	LDW21-SC569	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-02	B	LDW21-SC567	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-03	B	LDW21-SC566	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-04	B	LDW21-SC561	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-05	B	LDW21-SC526	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-06	B	LDW21-SC526FD	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-01	B	LDW21-IT694A	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-02	B	LDW21-IT694B	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
BJH0034-SRM1	-	Reference	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-BLK1	-	Blank	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-BS1	-	LCS	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-MS1	-	Matrix Spike	-	2.5	2.5	-	8/12/2021	CCT	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Cleanup Batch:	CJH0112	Cleanup Type:	Sulfur
Cleanup Method:	EPA 3660B Sulfur Cleanup	Analysis:	EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-IT694B	21G0303-02	08142135ECD7.D	08/12/2021	
LDW21-IT694C	21G0303-03	08142136ECD7.D	08/12/2021	
LDW21-IT694E	21G0303-04	08142137ECD7.D	08/12/2021	
LDW21-IT694A	21G0303-01	08142134ECD7.D	08/12/2021	
LCS	BJH0034-BS1	08142132ECD7.D	08/12/2021	
Reference	BJH0034-SRM1	08142133ECD7.D	08/12/2021	
Matrix Spike Dup	BJH0034-MSD1	08142139ECD7.D	08/12/2021	
Matrix Spike	BJH0034-MS1	08142138ECD7.D	08/12/2021	
Blank	BJH0034-BLK1	08142131ECD7.D	08/12/2021	

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CLEANUP BENCH SHEET

CJH0112

Matrix: Solid **Cleanup using: Organics - EPA 3660B Sulfur Cleanup** **Printed: 8/12/2021 8:14:33PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21G0306-02	B	LDW21-SC550FD	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0306-01	B	LDW21-SC550	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-07	B	LDW21-SC530	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-08	B	LDW21-SC540	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-09	B	LDW21-SC574	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-10	B	LDW21-SC551	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-03	B	LDW21-IT694C	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-04	B	LDW21-IT694E	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-01	B	LDW21-SC569	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-02	B	LDW21-SC567	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-03	B	LDW21-SC566	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-04	B	LDW21-SC561	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-05	B	LDW21-SC526	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-06	B	LDW21-SC526FD	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-01	B	LDW21-IT694A	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-02	B	LDW21-IT694B	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
BJH0034-SRM1	-	Reference	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-BLK1	-	Blank	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-BS1	-	LCS	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-MS1	-	Matrix Spike	-	2.5	2.5	-	8/12/2021	CCT	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Cleanup Batch:	CJH0113	Cleanup Type:	Silica Gel
Cleanup Method:	EPA 3630C Silica Gel Cleanup	Analysis:	EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-IT694A	21G0303-01	08142134ECD7.D	08/12/2021	
Reference	BJH0034-SRM1	08142133ECD7.D	08/12/2021	
Blank	BJH0034-BLK1	08142131ECD7.D	08/12/2021	
LDW21-IT694E	21G0303-04	08142137ECD7.D	08/12/2021	
LDW21-IT694B	21G0303-02	08142135ECD7.D	08/12/2021	
LCS	BJH0034-BS1	08142132ECD7.D	08/12/2021	
Matrix Spike	BJH0034-MS1	08142138ECD7.D	08/12/2021	
Matrix Spike Dup	BJH0034-MSD1	08142139ECD7.D	08/12/2021	
LDW21-IT694C	21G0303-03	08142136ECD7.D	08/12/2021	

Analytical Resources, Incorporated
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CLEANUP BENCH SHEET

CJH0113

Matrix: Solid **Cleanup using: Organics - EPA 3630C Silica Gel Cleanup** **Printed: 8/12/2021 8:15:14PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21G0306-02	B	LDW21-SC550FD	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0306-01	B	LDW21-SC550	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-07	B	LDW21-SC530	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-08	B	LDW21-SC540	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-09	B	LDW21-SC574	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-10	B	LDW21-SC551	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-03	B	LDW21-IT694C	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-04	B	LDW21-IT694E	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-01	B	LDW21-SC569	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-02	B	LDW21-SC567	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-03	B	LDW21-SC566	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-04	B	LDW21-SC561	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-05	B	LDW21-SC526	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-06	B	LDW21-SC526FD	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-01	B	LDW21-IT694A	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-02	B	LDW21-IT694B	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
BJH0034-SRM1	-	Reference	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-BLK1	-	Blank	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-BS1	-	LCS	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-MS1	-	Matrix Spike	-	2.5	2.5	-	8/12/2021	CCT	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Form I
METHOD BLANK DATA SHEET
EPA 8082A

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	21G0303
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Solid	Laboratory ID:	BJH0034-BLK1	File ID:	08142131ECD7.D
Sampled:	N/A	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 04:26
Solids:		Preparation:	EPA 3546 (Microwave)	Initial/Final:	12.5 g / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0212	Calibration:	EH00034
Instrument:	ECD7	Column:	ZB5	Cleanups:	Silica Gel, Sulfur, Sulfuric Acid

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	7.63	95.3	40 - 126	
Tetrachlorometaxylene	8.0000	6.68	83.5	44 - 120	
Decachlorobiphenyl [2C]	8.0000	7.55	94.4	40 - 126	
Tetrachlorometaxylene [2C]	8.0000	6.20	77.5	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: /210814.b/08142131ECD7.D
Data file 2: /210814.b/210814.b/08142131ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BJH0034-BLK1
Client ID:
Injection Date: 15-AUG-2021 04:26
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	0.001	110633	5.412	-0.001	299530	33.4	31.0	7.5	Tetrachloro-m-xylene
13.164	-0.001	175971	13.848	0.001	966553	38.1	37.8	1.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	274156	5.9
Hexabromobiphenyl	425681	508387	19.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	752335	4.4
Hexabromobiphenyl	863111	1151739	33.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- 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	7.062	0.007	69	0.2
Aroclor-1016	2	---			0.0	2	7.657	0.006	4212	4.4
Aroclor-1016	3	---			0.0	3	7.891	0.033	1284	3.4
Aroclor-1016	4	---			0.0	4	8.105	-0.000	2237	9.8
	Col1Ave: <3 Quant Peaks					Col2Ave: 4.4				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.090	0.018	3808	29.5
Aroclor-1221	3	---			0.0	3	6.404	-0.005	1487	6.6
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	5.776	0.050	117	1.6	2	7.062	0.004	69	0.4
Aroclor-1232	3	7.076	0.043	186	1.7	3	7.657	0.006	4212	10.7
Aroclor-1232	4	---			0.0	4	8.599	0.077	1524	14.9
	Col1Ave: <3 Quant Peaks					Col2Ave: 8.6				
Aroclor-1242	1	---			0.0	1	7.062	0.005	69	0.2
Aroclor-1242	2	7.076	0.042	186	0.8	2	7.657	0.004	4212	5.6
Aroclor-1242	3	8.379	-0.002	561	4.4	3	9.042	0.086	4809	13.7
Aroclor-1242	4	8.674	-0.002	303	5.8	4	---			0.0
	Total Col1Ave (3 peaks): 3.7				Total Col2Ave (3 peaks): 6.5 RPD = 55*					
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1248	1	---			0.0	1	8.105	0.000	2237	7.2
Aroclor-1248	2	---			0.0	2	8.599	0.079	1524	4.0
Aroclor-1248	3	8.379	-0.000	561	2.6	3	9.042	0.090	4809	8.0
Aroclor-1248	4	8.674	-0.001	303	2.4	4	9.409	0.029	4266	8.3
	Col1Ave: <3 Quant Peaks					Col2Ave: 6.9				
Aroclor-1254	1	8.674	-0.002	303	1.3	1	9.250	0.010	3368	5.3
Aroclor-1254	2	---			0.0	2	9.409	0.076	4266	11.4
Aroclor-1254	3	9.016	-0.028	786	5.1	3	9.723	-0.040	3408	7.0
Aroclor-1254	4	---			0.0	4	9.932	0.017	224	0.2
Aroclor-1254	5	9.891	0.021	1278	6.9	5	10.153	0.001	2383	2.2
	Total Col1Ave (3 peaks): 4.4				Total Col2Ave (5 peaks): 5.2 RPD = 16					
	Corrected Ave: < 3 Peaks					Corrected Ave (4 peaks): 3.7				
Aroclor-1260	1	---			0.0	1	---			0.0
Aroclor-1260	2	---			0.0	2	11.670	-0.009	1198	0.4
Aroclor-1260	3	---			0.0	3	12.259	-0.001	423	0.2
Aroclor-1260	4	---			0.0	4	12.972	0.000	209	0.2
Aroclor-1260	5	---			0.0	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: 0.3				
Aroclor-1262	1	---			0.0	1	10.966	-0.004	692	0.5
Aroclor-1262	2	---			0.0	2	11.670	-0.016	1198	0.4
Aroclor-1262	3	---			0.0	3	12.195	0.007	1198	0.9
Aroclor-1262	4	---			0.0	4	12.972	-0.001	209	0.2
	Col1Ave: <3 Quant Peaks					Col2Ave: 0.5				
Aroclor-1268	1	---			0.0	1	12.195	-0.005	1198	0.4
Aroclor-1268	2	---			0.0	2	12.259	-0.008	423	0.1
Aroclor-1268	3	11.911	-0.090	3566	6.3	3	12.637	-0.007	2697	0.9
Aroclor-1268	4	12.771	-0.001	2726	1.5	4	12.784	0.001	1278	1.7
	Col1Ave: <3 Quant Peaks					Col2Ave: 0.7				

Total PCB Area Col1 (5.167 - 13.066) = 43709 Col1 Total PCB = 0.0 ppm*

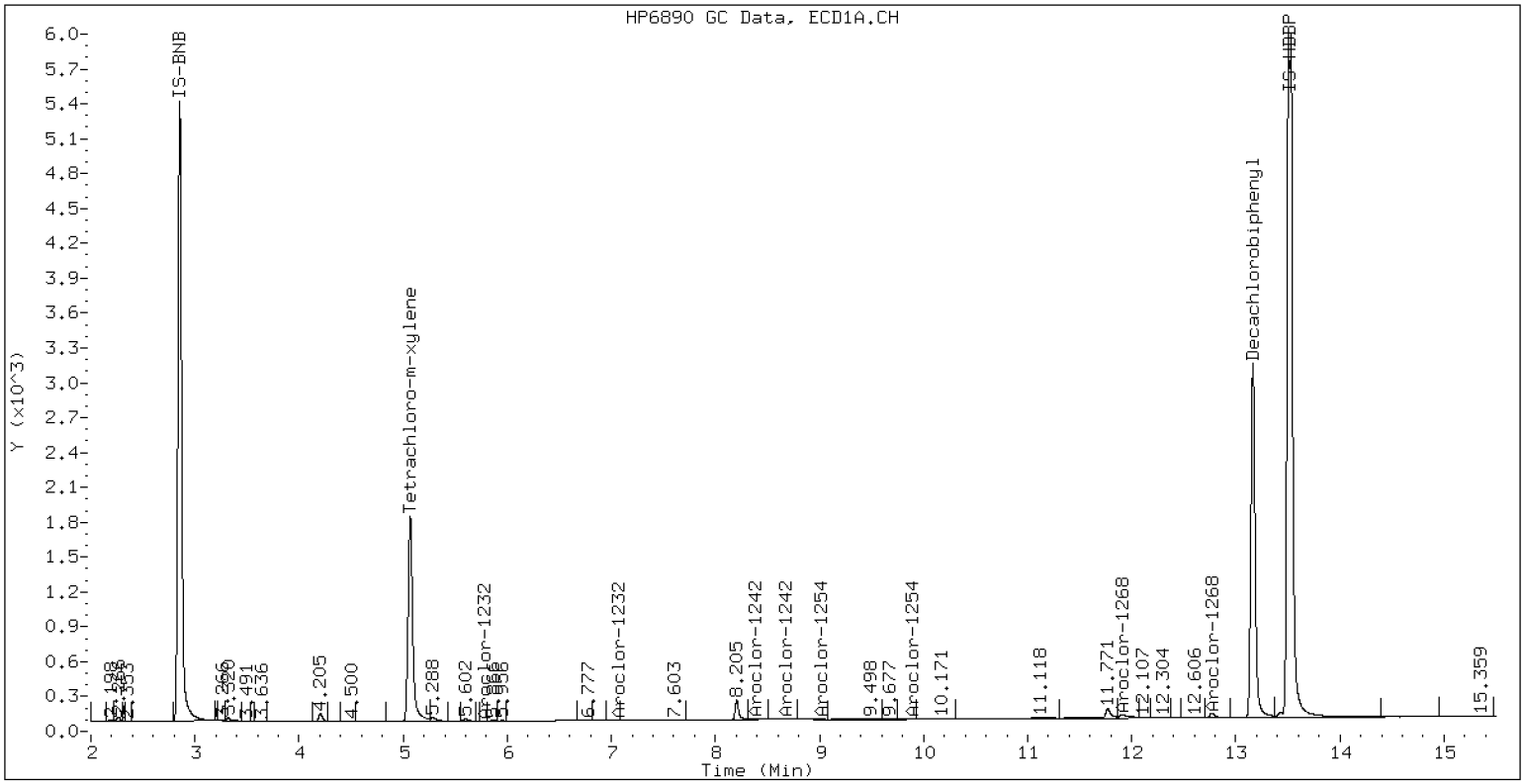
Total PCB Area Col2 (5.167 - 13.066) = 416607 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

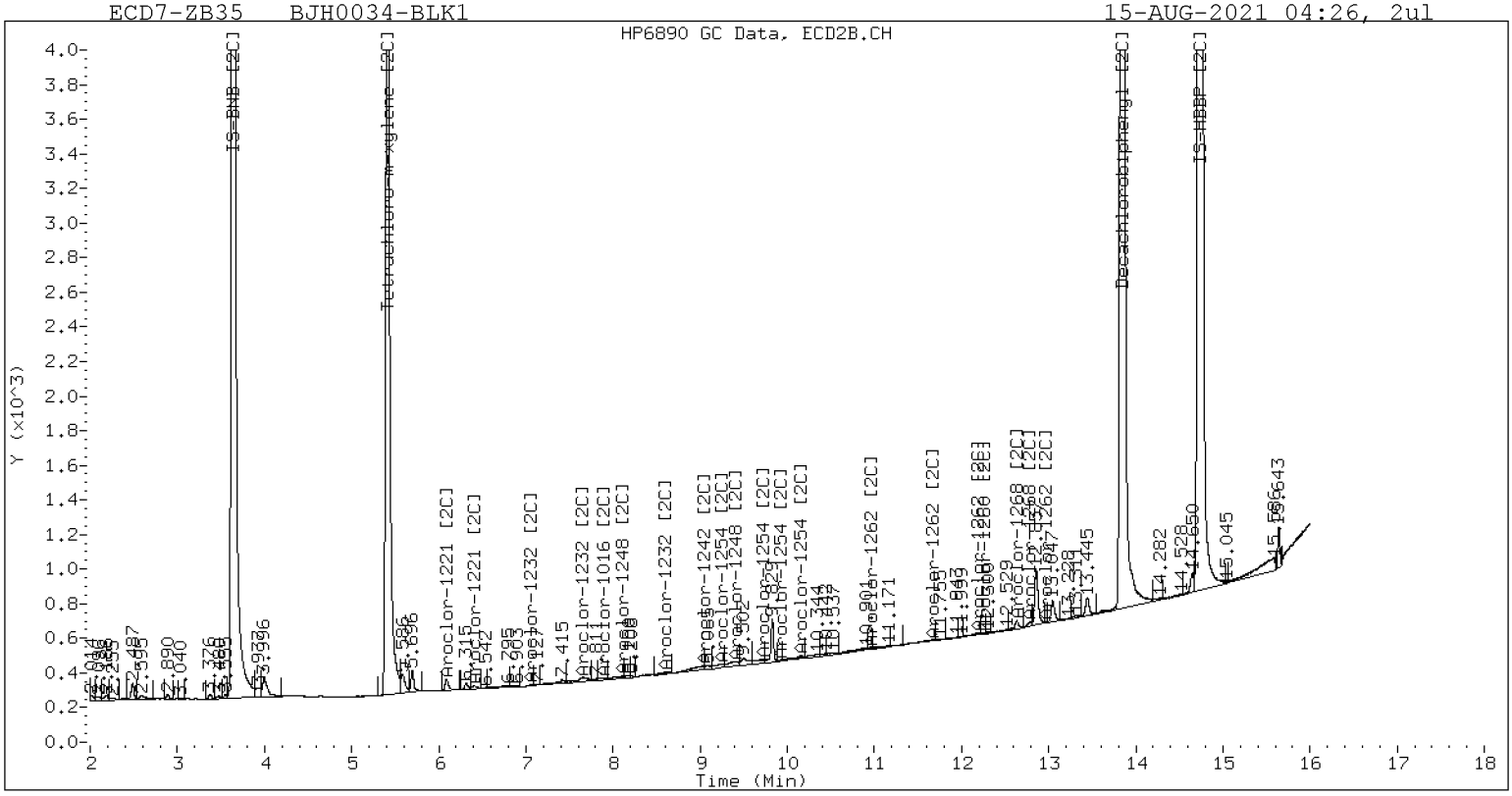
PCB Dual Column Chromatograms

ECD7-ZB5 BJH0034-BLK1 15-AUG-2021 04:26, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 BJH0034-BLK1 15-AUG-2021 04:26, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LCS / LCS DUPLICATE RECOVERY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Matrix:	Solid	Analyzed:	08/15/21 04:47
Batch:	BJH0034	Laboratory ID:	BJH0034-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	81.7		81.1	56 - 120
Aroclor 1260	101	79.3		78.6	58 - 120

* Indicates values outside of QC limits

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

Data file 1: /210814.b/08142132ECD7.D
Data file 2: /210814.b/210814.b/08142132ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BJH0034-BS1
Client ID:
Injection Date: 15-AUG-2021 04:47
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.067	0.000	114501	5.411	-0.001	314701	33.8	32.0	5.4	Tetrachloro-m-xylene
13.164	-0.001	173923	13.847	-0.000	917178	37.0	35.0	5.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	280139	8.2
Hexabromobiphenyl	425681	517241	21.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	764233	6.0
Hexabromobiphenyl	863111	1179918	36.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.658	-0.001	39665	399.2	1	7.055	-0.001	165720	380.3
Aroclor-1016	2	7.030	-0.003	128120	421.7	2	7.647	-0.004	397453	407.7
Aroclor-1016	3	7.176	-0.003	53632	393.3	3	7.854	-0.004	160205	418.8
Aroclor-1016	4	7.285	-0.004	35898	420.0	4	8.104	-0.002	93963	405.9
Total Col1Ave (4 peaks):				408.6		Total Col2Ave (4 peaks):			403.2	RPD = 1
Corrected Ave (3 peaks):				404.2		Corrected Ave (3 peaks):			398.0	RPD = 2
Aroclor-1221	1	4.018	0.003	350	15.8	1	4.675	-0.002	661	11.5
Aroclor-1221	2	5.448	-0.003	4507	130.0	2	6.072	0.000	16001	121.9
Aroclor-1221	3	5.723	-0.001	25527	272.5	3	6.409	-0.000	71675	313.2
Total Col1Ave (3 peaks):				139.4		Total Col2Ave (3 peaks):			148.9	RPD = 7
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.018	0.000	350	25.8	1	4.675	-0.004	661	19.4
Aroclor-1232	2	5.723	-0.003	25527	345.7	2	7.055	-0.003	165720	830.3
Aroclor-1232	3	7.030	-0.004	128120	1136.7	3	7.647	-0.004	397453	995.0
Aroclor-1232	4	7.967	-0.005	47952	1034.2	4	8.518	-0.004	126089	1211.7
Total Col1Ave (4 peaks):				635.6		Total Col2Ave (4 peaks):			764.1	RPD = 18
Corrected Ave (3 peaks):				468.6		Corrected Ave (3 peaks):			614.9	RPD = 27
Aroclor-1242	1	6.658	-0.002	39665	513.9	1	7.055	-0.003	165720	471.6
Aroclor-1242	2	7.030	-0.005	128120	556.8	2	7.647	-0.006	397453	520.7
Aroclor-1242	3	8.382	0.000	36951	283.5	3	8.933	-0.024	49266	138.2
Aroclor-1242	4	8.674	-0.002	35575	667.9	4	9.027	-0.010	14547	36.0
Total Col1Ave (4 peaks):				505.5		Total Col2Ave (4 peaks):			291.6	RPD = 54*
Corrected Ave (3 peaks):				451.4		Corrected Ave (3 peaks):			215.3	RPD = 71*
Aroclor-1248	1	7.799	-0.001	61769	526.1	1	8.104	-0.002	93963	296.7
Aroclor-1248	2	7.967	-0.003	47952	312.9	2	8.518	-0.002	126089	327.1
Aroclor-1248	3	8.382	0.002	36951	164.7	3	8.933	-0.020	49266	80.2
Aroclor-1248	4	8.674	-0.001	35575	277.7	4	9.378	-0.002	9146	17.5
Total Col1Ave (4 peaks):				320.4		Total Col2Ave (4 peaks):			180.4	RPD = 56*
Corrected Ave (3 peaks):				251.8		Corrected Ave (3 peaks):			131.5	RPD = 63*
Aroclor-1254	1	8.674	-0.003	35575	147.2	1	9.237	-0.003	94813	145.8
Aroclor-1254	2	---			0.0	2	9.326	-0.007	2275	6.0
Aroclor-1254	3	9.041	-0.004	5600	35.5	3	9.762	-0.001	17207	34.7
Aroclor-1254	4	9.172	-0.007	30780	102.3	4	9.925	0.011	229745	209.2
Aroclor-1254	5	9.856	-0.014	39949	211.4	5	10.156	0.004	297032	266.7
Total Col1Ave (4 peaks):				124.1		Total Col2Ave (5 peaks):			132.5	RPD = 7
Corrected Ave (3 peaks):				95.0		Corrected Ave (4 peaks):			98.9	RPD = 4
Aroclor-1260	1	10.383	-0.001	87690	376.8	1	11.424	-0.002	329793	336.2
Aroclor-1260	2	10.700	-0.002	89228	390.7	2	11.678	-0.000	946882	332.1
Aroclor-1260	3	11.051	-0.003	259830	420.9	3	12.259	-0.001	625331	341.1
Aroclor-1260	4	11.452	-0.003	111328	404.8	4	12.971	0.000	319858	365.0
Aroclor-1260	5	11.554	-0.001	53460	388.2	NS	---			----
Total Col1Ave (5 peaks):				396.3		Total Col2Ave (4 peaks):			343.6	RPD = 14
Corrected Ave (4 peaks):				390.1		Corrected Ave (3 peaks):			336.5	RPD = 15
Aroclor-1262	1	10.383	-0.001	87690	277.8	1	10.967	-0.003	358297	248.3
Aroclor-1262	2	11.452	-0.002	111328	544.7	2	11.678	-0.007	946882	311.0
Aroclor-1262	3	11.626	-0.001	67704	229.8	3	12.187	-0.001	370020	273.8
Aroclor-1262	4	12.274	-0.000	74881	309.6	4	12.971	-0.001	319858	254.0
Total Col1Ave (4 peaks):				340.5		Total Col2Ave (4 peaks):			271.8	RPD = 22
Corrected Ave (3 peaks):				272.4		Corrected Ave (3 peaks):			258.7	RPD = 5
Aroclor-1268	1	11.554	-0.003	53460	77.0	1	12.187	-0.013	370020	109.1
Aroclor-1268	2	11.626	0.001	67704	93.0	2	12.259	-0.008	625331	169.0
Aroclor-1268	3	12.028	0.027	27754	48.5	3	12.634	-0.010	12981	4.1
Aroclor-1268	4	12.768	-0.004	19779	10.7	4	12.782	-0.001	8116	10.3
Total Col1Ave (4 peaks):				57.3		Total Col2Ave (4 peaks):			73.1	RPD = 24

Corrected Ave (3 peaks): 45.4 Corrected Ave (3 peaks): 41.2 RPD = 10

Total PCB Area Col1 (5.167 - 13.066) = 2416417 Col1 Total PCB = 0.9 ppm*

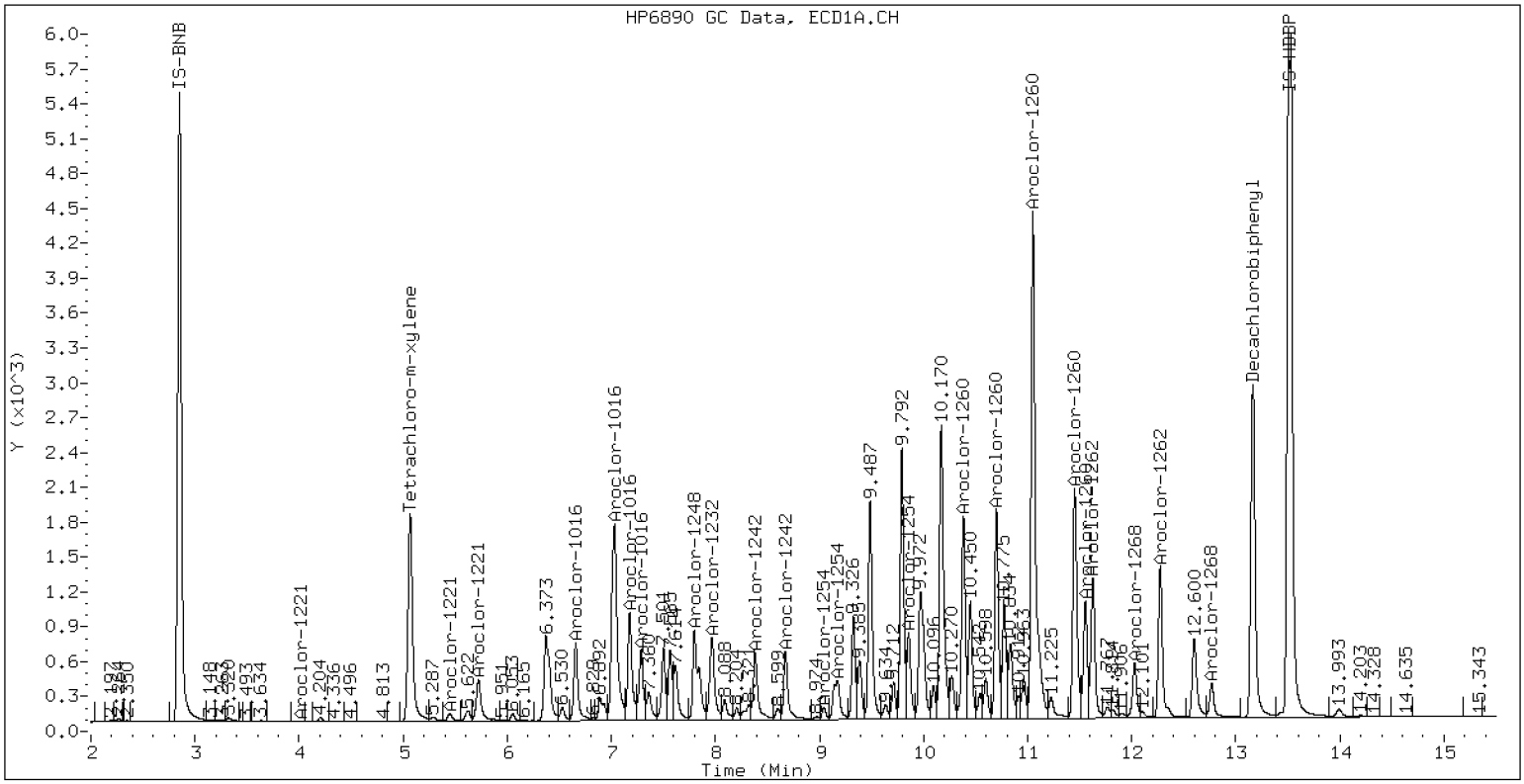
Total PCB Area Col2 (5.167 - 13.066) = 8283943 Col2 Total PCB = 0.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

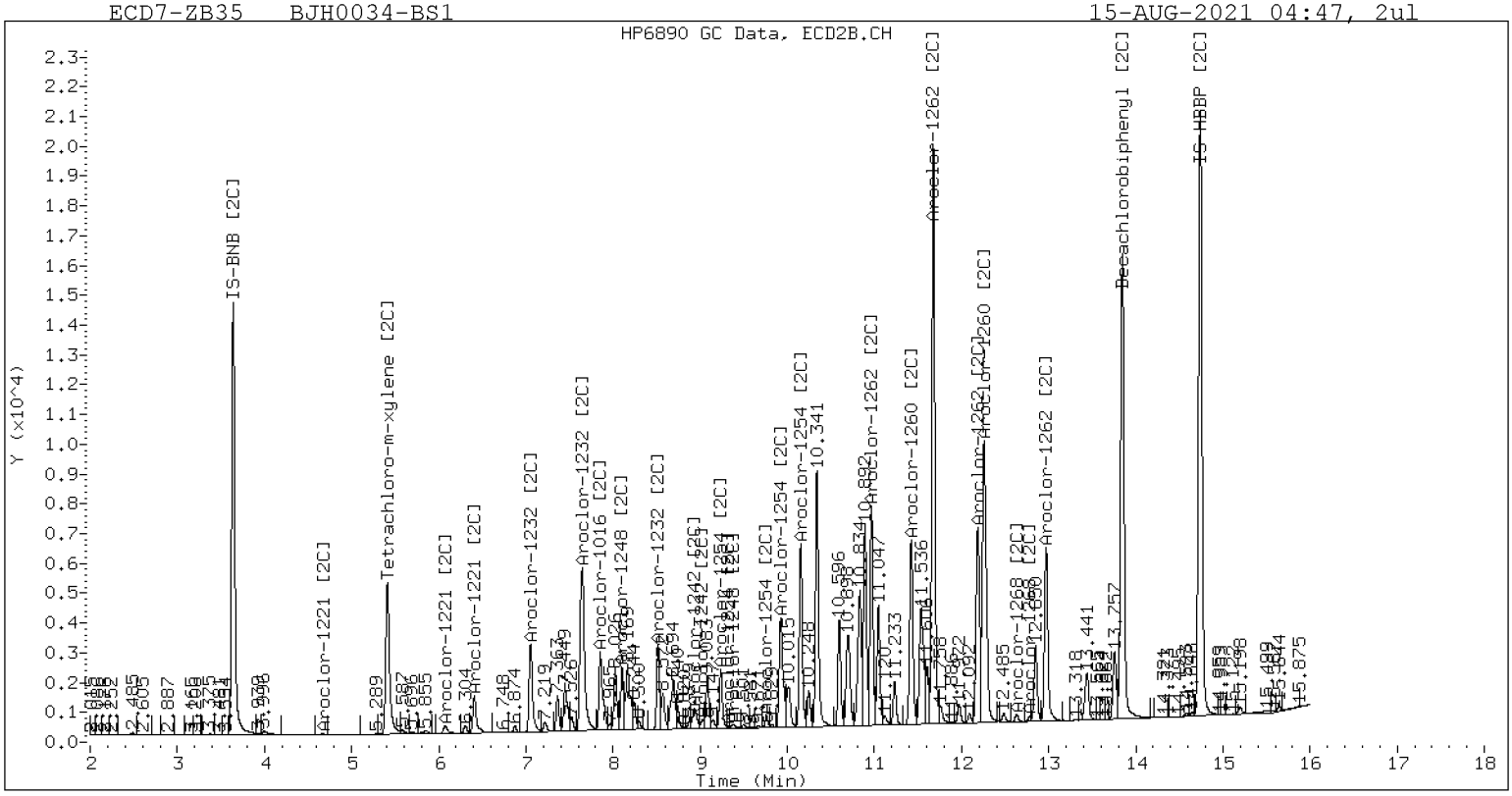
PCB Dual Column Chromatograms

ECD7-ZB5 BJH0034-BS1 15-AUG-2021 04:47, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 BJH0034-BS1 15-AUG-2021 04:47, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT694E

MS / MS DUPLICATE RECOVERY
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Matrix:	Solid	Analyzed:	08/15/21 06:50
Batch:	BJH0034	Laboratory ID:	BJH0034-MS1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	Matrix Spike
Initial/Final:	15.5 g / 2.5 mL	Source Sample:	LDW21-IT694E

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	82.8		82.0	56 - 120
Aroclor 1260	101	ND	U	83.9		83.1	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, Incorporated
Analytical Chemists and Consultants

LDW21-IT694E

MS / MS DUPLICATE RECOVERY
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Matrix:	Solid	Analyzed:	08/15/21 07:10
Batch:	BJH0034	Laboratory ID:	BJH0034-MSD1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	Matrix Spike Dup
Initial/Final:	15.5 g / 2.5 mL	Source Sample:	LDW21-IT694E

COMPOUND	SPIKE ADDED (ug/kg dry)	MSD CONCENTRATION (ug/kg dry)	Q	MSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Aroclor 1016	101	85.0		84.2	2.52	30	56 - 120
Aroclor 1260	101	83.6		82.8	0.373	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: /210814.b/08142138ECD7.D
Data file 2: /210814.b/210814.b/08142138ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BJH0034-MS1
Client ID:
Injection Date: 15-AUG-2021 06:50
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	0.001	120464	5.411	-0.001	333315	36.0	34.1	5.2	Tetrachloro-m-xylene
13.163	-0.002	168572	13.847	-0.000	928665	39.3	36.9	6.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	277223	7.1
Hexabromobiphenyl	425681	472936	11.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	759828	5.4
Hexabromobiphenyl	863111	1131574	31.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.657	-0.002	39890	405.7	1	7.054	-0.001	168700	389.4
Aroclor-1016	2	7.030	-0.003	130040	432.5	2	7.647	-0.004	402571	415.4
Aroclor-1016	3	7.176	-0.003	53198	394.3	3	7.853	-0.005	159610	419.6
Aroclor-1016	4	7.284	-0.005	35888	424.3	4	8.103	-0.002	92923	403.7
Total Col1Ave (4 peaks):				414.2		Total Col2Ave (4 peaks):			407.0	RPD = 2
Corrected Ave (3 peaks):				408.1		Corrected Ave (3 peaks):			402.8	RPD = 1
Aroclor-1221	1	4.018	0.003	172	7.9	1	4.673	-0.004	984	17.3
Aroclor-1221	2	5.449	-0.002	3868	112.7	2	6.073	0.000	16293	124.8
Aroclor-1221	3	5.723	-0.001	23142	249.6	3	6.408	-0.001	74158	325.9
Total Col1Ave (3 peaks):				123.4		Total Col2Ave (3 peaks):			156.0	RPD = 23
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.018	0.000	172	12.8	1	4.673	-0.006	984	29.0
Aroclor-1232	2	5.723	-0.003	23142	316.7	2	7.054	-0.004	168700	850.2
Aroclor-1232	3	7.030	-0.003	130040	1165.9	3	7.647	-0.004	402571	1013.7
Aroclor-1232	4	7.966	-0.006	46918	1022.6	4	8.517	-0.005	127240	1229.8
Total Col1Ave (4 peaks):				629.5		Total Col2Ave (4 peaks):			780.7	RPD = 21
Corrected Ave (3 peaks):				450.7		Corrected Ave (3 peaks):			630.9	RPD = 33
Aroclor-1242	1	6.657	-0.003	39890	522.3	1	7.054	-0.003	168700	482.9
Aroclor-1242	2	7.030	-0.004	130040	571.1	2	7.647	-0.005	402571	530.5
Aroclor-1242	3	8.382	0.000	35326	273.9	3	8.931	-0.025	48346	136.4
Aroclor-1242	4	8.672	-0.004	33213	630.1	4	9.026	-0.012	15915	39.6
Total Col1Ave (4 peaks):				499.3		Total Col2Ave (4 peaks):			297.3	RPD = 51*
Corrected Ave (3 peaks):				455.7		Corrected Ave (3 peaks):			219.6	RPD = 70*
Aroclor-1248	1	7.798	-0.002	37141	319.7	1	8.103	-0.002	92923	295.1
Aroclor-1248	2	7.966	-0.004	46918	309.4	2	8.517	-0.003	127240	332.0
Aroclor-1248	3	8.382	0.002	35326	159.1	3	8.931	-0.021	48346	79.2
Aroclor-1248	4	8.672	-0.003	33213	262.0	4	9.375	-0.005	9249	17.8
Total Col1Ave (4 peaks):				262.5		Total Col2Ave (4 peaks):			181.0	RPD = 37
Corrected Ave (3 peaks):				243.5		Corrected Ave (3 peaks):			130.7	RPD = 60*
Aroclor-1254	1	8.672	-0.004	33213	138.9	1	9.236	-0.004	95749	148.1
Aroclor-1254	2	---			0.0	2	9.324	-0.009	2254	5.9
Aroclor-1254	3	9.040	-0.005	5186	33.3	3	9.760	-0.003	17309	35.1
Aroclor-1254	4	9.172	-0.007	19315	64.9	4	9.924	0.009	230854	211.4
Aroclor-1254	5	9.856	-0.014	39182	209.5	5	10.155	0.003	298507	269.5
Total Col1Ave (4 peaks):				111.6		Total Col2Ave (5 peaks):			134.0	RPD = 18
Corrected Ave (3 peaks):				79.0		Corrected Ave (4 peaks):			100.1	RPD = 24
Aroclor-1260	1	10.381	-0.003	87423	410.9	1	11.424	-0.002	333818	354.9
Aroclor-1260	2	10.700	-0.002	87850	420.7	2	11.678	-0.001	955317	349.4
Aroclor-1260	3	11.049	-0.004	233263	413.3	3	12.258	-0.002	617406	351.2
Aroclor-1260	4	11.451	-0.004	110447	439.2	4	12.970	-0.002	321402	382.4
Aroclor-1260	5	11.554	-0.001	52024	413.2	NS	---			----
Total Col1Ave (5 peaks):				419.4		Total Col2Ave (4 peaks):			359.5	RPD = 15
Corrected Ave (4 peaks):				414.5		Corrected Ave (3 peaks):			351.8	RPD = 16
Aroclor-1262	1	10.381	-0.003	87423	302.9	1	10.966	-0.005	358349	259.0
Aroclor-1262	2	11.451	-0.004	110447	591.0	2	11.678	-0.008	955317	327.2
Aroclor-1262	3	11.627	-0.000	65951	244.8	3	12.187	-0.001	305854	236.0
Aroclor-1262	4	12.273	-0.001	59750	270.1	4	12.970	-0.003	321402	266.1
Total Col1Ave (4 peaks):				352.2		Total Col2Ave (4 peaks):			272.1	RPD = 26
Corrected Ave (3 peaks):				272.6		Corrected Ave (3 peaks):			253.7	RPD = 7
Aroclor-1268	1	11.554	-0.003	52024	82.0	1	12.187	-0.013	305854	94.1
Aroclor-1268	2	11.627	0.001	65951	99.1	2	12.258	-0.009	617406	174.0
Aroclor-1268	3	12.027	0.026	26640	50.9	3	12.633	-0.011	12102	3.9
Aroclor-1268	4	12.767	-0.005	15085	8.9	4	12.782	-0.001	8122	10.7
Total Col1Ave (4 peaks):				60.2		Total Col2Ave (4 peaks):			70.7	RPD = 16

Corrected Ave (3 peaks): 47.3 Corrected Ave (3 peaks): 36.2 RPD = 26

Total PCB Area Col1 (5.167 - 13.066) = 2287401 Col1 Total PCB = 0.8 ppm*

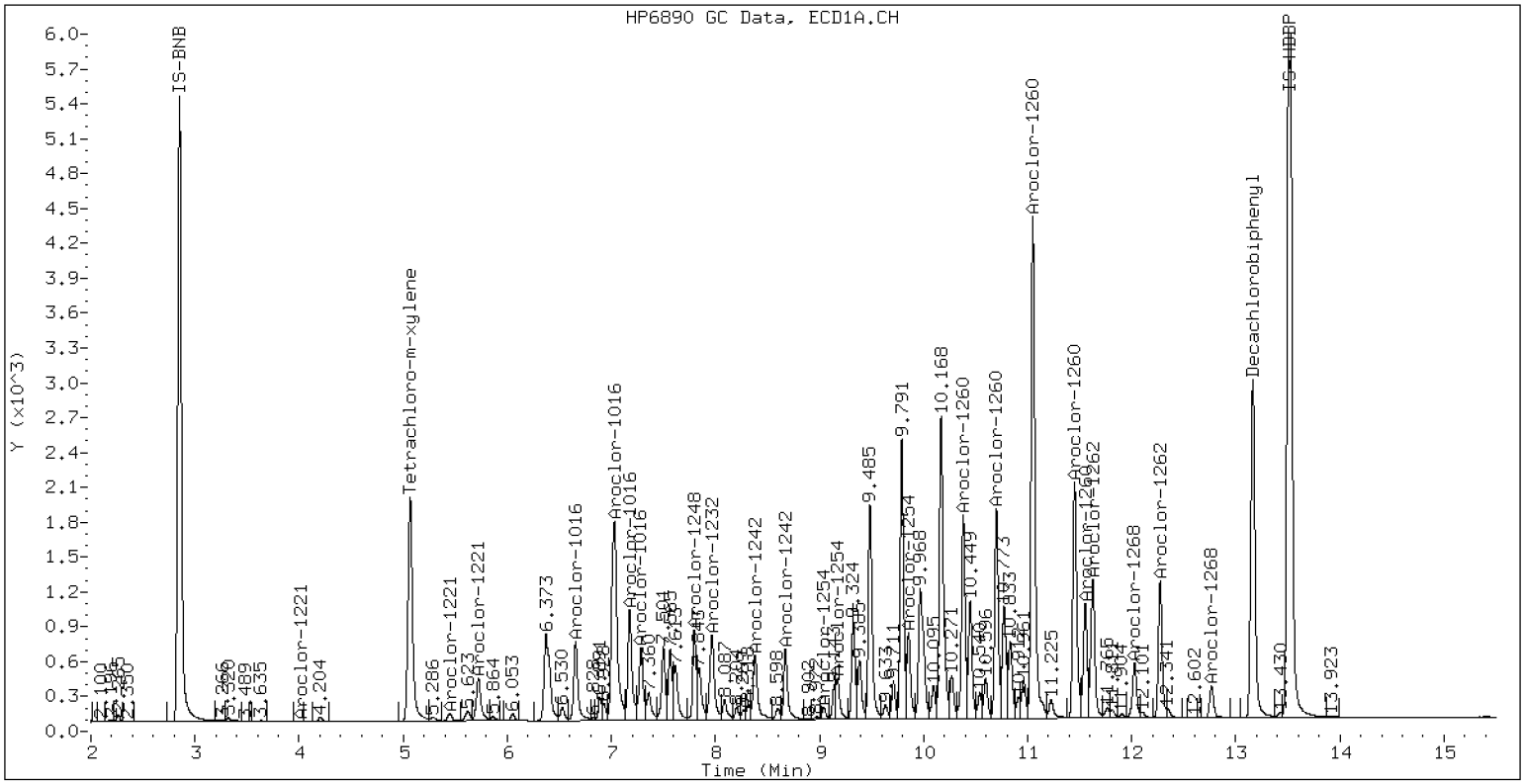
Total PCB Area Col2 (5.167 - 13.066) = 8279645 Col2 Total PCB = 0.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

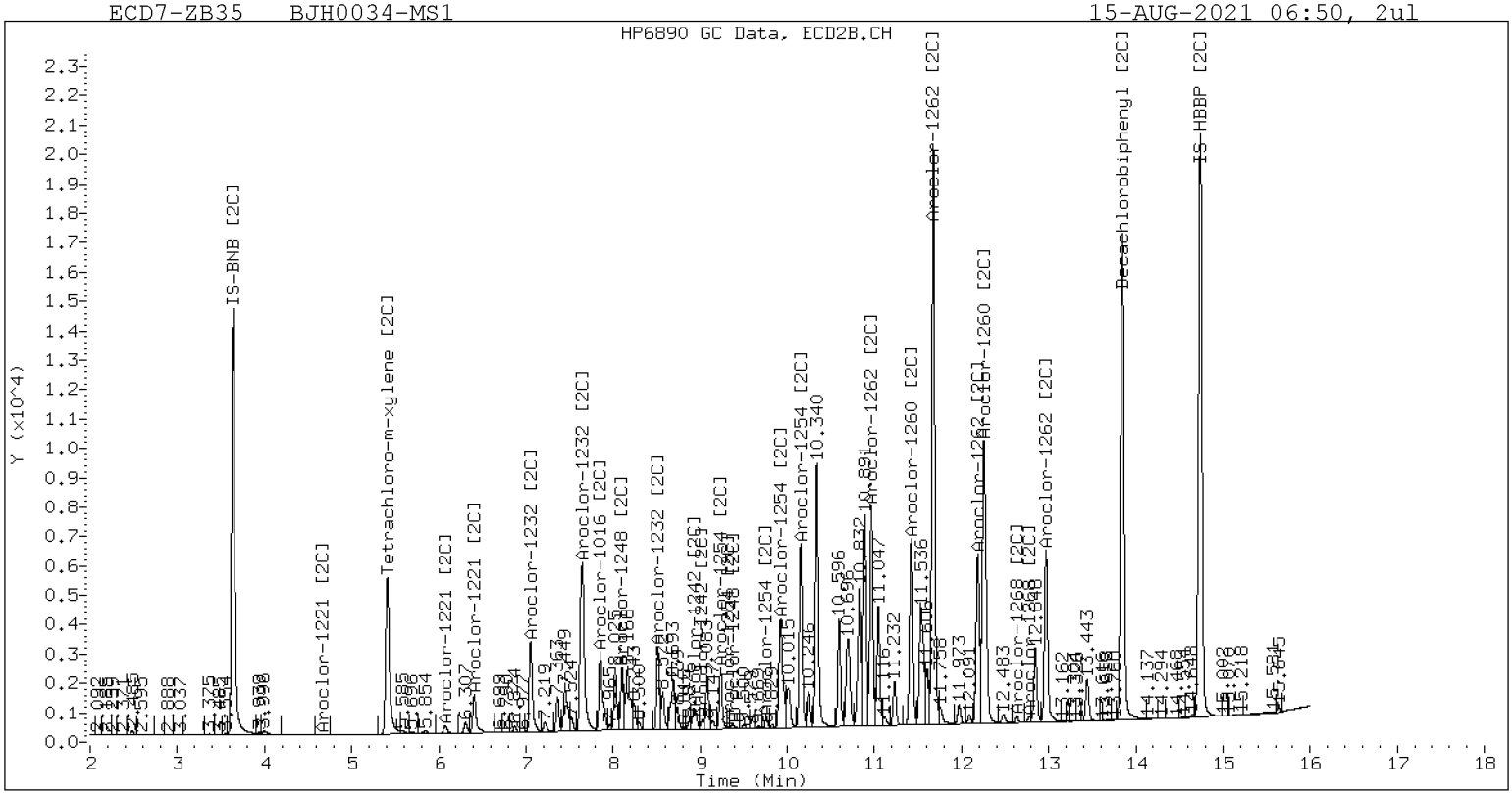
PCB Dual Column Chromatograms

ECD7-ZB5 BJH0034-MS1 15-AUG-2021 06:50, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 BJH0034-MS1 15-AUG-2021 06:50, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210814.b/08142139ECD7.D
Data file 2: /210814.b/210814.b/08142139ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BJH0034-MSD1
Client ID:
Injection Date: 15-AUG-2021 07:10
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.068	0.001	115600	5.411	-0.001	316134	35.3	32.7	7.6	Tetrachloro-m-xylene
13.163	-0.002	166315	13.845	-0.002	905340	38.5	36.2	6.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	271018	4.7
Hexabromobiphenyl	425681	475466	11.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	752329	4.4
Hexabromobiphenyl	863111	1124945	30.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.658	-0.001	40110	417.3	1	7.056	0.000	167834	391.2
Aroclor-1016	2	7.029	-0.004	129594	440.9	2	7.648	-0.003	403734	420.7
Aroclor-1016	3	7.176	-0.003	53378	404.6	3	7.854	-0.003	160421	426.0
Aroclor-1016	4	7.285	-0.005	36066	436.1	4	8.104	-0.002	93768	411.4
Total Col1Ave (4 peaks):				424.7		Total Col2Ave (4 peaks):			412.3	RPD = 3
Corrected Ave (3 peaks):				419.4		Corrected Ave (3 peaks):			407.8	RPD = 3
Aroclor-1221	1	4.017	0.002	173	8.1	1	4.670	-0.006	847	15.0
Aroclor-1221	2	5.448	-0.003	4730	141.0	2	6.073	0.001	16252	125.7
Aroclor-1221	3	5.724	-0.000	24014	265.0	3	6.409	0.000	73831	327.7
Total Col1Ave (3 peaks):				138.0		Total Col2Ave (3 peaks):			156.1	RPD = 12
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.017	-0.001	173	13.2	1	4.670	-0.009	847	25.2
Aroclor-1232	2	5.724	-0.002	24014	336.1	2	7.056	-0.002	167834	854.2
Aroclor-1232	3	7.029	-0.004	129594	1188.5	3	7.648	-0.003	403734	1026.7
Aroclor-1232	4	7.967	-0.005	47486	1058.6	4	8.518	-0.004	126709	1236.9
Total Col1Ave (4 peaks):				649.1		Total Col2Ave (4 peaks):			785.8	RPD = 19
Corrected Ave (3 peaks):				469.3		Corrected Ave (3 peaks):			635.4	RPD = 30
Aroclor-1242	1	6.658	-0.002	40110	537.2	1	7.056	-0.002	167834	485.2
Aroclor-1242	2	7.029	-0.005	129594	582.2	2	7.648	-0.005	403734	537.3
Aroclor-1242	3	8.381	-0.000	36149	286.7	3	8.934	-0.023	48350	137.7
Aroclor-1242	4	8.672	-0.004	34136	662.4	4	9.026	-0.011	15086	37.9
Total Col1Ave (4 peaks):				517.1		Total Col2Ave (4 peaks):			299.5	RPD = 53*
Corrected Ave (3 peaks):				468.7		Corrected Ave (3 peaks):			220.3	RPD = 72*
Aroclor-1248	1	7.799	-0.001	37293	328.4	1	8.104	-0.001	93768	300.8
Aroclor-1248	2	7.967	-0.003	47486	320.3	2	8.518	-0.002	126709	333.9
Aroclor-1248	3	8.381	0.002	36149	166.5	3	8.934	-0.019	48350	80.0
Aroclor-1248	4	8.672	-0.003	34136	275.5	4	9.377	-0.003	9093	17.7
Total Col1Ave (4 peaks):				272.7		Total Col2Ave (4 peaks):			183.1	RPD = 39
Corrected Ave (3 peaks):				254.1		Corrected Ave (3 peaks):			132.8	RPD = 63*
Aroclor-1254	1	8.672	-0.004	34136	146.0	1	9.237	-0.003	96280	150.4
Aroclor-1254	2	---			0.0	2	9.326	-0.007	2167	5.8
Aroclor-1254	3	9.040	-0.004	5182	34.0	3	9.760	-0.003	17418	35.7
Aroclor-1254	4	9.172	-0.007	30344	104.2	4	9.924	0.009	230397	213.1
Aroclor-1254	5	9.855	-0.015	39884	218.1	5	10.155	0.003	299711	273.3
Total Col1Ave (4 peaks):				125.6		Total Col2Ave (5 peaks):			135.7	RPD = 8
Corrected Ave (3 peaks):				94.7		Corrected Ave (4 peaks):			101.2	RPD = 7
Aroclor-1260	1	10.382	-0.002	87269	408.0	1	11.423	-0.002	331626	354.6
Aroclor-1260	2	10.700	-0.003	87837	418.4	2	11.677	-0.001	948681	349.0
Aroclor-1260	3	11.050	-0.004	235736	415.4	3	12.259	-0.002	617054	353.1
Aroclor-1260	4	11.450	-0.005	110216	436.0	4	12.970	-0.002	320611	383.7
Aroclor-1260	5	11.553	-0.001	52111	411.7	NS	---			----
Total Col1Ave (5 peaks):				417.9		Total Col2Ave (4 peaks):			360.1	RPD = 15
Corrected Ave (4 peaks):				413.4		Corrected Ave (3 peaks):			352.2	RPD = 16
Aroclor-1262	1	10.382	-0.002	87269	300.8	1	10.966	-0.004	357412	259.8
Aroclor-1262	2	11.450	-0.004	110216	586.6	2	11.677	-0.008	948681	326.8
Aroclor-1262	3	11.626	-0.001	66110	244.1	3	12.186	-0.002	310871	241.3
Aroclor-1262	4	12.272	-0.002	64997	292.3	4	12.970	-0.003	320611	267.0
Total Col1Ave (4 peaks):				355.9		Total Col2Ave (4 peaks):			273.7	RPD = 26
Corrected Ave (3 peaks):				279.1		Corrected Ave (3 peaks):			256.0	RPD = 9
Aroclor-1268	1	11.553	-0.004	52111	81.7	1	12.186	-0.014	310871	96.2
Aroclor-1268	2	11.626	-0.000	66110	98.8	2	12.259	-0.008	617054	174.9
Aroclor-1268	3	12.027	0.026	26827	51.0	3	12.633	-0.011	12203	4.0
Aroclor-1268	4	12.765	-0.006	15642	9.2	4	12.781	-0.002	8504	11.3
Total Col1Ave (4 peaks):				60.2		Total Col2Ave (4 peaks):			71.6	RPD = 17

Corrected Ave (3 peaks): 47.3 Corrected Ave (3 peaks): 37.2 RPD = 24

Total PCB Area Col1 (5.167 - 13.066) = 2315216 Col1 Total PCB = 0.8 ppm*

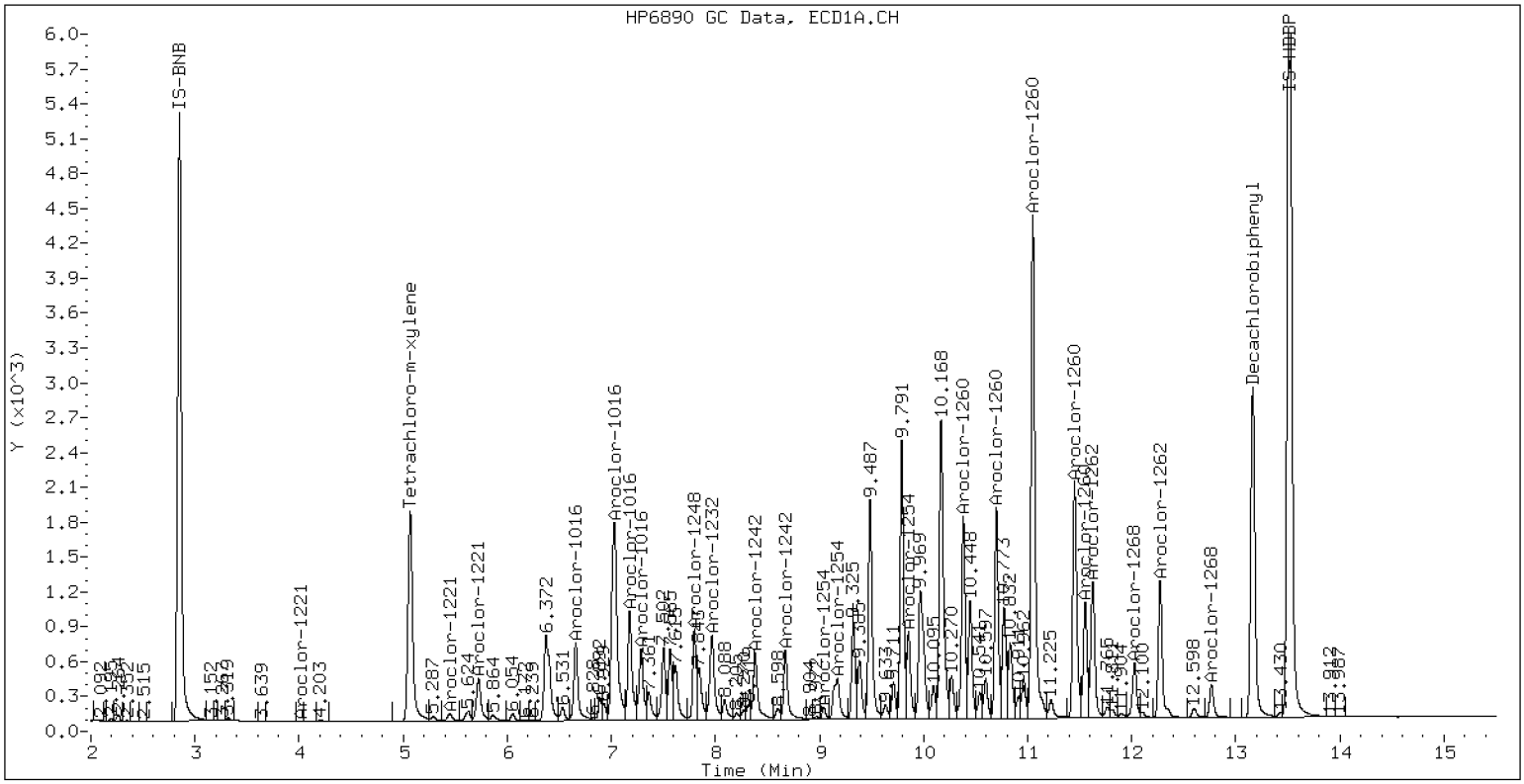
Total PCB Area Col2 (5.167 - 13.066) = 8252365 Col2 Total PCB = 0.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

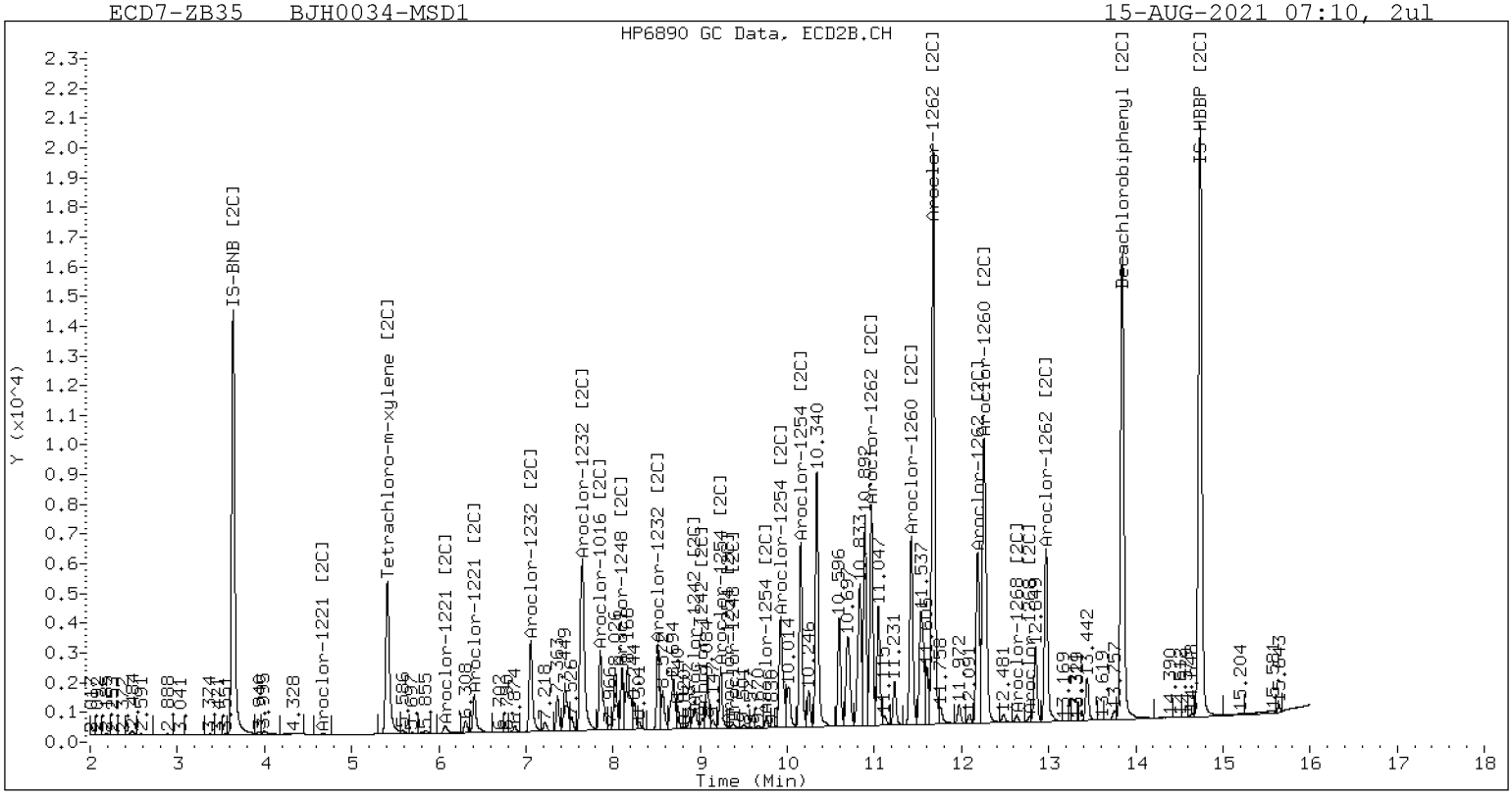
PCB Dual Column Chromatograms

ECD7-ZB5 BJH0034-MSD1 15-AUG-2021 07:10, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 BJH0034-MSD1 15-AUG-2021 07:10, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Laboratory ID: BJH0034-SRM1
Batch: BJH0034
Initial/Final: 2.5 g / 2.5 mL
Preparation: EPA 3546 (Microwave)
Analyzed: 08/15/2021 5:07
Standard ID: J006842
Expires: 12/28/2021
Standard Lot#: PSRM0136
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	100	2.9	20.0		92.6	38 - 167
Aroclor 1260 [2C]	108.00	82.9	2.9	20.0		76.8	38 - 167

* Values outside of QC limits

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

Data file 1: /210814.b/08142133ECD7.D
Data file 2: /210814.b/210814.b/08142133ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BJH0034-SRM1
Client ID:
Injection Date: 15-AUG-2021 05:07
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.066	-0.001	102358	5.410	-0.002	276005	31.9	29.6	7.3	Tetrachloro-m-xylene
13.159	-0.007	125530	13.842	-0.005	701222	35.2	30.9	12.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	265628	2.6
Hexabromobiphenyl	425681	392793	-7.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	725062	0.6
Hexabromobiphenyl	863111	1019741	18.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.607	-0.052	3927	41.7	1	7.054	-0.001	7259	17.6
Aroclor-1016	2	7.029	-0.005	3126	10.9	2	7.649	-0.002	20256	21.9
Aroclor-1016	3	7.177	-0.002	1515	11.7	3	7.854	-0.003	5924	16.3
Aroclor-1016	4	7.280	-0.009	1354	16.7	4	8.102	-0.004	11890	54.1
Total Col1Ave (4 peaks):					20.2	Total Col2Ave (4 peaks):				27.5 RPD = 30
Corrected Ave (3 peaks):					13.1	Corrected Ave (3 peaks):				18.6 RPD = 35
Aroclor-1221	1	4.102	0.087	2359	112.5	1	4.636	-0.040	2371	43.6
Aroclor-1221	2	---			0.0	2	6.100	0.028	15078	121.0
Aroclor-1221	3	5.724	-0.000	403	4.5	3	6.408	-0.001	6557	30.2
Col1Ave: <3 Quant Peaks						Col2Ave: 64.9				
Aroclor-1232	1	4.102	0.084	2359	183.1	1	4.636	-0.043	2371	73.2
Aroclor-1232	2	5.724	-0.002	403	5.8	2	7.054	-0.004	7259	38.3
Aroclor-1232	3	7.029	-0.005	3126	29.3	3	7.649	-0.002	20256	53.4
Aroclor-1232	4	7.961	-0.011	2534	57.6	4	8.515	-0.007	8346	84.5
Total Col1Ave (4 peaks):					68.9	Total Col2Ave (4 peaks):				62.4 RPD = 10
Corrected Ave (3 peaks):					30.9	Corrected Ave (3 peaks):				55.0 RPD = 56*
Aroclor-1242	1	6.607	-0.053	3927	53.7	1	7.054	-0.003	7259	21.8
Aroclor-1242	2	7.029	-0.006	3126	14.3	2	7.649	-0.004	20256	28.0
Aroclor-1242	3	8.378	-0.004	11457	92.7	3	8.938	-0.018	14079	41.6
Aroclor-1242	4	8.667	-0.009	14489	286.9	4	9.018	-0.020	10366	27.0
Total Col1Ave (4 peaks):					111.9	Total Col2Ave (4 peaks):				29.6 RPD = 116*
Corrected Ave (3 peaks):					53.6	Corrected Ave (3 peaks):				25.6 RPD = 71*
Aroclor-1248	1	7.795	-0.005	2812	25.3	1	8.102	-0.003	11890	39.6
Aroclor-1248	2	7.961	-0.009	2534	17.4	2	8.515	-0.005	8346	22.8
Aroclor-1248	3	8.378	-0.002	11457	53.8	3	8.938	-0.014	14079	24.2
Aroclor-1248	4	8.667	-0.008	14489	119.3	4	9.365	-0.015	9989	20.2
Total Col1Ave (4 peaks):					54.0	Total Col2Ave (4 peaks):				26.7 RPD = 68*
Corrected Ave (3 peaks):					32.2	Corrected Ave (3 peaks):				22.4 RPD = 36
Aroclor-1254	1	8.667	-0.009	14489	63.2	1	9.232	-0.008	41246	66.9
Aroclor-1254	2	8.740	-0.008	5310	50.1	2	9.322	-0.011	9907	27.4
Aroclor-1254	3	9.038	-0.007	7802	52.2	3	9.754	-0.009	16612	35.3
Aroclor-1254	4	9.167	-0.012	19845	69.5	4	9.909	-0.005	74876	71.8
Aroclor-1254	5	9.852	-0.019	15039	83.9	5	10.149	-0.002	107779	102.0
Total Col1Ave (5 peaks):					63.8	Total Col2Ave (5 peaks):				60.7 RPD = 5
Corrected Ave (4 peaks):					58.8	Corrected Ave (4 peaks):				50.3 RPD = 15
Aroclor-1260	1	10.376	-0.008	18348	103.8	1	11.421	-0.005	79850	94.2
Aroclor-1260	2	10.694	-0.009	14696	84.7	2	11.670	-0.008	193975	78.7
Aroclor-1260	3	11.043	-0.011	45308	96.7	3	12.253	-0.008	123538	78.0
Aroclor-1260	4	11.443	-0.012	25850	123.8	4	12.964	-0.008	61197	80.8
Aroclor-1260	5	11.547	-0.007	9532	91.2	NS	---			----
Total Col1Ave (5 peaks):					100.0	Total Col2Ave (4 peaks):				82.9 RPD = 19
Corrected Ave (4 peaks):					94.1	Corrected Ave (3 peaks):				79.2 RPD = 17
Aroclor-1262	1	10.376	-0.008	18348	76.5	1	10.961	-0.009	70688	56.7
Aroclor-1262	2	11.443	-0.012	25850	166.5	2	11.670	-0.015	193975	73.7
Aroclor-1262	3	11.620	-0.007	12103	54.1	3	12.181	-0.007	65321	55.9
Aroclor-1262	4	12.266	-0.008	11653	63.4	4	12.964	-0.009	61197	56.2
Total Col1Ave (4 peaks):					90.2	Total Col2Ave (4 peaks):				60.6 RPD = 39
Corrected Ave (3 peaks):					64.7	Corrected Ave (3 peaks):				56.3 RPD = 14
Aroclor-1268	1	11.547	-0.010	9532	18.1	1	12.181	-0.019	65321	22.3
Aroclor-1268	2	11.620	-0.006	12103	21.9	2	12.253	-0.014	123538	38.6
Aroclor-1268	3	12.020	0.019	6124	14.1	3	12.628	-0.016	5891	2.1
Aroclor-1268	4	12.761	-0.010	3894	2.8	4	12.773	-0.010	6802	10.0
Total Col1Ave (4 peaks):					14.2	Total Col2Ave (4 peaks):				18.3 RPD = 25
Corrected Ave (3 peaks):					11.6	Corrected Ave (3 peaks):				11.5 RPD = 2

Total PCB Area Col1 (5.167 - 13.066) = 525287 Col1 Total PCB = 0.2 ppm*

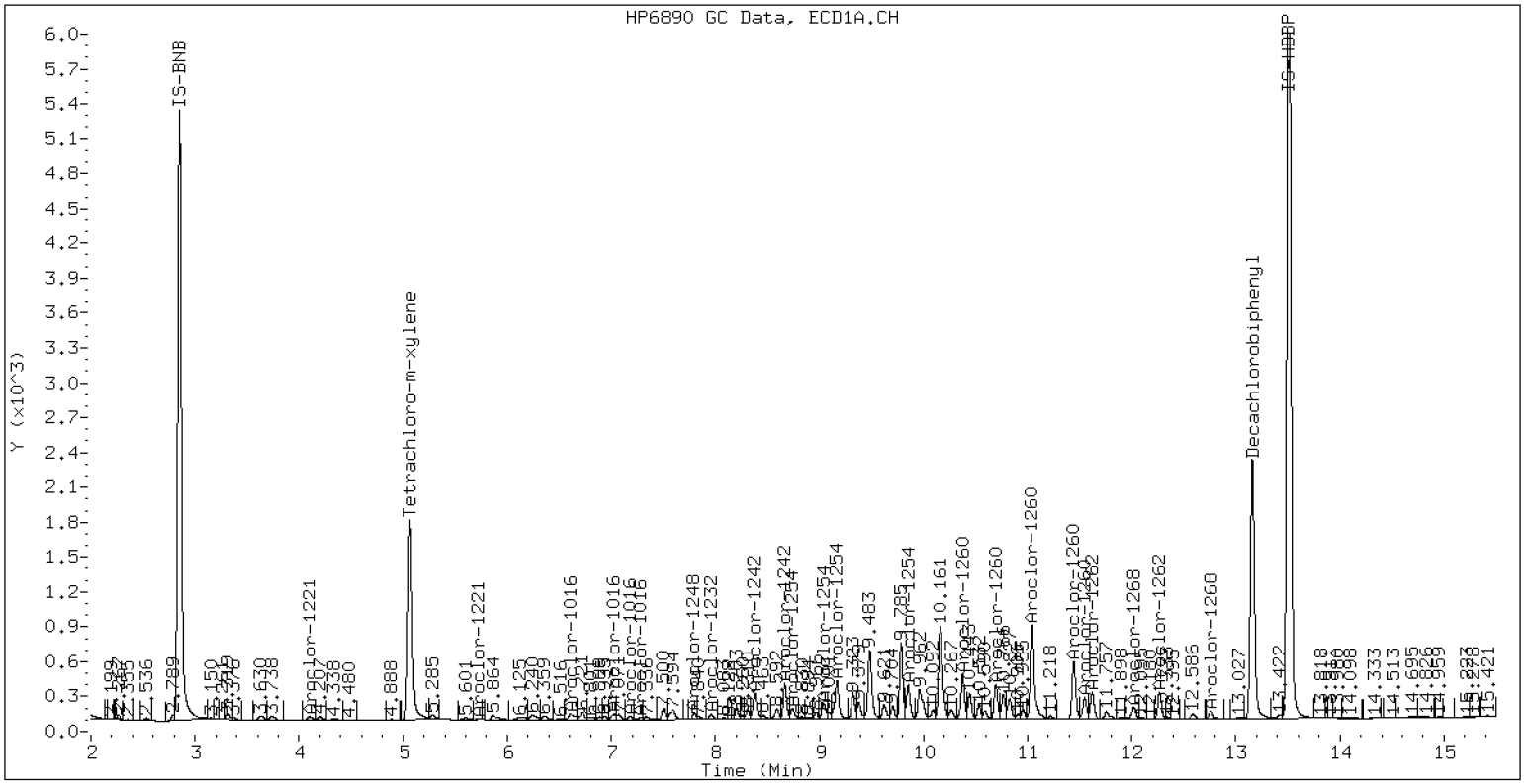
Total PCB Area Col2 (5.167 - 13.066) = 2120575 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

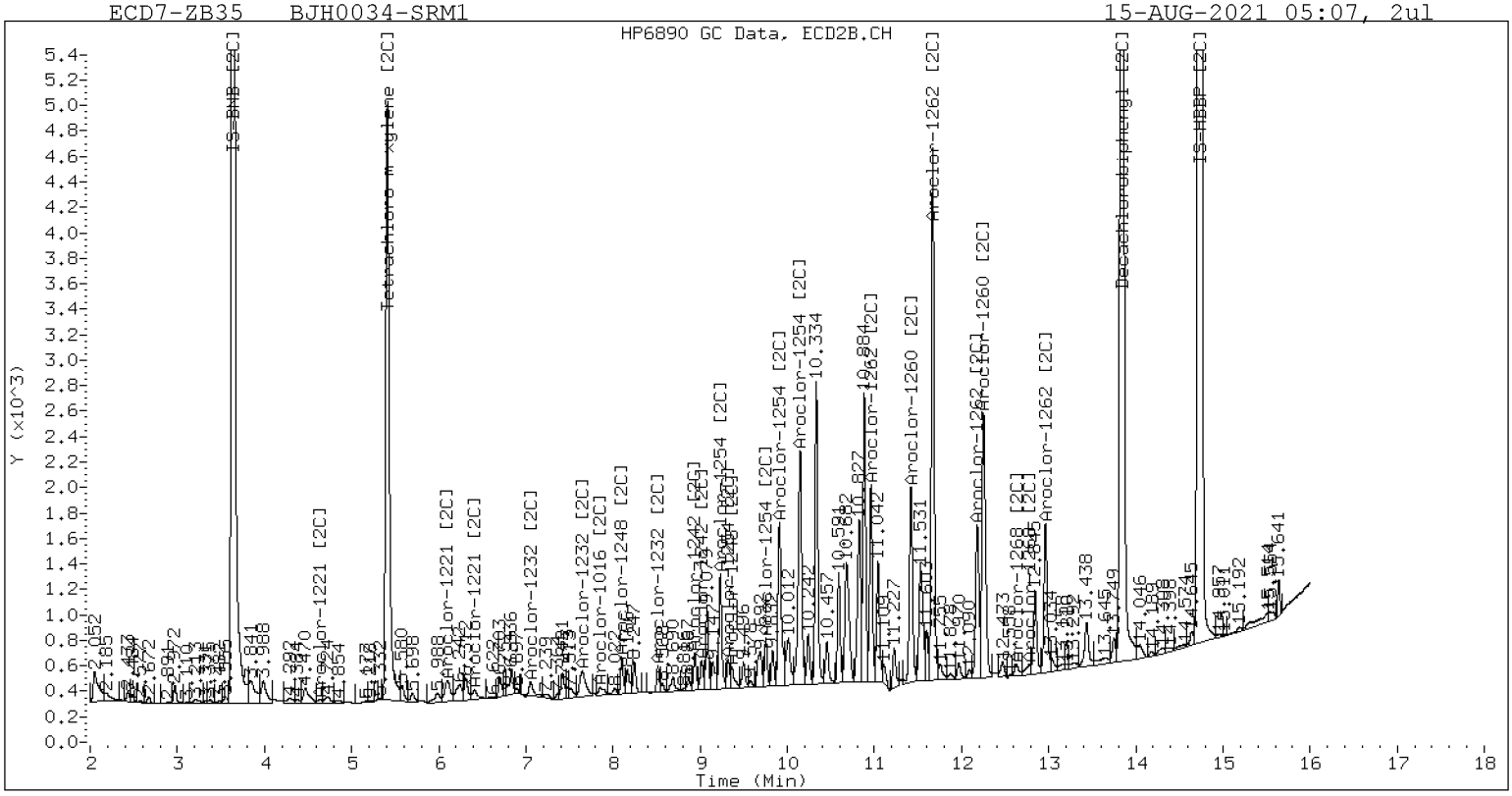
PCB Dual Column Chromatograms

ECD7-ZB5 BJH0034-SRM1 15-AUG-2021 05:07, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 BJH0034-SRM1 15-AUG-2021 05:07, 2ul

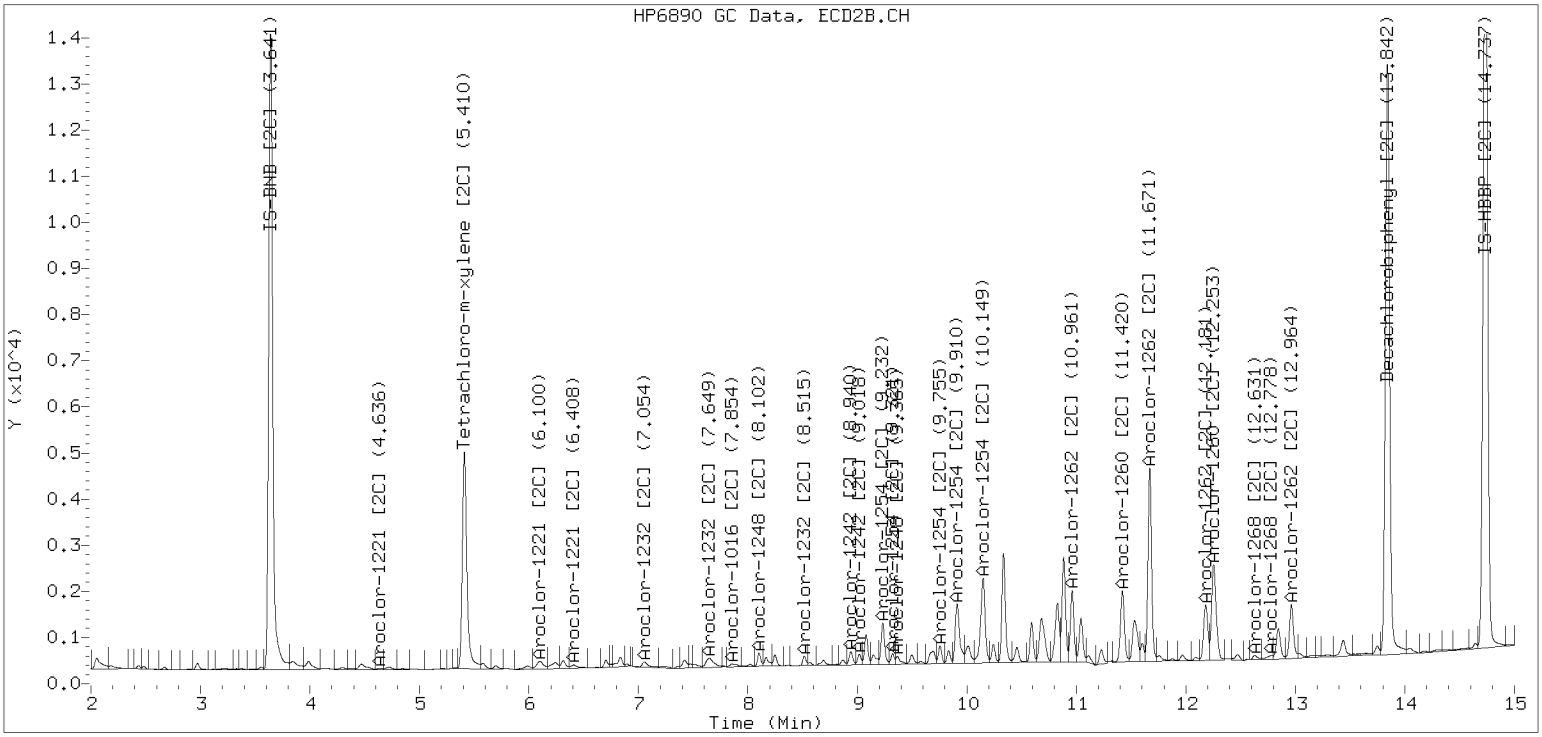


ZB-35 Manual Integration: YES

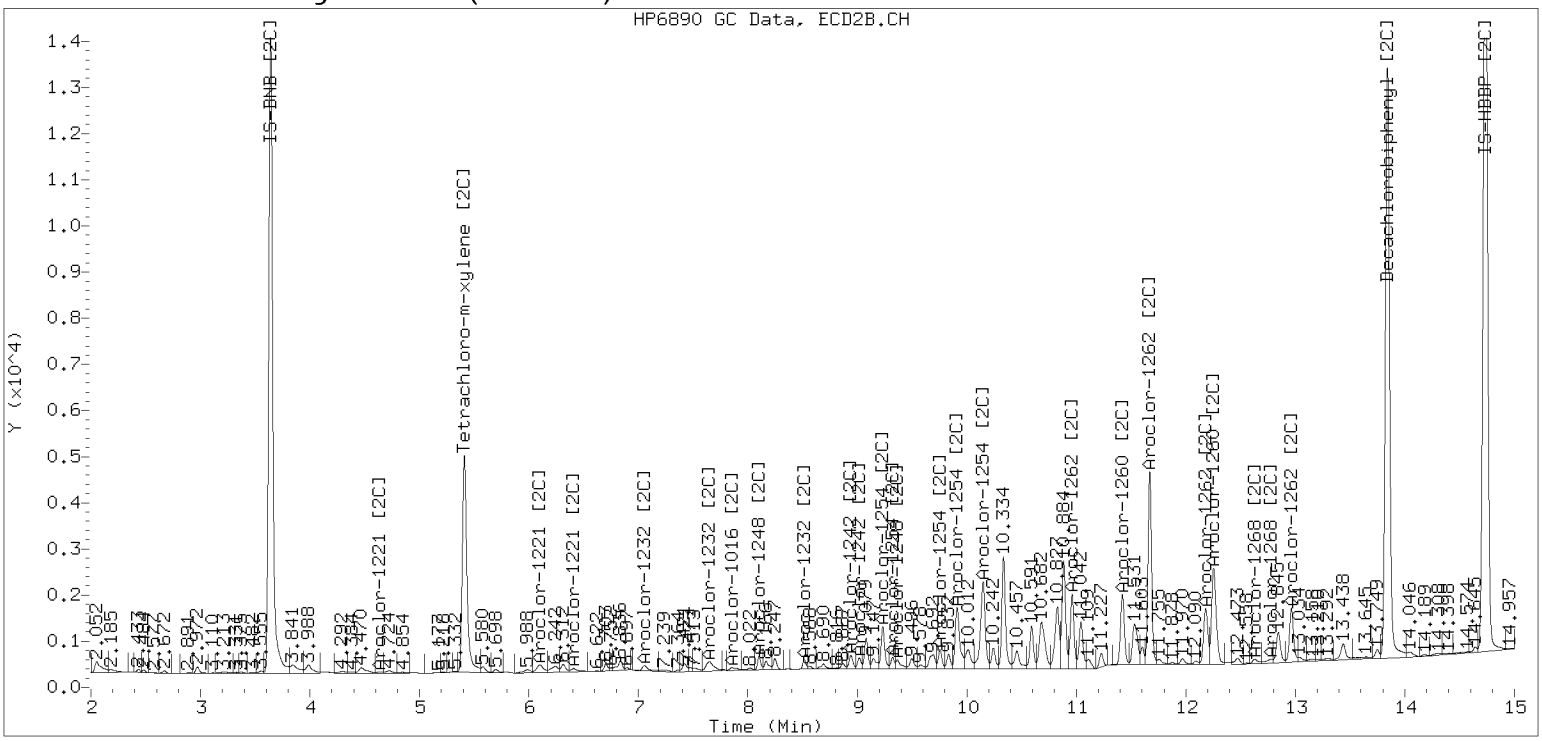
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210814.b/210814.b/08142133.D Injection Date: 15-AUG-2021 05:0

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1016	20	3.905933E-02	50	0.0446259	100	4.564066E-02	250	0.04709	500	4.625535E-02	1000	4.505981E-02
Aroclor-1016 (1)	20	2.649017E-02	50	2.912055E-02	100	2.939738E-02	250	2.963943E-02	500	2.849957E-02	1000	2.709274E-02
Aroclor-1016 (2)	20	7.428187E-02	50	8.423329E-02	100	8.746182E-02	250	9.203341E-02	500	9.182498E-02	1000	9.075441E-02
Aroclor-1016 (3)	20	3.555465E-02	50	4.092549E-02	100	4.058933E-02	250	4.075499E-02	500	3.888112E-02	1000	3.692439E-02
Aroclor-1016 (4)	20	1.991061E-02	50	2.422428E-02	100	2.511411E-02	250	2.593218E-02	500	2.581574E-02	1000	2.546764E-02
Aroclor 1260	20	4.610015E-02	50	4.459123E-02	100	4.539035E-02	250	4.776685E-02	500	4.820696E-02	1000	4.469533E-02
Aroclor-1260 (1)	20	3.649398E-02	50	3.599611E-02	100	3.587713E-02	250	3.720495E-02	500	3.606153E-02	1000	0.0343203
Aroclor-1260 (2)	20	3.493239E-02	50	3.435188E-02	100	3.496901E-02	250	3.686291E-02	500	3.620059E-02	1000	3.463348E-02
Aroclor-1260 (3)	20	9.843722E-02	50	9.112843E-02	100	9.295538E-02	250	9.789039E-02	500	0.1019955	1000	9.043784E-02
Aroclor-1260 (4)	20	3.984431E-02	50	4.042084E-02	100	4.181781E-02	250	4.477343E-02	500	4.502778E-02	1000	4.333459E-02
Aroclor-1260 (5)	20	2.079286E-02	50	2.105887E-02	100	2.133245E-02	250	2.210256E-02	500	2.174943E-02	1000	2.075043E-02
Decachlorobiphenyl	3.2	0.7431769	8	0.7302126	16	0.7455559	40	0.7525025	80	0.7163282	160	0.6694058
Tetrachlorometaxylene	3.2	0.9393656	8	0.9142096	16	0.9758103	40	1.013211	80	0.9925859	160	0.9666244

Analytical Resources, Incorporated
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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1221												
Aroclor-1221 (1)												
Aroclor-1221 (2)												
Aroclor-1221 (3)												
Aroclor 1232												
Aroclor-1232 (1)												
Aroclor-1232 (2)												
Aroclor-1232 (3)												
Aroclor-1232 (4)												
Aroclor 1242	20	3.476957E-02	50	3.251176E-02	100	3.574202E-02	250	3.627235E-02	500	0.0361029	1000	0.0348766
Aroclor-1242 (1)	20	1.894782E-02	50	2.152568E-02	100	2.336447E-02	250	2.359921E-02	500	2.299109E-02	1000	2.182021E-02
Aroclor-1242 (2)	20	5.663612E-02	50	5.706852E-02	100	6.610672E-02	250	7.095404E-02	500	7.201235E-02	1000	7.146865E-02
Aroclor-1242 (3)	20	4.583842E-02	50	3.531016E-02	100	3.720097E-02	250	3.521151E-02	500	3.564921E-02	1000	3.412729E-02
Aroclor-1242 (4)	20	1.765592E-02	50	1.614269E-02	100	1.629592E-02	250	1.532464E-02	500	1.375896E-02	1000	1.209024E-02
Aroclor 1248												
Aroclor-1248 (1)												
Aroclor-1248 (2)												
Aroclor-1248 (3)												
Aroclor-1248 (4)												
Aroclor 1254												
Aroclor-1254 (1)												
Aroclor-1254 (2)												
Aroclor-1254 (3)												
Aroclor-1254 (4)												
Aroclor-1254 (5)												
Aroclor-1262 (1)												
Aroclor-1262 (2)												
Aroclor-1262 (3)												

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor-1262 (4)												
Aroclor-1268 (1)												
Aroclor-1268 (2)												
Aroclor-1268 (3)												
Aroclor-1268 (4)												

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1248	20	4.277049E-02	50	4.586843E-02	100	4.478412E-02	250	4.573699E-02	500	4.502952E-02	1000	4.273277E-02
Aroclor-1248 (1)	20	3.027179E-02	50	3.457133E-02	100	0.0326326	250	3.463825E-02	500	3.494353E-02	1000	3.409812E-02
Aroclor-1248 (2)	20	3.872679E-02	50	4.418321E-02	100	4.305407E-02	250	4.595423E-02	500	4.598635E-02	1000	4.466949E-02
Aroclor-1248 (3)	20	6.153453E-02	50	6.328759E-02	100	6.556992E-02	250	0.0663208	500	6.567134E-02	1000	6.210098E-02
Aroclor-1248 (4)	20	4.054886E-02	50	4.143157E-02	100	0.0378799	250	3.603467E-02	500	3.351685E-02	1000	3.006244E-02

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

Compound	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1016												
Aroclor-1016 (1)												
Aroclor-1016 (2)												
Aroclor-1016 (3)												
Aroclor-1016 (4)												
Aroclor 1254	20	0.0553437	50	5.697553E-02	100	5.740632E-02	250	5.907612E-02	500	5.847785E-02	1000	5.576525E-02
Aroclor-1254 (1)	20	7.163779E-02	50	0.0694659	100	6.902673E-02	250	7.004227E-02	500	6.891729E-02	1000	6.501982E-02
Aroclor-1254 (2)	20	3.299361E-02	50	3.464937E-02	100	3.312192E-02	250	3.311742E-02	500	3.111858E-02	1000	2.670265E-02
Aroclor-1254 (3)	20	4.922704E-02	50	4.279015E-02	100	4.317994E-02	250	4.501395E-02	500	4.520795E-02	1000	4.449624E-02
Aroclor-1254 (4)	20	7.660199E-02	50	8.623033E-02	100	8.820416E-02	250	9.026987E-02	500	8.928537E-02	1000	8.506473E-02
Aroclor-1254 (5)	20	4.625809E-02	50	5.174191E-02	100	5.349887E-02	250	5.693709E-02	500	5.786004E-02	1000	5.754279E-02
Aroclor 1260												
Aroclor-1260 (1)												
Aroclor-1260 (2)												
Aroclor-1260 (3)												
Aroclor-1260 (4)												
Aroclor-1260 (5)												

Analytical Resources, Incorporated
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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

Compound	Level 25		Level 26		Level 27		Level 28		Level 29		Level 30	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1221	20	1.344016E-02	50	1.362337E-02	100	1.424699E-02	250	1.556865E-02	500	1.496468E-02	1000	1.410511E-02
Aroclor-1221 (1)	20	6.102735E-03	50	6.616017E-03	100	6.915718E-03	250	6.699115E-03	500	6.032524E-03	1000	5.539604E-03
Aroclor-1221 (2)	20	8.599308E-03	50	8.383142E-03	100	9.463615E-03	250	1.119347E-02	500	1.106774E-02	1000	1.071014E-02
Aroclor-1221 (3)	20	2.561843E-02	50	2.587095E-02	100	2.636163E-02	250	2.881334E-02	500	2.779378E-02	1000	2.606558E-02
Aroclor 1232												
Aroclor-1232 (1)												
Aroclor-1232 (2)												
Aroclor-1232 (3)												
Aroclor-1232 (4)												
Aroclor 1242												
Aroclor-1242 (1)												
Aroclor-1242 (2)												
Aroclor-1242 (3)												
Aroclor-1242 (4)												
Aroclor 1248												
Aroclor-1248 (1)												
Aroclor-1248 (2)												
Aroclor-1248 (3)												
Aroclor-1248 (4)												
Aroclor 1254												
Aroclor-1254 (1)												
Aroclor-1254 (2)												
Aroclor-1254 (3)												
Aroclor-1254 (4)												
Aroclor-1254 (5)												
Aroclor-1262 (1)	20	5.134025E-02	50	4.712973E-02	100	4.785041E-02	250	4.922198E-02	500	4.998328E-02	1000	4.738766E-02
Aroclor-1262 (2)	20	3.096922E-02	50	2.863311E-02	100	0.0307571	250	3.227303E-02	500	3.368581E-02	1000	3.335815E-02
Aroclor-1262 (3)	20	0.046557	50	4.368276E-02	100	4.523577E-02	250	4.610753E-02	500	0.0468182	1000	4.504377E-02

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

Compound	Level 25		Level 26		Level 27		Level 28		Level 29		Level 30	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor-1262 (4)	20	0.0383223	50	3.598523E-02	100	3.699579E-02	250	3.807082E-02	500	0.0394668	1000	3.563971E-02
Aroclor-1268 (1)												
Aroclor-1268 (2)												
Aroclor-1268 (3)												
Aroclor-1268 (4)												

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

Compound	Level 31		Level 32		Level 33		Level 34		Level 35		Level 36	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1232	20	1.402512E-02	50	1.590765E-02	100	1.784916E-02	250	1.895611E-02	500	1.948861E-02	1000	1.936821E-02
Aroclor-1232 (1)	20	4.656687E-03	50	4.246942E-03	100	0.0037225	250	3.695733E-03	500	3.631422E-03	1000	3.325733E-03
Aroclor-1232 (2)	20	1.975946E-02	50	1.981906E-02	100	2.118962E-02	250	2.245563E-02	500	2.213617E-02	1000	2.117687E-02
Aroclor-1232 (3)	20	2.266989E-02	50	2.831294E-02	100	3.249878E-02	250	3.501632E-02	500	3.681569E-02	1000	3.780662E-02
Aroclor-1232 (4)	20	9.014466E-03	50	1.125164E-02	100	1.398575E-02	250	1.465674E-02	500	1.537116E-02	1000	0.0151636
Aroclor-1268 (1)	20	0.1098826	50	0.1067175	100	0.1064917	250	0.1073455	500	0.1084757	1000	0.1050728
Aroclor-1268 (2)	20	0.116822	50	0.1125651	100	0.1123015	250	0.1123775	500	0.1131765	1000	0.1082687
Aroclor-1268 (3)	20	9.346653E-02	50	8.829601E-02	100	8.761007E-02	250	8.780397E-02	500	8.875903E-02	1000	8.540146E-02
Aroclor-1268 (4)	20	0.3021591	50	0.2885466	100	0.2854368	250	0.278664	500	0.2789172	1000	0.2801083

Analytical Resources, Incorporated
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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor 1016	4.462184E-02	6.4			RSD (20)	
Aroclor 1016	4.462184E-02	6.4			RSD (20)	
Aroclor-1016 (1)	2.837331E-02	4.6			RSD (20)	
Aroclor-1016 (1)	2.837331E-02	4.6			RSD (20)	
Aroclor-1016 (2)	8.676496E-02	7.9			RSD (20)	
Aroclor-1016 (2)	8.676496E-02	7.9			RSD (20)	
Aroclor-1016 (3)	3.893833E-02	5.8			RSD (20)	
Aroclor-1016 (3)	3.893833E-02	5.8			RSD (20)	
Aroclor-1016 (4)	2.441076E-02	9.4			RSD (20)	
Aroclor-1016 (4)	2.441076E-02	9.4			RSD (20)	
Aroclor 1221	1.432483E-02	5.7			RSD (20)	
Aroclor 1221	1.432483E-02	5.7			RSD (20)	
Aroclor-1221 (1)	6.317619E-03	8.1			RSD (20)	
Aroclor-1221 (1)	6.317619E-03	8.1			RSD (20)	
Aroclor-1221 (2)	9.902902E-03	12.7			RSD (20)	
Aroclor-1221 (2)	9.902902E-03	12.7			RSD (20)	
Aroclor-1221 (3)	2.675395E-02	4.7			RSD (20)	
Aroclor-1221 (3)	2.675395E-02	4.7			RSD (20)	
Aroclor 1232	1.759914E-02	12.5			RSD (20)	
Aroclor 1232	1.759914E-02	12.5			RSD (20)	
Aroclor-1232 (1)	3.879836E-03	12.4			RSD (20)	
Aroclor-1232 (1)	3.879836E-03	12.4			RSD (20)	
Aroclor-1232 (2)	2.108947E-02	5.3			RSD (20)	
Aroclor-1232 (2)	2.108947E-02	5.3			RSD (20)	
Aroclor-1232 (3)	3.218671E-02	17.9			RSD (20)	
Aroclor-1232 (3)	3.218671E-02	17.9			RSD (20)	
Aroclor-1232 (4)	1.324056E-02	19.3			RSD (20)	
Aroclor-1232 (4)	1.324056E-02	19.3			RSD (20)	
Aroclor 1242	3.504587E-02	4.0			RSD (20)	
Aroclor 1242	3.504587E-02	4.0			RSD (20)	
Aroclor-1242 (1)	2.204141E-02	7.8			RSD (20)	

Analytical Resources, Incorporated
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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor-1242 (1)	2.204141E-02	7.8			RSD (20)	
Aroclor-1242 (2)	6.570773E-02	10.9			RSD (20)	
Aroclor-1242 (2)	6.570773E-02	10.9			RSD (20)	
Aroclor-1242 (3)	3.722293E-02	11.6			RSD (20)	
Aroclor-1242 (3)	3.722293E-02	11.6			RSD (20)	
Aroclor-1242 (4)	1.521139E-02	13.1			RSD (20)	
Aroclor-1242 (4)	1.521139E-02	13.1			RSD (20)	
Aroclor 1248	4.448705E-02	3.2			RSD (20)	
Aroclor 1248	4.448705E-02	3.2			RSD (20)	
Aroclor-1248 (1)	3.352594E-02	5.3			RSD (20)	
Aroclor-1248 (1)	3.352594E-02	5.3			RSD (20)	
Aroclor-1248 (2)	4.376236E-02	6.2			RSD (20)	
Aroclor-1248 (2)	4.376236E-02	6.2			RSD (20)	
Aroclor-1248 (3)	6.408086E-02	3.2			RSD (20)	
Aroclor-1248 (3)	6.408086E-02	3.2			RSD (20)	
Aroclor-1248 (4)	3.657905E-02	11.8			RSD (20)	
Aroclor-1248 (4)	3.657905E-02	11.8			RSD (20)	
Aroclor 1254	5.717413E-02	2.6			RSD (20)	
Aroclor 1254	5.717413E-02	2.6			RSD (20)	
Aroclor-1254 (1)	0.0690183	3.2			RSD (20)	
Aroclor-1254 (1)	0.0690183	3.2			RSD (20)	
Aroclor-1254 (2)	3.195059E-02	8.8			RSD (20)	
Aroclor-1254 (2)	3.195059E-02	8.8			RSD (20)	
Aroclor-1254 (3)	4.498588E-02	5.1			RSD (20)	
Aroclor-1254 (3)	4.498588E-02	5.1			RSD (20)	
Aroclor-1254 (4)	8.594274E-02	5.8			RSD (20)	
Aroclor-1254 (4)	8.594274E-02	5.8			RSD (20)	
Aroclor-1254 (5)	5.397313E-02	8.3			RSD (20)	
Aroclor-1254 (5)	5.397313E-02	8.3			RSD (20)	
Aroclor 1260	4.612514E-02	3.4			RSD (20)	
Aroclor 1260	4.612514E-02	3.4			RSD (20)	

Analytical Resources, Incorporated
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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor-1260 (1)	3.599233E-02	2.6			RSD (20)	
Aroclor-1260 (1)	3.599233E-02	2.6			RSD (20)	
Aroclor-1260 (2)	3.532504E-02	2.8			RSD (20)	
Aroclor-1260 (2)	3.532504E-02	2.8			RSD (20)	
Aroclor-1260 (3)	9.547413E-02	4.9			RSD (20)	
Aroclor-1260 (3)	9.547413E-02	4.9			RSD (20)	
Aroclor-1260 (4)	4.253646E-02	5.2			RSD (20)	
Aroclor-1260 (4)	4.253646E-02	5.2			RSD (20)	
Aroclor-1260 (5)	2.129777E-02	2.5			RSD (20)	
Aroclor-1260 (5)	2.129777E-02	2.5			RSD (20)	
Aroclor-1262 (1)	4.881889E-02	3.4			RSD (20)	
Aroclor-1262 (1)	4.881889E-02	3.4			RSD (20)	
Aroclor-1262 (2)	3.161274E-02	6.0			RSD (20)	
Aroclor-1262 (2)	3.161274E-02	6.0			RSD (20)	
Aroclor-1262 (3)	4.557417E-02	2.6			RSD (20)	
Aroclor-1262 (3)	4.557417E-02	2.6			RSD (20)	
Aroclor-1262 (4)	3.741344E-02	3.9			RSD (20)	
Aroclor-1262 (4)	3.741344E-02	3.9			RSD (20)	
Aroclor-1268 (1)	0.107331	1.6			RSD (20)	
Aroclor-1268 (1)	0.107331	1.6			RSD (20)	
Aroclor-1268 (2)	0.1125852	2.4			RSD (20)	
Aroclor-1268 (2)	0.1125852	2.4			RSD (20)	
Aroclor-1268 (3)	8.855618E-02	3.0			RSD (20)	
Aroclor-1268 (3)	8.855618E-02	3.0			RSD (20)	
Aroclor-1268 (4)	0.2856387	3.2			RSD (20)	
Aroclor-1268 (4)	0.2856387	3.2			RSD (20)	
Decachlorobiphenyl	0.726197	4.2			RSD (20)	
Tetrachlorometaxylene	0.9669678	3.7			RSD (20)	

Analytical Resources, Incorporated
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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1016 [2C]	20	5.289358E-02	50	5.145778E-02	100	5.630676E-02	250	0.0556822	500	5.249244E-02	1000	4.907115E-02
Aroclor-1016 (1) [2C]	20	4.881532E-02	50	4.733252E-02	100	4.794096E-02	250	4.698295E-02	500	4.353688E-02	1000	3.909537E-02
Aroclor-1016 (2) [2C]	20	0.1001049	50	9.891498E-02	100	0.1073098	250	0.1072367	500	0.1019062	1000	9.675428E-02
Aroclor-1016 (3) [2C]	20	3.847419E-02	50	3.675556E-02	100	4.334296E-02	250	4.291058E-02	500	4.064436E-02	1000	3.814541E-02
Aroclor-1016 (4) [2C]	20	2.417992E-02	50	2.282807E-02	100	2.663338E-02	250	2.559846E-02	500	2.388226E-02	1000	2.228951E-02
Aroclor 1260 [2C]	20	0.1172691	50	0.1129179	100	0.1134907	250	0.1125851	500	0.1058395	1000	0.1031616
Aroclor-1260 (1) [2C]	20	7.145358E-02	50	7.005835E-02	100	6.872649E-02	250	6.789764E-02	500	6.298428E-02	1000	5.789875E-02
Aroclor-1260 (2) [2C]	20	0.2035789	50	0.1973001	100	0.1959076	250	0.194694	500	0.1810824	1000	0.1871902
Aroclor-1260 (3) [2C]	20	0.135521	50	0.1275038	100	0.126307	250	0.1253256	500	0.1196637	1000	0.111429
Aroclor-1260 (4) [2C]	20	5.852306E-02	50	5.680915E-02	100	6.302172E-02	250	6.242312E-02	500	5.962761E-02	1000	5.612868E-02
Decachlorobiphenyl [2C]	3.2	1.717394	8	1.720152	16	1.802687	40	1.834638	80	1.813106		
Tetrachlorometaxylene [2C]	3.2	1.034676	8	1.014034	16	1.038575	40	1.047756	80	1.011409	160	1.021859

Analytical Resources, Incorporated
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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1221 [2C]												
Aroclor-1221 (1) [2C]												
Aroclor-1221 (2) [2C]												
Aroclor-1221 (3) [2C]												
Aroclor 1232 [2C]												
Aroclor-1232 (1) [2C]												
Aroclor-1232 (2) [2C]												
Aroclor-1232 (3) [2C]												
Aroclor-1232 (4) [2C]												
Aroclor 1242 [2C]	20	5.479372E-02	50	0.0483602	100	4.955642E-02	250	4.999233E-02	500	4.785558E-02	1000	4.398032E-02
Aroclor-1242 (1) [2C]	20	3.973442E-02	50	3.734827E-02	100	3.807644E-02	250	3.757722E-02	500	3.571596E-02	1000	3.223558E-02
Aroclor-1242 (2) [2C]	20	8.232323E-02	50	7.657779E-02	100	7.865959E-02	250	8.406963E-02	500	8.150517E-02	1000	7.624912E-02
Aroclor-1242 (3) [2C]	20	4.585178E-02	50	3.889532E-02	100	3.674847E-02	250	3.609264E-02	500	0.0342552	1000	3.211077E-02
Aroclor-1242 (4) [2C]	20	5.126546E-02	50	4.061943E-02	100	4.474117E-02	250	4.222976E-02	500	3.994598E-02	1000	0.0353258
Aroclor 1248 [2C]												
Aroclor-1248 (1) [2C]												
Aroclor-1248 (2) [2C]												
Aroclor-1248 (3) [2C]												
Aroclor-1248 (4) [2C]												
Aroclor 1254 [2C]												
Aroclor-1254 (1) [2C]												
Aroclor-1254 (2) [2C]												
Aroclor-1254 (3) [2C]												
Aroclor-1254 (4) [2C]												
Aroclor-1254 (5) [2C]												
Aroclor-1262 (1) [2C]												
Aroclor-1262 (2) [2C]												
Aroclor-1262 (3) [2C]												

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor-1262 (4) [2C]												
Aroclor-1268 (1) [2C]												
Aroclor-1268 (2) [2C]												
Aroclor-1268 (3) [2C]												
Aroclor-1268 (4) [2C]												

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1248 [2C]	20	5.282516E-02	50	4.853076E-02	100	4.819472E-02	250	4.798177E-02	500	4.676512E-02	1000	4.424796E-02
Aroclor-1248 (1) [2C]	20	3.759668E-02	50	0.0346058	100	3.111703E-02	250	3.339886E-02	500	0.0322471	1000	2.994466E-02
Aroclor-1248 (2) [2C]	20	3.966831E-02	50	3.935286E-02	100	4.152605E-02	250	4.204469E-02	500	0.0409495	1000	3.856972E-02
Aroclor-1248 (3) [2C]	20	0.0719664	50	6.625807E-02	100	6.680169E-02	250	6.290895E-02	500	6.103775E-02	1000	5.666339E-02
Aroclor-1248 (4) [2C]	20	6.206924E-02	50	5.390634E-02	100	5.333413E-02	250	0.0535745	500	0.0528261	1000	5.181404E-02

Analytical Resources, Incorporated
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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

Compound	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1016 [2C]												
Aroclor-1016 (1) [2C]												
Aroclor-1016 (2) [2C]												
Aroclor-1016 (3) [2C]												
Aroclor-1016 (4) [2C]												
Aroclor 1254 [2C]	20	0.0907266	50	8.081978E-02	100	7.905142E-02	250	7.586303E-02	500	0.0737105	1000	6.961669E-02
Aroclor-1254 (1) [2C]	20	7.888876E-02	50	7.221584E-02	100	6.911081E-02	250	6.590108E-02	500	6.342195E-02	1000	5.885196E-02
Aroclor-1254 (2) [2C]	20	5.118135E-02	50	4.272583E-02	100	3.986894E-02	250	3.733085E-02	500	3.576026E-02	1000	3.280467E-02
Aroclor-1254 (3) [2C]	20	0.0594386	50	5.334983E-02	100	5.220844E-02	250	5.093623E-02	500	4.936532E-02	1000	0.0460384
Aroclor-1254 (4) [2C]	20	0.138452	50	0.1175468	100	0.1157566	250	0.1093424	500	0.1061771	1000	0.1026224
Aroclor-1254 (5) [2C]	20	0.1256723	50	0.1182606	100	0.1183123	250	0.1158046	500	0.1138278	1000	0.107766
Aroclor 1260 [2C]												
Aroclor-1260 (1) [2C]												
Aroclor-1260 (2) [2C]												
Aroclor-1260 (3) [2C]												
Aroclor-1260 (4) [2C]												

Analytical Resources, Incorporated
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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

Compound	Level 25		Level 26		Level 27		Level 28		Level 29		Level 30	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1221 [2C]	20	1.523312E-02	50	1.489474E-02	100	1.520767E-02	250	1.469468E-02	500	1.419007E-02	1000	1.319573E-02
Aroclor-1221 (1) [2C]	20	6.287788E-03	50	6.851669E-03	100	6.745944E-03	250	5.928753E-03	500	5.407635E-03	1000	4.806184E-03
Aroclor-1221 (2) [2C]	20	1.435306E-02	50	1.351786E-02	100	1.387821E-02	250	1.382451E-02	500	1.376205E-02	1000	1.314042E-02
Aroclor-1221 (3) [2C]	20	2.505851E-02	50	0.0243147	100	2.499884E-02	250	2.433078E-02	500	2.340053E-02	1000	2.164058E-02
Aroclor 1232 [2C]												
Aroclor-1232 (1) [2C]												
Aroclor-1232 (2) [2C]												
Aroclor-1232 (3) [2C]												
Aroclor-1232 (4) [2C]												
Aroclor 1242 [2C]												
Aroclor-1242 (1) [2C]												
Aroclor-1242 (2) [2C]												
Aroclor-1242 (3) [2C]												
Aroclor-1242 (4) [2C]												
Aroclor 1248 [2C]												
Aroclor-1248 (1) [2C]												
Aroclor-1248 (2) [2C]												
Aroclor-1248 (3) [2C]												
Aroclor-1248 (4) [2C]												
Aroclor 1254 [2C]												
Aroclor-1254 (1) [2C]												
Aroclor-1254 (2) [2C]												
Aroclor-1254 (3) [2C]												
Aroclor-1254 (4) [2C]												
Aroclor-1254 (5) [2C]												
Aroclor-1262 (1) [2C]	20	0.1111232	50	0.1009989	100	9.894425E-02	250	9.581775E-02	500	9.184825E-02	1000	8.824609E-02
Aroclor-1262 (2) [2C]	20	0.2214786	50	0.2019168	100	0.2009354	250	0.196183	500	0.1980742	1000	0.2198905
Aroclor-1262 (3) [2C]	20	9.754009E-02	50	9.095849E-02	100	9.106464E-02	250	9.129503E-02	500	9.065447E-02	1000	8.823139E-02

Analytical Resources, Incorporated
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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

Compound	Level 25		Level 26		Level 27		Level 28		Level 29		Level 30	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor-1262 (4) [2C]	20	8.699307E-02	50	8.138582E-02	100	8.705168E-02	250	8.696934E-02	500	8.658007E-02	1000	8.334053E-02
Aroclor-1268 (1) [2C]												
Aroclor-1268 (2) [2C]												
Aroclor-1268 (3) [2C]												
Aroclor-1268 (4) [2C]												

Analytical Resources, Incorporated
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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

Compound	Level 31		Level 32		Level 33		Level 34		Level 35		Level 36	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1232 [2C]	20	1.836796E-02	50	1.894627E-02	100	1.924847E-02	250	1.975315E-02	500	2.002037E-02	1000	0.019426
Aroclor-1232 (1) [2C]	20	4.045981E-03	50	3.755817E-03	100	3.942223E-03	250	3.521876E-03	500	3.234309E-03	1000	2.953095E-03
Aroclor-1232 (2) [2C]	20	2.084019E-02	50	2.101109E-02	100	2.121904E-02	250	2.149953E-02	500	2.090674E-02	1000	1.987726E-02
Aroclor-1232 (3) [2C]	20	4.103054E-02	50	4.175469E-02	100	4.038428E-02	250	4.152252E-02	500	4.364594E-02	1000	4.254588E-02
Aroclor-1232 (4) [2C]	20	7.555134E-03	50	9.263472E-03	100	1.144834E-02	250	1.246866E-02	500	1.229449E-02	1000	1.232776E-02
Aroclor-1268 (1) [2C]	20	0.2417854	50	0.2285366	100	0.2220159	250	0.2190865	500	0.237896	1000	0.2777864
Aroclor-1268 (2) [2C]	20	0.2636771	50	0.2482385	100	0.2463819	250	0.246669	500	0.2491593	1000	0.2964987
Aroclor-1268 (3) [2C]	20	0.2191666	50	0.2145831	100	0.2124203	250	0.2181113	500	0.2196614	1000	0.2621661
Aroclor-1268 (4) [2C]	20	0.0536096	50	5.183009E-02	100	5.229291E-02	250	0.0546515	500	5.573302E-02	1000	5.691635E-02

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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor 1016 [2C]	5.298399E-02	5.1			RSD (20)	
Aroclor 1016 [2C]	5.298399E-02	5.1			RSD (20)	
Aroclor-1016 (1) [2C]	4.561733E-02	8.0			RSD (20)	
Aroclor-1016 (1) [2C]	4.561733E-02	8.0			RSD (20)	
Aroclor-1016 (2) [2C]	0.1020378	4.3			RSD (20)	
Aroclor-1016 (2) [2C]	0.1020378	4.3			RSD (20)	
Aroclor-1016 (3) [2C]	4.004551E-02	6.7			RSD (20)	
Aroclor-1016 (3) [2C]	4.004551E-02	6.7			RSD (20)	
Aroclor-1016 (4) [2C]	2.423527E-02	6.8			RSD (20)	
Aroclor-1016 (4) [2C]	2.423527E-02	6.8			RSD (20)	
Aroclor 1221 [2C]	1.456933E-02	5.3			RSD (20)	
Aroclor 1221 [2C]	1.456933E-02	5.3			RSD (20)	
Aroclor-1221 (1) [2C]	6.004662E-03	13.2			RSD (20)	
Aroclor-1221 (1) [2C]	6.004662E-03	13.2			RSD (20)	
Aroclor-1221 (2) [2C]	1.374602E-02	2.9			RSD (20)	
Aroclor-1221 (2) [2C]	1.374602E-02	2.9			RSD (20)	
Aroclor-1221 (3) [2C]	2.395732E-02	5.4			RSD (20)	
Aroclor-1221 (3) [2C]	2.395732E-02	5.4			RSD (20)	
Aroclor 1232 [2C]	0.0192937	3.1			RSD (20)	
Aroclor 1232 [2C]	0.0192937	3.1			RSD (20)	
Aroclor-1232 (1) [2C]	3.57555E-03	11.8			RSD (20)	
Aroclor-1232 (1) [2C]	3.57555E-03	11.8			RSD (20)	
Aroclor-1232 (2) [2C]	2.089231E-02	2.6			RSD (20)	
Aroclor-1232 (2) [2C]	2.089231E-02	2.6			RSD (20)	
Aroclor-1232 (3) [2C]	4.181398E-02	2.8			RSD (20)	
Aroclor-1232 (3) [2C]	4.181398E-02	2.8			RSD (20)	
Aroclor-1232 (4) [2C]	1.089298E-02	18.6			RSD (20)	
Aroclor-1232 (4) [2C]	1.089298E-02	18.6			RSD (20)	
Aroclor 1242 [2C]	4.908976E-02	7.2			RSD (20)	
Aroclor 1242 [2C]	4.908976E-02	7.2			RSD (20)	
Aroclor-1242 (1) [2C]	3.678132E-02	7.0			RSD (20)	

Analytical Resources, Incorporated
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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor-1242 (1) [2C]	3.678132E-02	7.0			RSD (20)	
Aroclor-1242 (2) [2C]	7.989742E-02	4.0			RSD (20)	
Aroclor-1242 (2) [2C]	7.989742E-02	4.0			RSD (20)	
Aroclor-1242 (3) [2C]	0.0373257	12.8			RSD (20)	
Aroclor-1242 (3) [2C]	0.0373257	12.8			RSD (20)	
Aroclor-1242 (4) [2C]	0.0423546	12.6			RSD (20)	
Aroclor-1242 (4) [2C]	0.0423546	12.6			RSD (20)	
Aroclor 1248 [2C]	4.809091E-02	5.8			RSD (20)	
Aroclor 1248 [2C]	4.809091E-02	5.8			RSD (20)	
Aroclor-1248 (1) [2C]	3.315169E-02	8.2			RSD (20)	
Aroclor-1248 (1) [2C]	3.315169E-02	8.2			RSD (20)	
Aroclor-1248 (2) [2C]	4.035186E-02	3.4			RSD (20)	
Aroclor-1248 (2) [2C]	4.035186E-02	3.4			RSD (20)	
Aroclor-1248 (3) [2C]	6.427271E-02	8.2			RSD (20)	
Aroclor-1248 (3) [2C]	6.427271E-02	8.2			RSD (20)	
Aroclor-1248 (4) [2C]	5.458739E-02	6.8			RSD (20)	
Aroclor-1248 (4) [2C]	5.458739E-02	6.8			RSD (20)	
Aroclor 1254 [2C]	0.078298	9.3			RSD (20)	
Aroclor 1254 [2C]	0.078298	9.3			RSD (20)	
Aroclor-1254 (1) [2C]	6.806507E-02	10.3			RSD (20)	
Aroclor-1254 (1) [2C]	6.806507E-02	10.3			RSD (20)	
Aroclor-1254 (2) [2C]	3.994532E-02	16.2			RSD (20)	
Aroclor-1254 (2) [2C]	3.994532E-02	16.2			RSD (20)	
Aroclor-1254 (3) [2C]	5.188947E-02	8.7			RSD (20)	
Aroclor-1254 (3) [2C]	5.188947E-02	8.7			RSD (20)	
Aroclor-1254 (4) [2C]	0.1149829	11.1			RSD (20)	
Aroclor-1254 (4) [2C]	0.1149829	11.1			RSD (20)	
Aroclor-1254 (5) [2C]	0.1166073	5.1			RSD (20)	
Aroclor-1254 (5) [2C]	0.1166073	5.1			RSD (20)	
Aroclor 1260 [2C]	0.1108773	4.8			RSD (20)	
Aroclor 1260 [2C]	0.1108773	4.8			RSD (20)	

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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor-1260 (1) [2C]	6.650318E-02	7.7			RSD (20)	
Aroclor-1260 (1) [2C]	6.650318E-02	7.7			RSD (20)	
Aroclor-1260 (2) [2C]	0.1932922	4.1			RSD (20)	
Aroclor-1260 (2) [2C]	0.1932922	4.1			RSD (20)	
Aroclor-1260 (3) [2C]	0.1242917	6.5			RSD (20)	
Aroclor-1260 (3) [2C]	0.1242917	6.5			RSD (20)	
Aroclor-1260 (4) [2C]	5.942222E-02	4.8			RSD (20)	
Aroclor-1260 (4) [2C]	5.942222E-02	4.8			RSD (20)	
Aroclor-1262 (1) [2C]	9.782974E-02	8.2			RSD (20)	
Aroclor-1262 (1) [2C]	9.782974E-02	8.2			RSD (20)	
Aroclor-1262 (2) [2C]	0.2064131	5.5			RSD (20)	
Aroclor-1262 (2) [2C]	0.2064131	5.5			RSD (20)	
Aroclor-1262 (3) [2C]	9.162402E-02	3.4			RSD (20)	
Aroclor-1262 (3) [2C]	9.162402E-02	3.4			RSD (20)	
Aroclor-1262 (4) [2C]	8.538675E-02	2.8			RSD (20)	
Aroclor-1262 (4) [2C]	8.538675E-02	2.8			RSD (20)	
Aroclor-1268 (1) [2C]	0.2378511	9.0			RSD (20)	
Aroclor-1268 (1) [2C]	0.2378511	9.0			RSD (20)	
Aroclor-1268 (2) [2C]	0.2584374	7.6			RSD (20)	
Aroclor-1268 (2) [2C]	0.2584374	7.6			RSD (20)	
Aroclor-1268 (3) [2C]	0.2243515	8.4			RSD (20)	
Aroclor-1268 (3) [2C]	0.2243515	8.4			RSD (20)	
Aroclor-1268 (4) [2C]	5.417224E-02	3.6			RSD (20)	
Aroclor-1268 (4) [2C]	5.417224E-02	3.6			RSD (20)	
Decachlorobiphenyl [2C]	1.777595	3.1			RSD (20)	
Tetrachlorometaxylene [2C]	1.028052	1.4			RSD (20)	

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ANALYSIS SEQUENCE

SJH0176

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0176-CAL1	0.02PPM AR1660	QC		1	J008420	J008446	
SJH0176-CAL2	0.05PPM AR1660	QC		2	J008419	J008446	
SJH0176-CAL3	0.1PPM AR1660	QC		3	J008418	J008446	
SJH0176-CAL4	0.25PPM AR1660	QC		4	J008417	J008446	
SJH0176-CAL5	0.5PPM AR1660	QC		5	J008416	J008446	
SJH0176-CAL6	1PPM AR1660	QC		6	J008134	J008446	
SJH0176-CAL7	0.02PPM AR1242	QC		7	J008425	J008446	
SJH0176-CAL8	0.05PPM AR1242	QC		8	J008424	J008446	
SJH0176-CAL9	0.1PPM AR1242	QC		9	J008423	J008446	
SJH0176-CALA	0.25PPM AR1242	QC		10	J008422	J008446	
SJH0176-CALB	0.5PPM AR1242	QC		11	J008421	J008446	
SJH0176-CALC	1PPM AR1242	QC		12	J008397	J008446	
SJH0176-CALD	0.02PPM AR1248	QC		13	J008430	J008446	
SJH0176-CALE	0.05PPM AR1248	QC		14	J008429	J008446	
SJH0176-CALF	0.1PPM AR1248	QC		15	J008428	J008446	
SJH0176-CALG	0.25PPM AR1248	QC		16	J008427	J008446	
SJH0176-CALH	0.5PPM AR1248	QC		17	J008426	J008446	
SJH0176-CALI	1PPM AR1248	QC		18	J008398	J008446	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

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ANALYSIS SEQUENCE

SJH0177

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0177-CAL1	0.02PPM AR1254	QC		1	J008435	J008446	
SJH0177-CAL2	0.05PPM AR1254	QC		2	J008434	J008446	
SJH0177-CAL3	0.1PPM AR1254	QC		3	J008433	J008446	
SJH0177-CAL4	0.25PPM AR1254	QC		4	J008432	J008446	
SJH0177-CAL5	0.5PPM AR1254	QC		5	J008431	J008446	
SJH0177-CAL6	1PPM AR1254	QC		6	J008399	J008446	
SJH0177-CAL7	0.02PPM AR2162	QC		7	J008440	J008446	
SJH0177-CAL8	0.05PPM AR2162	QC		8	J008439	J008446	
SJH0177-CAL9	0.1PPM AR2162	QC		9	J008438	J008446	
SJH0177-CALA	0.25PPM AR2162	QC		10	J008437	J008446	
SJH0177-CALB	0.5PPM AR2162	QC		11	J008436	J008446	
SJH0177-CALC	1PPM AR2162	QC		12	J008400	J008446	
SJH0177-CALD	0.02PPM AR3268	QC		13	J008445	J008446	
SJH0177-CALE	0.05PPM AR3268	QC		14	J008444	J008446	
SJH0177-CALF	0.1PPM AR3268	QC		15	J008443	J008446	
SJH0177-CALG	0.25PPM AR3268	QC		16	J008442	J008446	
SJH0177-CALH	0.5PPM AR3268	QC		17	J008441	J008446	
SJH0177-CALI	1PPM AR3268	QC		18	J008401	J008446	
SJH0177-SCV1	AR1660SCV1	QC		19	J008139	J008446	
SJH0177-SCV2	AR1242SCV2	QC		20	J008140	J008446	
SJH0177-SCV3	AR1248SCV3	QC		21	J008141	J008446	
SJH0177-SCV4	AR1254SCV4	QC		22	J008142	J008446	

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ANALYSIS SEQUENCE

SJH0177

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0177-SCV5	AR2162SCV5	QC		23	J008143	J008446	
SJH0177-SCV6	AR3268SCV6	QC		24	J008144	J008446	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	13-AUG-2021 18:41	08132101.D	1	RINSE	
2	13-AUG-2021 19:02	08132102.D	1	RINSE	
3	13-AUG-2021 19:22	08132103.D	1	RINSE	
4	13-AUG-2021 19:43	08132104.D	1	SEQ-IBL1	
5	13-AUG-2021 20:03	08132105.D	1	SEQ-CAL1	
6	13-AUG-2021 20:24	08132106.D	1	SEQ-CAL2	
7	13-AUG-2021 20:44	08132107.D	1	SEQ-CAL3	
8	13-AUG-2021 21:05	08132108.D	1	SEQ-CAL4	
9	13-AUG-2021 21:25	08132109.D	1	SEQ-CAL5	
10	13-AUG-2021 21:46	08132110.D	1	SEQ-CAL6	
11	13-AUG-2021 22:06	08132111.D	1	SEQ-CAL7	
12	13-AUG-2021 22:27	08132112.D	1	SEQ-CAL8	
13	13-AUG-2021 22:47	08132113.D	1	SEQ-CAL9	
14	13-AUG-2021 23:08	08132114.D	1	SEQ-CALA	
15	13-AUG-2021 23:28	08132115.D	1	SEQ-CALB	
16	13-AUG-2021 23:49	08132116.D	1	SEQ-CALC	
17	14-AUG-2021 00:09	08132117.D	1	SEQ-CALD	
18	14-AUG-2021 00:30	08132118.D	1	SEQ-CALE	
19	14-AUG-2021 00:50	08132119.D	1	SEQ-CALF	
20	14-AUG-2021 01:11	08132120.D	1	SEQ-CALG	
21	14-AUG-2021 01:31	08132121.D	1	SEQ-CALH	
22	14-AUG-2021 01:52	08132122.D	1	SEQ-CALI	
23	14-AUG-2021 02:12	08132123.D	1	SEQ-CALJ	
24	14-AUG-2021 02:33	08132124.D	1	SEQ-CALK	
25	14-AUG-2021 02:53	08132125.D	1	SEQ-CALL	
26	14-AUG-2021 03:13	08132126.D	1	SEQ-CALM	
27	14-AUG-2021 03:34	08132127.D	1	SEQ-CALN	
28	14-AUG-2021 03:54	08132128.D	1	SEQ-CALO	
29	14-AUG-2021 04:15	08132129.D	1	SEQ-CALP	
30	14-AUG-2021 04:35	08132130.D	1	SEQ-CALQ	
31	14-AUG-2021 04:56	08132131.D	1	SEQ-CALR	
32	14-AUG-2021 05:16	08132132.D	1	SEQ-CALS	
33	14-AUG-2021 05:37	08132133.D	1	SEQ-CALT	
34	14-AUG-2021 05:57	08132134.D	1	SEQ-CALU	
35	14-AUG-2021 06:18	08132135.D	1	SEQ-CALV	
36	14-AUG-2021 06:38	08132136.D	1	SEQ-CALW	
37	14-AUG-2021 06:59	08132137.D	1	SEQ-CALX	
38	14-AUG-2021 07:19	08132138.D	1	SEQ-CALY	
39	14-AUG-2021 07:40	08132139.D	1	SEQ-CALZ	
40	14-AUG-2021 08:00	08132140.D	1	SEQ-CALAA	
41	14-AUG-2021 08:21	08132141.D	1	SEQ-SCV1	
42	14-AUG-2021 08:41	08132142.D	1	SEQ-SCV2	
43	14-AUG-2021 09:02	08132143.D	1	SEQ-SCV3	
44	14-AUG-2021 09:22	08132144.D	1	SEQ-SCV4	
45	14-AUG-2021 09:43	08132145.D	1	SEQ-SCV5	
46	14-AUG-2021 10:03	08132146.D	1	SEQ-SCV6	
47	14-AUG-2021 10:24	08132147.D	1	0.1PPMDDTS	
48	14-AUG-2021 10:44	08132148.D	1	DS	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

ARI Job No.: RINS Method: PCB.m Instrument: ecd7.i Date: 13-AUG-2021

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1841	08132101.D	RINSE		1	NO MANUAL INTEGRATION
1902	08132102.D	RINSE		1	NO MANUAL INTEGRATION
1922	08132103.D	RINSE		1	NO MANUAL INTEGRATION
1943	08132104.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
2003	08132105.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
2024	08132106.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
2044	08132107.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
2105	08132108.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
2125	08132109.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
2146	08132110.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
2206	08132111.D	SEQ-CAL7		1	Aroclor-1242,
2227	08132112.D	SEQ-CAL8		1	Aroclor-1242,
2247	08132113.D	SEQ-CAL9		1	Aroclor-1242,
2308	08132114.D	SEQ-CALA		1	Aroclor-1242,
2328	08132115.D	SEQ-CALB		1	Aroclor-1242,
2349	08132116.D	SEQ-CALC		1	NO MANUAL INTEGRATION
0009	08132117.D	SEQ-CALD		1	Aroclor-1248,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0030	08132118.D	SEQ-CALE		1	Aroclor-1248,
0050	08132119.D	SEQ-CALF		1	Aroclor-1248,
0111	08132120.D	SEQ-CALG		1	NO MANUAL INTEGRATION
0131	08132121.D	SEQ-CALH		1	NO MANUAL INTEGRATION
0152	08132122.D	SEQ-CALI		1	NO MANUAL INTEGRATION
0212	08132123.D	SEQ-CALJ		1	NO MANUAL INTEGRATION
0233	08132124.D	SEQ-CALK		1	NO MANUAL INTEGRATION
0253	08132125.D	SEQ-CALL		1	NO MANUAL INTEGRATION
0313	08132126.D	SEQ-CALM		1	NO MANUAL INTEGRATION
0334	08132127.D	SEQ-CALN		1	NO MANUAL INTEGRATION
0354	08132128.D	SEQ-CALO		1	NO MANUAL INTEGRATION
0415	08132129.D	SEQ-CALP		1	NO MANUAL INTEGRATION
0435	08132130.D	SEQ-CALQ		1	NO MANUAL INTEGRATION
0456	08132131.D	SEQ-CALR		1	NO MANUAL INTEGRATION
0516	08132132.D	SEQ-CALS		1	NO MANUAL INTEGRATION
0537	08132133.D	SEQ-CALT		1	NO MANUAL INTEGRATION
0557	08132134.D	SEQ-CALU		1	NO MANUAL INTEGRATION
0618	08132135.D	SEQ-CALV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0638	08132136.D	SEQ-CALW		1	NO MANUAL INTEGRATION
0659	08132137.D	SEQ-CALX		1	NO MANUAL INTEGRATION
0719	08132138.D	SEQ-CALY		1	NO MANUAL INTEGRATION
0740	08132139.D	SEQ-CALZ		1	NO MANUAL INTEGRATION
0800	08132140.D	SEQ-CALAA		1	NO MANUAL INTEGRATION
0821	08132141.D	SEQ-SCV1		1	NO MANUAL INTEGRATION
0841	08132142.D	SEQ-SCV2		1	NO MANUAL INTEGRATION
0902	08132143.D	SEQ-SCV3		1	NO MANUAL INTEGRATION
0922	08132144.D	SEQ-SCV4		1	NO MANUAL INTEGRATION
0943	08132145.D	SEQ-SCV5		1	NO MANUAL INTEGRATION
1003	08132146.D	SEQ-SCV6		1	NO MANUAL INTEGRATION
1024	08132147.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
1044	08132148.D	DS		1	NO MANUAL INTEGRATION
1841	08132101.D	RINSE		1	NO MANUAL INTEGRATION
1902	08132102.D	RINSE		1	NO MANUAL INTEGRATION
1922	08132103.D	RINSE		1	NO MANUAL INTEGRATION
1943	08132104.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
2003	08132105.D	SEQ-CAL1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2024	08132106.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
2044	08132107.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
2105	08132108.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
2125	08132109.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
2146	08132110.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
2206	08132111.D	SEQ-CAL7		1	Aroclor-1242 [2C],
2227	08132112.D	SEQ-CAL8		1	Aroclor-1242 [2C],
2247	08132113.D	SEQ-CAL9		1	Aroclor-1242 [2C],
2308	08132114.D	SEQ-CALA		1	NO MANUAL INTEGRATION
2328	08132115.D	SEQ-CALB		1	NO MANUAL INTEGRATION
2349	08132116.D	SEQ-CALC		1	NO MANUAL INTEGRATION
0009	08132117.D	SEQ-CALD		1	Aroclor-1248 [2C],
0030	08132118.D	SEQ-CALE		1	Aroclor-1248 [2C],
0050	08132119.D	SEQ-CALF		1	NO MANUAL INTEGRATION
0111	08132120.D	SEQ-CALG		1	NO MANUAL INTEGRATION
0131	08132121.D	SEQ-CALH		1	NO MANUAL INTEGRATION
0152	08132122.D	SEQ-CALI		1	Aroclor-1248 [2C],
0212	08132123.D	SEQ-CALJ		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0233	08132124.D	SEQ-CALK		1	NO MANUAL INTEGRATION
0253	08132125.D	SEQ-CALL		1	NO MANUAL INTEGRATION
0313	08132126.D	SEQ-CALM		1	NO MANUAL INTEGRATION
0334	08132127.D	SEQ-CALN		1	NO MANUAL INTEGRATION
0354	08132128.D	SEQ-CALO		1	NO MANUAL INTEGRATION
0415	08132129.D	SEQ-CALP		1	NO MANUAL INTEGRATION
0435	08132130.D	SEQ-CALQ		1	NO MANUAL INTEGRATION
0456	08132131.D	SEQ-CALR		1	NO MANUAL INTEGRATION
0516	08132132.D	SEQ-CALS		1	NO MANUAL INTEGRATION
0537	08132133.D	SEQ-CALT		1	NO MANUAL INTEGRATION
0557	08132134.D	SEQ-CALU		1	NO MANUAL INTEGRATION
0618	08132135.D	SEQ-CALV		1	NO MANUAL INTEGRATION
0638	08132136.D	SEQ-CALW		1	NO MANUAL INTEGRATION
0659	08132137.D	SEQ-CALX		1	NO MANUAL INTEGRATION
0719	08132138.D	SEQ-CALY		1	NO MANUAL INTEGRATION
0740	08132139.D	SEQ-CALZ		1	NO MANUAL INTEGRATION
0800	08132140.D	SEQ-CALAA		1	NO MANUAL INTEGRATION
0821	08132141.D	SEQ-SCV1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0841	08132142.D	SEQ-SCV2		1	Aroclor-1242 [2C], Aroclor-1248 [2C],
0902	08132143.D	SEQ-SCV3		1	NO MANUAL INTEGRATION
0922	08132144.D	SEQ-SCV4		1	NO MANUAL INTEGRATION
0943	08132145.D	SEQ-SCV5		1	NO MANUAL INTEGRATION
1003	08132146.D	SEQ-SCV6		1	NO MANUAL INTEGRATION
1024	08132147.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
1044	08132148.D	DS		1	NO MANUAL INTEGRATION

Security Status Report

Date: 16-Aug-2021 17:20

08132101ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132102ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132103ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132104ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132105ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132106ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132107ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132108ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132109ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132110ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132111ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132112ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132130ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132131ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132132ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132133ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132142ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132143ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132144ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44

08132145ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132146ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132147ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132148ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44

Security Status Report

Date: 16-Aug-2021 17:20

08132101ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132102ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132103ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132104ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132105ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132106ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132110ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132111ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132112ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132119ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132138ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132139ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132140ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132141ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132142ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132143ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132144ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44

08132145ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132146ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132147ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132148ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m\PCB2.m
Last Edit : 14-Aug-2021 13:38 ecd7.i
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132105.D
Level 2: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132106.D
Level 3: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132107.D
Level 4: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132108.D
Level 5: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132109.D
Level 6: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132110.D
Level 8: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132147.D
Level 9: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132136.D
Level 10: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132137.D
Level 11: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132138.D
Level 12: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132139.D
Level 13: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132140.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
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
1 Aroclor-1221 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00629	0.00685	0.00675	0.00593	0.00541	0.00481	0.00600	13.209
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01435	0.01352	0.01388	0.01382	0.01376	0.01314	0.01375	2.930
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02506	0.02431	0.02500	0.02433	0.02340	0.02164	0.02396	5.359
4 Aroclor-1232 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00405	0.00376	0.00394	0.00352	0.00323	0.00295	0.00358	11.833
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02084	0.02101	0.02122	0.02150	0.02091	0.01988	0.02089	2.642
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04103	0.04175	0.04038	0.04152	0.04365	0.04255	0.04181	2.756
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00756	0.00926	0.01145	0.01247	0.01229	0.01233	0.01089	18.639

ARI Labs, Inc.

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Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m\PCB2.m
Last Edit : 14-Aug-2021 13:38 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
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
3 Aroclor-1242 [2C](1)	#####	#####	#####	#####	#####	#####		
	0.03973	0.03735	0.03808	0.03758	0.03572	0.03224	0.03678	7.001
(2)	#####	#####	#####	#####	#####	#####		
	0.08232	0.07658	0.07866	0.08407	0.08151	0.07625	0.07990	4.026
(3)	#####	#####	#####	#####	#####	#####		
	0.04585	0.03890	0.03675	0.03609	0.03426	0.03211	0.03733	12.772
(4)	#####	#####	#####	#####	#####	#####		
	0.05127	0.04062	0.04474	0.04223	0.03995	0.03533	0.04235	12.641
6 Aroclor-1248 [2C](1)	#####	#####	#####	#####	#####	#####		
	0.03760	0.03461	0.03112	0.03340	0.03225	0.02994	0.03315	8.225
(2)	#####	#####	#####	#####	#####	#####		
	0.03967	0.03935	0.04153	0.04204	0.04095	0.03857	0.04035	3.369
(3)	#####	#####	#####	#####	#####	#####		
	0.07197	0.06626	0.06680	0.06291	0.06104	0.05666	0.06427	8.226
(4)	#####	#####	#####	#####	#####	#####		
	0.06207	0.05391	0.05333	0.05357	0.05283	0.05181	0.05459	6.846
7 Aroclor-1016 [2C](1)	0.04882	0.04733	0.04794	0.04698	0.04354	0.03910		
	#####	#####	#####	#####	#####	#####	0.04562	8.042
(2)	0.10010	0.09891	0.10731	0.10724	0.10191	0.09675		
	#####	#####	#####	#####	#####	#####	0.10204	4.300
(3)	0.03847	0.03676	0.04334	0.04291	0.04064	0.03815		
	#####	#####	#####	#####	#####	#####	0.04005	6.732

ARI Labs, Inc.

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Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m\PCB2.m
Last Edit : 14-Aug-2021 13:38 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
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
(4)	0.02418	0.02283	0.02663	0.02560	0.02388	0.02229		
	#####	#####	#####	#####	#####	#####	0.02424	6.781
8 Aroclor-1254 [2C](1)	#####	#####	#####	#####	#####	#####		
	0.07889	0.07222	0.06911	0.06590	0.06342	0.05885	0.06807	10.318
(2)	#####	#####	#####	#####	#####	#####		
	0.05118	0.04273	0.03987	0.03733	0.03576	0.03280	0.03995	16.198
(3)	#####	#####	#####	#####	#####	#####		
	0.05944	0.05335	0.05221	0.05094	0.04937	0.04604	0.05189	8.650
(4)	#####	#####	#####	#####	#####	#####		
	0.13845	0.11755	0.11576	0.10934	0.10618	0.10262	0.11498	11.138
(5)	#####	#####	#####	#####	#####	#####		
	0.12567	0.11826	0.11831	0.11580	0.11383	0.10777	0.11661	5.064
10 Aroclor-1262 [2C](1)	#####	#####	#####	#####	#####	#####		
	0.11112	0.10100	0.09894	0.09582	0.09185	0.08825	0.09783	8.173
(2)	#####	#####	#####	#####	#####	#####		
	0.22148	0.20192	0.20094	0.19618	0.19807	0.21989	0.20641	5.451
(3)	#####	#####	#####	#####	#####	#####		
	0.09754	0.09096	0.09106	0.09130	0.09065	0.08823	0.09162	3.393
(4)	#####	#####	#####	#####	#####	#####		
	0.08699	0.08139	0.08705	0.08697	0.08658	0.08334	0.08539	2.844
9 Aroclor-1260 [2C](1)	0.07145	0.07006	0.06873	0.06790	0.06298	0.05790		
	#####	#####	#####	#####	#####	#####	0.06650	7.681

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m\PCB2.m
Last Edit : 14-Aug-2021 13:38 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
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
(2)	0.20358	0.19730	0.19591	0.19469	0.18108	0.18719		
	#####	#####	#####	#####	#####	#####	0.19329	4.119
(3)	0.13552	0.12750	0.12631	0.12533	0.11966	0.11143		
	#####	#####	#####	#####	#####	#####	0.12429	6.521
(4)	0.05852	0.05681	0.06302	0.06242	0.05963	0.05613		
	#####	#####	#####	#####	#####	#####	0.05942	4.789
11 Aroclor-1268 [2C](1)	#####	#####	#####	#####	#####	#####		
	0.24179	0.22854	0.22202	0.21909	0.23790	#####	0.22986	4.274
(2)	#####	#####	#####	#####	#####	#####		
	0.26368	0.24824	0.24638	0.24667	0.24916	#####	0.25083	2.900
(3)	#####	#####	#####	#####	#####	#####		
	0.21917	0.21458	0.21242	0.21811	0.21966	#####	0.21679	1.451
(4)	#####	#####	#####	#####	#####	#####		
	0.05361	0.05183	0.05229	0.05465	0.05573	#####	0.05362	3.021
41 2,4-DDE [2C]	#####	#####	#####	#####	#####	#####		
	2479	#####	#####	#####	#####	#####	2479	0.000
42 2,4-DDD [2C]	#####	#####	#####	#####	#####	#####		
	1258	#####	#####	#####	#####	#####	1258	0.000
44 4,4-DDE [2C]	#####	#####	#####	#####	#####	#####		
	1581	#####	#####	#####	#####	#####	1581	0.000
45 4,4-DDD/2,4-DDT [2C]	#####	#####	#####	#####	#####	#####		
	1766	#####	#####	#####	#####	#####	1766	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

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Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m\PCB2.m
Last Edit : 14-Aug-2021 13:38 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
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
46 4,4-DDT [2C]	#####	#####	#####	#####	#####	#####		
	721	#####	#####	#####	#####	#####	721	0.000
48 Hexachlorobutadiene	#####	#####	#####	#####	#####	#####		
	#####	#####	#####	#####	#####	#####	#####	#####
49 Hexachlorobenzene	#####	#####	#####	#####	#####	#####		
	#####	#####	#####	#####	#####	#####	#####	#####
$ 2 Tetrachloro-m-xylene [2C]	1.03468	1.01403	1.03858	1.04776	1.01141	1.02186		
	#####	#####	#####	#####	#####	#####	1.02805	1.413
$ 13 Decachlorobiphenyl [2C]	1.71739	1.72015	1.80269	1.83464	1.81311	#####		
	#####	#####	#####	#####	#####	#####	1.77760	3.090

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m
Last Edit : 14-Aug-2021 15:07 ecd7.i
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd7.i\210813.b\08132105.D
Level 2: \\target\share\chem4\ecd7.i\210813.b\08132106.D
Level 3: \\target\share\chem4\ecd7.i\210813.b\08132107.D
Level 4: \\target\share\chem4\ecd7.i\210813.b\08132108.D
Level 5: \\target\share\chem4\ecd7.i\210813.b\08132109.D
Level 6: \\target\share\chem4\ecd7.i\210813.b\08132110.D
Level 8: \\target\share\chem4\ecd7.i\210813.b\08132147.D
Level 9: \\target\share\chem4\ecd7.i\210813.b\08132136.D
Level 10: \\target\share\chem4\ecd7.i\210813.b\08132137.D
Level 11: \\target\share\chem4\ecd7.i\210813.b\08132138.D
Level 12: \\target\share\chem4\ecd7.i\210813.b\08132139.D
Level 13: \\target\share\chem4\ecd7.i\210813.b\08132140.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
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
2 Aroclor-1221(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00610	0.00662	0.00692	0.00670	0.00603	0.00554	0.00632	8.149
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00860	0.00838	0.00946	0.01119	0.01107	0.01071	0.00990	12.674
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02562	0.02587	0.02636	0.02881	0.02779	0.02607	0.02675	4.734
3 Aroclor-1242(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01895	0.02153	0.02336	0.02360	0.02299	0.02182	0.02204	7.849
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.05664	0.05707	0.06611	0.07095	0.07201	0.07147	0.06571	10.923
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04584	0.03531	0.03720	0.03521	0.03565	0.03413	0.03722	11.648
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01766	0.01614	0.01630	0.01532	0.01376	0.01209	0.01521	13.110

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m
Last Edit : 14-Aug-2021 15:07 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
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
4 Aroclor-1232(1)	#####	#####	#####	#####	#####	#####		
	0.00466	0.00425	0.00372	0.00370	0.00363	0.00333	0.00388	12.445
(2)	#####	#####	#####	#####	#####	#####		
	0.01976	0.01982	0.02119	0.02246	0.02214	0.02118	0.02109	5.349
(3)	#####	#####	#####	#####	#####	#####		
	0.02267	0.02831	0.03250	0.03502	0.03682	0.03781	0.03219	17.939
(4)	#####	#####	#####	#####	#####	#####		
	0.00901	0.01125	0.01399	0.01466	0.01537	0.01516	0.01324	19.289
7 Aroclor-1016(1)	0.02649	0.02912	0.02940	0.02964	0.02850	0.02709		
	#####	#####	#####	#####	#####	#####	0.02837	4.572
(2)	0.07428	0.08423	0.08746	0.09203	0.09182	0.09075		
	#####	#####	#####	#####	#####	#####	0.08676	7.851
(3)	0.03555	0.04093	0.04059	0.04075	0.03888	0.03692		
	#####	#####	#####	#####	#####	#####	0.03894	5.798
(4)	0.01991	0.02422	0.02511	0.02593	0.02582	0.02547		
	#####	#####	#####	#####	#####	#####	0.02441	9.375
6 Aroclor-1248(1)	#####	#####	#####	#####	#####	#####		
	0.03027	0.03457	0.03263	0.03464	0.03494	0.03410	0.03353	5.345
(2)	#####	#####	#####	#####	#####	#####		
	0.03873	0.04418	0.04305	0.04595	0.04599	0.04467	0.04376	6.183
(3)	#####	#####	#####	#####	#####	#####		
	0.06153	0.06329	0.06557	0.06632	0.06567	0.06210	0.06408	3.183

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m
Last Edit : 14-Aug-2021 15:07 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
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04055	0.04143	0.03788	0.03603	0.03352	0.03006	0.03658	11.799
8 Aroclor-1254(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.07164	0.06947	0.06903	0.07004	0.06892	0.06502	0.06902	3.182
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03299	0.03465	0.03312	0.03312	0.03112	0.02670	0.03195	8.779
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04923	0.04279	0.04318	0.04501	0.04521	0.04450	0.04499	5.104
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.07660	0.08623	0.08820	0.09027	0.08929	0.08506	0.08594	5.774
(5)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04626	0.05174	0.05350	0.05694	0.05786	0.05754	0.05397	8.342
9 Aroclor-1260(1)	0.03649	0.03600	0.03588	0.03720	0.03606	0.03432		
	+++++	+++++	+++++	+++++	+++++	+++++	0.03599	2.646
(2)	0.03493	0.03435	0.03497	0.03686	0.03620	0.03463		
	+++++	+++++	+++++	+++++	+++++	+++++	0.03533	2.785
(3)	0.09844	0.09113	0.09296	0.09789	0.10200	0.09044		
	+++++	+++++	+++++	+++++	+++++	+++++	0.09547	4.862
(4)	0.03984	0.04042	0.04182	0.04477	0.04503	0.04333		
	+++++	+++++	+++++	+++++	+++++	+++++	0.04254	5.160
(5)	0.02079	0.02106	0.02133	0.02210	0.02175	0.02075		
	+++++	+++++	+++++	+++++	+++++	+++++	0.02130	2.541

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m
Last Edit : 14-Aug-2021 15:07 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
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
10 Aroclor-1262(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.05134	0.04713	0.04785	0.04922	0.04998	0.04739	0.04882	3.393
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03097	0.02863	0.03076	0.03227	0.03369	0.03336	0.03161	5.969
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04656	0.04368	0.04524	0.04611	0.04682	0.04504	0.04557	2.553
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03832	0.03599	0.03700	0.03807	0.03947	0.03564	0.03741	3.935
11 Aroclor-1268(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.10988	0.10672	0.10649	0.10735	0.10848	0.10507	0.10733	1.559
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.11682	0.11257	0.11230	0.11238	0.11318	0.10827	0.11259	2.418
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.09347	0.08830	0.08761	0.08780	0.08876	0.08540	0.08856	3.015
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.30216	0.28855	0.28544	0.27866	0.27892	0.28011	0.28564	3.154
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++		
	1168	+++++	+++++	+++++	+++++	+++++	1168	0.000
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++		
	1454	+++++	+++++	+++++	+++++	+++++	1454	0.000
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m
Last Edit : 14-Aug-2021 15:07 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
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++		
	1936	+++++	+++++	+++++	+++++	+++++	1936	0.000
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++		
	2956	+++++	+++++	+++++	+++++	+++++	2956	0.000
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	709	+++++	+++++	+++++	+++++	+++++	709	0.000
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 1 Tetrachloro-m-xylene	0.93937	0.91421	0.97581	1.01321	0.99259	0.96662		
	+++++	+++++	+++++	+++++	+++++	+++++	0.96697	3.705
$ 13 Decachlorobiphenyl	0.74318	0.73021	0.74556	0.75250	0.71633	0.66941		
	+++++	+++++	+++++	+++++	+++++	+++++	0.72620	4.219

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	08132105	08132106	08132107	08132108	08132109	08132110
INJ.DATE:	13-AUG-2021	13-AUG-2021	13-AUG-2021	13-AUG-2021	13-AUG-2021	13-AUG-2021
INJ.TIME:	20:03	20:24	20:44	21:05	21:25	21:46

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	2.853	2.852	2.854	2.853	2.852	2.851	2.853	2.753-2.953	2.852	0.001
$ 1 Tetrachloro-m-xylene	5.068	5.068	5.068	5.067	5.068	5.069	5.068	4.968-5.168	5.068	0.001
2 Aroclor-1221	#####	#####	#####	#####	#####	#####	4.015	3.915-4.115	#####	#####
3 Aroclor-1242	#####	#####	#####	#####	#####	#####	6.660	6.560-6.760	#####	#####
4 Aroclor-1232	#####	#####	#####	#####	#####	#####	4.018	3.918-4.118	#####	#####
7 Aroclor-1016	6.660	6.659	6.660	6.659	6.659	6.658	6.660	6.560-6.760	6.659	0.001
6 Aroclor-1248	#####	#####	#####	#####	#####	#####	7.799	7.699-7.899	#####	#####
8 Aroclor-1254	#####	#####	#####	#####	#####	#####	8.675	8.575-8.775	#####	#####
9 Aroclor-1260	10.387	10.385	10.385	10.384	10.384	10.383	10.387	10.287-10.487	10.385	0.001
10 Aroclor-1262	#####	#####	#####	#####	#####	#####	10.384	10.284-10.484	#####	#####
11 Aroclor-1268	#####	#####	#####	#####	#####	#####	11.557	11.457-11.657	#####	#####
$ 13 Decachlorobiphenyl	13.163	13.164	13.164	13.164	13.165	13.165	13.163	13.063-13.263	13.164	0.001
* 12 IS-HBBP	13.517	13.519	13.518	13.519	13.519	13.518	13.517	13.417-13.617	13.518	0.001
42 2,4-DDE	#####	#####	#####	#####	#####	#####	8.655	8.605-8.705	#####	#####
43 2,4-DDD	#####	#####	#####	#####	#####	#####	9.186	9.136-9.236	#####	#####
44 2,4-DDT	#####	#####	#####	#####	#####	#####	9.668	9.618-9.718	#####	#####
46 4,4-DDE	#####	#####	#####	#####	#####	#####	9.066	8.966-9.166	#####	#####

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

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.630	9.530-9.730	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.114	10.014-10.214	+++++	+++++
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\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	08132111	08132112	08132113	08132114	08132115	08132116
INJ.DATE:	13-AUG-2021	13-AUG-2021	13-AUG-2021	13-AUG-2021	13-AUG-2021	13-AUG-2021
INJ.TIME:	22:06	22:27	22:47	23:08	23:28	23:49

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	2.852	2.854	2.853	2.855	2.854	2.853	2.852	2.752-2.952	2.853	0.001
$ 1 Tetrachloro-m-xylene	5.069	5.068	5.068	5.069	5.070	5.069	5.069	4.969-5.169	5.069	0.001
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	4.015	3.915-4.115	+++++	+++++
3 Aroclor-1242	6.661	6.662	6.661	6.660	6.660	6.659	6.661	6.561-6.761	6.660	0.001
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	4.018	3.918-4.118	+++++	+++++
7 Aroclor-1016	+++++	+++++	+++++	+++++	+++++	+++++	6.658	6.558-6.758	+++++	+++++
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	7.799	7.699-7.899	+++++	+++++
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	8.675	8.575-8.775	+++++	+++++
9 Aroclor-1260	+++++	+++++	+++++	+++++	+++++	+++++	10.383	10.283-10.483	+++++	+++++
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	10.384	10.284-10.484	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	11.557	11.457-11.657	+++++	+++++
$ 13 Decachlorobiphenyl	13.165	13.165	13.165	13.165	13.165	13.166	13.165	13.065-13.265	13.165	0.000
* 12 IS-HBBP	13.520	13.519	13.520	13.521	13.520	13.520	13.520	13.420-13.620	13.520	0.000
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	8.655	8.605-8.705	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.186	9.136-9.236	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	9.668	9.618-9.718	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.066	8.966-9.166	+++++	+++++

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

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.630	9.530-9.730	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.114	10.014-10.214	+++++	+++++
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\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	08132117	08132118	08132119	08132120	08132121	08132122
INJ.DATE:	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021
INJ.TIME:	00:09	00:30	00:50	01:11	01:31	01:52

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	2.853	2.854	2.852	2.853	2.853	2.854	2.853	2.753-2.953	2.853	0.001
$ 1 Tetrachloro-m-xylene	5.068	5.069	5.068	5.068	5.069	5.070	5.068	4.968-5.168	5.069	0.001
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	4.015	3.915-4.115	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	6.659	6.559-6.759	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	4.018	3.918-4.118	+++++	+++++
7 Aroclor-1016	+++++	+++++	+++++	+++++	+++++	+++++	6.658	6.558-6.758	+++++	+++++
6 Aroclor-1248	7.799	7.803	7.800	7.800	7.801	7.799	7.799	7.699-7.899	7.800	0.001
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	8.675	8.575-8.775	+++++	+++++
9 Aroclor-1260	+++++	+++++	+++++	+++++	+++++	+++++	10.383	10.283-10.483	+++++	+++++
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	10.384	10.284-10.484	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	11.557	11.457-11.657	+++++	+++++
$ 13 Decachlorobiphenyl	13.165	13.164	13.165	13.165	13.164	13.166	13.165	13.065-13.265	13.165	0.001
* 12 IS-HBBP	13.520	13.520	13.521	13.521	13.520	13.520	13.520	13.420-13.620	13.520	0.001
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	8.655	8.605-8.705	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.186	9.136-9.236	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	9.668	9.618-9.718	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.066	8.966-9.166	+++++	+++++

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

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.630	9.530-9.730	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.114	10.014-10.214	+++++	+++++
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\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	08132123	08132124	08132125	08132126	08132127	08132128
INJ.DATE:	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021
INJ.TIME:	02:12	02:33	02:53	03:13	03:34	03:54

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	2.852	2.851	2.852	2.851	2.853	2.853	2.852	2.752-2.952	2.852	0.001
$ 1 Tetrachloro-m-xylene	5.069	5.068	5.068	5.067	5.069	5.069	5.069	4.969-5.169	5.068	0.001
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	4.015	3.915-4.115	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	6.659	6.559-6.759	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	4.018	3.918-4.118	+++++	+++++
7 Aroclor-1016	+++++	+++++	+++++	+++++	+++++	+++++	6.658	6.558-6.758	+++++	+++++
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	7.799	7.699-7.899	+++++	+++++
8 Aroclor-1254	8.681	8.680	8.680	8.677	8.676	8.675	8.681	8.581-8.781	8.678	0.002
9 Aroclor-1260	+++++	+++++	+++++	+++++	+++++	+++++	10.383	10.283-10.483	+++++	+++++
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	10.384	10.284-10.484	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	11.557	11.457-11.657	+++++	+++++
$ 13 Decachlorobiphenyl	13.166	13.165	13.166	13.166	13.166	13.166	13.166	13.066-13.266	13.166	0.000
* 12 IS-HBBP	13.521	13.521	13.522	13.521	13.520	13.520	13.521	13.421-13.621	13.520	0.001
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	8.655	8.605-8.705	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.186	9.136-9.236	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	9.668	9.618-9.718	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.066	8.966-9.166	+++++	+++++

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

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.630	9.530-9.730	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.114	10.014-10.214	+++++	+++++
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\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	08132129	08132130	08132131	08132132	08132133	08132134
INJ.DATE:	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021
INJ.TIME:	04:15	04:35	04:56	05:16	05:37	05:57

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	2.854	2.852	2.852	2.854	2.855	2.855	2.854	2.754-2.954	2.853	0.001
$ 1 Tetrachloro-m-xylene	5.068	5.068	5.068	5.069	5.070	5.070	5.068	4.968-5.168	5.069	0.001
2 Aroclor-1221	4.020	4.015	4.015	4.015	4.015	4.015	4.020	3.920-4.120	4.016	0.002
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	6.659	6.559-6.759	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	4.018	3.918-4.118	+++++	+++++
7 Aroclor-1016	+++++	+++++	+++++	+++++	+++++	+++++	6.658	6.558-6.758	+++++	+++++
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	7.799	7.699-7.899	+++++	+++++
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	8.675	8.575-8.775	+++++	+++++
9 Aroclor-1260	+++++	+++++	+++++	+++++	+++++	+++++	10.383	10.283-10.483	+++++	+++++
10 Aroclor-1262	10.388	10.388	10.387	10.386	10.384	10.384	10.388	10.288-10.488	10.386	0.002
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	11.557	11.457-11.657	+++++	+++++
$ 13 Decachlorobiphenyl	13.165	13.165	13.165	13.165	13.165	13.166	13.165	13.065-13.265	13.165	0.000
* 12 IS-HBBP	13.520	13.522	13.519	13.519	13.520	13.519	13.520	13.420-13.620	13.520	0.001
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	8.655	8.605-8.705	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.186	9.136-9.236	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	9.668	9.618-9.718	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.066	8.966-9.166	+++++	+++++

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

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.630	9.530-9.730	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.114	10.014-10.214	+++++	+++++
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\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	08132135	08132136	08132137	08132138	08132139	08132140
INJ.DATE:	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021
INJ.TIME:	06:18	06:38	06:59	07:19	07:40	08:00

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	2.853	2.854	2.856	2.856	2.854	2.855	2.853	2.753-2.953	2.855	0.001
$ 1 Tetrachloro-m-xylene	5.069	5.069	5.071	5.071	5.071	5.072	5.069	4.969-5.169	5.070	0.001
2 Aroclor-1221	#####	#####	#####	#####	#####	#####	4.015	3.915-4.115	#####	#####
3 Aroclor-1242	#####	#####	#####	#####	#####	#####	6.659	6.559-6.759	#####	#####
4 Aroclor-1232	4.020	4.014	4.017	4.018	4.016	4.018	4.020	3.920-4.120	4.017	0.002
7 Aroclor-1016	#####	#####	#####	#####	#####	#####	6.658	6.558-6.758	#####	#####
6 Aroclor-1248	#####	#####	#####	#####	#####	#####	7.799	7.699-7.899	#####	#####
8 Aroclor-1254	#####	#####	#####	#####	#####	#####	8.675	8.575-8.775	#####	#####
9 Aroclor-1260	#####	#####	#####	#####	#####	#####	10.383	10.283-10.483	#####	#####
10 Aroclor-1262	#####	#####	#####	#####	#####	#####	10.384	10.284-10.484	#####	#####
11 Aroclor-1268	11.560	11.559	11.558	11.557	11.557	11.557	11.560	11.460-11.660	11.558	0.001
$ 13 Decachlorobiphenyl	13.165	13.165	13.165	13.165	13.165	13.166	13.165	13.065-13.265	13.165	0.000
* 12 IS-HBBP	13.520	13.520	13.521	13.521	13.519	13.519	13.520	13.420-13.620	13.520	0.001
42 2,4-DDE	#####	#####	#####	#####	#####	#####	8.655	8.605-8.705	#####	#####
43 2,4-DDD	#####	#####	#####	#####	#####	#####	9.186	9.136-9.236	#####	#####
44 2,4-DDT	#####	#####	#####	#####	#####	#####	9.668	9.618-9.718	#####	#####
46 4,4-DDE	#####	#####	#####	#####	#####	#####	9.066	8.966-9.166	#####	#####

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

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.630	9.530-9.730	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.114	10.014-10.214	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

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

Data file 1: /210813.b/08132104ECD7.D
Data file 2: /210813.b/210813.b/08132104ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-IBL1
Client ID:
Injection Date: 13-AUG-2021 19:43
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	126172	5.412	-0.004	360712	44.0	42.2	4.2	Tetrachloro-m-xylene
13.165	-0.001	154941	13.847	-0.033	746026	43.2	42.7	1.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	237189	-8.4
Hexabromobiphenyl	425681	395219	-7.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	664936	-7.8
Hexabromobiphenyl	863111	787155	-8.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.090	0.018	4395	38.5
Aroclor-1221	3	---			0.0	3	6.402	-0.007	1203	6.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	---			0.0	1	8.108	0.002	393	1.4
Aroclor-1248	2	---			0.0	2	8.585	0.065	186	0.6
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	9.462	0.086	5866	12.9
	Col1Ave: <3 Quant Peaks					Col2Ave: 5.0				
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	9.834	-0.080	4733	5.0
Aroclor-1254	5	---			0.0	5	10.236	0.088	987	1.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	---			0.0	1	11.439	0.014	341	0.5
Aroclor-1260	2	---			0.0	2	11.681	-0.000	888	0.5
Aroclor-1260	3	11.055	0.004	138	0.3	3	12.198	-0.063	704	0.6
Aroclor-1260	4	11.473	0.021	110	0.5	4	13.049	0.077	4672	8.0
Aroclor-1260	5	---			0.0	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: 2.4				
Aroclor-1262	1	---			0.0	1	10.985	0.015	687	0.7
Aroclor-1262	2	---			0.0	2	11.681	-0.005	888	0.4
Aroclor-1262	3	---			0.0	3	12.198	0.010	704	0.8
Aroclor-1262	4	---			0.0	4	13.049	0.076	4672	5.6
	Col1Ave: <3 Quant Peaks					Col2Ave: 1.9				
Aroclor-1268	1	11.473	-0.084	110	0.2	1	12.198	-0.002	704	0.3
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	11.909	-0.092	1145	2.6	3	12.645	0.001	717	0.3
Aroclor-1268	4	12.771	-0.000	685	0.5	4	13.458	0.675	1064	2.0

Total Col1Ave (3 peaks): 1.1 Total Col2Ave (3 peaks): 0.9 RPD = 22

Corrected Ave: < 3 Peaks Corrected Ave: < 3 Peaks

Total PCB Area Col1 (5.169 - 13.066) = 10309 Col1 Total PCB = 0.0 ppm*

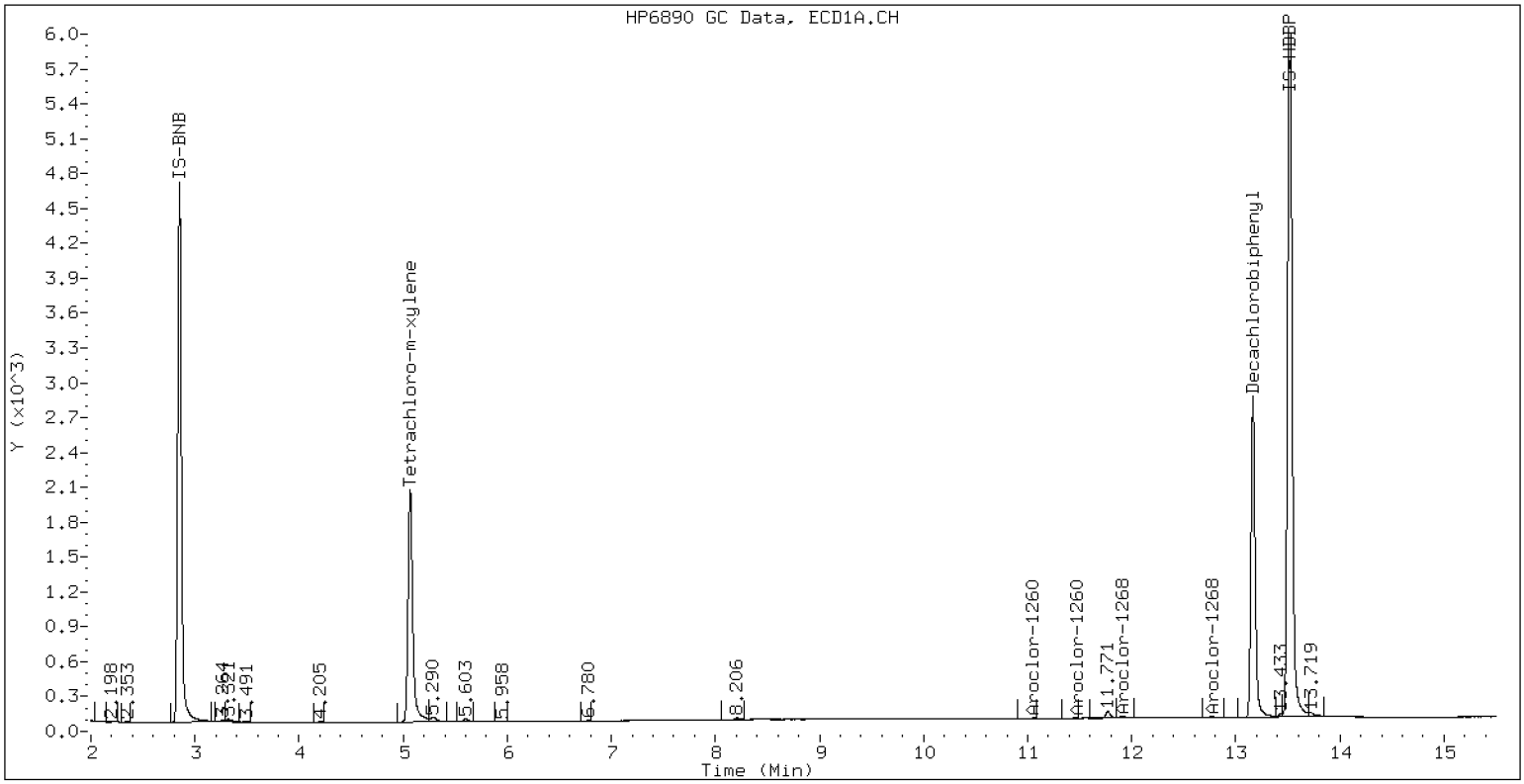
Total PCB Area Col2 (5.169 - 13.066) = 427198 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

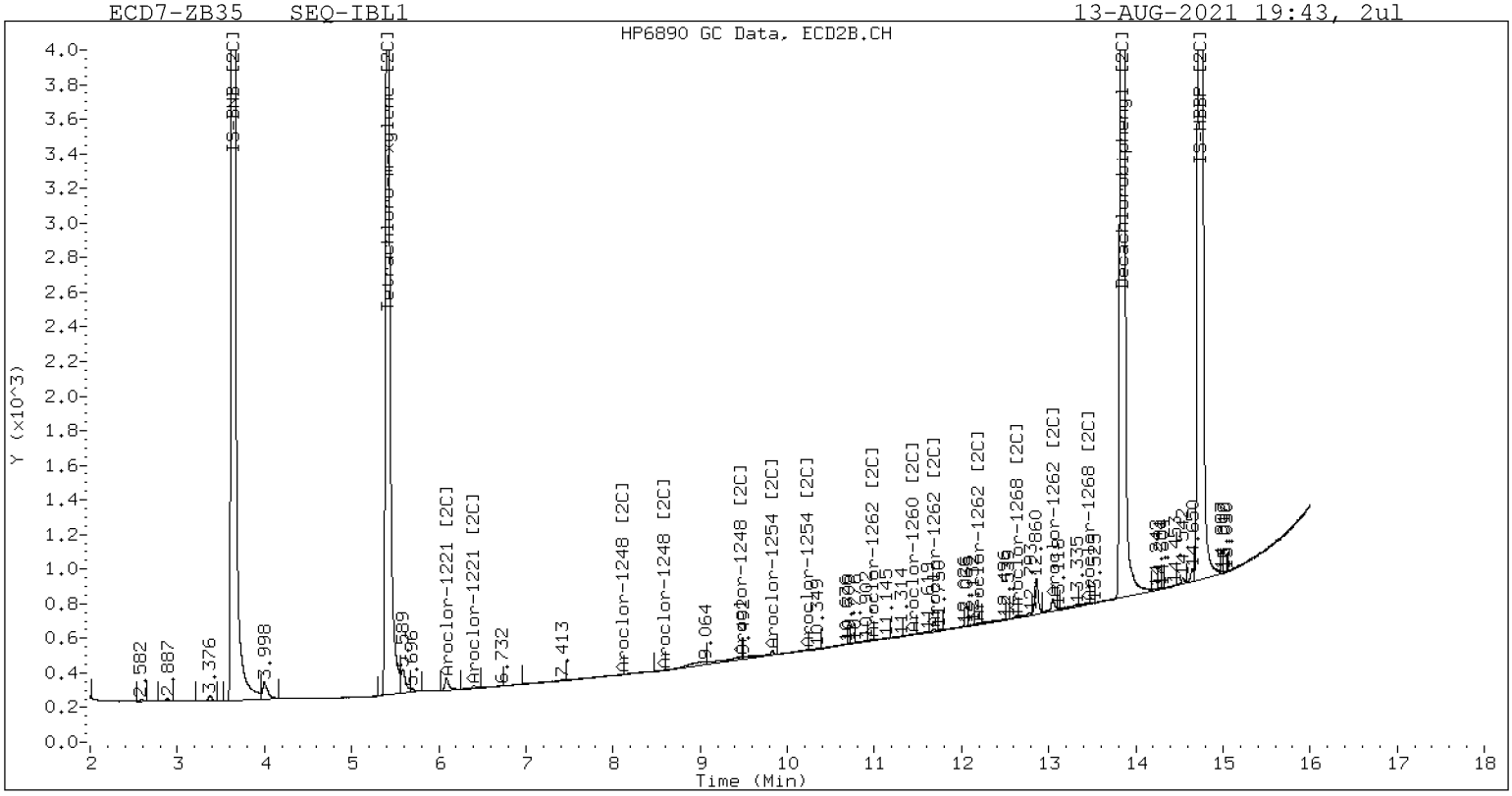
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-IBL1 13-AUG-2021 19:43, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-IBL1 13-AUG-2021 19:43, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132105ECD7.D
Data file 2: /210813.b/210813.b/08132105ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL1
Client ID:
Injection Date: 13-AUG-2021 20:03
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	9617	5.413	-0.004	29440	3.1	3.2	3.5	Tetrachloro-m-xylene
13.163	-0.003	12564	13.845	-0.035	57292	3.3	3.1	5.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	255944	-1.1
Hexabromobiphenyl	425681	422645	-0.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	711334	-1.3
Hexabromobiphenyl	863111	833996	-3.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.660	0.002	1695	18.7	1	7.056	-0.000	8681	21.4
Aroclor-1016	2	7.033	0.004	4753	17.1	2	7.654	0.007	17802	19.6
Aroclor-1016	3	7.181	0.005	2275	18.3	3	7.862	0.007	6842	19.2
Aroclor-1016	4	7.290	0.006	1274	16.3	4	8.107	0.002	4300	20.0
Total Col1Ave (4 peaks):				17.6		Total Col2Ave (4 peaks):			20.0	RPD = 13
Corrected Ave (3 peaks):				17.2		Corrected Ave (3 peaks):			19.6	RPD = 13
CalAmt %D:				-12.0		CalAmt %D:			0.2	
Aroclor-1260	1	10.387	0.004	3856	20.3	1	11.427	0.002	14898	21.5
Aroclor-1260	2	10.705	0.005	3691	19.8	2	11.682	0.000	42446	21.1
Aroclor-1260	3	11.056	0.005	10401	20.6	3	12.263	0.002	28256	21.8
Aroclor-1260	4	11.458	0.006	4210	18.7	4	12.974	0.001	12202	19.7
Aroclor-1260	5	11.557	0.003	2197	19.5	NS	---			----
Total Col1Ave (5 peaks):				19.8		Total Col2Ave (4 peaks):			21.0	RPD = 6
Corrected Ave (4 peaks):				19.6		Corrected Ave (3 peaks):			20.8	RPD = 6
CalAmt %D:				-1.1		CalAmt %D:			5.1	

Total PCB Area Col1 (5.169 - 13.066) = 102366 Col1 Total PCB = 0.0 ppm*

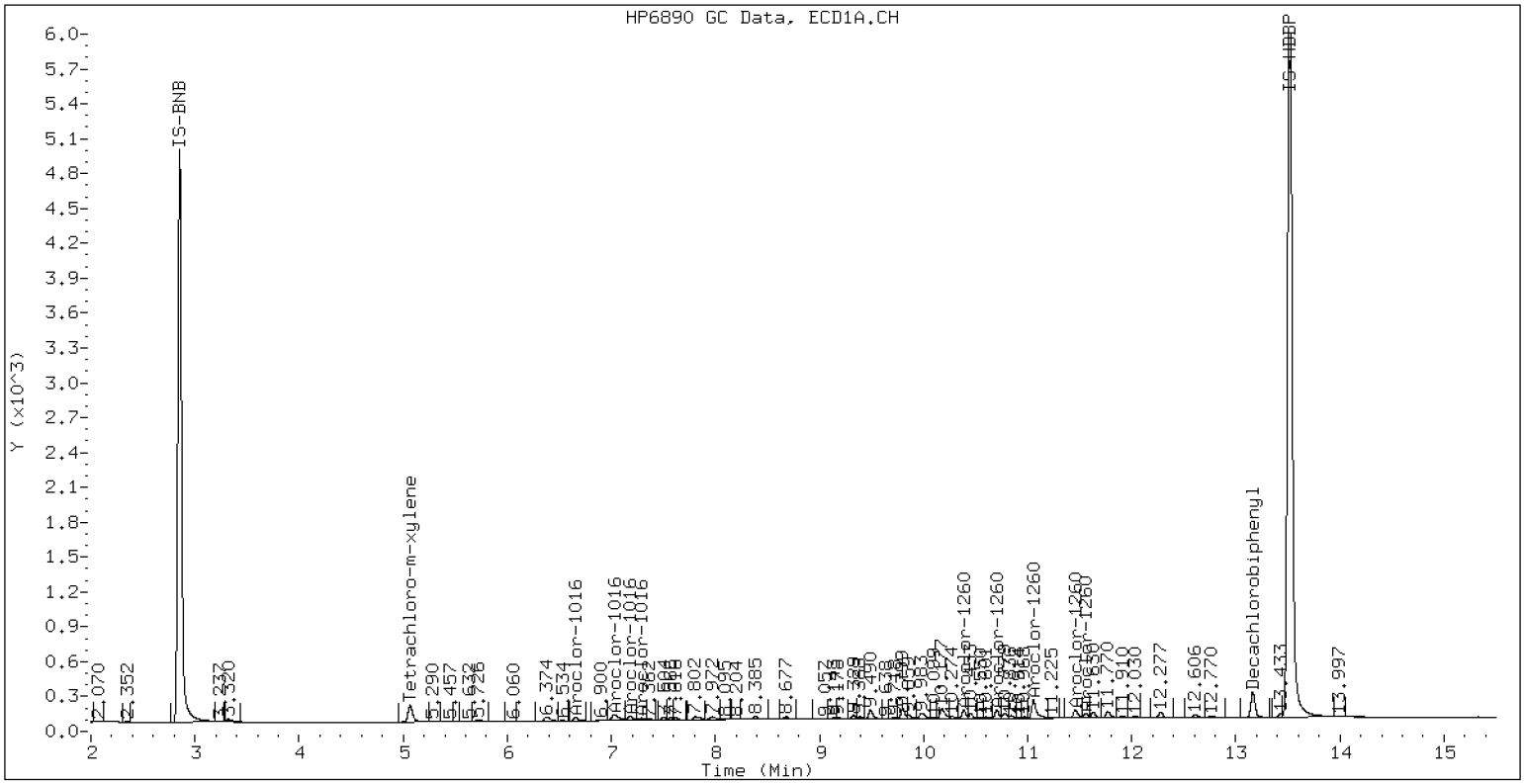
Total PCB Area Col2 (5.169 - 13.066) = 412493 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

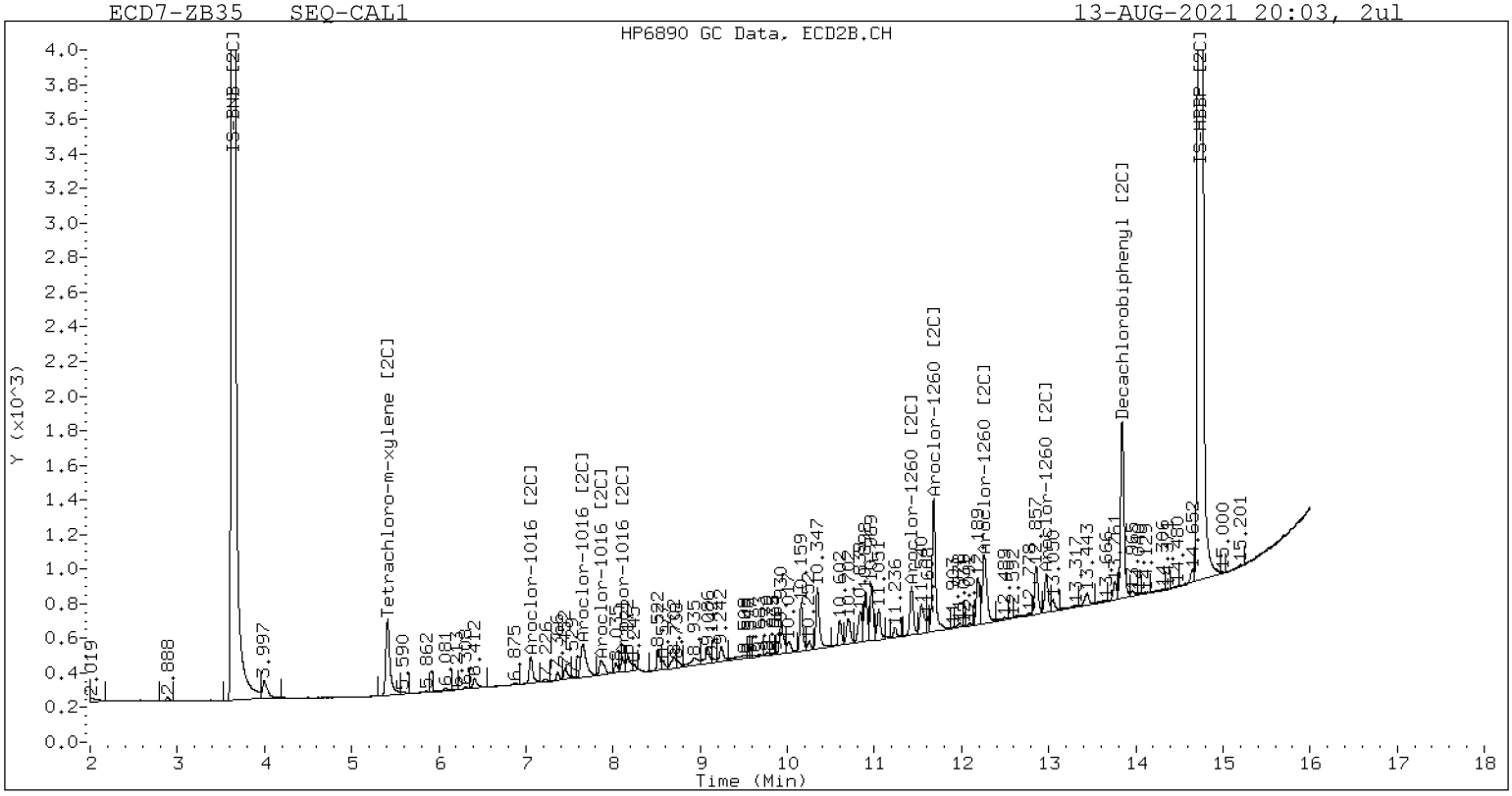
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL1 13-AUG-2021 20:03, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CAL1 13-AUG-2021 20:03, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132106ECD7.D
Data file 2: /210813.b/210813.b/08132106ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL2
Client ID:
Injection Date: 13-AUG-2021 20:24
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	23332	5.413	-0.004	72878	7.6	7.9	4.2	Tetrachloro-m-xylene
13.164	-0.002	31052	13.846	-0.034	144891	8.0	7.7	3.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	255215	-1.4
Hexabromobiphenyl	425681	425246	-0.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	718694	-0.3
Hexabromobiphenyl	863111	842315	-2.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.659	0.001	4645	51.3	1	7.056	-0.000	21261	51.9
Aroclor-1016	2	7.034	0.005	13436	48.5	2	7.655	0.007	44431	48.5
Aroclor-1016	3	7.181	0.005	6528	52.6	3	7.861	0.006	16510	45.9
Aroclor-1016	4	7.291	0.006	3864	49.6	4	8.107	0.002	10254	47.1

Total Col1Ave (4 peaks): 50.5 Total Col2Ave (4 peaks): 48.3 RPD = 4
Corrected Ave (3 peaks): 49.8 Corrected Ave (3 peaks): 47.2 RPD = 6

CalAmt %D: 1.0 CalAmt %D: -3.3

Aroclor-1260	1	10.385	0.002	9567	50.0	1	11.427	0.002	36882	52.7
Aroclor-1260	2	10.703	0.003	9130	48.6	2	11.680	-0.001	103868	51.0
Aroclor-1260	3	11.054	0.004	24220	47.7	3	12.264	0.003	67124	51.3
Aroclor-1260	4	11.456	0.003	10743	47.5	4	12.972	-0.001	29907	47.8
Aroclor-1260	5	11.556	0.002	5597	49.4	NS	---			----

Total Col1Ave (5 peaks): 48.7 Total Col2Ave (4 peaks): 50.7 RPD = 4
Corrected Ave (4 peaks): 48.3 Corrected Ave (3 peaks): 50.0 RPD = 3

CalAmt %D: -2.7 CalAmt %D: 1.4

Total PCB Area Col1 (5.169 - 13.066) = 251626 Col1 Total PCB = 0.1 ppm*

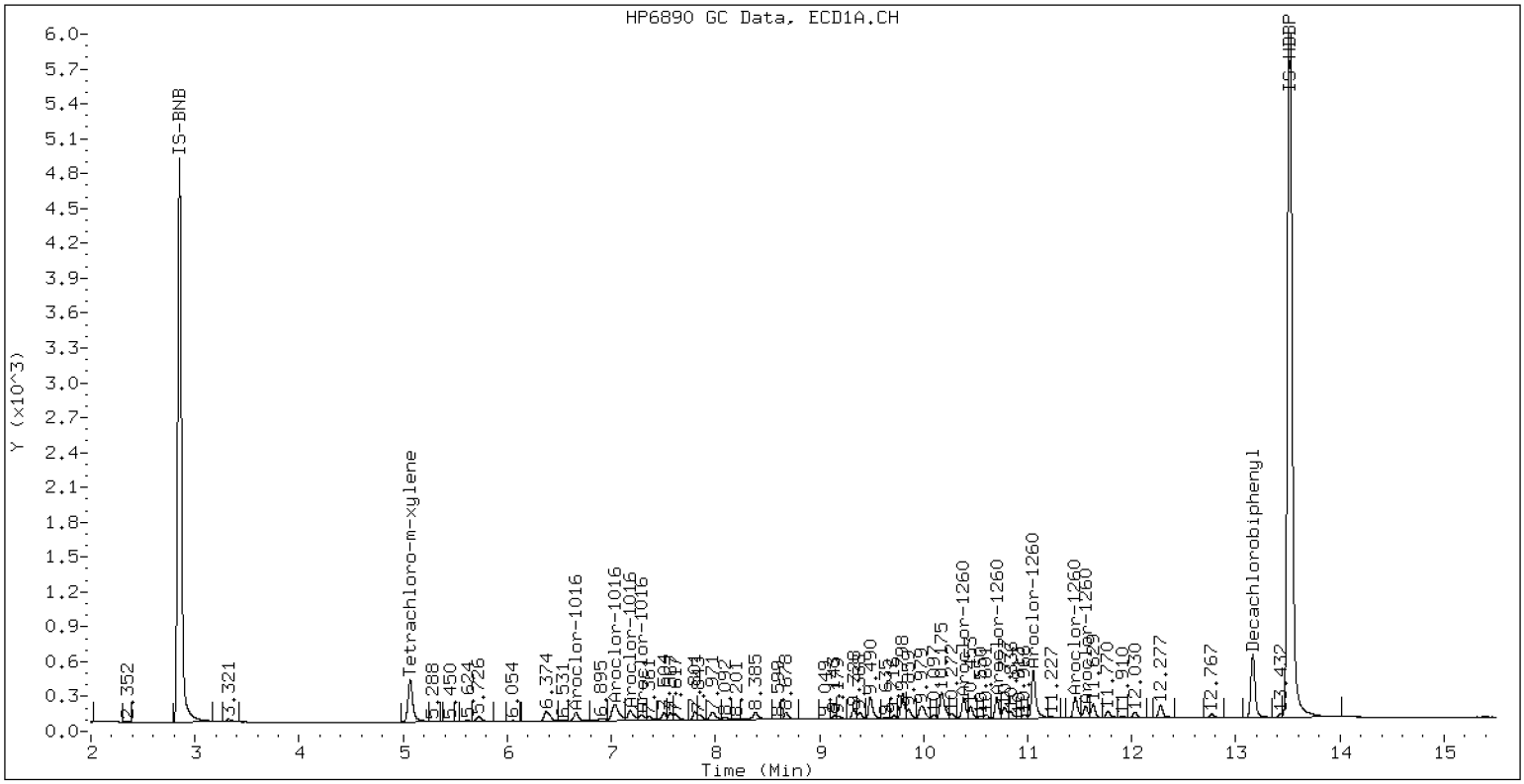
Total PCB Area Col2 (5.169 - 13.066) = 951053 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

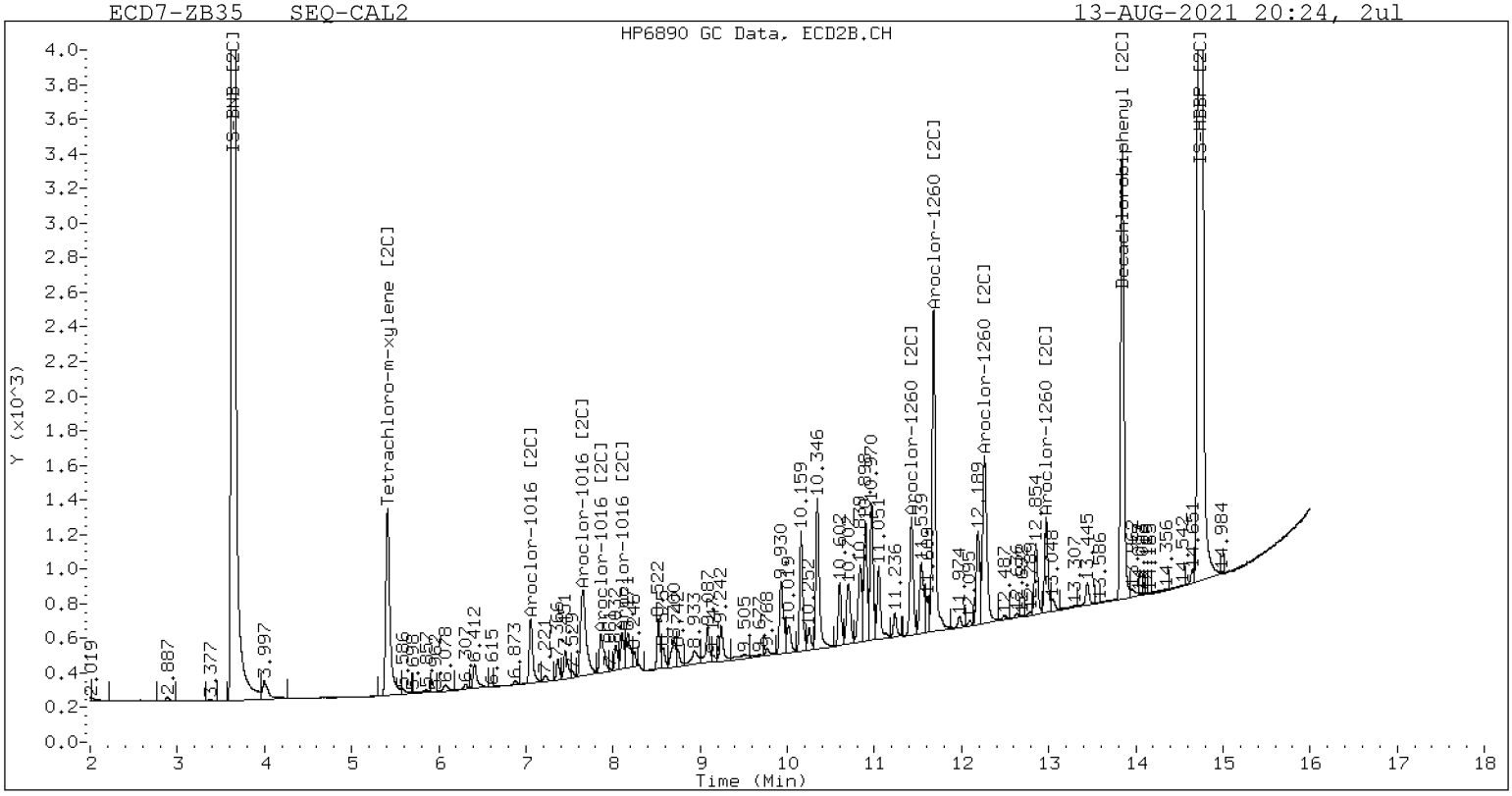
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL2 13-AUG-2021 20:24, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CAL2 13-AUG-2021 20:24, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132107ECD7.D
Data file 2: /210813.b/210813.b/08132107ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL3
Client ID:
Injection Date: 13-AUG-2021 20:44
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	50667	5.414	-0.003	150921	16.1	16.2	0.1	Tetrachloro-m-xylene
13.164	-0.002	64497	13.846	-0.034	311850	16.4	16.2	1.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	259615	0.3
Hexabromobiphenyl	425681	432543	1.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	726577	0.8
Hexabromobiphenyl	863111	864959	0.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.660	0.002	9540	103.6	1	7.057	0.000	43541	105.1
Aroclor-1016	2	7.033	0.003	28383	100.8	2	7.653	0.005	97461	105.2
Aroclor-1016	3	7.180	0.004	13172	104.2	3	7.860	0.005	39365	108.2
Aroclor-1016	4	7.290	0.005	8150	102.9	4	8.106	0.001	24189	109.9

Total Col1Ave (4 peaks): 102.9 Total Col2Ave (4 peaks): 107.1 RPD = 4
Corrected Ave (3 peaks): 102.4 Corrected Ave (3 peaks): 106.2 RPD = 4

CalAmt %D: 2.9 CalAmt %D: 7.1

Aroclor-1260	1	10.385	0.002	19398	99.7	1	11.426	0.001	74307	103.3
Aroclor-1260	2	10.702	0.002	18907	99.0	2	11.680	-0.001	211815	101.4
Aroclor-1260	3	11.054	0.003	50259	97.4	3	12.263	0.002	136563	101.6
Aroclor-1260	4	11.456	0.003	22610	98.3	4	12.972	-0.001	68139	106.1
Aroclor-1260	5	11.555	0.001	11534	100.2	NS	---			----

Total Col1Ave (5 peaks): 98.9 Total Col2Ave (4 peaks): 103.1 RPD = 4
Corrected Ave (4 peaks): 98.6 Corrected Ave (3 peaks): 102.1 RPD = 4

CalAmt %D: -1.1 CalAmt %D: 3.1

Total PCB Area Col1 (5.169 - 13.066) = 512158 Col1 Total PCB = 0.2 ppm*

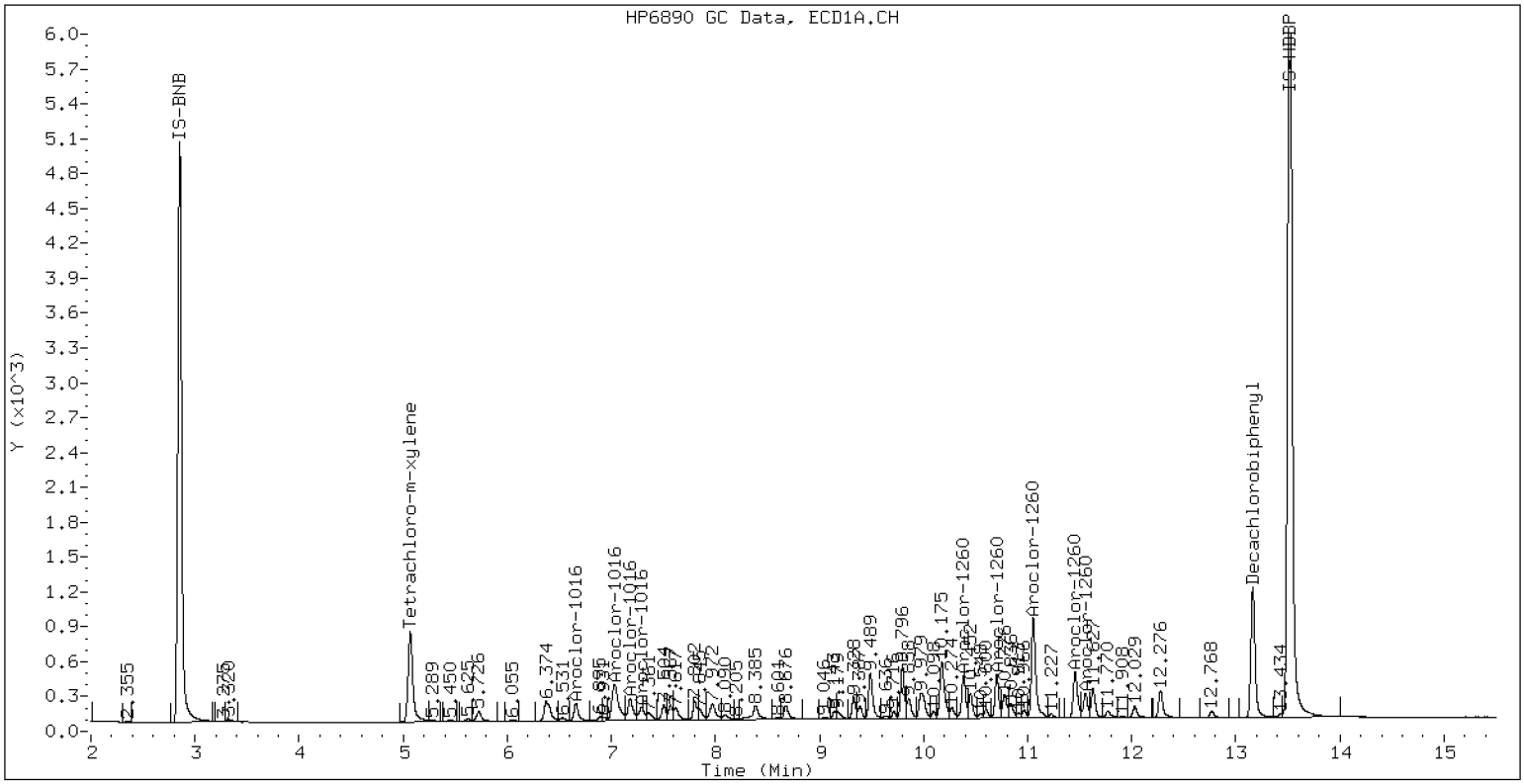
Total PCB Area Col2 (5.169 - 13.066) = 1949350 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

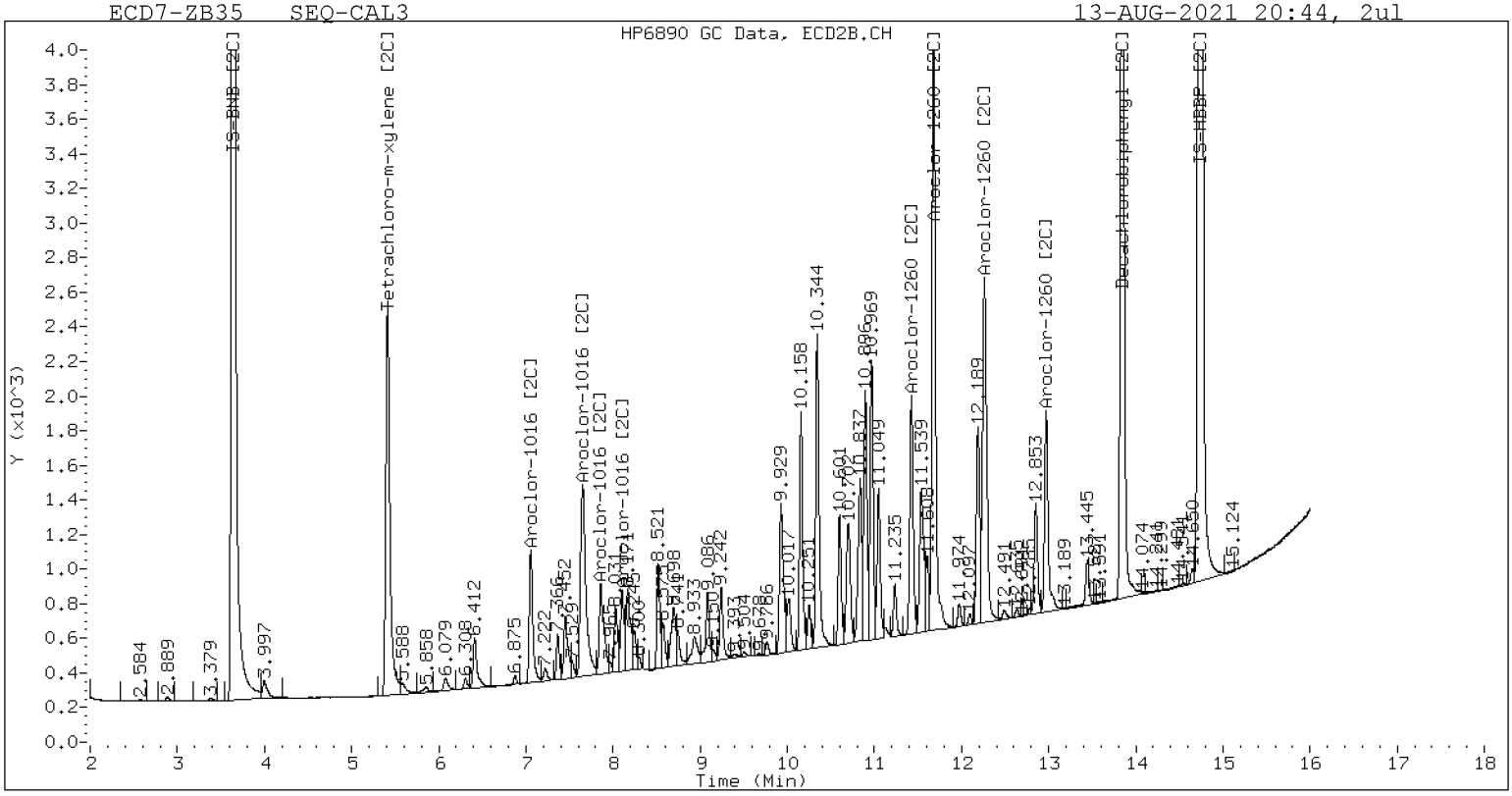
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL3 13-AUG-2021 20:44, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CAL3 13-AUG-2021 20:44, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132108ECD7.D
Data file 2: /210813.b/210813.b/08132108ECD7.D
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Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL4
Client ID:
Injection Date: 13-AUG-2021 21:05
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.067	-0.002	131143	5.413	-0.004	377693	41.9	40.8	2.8	Tetrachloro-m-xylene
13.164	-0.002	160163	13.848	-0.032	791748	41.4	41.3	0.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	258866	0.0
Hexabromobiphenyl	425681	425681	0.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	720956	0.0
Hexabromobiphenyl	863111	863111	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.659	0.001	23977	261.2	1	7.056	-0.000	105852	257.5
Aroclor-1016	2	7.032	0.002	74451	265.2	2	7.652	0.004	241603	262.7
Aroclor-1016	3	7.178	0.002	32969	261.7	3	7.857	0.002	96677	267.9
Aroclor-1016	4	7.287	0.002	20978	265.6	4	8.106	0.001	57673	264.1

Total Col1Ave (4 peaks): 263.4 Total Col2Ave (4 peaks): 263.0 RPD = 0
Corrected Ave (3 peaks): 262.7 Corrected Ave (3 peaks): 261.4 RPD = 0

CalAmt %D: 5.4 CalAmt %D: 5.2

Aroclor-1260	1	10.384	0.001	49492	258.4	1	11.426	0.000	183135	255.2
Aroclor-1260	2	10.702	0.002	49037	260.9	2	11.679	-0.002	525133	251.8
Aroclor-1260	3	11.053	0.002	130219	256.3	3	12.261	0.000	338031	252.1
Aroclor-1260	4	11.455	0.002	59560	263.1	4	12.972	-0.001	168369	262.6
Aroclor-1260	5	11.555	0.001	29402	259.4	NS	---			----

Total Col1Ave (5 peaks): 259.6 Total Col2Ave (4 peaks): 255.4 RPD = 2
Corrected Ave (4 peaks): 258.8 Corrected Ave (3 peaks): 253.0 RPD = 2

CalAmt %D: 3.9 CalAmt %D: 2.2

Total PCB Area Col1 (5.169 - 13.066) = 1310985 Col1 Total PCB = 0.5 ppm*

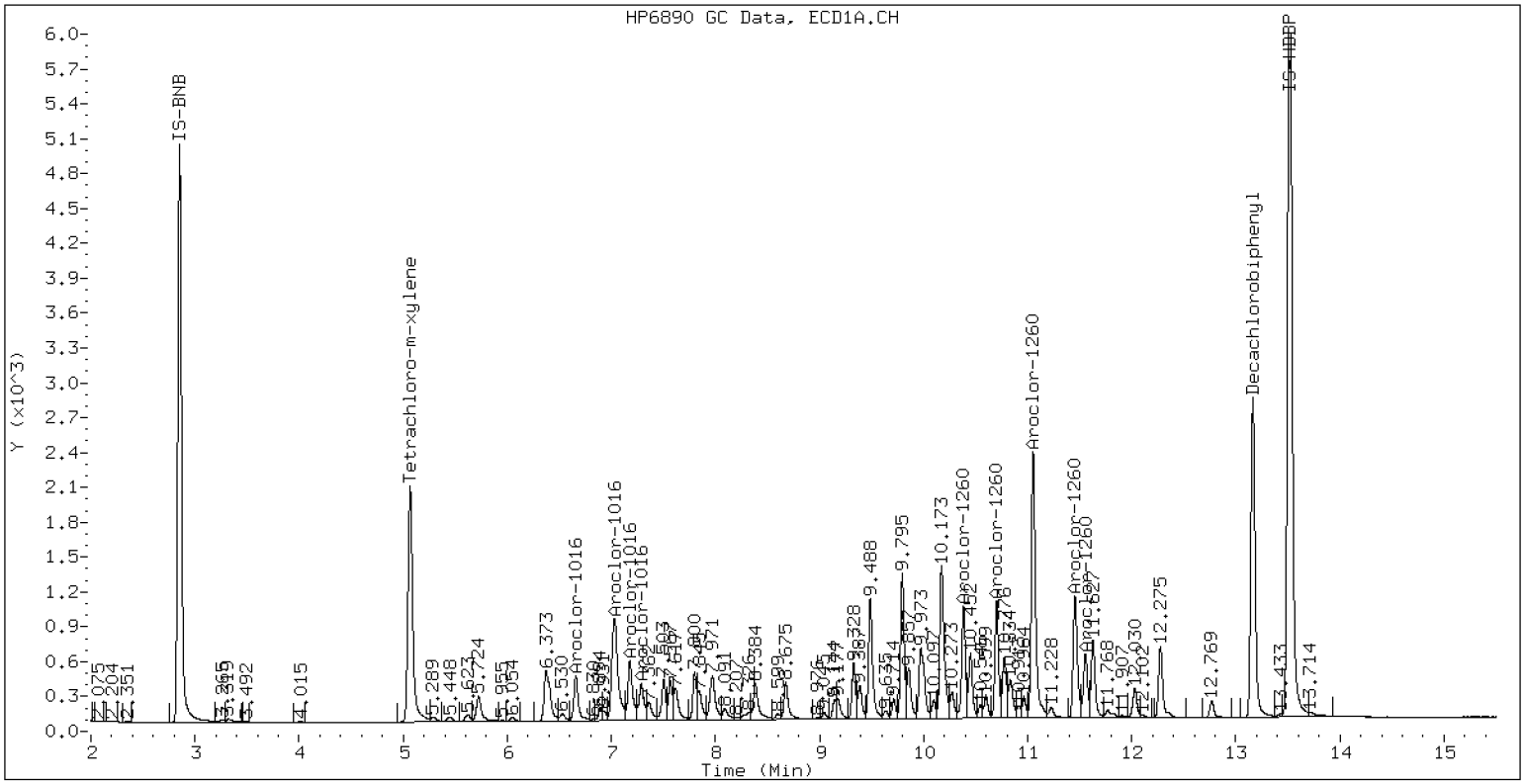
Total PCB Area Col2 (5.169 - 13.066) = 4836988 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

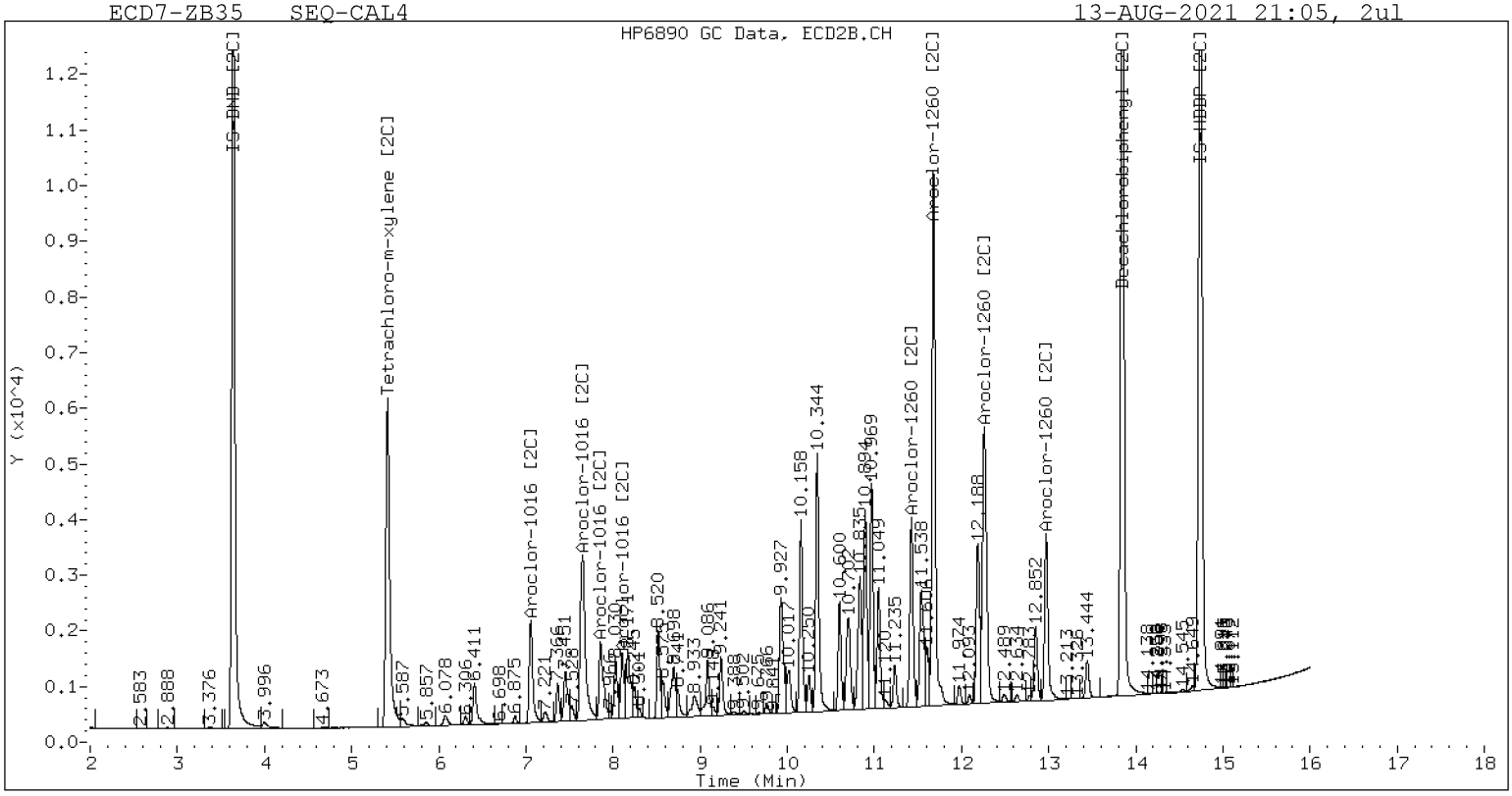
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL4 13-AUG-2021 21:05, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CAL4 13-AUG-2021 21:05, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132109ECD7.D
Data file 2: /210813.b/210813.b/08132109ECD7.D
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Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL5
Client ID:
Injection Date: 13-AUG-2021 21:25
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	258118	5.413	-0.004	732448	82.1	78.7	4.2	Tetrachloro-m-xylene
13.165	-0.001	309072	13.849	-0.031	1602822	78.9	81.6	3.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	260046	0.5
Hexabromobiphenyl	425681	431467	1.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	724186	0.4
Hexabromobiphenyl	863111	884020	2.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.659	0.000	46320	502.2	1	7.057	0.000	197055	477.2
Aroclor-1016	2	7.031	0.001	149242	529.2	2	7.650	0.002	461244	499.4
Aroclor-1016	3	7.177	0.001	63193	499.3	3	7.856	0.001	183963	507.5
Aroclor-1016	4	7.286	0.001	41958	528.8	4	8.105	0.000	108095	492.7

Total Col1Ave (4 peaks): 514.9 Total Col2Ave (4 peaks): 494.2 RPD = 4
Corrected Ave (3 peaks): 510.1 Corrected Ave (3 peaks): 489.8 RPD = 4

CalAmt %D: 3.0 CalAmt %D: -1.2

Aroclor-1260	1	10.384	0.001	97246	501.0	1	11.426	0.001	347996	473.5
Aroclor-1260	2	10.702	0.002	97621	512.4	2	11.679	-0.002	1000503	468.4
Aroclor-1260	3	11.052	0.002	275048	534.2	3	12.261	-0.000	661157	481.4
Aroclor-1260	4	11.453	0.000	121425	529.3	4	12.972	-0.001	329450	501.7
Aroclor-1260	5	11.556	0.002	58651	510.6	NS	---			----

Total Col1Ave (5 peaks): 517.5 Total Col2Ave (4 peaks): 481.3 RPD = 7
Corrected Ave (4 peaks): 513.3 Corrected Ave (3 peaks): 474.4 RPD = 8

CalAmt %D: 3.5 CalAmt %D: -3.7

Total PCB Area Col1 (5.169 - 13.066) = 2655201 Col1 Total PCB = 1.0 ppm*

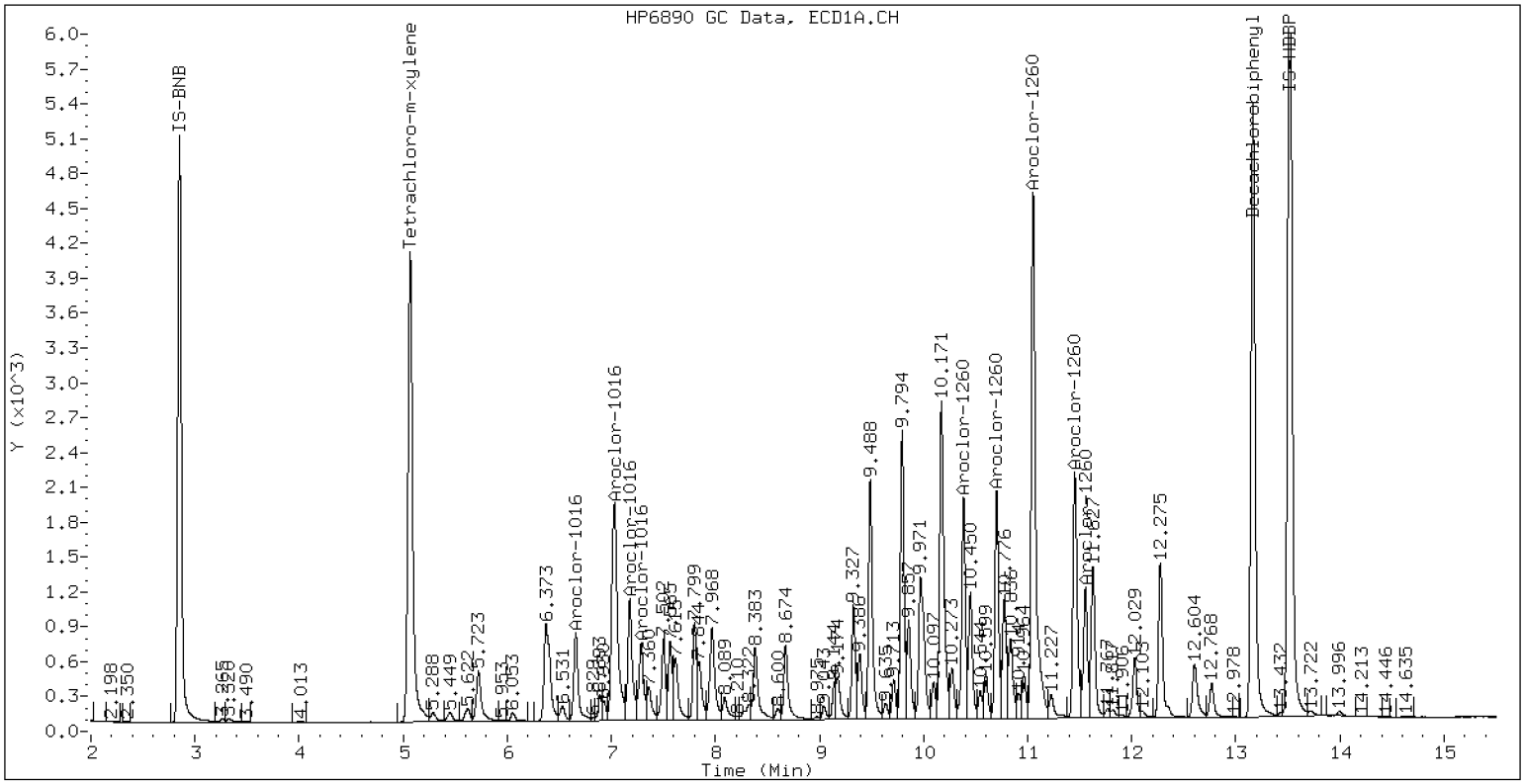
Total PCB Area Col2 (5.169 - 13.066) = 9365705 Col2 Total PCB = 1.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

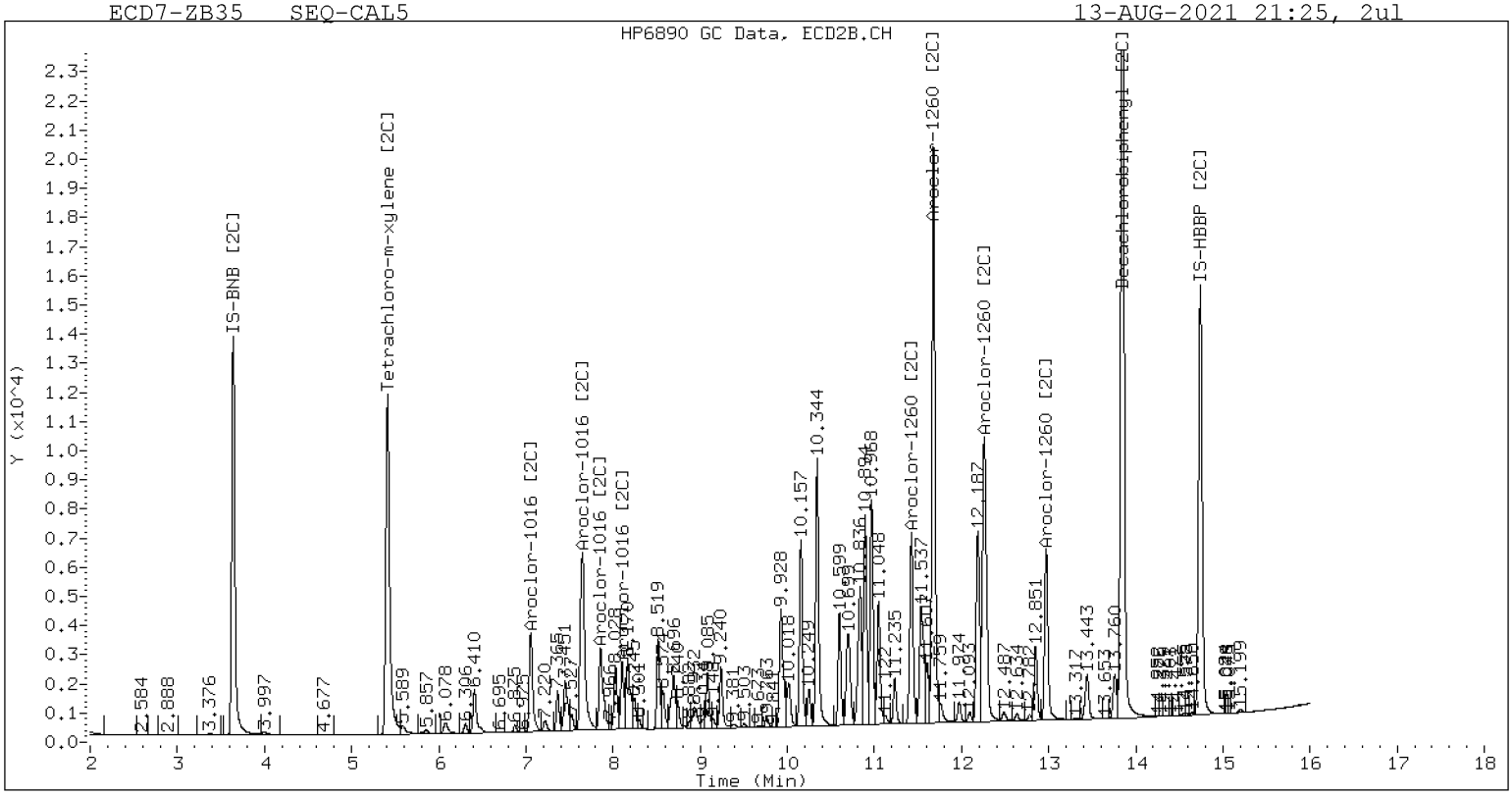
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL5 13-AUG-2021 21:25, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CAL5 13-AUG-2021 21:25, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132110ECD7.D
Data file 2: /210813.b/210813.b/08132110ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL6
Client ID:
Injection Date: 13-AUG-2021 21:46
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	-0.000	541706	5.414	-0.003	1597689	159.9	159.0	0.6	Tetrachloro-m-xylene
13.165	-0.001	637119	13.857	-0.023	4083557	147.5	182.1	21.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	280205	8.2
Hexabromobiphenyl	425681	475884	11.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	781756	8.4
Hexabromobiphenyl	863111	1009000	16.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.658	0.000	94894	954.9	1	7.056	0.000	382038	857.0
Aroclor-1016	2	7.029	0.000	317873	1046.0	2	7.648	0.000	945478	948.2
Aroclor-1016	3	7.176	0.000	129330	948.3	3	7.855	0.000	372755	952.6
Aroclor-1016	4	7.285	0.000	89202	1043.3	4	8.105	0.000	217812	919.7

Total Col1Ave (4 peaks): 998.1 Total Col2Ave (4 peaks): 919.4 RPD = 8
Corrected Ave (3 peaks): 982.1 Corrected Ave (3 peaks): 908.3 RPD = 8

CalAmt %D: -0.2 CalAmt %D: -8.1

Aroclor-1260	1	10.383	0.000	204156	953.5	1	11.425	0.000	730248	870.6
Aroclor-1260	2	10.700	0.000	206019	980.4	2	11.681	0.000	2360936	968.4
Aroclor-1260	3	11.051	0.000	537974	947.2	3	12.261	0.000	1405398	896.5
Aroclor-1260	4	11.452	0.000	257778	1018.8	4	12.972	0.000	707923	944.6
Aroclor-1260	5	11.554	0.000	123435	974.3	NS	---			----

Total Col1Ave (5 peaks): 974.9 Total Col2Ave (4 peaks): 920.0 RPD = 6
Corrected Ave (4 peaks): 963.9 Corrected Ave (3 peaks): 903.9 RPD = 6

CalAmt %D: -2.5 CalAmt %D: -8.0

Total PCB Area Col1 (5.169 - 13.066) = 5423849 Col1 Total PCB = 1.9 ppm*

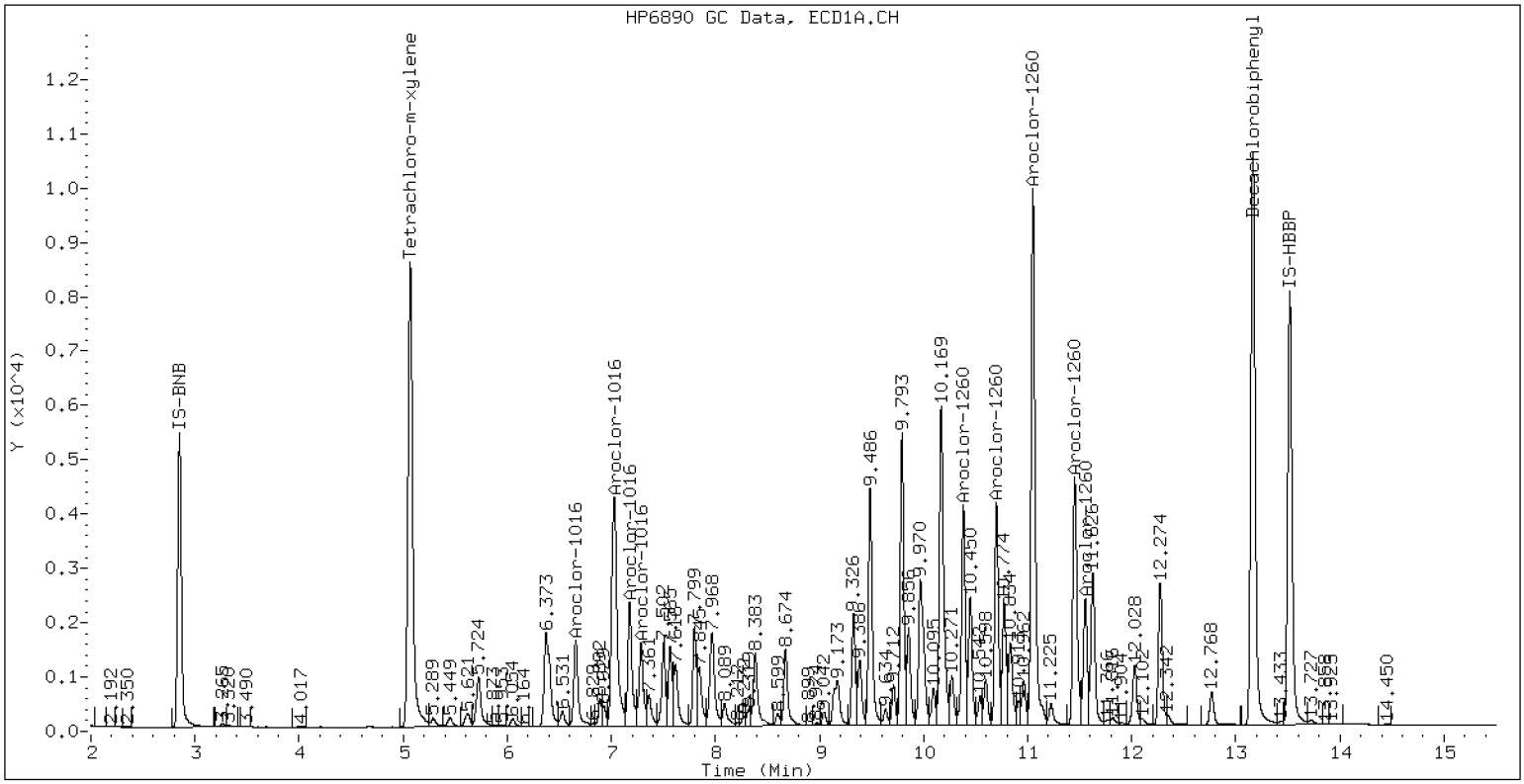
Total PCB Area Col2 (5.169 - 13.066) = 19780755 Col2 Total PCB = 1.9 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

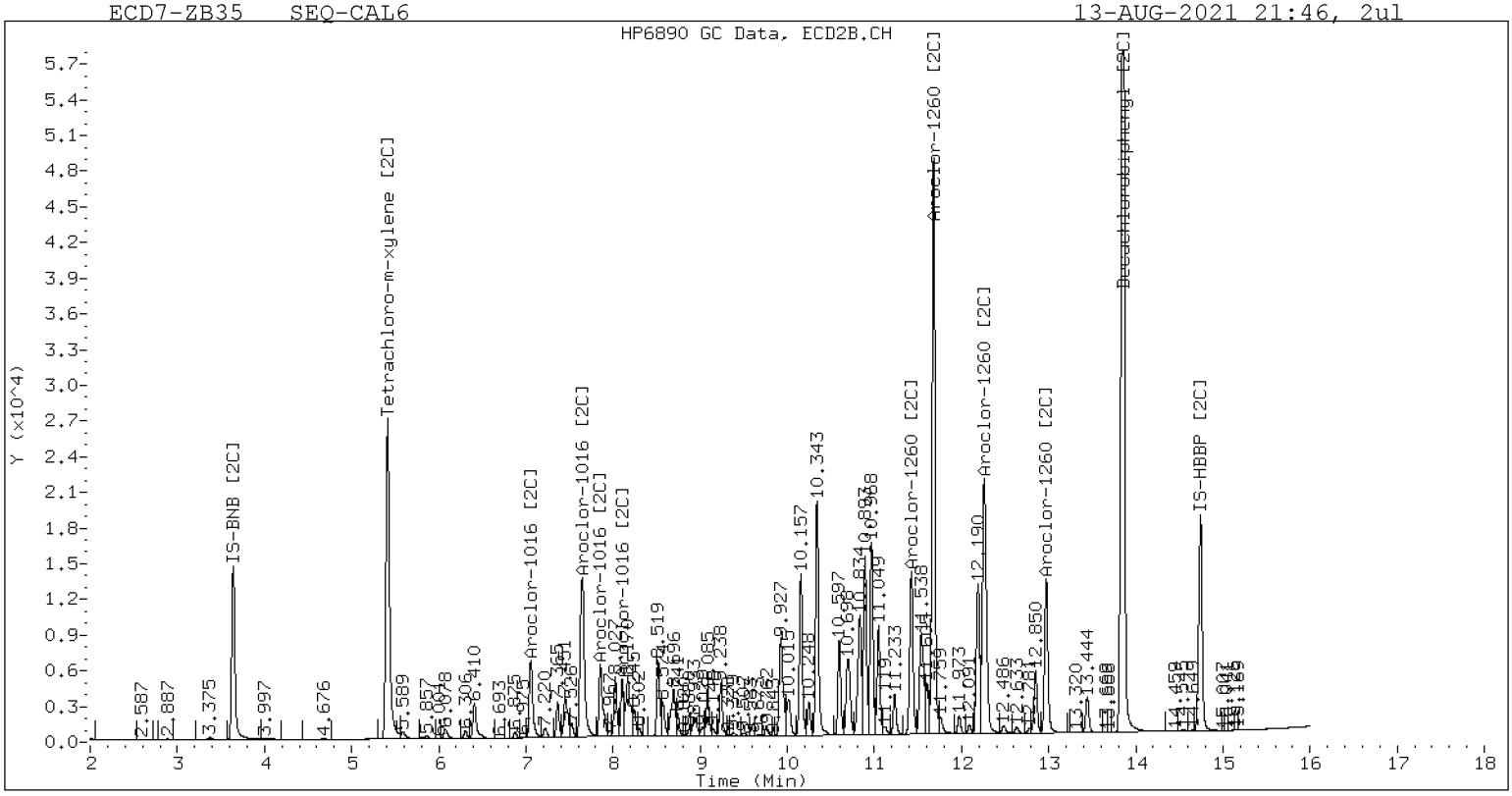
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL6 13-AUG-2021 21:46, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CAL6 13-AUG-2021 21:46, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132111ECD7.D
Data file 2: /210813.b/210813.b/08132111ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL7
Client ID:
Injection Date: 13-AUG-2021 22:06
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.000	8876	5.414	-0.003	30000	2.9	3.3	12.3	Tetrachloro-m-xylene
13.165	-0.001	13011	13.846	-0.034	60849	3.3	3.1	6.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	250794	-3.1
Hexabromobiphenyl	425681	428399	0.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	704880	-2.2
Hexabromobiphenyl	863111	870180	0.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1242	1	6.661	0.003	1188	17.2	1	7.057	0.000	7002	21.6
Aroclor-1242	2	7.036	0.006	3551	17.2	2	7.656	0.007	14507	20.6
Aroclor-1242	3	8.379	0.005	2874	24.6	3	8.961	0.012	8080	24.6
Aroclor-1242	4	8.669	-0.004	1107	23.2	4	9.055	0.028	9034	24.2

Total Col1Ave (4 peaks): 20.6 Total Col2Ave (4 peaks): 22.7 RPD = 10

Corrected Ave (3 peaks): 19.2 Corrected Ave (3 peaks): 22.1 RPD = 14

Total PCB Area Col1 (5.169 - 13.066) = 29886 Col1 Total PCB = 0.0 ppm*

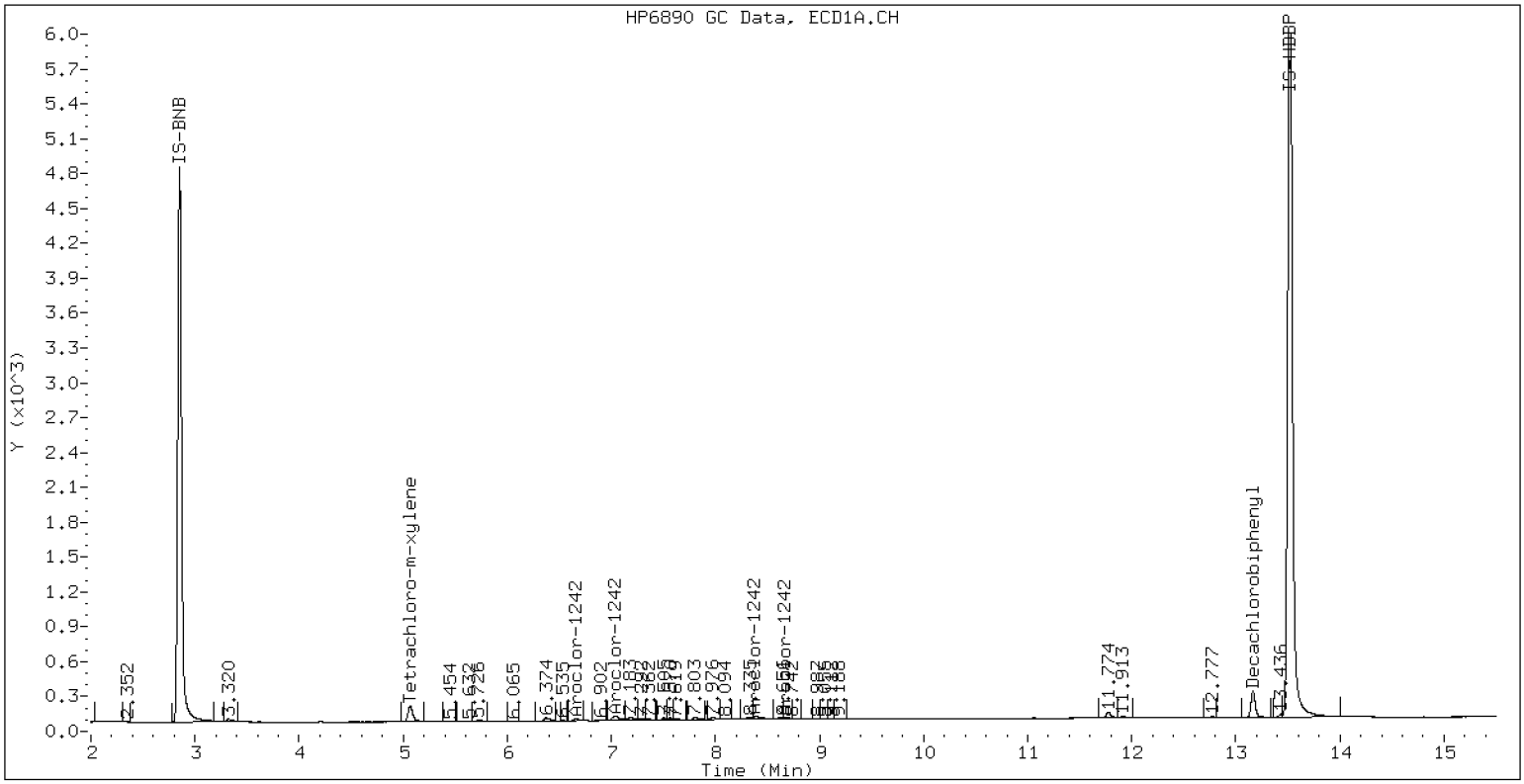
Total PCB Area Col2 (5.169 - 13.066) = 165162 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

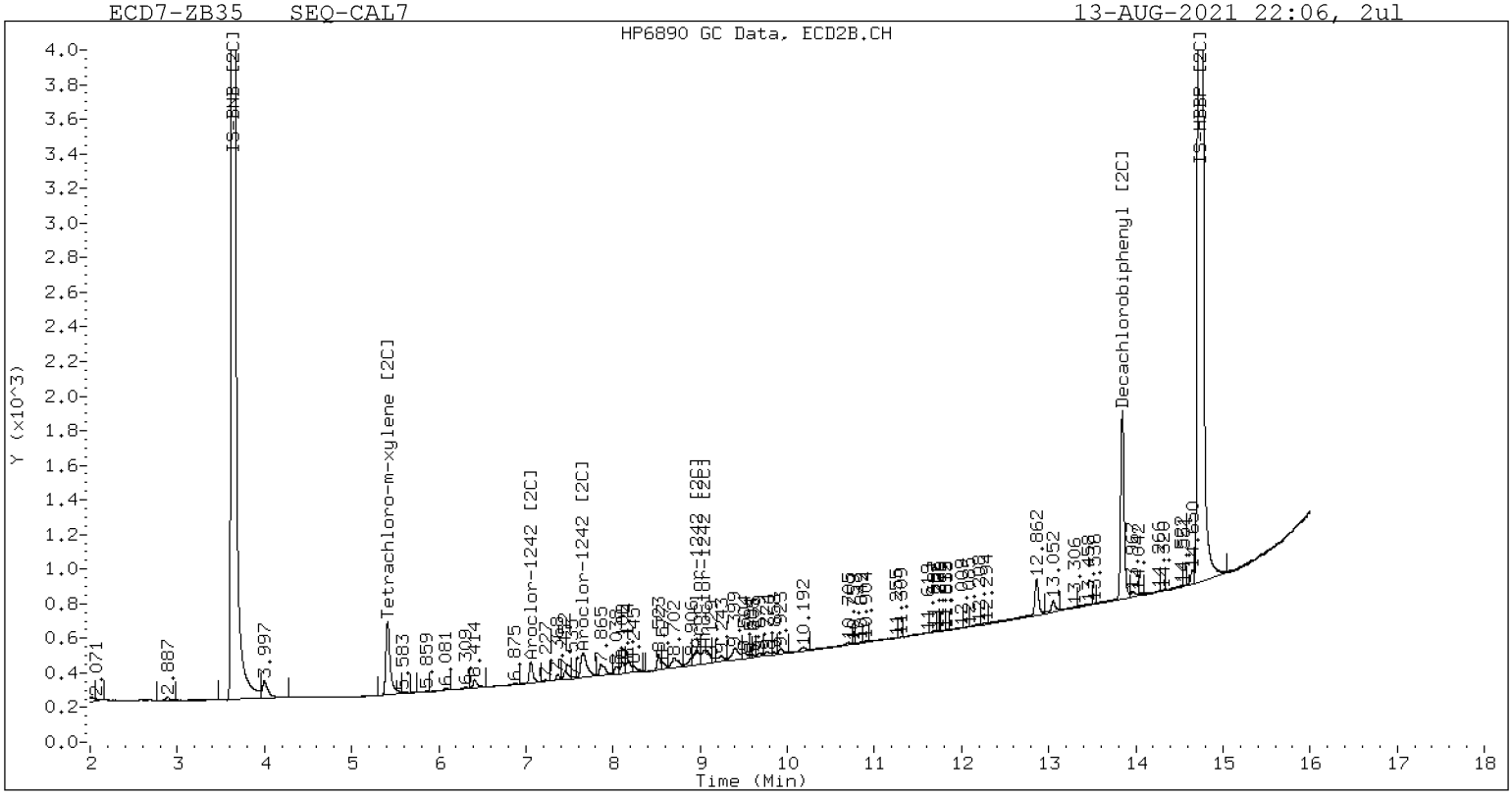
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL7 13-AUG-2021 22:06, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-CAL7 13-AUG-2021 22:06, 2ul

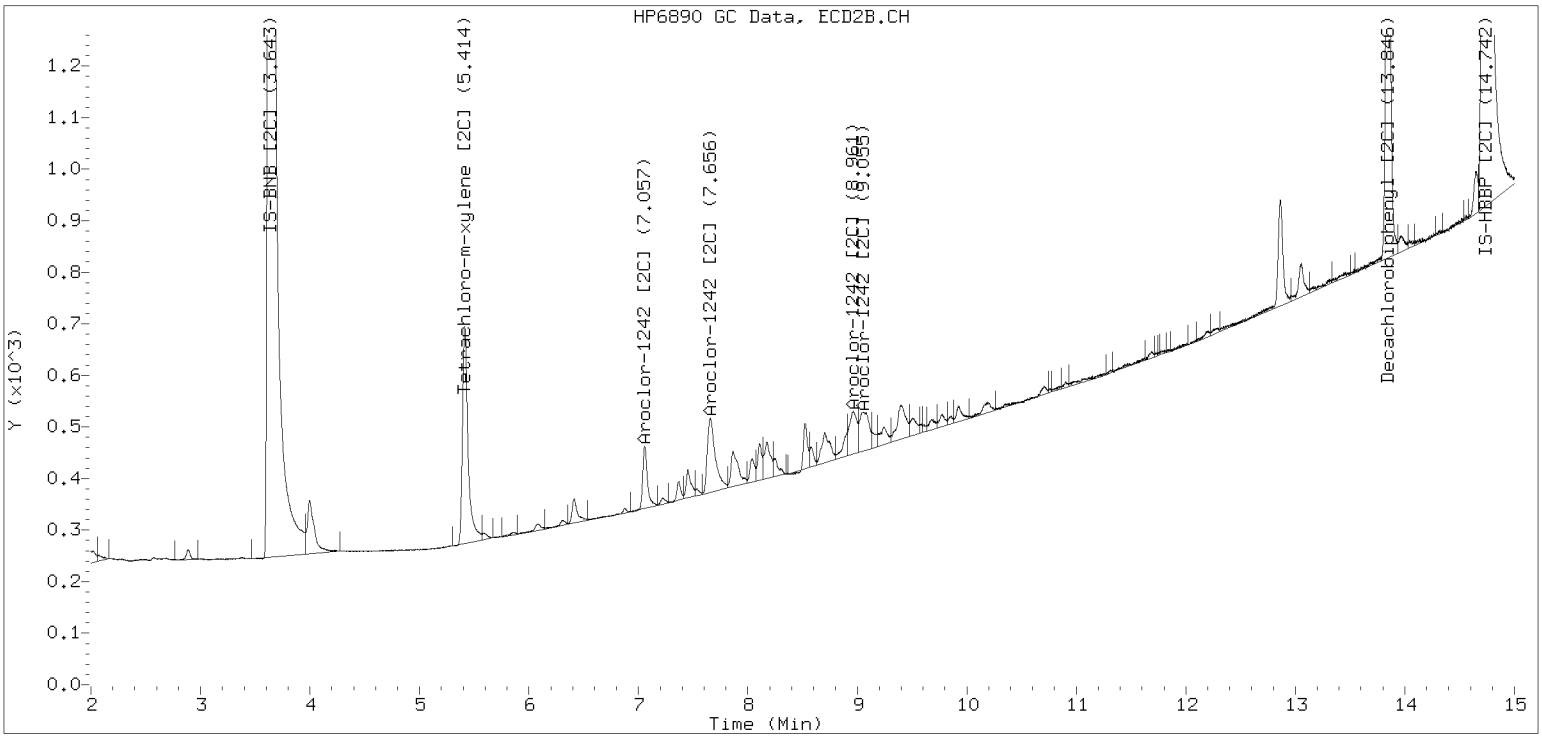


ZB-35 Manual Integration: YES

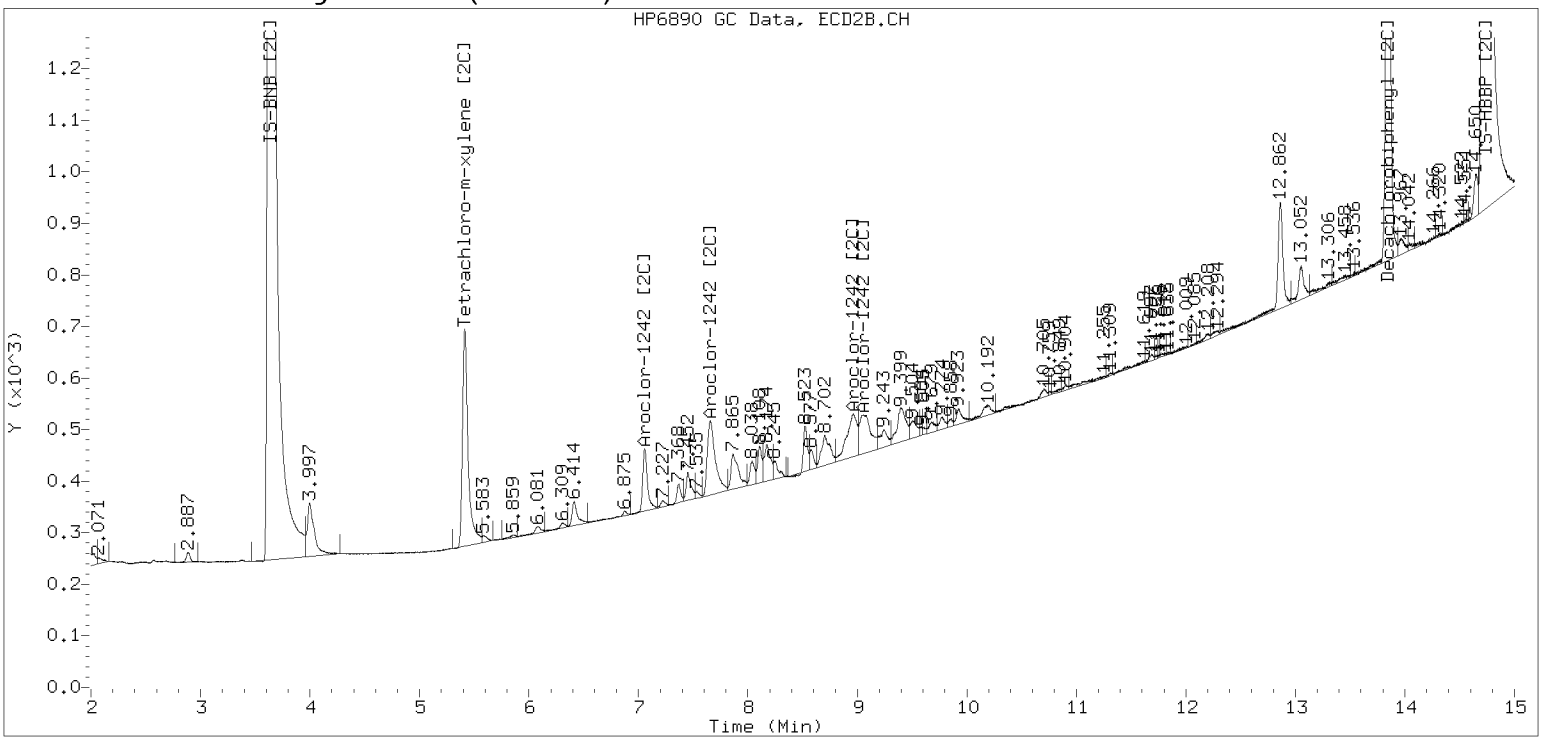
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210813.b/210813.b/08132111.D Injection Date: 13-AUG-2021 22:0

Manual Integration (After)



Processed Integration (Before)



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

Data file 1: /210813.b/08132112ECD7.D
Data file 2: /210813.b/210813.b/08132112ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL8
Client ID:
Injection Date: 13-AUG-2021 22:27
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	22775	5.413	-0.004	72347	7.4	7.8	5.0	Tetrachloro-m-xylene
13.165	-0.001	30955	13.846	-0.034	147761	7.9	7.6	3.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	254431	-1.7
Hexabromobiphenyl	425681	432936	1.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	722925	0.3
Hexabromobiphenyl	863111	877354	1.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1242	1	6.662	0.003	3423	48.8	1	7.058	0.001	16875	50.8
Aroclor-1242	2	7.036	0.005	9075	43.4	2	7.657	0.008	34600	47.9
Aroclor-1242	3	8.386	0.011	5615	47.4	3	8.960	0.011	17574	52.1
Aroclor-1242	4	8.677	0.003	2567	53.1	4	9.045	0.017	18353	48.0

Total Col1Ave (4 peaks): 48.2 Total Col2Ave (4 peaks): 49.7 RPD = 3

Corrected Ave (3 peaks): 46.6 Corrected Ave (3 peaks): 48.9 RPD = 5

Total PCB Area Col1 (5.169 - 13.066) = 74664 Col1 Total PCB = 0.0 ppm*

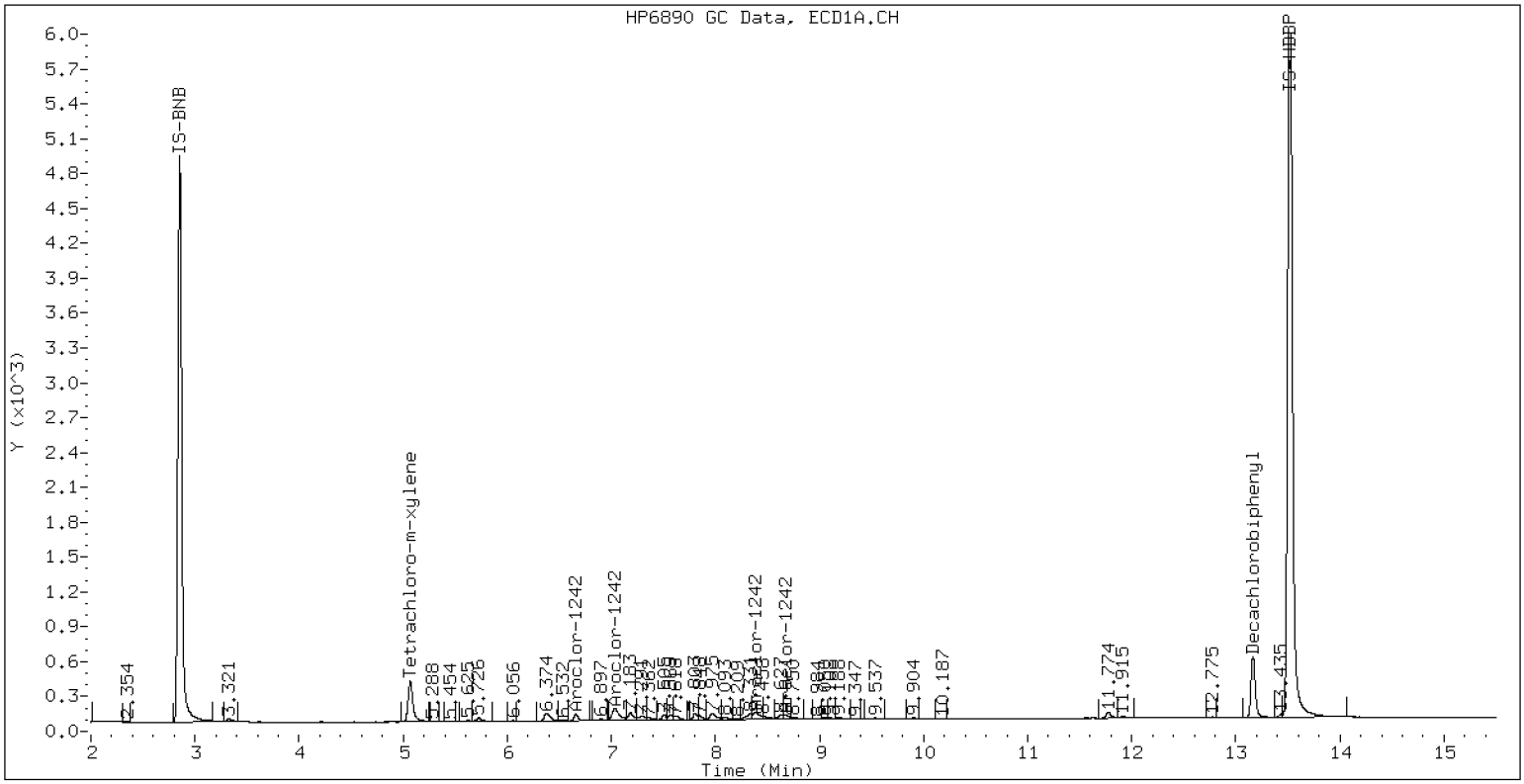
Total PCB Area Col2 (5.169 - 13.066) = 351076 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

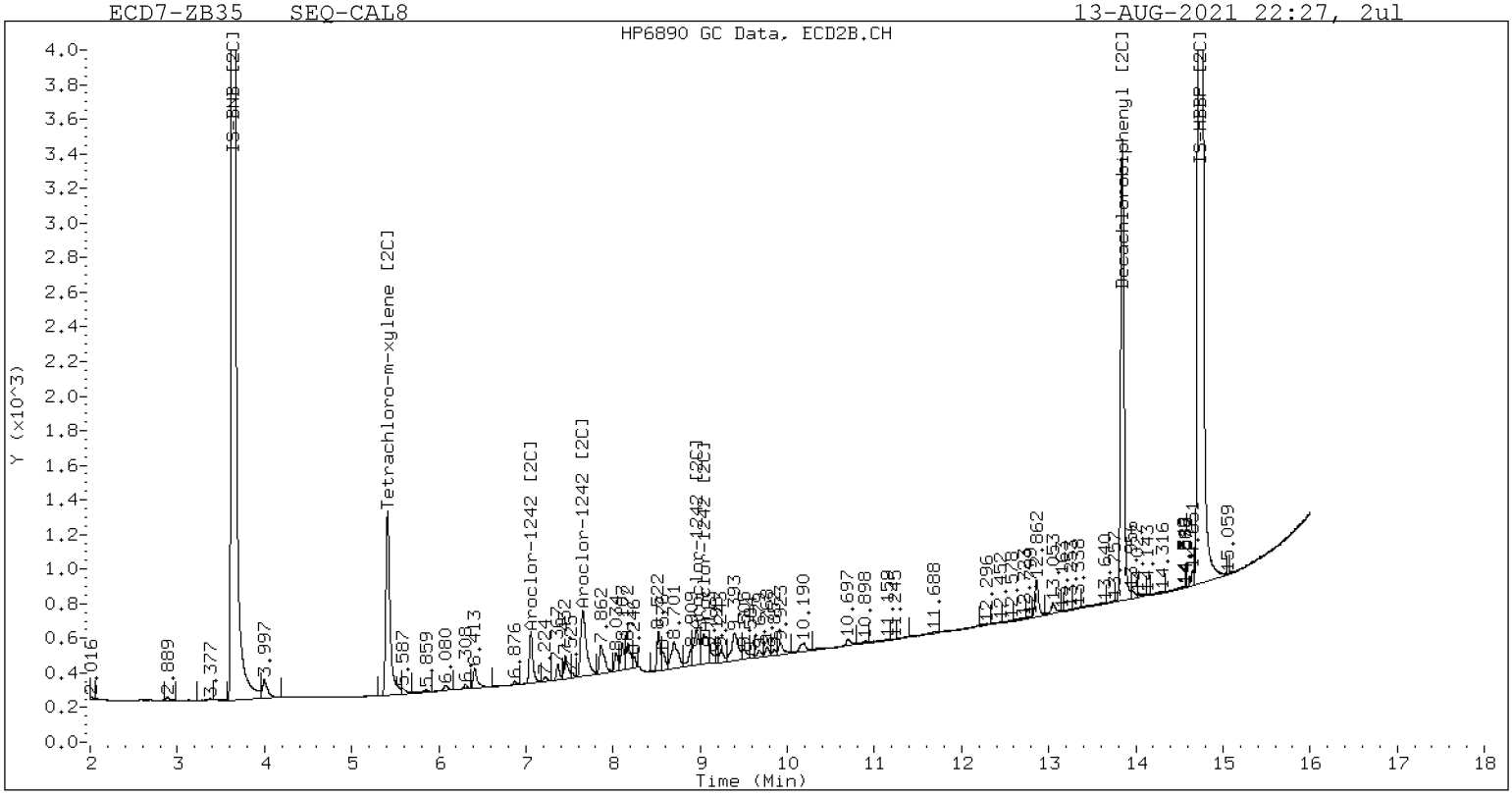
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL8 13-AUG-2021 22:27, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-CAL8 13-AUG-2021 22:27, 2ul

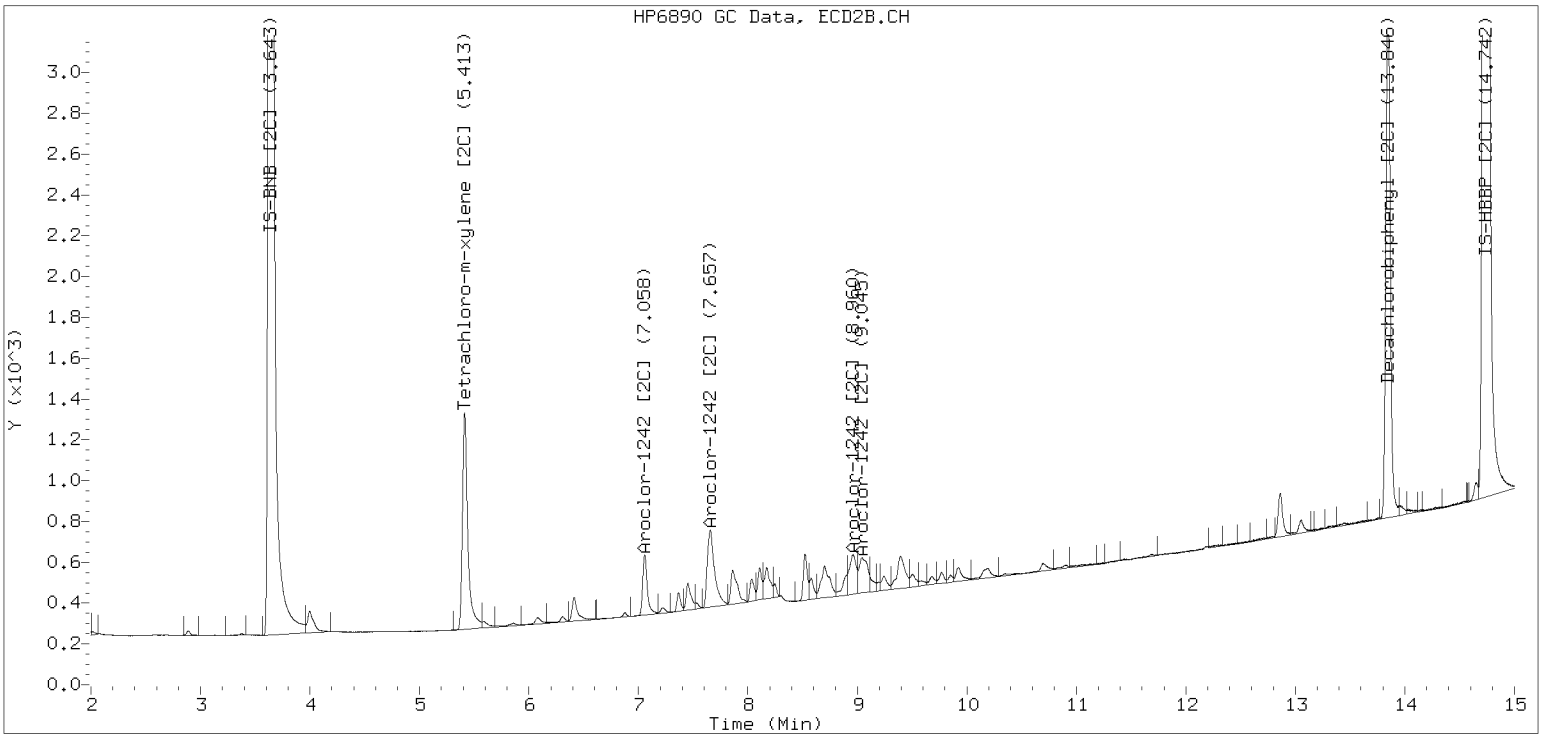


ZB-35 Manual Integration: YES

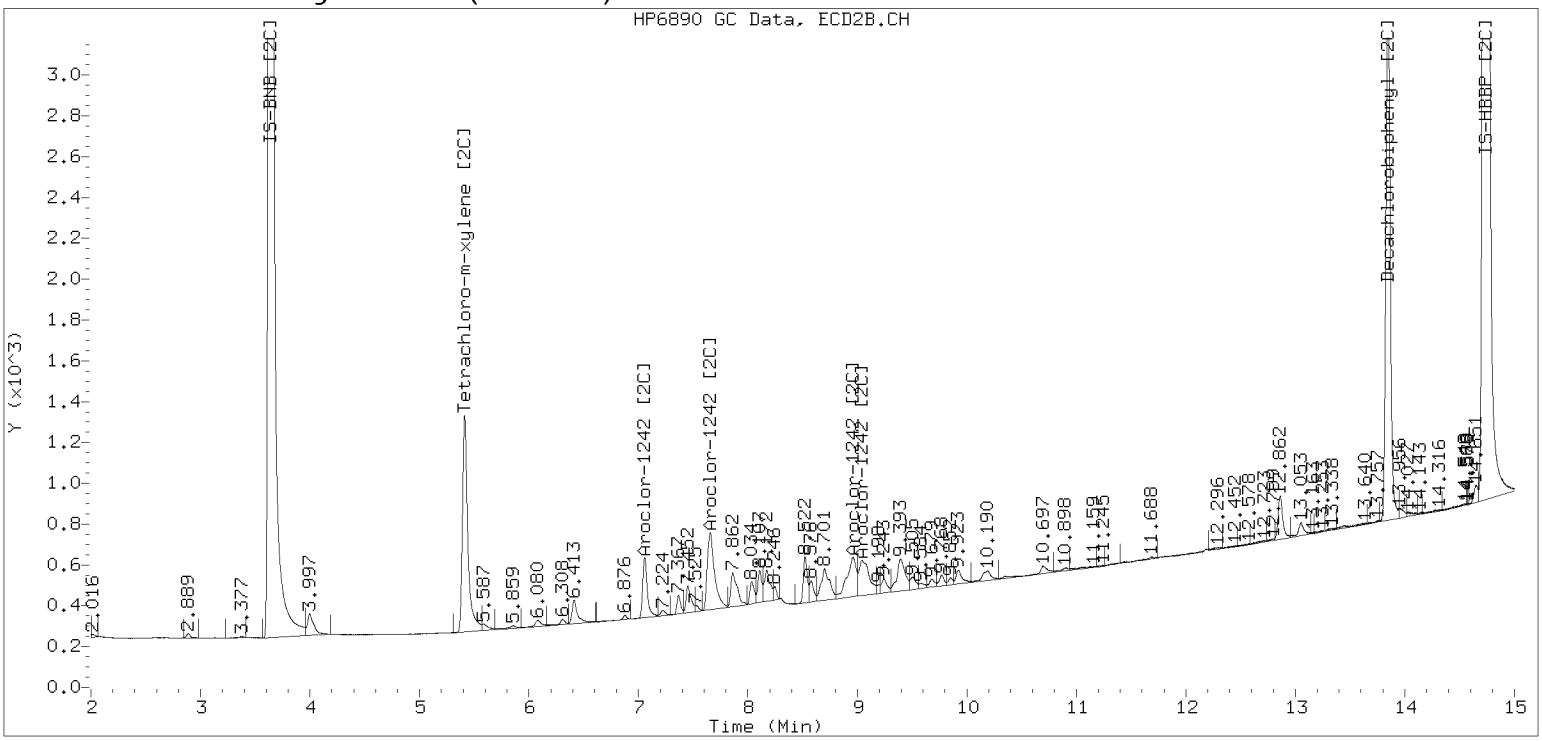
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210813.b/210813.b/08132112.D Injection Date: 13-AUG-2021 22:2

Manual Integration (After)



Processed Integration (Before)



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

Data file 1: /210813.b/08132113ECD7.D
Data file 2: /210813.b/210813.b/08132113ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL9
Client ID:
Injection Date: 13-AUG-2021 22:47
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	49575	5.413	-0.004	149310	15.6	15.7	0.9	Tetrachloro-m-xylene
13.165	-0.001	64075	13.847	-0.033	317373	15.8	15.7	0.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	263477	1.8
Hexabromobiphenyl	425681	447686	5.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	739775	2.6
Hexabromobiphenyl	863111	908046	5.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1242	1	6.661	0.002	7695	106.0	1	7.057	-0.000	35210	103.5
Aroclor-1242	2	7.034	0.004	21772	100.6	2	7.654	0.006	72738	98.5
Aroclor-1242	3	8.380	0.006	12252	99.9	3	8.954	0.006	33982	98.5
Aroclor-1242	4	8.676	0.002	5367	107.1	4	9.039	0.012	41373	105.6

Total Col1Ave (4 peaks): 103.4 Total Col2Ave (4 peaks): 101.5 RPD = 2

Corrected Ave (3 peaks): 102.2 Corrected Ave (3 peaks): 100.1 RPD = 2

Total PCB Area Col1 (5.169 - 13.066) = 168568 Col1 Total PCB = 0.1 ppm*

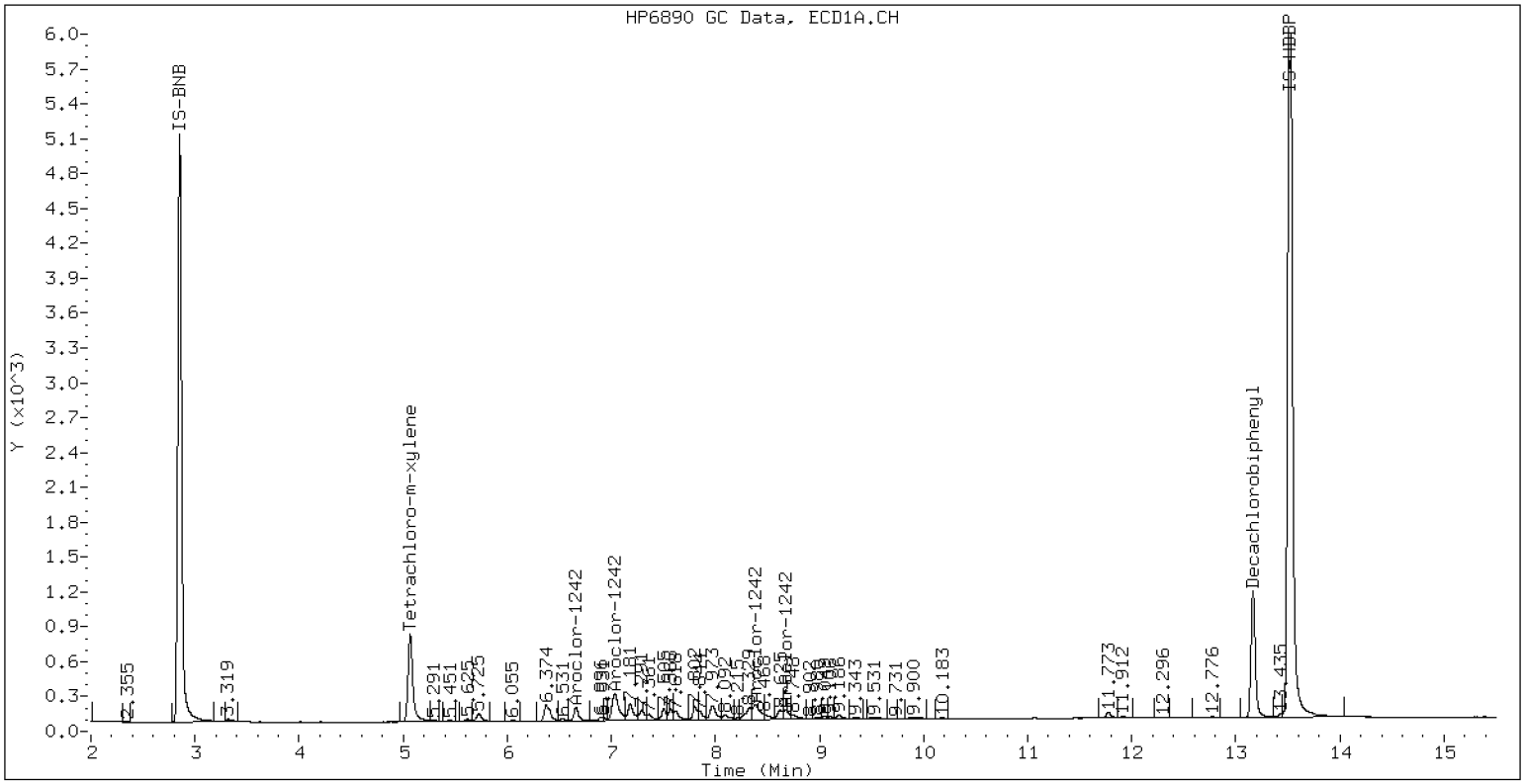
Total PCB Area Col2 (5.169 - 13.066) = 685751 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

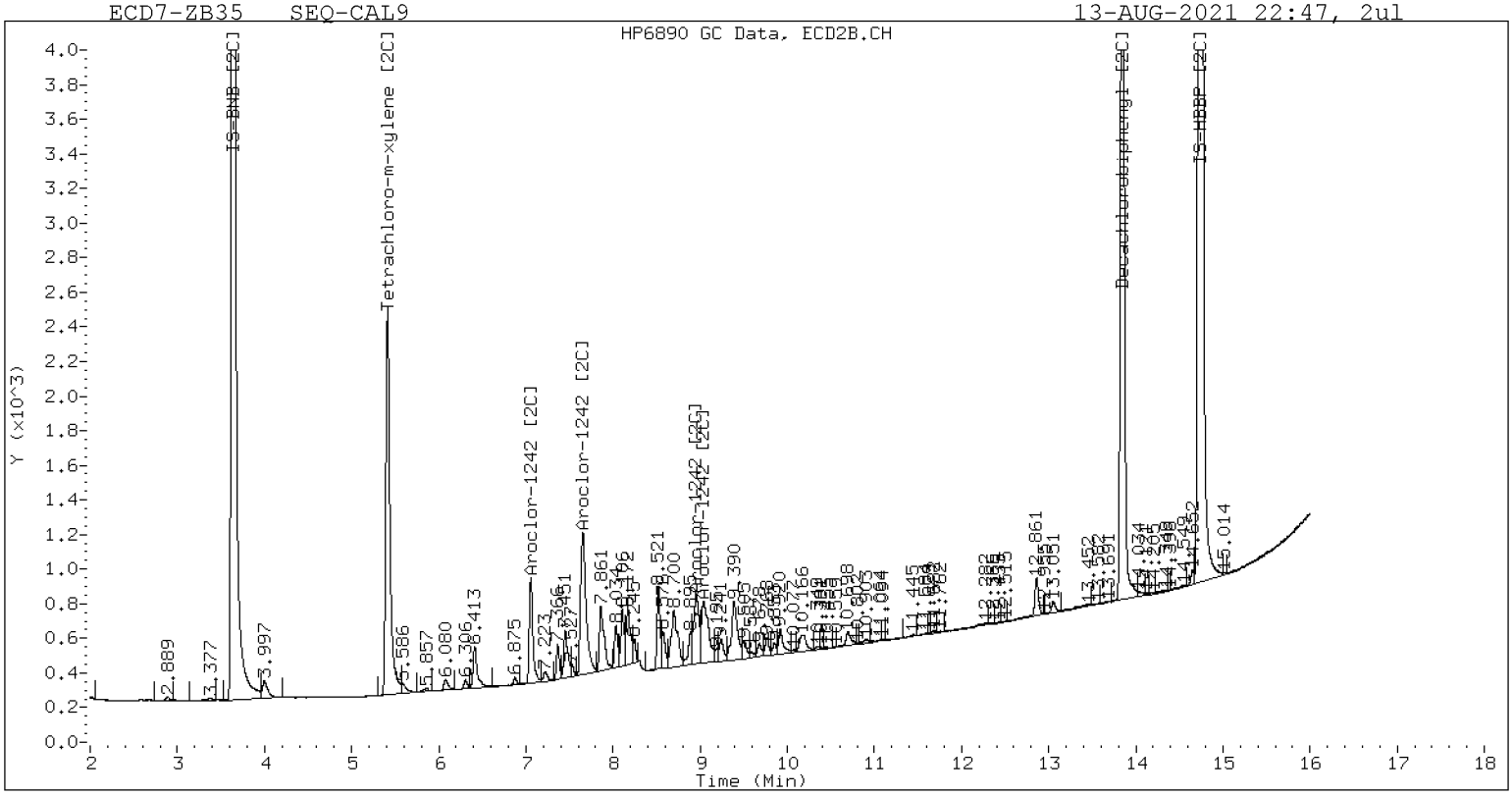
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL9 13-AUG-2021 22:47, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-CAL9 13-AUG-2021 22:47, 2ul

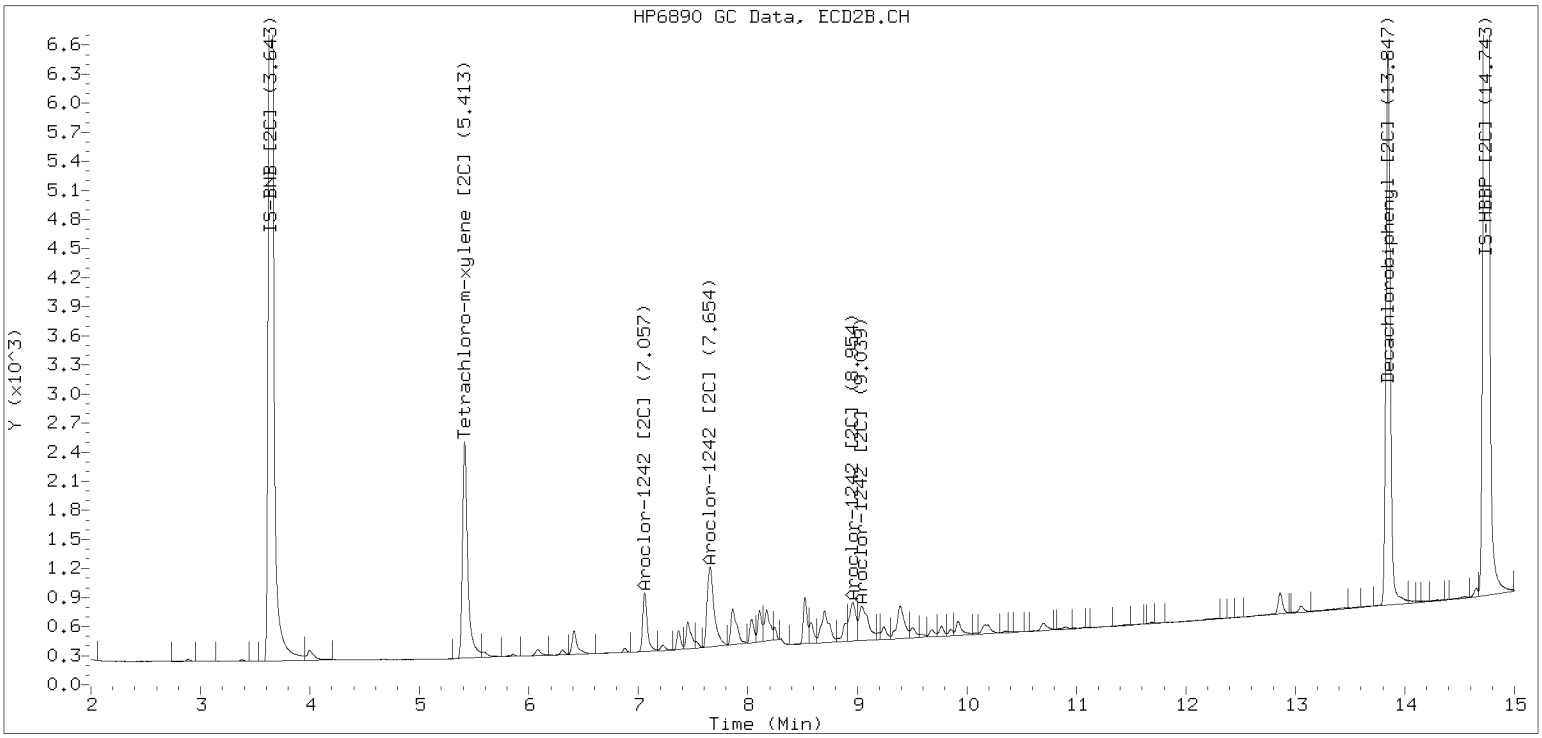


ZB-35 Manual Integration: YES

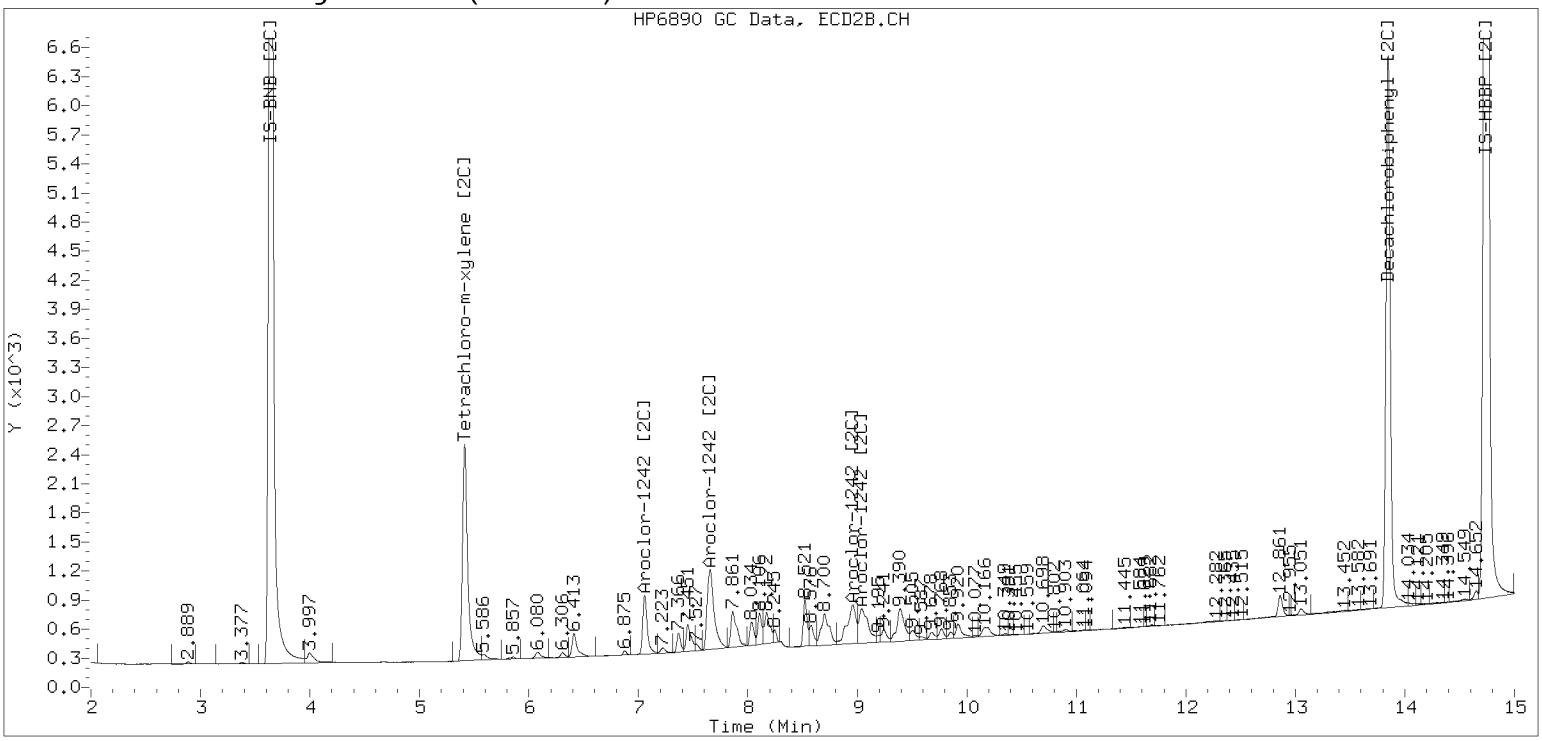
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210813.b/210813.b/08132113.D Injection Date: 13-AUG-2021 22:4

Manual Integration (After)



Processed Integration (Before)



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

Data file 1: /210813.b/08132114ECD7.D
Data file 2: /210813.b/210813.b/08132114ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALA
Client ID:
Injection Date: 13-AUG-2021 23:08
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.000	131882	5.414	-0.003	383756	41.3	40.0	3.3	Tetrachloro-m-xylene
13.165	-0.000	163389	13.847	-0.033	822599	39.5	40.3	2.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	263941	2.0
Hexabromobiphenyl	425681	455818	7.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	746878	3.6
Hexabromobiphenyl	863111	917589	6.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
	ZB5 Col					ZB35 Col				
Aroclor-1242	1	6.660	0.002	19465	267.7	1	7.056	-0.001	87705	255.4
Aroclor-1242	2	7.033	0.003	58524	270.0	2	7.652	0.004	196218	263.1
Aroclor-1242	3	8.379	0.004	29043	236.5	3	8.953	0.005	84240	241.7
Aroclor-1242	4	8.674	0.000	12640	251.9	4	9.034	0.006	98564	249.3

Total Col1Ave (4 peaks): 256.5 Total Col2Ave (4 peaks): 252.4 RPD = 2
Corrected Ave (3 peaks): 252.0 Corrected Ave (3 peaks): 248.8 RPD = 1

Total PCB Area Col1 (5.169 - 13.066) = 436801 Col1 Total PCB = 0.2 ppm*

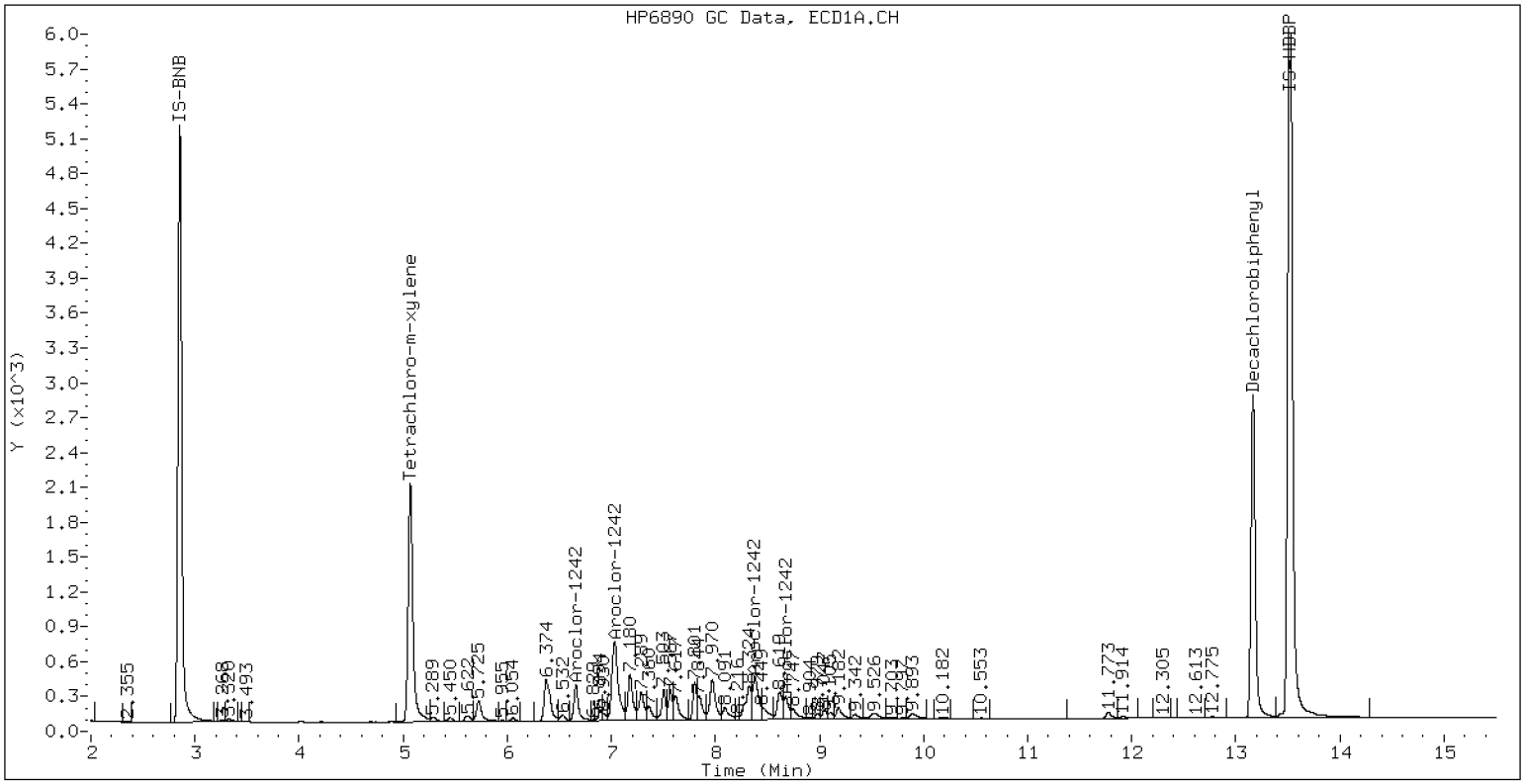
Total PCB Area Col2 (5.169 - 13.066) = 1777148 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

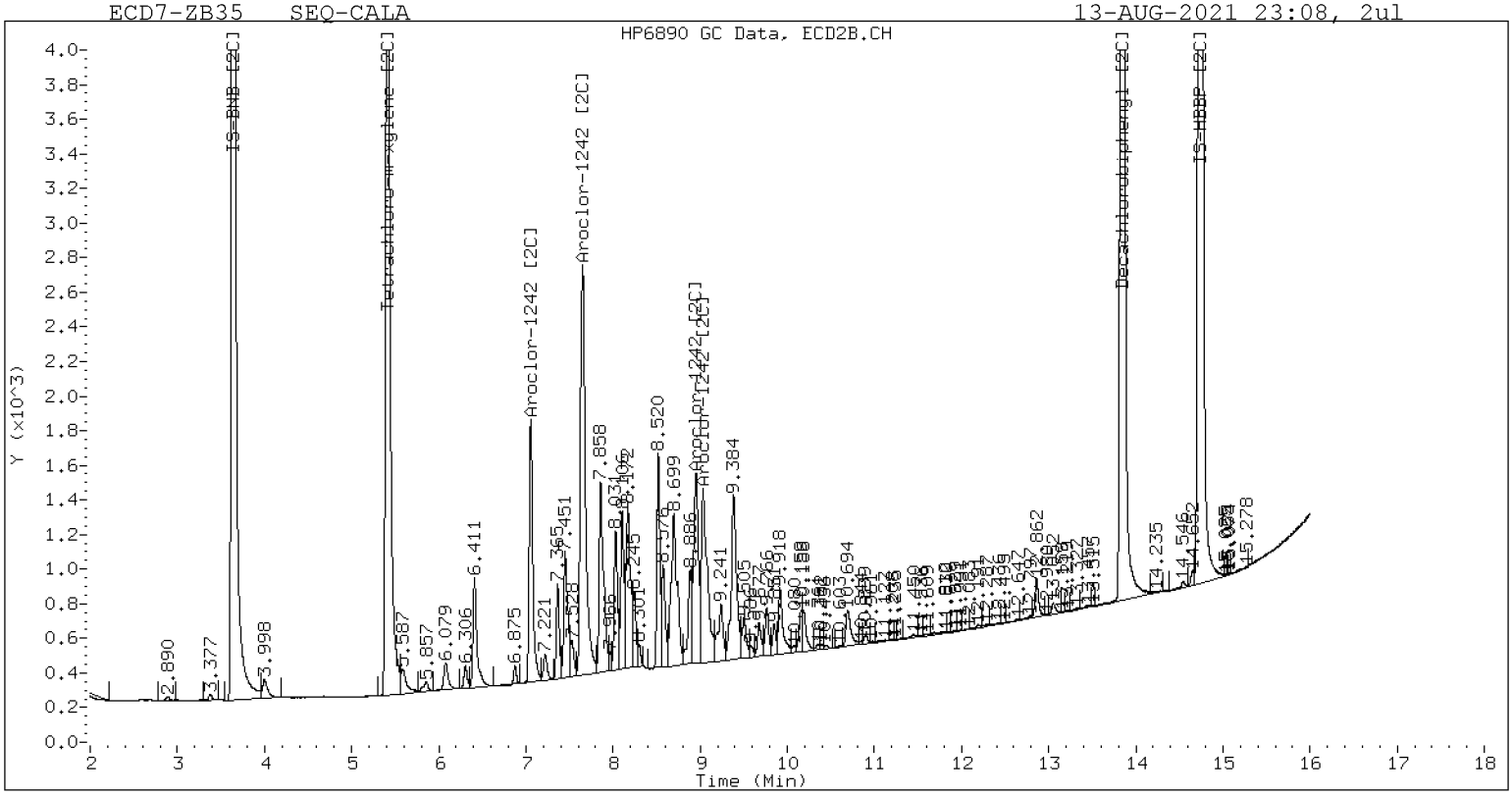
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALA 13-AUG-2021 23:08, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-CALA 13-AUG-2021 23:08, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132115ECD7.D
Data file 2: /210813.b/210813.b/08132115ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALB
Client ID:
Injection Date: 13-AUG-2021 23:28
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.070	0.001	258643	5.414	-0.003	740328	81.7	78.2	4.4	Tetrachloro-m-xylene
13.165	-0.001	313998	13.854	-0.026	1754204	77.8	86.3	10.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	261764	1.1
Hexabromobiphenyl	425681	444869	4.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	736715	2.2
Hexabromobiphenyl	863111	914686	6.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1242	1	6.660	0.001	37614	521.5	1	7.057	0.000	164453	485.5
Aroclor-1242	2	7.033	0.003	117814	548.0	2	7.651	0.002	375288	510.1
Aroclor-1242	3	8.379	0.004	58323	478.9	3	8.952	0.003	157727	458.9
Aroclor-1242	4	8.674	0.001	22510	452.3	4	9.032	0.004	183930	471.6

Total Col1Ave (4 peaks): 500.2 Total Col2Ave (4 peaks): 481.5 RPD = 4

Corrected Ave (3 peaks): 484.2 Corrected Ave (3 peaks): 472.0 RPD = 3

Total PCB Area Col1 (5.169 - 13.066) = 859256 Col1 Total PCB = 0.3 ppm*

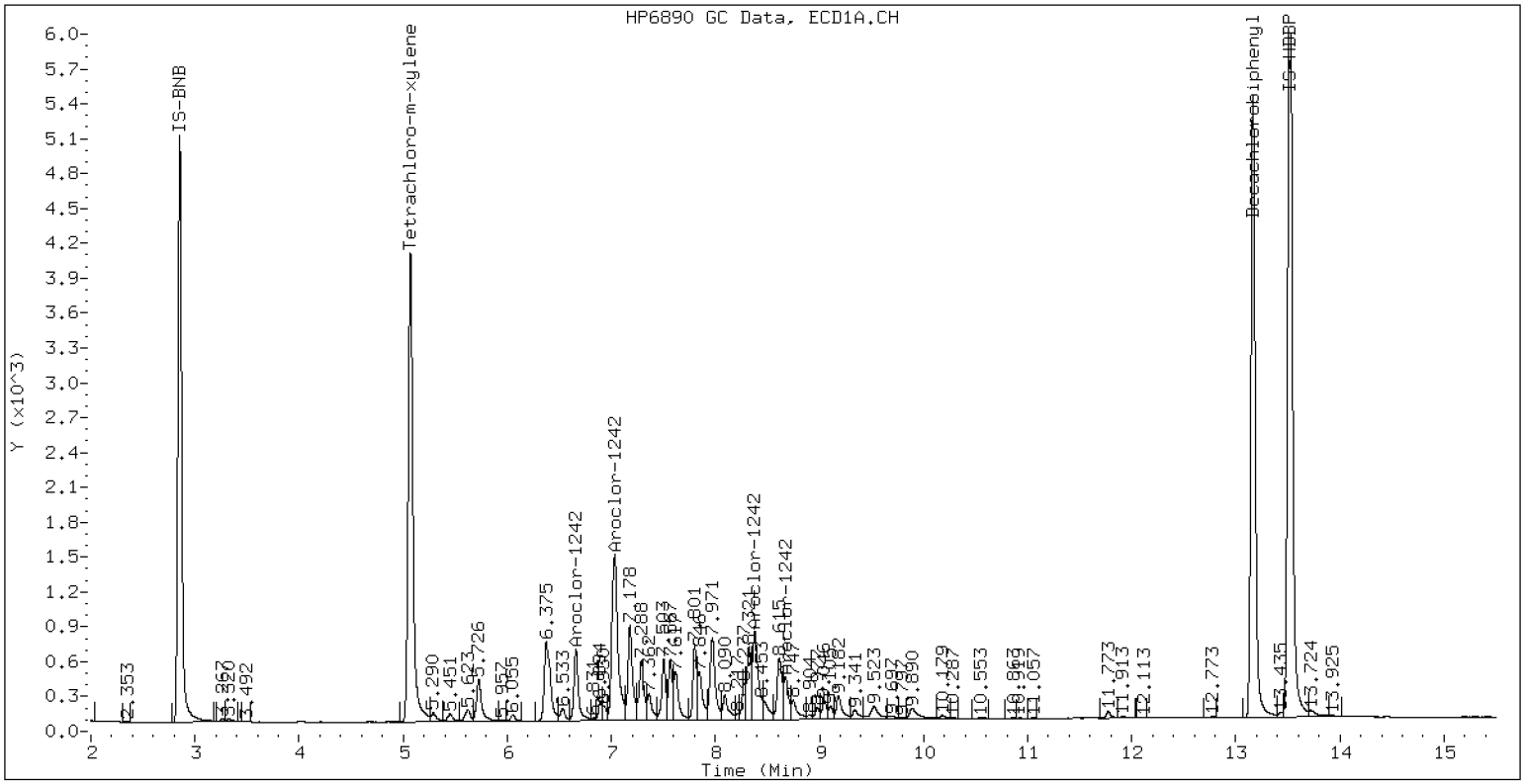
Total PCB Area Col2 (5.169 - 13.066) = 3382751 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

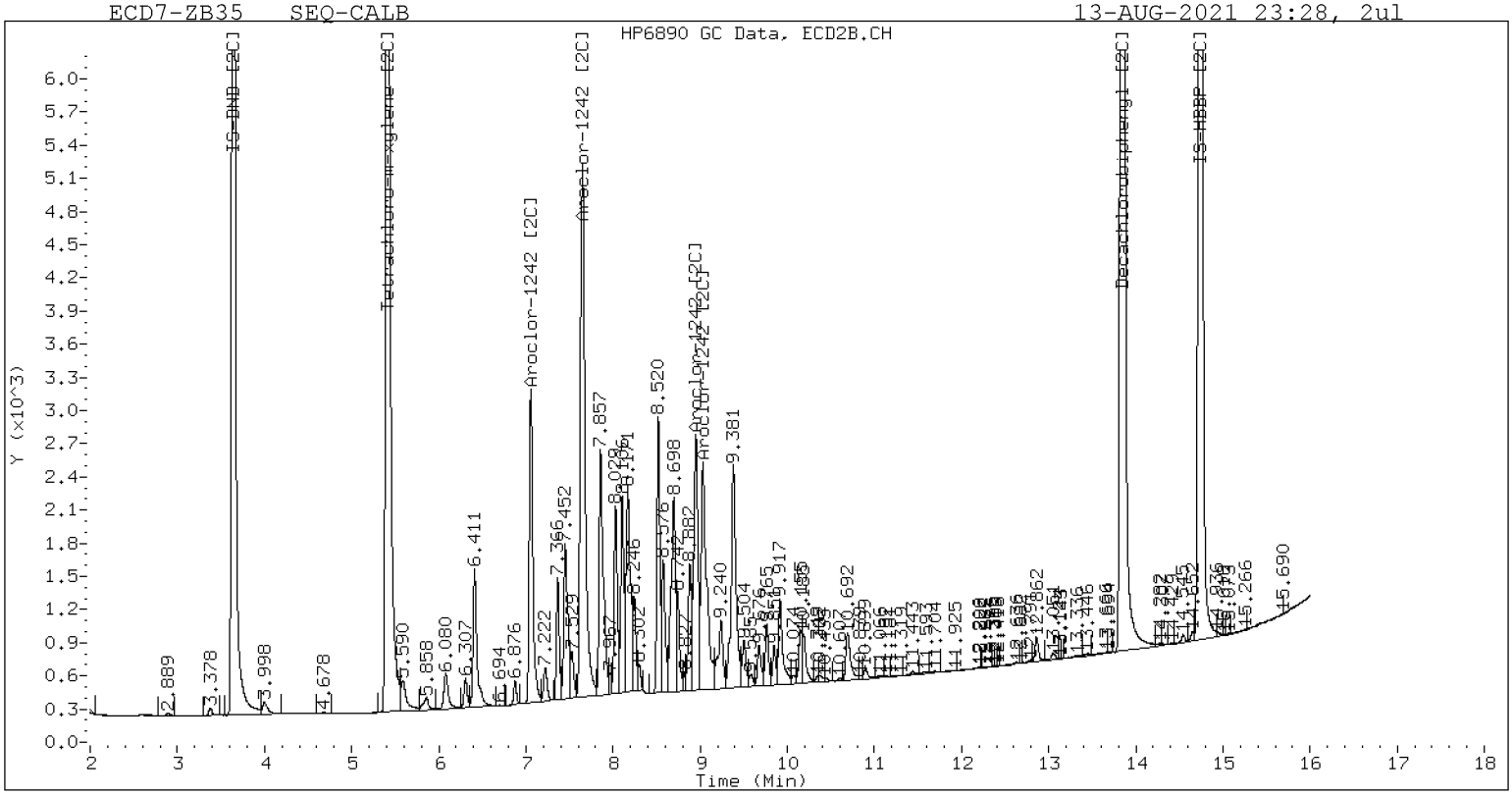
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALB 13-AUG-2021 23:28, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-CALB 13-AUG-2021 23:28, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132116ECD7.D
Data file 2: /210813.b/210813.b/08132116ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALC
Client ID:
Injection Date: 13-AUG-2021 23:49
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.000	563122	5.415	-0.001	1673143	158.2	158.3	0.1	Tetrachloro-m-xylene
13.166	0.000	671473	13.861	-0.019	4321811	147.6	182.7	21.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	294406	13.7
Hexabromobiphenyl	425681	501108	17.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	822336	14.1
Hexabromobiphenyl	863111	1064644	23.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1242	1	6.659	0.000	80300	990.0	1	7.057	0.000	331356	876.4
Aroclor-1242	2	7.030	0.000	263010	1087.7	2	7.649	0.000	783780	954.3
Aroclor-1242	3	8.374	0.000	125591	916.8	3	8.949	0.000	330073	860.3
Aroclor-1242	4	8.674	0.000	44493	794.8	4	9.028	0.000	363121	834.0

Total Col1Ave (4 peaks): 947.3 Total Col2Ave (4 peaks): 881.3 RPD = 7

Corrected Ave (3 peaks): 900.5 Corrected Ave (3 peaks): 856.9 RPD = 5

Total PCB Area Col1 (5.169 - 13.066) = 1871416 Col1 Total PCB = 0.6 ppm*

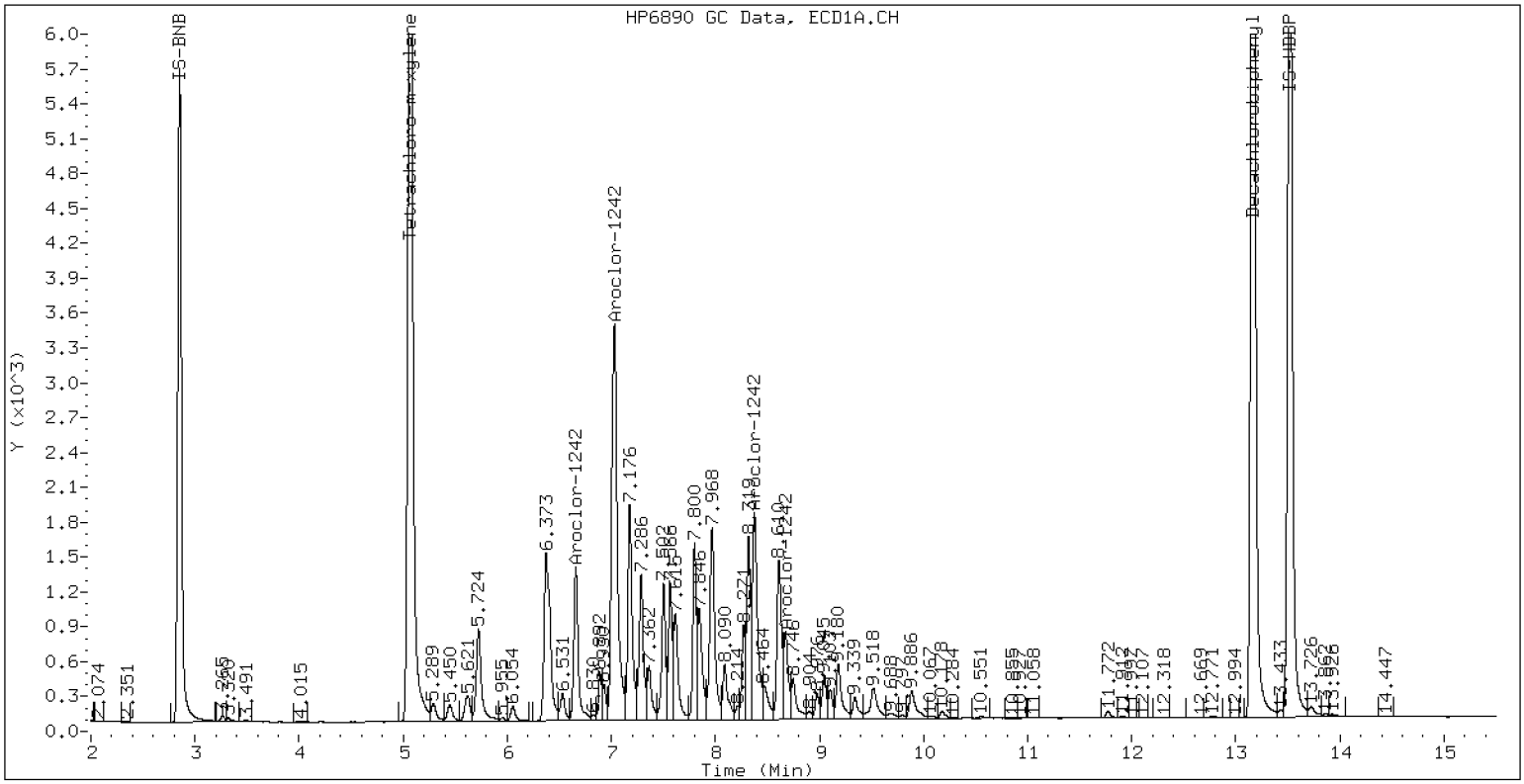
Total PCB Area Col2 (5.169 - 13.066) = 7225430 Col2 Total PCB = 0.7 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

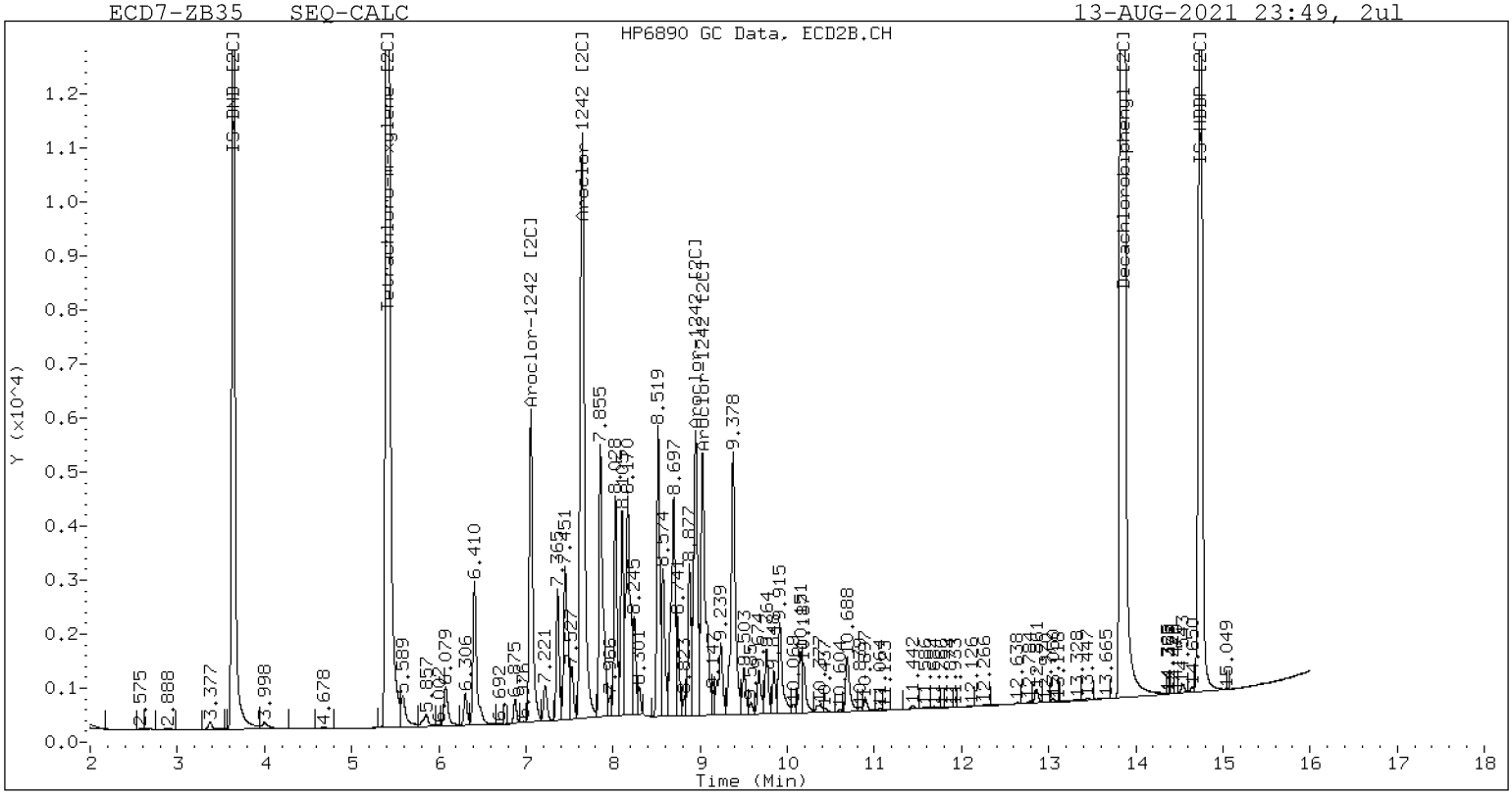
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALC 13-AUG-2021 23:49, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALC 13-AUG-2021 23:49, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132117ECD7.D
Data file 2: /210813.b/210813.b/08132117ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALD
Client ID:
Injection Date: 14-AUG-2021 00:09
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	9201	5.414	-0.003	29778	3.0	3.3	8.1	Tetrachloro-m-xylene
13.165	-0.001	13166	13.846	-0.034	62709	3.4	3.2	5.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	250266	-3.3
Hexabromobiphenyl	425681	429293	0.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	702828	-2.5
Hexabromobiphenyl	863111	880526	2.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
	ZB5 Col					ZB35 Col				
Aroclor-1248	1	7.799	0.001	1894	18.1	1	8.109	0.003	6606	22.7
Aroclor-1248	2	7.974	0.006	2423	17.7	2	8.525	0.005	6970	19.7
Aroclor-1248	3	8.385	0.011	3850	19.2	3	8.964	0.018	12645	22.4
Aroclor-1248	4	8.675	0.002	2537	22.2	4	9.397	0.021	10906	22.7

Total Col1Ave (4 peaks): 19.3 Total Col2Ave (4 peaks): 21.9 RPD = 13

Corrected Ave (3 peaks): 18.3 Corrected Ave (3 peaks): 21.6 RPD = 16

Total PCB Area Col1 (5.169 - 13.066) = 41564 Col1 Total PCB = 0.0 ppm*

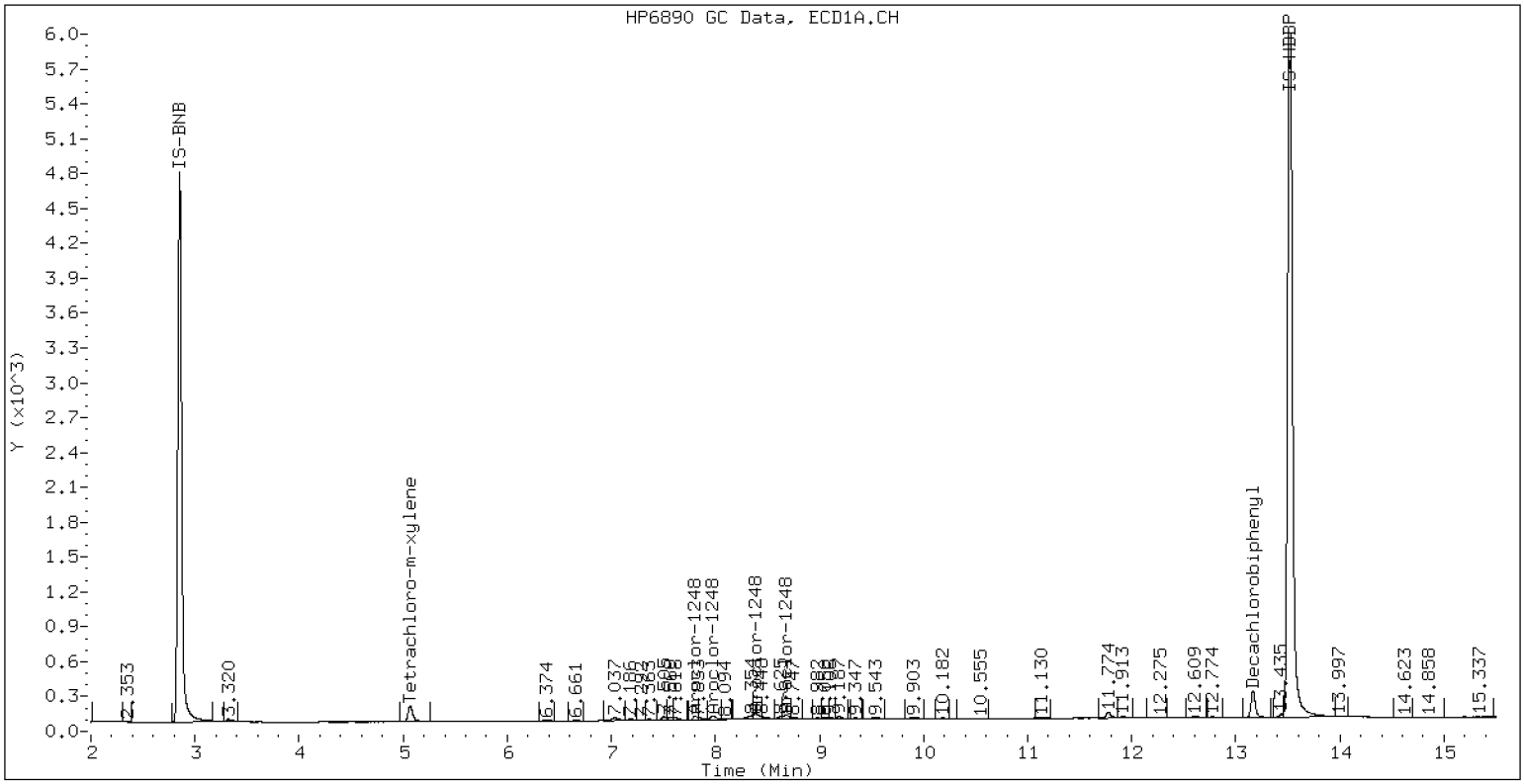
Total PCB Area Col2 (5.169 - 13.066) = 212063 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

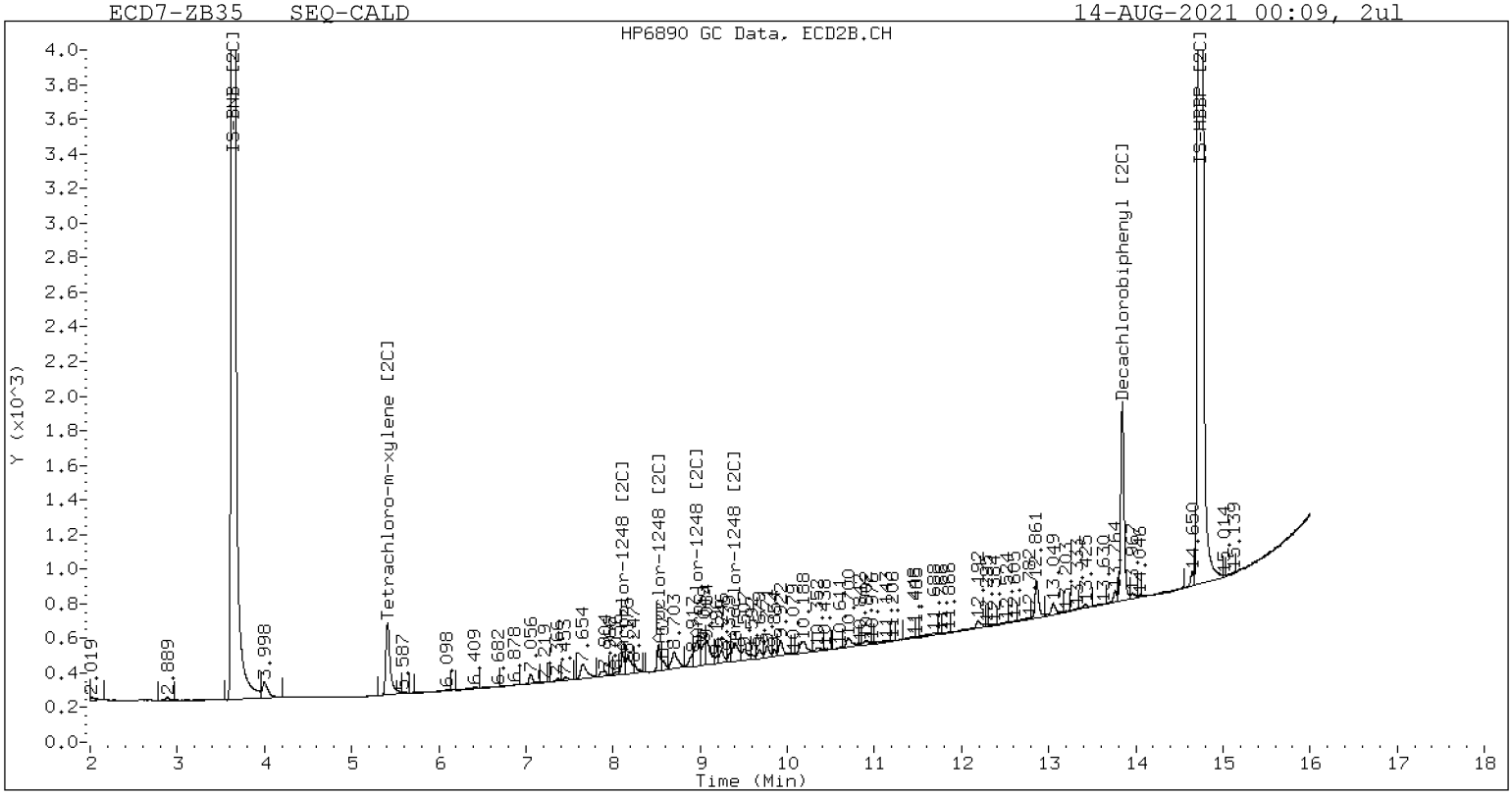
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALD 14-AUG-2021 00:09, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-CALD 14-AUG-2021 00:09, 2ul

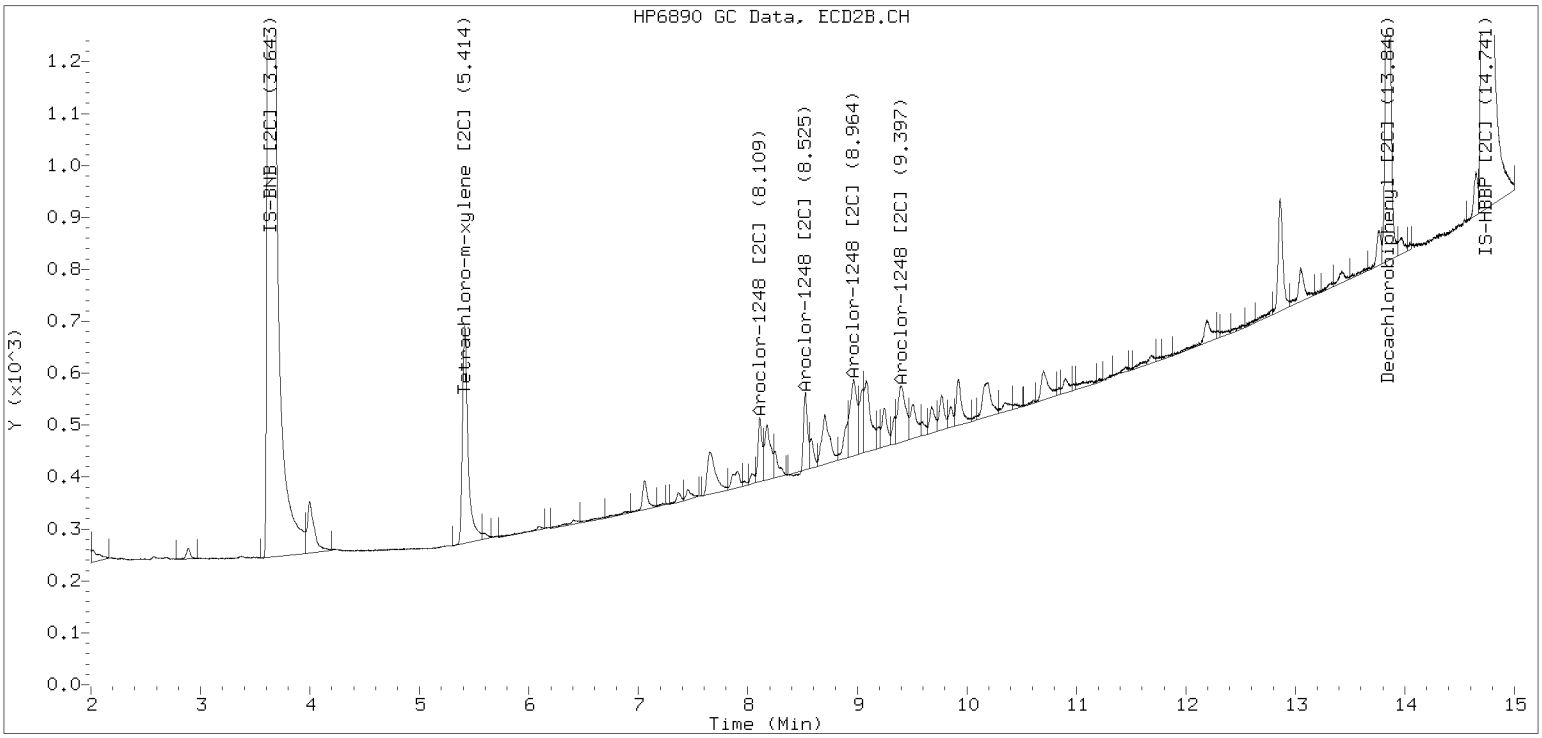


ZB-35 Manual Integration: YES

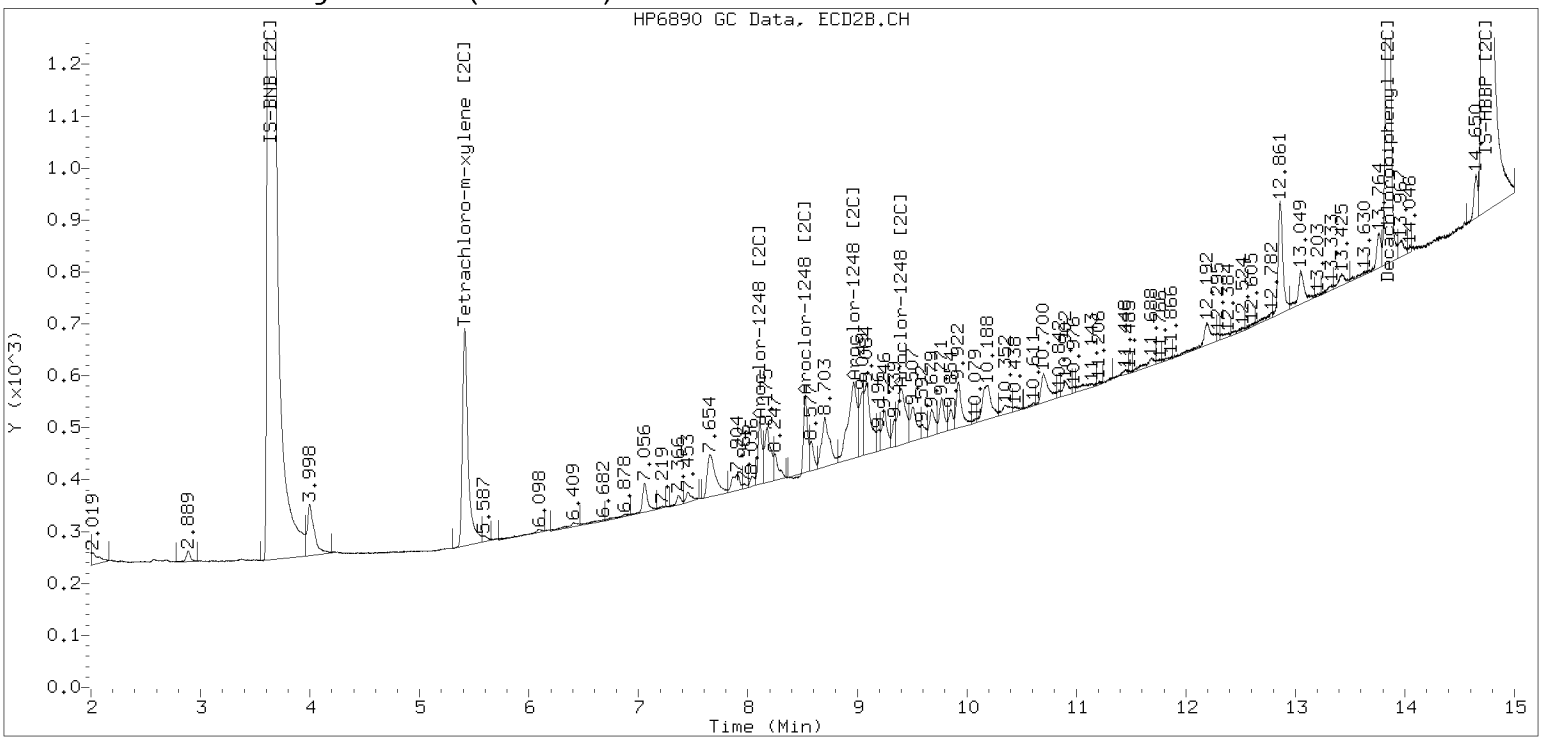
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210813.b/210813.b/08132117.D Injection Date: 14-AUG-2021 00:0

Manual Integration (After)



Processed Integration (Before)



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

Data file 1: /210813.b/08132118ECD7.D
Data file 2: /210813.b/210813.b/08132118ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALE
Client ID:
Injection Date: 14-AUG-2021 00:30
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	-0.000	23276	5.413	-0.003	72230	7.6	7.8	3.6	Tetrachloro-m-xylene
13.164	-0.001	31855	13.847	-0.033	153320	8.0	7.7	4.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	254685	-1.6
Hexabromobiphenyl	425681	438579	3.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	717244	-0.5
Hexabromobiphenyl	863111	898162	4.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1248	1	7.803	0.004	5503	51.6	1	8.109	0.003	15513	52.2
Aroclor-1248	2	7.975	0.007	7033	50.5	2	8.523	0.003	17641	48.8
Aroclor-1248	3	8.384	0.010	10074	49.4	3	8.963	0.016	29702	51.5
Aroclor-1248	4	8.679	0.005	6595	56.6	4	9.391	0.015	24165	49.4

Total Col1Ave (4 peaks): 52.0 Total Col2Ave (4 peaks): 50.5 RPD = 3

Corrected Ave (3 peaks): 50.5 Corrected Ave (3 peaks): 49.9 RPD = 1

Total PCB Area Col1 (5.169 - 13.066) = 108961 Col1 Total PCB = 0.0 ppm*

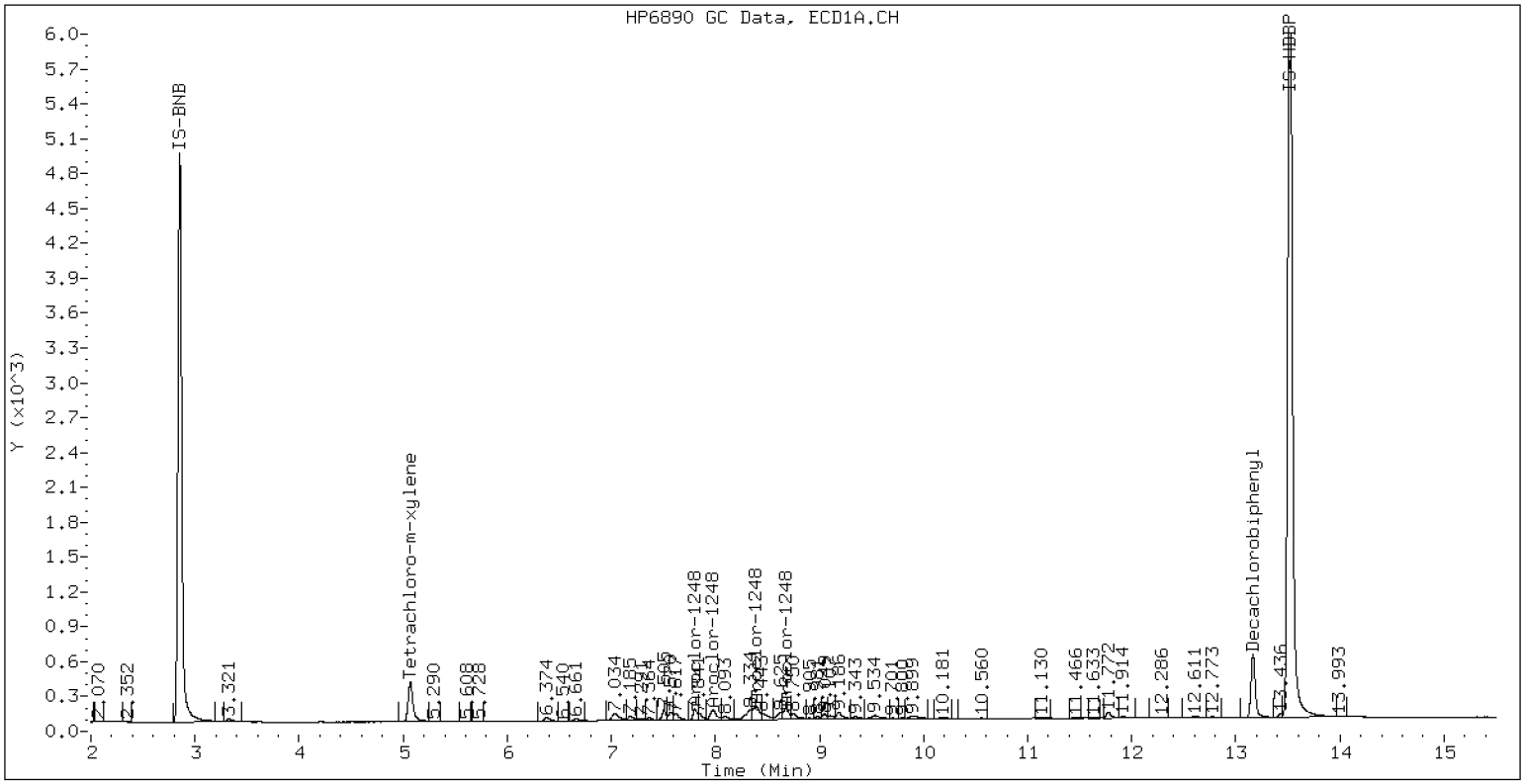
Total PCB Area Col2 (5.169 - 13.066) = 441717 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

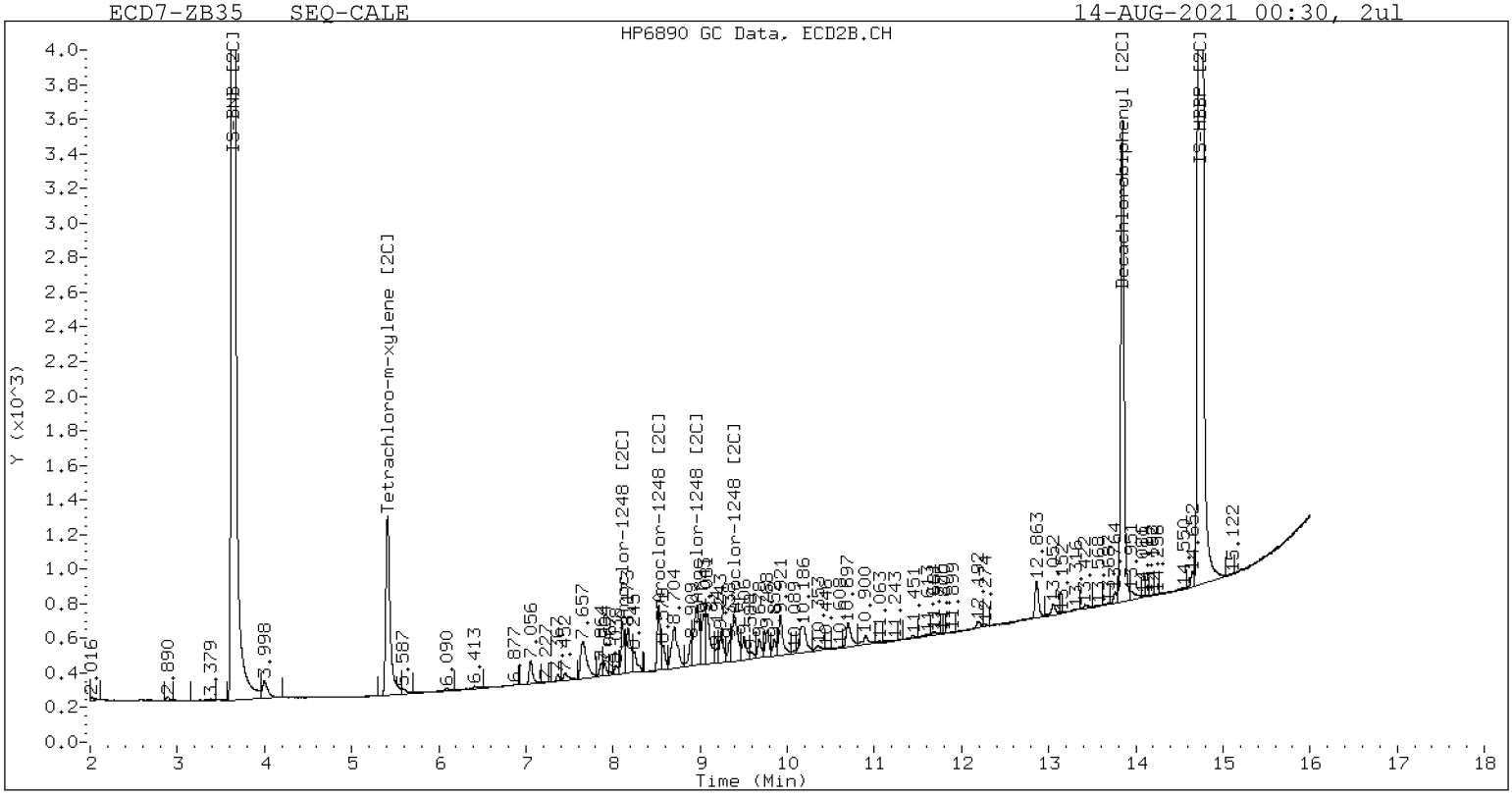
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALE 14-AUG-2021 00:30, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-CALE 14-AUG-2021 00:30, 2ul

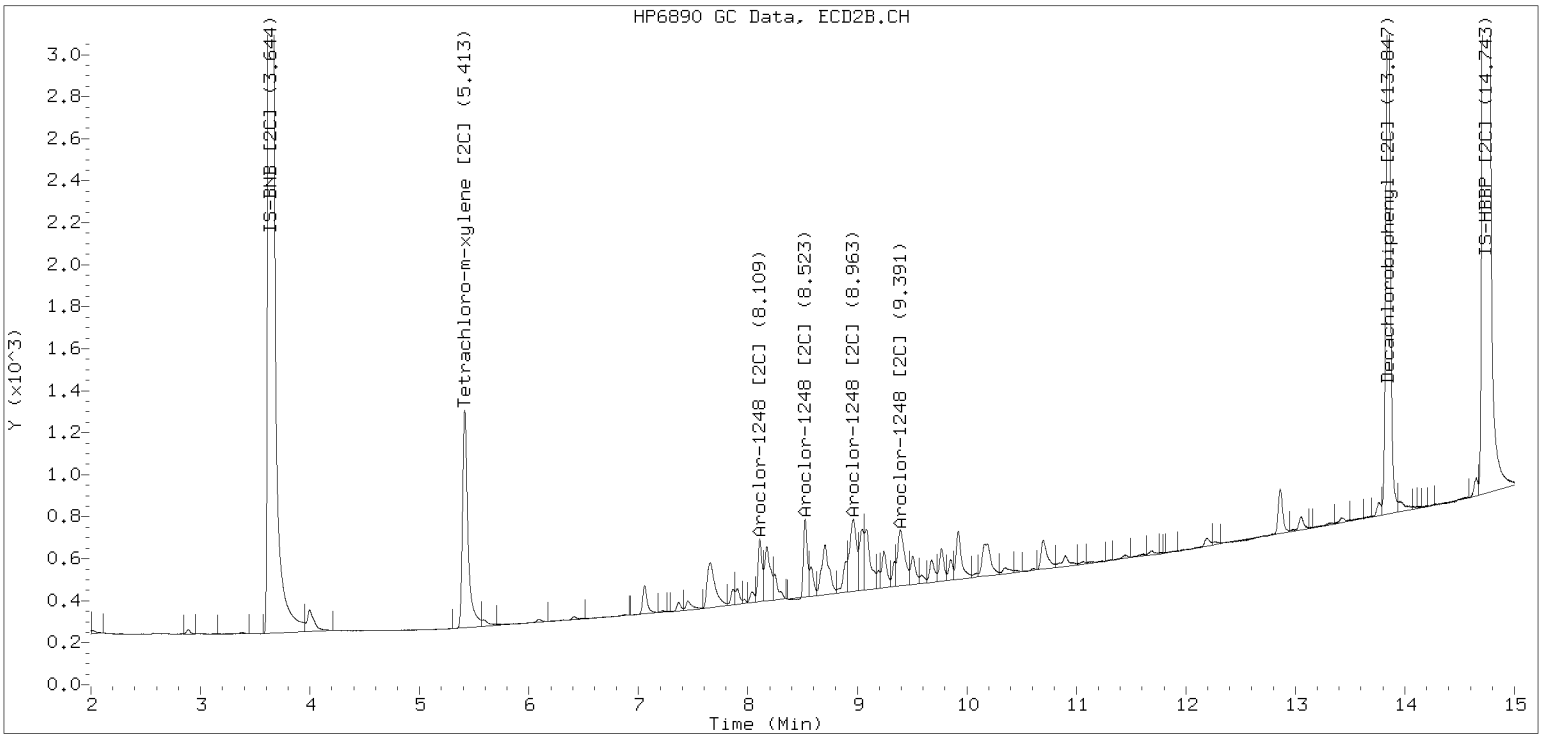


ZB-35 Manual Integration: YES

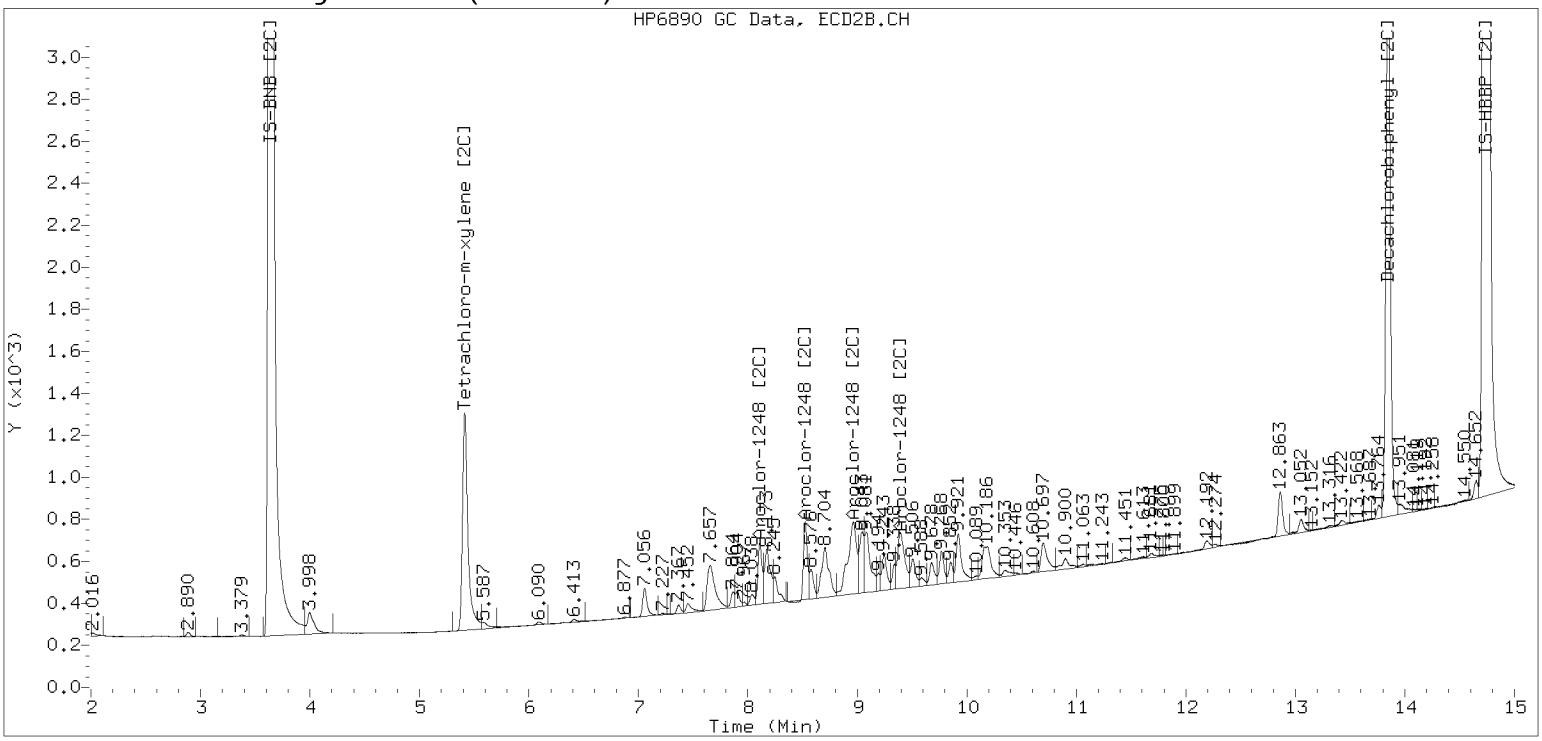
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210813.b/210813.b/08132118.D Injection Date: 14-AUG-2021 00:3

Manual Integration (After)



Processed Integration (Before)



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

Data file 1: /210813.b/08132119ECD7.D
Data file 2: /210813.b/210813.b/08132119ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALF
Client ID:
Injection Date: 14-AUG-2021 00:50
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	49122	5.413	-0.004	147629	15.5	15.6	1.1	Tetrachloro-m-xylene
13.165	-0.001	65855	13.847	-0.033	329717	15.9	15.8	0.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	262535	1.4
Hexabromobiphenyl	425681	455997	7.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	734209	1.8
Hexabromobiphenyl	863111	938375	8.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
	ZB5 Col					ZB35 Col				
Aroclor-1248	1	7.800	0.001	10709	97.3	1	8.107	0.001	28558	93.9
Aroclor-1248	2	7.973	0.005	14129	98.4	2	8.522	0.002	38111	102.9
Aroclor-1248	3	8.383	0.008	21518	102.3	3	8.959	0.013	61308	103.9
Aroclor-1248	4	8.677	0.003	12431	103.6	4	9.388	0.012	48948	97.7

Total Col1Ave (4 peaks): 100.4 Total Col2Ave (4 peaks): 99.6 RPD = 1

Corrected Ave (3 peaks): 99.3 Corrected Ave (3 peaks): 98.2 RPD = 1

Total PCB Area Col1 (5.169 - 13.066) = 238597 Col1 Total PCB = 0.1 ppm*

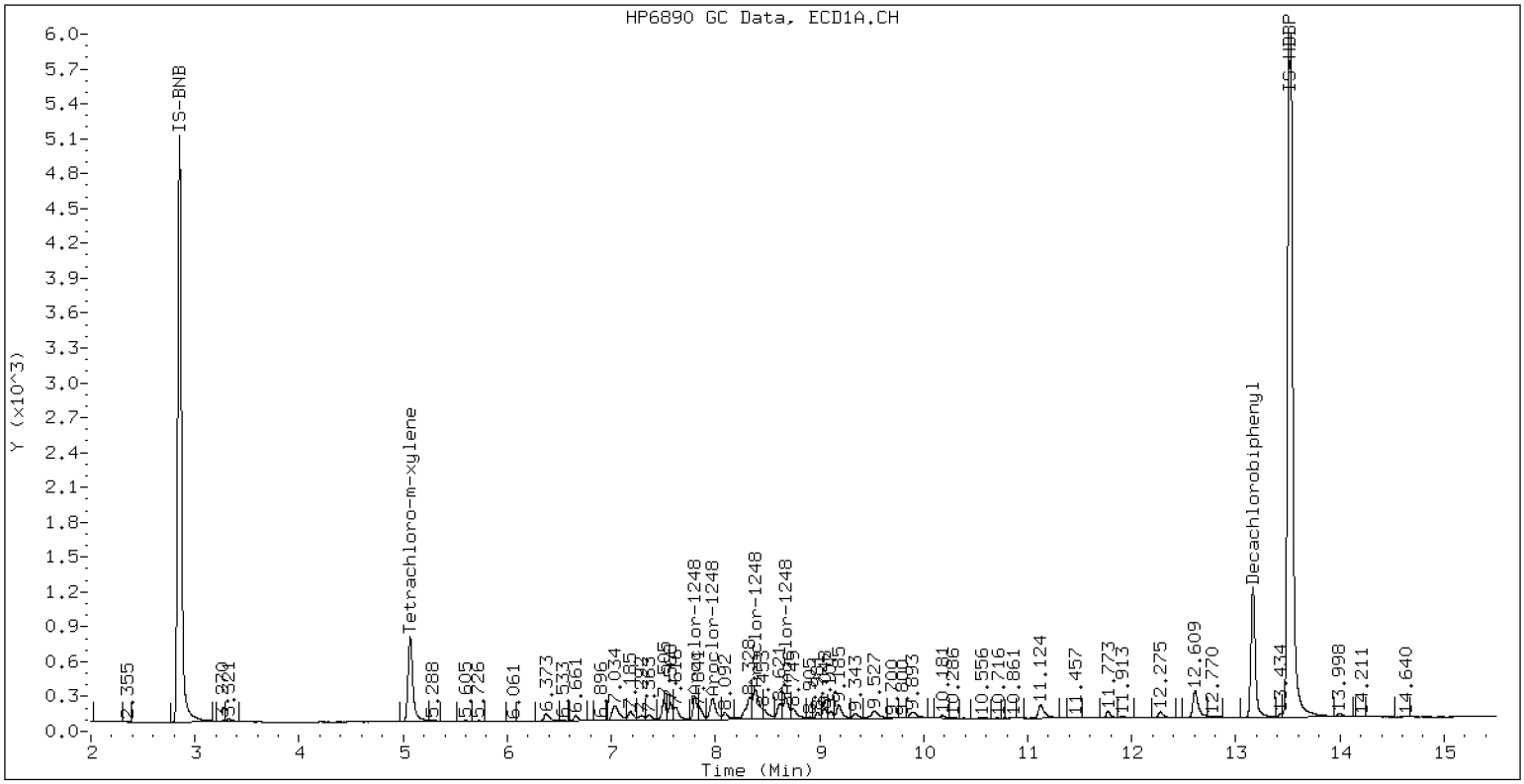
Total PCB Area Col2 (5.169 - 13.066) = 907743 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

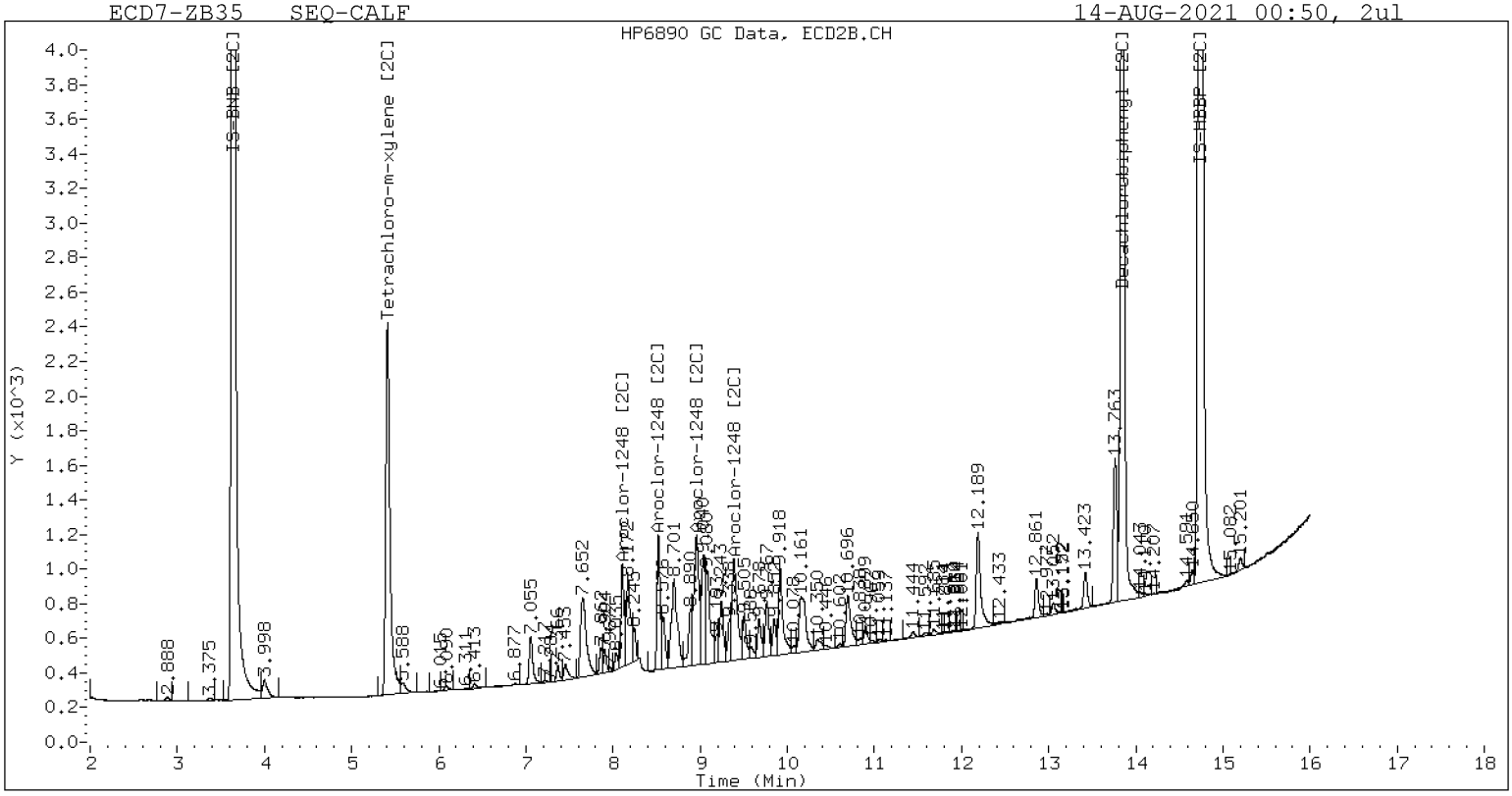
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALF 14-AUG-2021 00:50, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-CALF 14-AUG-2021 00:50, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132120ECD7.D
Data file 2: /210813.b/210813.b/08132120ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALG
Client ID:
Injection Date: 14-AUG-2021 01:11
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	129037	5.413	-0.004	373143	40.5	39.6	2.4	Tetrachloro-m-xylene
13.165	-0.000	162705	13.848	-0.032	830692	40.1	40.0	0.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	263302	1.7
Hexabromobiphenyl	425681	446916	5.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	733764	1.8
Hexabromobiphenyl	863111	933874	8.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1248	1	7.800	0.002	28501	258.3	1	8.107	0.001	76584	251.9
Aroclor-1248	2	7.971	0.003	37812	262.5	2	8.521	0.001	96409	260.5
Aroclor-1248	3	8.381	0.006	54570	258.7	3	8.953	0.007	144251	244.7
Aroclor-1248	4	8.676	0.002	29650	246.3	4	9.382	0.005	122847	245.4

Total Col1Ave (4 peaks): 256.5 Total Col2Ave (4 peaks): 250.6 RPD = 2

Corrected Ave (3 peaks): 254.4 Corrected Ave (3 peaks): 247.3 RPD = 3

Total PCB Area Col1 (5.169 - 13.066) = 569475 Col1 Total PCB = 0.2 ppm*

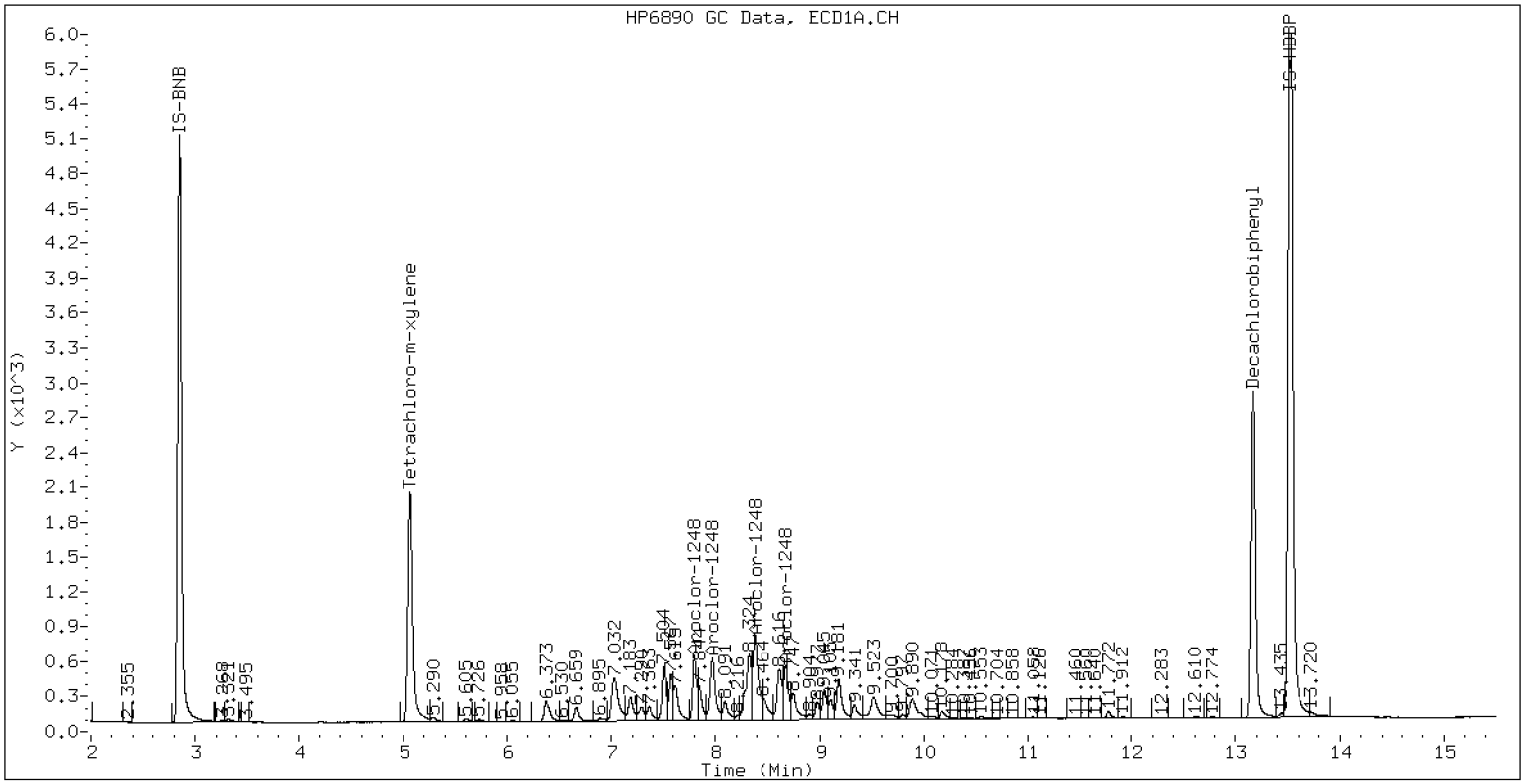
Total PCB Area Col2 (5.169 - 13.066) = 2178081 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

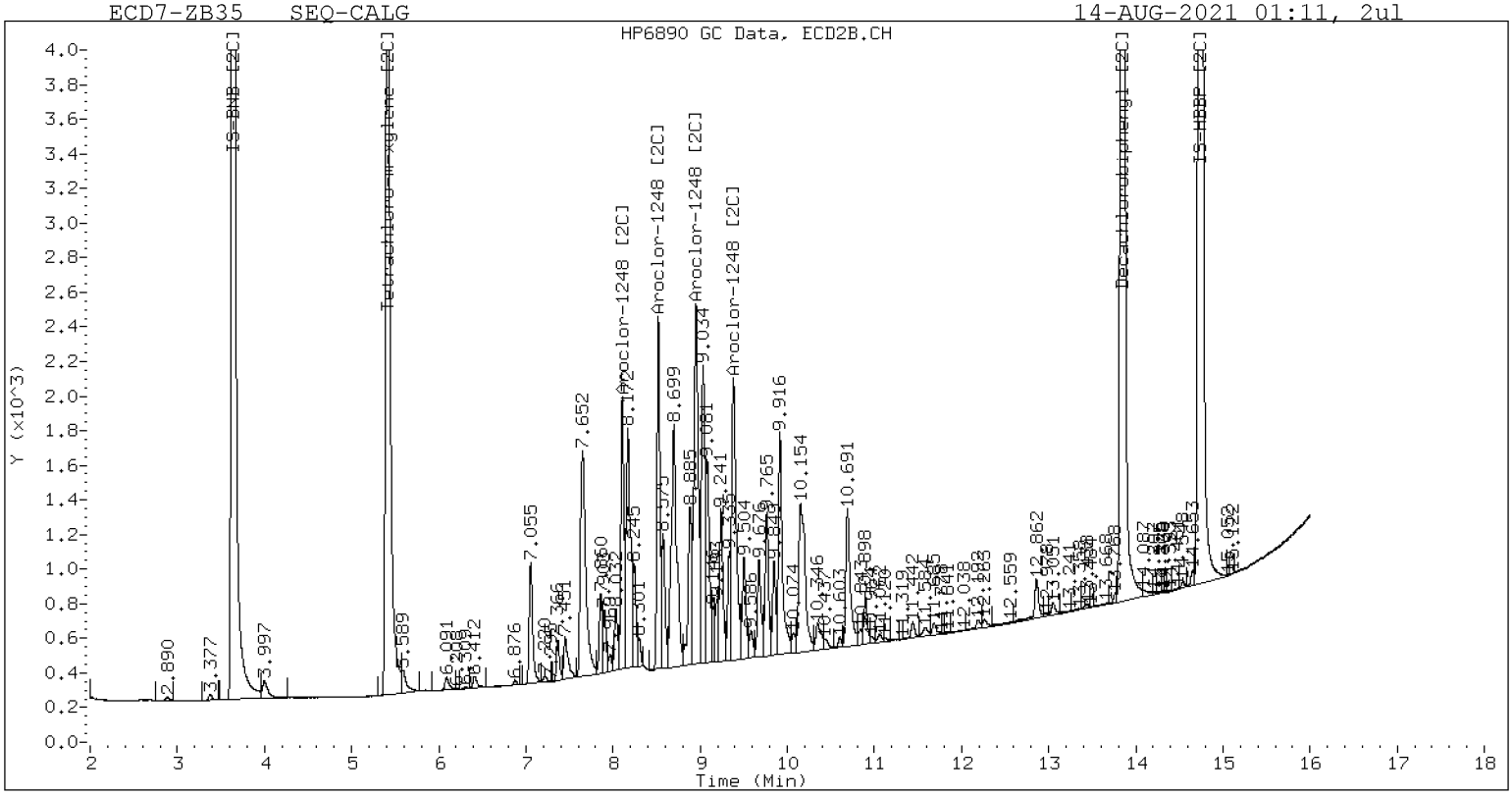
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALG 14-AUG-2021 01:11, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALG 14-AUG-2021 01:11, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132121ECD7.D
Data file 2: /210813.b/210813.b/08132121ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALH
Client ID:
Injection Date: 14-AUG-2021 01:31
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.000	259806	5.414	-0.003	733120	82.3	78.0	5.3	Tetrachloro-m-xylene
13.164	-0.001	317292	13.852	-0.028	1796528	78.7	86.8	9.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	261194	0.9
Hexabromobiphenyl	425681	444403	4.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	731293	1.4
Hexabromobiphenyl	863111	931394	7.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1248	1	7.801	0.003	57044	521.1	1	8.107	0.001	147388	486.4
Aroclor-1248	2	7.970	0.003	75071	525.4	2	8.521	0.001	187163	507.4
Aroclor-1248	3	8.380	0.005	107206	512.4	3	8.951	0.004	278978	474.8
Aroclor-1248	4	8.676	0.002	54715	458.1	4	9.379	0.003	241446	483.9

Total Col1Ave (4 peaks): 504.3 Total Col2Ave (4 peaks): 488.1 RPD = 3

Corrected Ave (3 peaks): 497.2 Corrected Ave (3 peaks): 481.7 RPD = 3

Total PCB Area Col1 (5.169 - 13.066) = 1127483 Col1 Total PCB = 0.4 ppm*

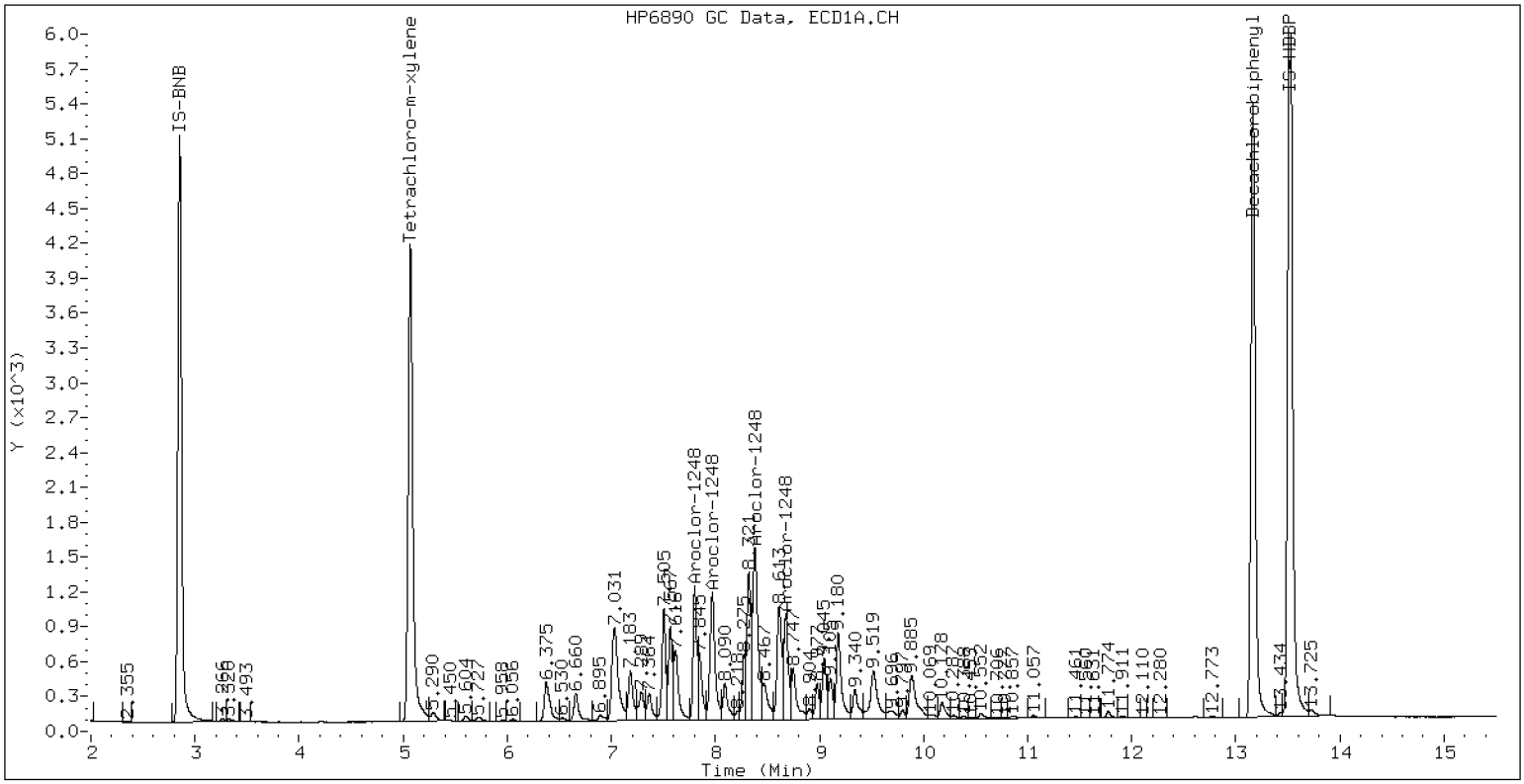
Total PCB Area Col2 (5.169 - 13.066) = 4224820 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

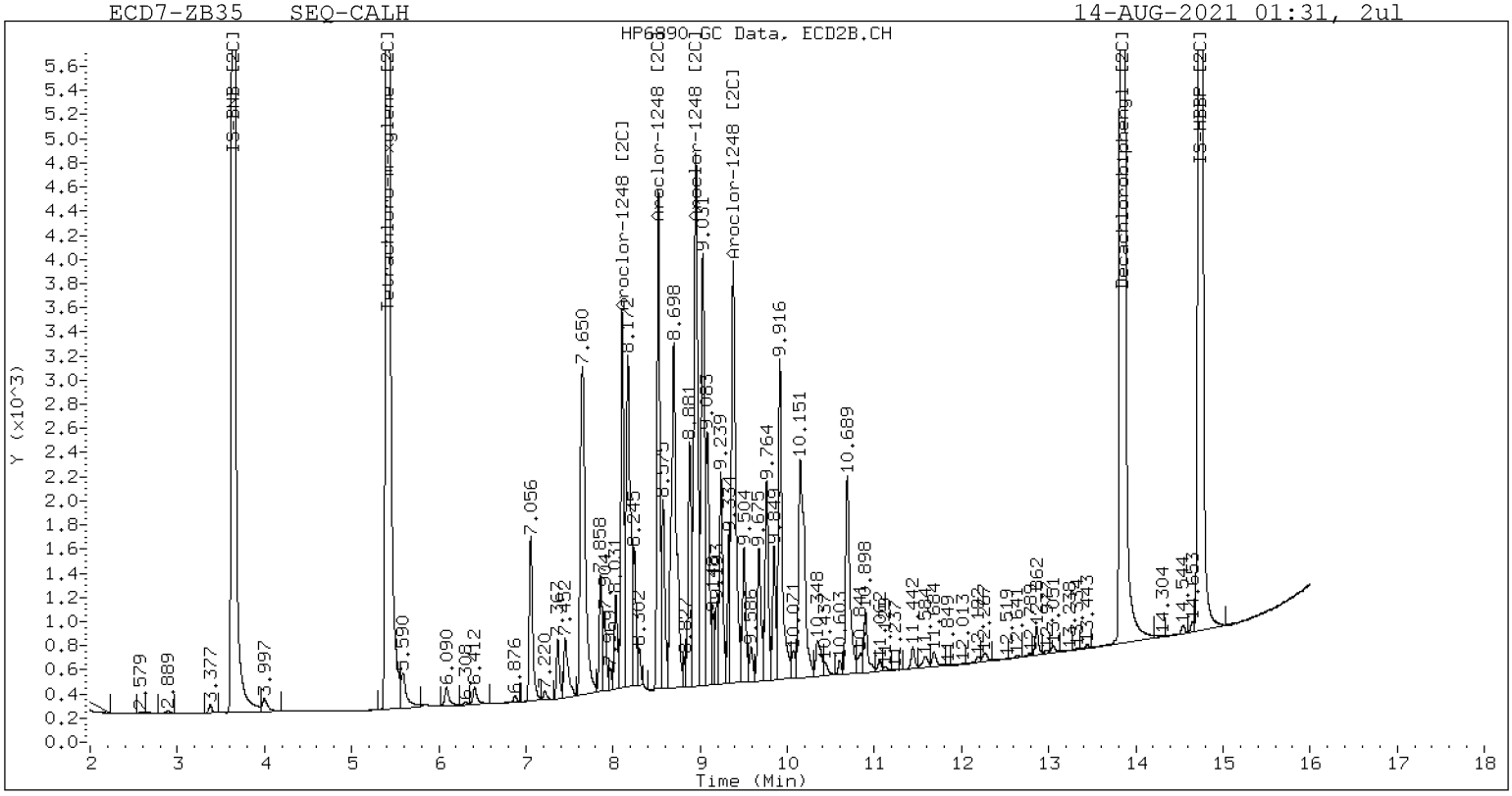
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALH 14-AUG-2021 01:31, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALH 14-AUG-2021 01:31, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132122ECD7.D
Data file 2: /210813.b/210813.b/08132122ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALI
Client ID:
Injection Date: 14-AUG-2021 01:52
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.070	0.001	582913	5.416	-0.001	1679809	163.4	158.5	3.0	Tetrachloro-m-xylene
13.166	-0.000	680323	13.864	-0.016	4446270	147.6	182.2	21.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	295167	14.0
Hexabromobiphenyl	425681	507659	19.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	824788	14.4
Hexabromobiphenyl	863111	1098014	27.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
	ZB5 Col					ZB35 Col				
Aroclor-1248	1	7.799	0.000	125808	1017.1	1	8.106	0.000	308725	903.3
Aroclor-1248	2	7.968	0.000	164812	1020.7	2	8.520	0.000	397648	955.8
Aroclor-1248	3	8.375	0.000	229127	969.1	3	8.947	0.000	584191	881.6
Aroclor-1248	4	8.674	0.000	110918	821.8	4	9.377	0.000	534195	949.2

Total Col1Ave (4 peaks): 957.2 Total Col2Ave (4 peaks): 922.5 RPD = 4
Corrected Ave (3 peaks): 936.0 Corrected Ave (3 peaks): 911.4 RPD = 3

Total PCB Area Col1 (5.169 - 13.066) = 2472059 Col1 Total PCB = 0.8 ppm*

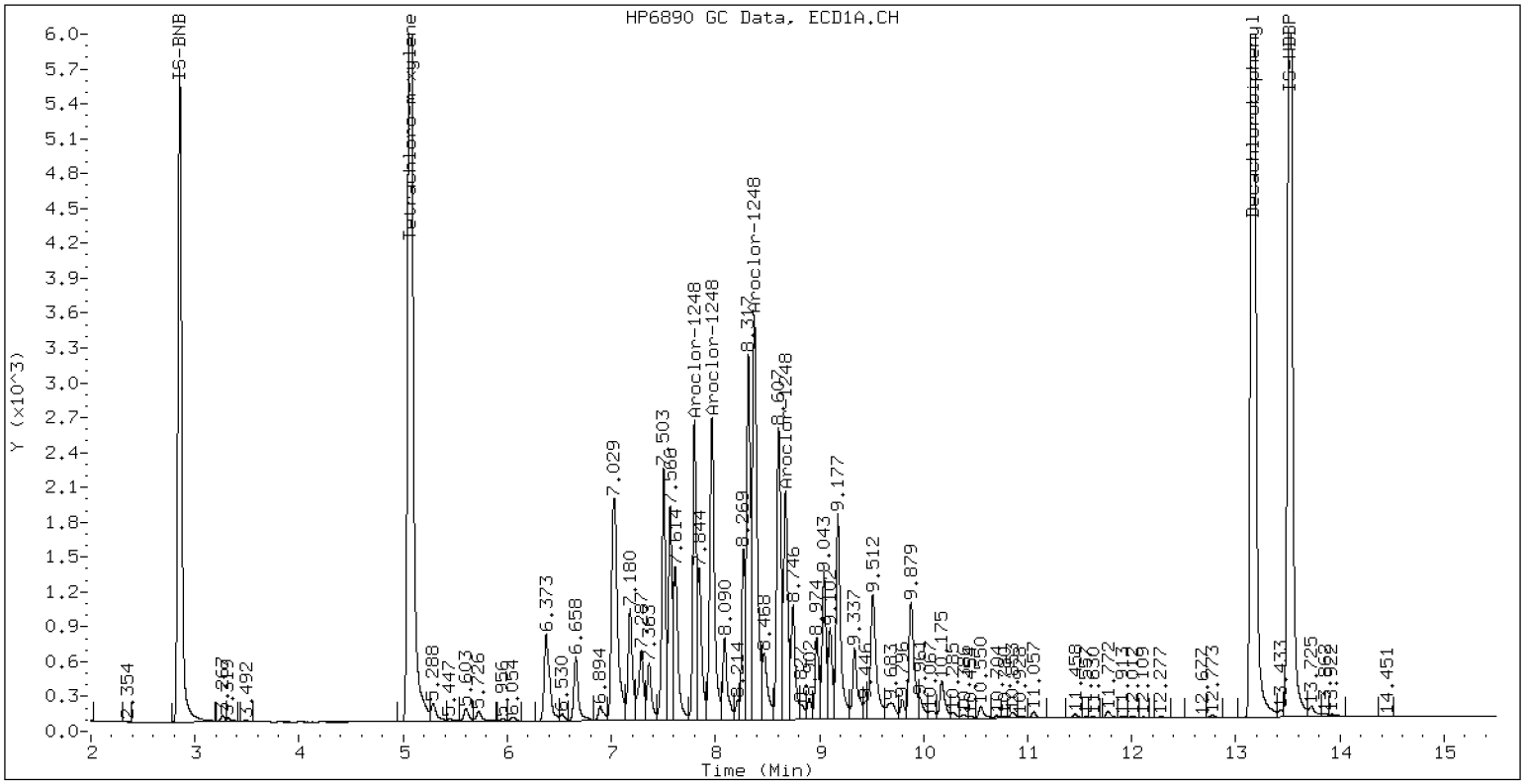
Total PCB Area Col2 (5.169 - 13.066) = 9114889 Col2 Total PCB = 0.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

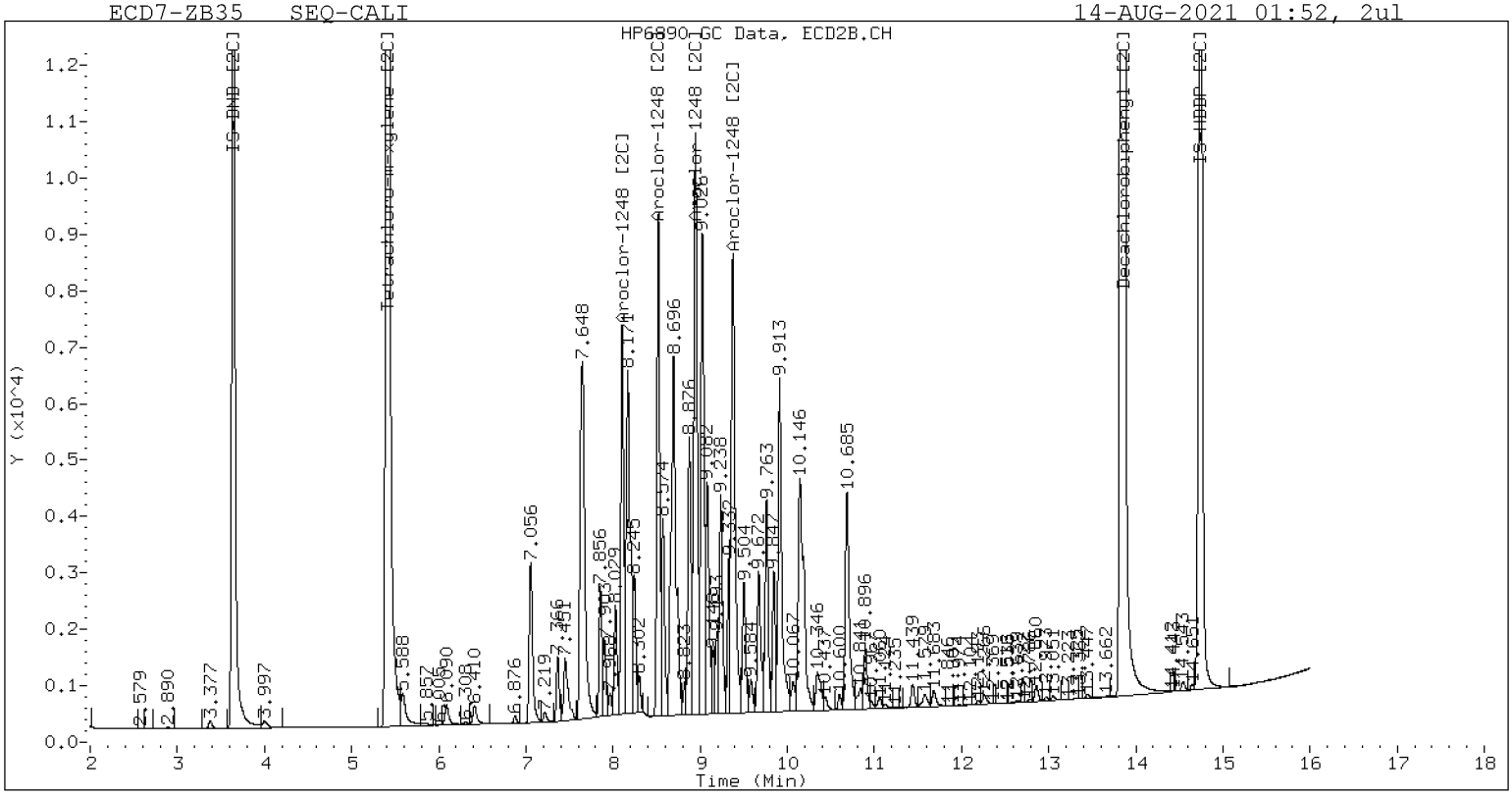
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALI 14-AUG-2021 01:52, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALI 14-AUG-2021 01:52, 2ul

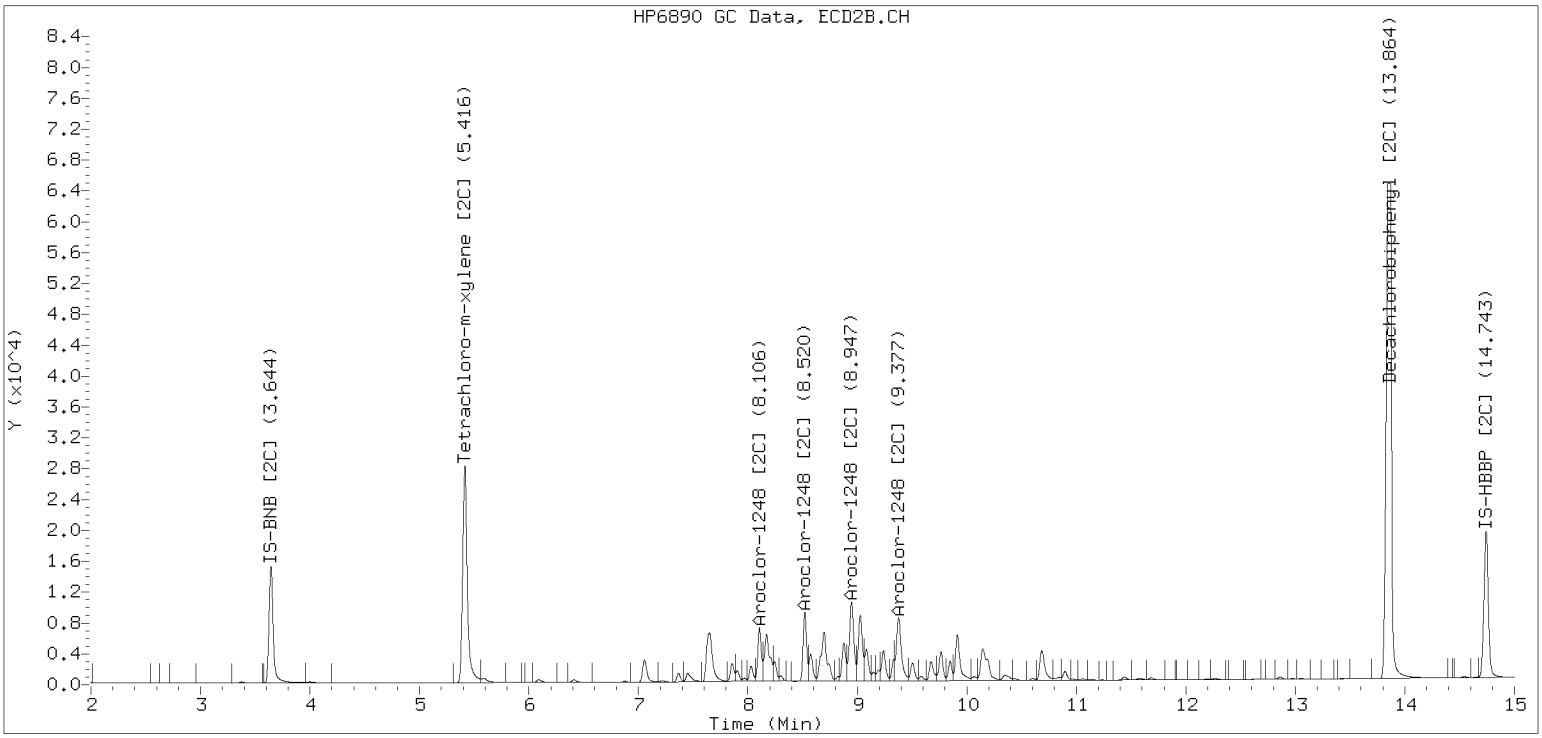


ZB-35 Manual Integration: YES

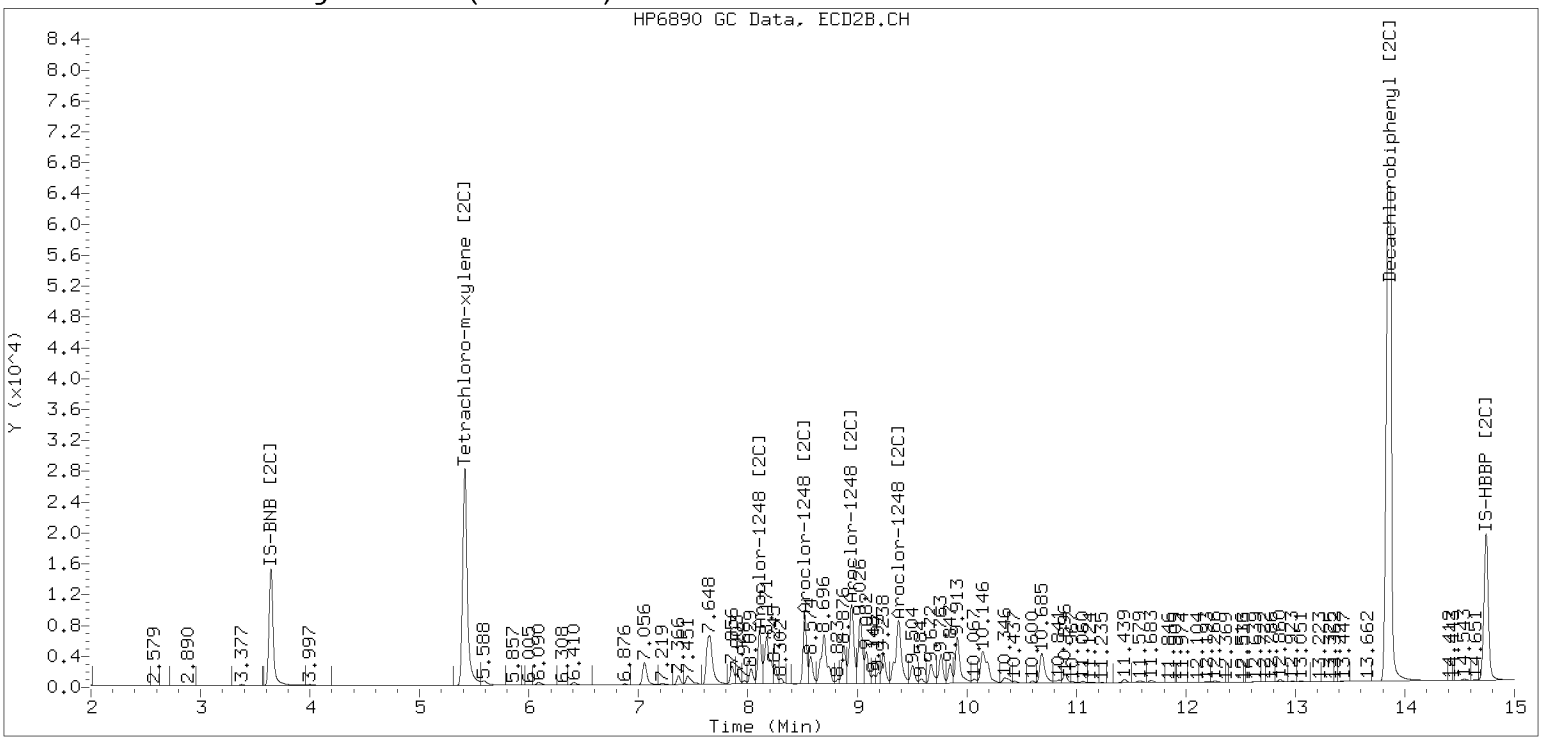
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210813.b/210813.b/08132122.D Injection Date: 14-AUG-2021 01:5

Manual Integration (After)



Processed Integration (Before)



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

Data file 1: /210813.b/08132123ECD7.D
Data file 2: /210813.b/210813.b/08132123ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALJ
Client ID:
Injection Date: 14-AUG-2021 02:12
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	-0.000	8962	5.414	-0.003	30209	3.0	3.3	11.8	Tetrachloro-m-xylene
13.166	-0.000	13286	13.848	-0.032	64539	3.4	3.2	5.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	250594	-3.2
Hexabromobiphenyl	425681	434759	2.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	705804	-2.1
Hexabromobiphenyl	863111	908740	5.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1254	1	8.681	0.006	4488	20.8	1	9.246	0.006	13920	23.2
Aroclor-1254	2	8.753	0.007	2067	20.7	2	9.340	0.009	9031	25.6
Aroclor-1254	3	9.050	0.008	3084	21.9	3	9.771	0.008	10488	22.9
Aroclor-1254	4	9.188	0.012	4799	17.8	4	9.923	0.009	24430	24.1
Aroclor-1254	5	9.870	0.003	2898	17.1	5	10.163	0.015	22175	21.6

Total Col1Ave (5 peaks): 19.7 Total Col2Ave (5 peaks): 23.5 RPD = 18

Corrected Ave (4 peaks): 19.1 Corrected Ave (4 peaks): 22.9 RPD = 18

Total PCB Area Col1 (5.169 - 13.066) = 50204 Col1 Total PCB = 0.0 ppm*

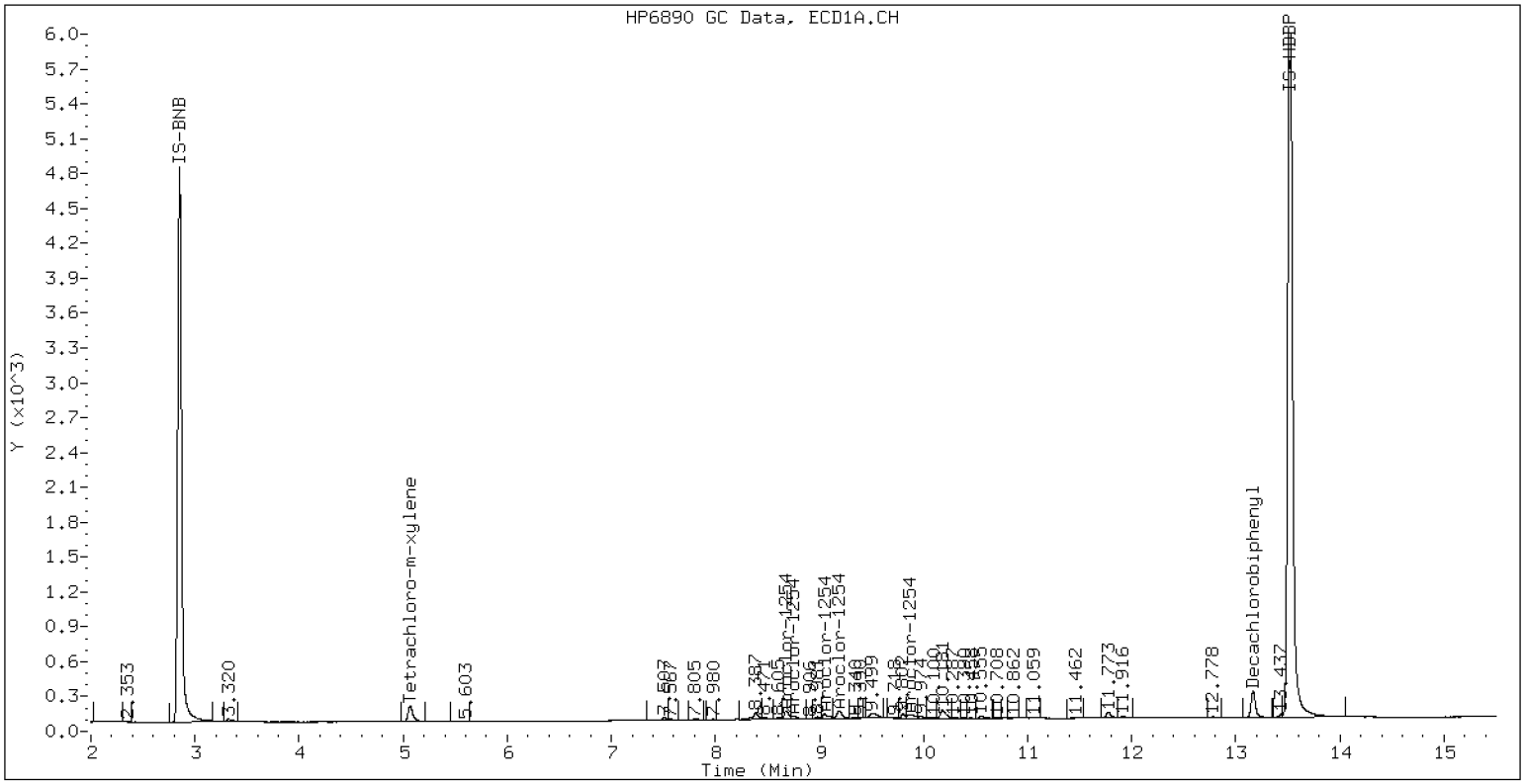
Total PCB Area Col2 (5.169 - 13.066) = 262235 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

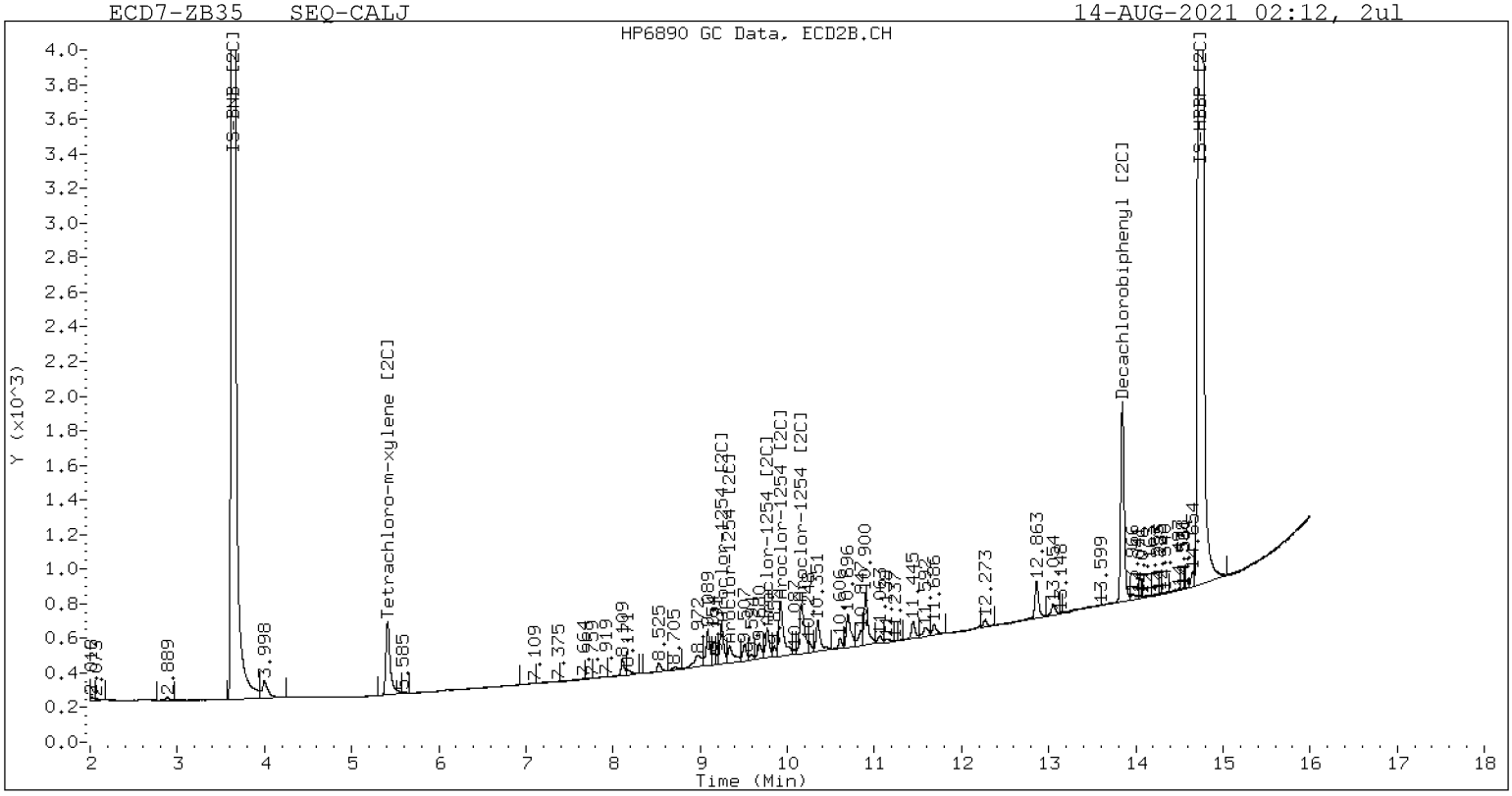
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALJ 14-AUG-2021 02:12, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALJ 14-AUG-2021 02:12, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132124ECD7.D
Data file 2: /210813.b/210813.b/08132124ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALK
Client ID:
Injection Date: 14-AUG-2021 02:33
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	23301	5.413	-0.004	73808	7.5	7.9	6.1	Tetrachloro-m-xylene
13.165	-0.001	32607	13.846	-0.034	161371	8.1	7.8	3.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	258452	-0.2
Hexabromobiphenyl	425681	444493	4.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	724096	0.4
Hexabromobiphenyl	863111	930444	7.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1254	1	8.680	0.004	11221	50.3	1	9.243	0.004	32682	53.0
Aroclor-1254	2	8.751	0.005	5597	54.2	2	9.338	0.006	19336	53.5
Aroclor-1254	3	9.049	0.008	6912	47.6	3	9.769	0.006	24144	51.4
Aroclor-1254	4	9.186	0.010	13929	50.2	4	9.921	0.007	53197	51.1
Aroclor-1254	5	9.868	0.000	8358	47.9	5	10.160	0.012	53520	50.7

Total Col1Ave (5 peaks): 50.0 Total Col2Ave (5 peaks): 52.0 RPD = 4

Corrected Ave (4 peaks): 49.0 Corrected Ave (4 peaks): 51.6 RPD = 5

Total PCB Area Col1 (5.169 - 13.066) = 139190 Col1 Total PCB = 0.1 ppm*

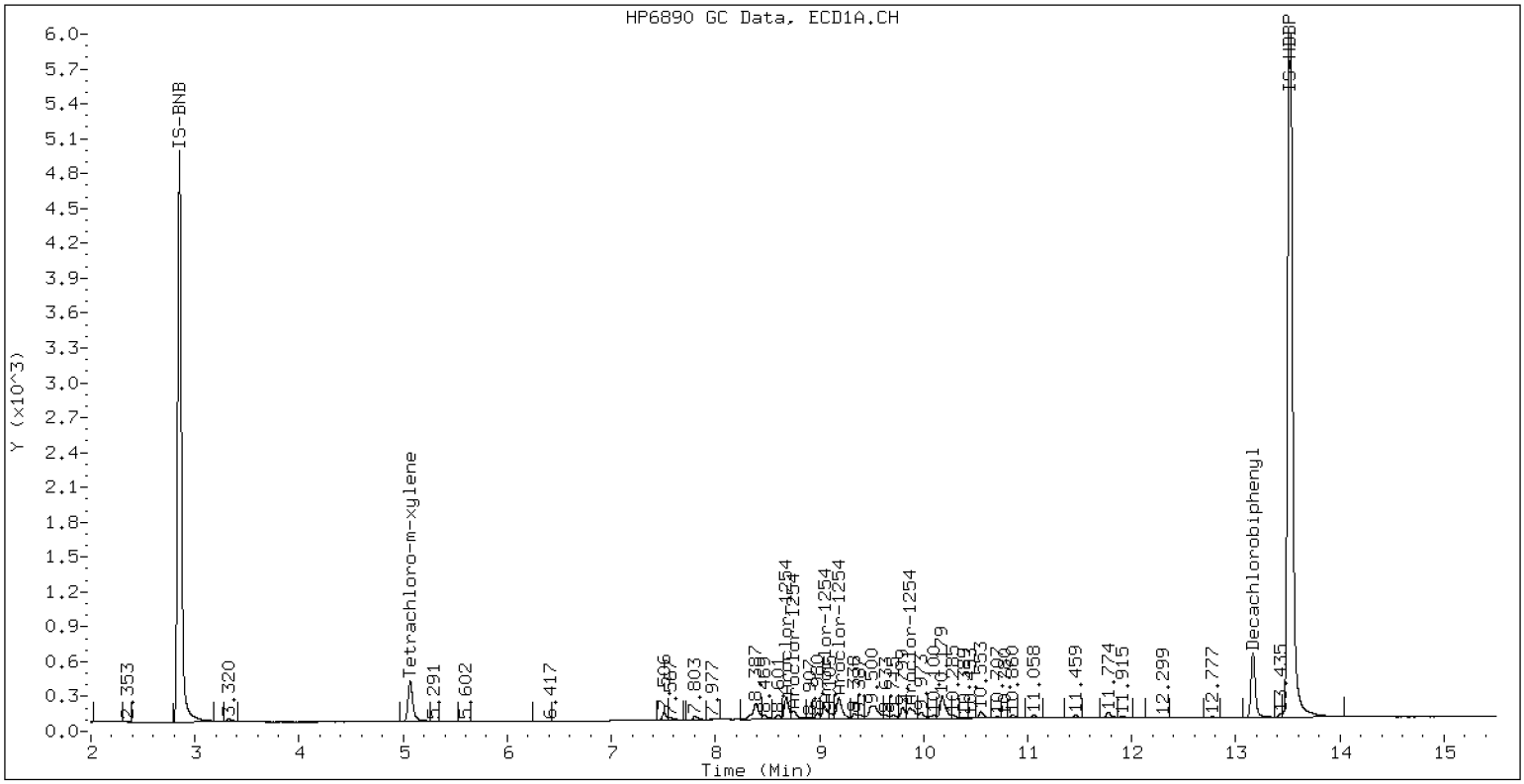
Total PCB Area Col2 (5.169 - 13.066) = 597839 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

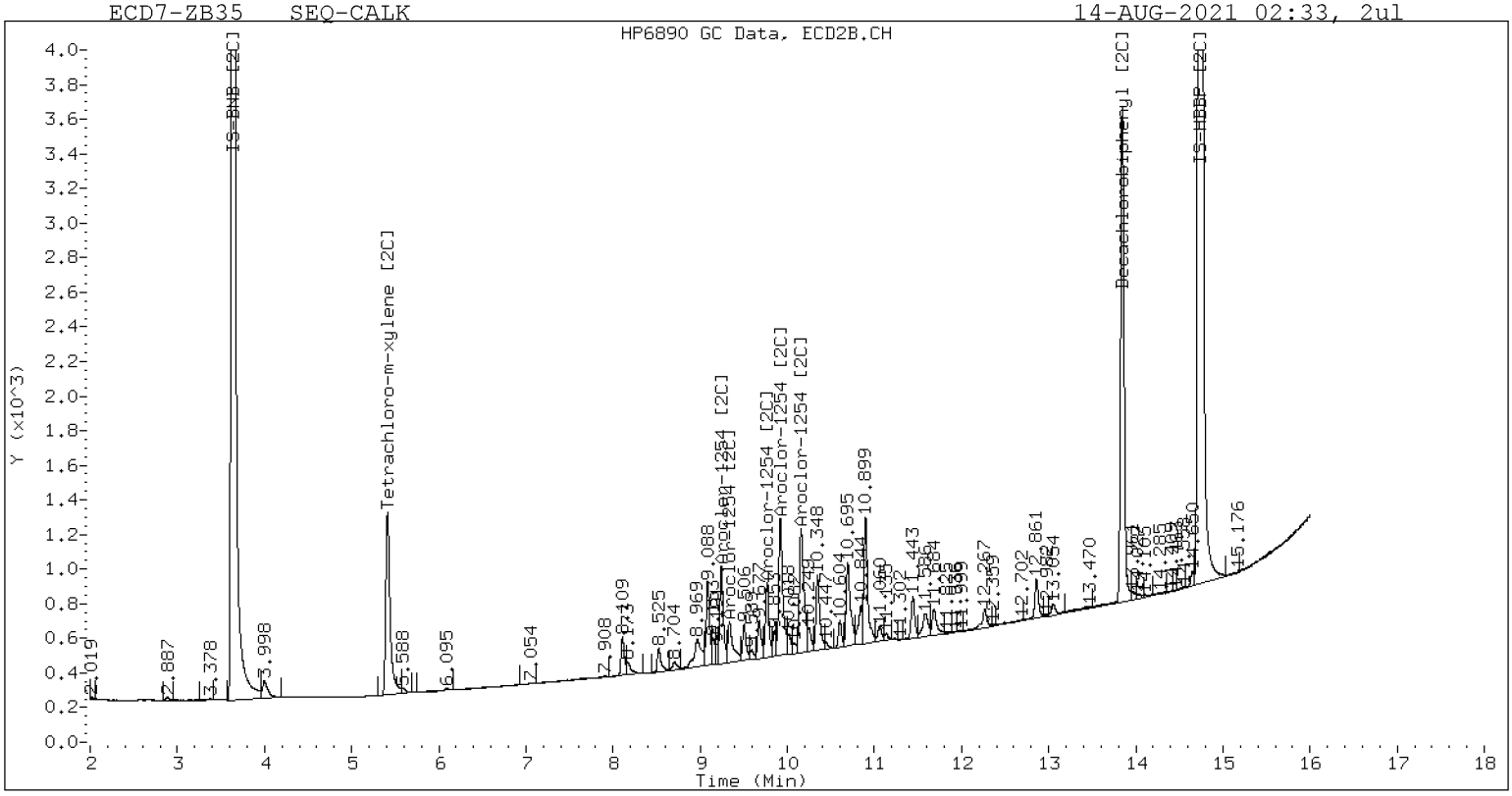
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALK 14-AUG-2021 02:33, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALK 14-AUG-2021 02:33, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132125ECD7.D
Data file 2: /210813.b/210813.b/08132125ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALL
Client ID:
Injection Date: 14-AUG-2021 02:53
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	50378	5.414	-0.003	153493	15.6	16.0	2.4	Tetrachloro-m-xylene
13.166	0.000	66760	13.847	-0.033	338703	16.0	15.8	0.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	266772	3.1
Hexabromobiphenyl	425681	460841	8.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	746546	3.5
Hexabromobiphenyl	863111	963688	11.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
	ZB5 Col					ZB35 Col				
Aroclor-1254	1	8.680	0.004	23018	100.0	1	9.243	0.003	64493	101.5
Aroclor-1254	2	8.751	0.005	11045	103.7	2	9.337	0.006	37205	99.8
Aroclor-1254	3	9.049	0.008	14399	96.0	3	9.768	0.005	48720	100.6
Aroclor-1254	4	9.184	0.008	29413	102.6	4	9.919	0.006	108022	100.7
Aroclor-1254	5	9.870	0.003	17840	99.1	5	10.158	0.011	110407	101.5

Total Col1Ave (5 peaks): 100.3 Total Col2Ave (5 peaks): 100.8 RPD = 1
Corrected Ave (4 peaks): 99.4 Corrected Ave (4 peaks): 100.6 RPD = 1

Total PCB Area Col1 (5.169 - 13.066) = 293494 Col1 Total PCB = 0.1 ppm*

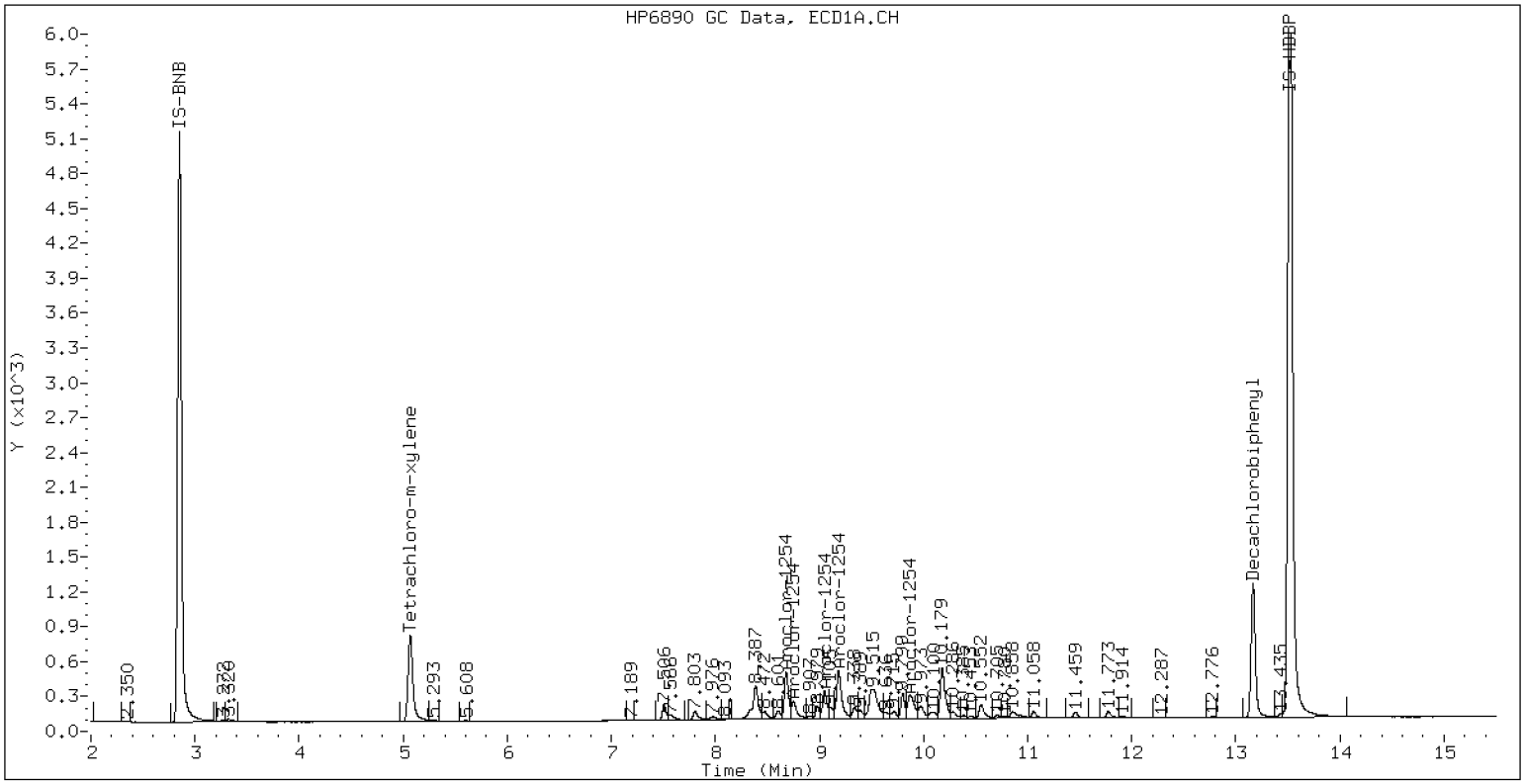
Total PCB Area Col2 (5.169 - 13.066) = 1195216 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

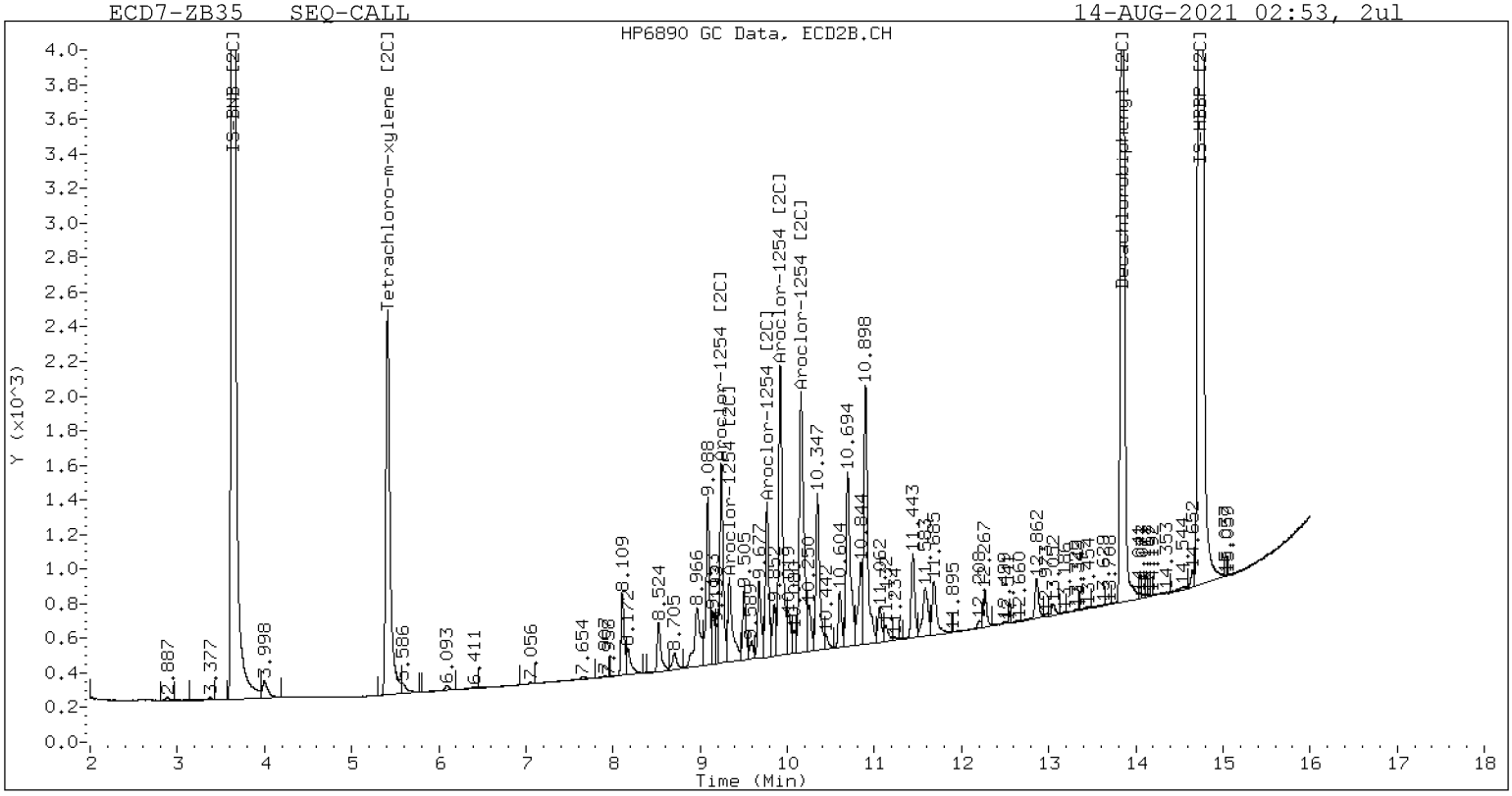
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALL 14-AUG-2021 02:53, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALL 14-AUG-2021 02:53, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132126ECD7.D
Data file 2: /210813.b/210813.b/08132126ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALM
Client ID:
Injection Date: 14-AUG-2021 03:13
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.067	-0.002	129839	5.412	-0.005	378453	40.6	39.8	2.1	Tetrachloro-m-xylene
13.166	-0.000	164488	13.847	-0.033	851014	39.5	39.7	0.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	264494	2.2
Hexabromobiphenyl	425681	458580	7.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	740295	2.7
Hexabromobiphenyl	863111	964396	11.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
	ZB5 Col					ZB35 Col				
Aroclor-1254	1	8.677	0.002	57893	253.7	1	9.241	0.002	152457	242.1
Aroclor-1254	2	8.748	0.002	27373	259.1	2	9.334	0.003	86362	233.6
Aroclor-1254	3	9.045	0.004	37206	250.2	3	9.765	0.002	117837	245.4
Aroclor-1254	4	9.180	0.004	74612	262.6	4	9.917	0.003	252955	237.7
Aroclor-1254	5	9.870	0.003	47061	263.7	5	10.154	0.007	267905	248.3

Total Col1Ave (5 peaks): 257.9 Total Col2Ave (5 peaks): 241.4 RPD = 7
Corrected Ave (4 peaks): 256.4 Corrected Ave (4 peaks): 239.7 RPD = 7

Total PCB Area Col1 (5.169 - 13.066) = 753890 Col1 Total PCB = 0.3 ppm*

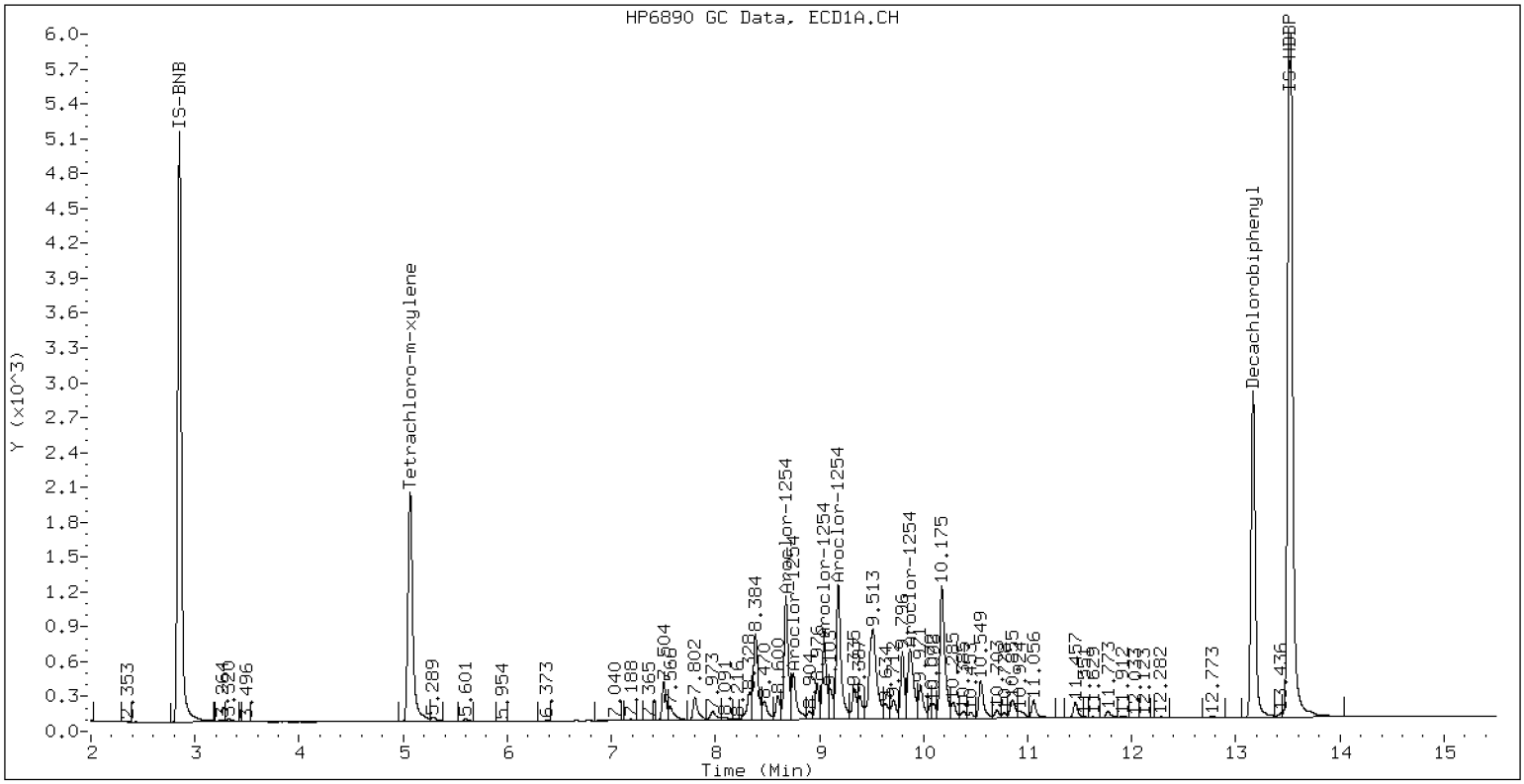
Total PCB Area Col2 (5.169 - 13.066) = 2870074 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

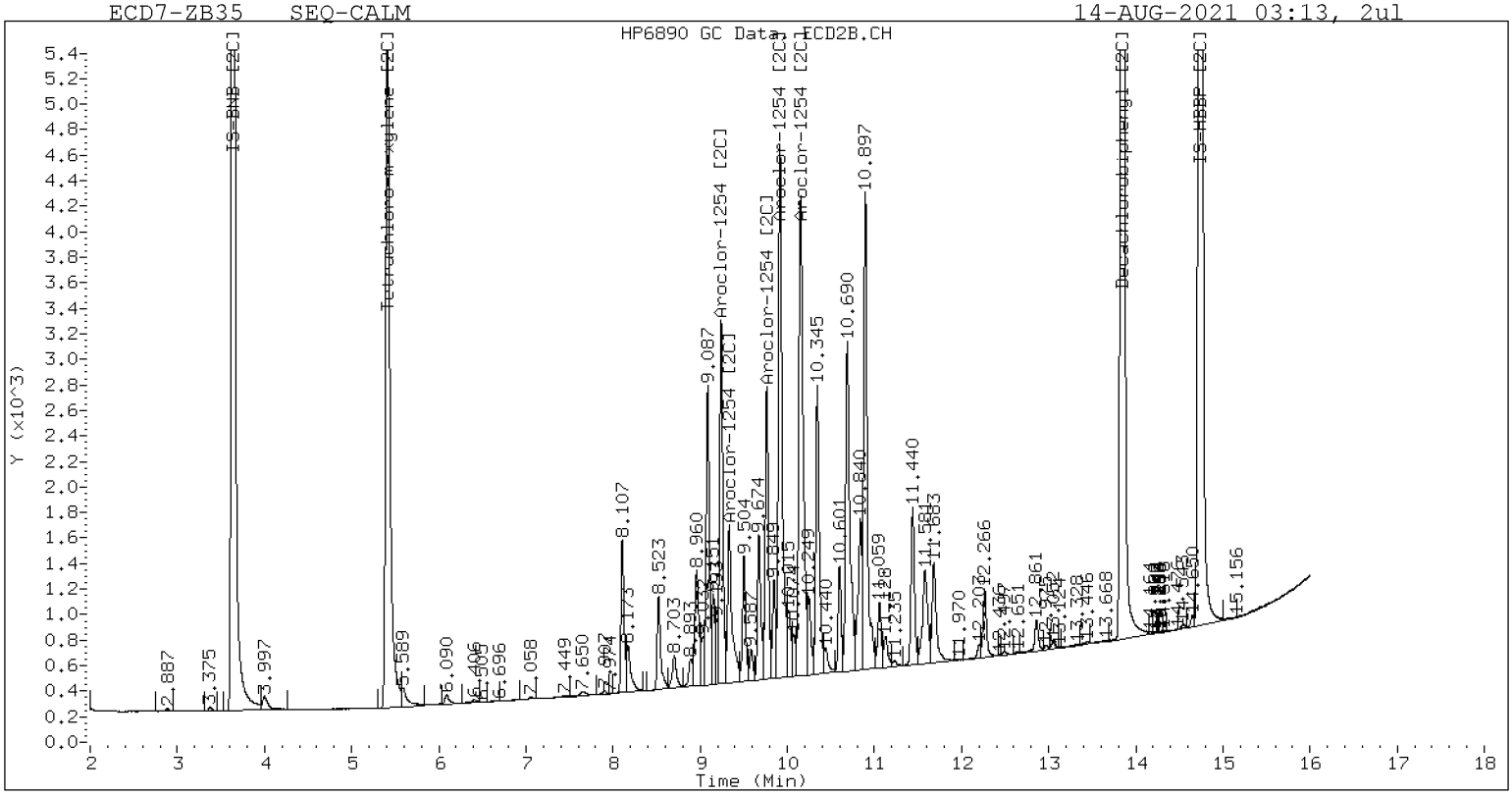
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALM 14-AUG-2021 03:13, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALM 14-AUG-2021 03:13, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132127ECD7.D
Data file 2: /210813.b/210813.b/08132127ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALN
Client ID:
Injection Date: 14-AUG-2021 03:34
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	-0.000	265807	5.414	-0.003	746945	82.3	78.5	4.8	Tetrachloro-m-xylene
13.166	0.000	321408	13.852	-0.028	1865676	78.5	87.1	10.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	267061	3.2
Hexabromobiphenyl	425681	451316	6.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	740536	2.7
Hexabromobiphenyl	863111	963913	11.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1254	1	8.676	0.001	115032	499.3	1	9.240	0.001	293539	465.9
Aroclor-1254	2	8.748	0.002	51941	487.0	2	9.332	0.001	165511	447.6
Aroclor-1254	3	9.043	0.002	75458	502.5	3	9.764	0.001	228480	475.7
Aroclor-1254	4	9.178	0.002	149029	519.4	4	9.914	0.001	491425	461.7
Aroclor-1254	5	9.869	0.002	96576	536.0	5	10.151	0.003	526835	488.1

Total Col1Ave (5 peaks): 508.8 Total Col2Ave (5 peaks): 467.8 RPD = 8
Corrected Ave (4 peaks): 502.0 Corrected Ave (4 peaks): 462.7 RPD = 8

Total PCB Area Col1 (5.169 - 13.066) = 1500587 Col1 Total PCB = 0.6 ppm*

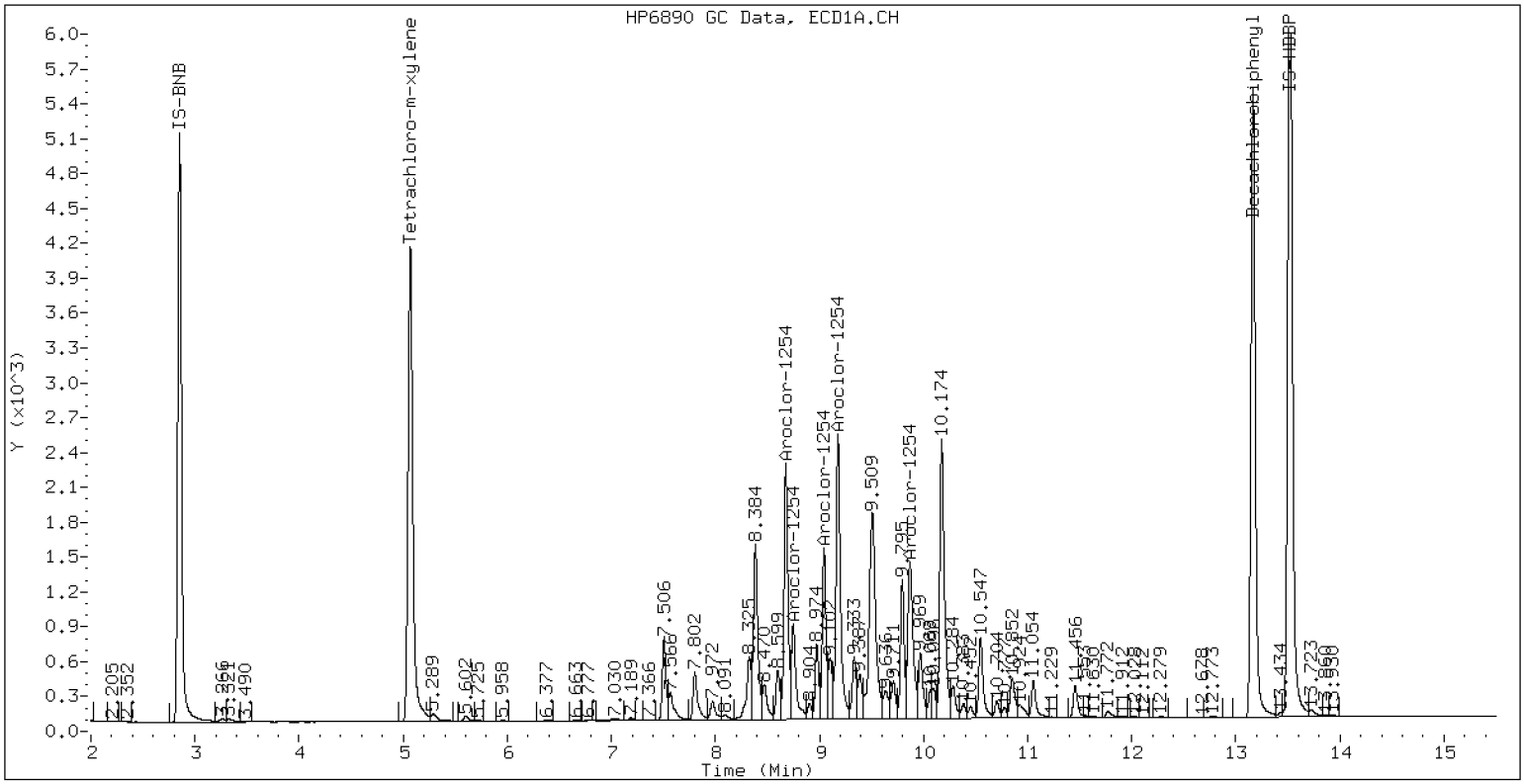
Total PCB Area Col2 (5.169 - 13.066) = 5575259 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

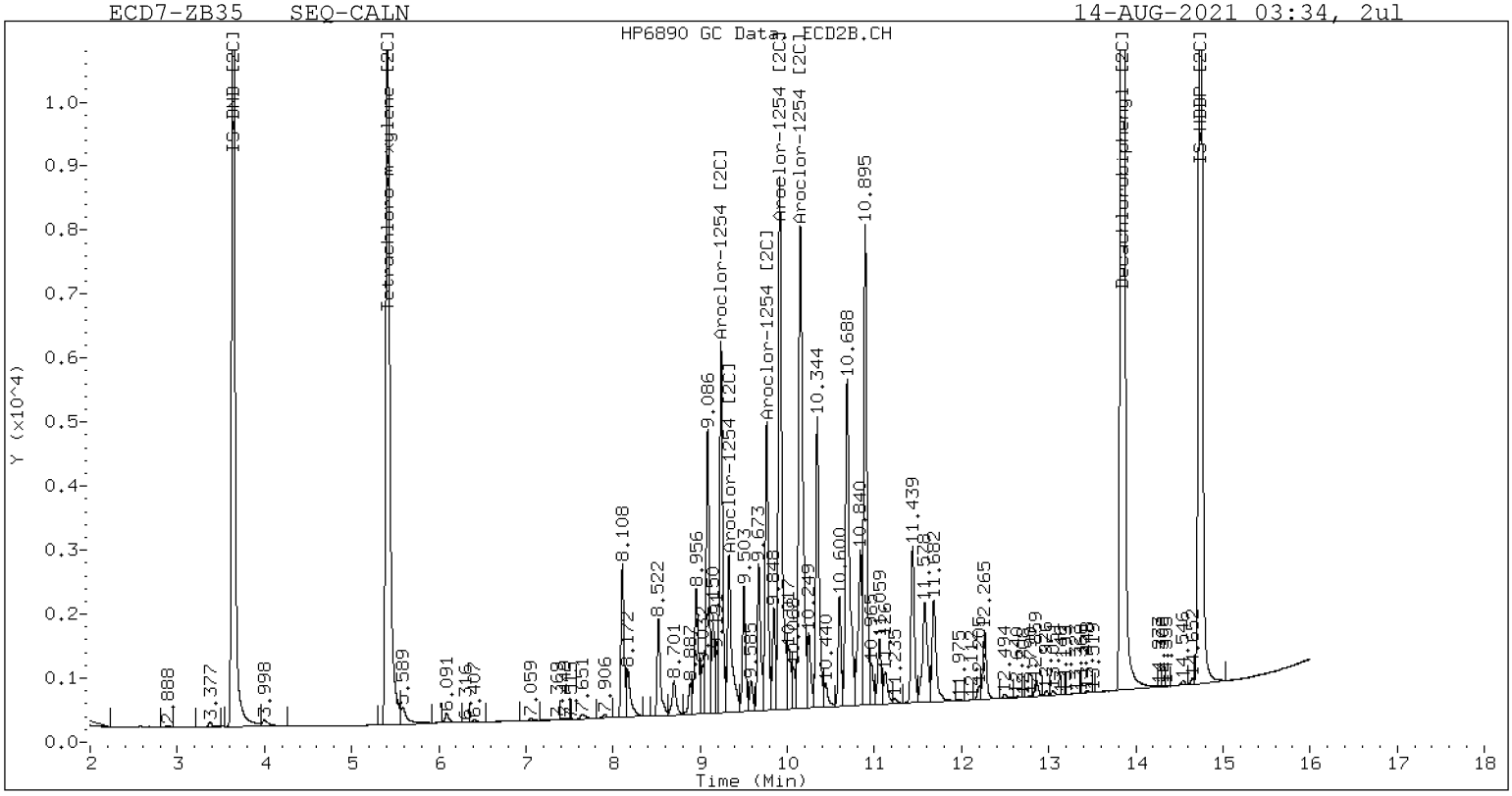
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALN 14-AUG-2021 03:34, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALN 14-AUG-2021 03:34, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132128ECD7.D
Data file 2: /210813.b/210813.b/08132128ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALO
Client ID:
Injection Date: 14-AUG-2021 03:54
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.000	586983	5.415	-0.002	1678624	161.8	156.5	3.4	Tetrachloro-m-xylene
13.166	0.000	682825	13.863	-0.017	4502724	146.2	180.1	20.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	300162	16.0
Hexabromobiphenyl	425681	514689	20.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	834903	15.8
Hexabromobiphenyl	863111	1125324	30.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1254	1	8.675	0.000	243956	942.1	1	9.239	0.000	614196	864.6
Aroclor-1254	2	8.746	0.000	100189	835.7	2	9.331	0.000	342359	821.2
Aroclor-1254	3	9.041	0.000	166951	989.1	3	9.763	0.000	480470	887.2
Aroclor-1254	4	9.176	0.000	319165	989.8	4	9.914	0.000	1070997	892.5
Aroclor-1254	5	9.867	0.000	215902	1066.1	5	10.147	0.000	1124677	924.2

Total Col1Ave (5 peaks): 964.6 Total Col2Ave (5 peaks): 878.0 RPD = 9

Corrected Ave (4 peaks): 939.2 Corrected Ave (4 peaks): 866.4 RPD = 8

Total PCB Area Col1 (5.169 - 13.066) = 3250417 Col1 Total PCB = 1.1 ppm*

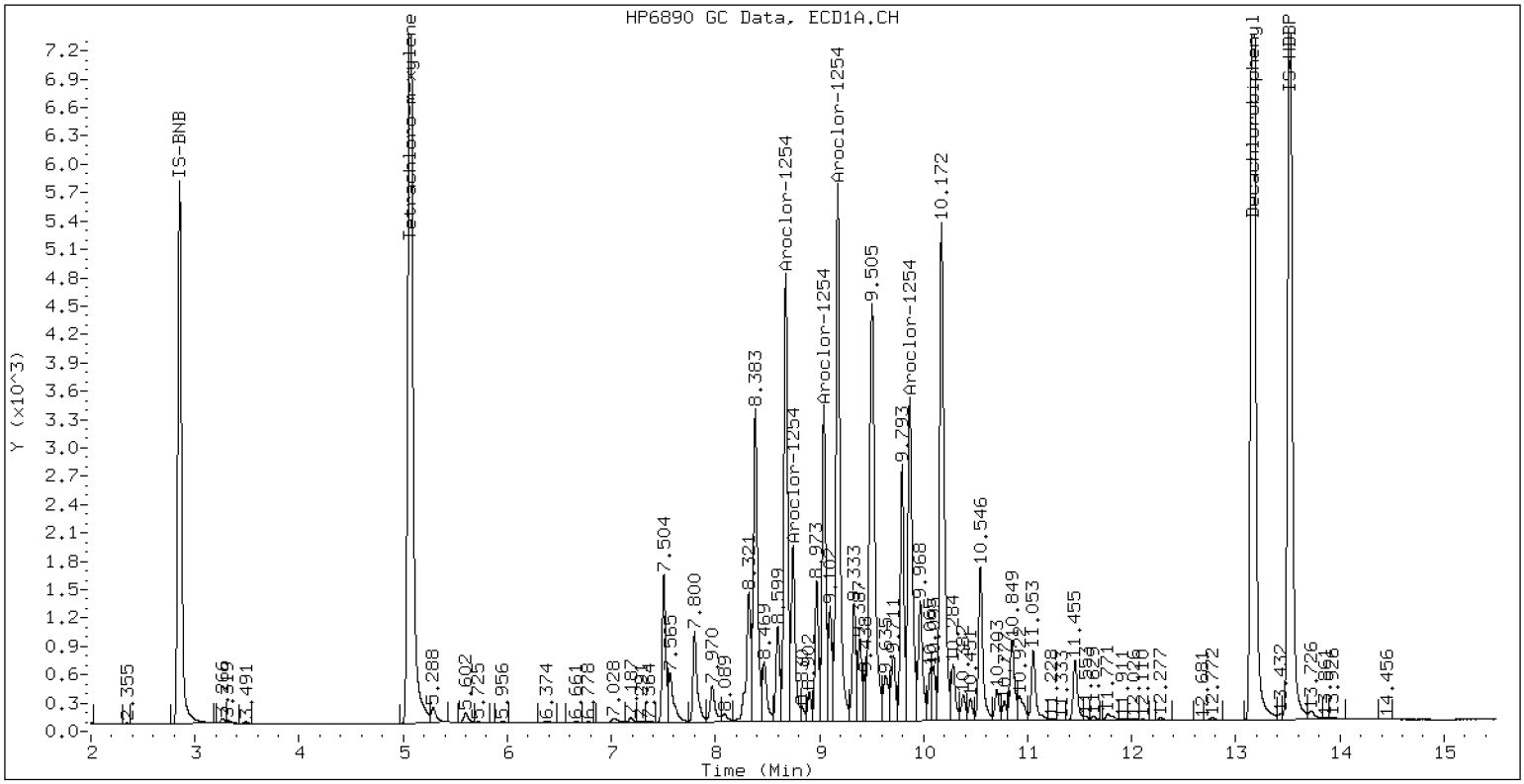
Total PCB Area Col2 (5.169 - 13.066) = 11917701 Col2 Total PCB = 1.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

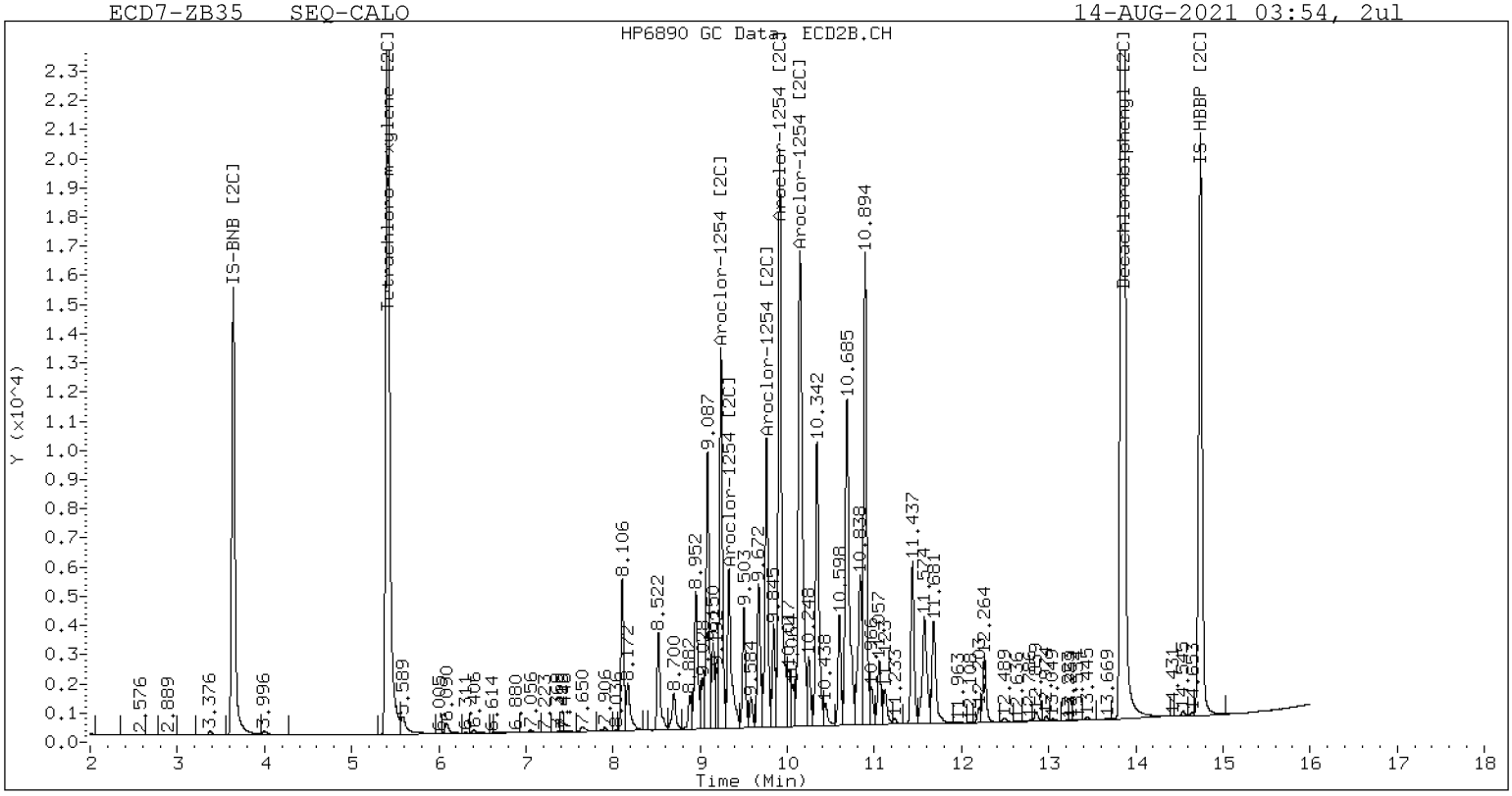
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALO 14-AUG-2021 03:54, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALO 14-AUG-2021 03:54, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132129ECD7.D
Data file 2: /210813.b/210813.b/08132129ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALP
Client ID:
Injection Date: 14-AUG-2021 04:15
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.000	8898	5.414	-0.002	31562	3.0	3.6	16.8	Tetrachloro-m-xylene
13.165	-0.001	13265	13.846	-0.034	65033	3.4	3.2	5.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	245136	-5.3
Hexabromobiphenyl	425681	426488	0.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	690863	-4.2
Hexabromobiphenyl	863111	906417	5.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1221	1	4.020	0.005	374	19.3	1	4.676	-0.000	1086	20.9
Aroclor-1221	2	5.451	0.000	527	17.4	2	6.075	0.003	2479	20.9
Aroclor-1221	3	5.727	0.003	1570	19.2	3	6.414	0.005	4328	20.9
Total Col1Ave (3 peaks):				18.6		Total Col2Ave (3 peaks):			20.9	RPD = 12
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.388	0.004	5474	21.0	1	10.971	0.001	25181	22.7
Aroclor-1262	2	11.461	0.007	3302	19.6	2	11.682	-0.003	50188	21.5
Aroclor-1262	3	11.631	0.004	4964	20.4	3	12.188	0.000	22103	21.3
Aroclor-1262	4	12.279	0.005	4086	20.5	4	12.974	0.001	19713	20.4
Total Col1Ave (4 peaks):				20.4		Total Col2Ave (4 peaks):			21.5	RPD = 5
Corrected Ave (3 peaks):				20.2		Corrected Ave (3 peaks):			21.0	RPD = 4

Total PCB Area Col1 (5.169 - 13.066) = 81438 Col1 Total PCB = 0.0 ppm*

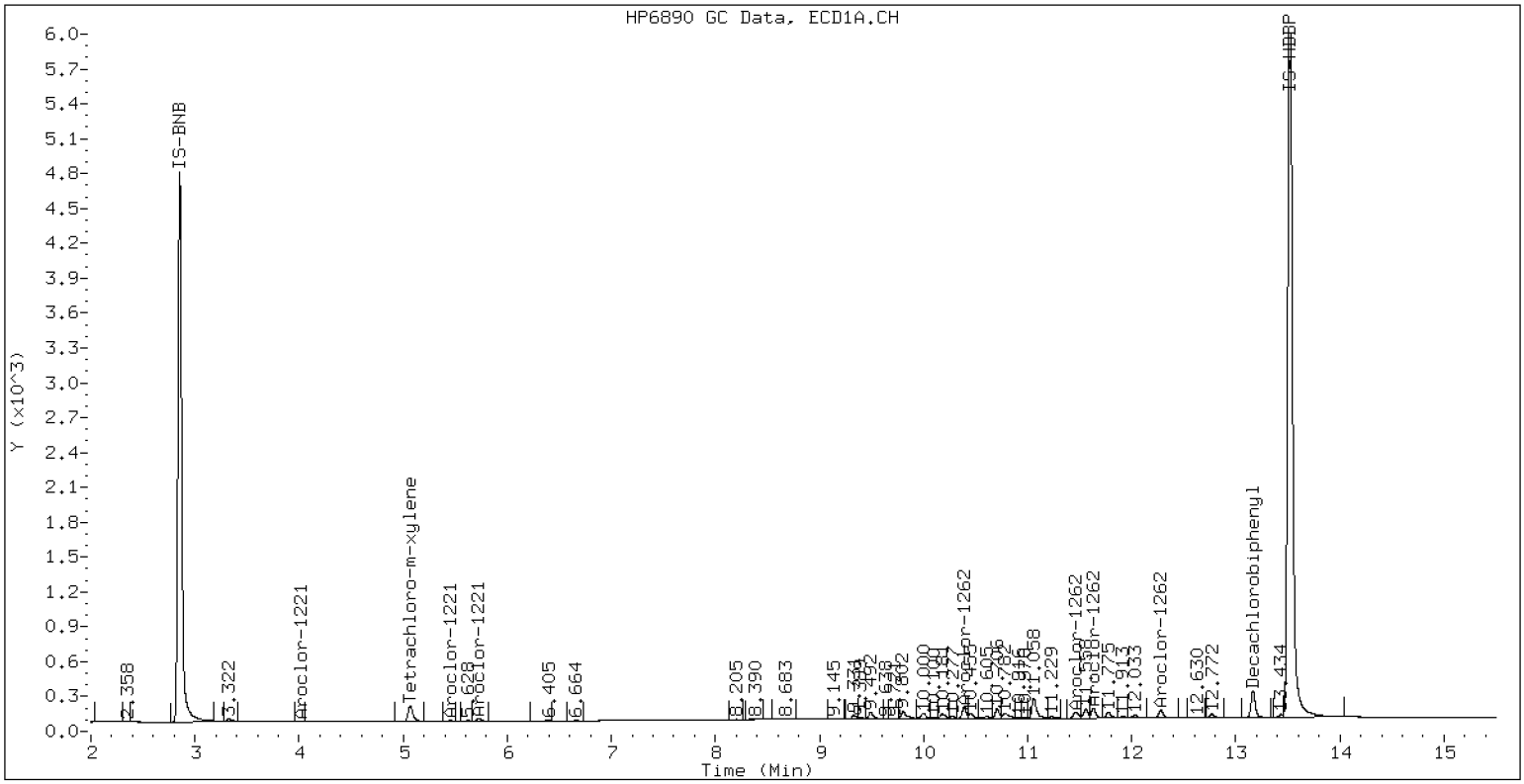
Total PCB Area Col2 (5.169 - 13.066) = 371772 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

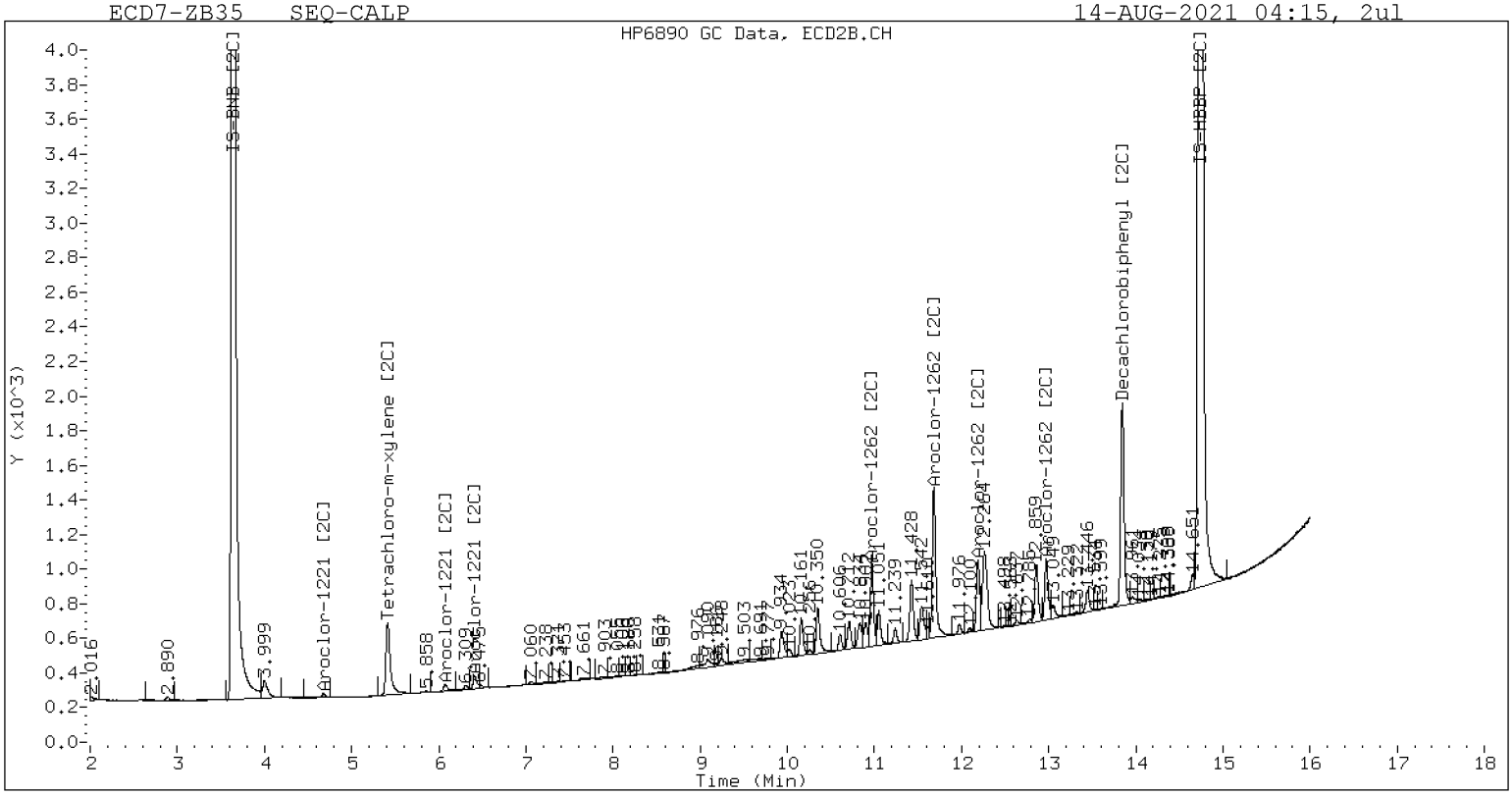
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALP 14-AUG-2021 04:15, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALP 14-AUG-2021 04:15, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132130ECD7.D
Data file 2: /210813.b/210813.b/08132130ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALQ
Client ID:
Injection Date: 14-AUG-2021 04:35
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	24022	5.414	-0.003	75627	7.6	8.0	5.5	Tetrachloro-m-xylene
13.165	-0.000	32624	13.846	-0.034	168101	7.9	7.8	1.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	261668	1.1
Hexabromobiphenyl	425681	453964	6.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	733252	1.7
Hexabromobiphenyl	863111	968090	12.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1221	1	4.015	-0.000	1082	52.4	1	4.677	0.000	3140	57.1
Aroclor-1221	2	5.454	0.003	1371	42.3	2	6.075	0.003	6195	49.2
Aroclor-1221	3	5.727	0.002	4231	48.3	3	6.413	0.004	11143	50.7
Total Col1Ave (3 peaks):					47.7	Total Col2Ave (3 peaks):				52.3 RPD = 9
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.388	0.005	13372	48.3	1	10.971	0.001	61110	51.6
Aroclor-1262	2	11.461	0.007	8124	45.3	2	11.683	-0.003	122171	48.9
Aroclor-1262	3	11.630	0.004	12394	47.9	3	12.189	0.001	55035	49.6
Aroclor-1262	4	12.280	0.005	10210	48.1	4	12.974	0.001	49243	47.7
Total Col1Ave (4 peaks):					47.4	Total Col2Ave (4 peaks):				49.5 RPD = 4
Corrected Ave (3 peaks):					47.1	Corrected Ave (3 peaks):				48.7 RPD = 3

Total PCB Area Col1 (5.169 - 13.066) = 195251 Col1 Total PCB = 0.1 ppm*

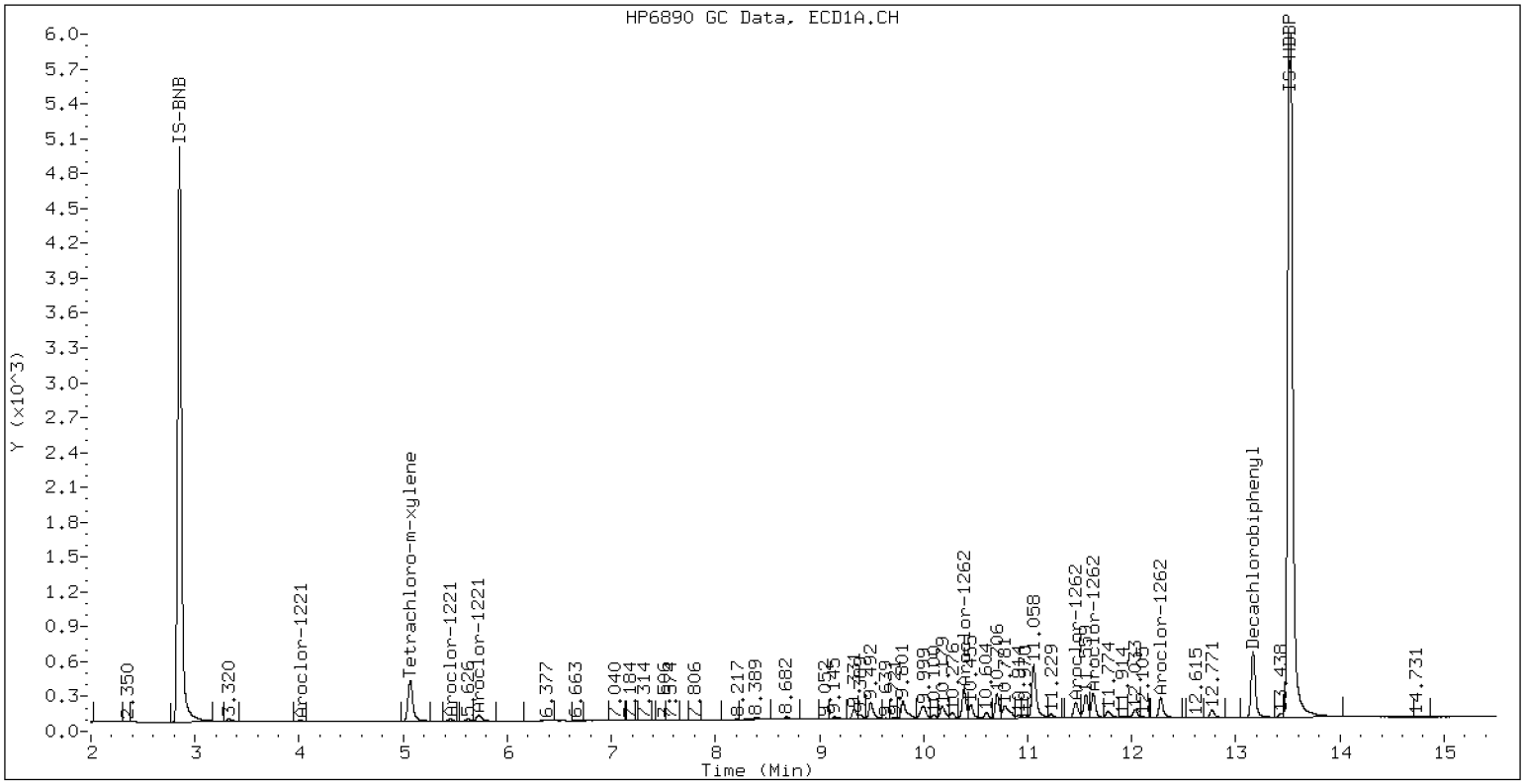
Total PCB Area Col2 (5.169 - 13.066) = 866797 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

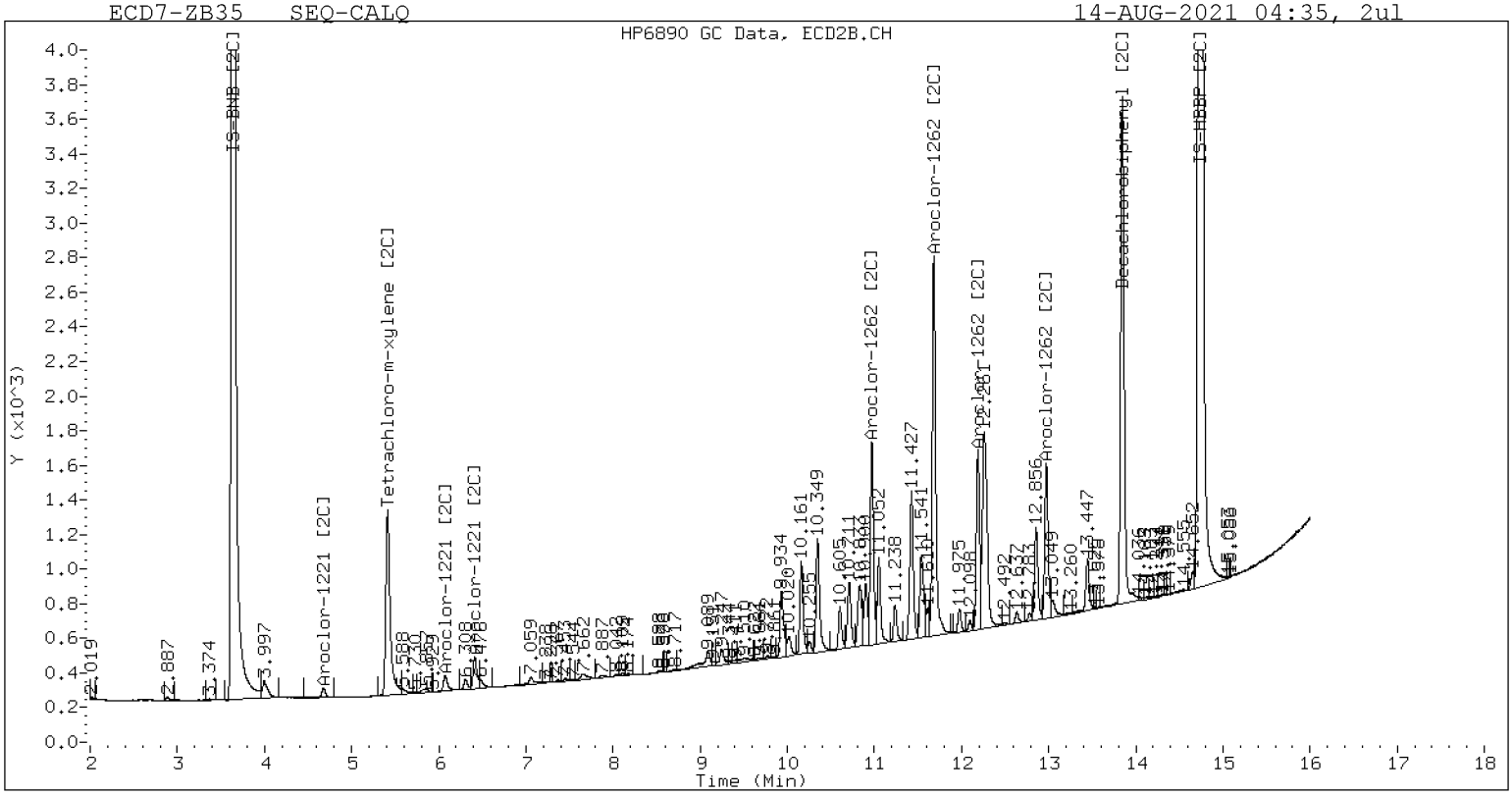
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALQ 14-AUG-2021 04:35, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALQ 14-AUG-2021 04:35, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132131ECD7.D
Data file 2: /210813.b/210813.b/08132131ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALR
Client ID:
Injection Date: 14-AUG-2021 04:56
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	50997	5.413	-0.004	151702	16.0	16.1	0.4	Tetrachloro-m-xylene
13.165	-0.001	66428	13.847	-0.033	341243	16.0	15.7	2.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	263747	1.9
Hexabromobiphenyl	425681	456506	7.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	735138	2.0
Hexabromobiphenyl	863111	978830	13.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1221	1	4.015	-0.000	2280	109.5	1	4.677	0.000	6199	112.3
Aroclor-1221	2	5.452	0.001	3120	95.6	2	6.074	0.002	12753	101.0
Aroclor-1221	3	5.727	0.002	8691	98.5	3	6.411	0.002	22972	104.3
Total Col1Ave (3 peaks):					101.2	Total Col2Ave (3 peaks):				105.9 RPD = 5
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.387	0.004	27305	98.0	1	10.970	-0.000	121062	101.1
Aroclor-1262	2	11.458	0.004	17551	97.3	2	11.681	-0.005	245852	97.3
Aroclor-1262	3	11.629	0.002	25813	99.3	3	12.187	-0.001	111421	99.4
Aroclor-1262	4	12.278	0.003	21111	98.9	4	12.973	0.000	106511	101.9
Total Col1Ave (4 peaks):					98.4	Total Col2Ave (4 peaks):				100.0 RPD = 2
Corrected Ave (3 peaks):					98.1	Corrected Ave (3 peaks):				99.3 RPD = 1

Total PCB Area Col1 (5.169 - 13.066) = 401239 Col1 Total PCB = 0.2 ppm*

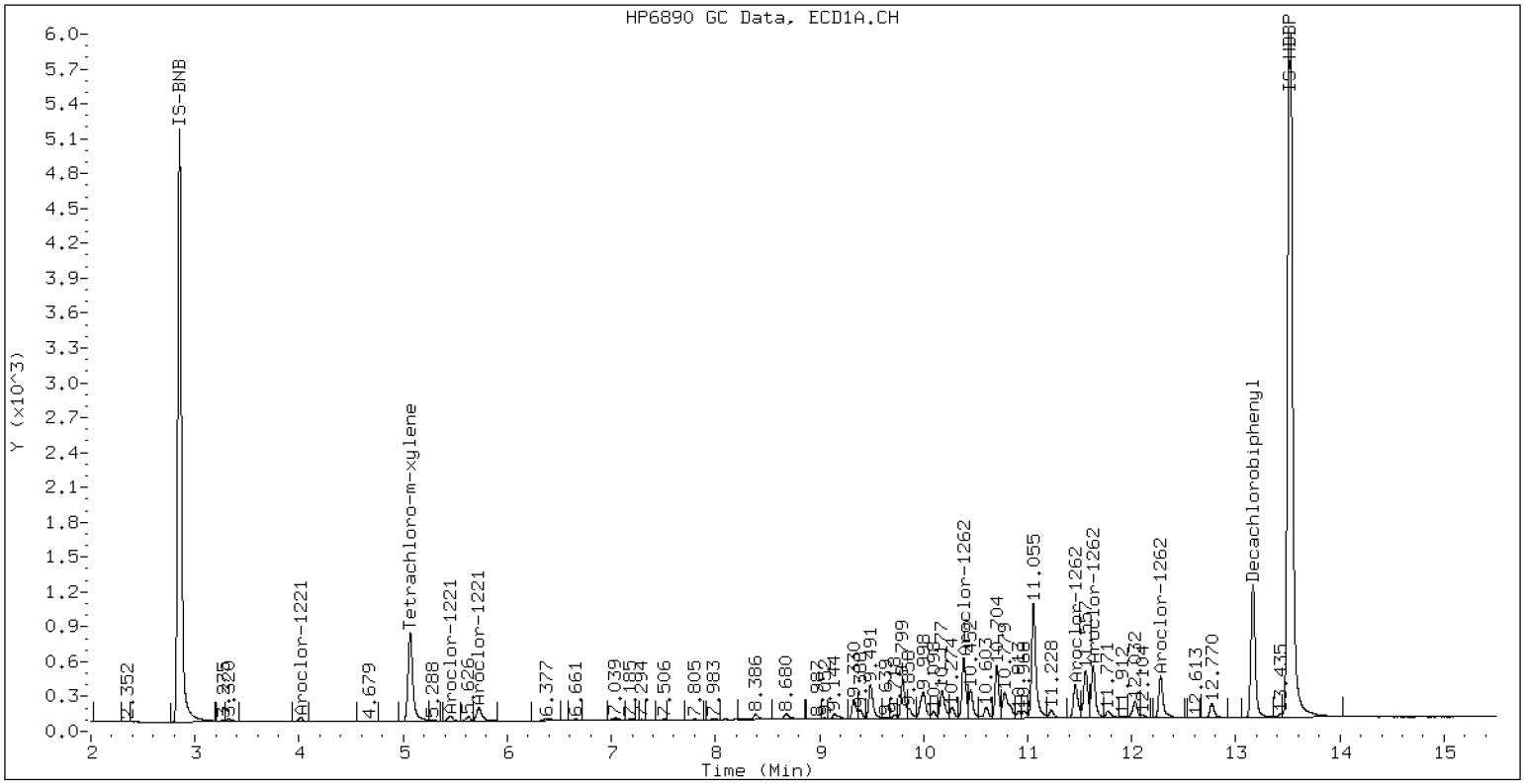
Total PCB Area Col2 (5.169 - 13.066) = 1724757 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

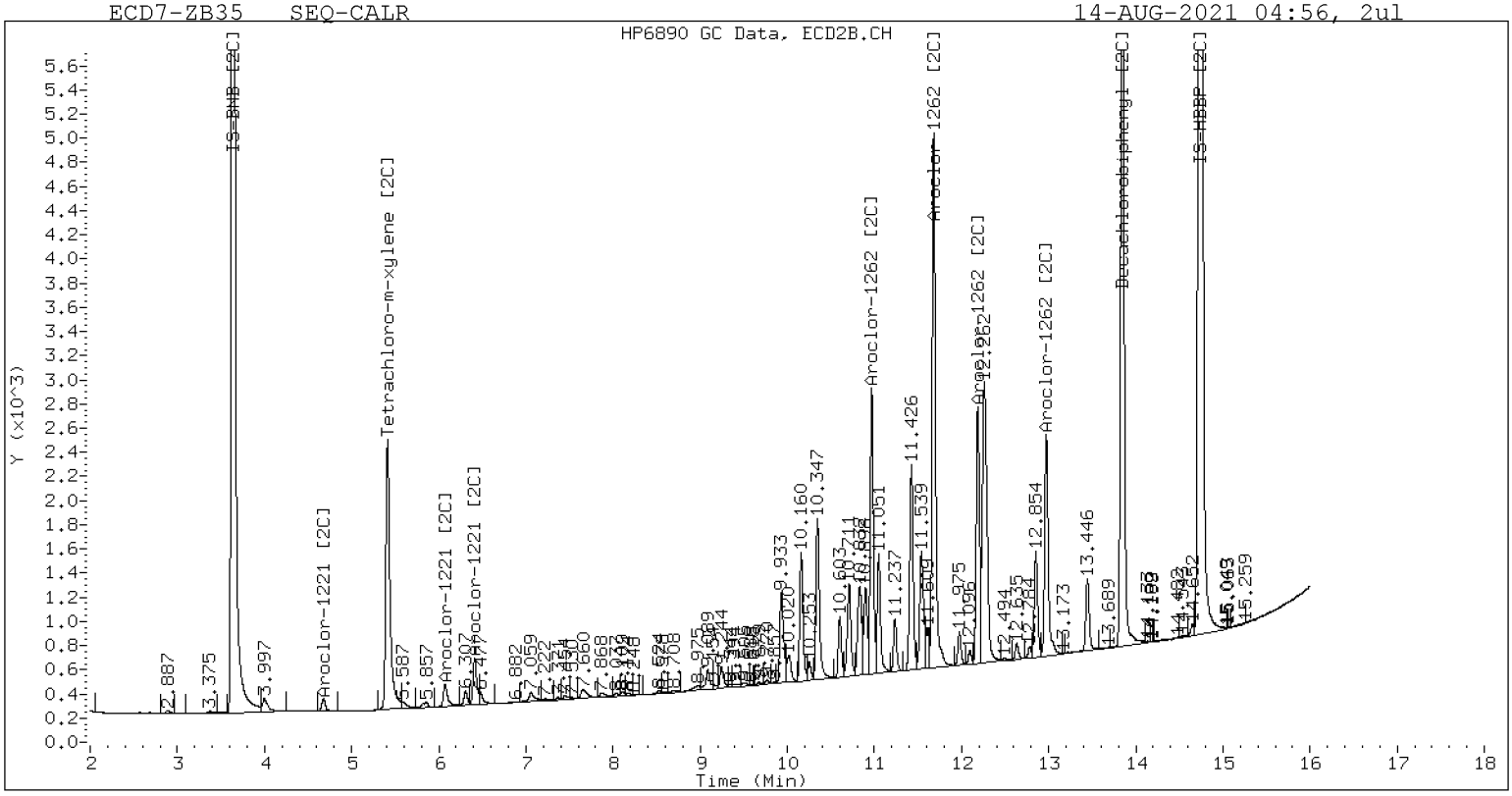
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALR 14-AUG-2021 04:56, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALR 14-AUG-2021 04:56, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132132ECD7.D
Data file 2: /210813.b/210813.b/08132132ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALS
Client ID:
Injection Date: 14-AUG-2021 05:16
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	-0.000	131883	5.414	-0.003	376179	41.3	39.7	4.1	Tetrachloro-m-xylene
13.165	-0.000	165056	13.848	-0.032	866022	39.8	39.8	0.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	264011	2.0
Hexabromobiphenyl	425681	456505	7.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	737936	2.4
Hexabromobiphenyl	863111	979376	13.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1221	1	4.015	-0.001	5527	265.1	1	4.677	0.000	13672	246.8
Aroclor-1221	2	5.452	0.001	9235	282.6	2	6.073	0.001	31880	251.4
Aroclor-1221	3	5.726	0.002	23772	269.2	3	6.411	0.002	56108	253.9
Total Col1Ave (3 peaks):				272.3		Total Col2Ave (3 peaks):			250.7	RPD = 8
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.386	0.002	70219	252.1	1	10.970	-0.001	293255	244.9
Aroclor-1262	2	11.456	0.002	46040	255.2	2	11.680	-0.005	600428	237.6
Aroclor-1262	3	11.629	0.002	65776	252.9	3	12.188	-0.000	279413	249.1
Aroclor-1262	4	12.277	0.003	54311	254.4	4	12.973	0.000	266174	254.6
Total Col1Ave (4 peaks):				253.7		Total Col2Ave (4 peaks):			246.6	RPD = 3
Corrected Ave (3 peaks):				253.1		Corrected Ave (3 peaks):			243.9	RPD = 4

Total PCB Area Col1 (5.169 - 13.066) = 1026843 Col1 Total PCB = 0.4 ppm*

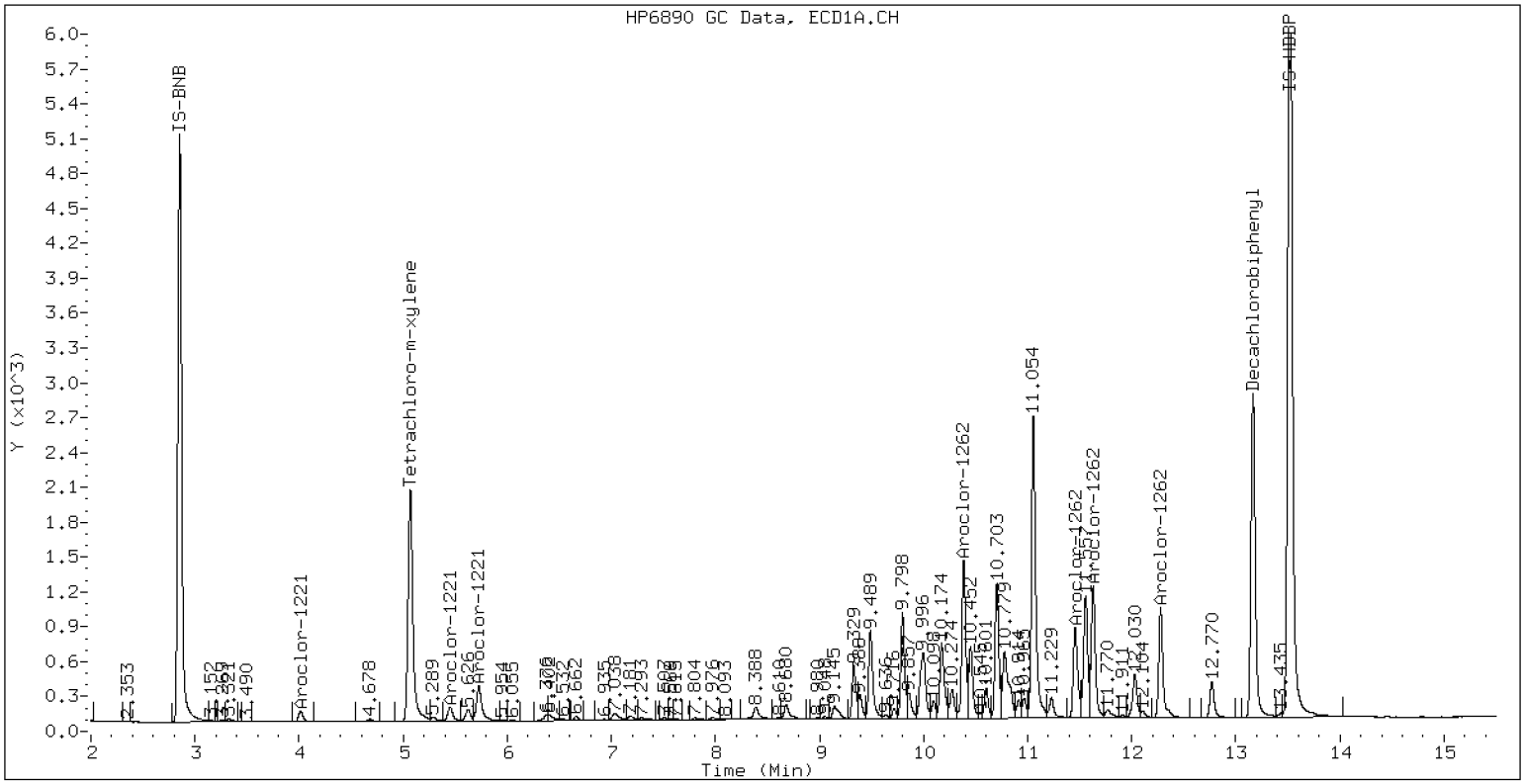
Total PCB Area Col2 (5.169 - 13.066) = 4215822 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

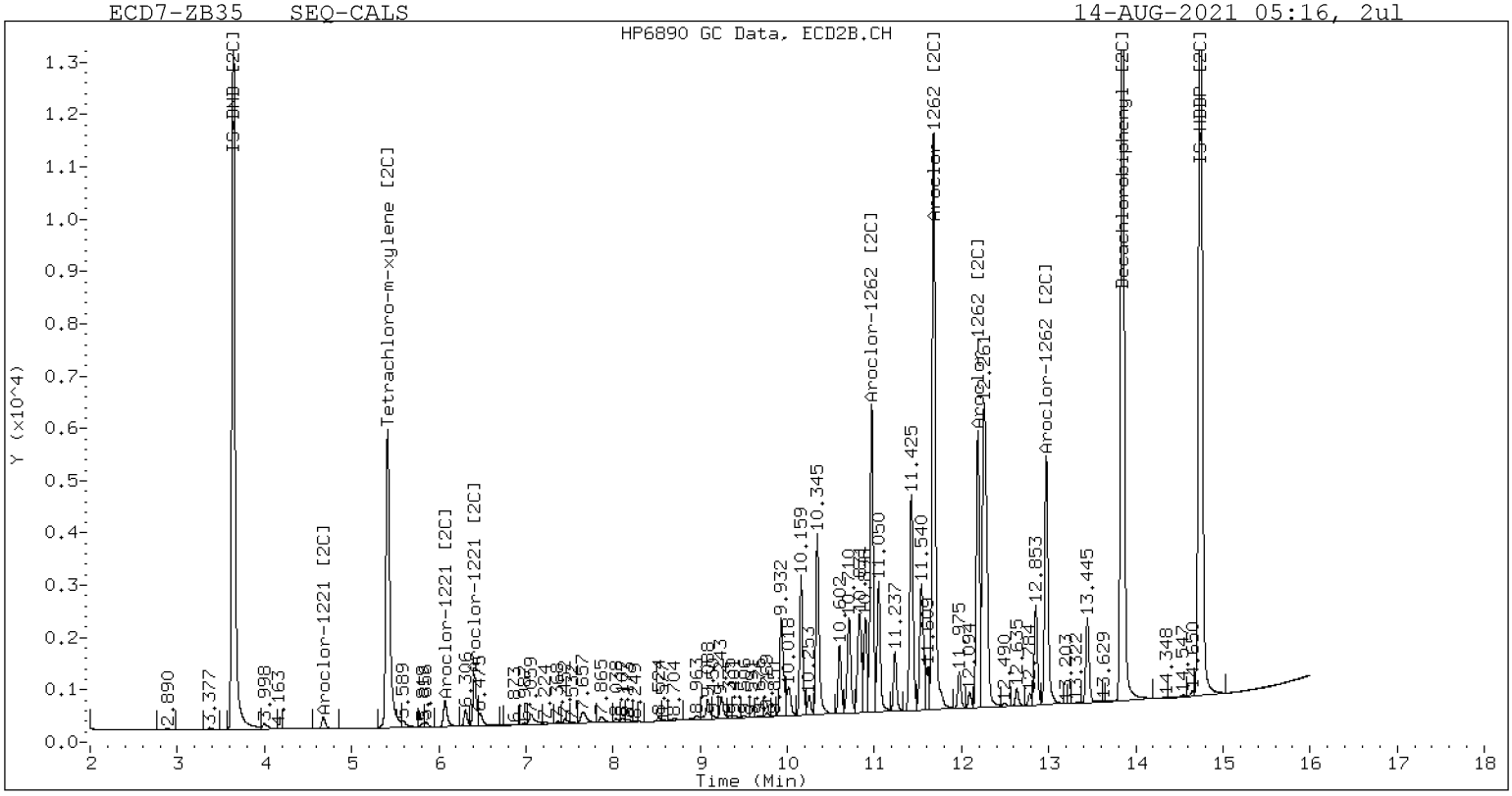
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALS 14-AUG-2021 05:16, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALS 14-AUG-2021 05:16, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132133ECD7.D
Data file 2: /210813.b/210813.b/08132133ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALT
Client ID:
Injection Date: 14-AUG-2021 05:37
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.070	0.001	261593	5.415	-0.002	728542	82.3	77.4	6.1	Tetrachloro-m-xylene
13.165	-0.001	319878	13.850	-0.030	1884507	78.6	86.8	9.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	262948	1.6
Hexabromobiphenyl	425681	448089	5.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	732298	1.6
Hexabromobiphenyl	863111	976792	13.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1221	1	4.015	0.000	9914	477.4	1	4.678	0.001	24750	450.3
Aroclor-1221	2	5.452	0.001	18189	558.8	2	6.073	0.001	62987	500.6
Aroclor-1221	3	5.727	0.002	45677	519.4	3	6.411	0.002	107101	488.4
Total Col1Ave (3 peaks): 518.6						Total Col2Ave (3 peaks): 479.7 RPD = 8				
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.384	0.000	139981	511.9	1	10.969	-0.002	560729	469.4
Aroclor-1262	2	11.455	0.001	94339	532.8	2	11.680	-0.006	1209233	479.8
Aroclor-1262	3	11.627	0.001	131117	513.6	3	12.187	-0.001	553441	494.7
Aroclor-1262	4	12.276	0.002	110529	527.4	4	12.972	-0.000	528567	507.0
Total Col1Ave (4 peaks): 521.5						Total Col2Ave (4 peaks): 487.7 RPD = 7				
Corrected Ave (3 peaks): 517.7						Corrected Ave (3 peaks): 481.3 RPD = 7				

Total PCB Area Col1 (5.169 - 13.066) = 2051470 Col1 Total PCB = 0.8 ppm*

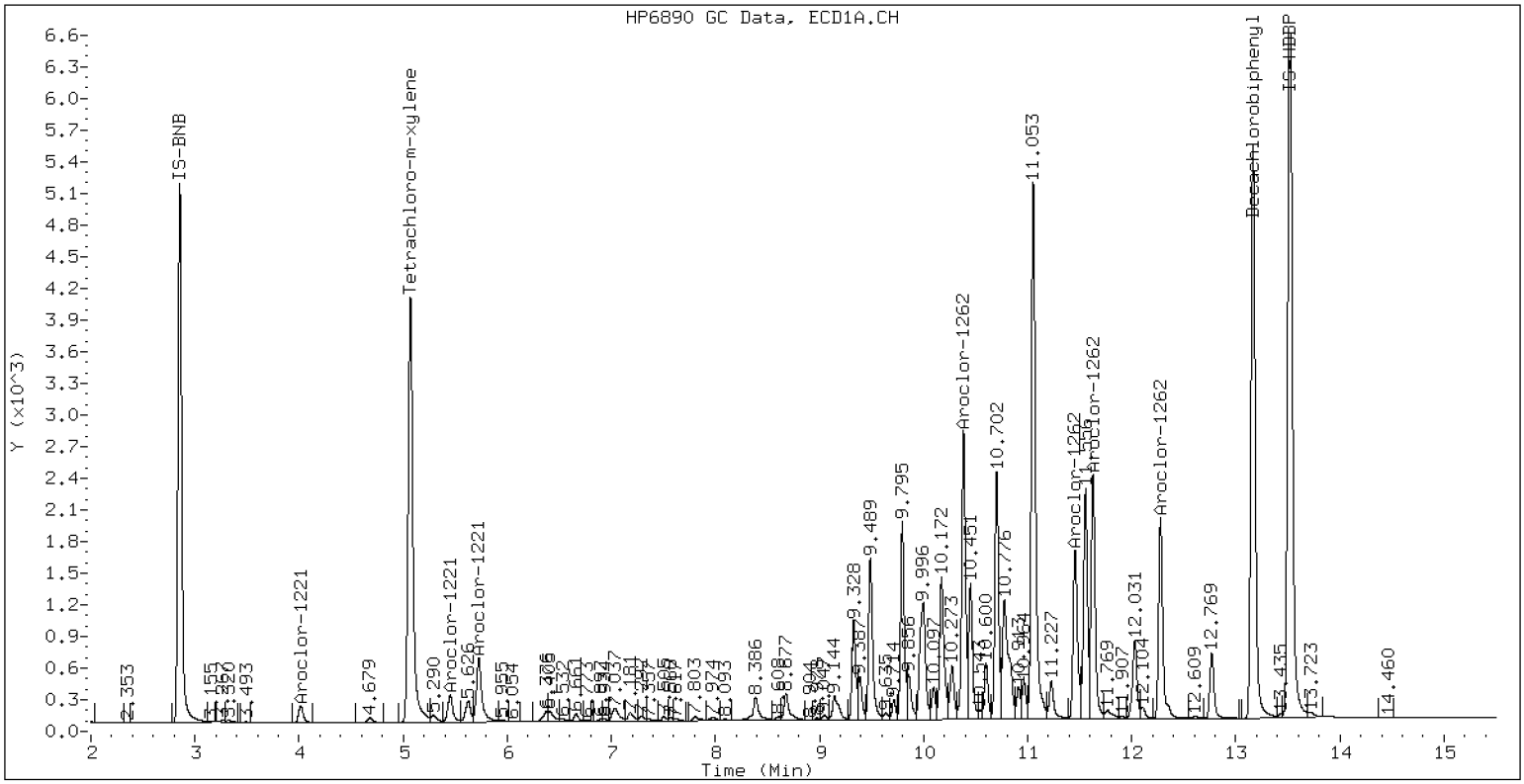
Total PCB Area Col2 (5.169 - 13.066) = 8265740 Col2 Total PCB = 0.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

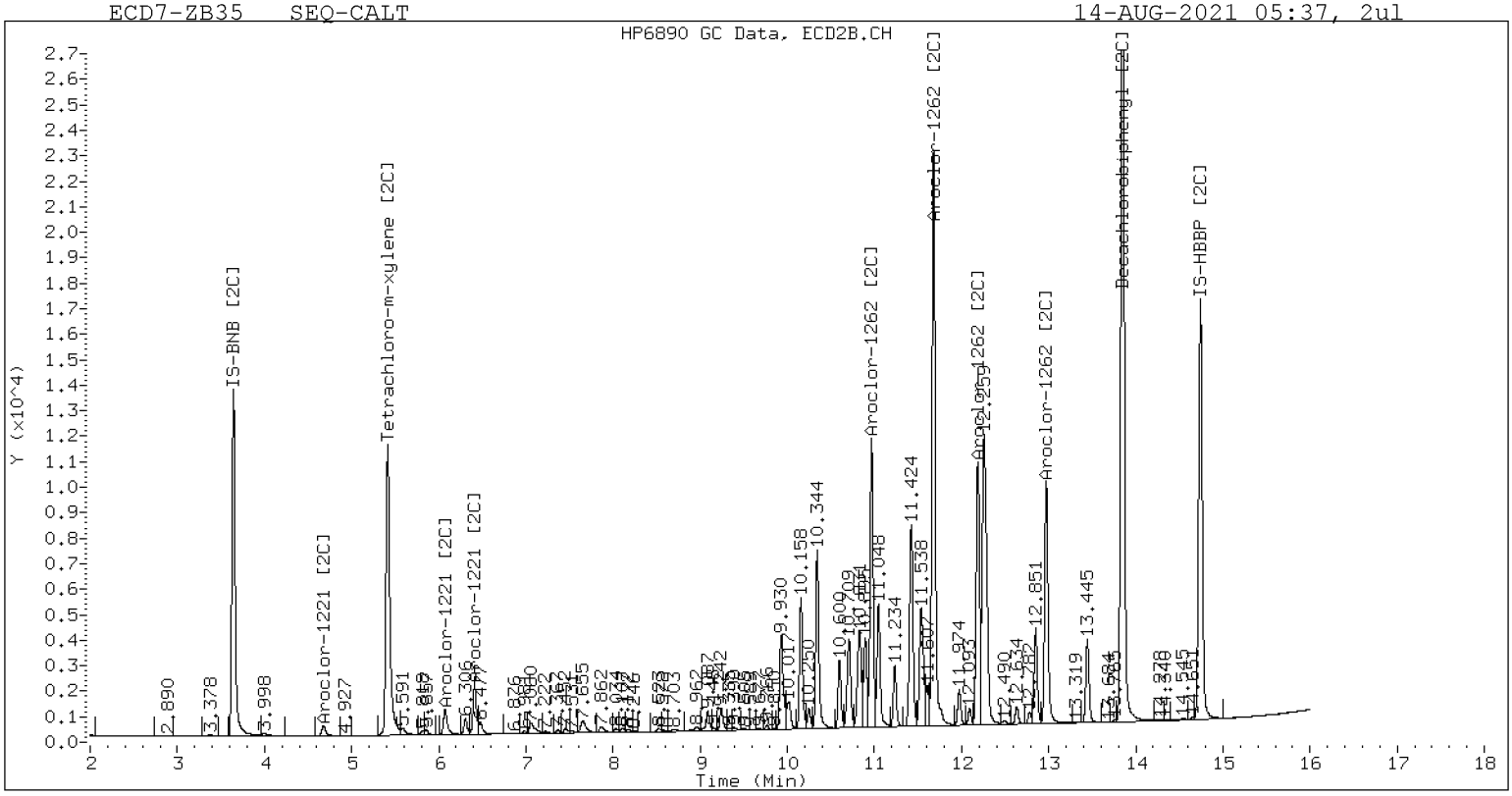
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALT 14-AUG-2021 05:37, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALT 14-AUG-2021 05:37, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132134ECD7.D
Data file 2: /210813.b/210813.b/08132134ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALU
Client ID:
Injection Date: 14-AUG-2021 05:57
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.070	0.001	562556	5.415	-0.002	1625558	158.0	155.7	1.5	Tetrachloro-m-xylene
13.166	0.000	683202	13.866	-0.014	4564195	148.8	181.4	19.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	294577	13.8
Hexabromobiphenyl	425681	505654	18.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	812370	12.7
Hexabromobiphenyl	863111	1132299	31.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1221	1	4.015	0.000	20398	876.9	1	4.677	0.000	48805	800.4
Aroclor-1221	2	5.451	0.000	39437	1081.5	2	6.072	0.000	133436	955.9
Aroclor-1221	3	5.724	0.000	95979	974.3	3	6.409	0.000	219752	903.3
Total Col1Ave (3 peaks): 977.5						Total Col2Ave (3 peaks): 886.5 RPD = 10				
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.384	0.000	299522	970.7	1	10.970	0.000	1249012	902.0
Aroclor-1262	2	11.454	0.000	210846	1055.2	2	11.685	0.000	3112273	1065.3
Aroclor-1262	3	11.627	0.000	284707	988.4	3	12.188	0.000	1248804	963.0
Aroclor-1262	4	12.274	0.000	225267	952.6	4	12.973	0.000	1179580	976.0
Total Col1Ave (4 peaks): 991.7						Total Col2Ave (4 peaks): 976.6 RPD = 2				
Corrected Ave (3 peaks): 970.5						Corrected Ave (3 peaks): 947.0 RPD = 2				

Total PCB Area Col1 (5.169 - 13.066) = 4488163 Col1 Total PCB = 1.5 ppm*

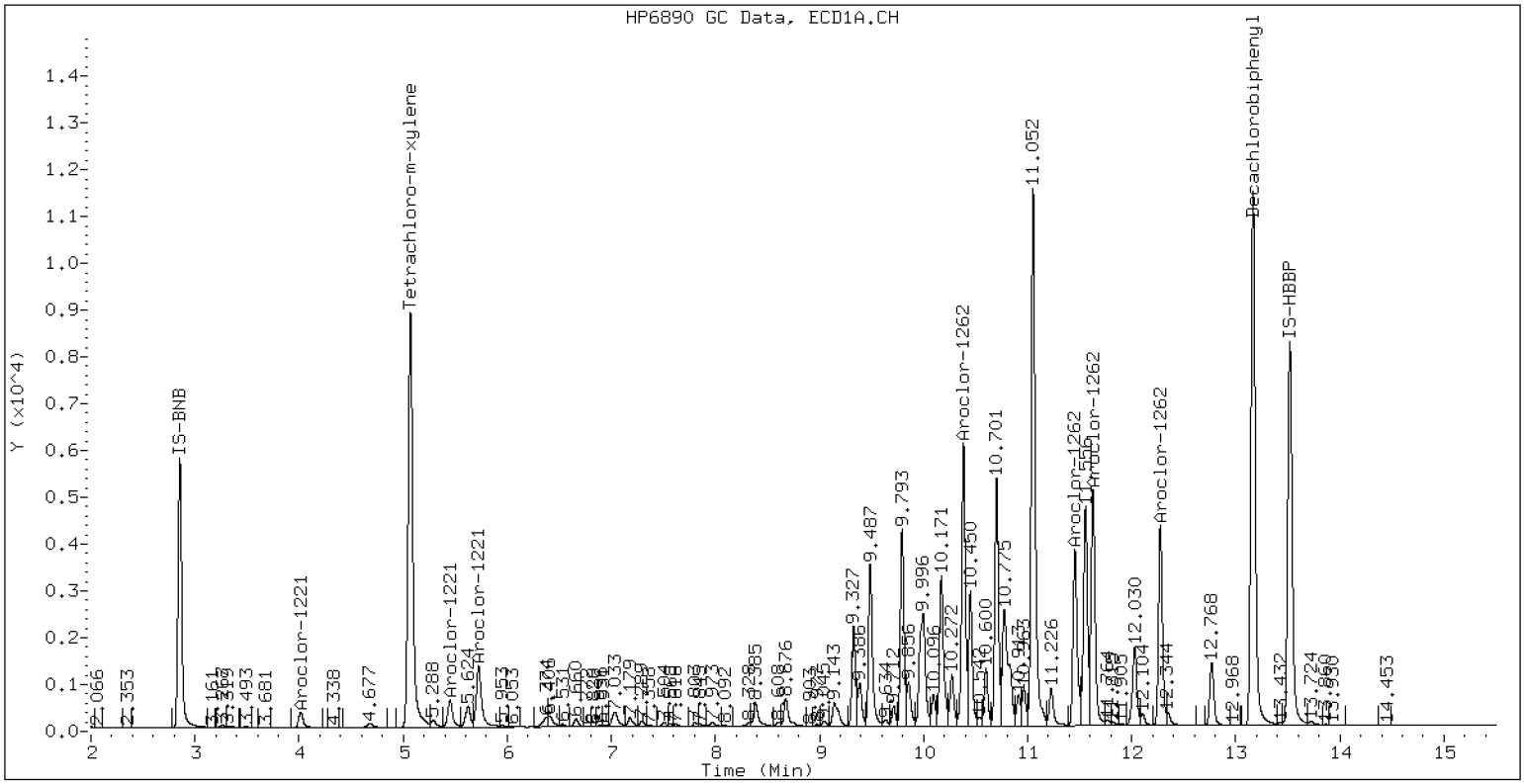
Total PCB Area Col2 (5.169 - 13.066) = 18583060 Col2 Total PCB = 1.7 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

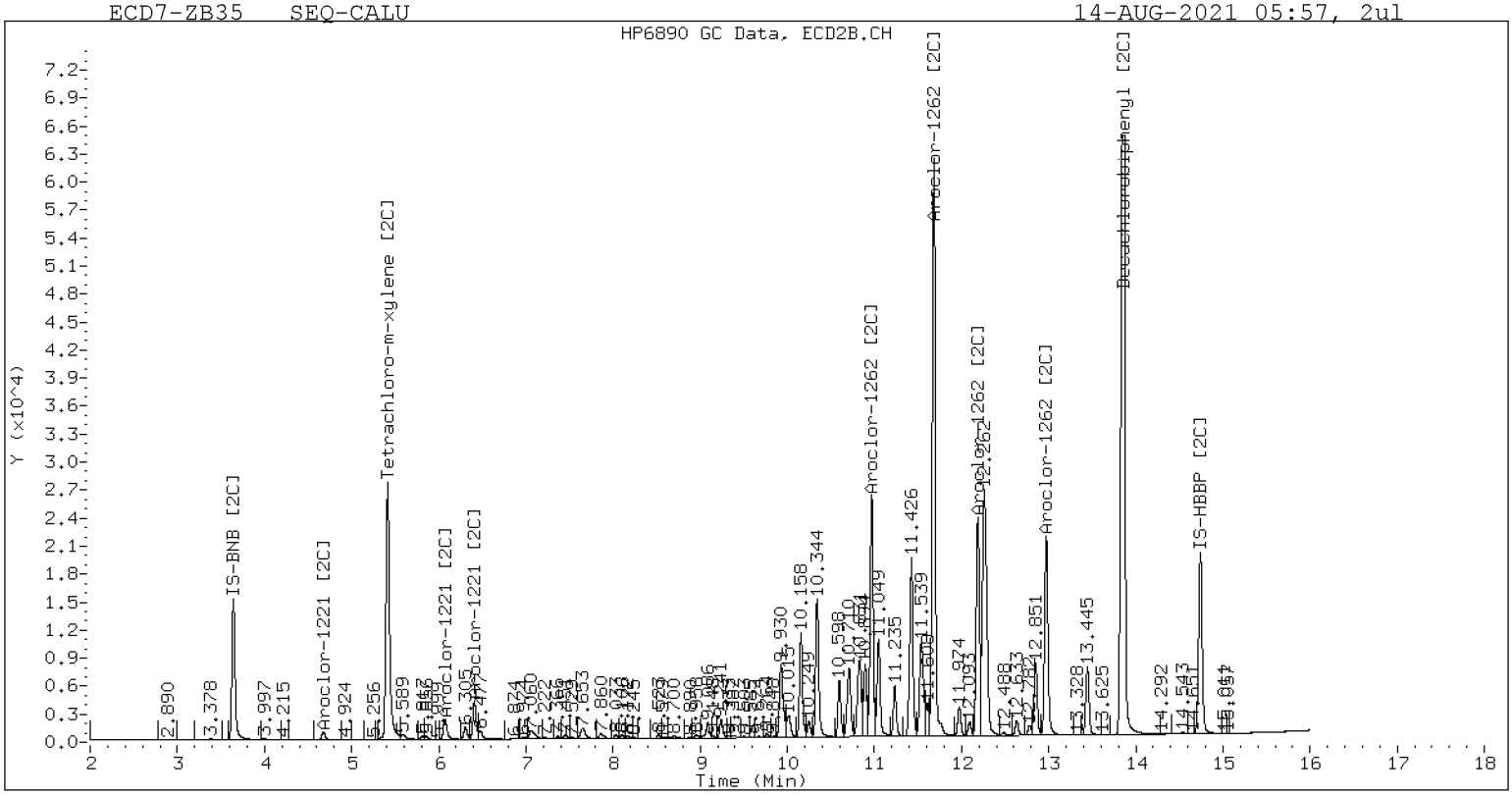
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALU 14-AUG-2021 05:57, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALU 14-AUG-2021 05:57, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132135ECD7.D
Data file 2: /210813.b/210813.b/08132135ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALV
Client ID:
Injection Date: 14-AUG-2021 06:18
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.000	9643	5.414	-0.003	29934	3.1	3.3	4.8	Tetrachloro-m-xylene
13.165	-0.001	19968	13.846	-0.034	99143	4.9	4.6	6.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	254258	-1.8
Hexabromobiphenyl	425681	446149	4.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	707863	-1.8
Hexabromobiphenyl	863111	962738	11.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1232	1	4.020	0.002	296	24.0	1	4.678	-0.001	716	22.6
Aroclor-1232	2	5.727	0.000	1256	18.7	2	7.057	-0.001	3688	20.0
Aroclor-1232	3	7.038	0.004	1441	14.1	3	7.661	0.010	7261	19.6
Aroclor-1232	4	7.976	0.003	573	13.6	4	8.524	0.002	1337	13.9
Total Col1Ave (4 peaks):					17.6	Total Col2Ave (4 peaks):				19.0 RPD = 8
Corrected Ave (3 peaks):					15.5	Corrected Ave (3 peaks):				17.8 RPD = 14
Aroclor-1268	1	11.560	0.003	12256	20.5	1	12.187	-0.013	58194	21.0
Aroclor-1268	2	11.629	0.003	13030	20.8	2	12.254	-0.013	63463	21.0
Aroclor-1268	3	12.001	0.001	10425	21.1	3	12.635	-0.009	52750	20.2
Aroclor-1268	4	12.771	-0.001	33702	21.2	4	12.783	0.000	12903	20.0
Total Col1Ave (4 peaks):					20.9	Total Col2Ave (4 peaks):				20.6 RPD = 1
Corrected Ave (3 peaks):					20.8	Corrected Ave (3 peaks):				20.4 RPD = 2

Total PCB Area Col1 (5.169 - 13.066) = 102693 Col1 Total PCB = 0.0 ppm*

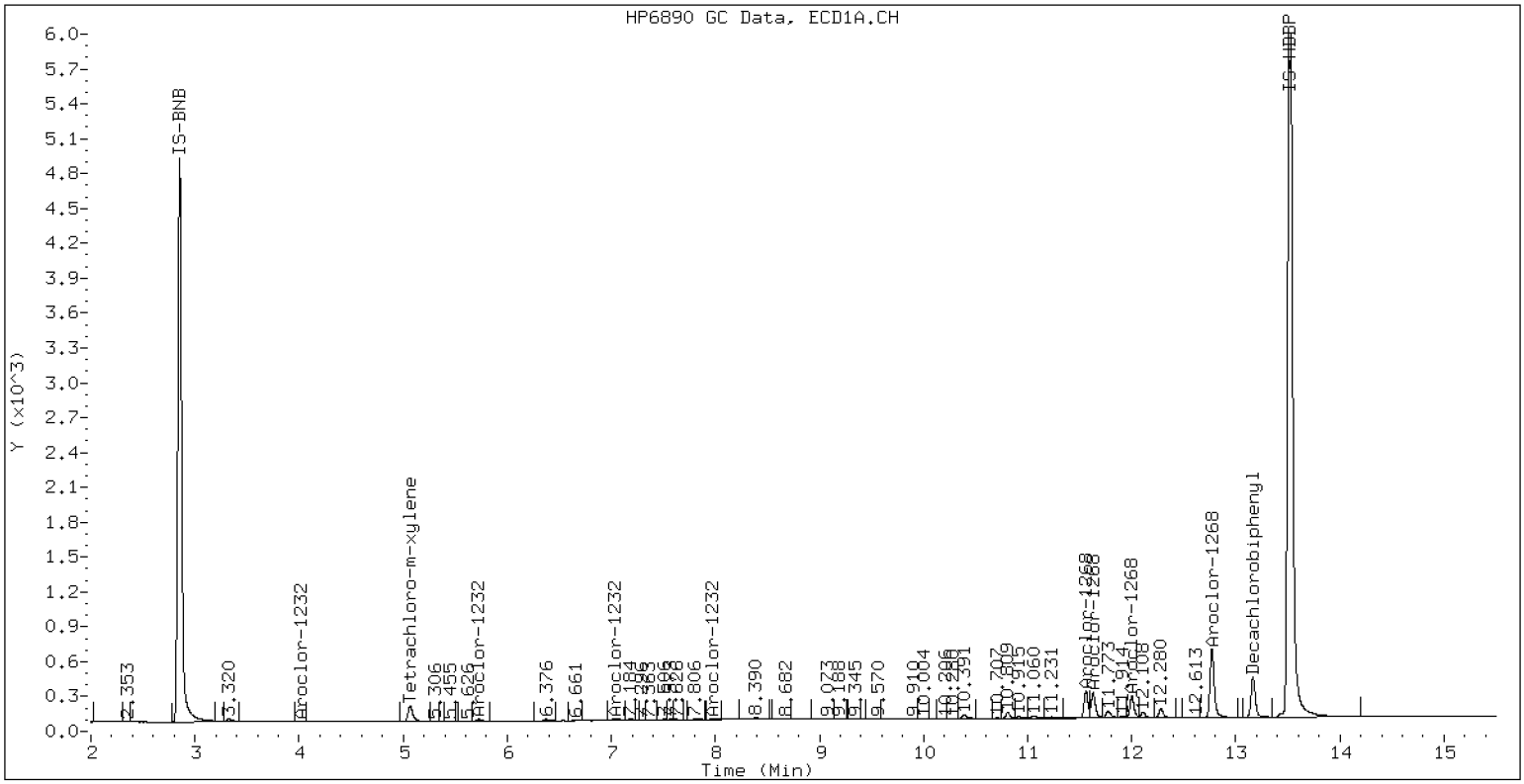
Total PCB Area Col2 (5.169 - 13.066) = 354263 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

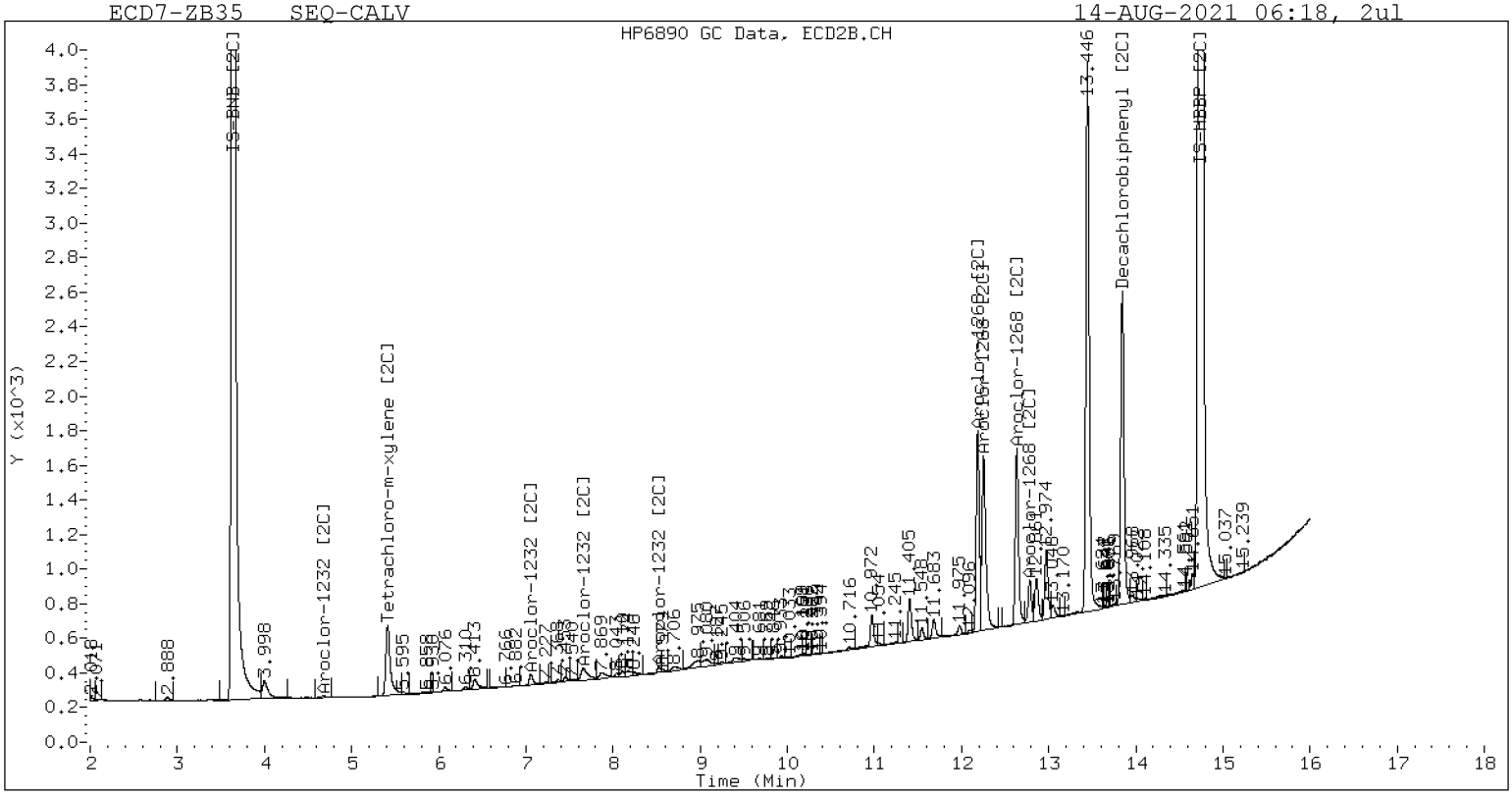
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALV 14-AUG-2021 06:18, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALV 14-AUG-2021 06:18, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132136ECD7.D
Data file 2: /210813.b/210813.b/08132136ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALW
Client ID:
Injection Date: 14-AUG-2021 06:38
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	-0.000	24003	5.415	-0.002	72978	7.6	7.8	2.3	Tetrachloro-m-xylene
13.165	-0.000	48223	13.847	-0.033	249169	11.7	11.3	3.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	261082	0.9
Hexabromobiphenyl	425681	453384	6.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	729748	1.2
Hexabromobiphenyl	863111	990035	14.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1232	1	4.014	-0.004	693	54.7	1	4.679	-0.000	1713	52.5
Aroclor-1232	2	5.728	0.001	3234	47.0	2	7.059	0.001	9583	50.3
Aroclor-1232	3	7.038	0.005	4620	44.0	3	7.657	0.006	19044	49.9
Aroclor-1232	4	7.976	0.004	1836	42.5	4	8.525	0.003	4225	42.5
Total Col1Ave (4 peaks):				47.0		Total Col2Ave (4 peaks):			48.8	RPD = 4
Corrected Ave (3 peaks):				44.5		Corrected Ave (3 peaks):			47.6	RPD = 7
Aroclor-1268	1	11.559	0.001	30240	49.7	1	12.187	-0.013	141412	49.7
Aroclor-1268	2	11.629	0.004	31897	50.0	2	12.255	-0.012	153603	49.5
Aroclor-1268	3	12.001	-0.000	25020	49.9	3	12.636	-0.008	132778	49.5
Aroclor-1268	4	12.771	-0.001	81764	50.5	4	12.783	0.000	32071	48.3
Total Col1Ave (4 peaks):				50.0		Total Col2Ave (4 peaks):			49.3	RPD = 2
Corrected Ave (3 peaks):				49.9		Corrected Ave (3 peaks):			49.1	RPD = 2

Total PCB Area Col1 (5.169 - 13.066) = 250584 Col1 Total PCB = 0.1 ppm*

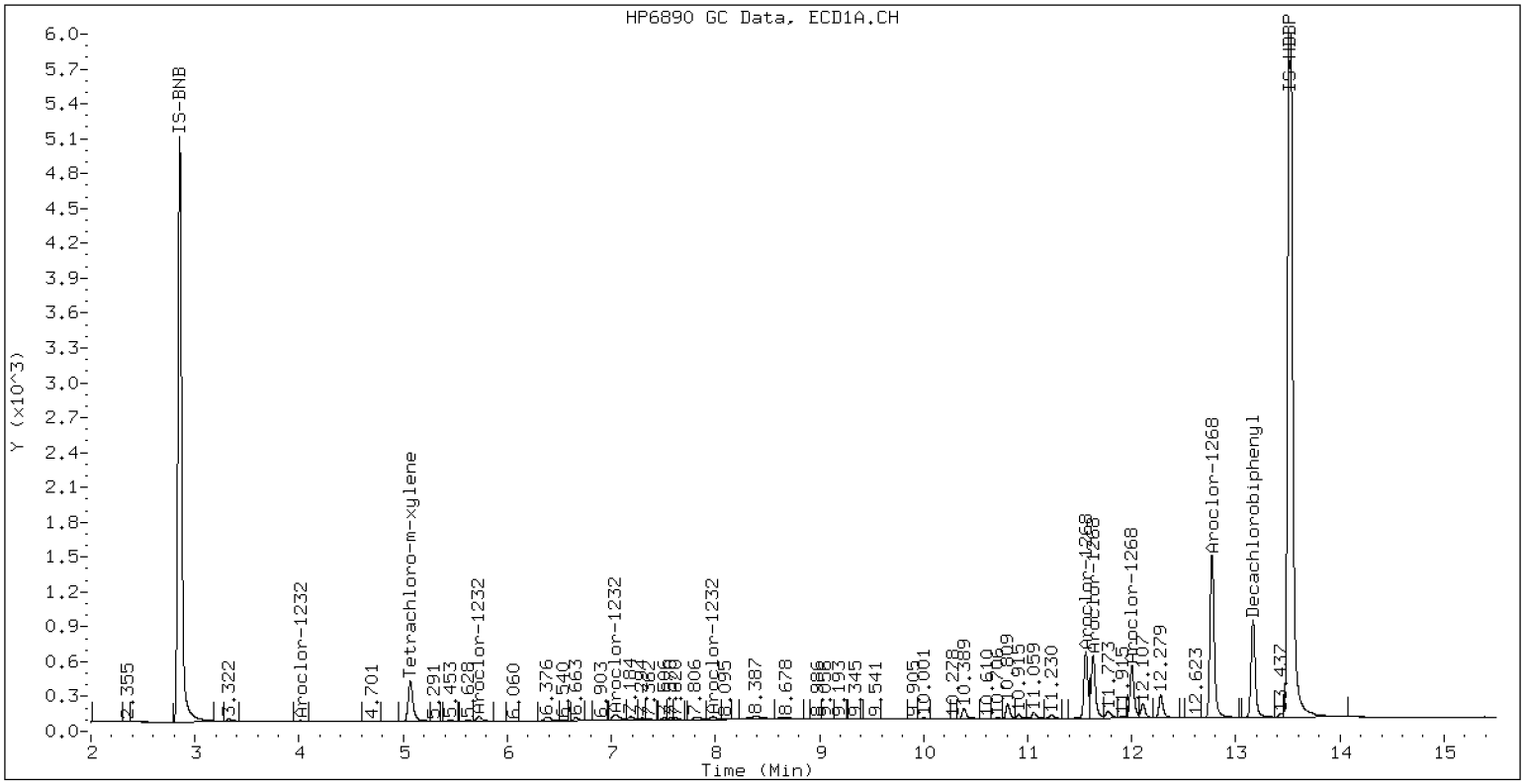
Total PCB Area Col2 (5.169 - 13.066) = 853194 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

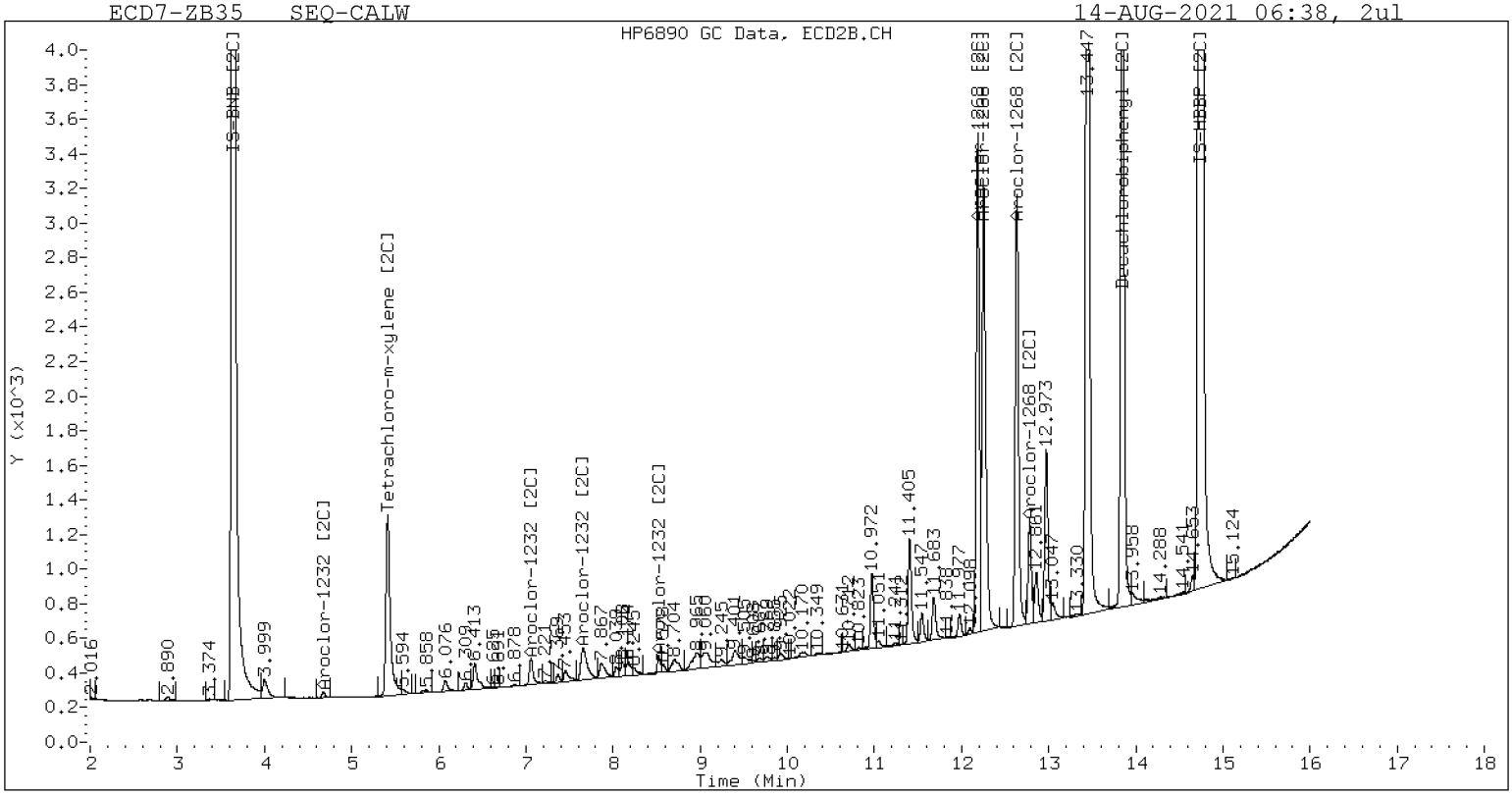
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALW 14-AUG-2021 06:38, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALW 14-AUG-2021 06:38, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132137ECD7.D
Data file 2: /210813.b/210813.b/08132137ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALX
Client ID:
Injection Date: 14-AUG-2021 06:59
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	49889	5.416	-0.001	148390	15.6	15.6	0.3	Tetrachloro-m-xylene
13.165	-0.001	98406	13.848	-0.032	525364	23.4	22.9	2.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	265413	2.5
Hexabromobiphenyl	425681	463901	9.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	740090	2.7
Hexabromobiphenyl	863111	1032553	19.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1232	1	4.017	-0.001	1235	95.9	1	4.680	0.001	3647	110.3
Aroclor-1232	2	5.728	0.001	7030	100.5	2	7.058	0.000	19630	101.6
Aroclor-1232	3	7.038	0.004	10782	101.0	3	7.657	0.006	37360	96.6
Aroclor-1232	4	7.976	0.003	4640	105.6	4	8.524	0.002	10591	105.1
Total Col1Ave (4 peaks):					100.8	Total Col2Ave (4 peaks):				103.4 RPD = 3
Corrected Ave (3 peaks):					99.1	Corrected Ave (3 peaks):				101.1 RPD = 2
Aroclor-1268	1	11.558	0.001	61752	99.2	1	12.187	-0.013	286554	96.6
Aroclor-1268	2	11.627	0.001	65121	99.7	2	12.254	-0.013	318003	98.2
Aroclor-1268	3	12.000	-0.001	50803	98.9	3	12.635	-0.009	274169	98.0
Aroclor-1268	4	12.771	-0.001	165518	99.9	4	12.784	0.001	67494	97.5
Total Col1Ave (4 peaks):					99.5	Total Col2Ave (4 peaks):				97.6 RPD = 2
Corrected Ave (3 peaks):					99.3	Corrected Ave (3 peaks):				97.4 RPD = 2

Total PCB Area Col1 (5.169 - 13.066) = 513695 Col1 Total PCB = 0.2 ppm*

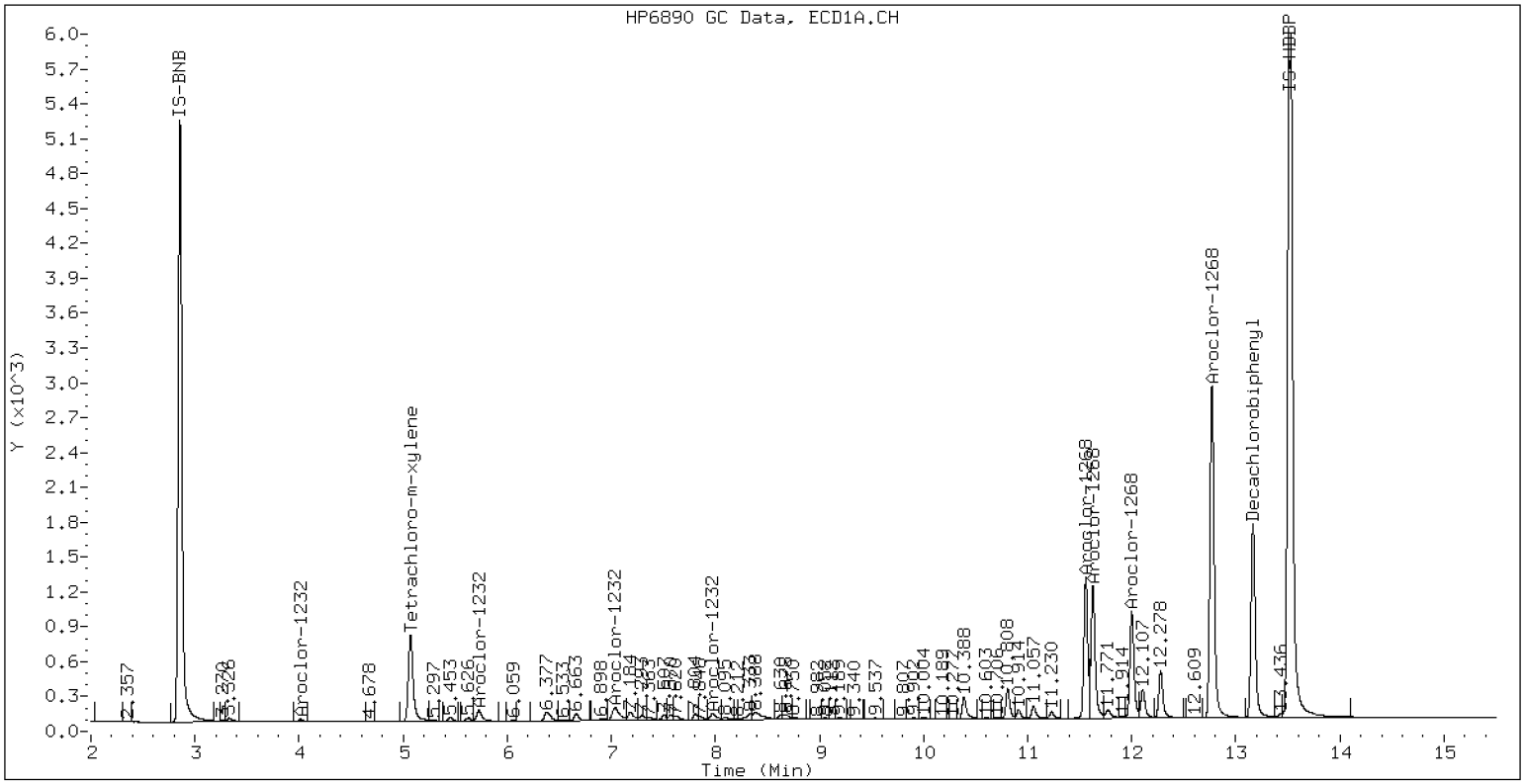
Total PCB Area Col2 (5.169 - 13.066) = 1706857 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

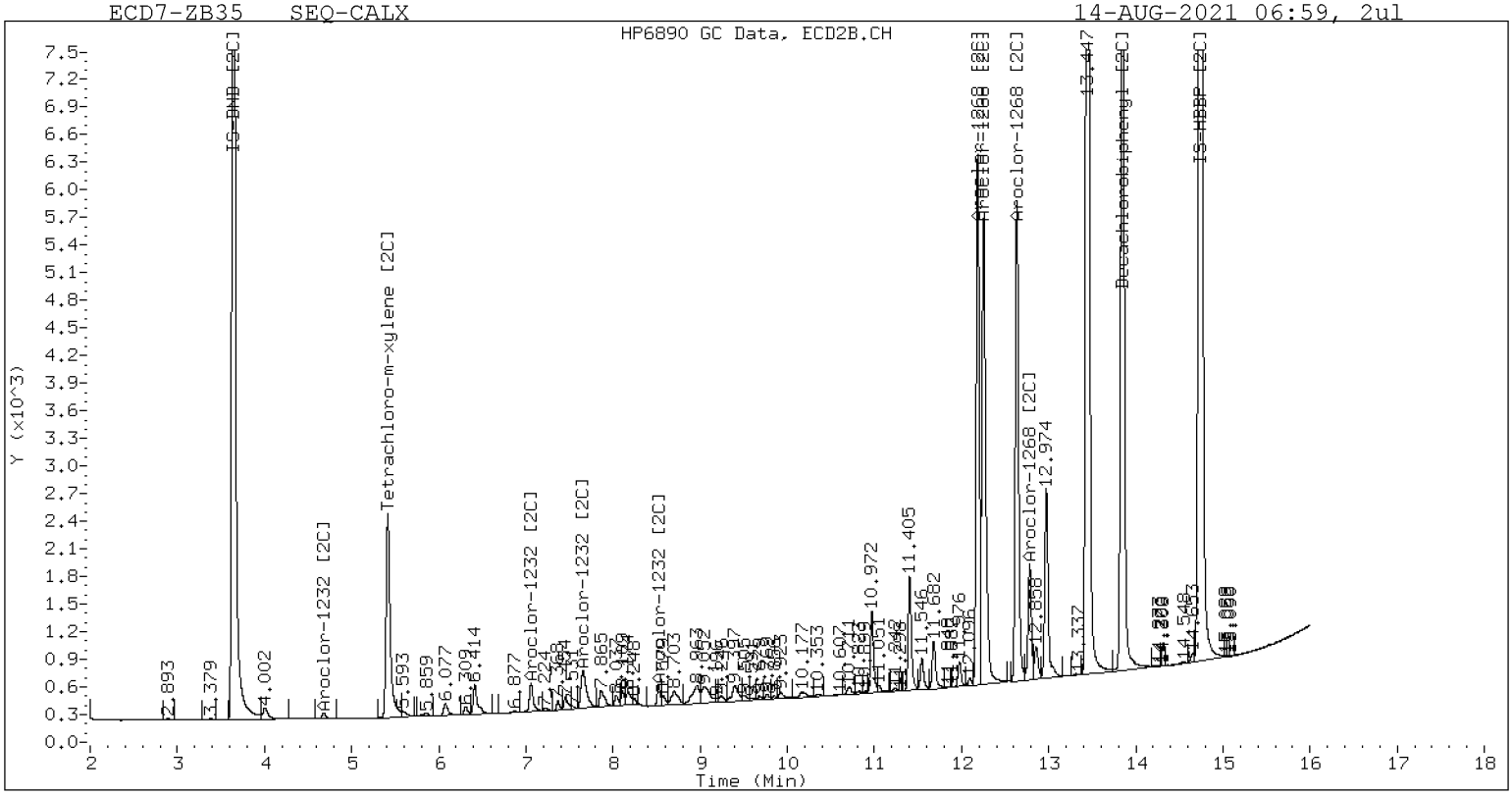
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALX 14-AUG-2021 06:59, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALX 14-AUG-2021 06:59, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132138ECD7.D
Data file 2: /210813.b/210813.b/08132138ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALY
Client ID:
Injection Date: 14-AUG-2021 07:19
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	129369	5.416	-0.001	369707	40.2	38.8	3.6	Tetrachloro-m-xylene
13.165	-0.000	244475	13.848	-0.032	1336972	57.7	58.2	0.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	266253	2.9
Hexabromobiphenyl	425681	467157	9.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	742059	2.9
Hexabromobiphenyl	863111	1034201	19.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- 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	4.018	0.000	3075	238.1	1	4.679	-0.000	8167	246.2
Aroclor-1232	2	5.727	0.001	18684	266.2	2	7.059	0.001	49856	257.3
Aroclor-1232	3	7.036	0.002	29135	272.0	3	7.656	0.005	96288	248.3
Aroclor-1232	4	7.975	0.003	12195	276.7	4	8.523	0.001	28914	286.2

Total Col1Ave (4 peaks): 263.3 Total Col2Ave (4 peaks): 259.5 RPD = 1
Corrected Ave (3 peaks): 258.8 Corrected Ave (3 peaks): 250.6 RPD = 3

Aroclor-1268	1	11.557	-0.000	156710	250.0	1	12.186	-0.014	708061	238.3
Aroclor-1268	2	11.625	-0.000	164056	249.5	2	12.255	-0.012	797204	245.9
Aroclor-1268	3	12.000	-0.001	128182	247.9	3	12.636	-0.008	704909	251.5
Aroclor-1268	4	12.770	-0.002	406812	243.9	4	12.784	0.001	176627	254.8

Total Col1Ave (4 peaks): 247.8 Total Col2Ave (4 peaks): 247.6 RPD = 0
Corrected Ave (3 peaks): 247.1 Corrected Ave (3 peaks): 245.2 RPD = 1

Total PCB Area Col1 (5.169 - 13.066) = 1301292 Col1 Total PCB = 0.5 ppm*

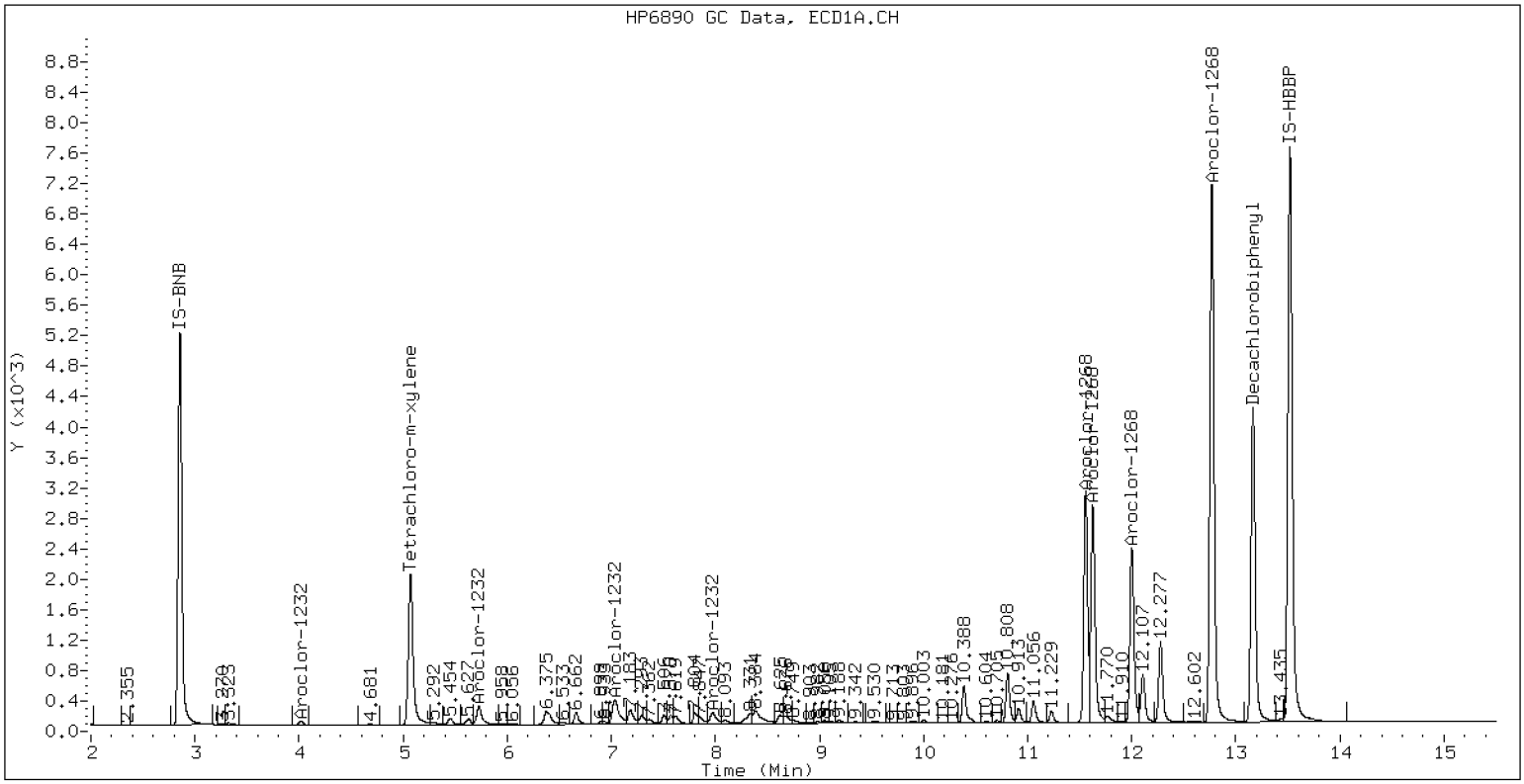
Total PCB Area Col2 (5.169 - 13.066) = 4281499 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

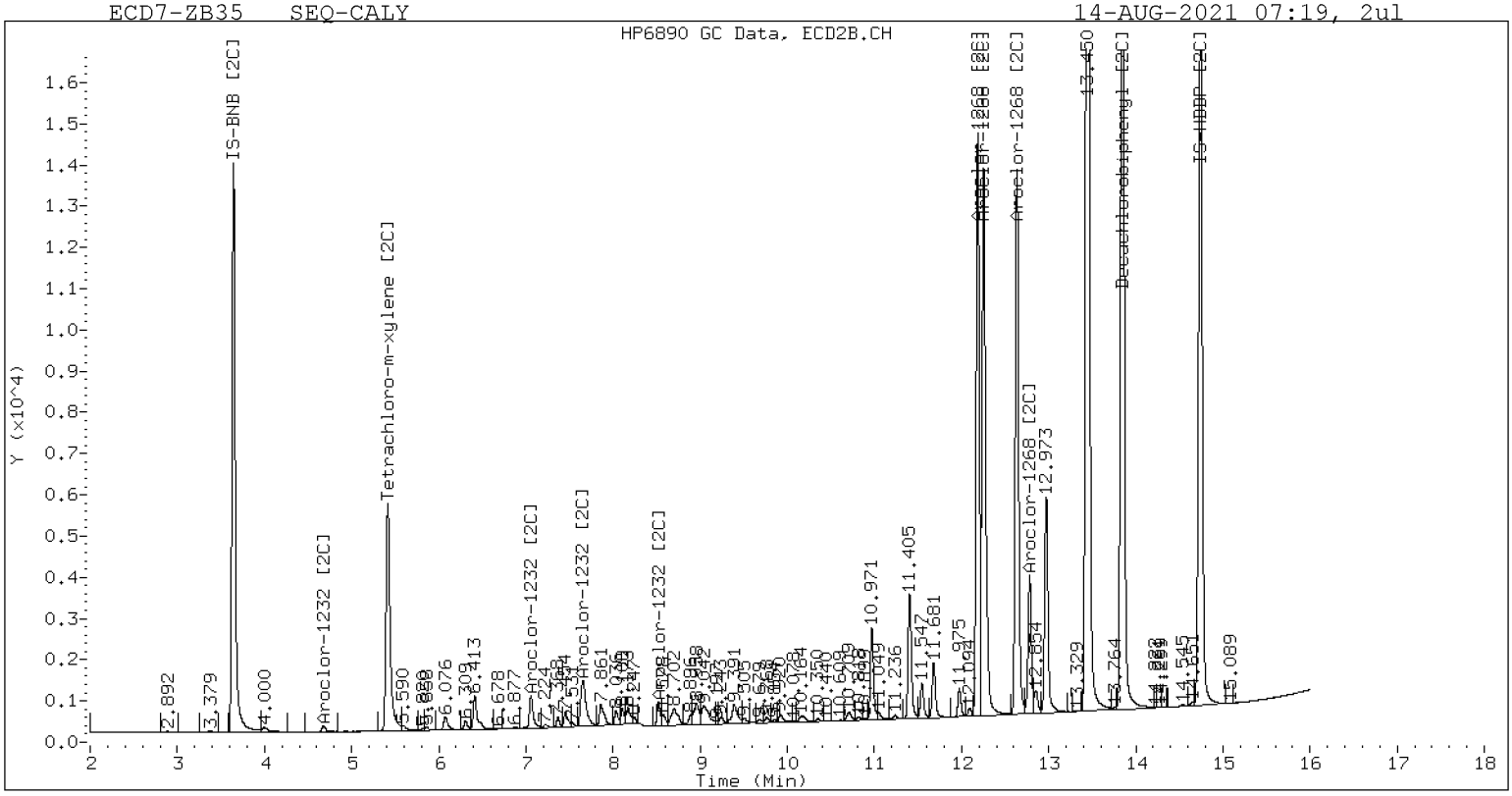
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALY 14-AUG-2021 07:19, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALY 14-AUG-2021 07:19, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132139ECD7.D
Data file 2: /210813.b/210813.b/08132139ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALZ
Client ID:
Injection Date: 14-AUG-2021 07:40
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	257867	5.415	-0.001	723234	80.8	76.2	5.8	Tetrachloro-m-xylene
13.165	-0.001	471498	13.853	-0.027	2944011	114.3	128.5	11.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	264183	2.1
Hexabromobiphenyl	425681	454251	6.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	738334	2.4
Hexabromobiphenyl	863111	1031400	19.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1232	1	4.016	-0.002	5996	468.0	1	4.679	-0.000	14925	452.3
Aroclor-1232	2	5.728	0.001	36550	524.8	2	7.059	0.000	96476	500.3
Aroclor-1232	3	7.036	0.002	60788	571.9	3	7.654	0.003	201408	521.9
Aroclor-1232	4	7.973	0.001	25380	580.5	4	8.523	0.001	56734	564.3
Total Col1Ave (4 peaks):					536.3	Total Col2Ave (4 peaks):				509.7 RPD = 5
Corrected Ave (3 peaks):					521.6	Corrected Ave (3 peaks):				491.5 RPD = 6
Aroclor-1268	1	11.557	-0.000	307970	505.3	1	12.192	-0.008	1533537	517.5
Aroclor-1268	2	11.626	0.001	321316	502.6	2	12.256	-0.011	1606143	496.7
Aroclor-1268	3	12.001	0.000	251993	501.1	3	12.638	-0.006	1415992	506.6
Aroclor-1268	4	12.770	-0.002	791865	488.2	4	12.783	-0.000	359269	519.7
Total Col1Ave (4 peaks):					499.3	Total Col2Ave (4 peaks):				510.1 RPD = 2
Corrected Ave (3 peaks):					497.3	Corrected Ave (3 peaks):				506.9 RPD = 2

Total PCB Area Col1 (5.169 - 13.066) = 2578632 Col1 Total PCB = 1.0 ppm*

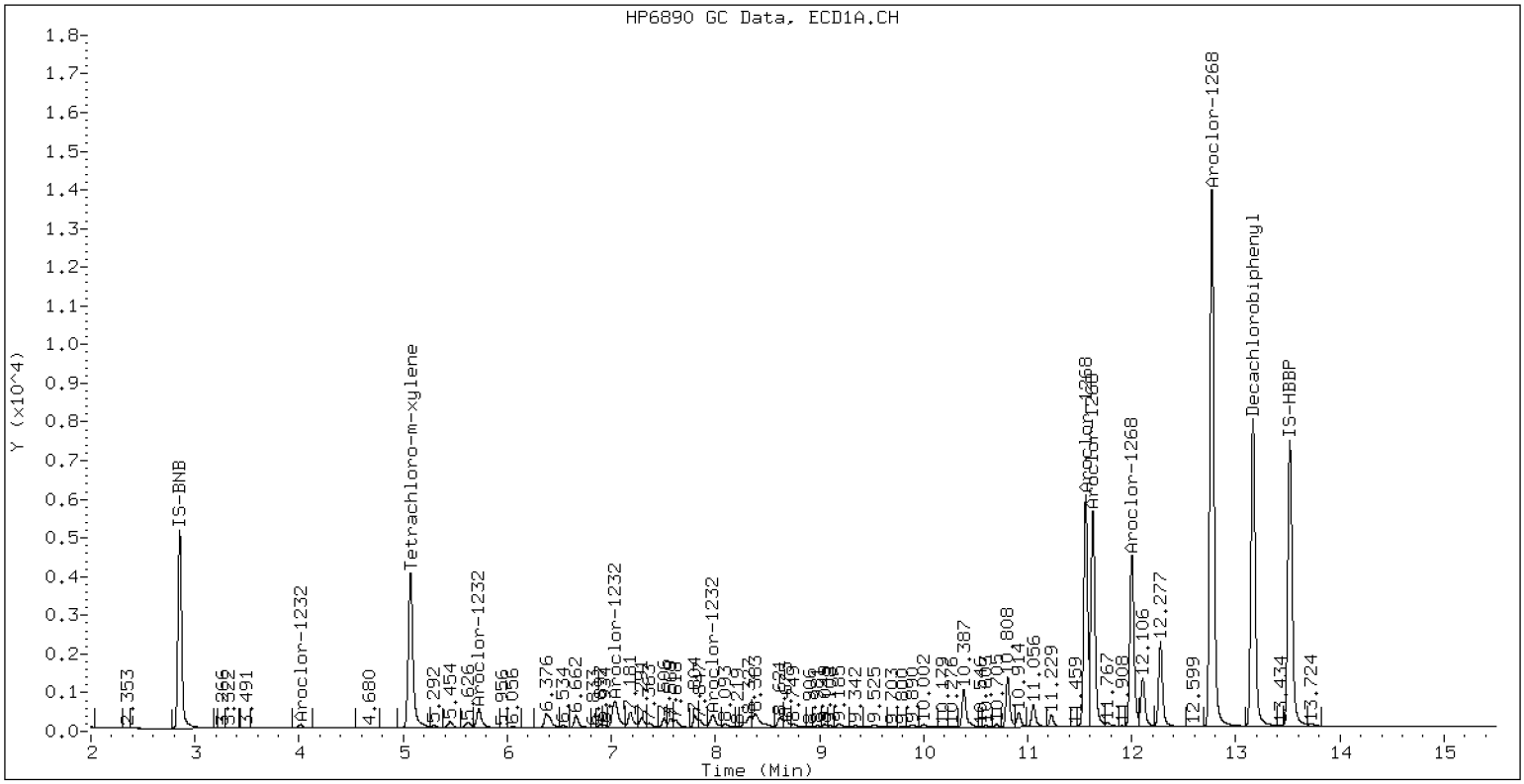
Total PCB Area Col2 (5.169 - 13.066) = 8685361 Col2 Total PCB = 0.9 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

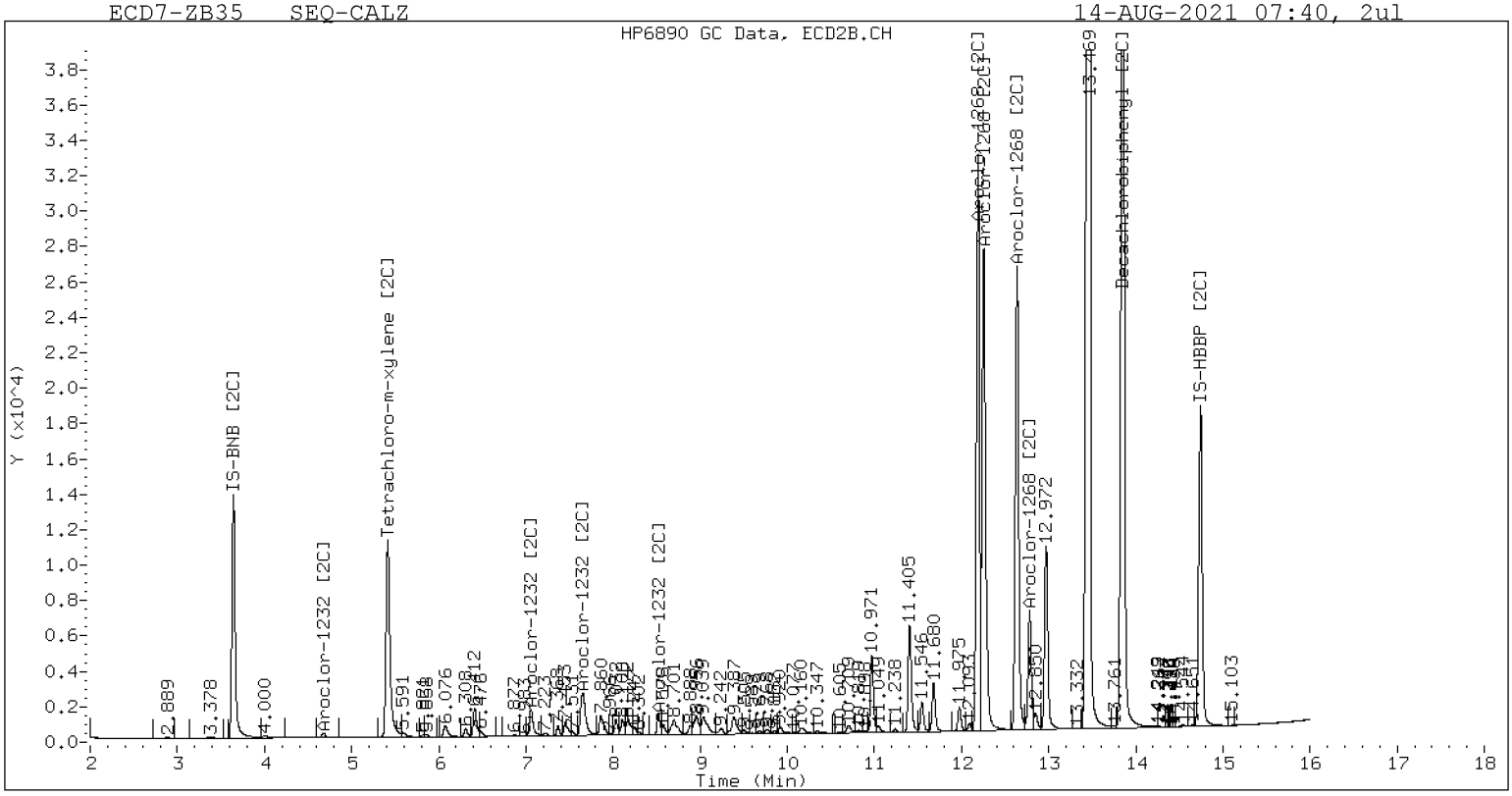
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALZ 14-AUG-2021 07:40, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALZ 14-AUG-2021 07:40, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132140ECD7.D
Data file 2: /210813.b/210813.b/08132140ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALAA
Client ID:
Injection Date: 14-AUG-2021 08:00
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.072	0.003	559035	5.417	0.000	1626007	157.4	154.5	1.9	Tetrachloro-m-xylene
13.166	-0.000	1024984	13.880	-0.000	6105079	220.9	239.7	8.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	293830	13.5
Hexabromobiphenyl	425681	511240	20.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	819127	13.6
Hexabromobiphenyl	863111	1146408	32.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1232	1	4.018	0.000	12215	857.2	1	4.679	-0.000	30237	825.9
Aroclor-1232	2	5.726	0.000	77780	1004.1	2	7.058	0.000	203525	951.4
Aroclor-1232	3	7.034	0.000	138859	1174.6	3	7.651	0.000	435631	1017.5
Aroclor-1232	4	7.972	0.000	55694	1145.2	4	8.522	-0.000	126225	1131.7
Total Col1Ave (4 peaks): 1045.3						Total Col2Ave (4 peaks): 981.6				RPD = 6
Corrected Ave (3 peaks): 1002.2						Corrected Ave (3 peaks): 931.6				RPD = 7
Aroclor-1268	1	11.557	0.000	671468	979.0	1	12.200	-0.000	3980707	1208.5
Aroclor-1268	2	11.626	0.000	691891	961.7	2	12.267	-0.000	4248856	1182.1
Aroclor-1268	3	12.001	0.000	545758	964.4	3	12.644	0.000	3756866	1209.3
Aroclor-1268	4	12.772	0.000	1790032	980.6	4	12.783	0.000	815617	1061.4
Total Col1Ave (4 peaks): 971.4						Total Col2Ave (4 peaks): 1165.3				RPD = 18
Corrected Ave (3 peaks): 968.3						Corrected Ave (3 peaks): 1150.7				RPD = 17

Total PCB Area Col1 (5.169 - 13.066) = 5695380 Col1 Total PCB = 1.9 ppm*

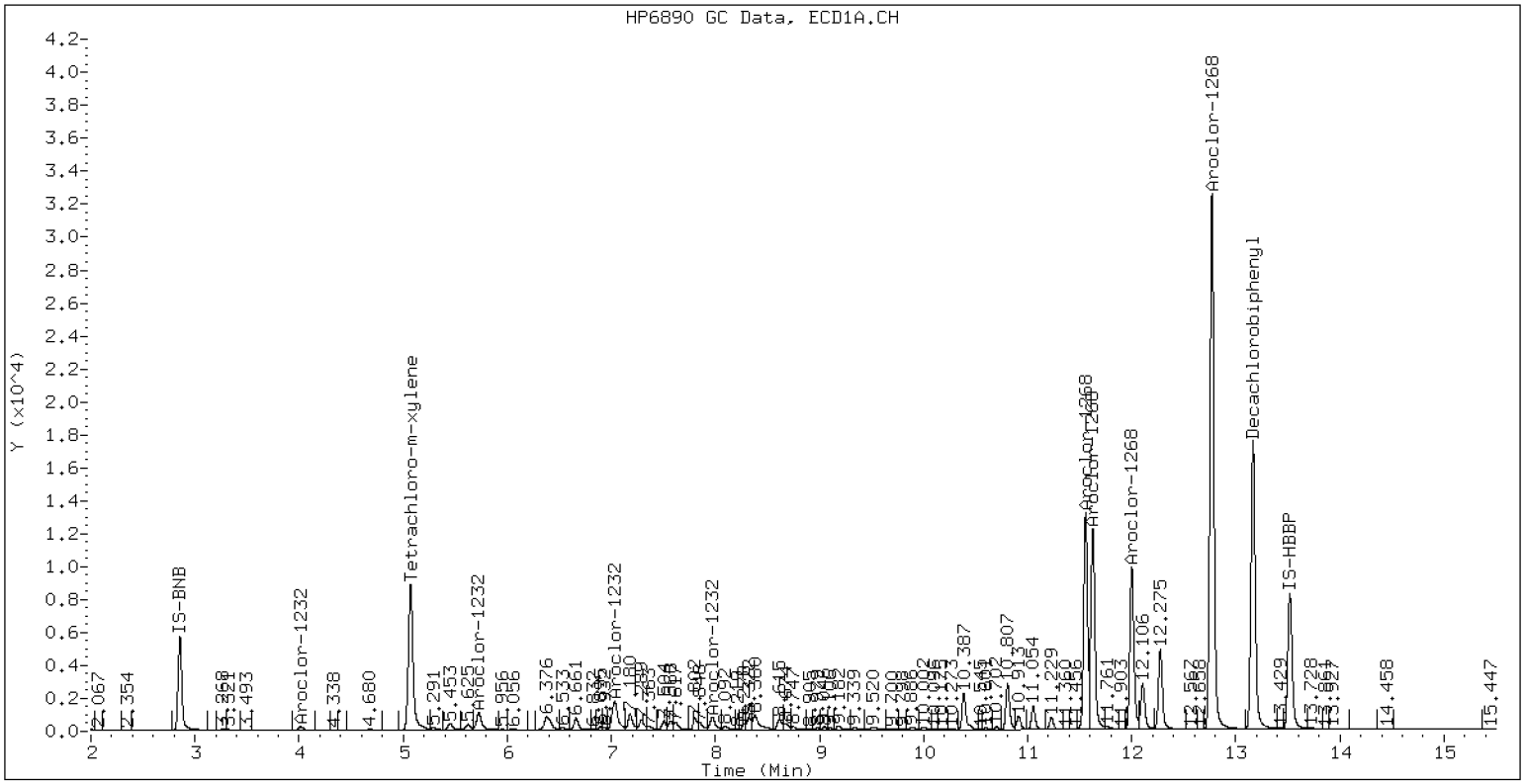
Total PCB Area Col2 (5.169 - 13.066) = 21104177 Col2 Total PCB = 1.9 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

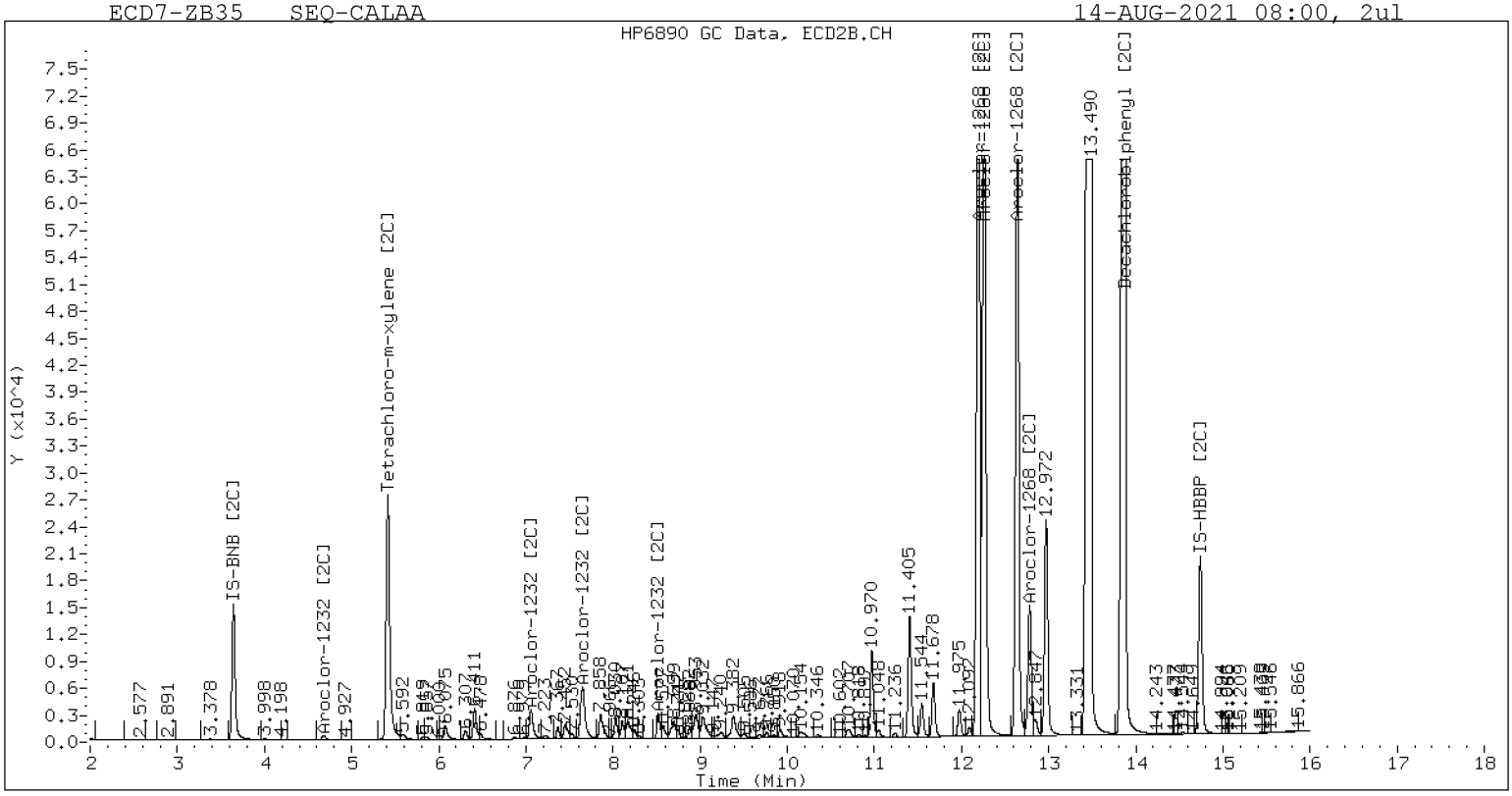
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALAA 14-AUG-2021 08:00, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALAA 14-AUG-2021 08:00, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132141ECD7.D
Data file 2: /210813.b/210813.b/08132141ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV1
Client ID:
Injection Date: 14-AUG-2021 08:21
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.072	0.003	130620	5.416	-0.001	380301	43.6	41.9	4.0	Tetrachloro-m-xylene
13.166	0.000	166891	13.848	-0.032	891664	41.9	41.2	1.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	247644	-4.3
Hexabromobiphenyl	425681	438534	3.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	705551	-2.1
Hexabromobiphenyl	863111	973863	12.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.662	0.004	25008	284.7	1	7.059	0.002	110603	274.9
Aroclor-1016	2	7.036	0.006	75849	282.4	2	7.653	0.006	251287	279.2
Aroclor-1016	3	7.182	0.006	34421	285.6	3	7.860	0.005	101098	286.3
Aroclor-1016	4	7.291	0.006	21611	286.0	4	8.108	0.003	60866	284.8
Total Col1Ave (4 peaks):					284.7	Total Col2Ave (4 peaks):				281.3 RPD = 1
Corrected Ave (3 peaks):					284.2	Corrected Ave (3 peaks):				279.6 RPD = 2
Aroclor-1221	1	4.024	0.008	183	9.4	1	4.683	0.006	532	10.0
Aroclor-1221	2	5.453	0.002	3388	110.5	2	6.080	0.008	14283	117.8
Aroclor-1221	3	5.728	0.004	17440	210.6	3	6.414	0.005	53146	251.5
Total Col1Ave (3 peaks):					110.2	Total Col2Ave (3 peaks):				126.5 RPD = 14
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.024	0.006	183	15.2	1	4.683	0.004	532	16.9
Aroclor-1232	2	5.728	0.002	17440	267.1	2	7.059	0.001	110603	600.3
Aroclor-1232	3	7.036	0.002	75849	761.3	3	7.653	0.002	251287	681.4
Aroclor-1232	4	7.973	0.001	32123	783.7	4	8.522	0.000	77885	810.7
Total Col1Ave (4 peaks):					456.8	Total Col2Ave (4 peaks):				527.3 RPD = 14
Corrected Ave (3 peaks):					347.9	Corrected Ave (3 peaks):				432.8 RPD = 22
Aroclor-1242	1	6.662	0.003	25008	366.5	1	7.059	0.002	110603	341.0
Aroclor-1242	2	7.036	0.006	75849	372.9	2	7.653	0.005	251287	356.6
Aroclor-1242	3	8.386	0.011	23127	200.7	3	8.934	-0.015	43631	132.5
Aroclor-1242	4	8.601	-0.072	2264	48.1	4	9.087	0.060	61086	163.5
Total Col1Ave (4 peaks):					247.1	Total Col2Ave (4 peaks):				248.4 RPD = 1
Corrected Ave (3 peaks):					205.1	Corrected Ave (3 peaks):				212.3 RPD = 3
Aroclor-1248	1	7.803	0.005	21981	211.8	1	8.108	0.002	60866	208.2
Aroclor-1248	2	7.973	0.005	32123	237.1	2	8.522	0.002	77885	218.9
Aroclor-1248	3	8.386	0.011	23127	116.6	3	8.934	-0.013	43631	77.0
Aroclor-1248	4	8.678	0.004	18050	159.4	4	9.393	0.016	3902	8.1
Total Col1Ave (4 peaks):					181.2	Total Col2Ave (4 peaks):				128.0 RPD = 34
Corrected Ave (3 peaks):					162.6	Corrected Ave (3 peaks):				97.8 RPD = 50*
Aroclor-1254	1	8.678	0.003	18050	84.5	1	9.242	0.003	55374	92.2
Aroclor-1254	2	---			0.0	2	9.393	0.062	3902	11.1
Aroclor-1254	3	9.048	0.006	1874	13.5	3	9.768	0.005	7503	16.4
Aroclor-1254	4	9.179	0.003	8064	30.3	4	9.930	0.017	138725	136.8
Aroclor-1254	5	9.859	-0.008	24786	148.4	5	10.160	0.012	181859	176.8
Total Col1Ave (4 peaks):					69.2	Total Col2Ave (5 peaks):				86.7 RPD = 22
Corrected Ave (3 peaks):					42.8	Corrected Ave (4 peaks):				64.1 RPD = 40*
Aroclor-1260	1	10.386	0.003	52476	266.0	1	11.427	0.002	206923	255.6
Aroclor-1260	2	10.705	0.005	54460	281.2	2	11.681	-0.000	606031	257.6
Aroclor-1260	3	11.055	0.005	146267	279.5	3	12.264	0.003	390976	258.4
Aroclor-1260	4	11.458	0.005	67567	289.8	4	12.974	0.002	190042	262.7
Aroclor-1260	5	11.557	0.003	30592	262.0	NS	---			----
Total Col1Ave (5 peaks):					275.7	Total Col2Ave (4 peaks):				258.6 RPD = 6
Corrected Ave (4 peaks):					272.2	Corrected Ave (3 peaks):				257.2 RPD = 6
Aroclor-1262	1	10.386	0.002	52476	196.1	1	10.970	-0.000	227139	190.7
Aroclor-1262	2	11.458	0.003	67567	389.9	2	11.681	-0.004	606031	241.2
Aroclor-1262	3	11.630	0.003	39662	158.8	3	12.190	0.002	176119	157.9
Aroclor-1262	4	12.278	0.004	37281	181.8	4	12.974	0.001	190042	182.8
Total Col1Ave (4 peaks):					231.6	Total Col2Ave (4 peaks):				193.2 RPD = 18
Corrected Ave (3 peaks):					178.9	Corrected Ave (3 peaks):				177.2 RPD = 1
Aroclor-1268	1	11.557	-0.000	30592	52.0	1	12.190	-0.010	176119	62.9
Aroclor-1268	2	11.630	0.004	39662	64.3	2	12.264	-0.003	390976	128.0
Aroclor-1268	3	12.031	0.031	15649	32.2	3	12.637	-0.007	5866	2.2
Aroclor-1268	4	12.771	-0.001	7371	4.7	4	12.784	0.001	4262	6.5
Total Col1Ave (4 peaks):					38.3	Total Col2Ave (4 peaks):				49.9 RPD = 26

Corrected Ave (3 peaks): 29.6 Corrected Ave (3 peaks): 23.9 RPD = 21

Total PCB Area Col1 (5.169 - 13.066) = 1398917 Col1 Total PCB = 0.6 ppm*

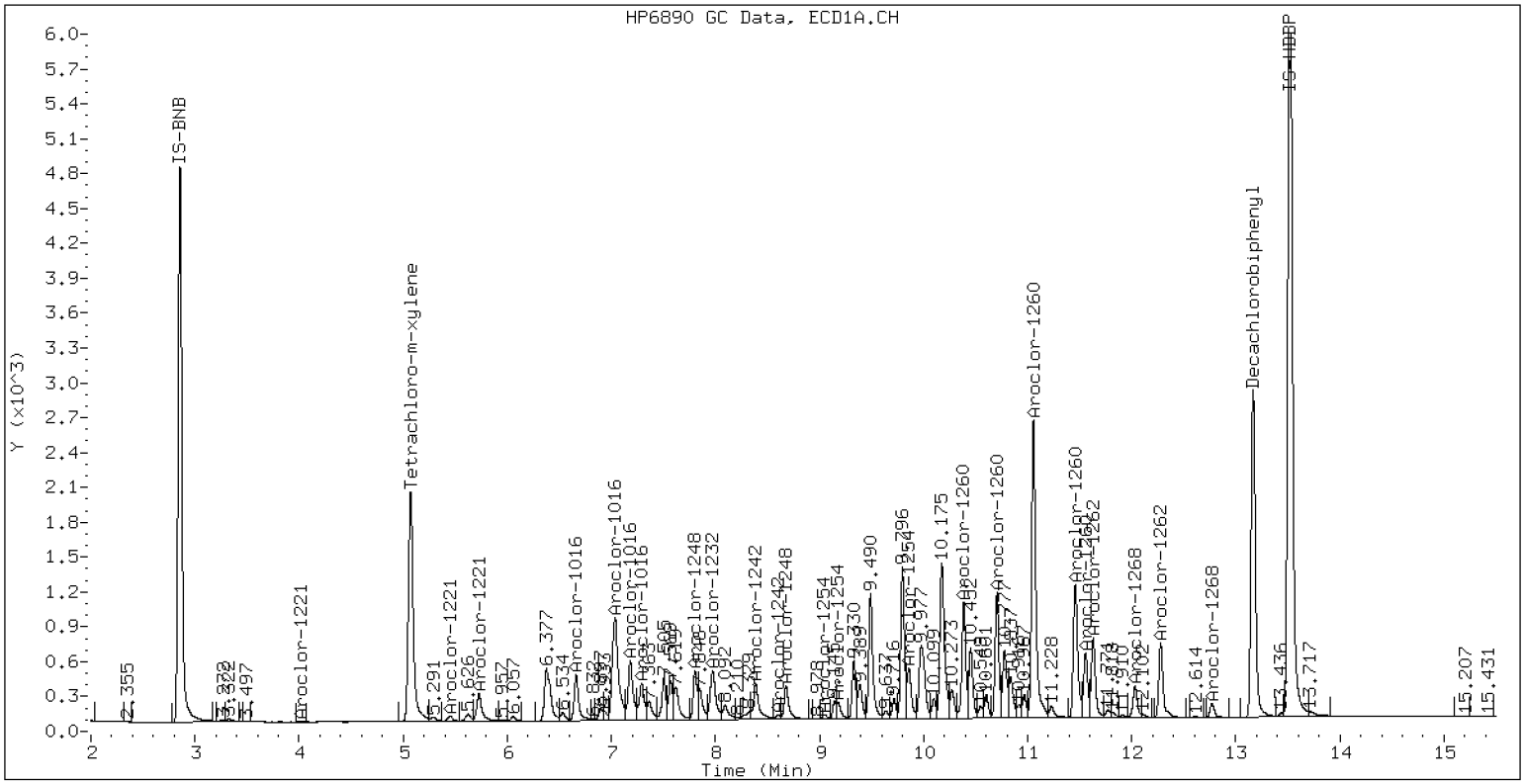
Total PCB Area Col2 (5.169 - 13.066) = 5304779 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

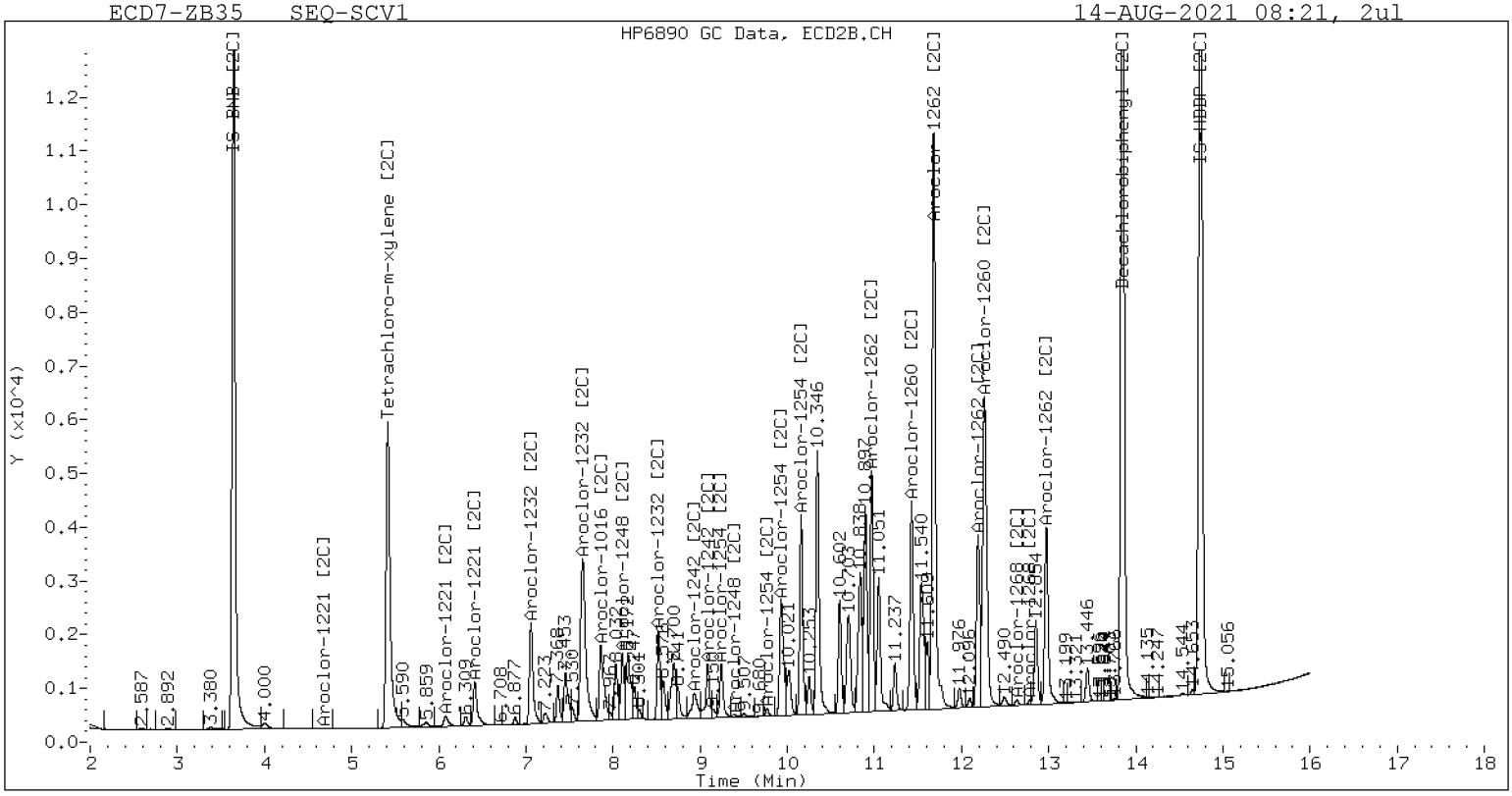
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV1 14-AUG-2021 08:21, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV1 14-AUG-2021 08:21, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132142ECD7.D
Data file 2: /210813.b/210813.b/08132142ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV2
Client ID:
Injection Date: 14-AUG-2021 08:41
Report Date: 08/16/2021 17:58
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.071	0.002	132285	5.416	-0.001	383386	42.4	41.2	2.9	Tetrachloro-m-xylene
13.167	0.001	167664	13.849	-0.031	892912	40.6	40.1	1.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	258029	-0.3
Hexabromobiphenyl	425681	455205	6.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	724238	0.5
Hexabromobiphenyl	863111	1002202	16.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.662	0.004	19016	207.8	1	7.058	0.002	84149	203.8
Aroclor-1016	2	7.036	0.007	56530	202.0	2	7.655	0.007	190019	205.7
Aroclor-1016	3	7.182	0.006	26016	207.1	3	7.861	0.006	75921	209.4
Aroclor-1016	4	7.291	0.006	16388	208.1	4	8.108	0.003	48471	220.9
Total Col1Ave (4 peaks): 206.3						Total Col2Ave (4 peaks): 210.0 RPD = 2				
Corrected Ave (3 peaks): 205.6						Corrected Ave (3 peaks): 206.3 RPD = 0				
Aroclor-1221	1	4.028	0.013	116	5.7	1	---			0.0
Aroclor-1221	2	5.452	0.001	2495	78.1	2	6.082	0.010	11569	93.0
Aroclor-1221	3	5.727	0.003	12904	149.5	3	6.414	0.005	39789	183.5
Total Col1Ave (3 peaks): 77.8						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.028	0.010	116	9.3	1	---			0.0
Aroclor-1232	2	5.727	0.001	12904	189.7	2	7.058	0.000	84149	444.9
Aroclor-1232	3	7.036	0.003	56530	544.5	3	7.655	0.004	190019	502.0
Aroclor-1232	4	7.974	0.001	26547	621.6	4	8.522	0.000	61015	618.7
Total Col1Ave (4 peaks): 341.3						Total Col2Ave (3 peaks): 521.9 RPD = 42*				
Corrected Ave (3 peaks): 247.8						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.662	0.003	19016	267.5	1	7.058	0.001	84149	252.7
Aroclor-1242	2	7.036	0.006	56530	266.7	2	7.655	0.006	190019	262.7
Aroclor-1242	3	8.383	0.009	29618	246.7	3	8.960	0.011	88042	260.5
Aroclor-1242	4	8.677	0.003	16945	345.4	4	9.035	0.007	96759	252.3
Total Col1Ave (4 peaks): 281.6						Total Col2Ave (4 peaks): 257.1 RPD = 9				
Corrected Ave (3 peaks): 260.3						Corrected Ave (3 peaks): 255.2 RPD = 2				
Aroclor-1248	1	7.804	0.005	17658	163.3	1	8.108	0.002	48471	161.5
Aroclor-1248	2	7.974	0.006	26547	188.1	2	8.522	0.002	61015	167.0
Aroclor-1248	3	8.383	0.009	29618	143.3	3	8.960	0.014	88042	151.3
Aroclor-1248	4	8.677	0.004	16945	143.6	4	9.387	0.011	85570	173.2
Total Col1Ave (4 peaks): 159.6						Total Col2Ave (4 peaks): 163.2 RPD = 2				
Corrected Ave (3 peaks): 150.1						Corrected Ave (3 peaks): 159.9 RPD = 6				
Aroclor-1254	1	8.677	0.002	16945	76.1	1	9.243	0.003	29242	47.5
Aroclor-1254	2	8.749	0.003	9630	93.4	2	9.387	0.056	85570	236.6
Aroclor-1254	3	9.048	0.007	7009	48.3	3	9.768	0.005	22605	48.1
Aroclor-1254	4	9.185	0.010	12002	43.3	4	9.920	0.006	43258	41.6
Aroclor-1254	5	9.892	0.025	8818	50.7	5	10.159	0.012	45764	43.4
Total Col1Ave (5 peaks): 62.4						Total Col2Ave (5 peaks): 83.4 RPD = 29				
Corrected Ave (4 peaks): 54.6						Corrected Ave (4 peaks): 45.1 RPD = 19				
Aroclor-1260	1	10.393	0.010	159	0.8	1	11.445	0.020	5299	6.4
Aroclor-1260	2	10.708	0.008	221	1.1	2	11.687	0.006	3878	1.6
Aroclor-1260	3	11.059	0.009	267	0.5	3	12.271	0.010	3933	2.5
Aroclor-1260	4	11.460	0.007	376	1.6	4	13.053	0.081	5398	7.3
Aroclor-1260	5	---			0.0	NS	---			----
Total Col1Ave (4 peaks): 1.0						Total Col2Ave (4 peaks): 4.4 RPD = 128*				
Corrected Ave (3 peaks): 0.8						Corrected Ave (3 peaks): 3.5 RPD = 126*				
Aroclor-1262	1	10.393	0.009	159	0.6	1	10.901	-0.069	17524	14.3
Aroclor-1262	2	11.460	0.005	376	2.1	2	11.687	0.001	3878	1.5
Aroclor-1262	3	---			0.0	3	12.271	0.083	3933	3.4
Aroclor-1262	4	---			0.0	4	13.053	0.081	5398	5.0
Col1Ave: <3 Quant Peaks						Col2Ave: 6.1				
Aroclor-1268	1	11.460	-0.097	376	0.6	1	12.271	0.071	3933	1.4
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	11.914	-0.086	1770	3.5	3	12.639	-0.005	1023	0.4
Aroclor-1268	4	12.775	0.003	794	0.5	4	12.790	0.006	1260	1.9
Total Col1Ave (3 peaks): 1.5						Total Col2Ave (3 peaks): 1.2 RPD = 24				
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				

Total PCB Area Col1 (5.169 - 13.066) = 482960 Col1 Total PCB = 0.2 ppm*

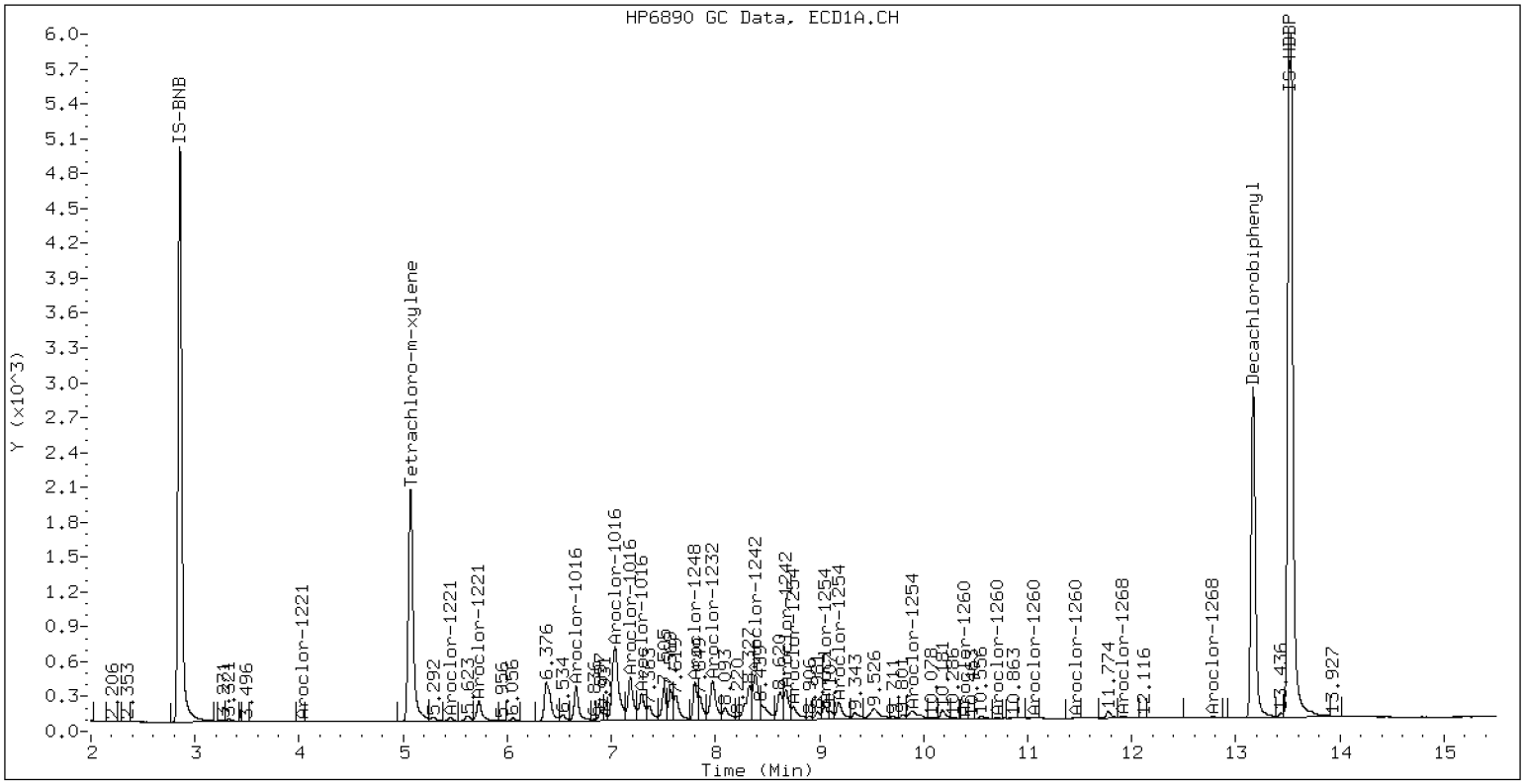
Total PCB Area Col2 (5.169 - 13.066) = 1884416 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

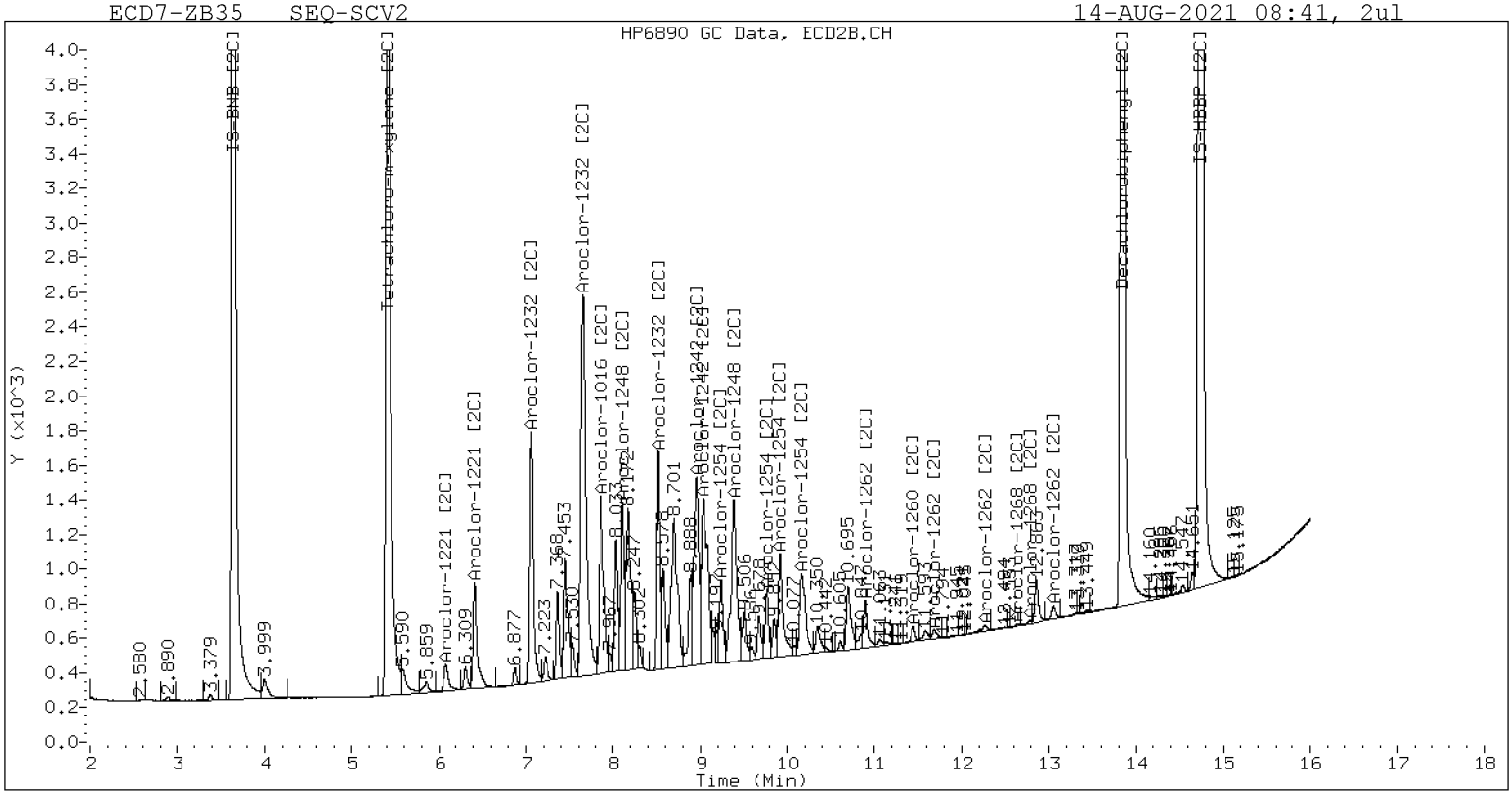
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV2 14-AUG-2021 08:41, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-SCV2 14-AUG-2021 08:41, 2ul

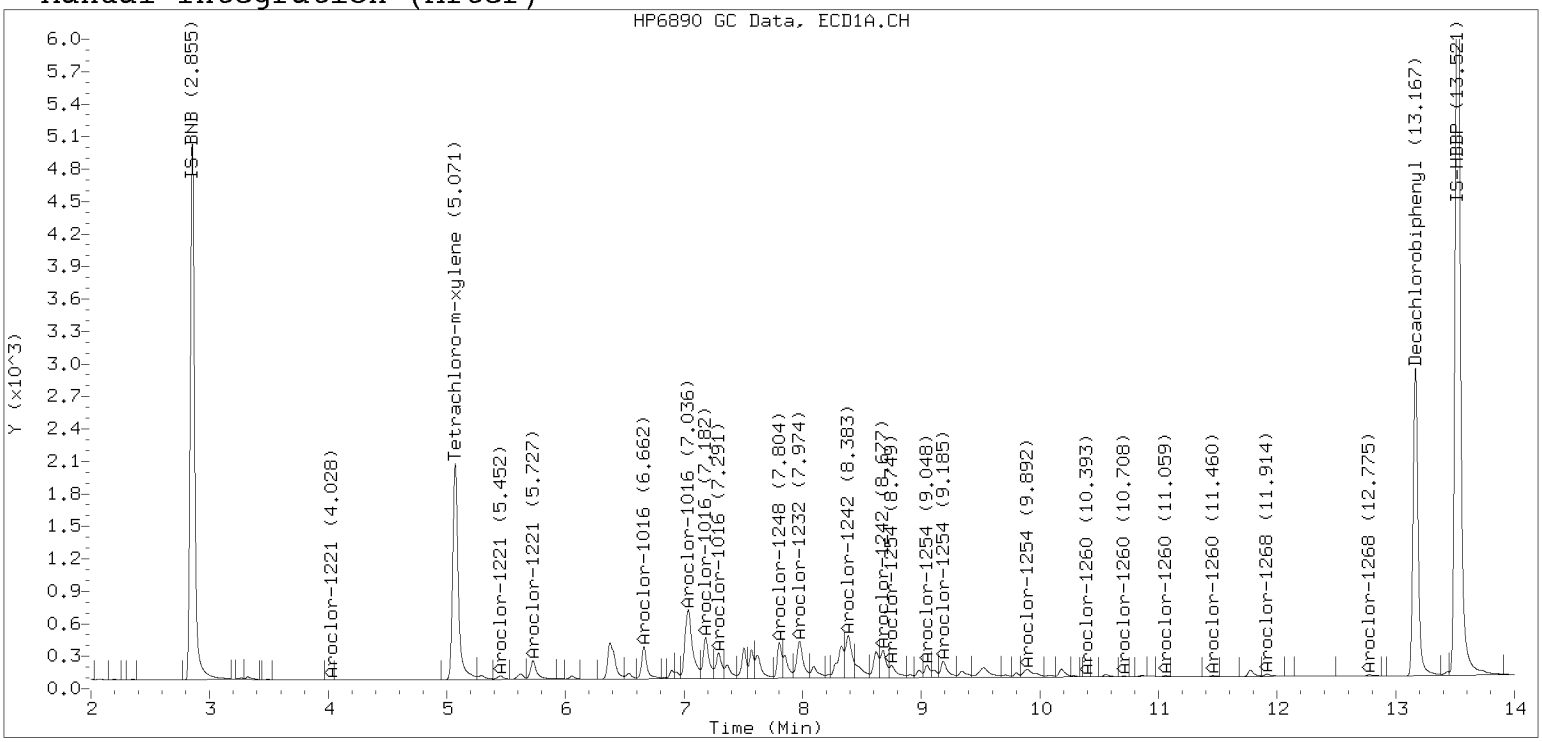


ZB-35 Manual Integration: YES

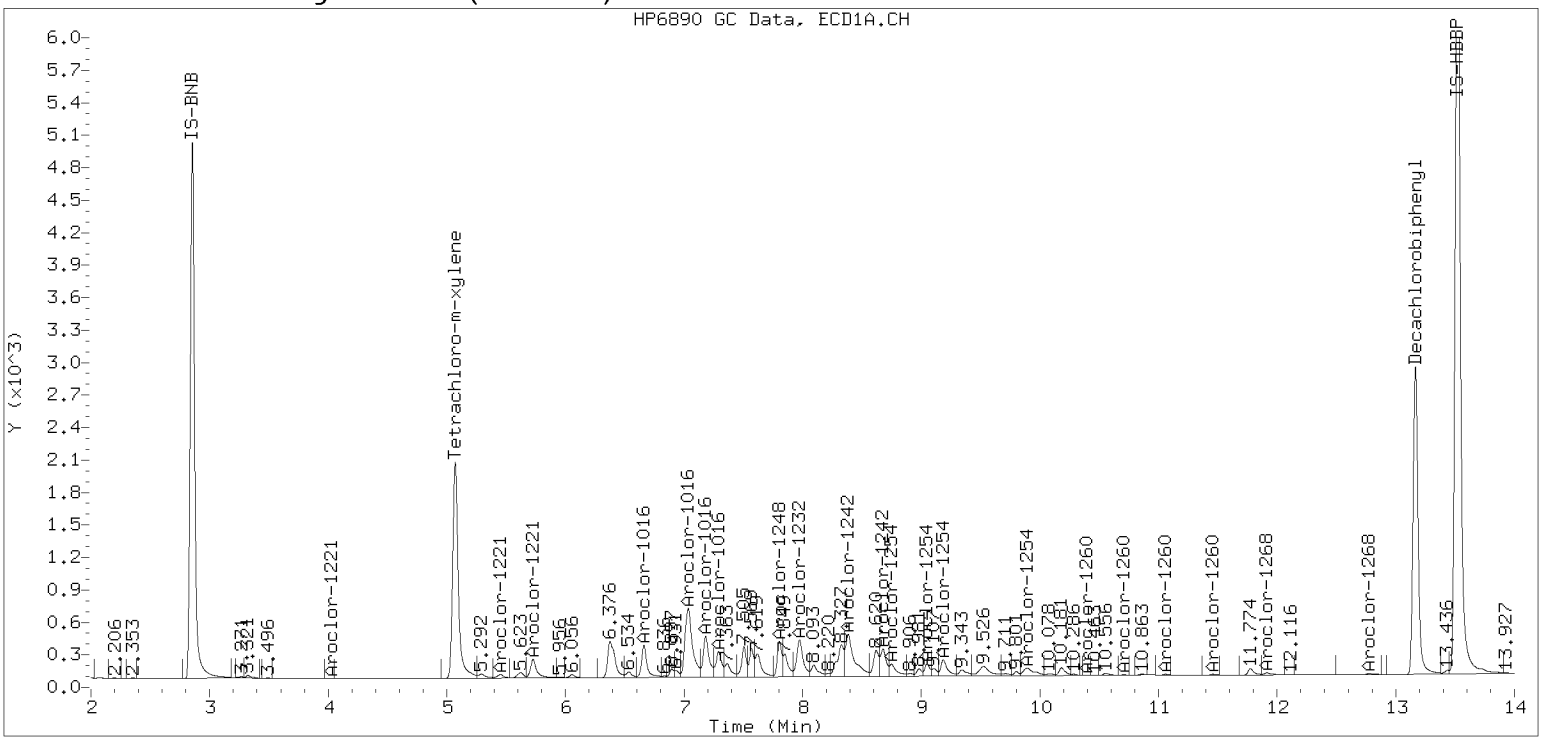
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/210813.b/08132142ECD7.D Injection Date: 14-AUG-2021 08:41

Manual Integration (After)



Processed Integration (Before)



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

Data file 1: /210813.b/08132143ECD7.D
Data file 2: /210813.b/210813.b/08132143ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV3
Client ID:
Injection Date: 14-AUG-2021 09:02
Report Date: 08/16/2021 17:58
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.071	0.002	133217	5.416	-0.001	384693	41.7	40.4	3.0	Tetrachloro-m-xylene
13.165	-0.001	166922	13.848	-0.032	892438	39.5	38.4	2.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	264526	2.2
Hexabromobiphenyl	425681	465895	9.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	740726	2.7
Hexabromobiphenyl	863111	1045189	21.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	9682	103.2	1	7.058	0.001	46276	109.6
Aroclor-1016	2	7.035	0.006	37972	132.4	2	7.654	0.006	128803	136.3
Aroclor-1016	3	7.185	0.009	16001	124.3	3	7.862	0.007	26557	71.6
Aroclor-1016	4	7.292	0.007	10150	125.7	4	8.107	0.002	83644	372.8
Total Col1Ave (4 peaks):					121.4	Total Col2Ave (4 peaks):				172.6 RPD = 35
Corrected Ave (3 peaks):					117.7	Corrected Ave (3 peaks):				105.8 RPD = 11
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	5.455	0.004	449	13.7	2	6.091	0.019	6638	52.2
Aroclor-1221	3	5.728	0.004	2260	25.5	3	6.414	0.005	8501	38.3
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	5.728	0.002	2260	32.4	2	7.058	-0.000	46276	239.2
Aroclor-1232	3	7.035	0.002	37972	356.8	3	7.654	0.003	128803	332.7
Aroclor-1232	4	7.972	-0.000	39250	896.5	4	8.523	0.001	102298	1014.3
Total Col1Ave (3 peaks):					428.6	Total Col2Ave (3 peaks):				528.7 RPD = 21
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.663	0.004	9682	132.8	1	7.058	0.000	46276	135.9
Aroclor-1242	2	7.035	0.005	37972	174.8	2	7.654	0.005	128803	174.1
Aroclor-1242	3	8.381	0.007	54555	443.2	3	8.956	0.007	151640	438.8
Aroclor-1242	4	8.678	0.004	31259	621.5	4	9.034	0.006	104178	265.6
Total Col1Ave (4 peaks):					343.1	Total Col2Ave (4 peaks):				253.6 RPD = 30
Corrected Ave (3 peaks):					250.3	Corrected Ave (3 peaks):				191.9 RPD = 26
Aroclor-1248	1	7.802	0.004	28742	259.3	1	8.107	0.002	83644	272.5
Aroclor-1248	2	7.972	0.004	39250	271.2	2	8.523	0.003	102298	273.8
Aroclor-1248	3	8.381	0.007	54555	257.5	3	8.956	0.009	151640	254.8
Aroclor-1248	4	8.678	0.004	31259	258.4	4	9.383	0.006	151004	298.8
Total Col1Ave (4 peaks):					261.6	Total Col2Ave (4 peaks):				275.0 RPD = 5
Corrected Ave (3 peaks):					258.4	Corrected Ave (3 peaks):				267.0 RPD = 3
Aroclor-1254	1	8.678	0.002	31259	137.0	1	9.242	0.003	54333	86.2
Aroclor-1254	2	8.749	0.003	18396	174.1	2	9.383	0.052	151004	408.3
Aroclor-1254	3	9.047	0.006	14863	99.9	3	9.767	0.004	47940	99.8
Aroclor-1254	4	9.184	0.008	25850	91.0	4	9.918	0.004	90159	84.7
Aroclor-1254	5	9.891	0.024	17966	100.7	5	10.157	0.010	92605	85.8
Total Col1Ave (5 peaks):					120.5	Total Col2Ave (5 peaks):				152.9 RPD = 24
Corrected Ave (4 peaks):					107.1	Corrected Ave (4 peaks):				89.1 RPD = 18
Aroclor-1260	1	10.390	0.007	578	2.8	1	11.440	0.015	6820	7.8
Aroclor-1260	2	10.706	0.006	437	2.1	2	11.683	0.002	7655	3.0
Aroclor-1260	3	11.059	0.008	1267	2.3	3	12.263	0.002	5159	3.2
Aroclor-1260	4	11.460	0.007	540	2.2	4	12.973	0.001	2451	3.2
Aroclor-1260	5	11.559	0.005	490	4.0	NS	---			----
Total Col1Ave (5 peaks):					2.7	Total Col2Ave (4 peaks):				4.3 RPD = 47*
Corrected Ave (4 peaks):					2.3	Corrected Ave (3 peaks):				3.1 RPD = 29
Aroclor-1262	1	10.390	0.006	578	2.0	1	10.972	0.001	4108	3.2
Aroclor-1262	2	11.460	0.005	540	2.9	2	11.683	-0.002	7655	2.8
Aroclor-1262	3	11.632	0.005	592	2.2	3	12.188	-0.000	3699	3.1
Aroclor-1262	4	12.278	0.004	571	2.6	4	12.973	0.001	2451	2.2
Total Col1Ave (4 peaks):					2.5	Total Col2Ave (4 peaks):				2.8 RPD = 14
Corrected Ave (3 peaks):					2.3	Corrected Ave (3 peaks):				2.7 RPD = 17
Aroclor-1268	1	11.559	0.002	490	0.8	1	12.188	-0.012	3699	1.2
Aroclor-1268	2	11.632	0.006	592	0.9	2	12.263	-0.004	5159	1.6
Aroclor-1268	3	11.915	-0.086	879	1.7	3	12.643	-0.001	909	0.3
Aroclor-1268	4	12.775	0.003	932	0.6	4	12.788	0.005	972	1.4
Total Col1Ave (4 peaks):					1.0	Total Col2Ave (4 peaks):				1.1 RPD = 13
Corrected Ave (3 peaks):					0.7	Corrected Ave (3 peaks):				1.0 RPD = 27

Total PCB Area Col1 (5.169 - 13.066) = 608290 Col1 Total PCB = 0.2 ppm*

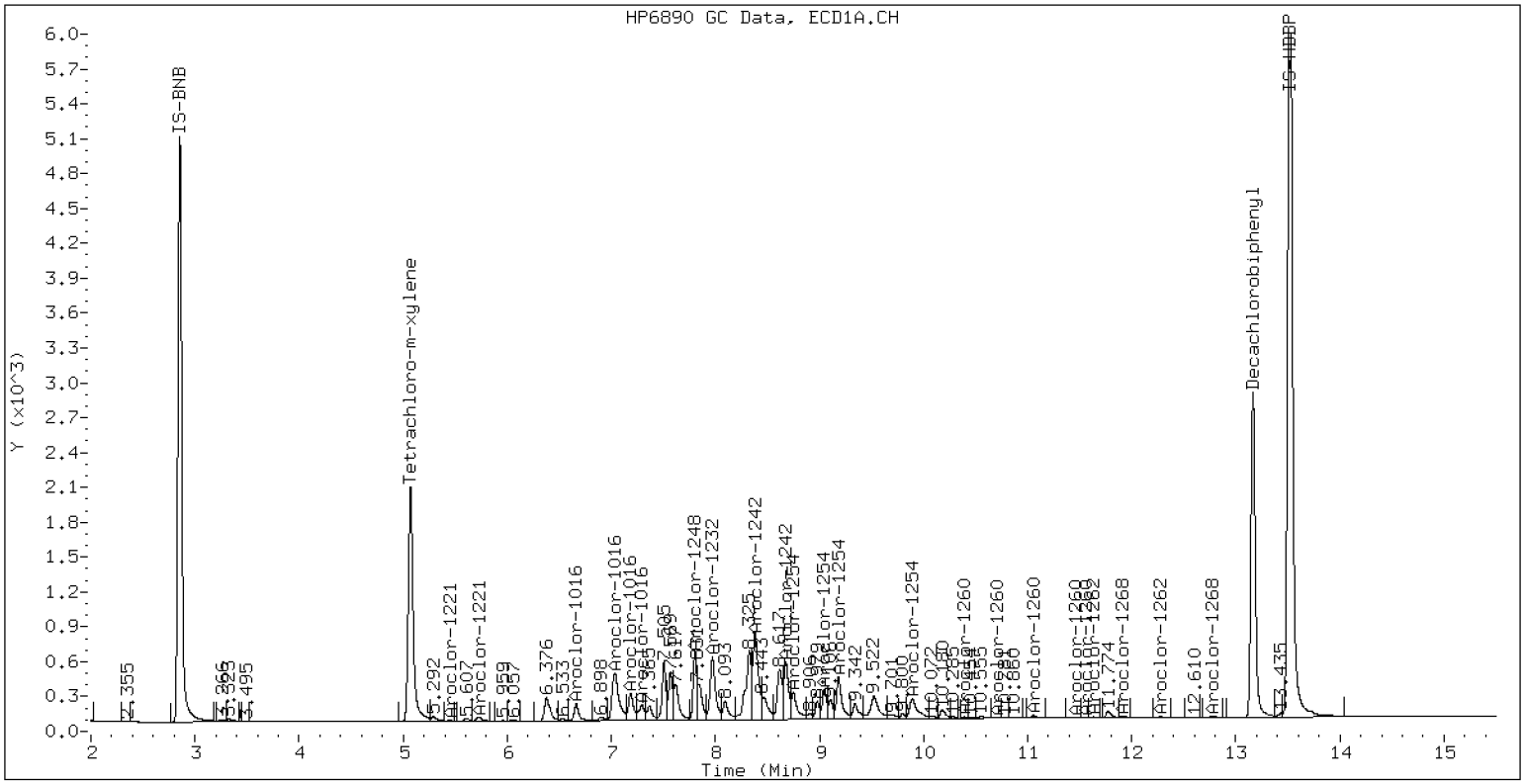
Total PCB Area Col2 (5.169 - 13.066) = 2317749 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

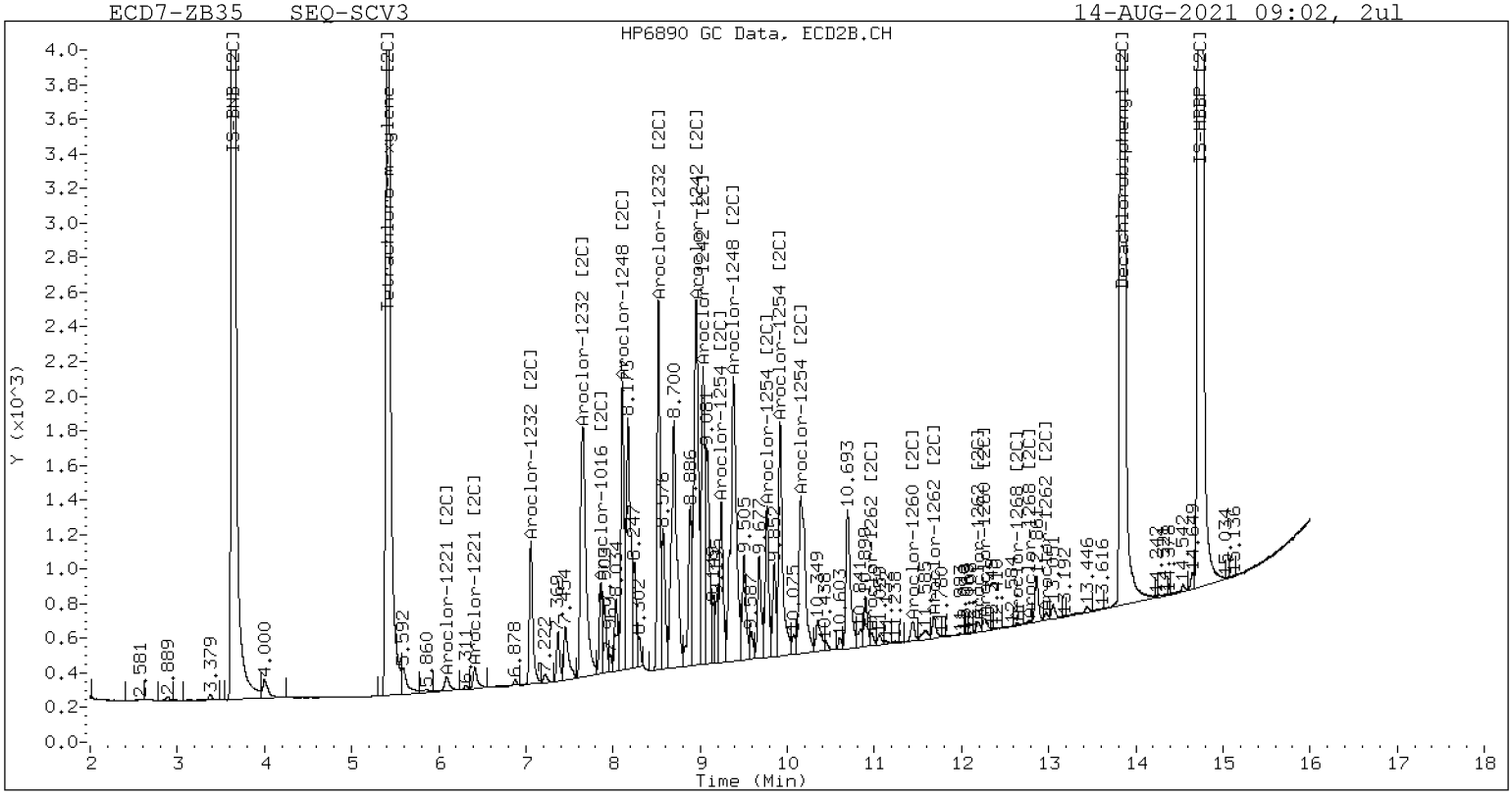
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV3 14-AUG-2021 09:02, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-SCV3 14-AUG-2021 09:02, 2ul

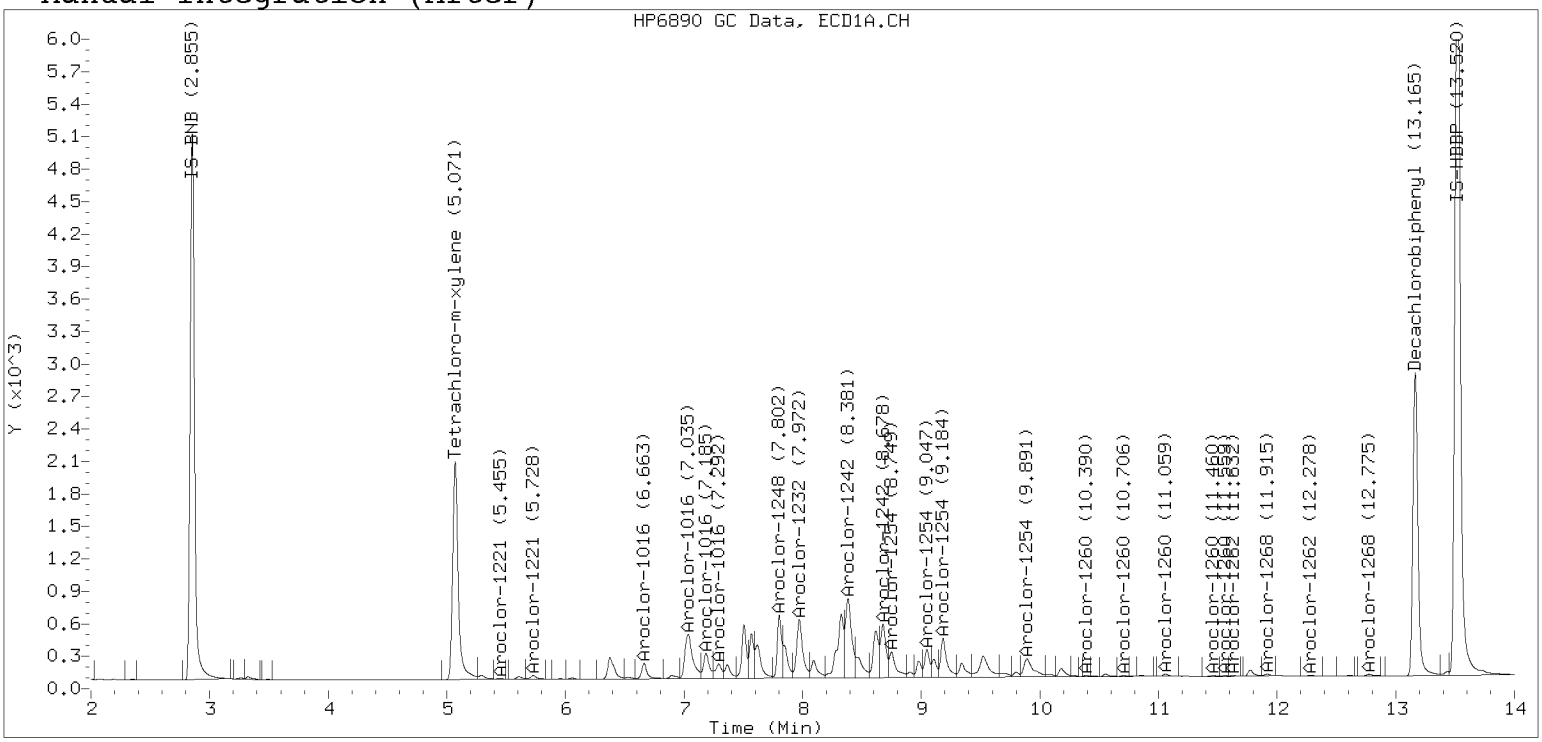


ZB-35 Manual Integration: NO

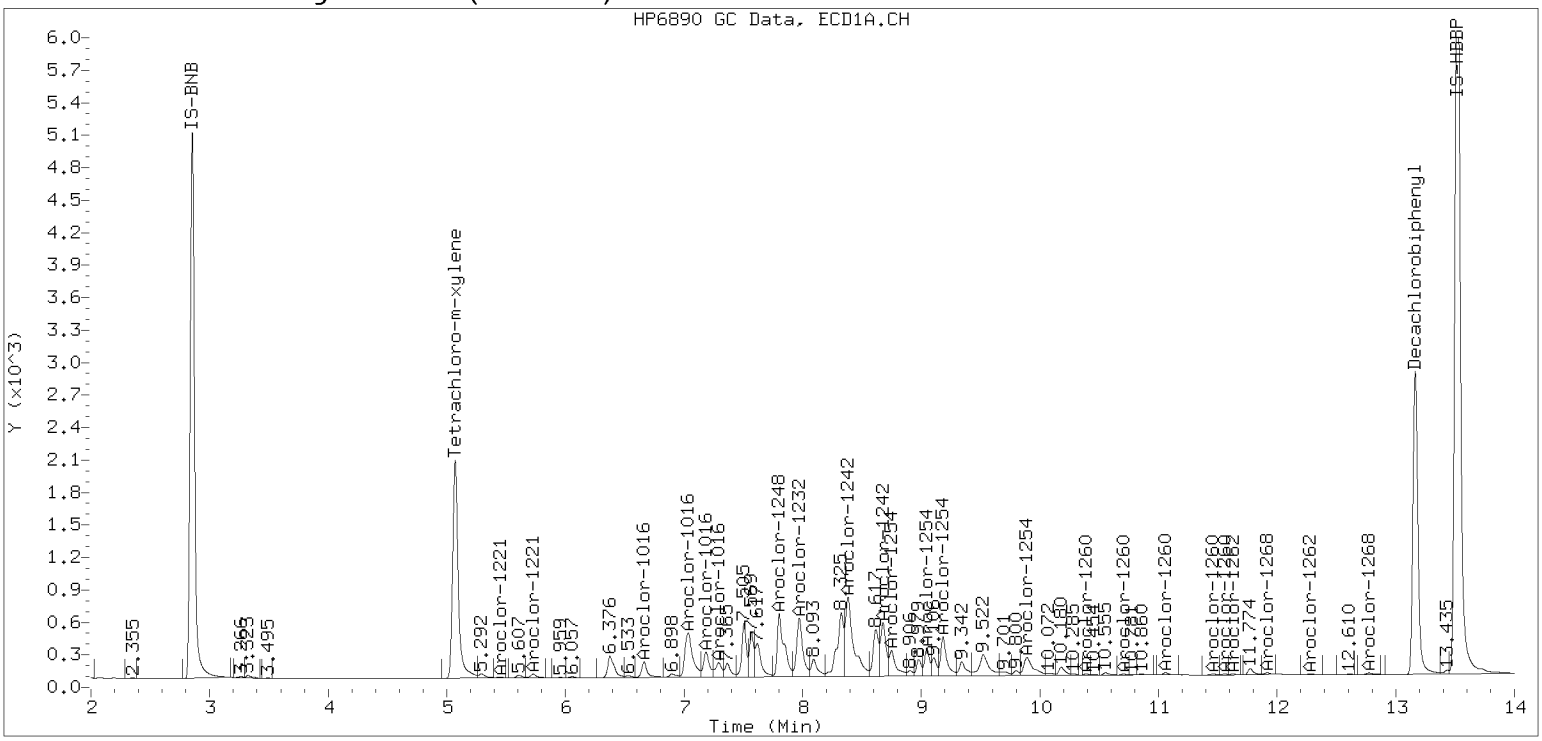
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/210813.b/08132143ECD7.D Injection Date: 14-AUG-2021 09:02

Manual Integration (After)



Processed Integration (Before)



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

Data file 1: /210813.b/08132144ECD7.D
Data file 2: /210813.b/210813.b/08132144ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV4
Client ID:
Injection Date: 14-AUG-2021 09:22
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.071	0.002	134141	5.416	-0.001	389116	42.6	41.4	2.8	Tetrachloro-m-xylene
13.166	0.000	166634	13.848	-0.032	887620	40.1	38.6	3.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	260417	0.6
Hexabromobiphenyl	425681	458139	7.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	730797	1.4
Hexabromobiphenyl	863111	1034233	19.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	131	1.4	1	7.062	0.005	1136	2.7
Aroclor-1016	2	7.039	0.009	605	2.1	2	7.659	0.011	3270	3.5
Aroclor-1016	3	7.189	0.014	416	3.3	3	7.909	0.054	1836	5.0
Aroclor-1016	4	---			0.0	4	8.109	0.004	59728	269.8
Total Col1Ave (3 peaks): 2.3						Total Col2Ave (4 peaks): 70.3 RPD = 187*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 3.8				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.094	0.021	4462	35.5
Aroclor-1221	3	---			0.0	3	6.411	0.002	1085	5.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	7.062	0.004	1136	6.0
Aroclor-1232	3	7.039	0.005	605	5.8	3	7.659	0.008	3270	8.6
Aroclor-1232	4	7.975	0.003	5517	128.0	4	8.524	0.002	40317	405.2
Col1Ave: <3 Quant Peaks						Col2Ave: 139.9				
Aroclor-1242	1	6.663	0.004	131	1.8	1	7.062	0.005	1136	3.4
Aroclor-1242	2	7.039	0.008	605	2.8	2	7.659	0.010	3270	4.5
Aroclor-1242	3	8.385	0.011	48414	399.6	3	8.960	0.012	63036	184.9
Aroclor-1242	4	8.679	0.005	62054	1253.2	4	9.035	0.007	12438	32.1
Total Col1Ave (4 peaks): 414.4						Total Col2Ave (4 peaks): 56.2 RPD = 152*				
Corrected Ave (3 peaks): 134.7						Corrected Ave (3 peaks): 13.3 RPD = 164*				
Aroclor-1248	1	7.804	0.005	12376	113.4	1	8.109	0.003	59728	197.2
Aroclor-1248	2	7.975	0.007	5517	38.7	2	8.524	0.004	40317	109.4
Aroclor-1248	3	8.385	0.011	48414	232.1	3	8.960	0.014	63036	107.4
Aroclor-1248	4	8.679	0.005	62054	521.1	4	9.335	-0.041	91889	184.3
Total Col1Ave (4 peaks): 226.3						Total Col2Ave (4 peaks): 149.6 RPD = 41*				
Corrected Ave (3 peaks): 128.1						Corrected Ave (3 peaks): 133.7 RPD = 4				
Aroclor-1254	1	8.679	0.003	62054	276.2	1	9.242	0.003	166697	268.1
Aroclor-1254	2	8.751	0.005	29615	284.7	2	9.335	0.004	91889	251.8
Aroclor-1254	3	9.046	0.005	40463	276.3	3	9.766	0.003	128036	270.1
Aroclor-1254	4	9.181	0.005	78989	282.3	4	9.918	0.004	270040	257.1
Aroclor-1254	5	9.873	0.006	50845	289.4	5	10.155	0.008	293166	275.2
Total Col1Ave (5 peaks): 281.8						Total Col2Ave (5 peaks): 264.5 RPD = 6				
Corrected Ave (4 peaks): 279.9						Corrected Ave (4 peaks): 261.8 RPD = 7				
Aroclor-1260	1	10.386	0.003	4281	20.8	1	11.441	0.015	77320	89.9
Aroclor-1260	2	10.706	0.006	4756	23.5	2	11.684	0.003	61993	24.8
Aroclor-1260	3	11.057	0.007	11820	21.6	3	12.266	0.005	35733	22.2
Aroclor-1260	4	11.458	0.005	9286	38.1	4	12.973	0.001	1994	2.6
Aroclor-1260	5	11.627	0.073	440	3.6	NS	---			----
Total Col1Ave (5 peaks): 21.5						Total Col2Ave (4 peaks): 34.9 RPD = 47*				
Corrected Ave (4 peaks): 17.4						Corrected Ave (3 peaks): 16.5 RPD = 5				
Aroclor-1262	1	10.386	0.002	4281	15.3	1	10.897	-0.073	251611	198.9
Aroclor-1262	2	11.458	0.003	9286	51.3	2	11.684	-0.001	61993	23.2
Aroclor-1262	3	11.627	0.000	440	1.7	3	12.205	0.017	9780	8.3
Aroclor-1262	4	12.279	0.005	629	2.9	4	12.973	0.000	1994	1.8
Total Col1Ave (4 peaks): 17.8						Total Col2Ave (4 peaks): 58.1 RPD = 106*				
Corrected Ave (3 peaks): 6.6						Corrected Ave (3 peaks): 11.1 RPD = 50*				
Aroclor-1268	1	11.627	0.070	440	0.7	1	12.205	0.005	9780	3.3
Aroclor-1268	2	---			0.0	2	12.266	-0.001	35733	11.0
Aroclor-1268	3	11.912	-0.088	968	1.9	3	12.633	-0.011	400	0.1
Aroclor-1268	4	12.774	0.002	1001	0.6	4	12.861	0.078	15819	22.8
Total Col1Ave (3 peaks): 1.1						Total Col2Ave (4 peaks): 9.3 RPD = 158*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 4.8				

Total PCB Area Col1 (5.169 - 13.066) = 819275 Col1 Total PCB = 0.3 ppm*

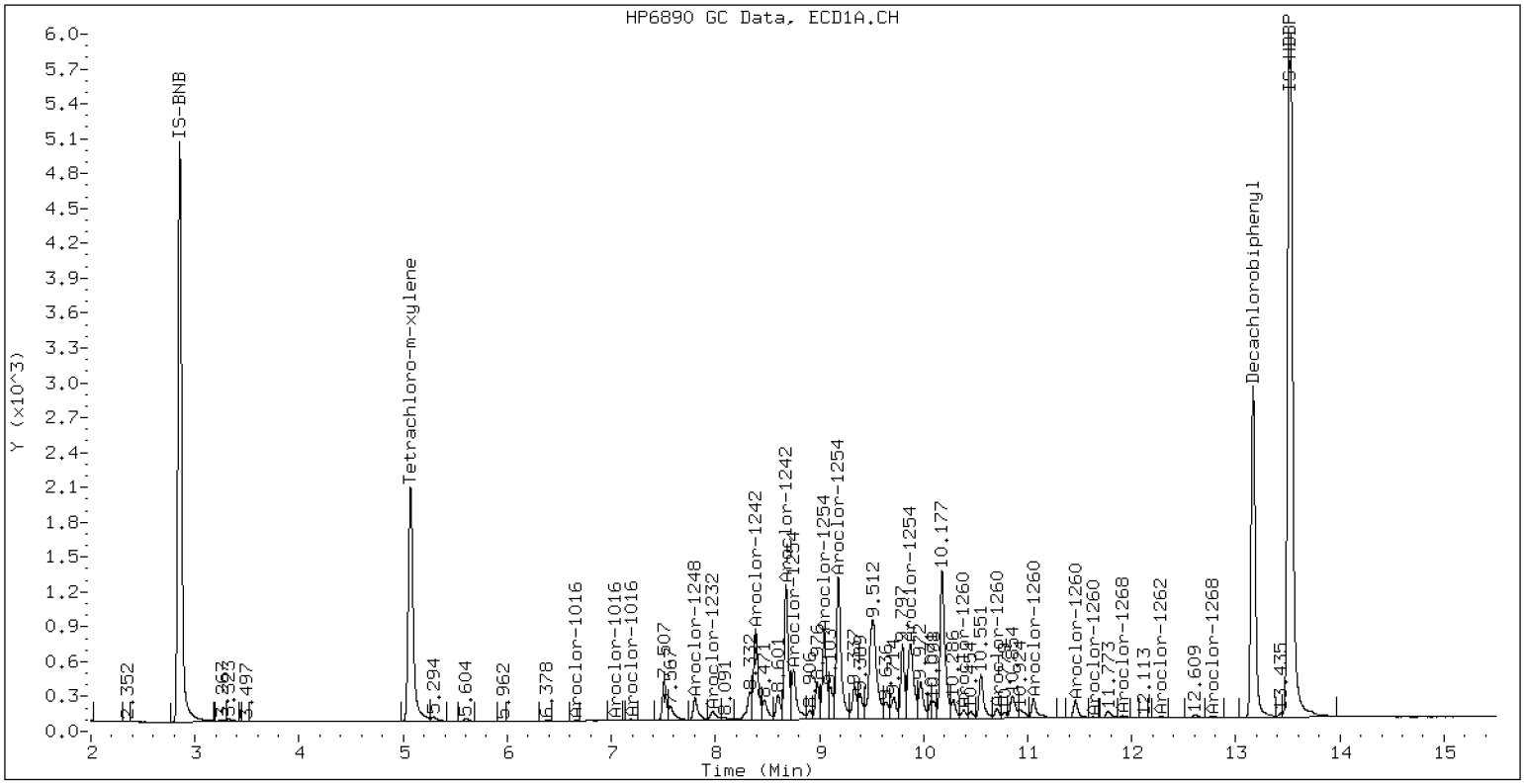
Total PCB Area Col2 (5.169 - 13.066) = 3111878 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

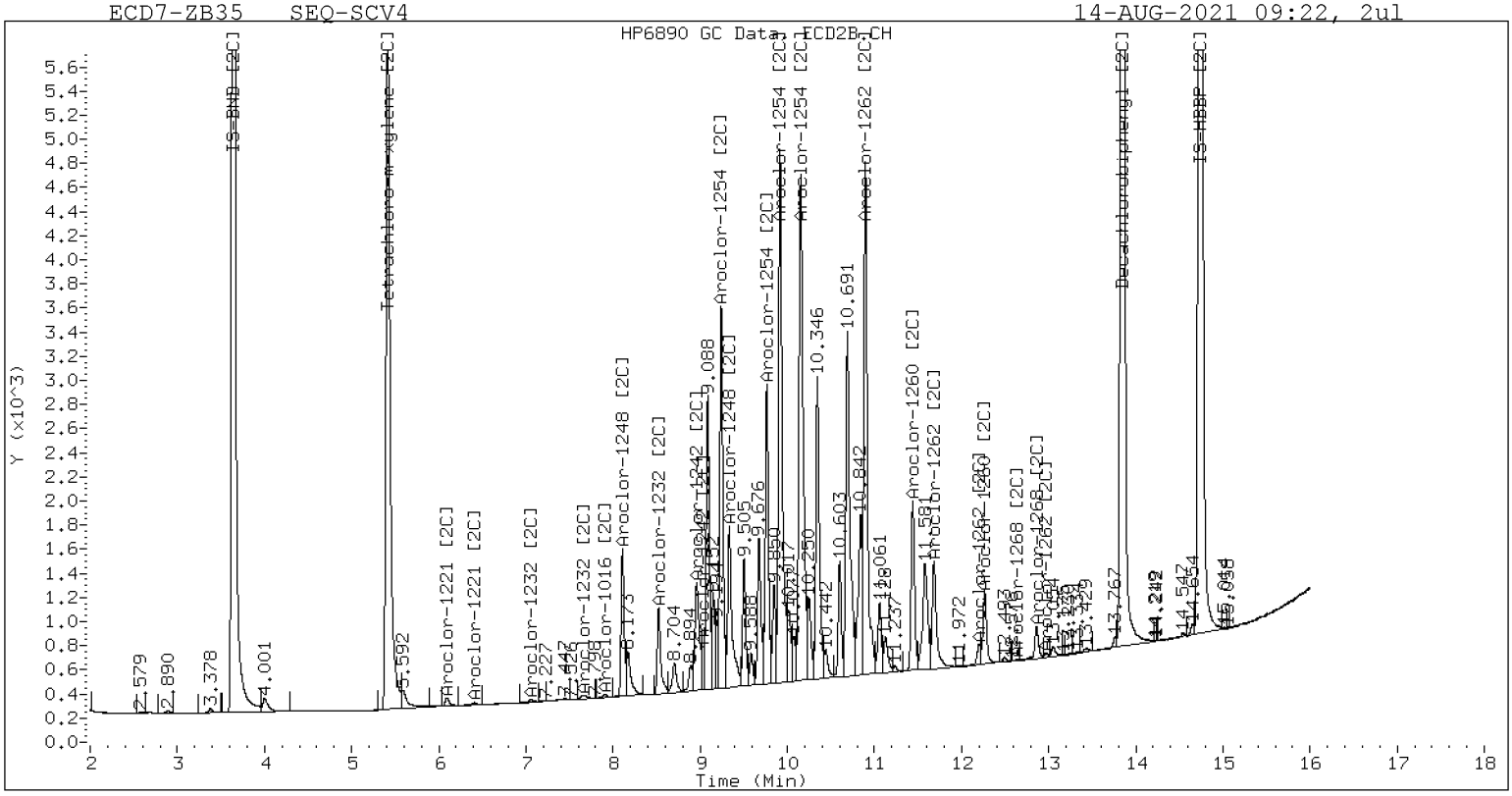
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV4 14-AUG-2021 09:22, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV4 14-AUG-2021 09:22, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132145ECD7.D
Data file 2: /210813.b/210813.b/08132145ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV5
Client ID:
Injection Date: 14-AUG-2021 09:43
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.072	0.003	131998	5.417	-0.000	375118	40.6	39.1	3.6	Tetrachloro-m-xylene
13.166	-0.000	164634	13.848	-0.032	881936	38.8	37.6	3.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	269058	3.9
Hexabromobiphenyl	425681	467004	9.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	745766	3.4
Hexabromobiphenyl	863111	1054321	22.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	1551	16.3	1	7.061	0.004	17081	40.2
Aroclor-1016	2	7.039	0.009	4280	14.7	2	7.658	0.011	15832	16.6
Aroclor-1016	3	7.184	0.008	2282	17.4	3	7.865	0.010	6703	18.0
Aroclor-1016	4	7.294	0.009	1564	19.1	4	8.109	0.004	3939	17.4
Total Col1Ave (4 peaks):				16.8		Total Col2Ave (4 peaks):			23.1	RPD = 31
Corrected Ave (3 peaks):				16.1		Corrected Ave (3 peaks):			17.3	RPD = 7
Aroclor-1221	1	4.018	0.002	6262	294.7	1	4.680	0.004	15071	269.2
Aroclor-1221	2	5.454	0.003	9982	299.7	2	6.075	0.003	33472	261.2
Aroclor-1221	3	5.728	0.004	25492	283.3	3	6.413	0.004	59675	267.2
Total Col1Ave (3 peaks):				292.6		Total Col2Ave (3 peaks):			265.9	RPD = 10
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.018	-0.000	6262	479.9	1	4.680	0.001	15071	452.2
Aroclor-1232	2	5.728	0.002	25492	359.4	2	7.061	0.003	17081	87.7
Aroclor-1232	3	7.039	0.005	4280	39.5	3	7.658	0.007	15832	40.6
Aroclor-1232	4	7.978	0.006	798	17.9	4	8.525	0.003	2523	24.8
Total Col1Ave (4 peaks):				224.2		Total Col2Ave (4 peaks):			151.3	RPD = 39
Corrected Ave (3 peaks):				139.0		Corrected Ave (3 peaks):			51.1	RPD = 93*
Aroclor-1242	1	6.663	0.004	1551	20.9	1	7.061	0.004	17081	49.8
Aroclor-1242	2	7.039	0.009	4280	19.4	2	7.658	0.010	15832	21.3
Aroclor-1242	3	8.388	0.013	9148	73.1	3	8.966	0.018	6505	18.7
Aroclor-1242	4	8.680	0.006	9619	188.0	4	9.089	0.061	25267	64.0
Total Col1Ave (4 peaks):				75.3		Total Col2Ave (4 peaks):			38.4	RPD = 65*
Corrected Ave (3 peaks):				37.8		Corrected Ave (3 peaks):			29.9	RPD = 23
Aroclor-1248	1	7.805	0.007	1067	9.5	1	8.109	0.003	3939	12.7
Aroclor-1248	2	7.978	0.010	798	5.4	2	8.525	0.005	2523	6.7
Aroclor-1248	3	8.388	0.013	9148	42.4	3	8.966	0.020	6505	10.9
Aroclor-1248	4	8.680	0.007	9619	78.2	4	9.396	0.019	4022	7.9
Total Col1Ave (4 peaks):				33.9		Total Col2Ave (4 peaks):			9.6	RPD = 112*
Corrected Ave (3 peaks):				19.1		Corrected Ave (3 peaks):			8.5	RPD = 77*
Aroclor-1254	1	8.680	0.005	9619	41.4	1	9.245	0.005	26890	42.4
Aroclor-1254	2	---			0.0	2	9.336	0.005	2650	7.1
Aroclor-1254	3	9.050	0.008	1343	8.9	3	9.769	0.007	4242	8.8
Aroclor-1254	4	9.145	-0.031	9990	34.6	4	9.932	0.019	121430	113.3
Aroclor-1254	5	9.858	-0.010	13751	75.8	5	10.160	0.013	143957	132.4
Total Col1Ave (4 peaks):				40.2		Total Col2Ave (5 peaks):			60.8	RPD = 41*
Corrected Ave (3 peaks):				28.3		Corrected Ave (4 peaks):			42.9	RPD = 41*
Aroclor-1260	1	10.387	0.004	74432	354.3	1	11.427	0.001	248521	283.6
Aroclor-1260	2	10.705	0.005	63581	308.3	2	11.682	0.001	656259	257.6
Aroclor-1260	3	11.056	0.005	158724	284.8	3	12.261	0.000	468343	285.9
Aroclor-1260	4	11.457	0.004	49425	199.0	4	12.974	0.001	287502	367.1
Aroclor-1260	5	11.557	0.003	61640	495.8	NS	---			----
Total Col1Ave (5 peaks):				328.4		Total Col2Ave (4 peaks):			298.6	RPD = 10
Corrected Ave (4 peaks):				286.6		Corrected Ave (3 peaks):			275.7	RPD = 4
Aroclor-1262	1	10.387	0.003	74432	261.2	1	10.970	-0.000	313779	243.4
Aroclor-1262	2	11.457	0.002	49425	267.8	2	11.682	-0.003	656259	241.2
Aroclor-1262	3	11.628	0.001	70335	264.4	3	12.188	0.000	303167	251.1
Aroclor-1262	4	12.278	0.003	58296	266.9	4	12.974	0.001	287502	255.5
Total Col1Ave (4 peaks):				265.1		Total Col2Ave (4 peaks):			247.8	RPD = 7
Corrected Ave (3 peaks):				264.2		Corrected Ave (3 peaks):			245.2	RPD = 7
Aroclor-1268	1	11.557	0.000	61640	98.4	1	12.188	-0.012	303167	100.1
Aroclor-1268	2	11.628	0.002	70335	107.0	2	12.261	-0.006	468343	141.7
Aroclor-1268	3	12.031	0.030	24251	46.9	3	12.635	-0.009	18559	6.5
Aroclor-1268	4	12.770	-0.001	19100	11.5	4	12.783	0.000	11203	15.9
Total Col1Ave (4 peaks):				65.9		Total Col2Ave (4 peaks):			66.0	RPD = 0

Corrected Ave (3 peaks): 52.2 Corrected Ave (3 peaks): 40.8 RPD = 25

Total PCB Area Col1 (5.169 - 13.066) = 1098701 Col1 Total PCB = 0.4 ppm*

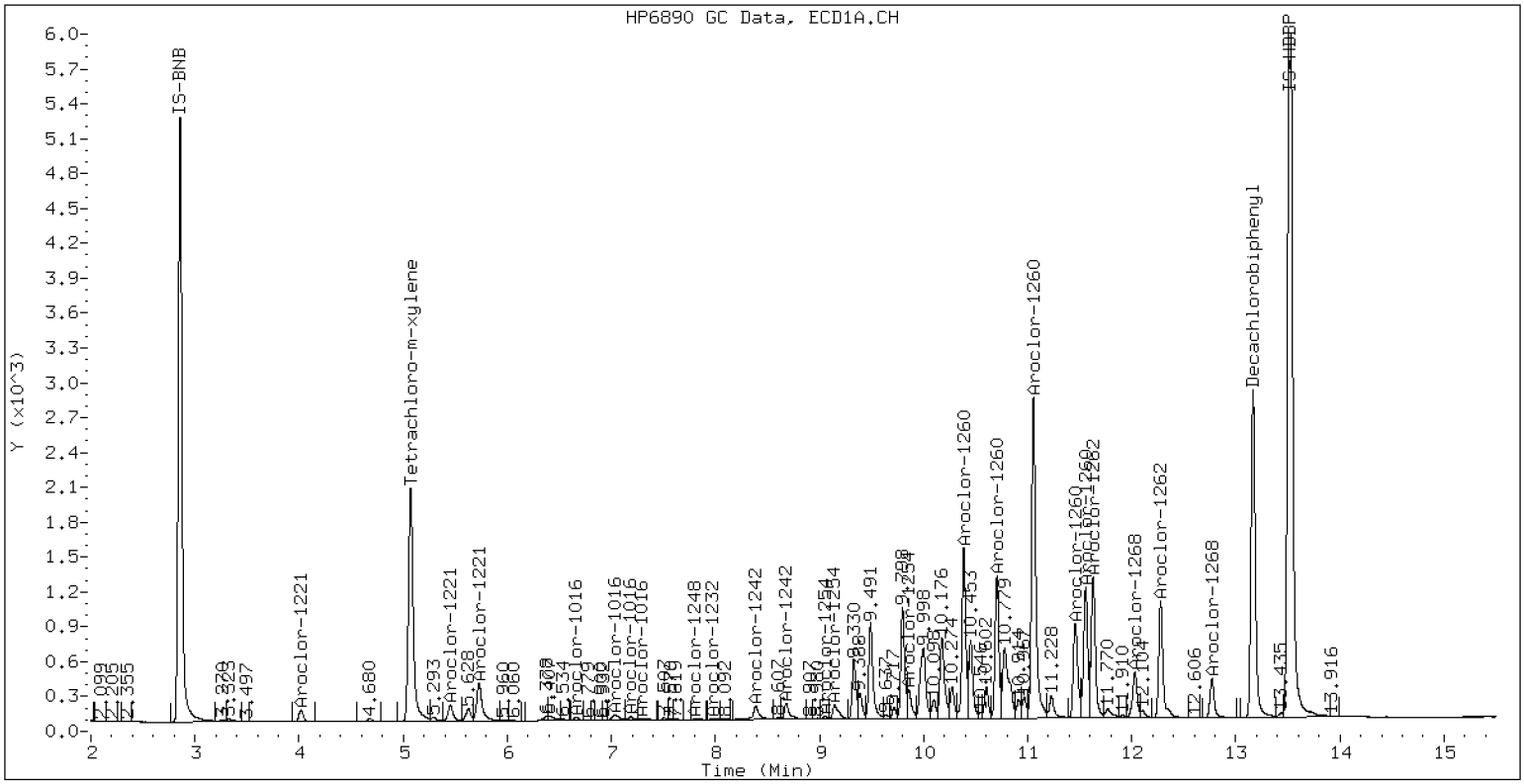
Total PCB Area Col2 (5.169 - 13.066) = 4504756 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

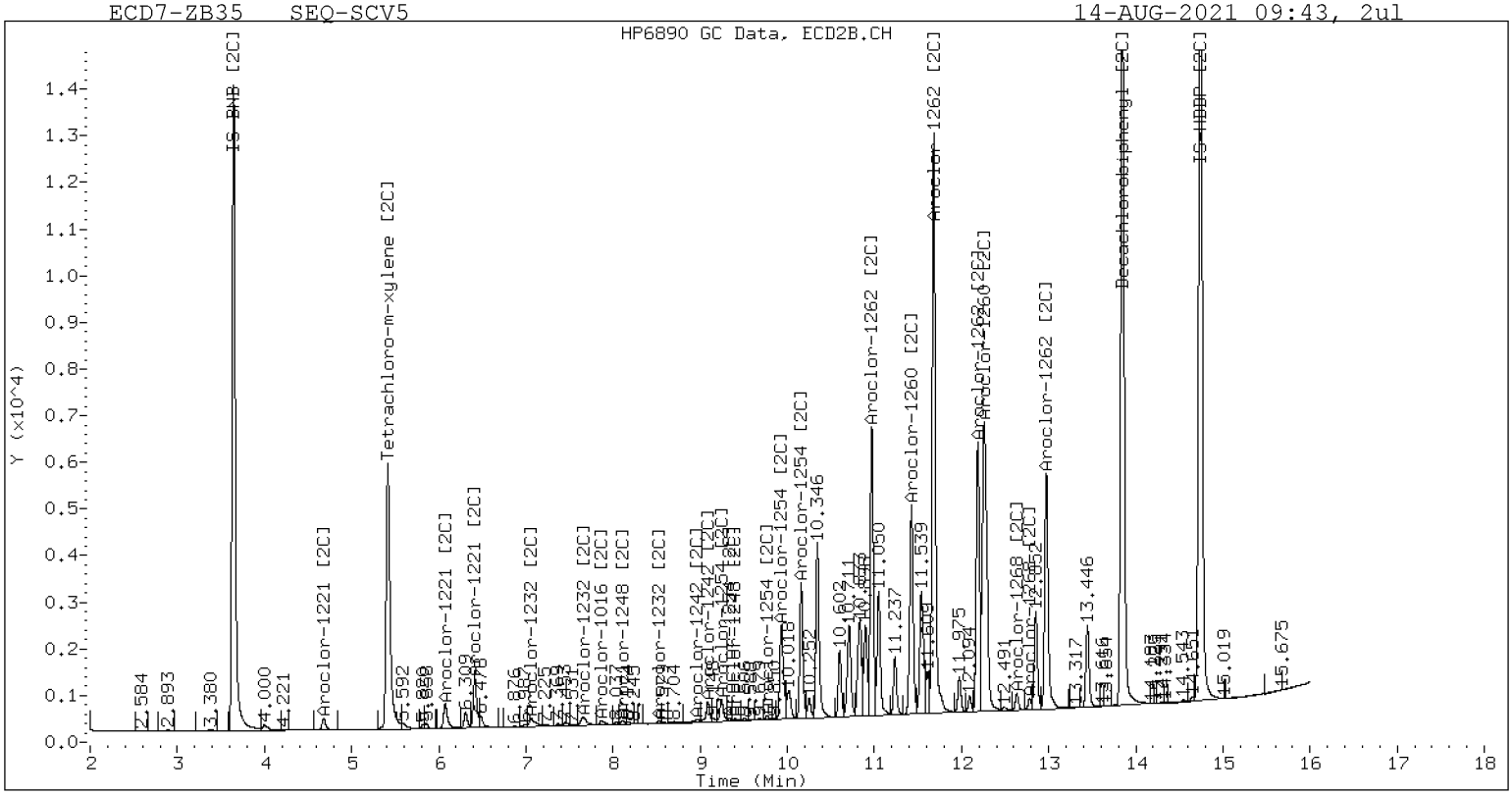
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV5 14-AUG-2021 09:43, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV5 14-AUG-2021 09:43, 2ul



ZB-35 Manual Integration: NO

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

Data file 1: /210813.b/08132146ECD7.D
Data file 2: /210813.b/210813.b/08132146ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV6
Client ID:
Injection Date: 14-AUG-2021 10:03
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	131287	5.416	-0.000	375338	41.2	39.7	3.8	Tetrachloro-m-xylene
13.165	-0.001	248059	13.848	-0.032	1383308	59.6	59.3	0.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	263445	1.8
Hexabromobiphenyl	425681	458283	7.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	736133	2.1
Hexabromobiphenyl	863111	1049914	21.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	11471	122.8	1	7.059	0.002	54454	129.7
Aroclor-1016	2	7.037	0.008	32172	112.6	2	7.656	0.009	111127	118.4
Aroclor-1016	3	7.183	0.007	15436	120.4	3	7.862	0.007	47184	128.0
Aroclor-1016	4	7.292	0.007	9103	113.2	4	8.108	0.003	26255	117.7
Total Col1Ave (4 peaks):				117.2		Total Col2Ave (4 peaks):			123.5	RPD = 5
Corrected Ave (3 peaks):				115.4		Corrected Ave (3 peaks):			121.4	RPD = 5
Aroclor-1221	1	4.017	0.002	3341	160.6	1	4.679	0.002	8452	153.0
Aroclor-1221	2	5.453	0.002	5429	166.5	2	6.077	0.004	21053	166.4
Aroclor-1221	3	5.727	0.003	17948	203.7	3	6.414	0.005	55556	252.0
Total Col1Ave (3 peaks):				176.9		Total Col2Ave (3 peaks):			190.5	RPD = 7
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.017	-0.001	3341	261.5	1	4.679	-0.000	8452	256.9
Aroclor-1232	2	5.727	0.001	17948	258.4	2	7.059	0.001	54454	283.3
Aroclor-1232	3	7.037	0.003	32172	303.5	3	7.656	0.005	111127	288.8
Aroclor-1232	4	7.974	0.002	13693	314.0	4	8.524	0.002	31722	316.5
Total Col1Ave (4 peaks):				284.4		Total Col2Ave (4 peaks):			286.4	RPD = 1
Corrected Ave (3 peaks):				274.5		Corrected Ave (3 peaks):			276.3	RPD = 1
Aroclor-1242	1	6.663	0.004	11471	158.0	1	7.059	0.002	54454	160.9
Aroclor-1242	2	7.037	0.007	32172	148.7	2	7.656	0.008	111127	151.2
Aroclor-1242	3	8.385	0.010	20544	167.6	3	8.959	0.010	61163	178.1
Aroclor-1242	4	8.676	0.002	6934	138.4	4	9.041	0.013	55525	142.5
Total Col1Ave (4 peaks):				153.2		Total Col2Ave (4 peaks):			158.1	RPD = 3
Corrected Ave (3 peaks):				148.4		Corrected Ave (3 peaks):			151.5	RPD = 2
Aroclor-1248	1	7.804	0.005	9056	82.0	1	8.108	0.002	26255	86.1
Aroclor-1248	2	7.974	0.006	13693	95.0	2	8.524	0.003	31722	85.4
Aroclor-1248	3	8.385	0.010	20544	97.4	3	8.959	0.012	61163	103.4
Aroclor-1248	4	8.676	0.002	6934	57.6	4	9.391	0.015	44441	88.5
Total Col1Ave (4 peaks):				83.0		Total Col2Ave (4 peaks):			90.8	RPD = 9
Corrected Ave (3 peaks):				78.2		Corrected Ave (3 peaks):			86.7	RPD = 10
Aroclor-1254	1	8.676	0.000	6934	30.5	1	9.243	0.003	10554	16.9
Aroclor-1254	2	8.748	0.002	3715	35.3	2	9.391	0.060	44441	120.9
Aroclor-1254	3	9.050	0.008	2122	14.3	3	9.769	0.007	7619	16.0
Aroclor-1254	4	9.187	0.011	3159	11.2	4	9.922	0.009	13052	12.3
Aroclor-1254	5	9.896	0.029	1953	11.0	5	10.167	0.020	14279	13.3
Total Col1Ave (5 peaks):				20.5		Total Col2Ave (5 peaks):			35.9	RPD = 55*
Corrected Ave (4 peaks):				16.7		Corrected Ave (4 peaks):			14.6	RPD = 14
Aroclor-1260	1	10.388	0.005	30028	145.6	1	11.405	-0.020	170014	194.8
Aroclor-1260	2	10.704	0.004	2256	11.1	2	11.680	-0.001	78239	30.8
Aroclor-1260	3	11.056	0.005	17997	32.9	3	12.254	-0.007	838267	513.9
Aroclor-1260	4	11.458	0.006	301	1.2	4	12.972	0.000	307546	394.4
Aroclor-1260	5	11.557	0.003	165147	1353.6	NS	---			----
Total Col1Ave (5 peaks):				308.9		Total Col2Ave (4 peaks):			283.5	RPD = 9
Corrected Ave (4 peaks):				47.7		Corrected Ave (3 peaks):			206.7	RPD = 125*
Aroclor-1262	1	10.388	0.004	30028	107.4	1	10.971	0.001	118268	92.1
Aroclor-1262	2	11.458	0.004	301	1.7	2	11.680	-0.005	78239	28.9
Aroclor-1262	3	11.626	-0.000	172148	659.4	3	12.187	-0.001	744741	619.3
Aroclor-1262	4	12.276	0.002	62869	293.3	4	12.972	-0.000	307546	274.4
Total Col1Ave (4 peaks):				265.4		Total Col2Ave (4 peaks):			253.7	RPD = 5
Corrected Ave (3 peaks):				134.1		Corrected Ave (3 peaks):			131.8	RPD = 2
Aroclor-1268	1	11.557	-0.000	165147	268.6	1	12.187	-0.013	744741	246.9
Aroclor-1268	2	11.626	0.001	172148	266.9	2	12.254	-0.013	838267	254.7
Aroclor-1268	3	12.000	-0.000	135416	266.9	3	12.635	-0.009	744001	261.5
Aroclor-1268	4	12.770	-0.002	428256	261.7	4	12.782	-0.001	187584	266.5
Total Col1Ave (4 peaks):				266.0		Total Col2Ave (4 peaks):			257.4	RPD = 3

Corrected Ave (3 peaks): 265.2 Corrected Ave (3 peaks): 254.3 RPD = 4

Total PCB Area Col1 (5.169 - 13.066) = 1378298 Col1 Total PCB = 0.5 ppm*

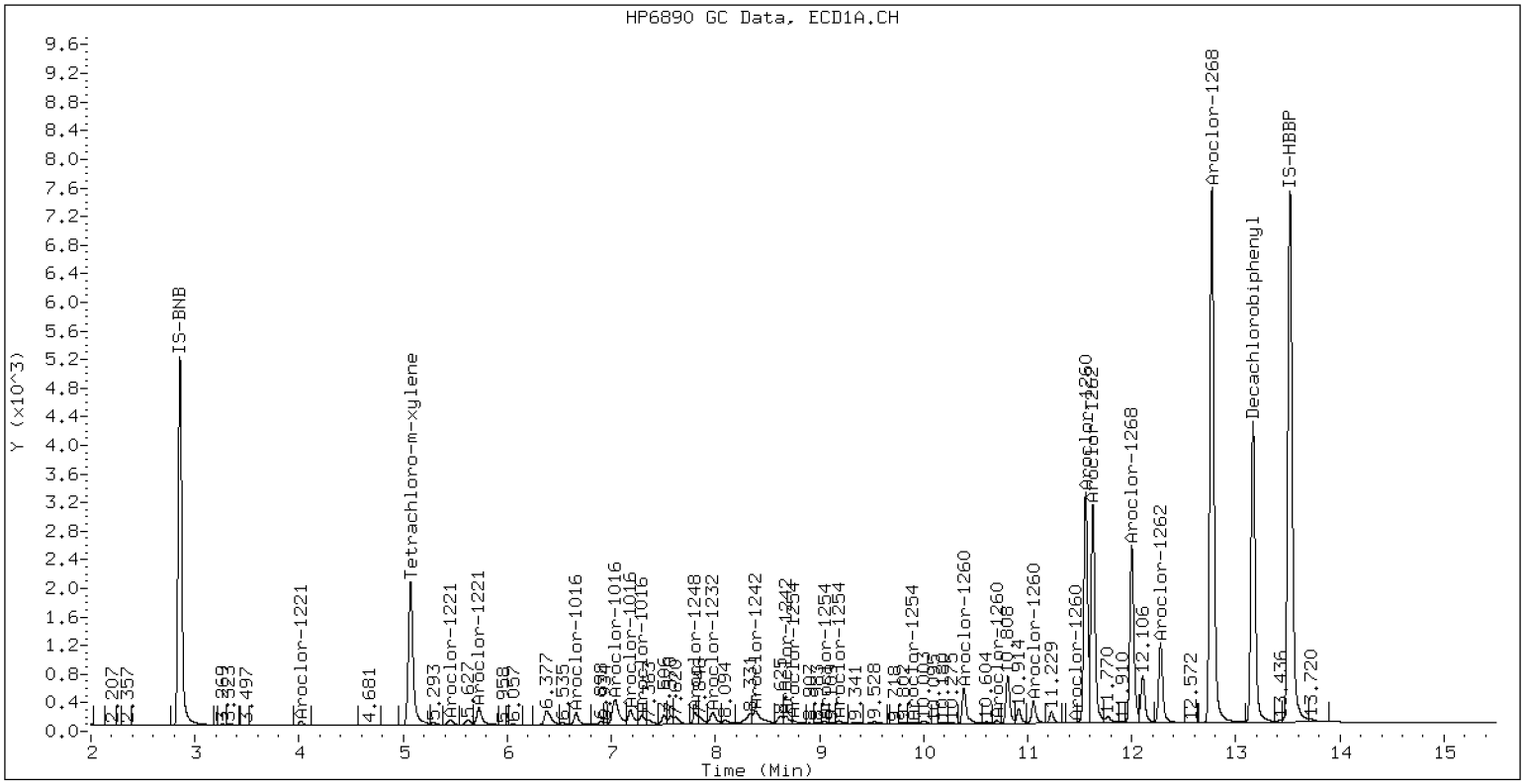
Total PCB Area Col2 (5.169 - 13.066) = 4537494 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

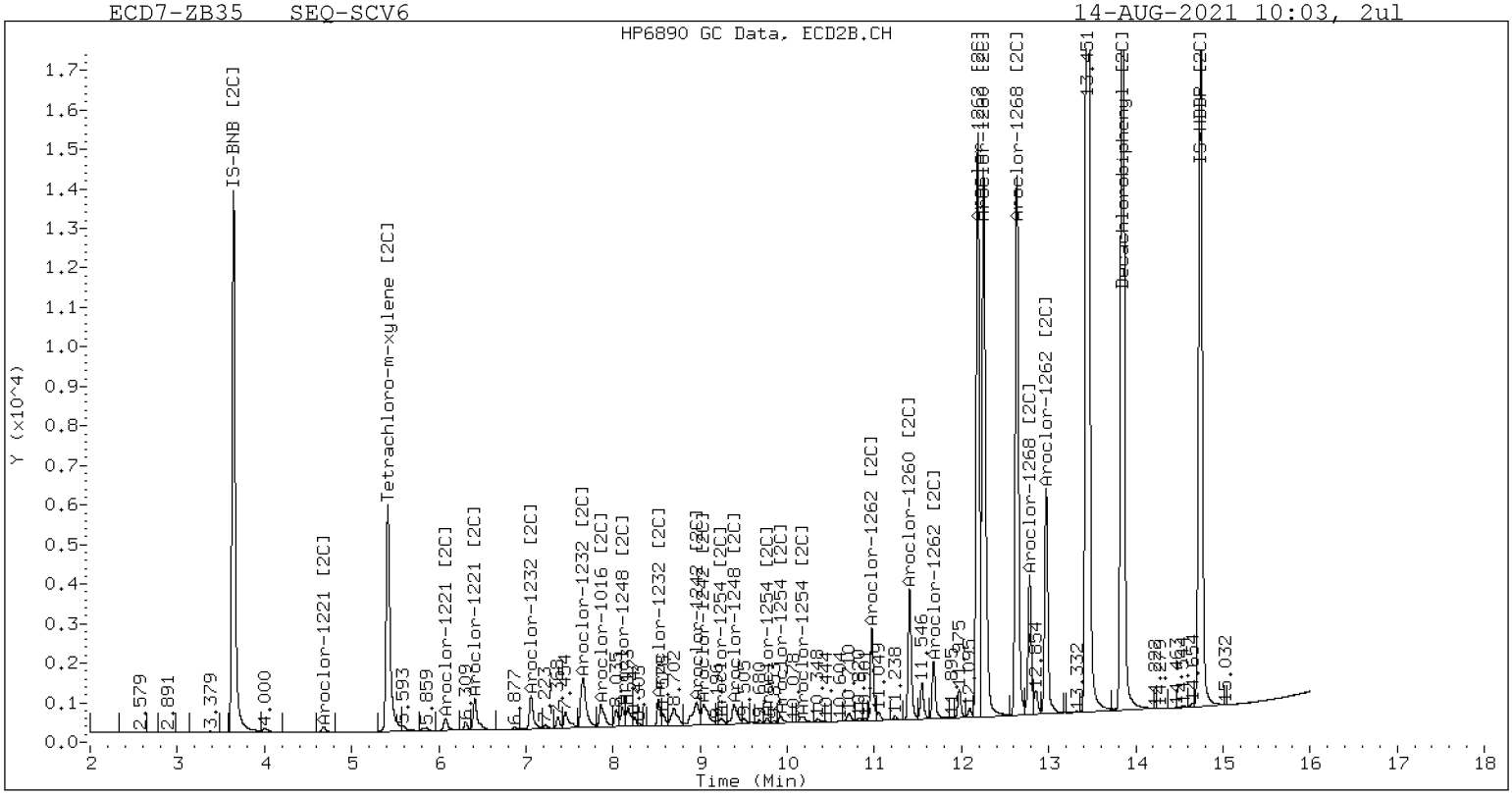
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV6 14-AUG-2021 10:03, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV6 14-AUG-2021 10:03, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /210813.b/08132147ECD7.D ARI ID: 0.1PPMDDTS

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
8.655	0.000	378282	9.708	0.000	2247303	0.100	0.100	0.0	2,4-DDE
0.000	-9.668	0	10.472	0.000	3202027	0.000	0.200#	----	2,4-DDT
9.066	0.000	627072	10.014	0.000	1432754	0.100	0.100	0.0	4,4-DDE
9.630	0.000	957342	10.472	0.000	3202027	0.100	0.200#	66.7*	4,4-DDD

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /210813.b/08132148ECD7.D ARI ID: DS

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
0.000	-8.655	0	9.713	0.005	45188	0.000	0.002	----	2,4-DDE
0.000	-9.668	0	10.469	-0.002	386231	0.000	0.024#	----	2,4-DDT
9.074	0.008	8164	10.015	0.001	1431	0.001	0.000	171.3*	4,4-DDE
9.633	0.003	99838	10.469	-0.002	386231	0.010	0.024#	79.8*	4,4-DDD

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Calibration: EH00034
Sequence: SJH0177

SDG: 21G0303
Project: Lower Duwamish AOC4
Laboratory ID: SJH0177-SCV1
Sequence Name: AR1660SCV1
Standard ID: J008139

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1016	250.00	285	13.9	20.00
Aroclor 1016 [2C]	250.00	281	12.5	20.00
Aroclor 1260	250.00	276	10.3	20.00
Aroclor 1260 [2C]	250.00	259	3.4	20.00
Decachlorobiphenyl	40.000	41.9	4.8	20.00
Tetrachlorometaxylene	40.000	43.6	9.1	20.00
Decachlorobiphenyl [2C]	40.000	41.2	3.0	20.00
Tetrachlorometaxylene [2C]	40.000	41.9	4.9	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: /210813.b/08132141ECD7.D
Data file 2: /210813.b/210813.b/08132141ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV1
Client ID:
Injection Date: 14-AUG-2021 08:21
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.072	0.003	130620	5.416	-0.001	380301	43.6	41.9	4.0	Tetrachloro-m-xylene
13.166	0.000	166891	13.848	-0.032	891664	41.9	41.2	1.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	247644	-4.3
Hexabromobiphenyl	425681	438534	3.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	705551	-2.1
Hexabromobiphenyl	863111	973863	12.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.662	0.004	25008	284.7	1	7.059	0.002	110603	274.9
Aroclor-1016	2	7.036	0.006	75849	282.4	2	7.653	0.006	251287	279.2
Aroclor-1016	3	7.182	0.006	34421	285.6	3	7.860	0.005	101098	286.3
Aroclor-1016	4	7.291	0.006	21611	286.0	4	8.108	0.003	60866	284.8
Total Col1Ave (4 peaks):					284.7	Total Col2Ave (4 peaks):				281.3 RPD = 1
Corrected Ave (3 peaks):					284.2	Corrected Ave (3 peaks):				279.6 RPD = 2
Aroclor-1221	1	4.024	0.008	183	9.4	1	4.683	0.006	532	10.0
Aroclor-1221	2	5.453	0.002	3388	110.5	2	6.080	0.008	14283	117.8
Aroclor-1221	3	5.728	0.004	17440	210.6	3	6.414	0.005	53146	251.5
Total Col1Ave (3 peaks):					110.2	Total Col2Ave (3 peaks):				126.5 RPD = 14
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.024	0.006	183	15.2	1	4.683	0.004	532	16.9
Aroclor-1232	2	5.728	0.002	17440	267.1	2	7.059	0.001	110603	600.3
Aroclor-1232	3	7.036	0.002	75849	761.3	3	7.653	0.002	251287	681.4
Aroclor-1232	4	7.973	0.001	32123	783.7	4	8.522	0.000	77885	810.7
Total Col1Ave (4 peaks):					456.8	Total Col2Ave (4 peaks):				527.3 RPD = 14
Corrected Ave (3 peaks):					347.9	Corrected Ave (3 peaks):				432.8 RPD = 22
Aroclor-1242	1	6.662	0.003	25008	366.5	1	7.059	0.002	110603	341.0
Aroclor-1242	2	7.036	0.006	75849	372.9	2	7.653	0.005	251287	356.6
Aroclor-1242	3	8.386	0.011	23127	200.7	3	8.934	-0.015	43631	132.5
Aroclor-1242	4	8.601	-0.072	2264	48.1	4	9.087	0.060	61086	163.5
Total Col1Ave (4 peaks):					247.1	Total Col2Ave (4 peaks):				248.4 RPD = 1
Corrected Ave (3 peaks):					205.1	Corrected Ave (3 peaks):				212.3 RPD = 3
Aroclor-1248	1	7.803	0.005	21981	211.8	1	8.108	0.002	60866	208.2
Aroclor-1248	2	7.973	0.005	32123	237.1	2	8.522	0.002	77885	218.9
Aroclor-1248	3	8.386	0.011	23127	116.6	3	8.934	-0.013	43631	77.0
Aroclor-1248	4	8.678	0.004	18050	159.4	4	9.393	0.016	3902	8.1
Total Col1Ave (4 peaks):					181.2	Total Col2Ave (4 peaks):				128.0 RPD = 34
Corrected Ave (3 peaks):					162.6	Corrected Ave (3 peaks):				97.8 RPD = 50*
Aroclor-1254	1	8.678	0.003	18050	84.5	1	9.242	0.003	55374	92.2
Aroclor-1254	2	---			0.0	2	9.393	0.062	3902	11.1
Aroclor-1254	3	9.048	0.006	1874	13.5	3	9.768	0.005	7503	16.4
Aroclor-1254	4	9.179	0.003	8064	30.3	4	9.930	0.017	138725	136.8
Aroclor-1254	5	9.859	-0.008	24786	148.4	5	10.160	0.012	181859	176.8
Total Col1Ave (4 peaks):					69.2	Total Col2Ave (5 peaks):				86.7 RPD = 22
Corrected Ave (3 peaks):					42.8	Corrected Ave (4 peaks):				64.1 RPD = 40*
Aroclor-1260	1	10.386	0.003	52476	266.0	1	11.427	0.002	206923	255.6
Aroclor-1260	2	10.705	0.005	54460	281.2	2	11.681	-0.000	606031	257.6
Aroclor-1260	3	11.055	0.005	146267	279.5	3	12.264	0.003	390976	258.4
Aroclor-1260	4	11.458	0.005	67567	289.8	4	12.974	0.002	190042	262.7
Aroclor-1260	5	11.557	0.003	30592	262.0	NS	---			----
Total Col1Ave (5 peaks):					275.7	Total Col2Ave (4 peaks):				258.6 RPD = 6
Corrected Ave (4 peaks):					272.2	Corrected Ave (3 peaks):				257.2 RPD = 6
Aroclor-1262	1	10.386	0.002	52476	196.1	1	10.970	-0.000	227139	190.7
Aroclor-1262	2	11.458	0.003	67567	389.9	2	11.681	-0.004	606031	241.2
Aroclor-1262	3	11.630	0.003	39662	158.8	3	12.190	0.002	176119	157.9
Aroclor-1262	4	12.278	0.004	37281	181.8	4	12.974	0.001	190042	182.8
Total Col1Ave (4 peaks):					231.6	Total Col2Ave (4 peaks):				193.2 RPD = 18
Corrected Ave (3 peaks):					178.9	Corrected Ave (3 peaks):				177.2 RPD = 1
Aroclor-1268	1	11.557	-0.000	30592	52.0	1	12.190	-0.010	176119	62.9
Aroclor-1268	2	11.630	0.004	39662	64.3	2	12.264	-0.003	390976	128.0
Aroclor-1268	3	12.031	0.031	15649	32.2	3	12.637	-0.007	5866	2.2
Aroclor-1268	4	12.771	-0.001	7371	4.7	4	12.784	0.001	4262	6.5
Total Col1Ave (4 peaks):					38.3	Total Col2Ave (4 peaks):				49.9 RPD = 26

Corrected Ave (3 peaks): 29.6 Corrected Ave (3 peaks): 23.9 RPD = 21

Total PCB Area Col1 (5.169 - 13.066) = 1398917 Col1 Total PCB = 0.6 ppm*

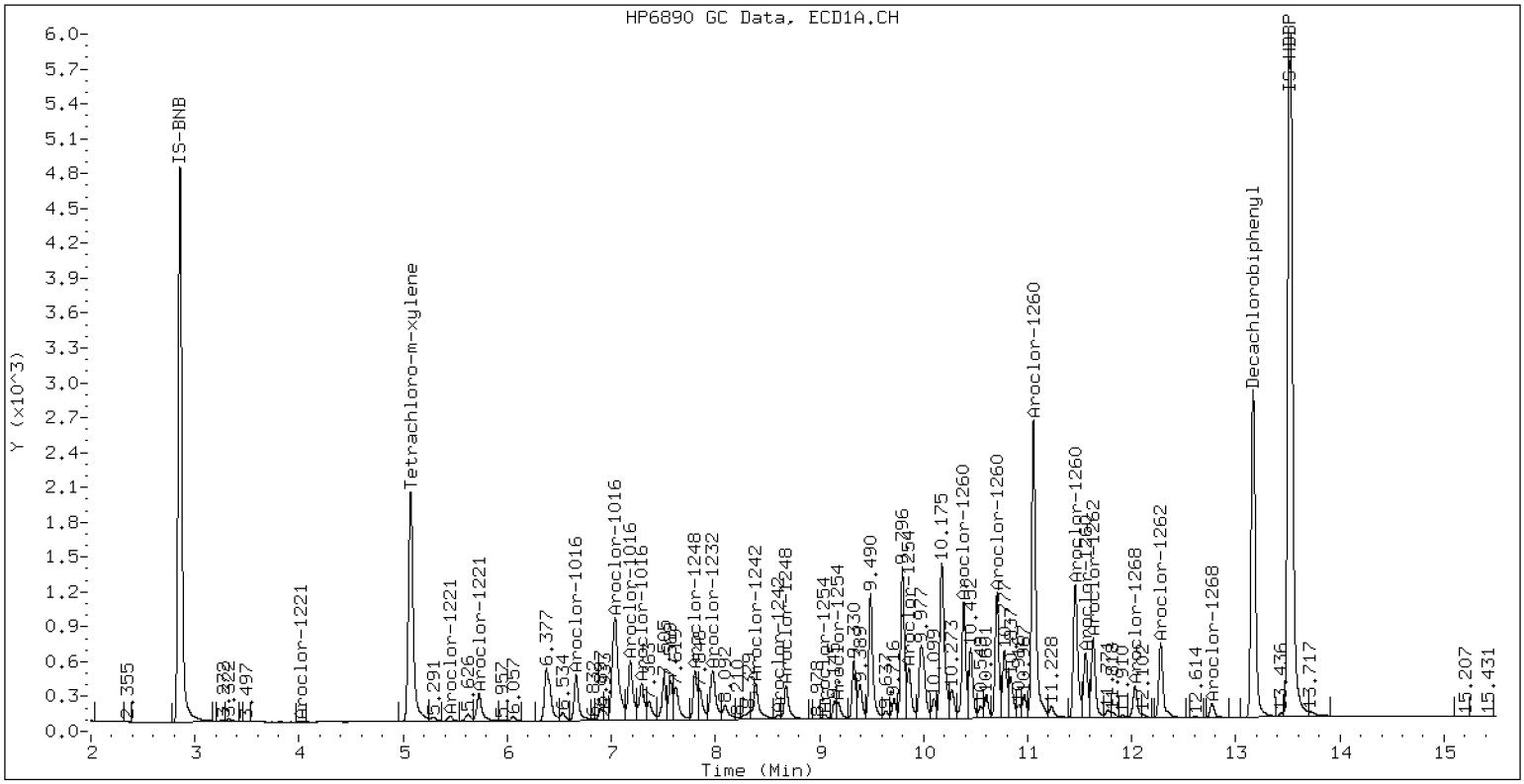
Total PCB Area Col2 (5.169 - 13.066) = 5304779 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

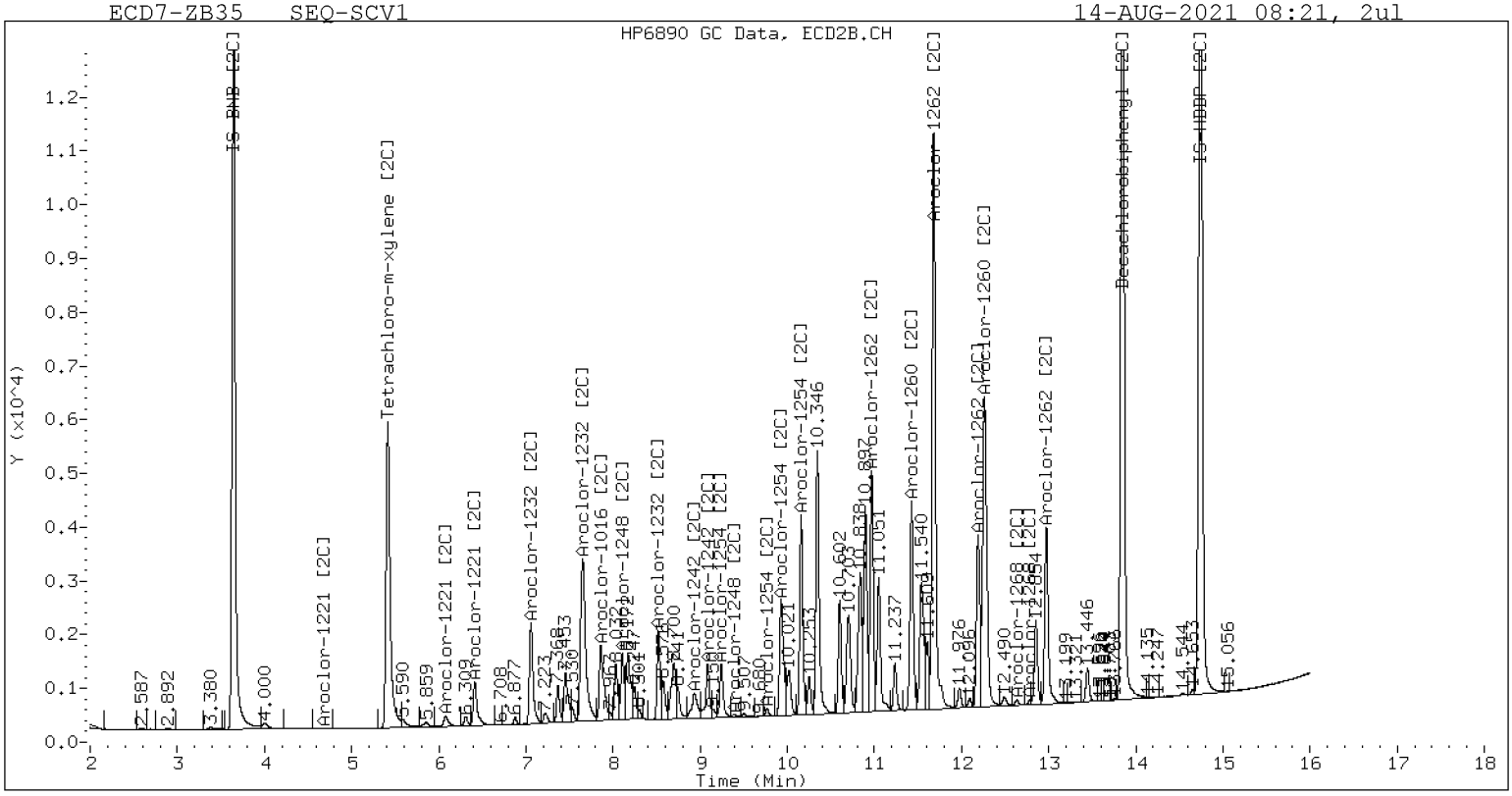
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV1 14-AUG-2021 08:21, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV1 14-AUG-2021 08:21, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Calibration: EH00034
Sequence: SJH0177

SDG: 21G0303
Project: Lower Duwamish AOC4
Laboratory ID: SJH0177-SCV2
Sequence Name: AR1242SCV2
Standard ID: J008140

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1242	250.00	282	12.6	20.00
Aroclor 1242 [2C]	250.00	257	2.8	20.00
Decachlorobiphenyl	40.000	40.6	1.4	20.00
Tetrachlorometaxylene	40.000	42.4	6.0	20.00
Decachlorobiphenyl [2C]	40.000	40.1	0.2	20.00
Tetrachlorometaxylene [2C]	40.000	41.2	3.0	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: /210813.b/08132142ECD7.D
Data file 2: /210813.b/210813.b/08132142ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV2
Client ID:
Injection Date: 14-AUG-2021 08:41
Report Date: 08/16/2021 17:58
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.071	0.002	132285	5.416	-0.001	383386	42.4	41.2	2.9	Tetrachloro-m-xylene
13.167	0.001	167664	13.849	-0.031	892912	40.6	40.1	1.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	258029	-0.3
Hexabromobiphenyl	425681	455205	6.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	724238	0.5
Hexabromobiphenyl	863111	1002202	16.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.662	0.004	19016	207.8	1	7.058	0.002	84149	203.8
Aroclor-1016	2	7.036	0.007	56530	202.0	2	7.655	0.007	190019	205.7
Aroclor-1016	3	7.182	0.006	26016	207.1	3	7.861	0.006	75921	209.4
Aroclor-1016	4	7.291	0.006	16388	208.1	4	8.108	0.003	48471	220.9
Total Col1Ave (4 peaks): 206.3						Total Col2Ave (4 peaks): 210.0 RPD = 2				
Corrected Ave (3 peaks): 205.6						Corrected Ave (3 peaks): 206.3 RPD = 0				
Aroclor-1221	1	4.028	0.013	116	5.7	1	---			0.0
Aroclor-1221	2	5.452	0.001	2495	78.1	2	6.082	0.010	11569	93.0
Aroclor-1221	3	5.727	0.003	12904	149.5	3	6.414	0.005	39789	183.5
Total Col1Ave (3 peaks): 77.8						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.028	0.010	116	9.3	1	---			0.0
Aroclor-1232	2	5.727	0.001	12904	189.7	2	7.058	0.000	84149	444.9
Aroclor-1232	3	7.036	0.003	56530	544.5	3	7.655	0.004	190019	502.0
Aroclor-1232	4	7.974	0.001	26547	621.6	4	8.522	0.000	61015	618.7
Total Col1Ave (4 peaks): 341.3						Total Col2Ave (3 peaks): 521.9 RPD = 42*				
Corrected Ave (3 peaks): 247.8						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.662	0.003	19016	267.5	1	7.058	0.001	84149	252.7
Aroclor-1242	2	7.036	0.006	56530	266.7	2	7.655	0.006	190019	262.7
Aroclor-1242	3	8.383	0.009	29618	246.7	3	8.960	0.011	88042	260.5
Aroclor-1242	4	8.677	0.003	16945	345.4	4	9.035	0.007	96759	252.3
Total Col1Ave (4 peaks): 281.6						Total Col2Ave (4 peaks): 257.1 RPD = 9				
Corrected Ave (3 peaks): 260.3						Corrected Ave (3 peaks): 255.2 RPD = 2				
Aroclor-1248	1	7.804	0.005	17658	163.3	1	8.108	0.002	48471	161.5
Aroclor-1248	2	7.974	0.006	26547	188.1	2	8.522	0.002	61015	167.0
Aroclor-1248	3	8.383	0.009	29618	143.3	3	8.960	0.014	88042	151.3
Aroclor-1248	4	8.677	0.004	16945	143.6	4	9.387	0.011	85570	173.2
Total Col1Ave (4 peaks): 159.6						Total Col2Ave (4 peaks): 163.2 RPD = 2				
Corrected Ave (3 peaks): 150.1						Corrected Ave (3 peaks): 159.9 RPD = 6				
Aroclor-1254	1	8.677	0.002	16945	76.1	1	9.243	0.003	29242	47.5
Aroclor-1254	2	8.749	0.003	9630	93.4	2	9.387	0.056	85570	236.6
Aroclor-1254	3	9.048	0.007	7009	48.3	3	9.768	0.005	22605	48.1
Aroclor-1254	4	9.185	0.010	12002	43.3	4	9.920	0.006	43258	41.6
Aroclor-1254	5	9.892	0.025	8818	50.7	5	10.159	0.012	45764	43.4
Total Col1Ave (5 peaks): 62.4						Total Col2Ave (5 peaks): 83.4 RPD = 29				
Corrected Ave (4 peaks): 54.6						Corrected Ave (4 peaks): 45.1 RPD = 19				
Aroclor-1260	1	10.393	0.010	159	0.8	1	11.445	0.020	5299	6.4
Aroclor-1260	2	10.708	0.008	221	1.1	2	11.687	0.006	3878	1.6
Aroclor-1260	3	11.059	0.009	267	0.5	3	12.271	0.010	3933	2.5
Aroclor-1260	4	11.460	0.007	376	1.6	4	13.053	0.081	5398	7.3
Aroclor-1260	5	---			0.0	NS	---			----
Total Col1Ave (4 peaks): 1.0						Total Col2Ave (4 peaks): 4.4 RPD = 128*				
Corrected Ave (3 peaks): 0.8						Corrected Ave (3 peaks): 3.5 RPD = 126*				
Aroclor-1262	1	10.393	0.009	159	0.6	1	10.901	-0.069	17524	14.3
Aroclor-1262	2	11.460	0.005	376	2.1	2	11.687	0.001	3878	1.5
Aroclor-1262	3	---			0.0	3	12.271	0.083	3933	3.4
Aroclor-1262	4	---			0.0	4	13.053	0.081	5398	5.0
Col1Ave: <3 Quant Peaks						Col2Ave: 6.1				
Aroclor-1268	1	11.460	-0.097	376	0.6	1	12.271	0.071	3933	1.4
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	11.914	-0.086	1770	3.5	3	12.639	-0.005	1023	0.4
Aroclor-1268	4	12.775	0.003	794	0.5	4	12.790	0.006	1260	1.9
Total Col1Ave (3 peaks): 1.5						Total Col2Ave (3 peaks): 1.2 RPD = 24				
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				

Total PCB Area Col1 (5.169 - 13.066) = 482960 Col1 Total PCB = 0.2 ppm*

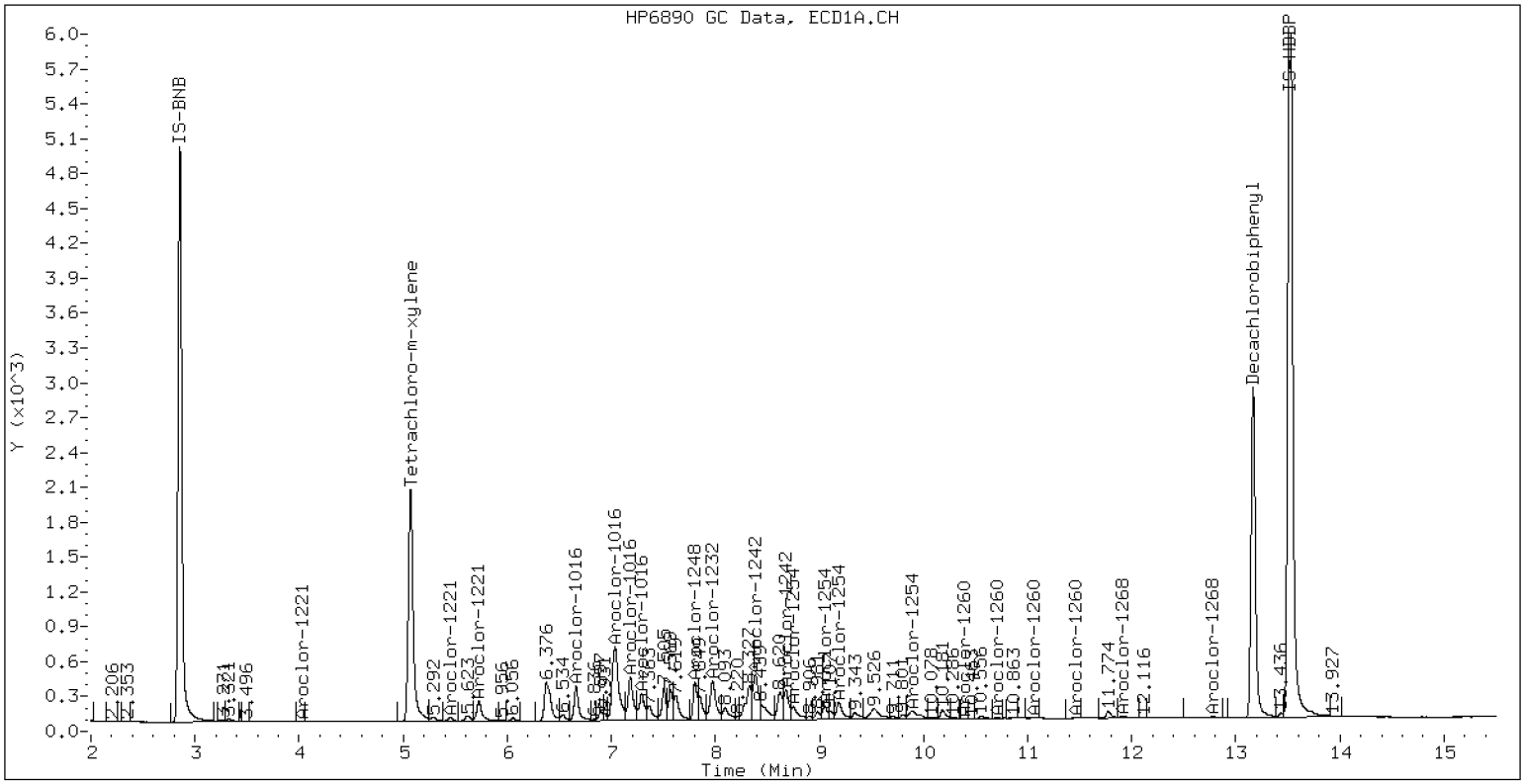
Total PCB Area Col2 (5.169 - 13.066) = 1884416 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

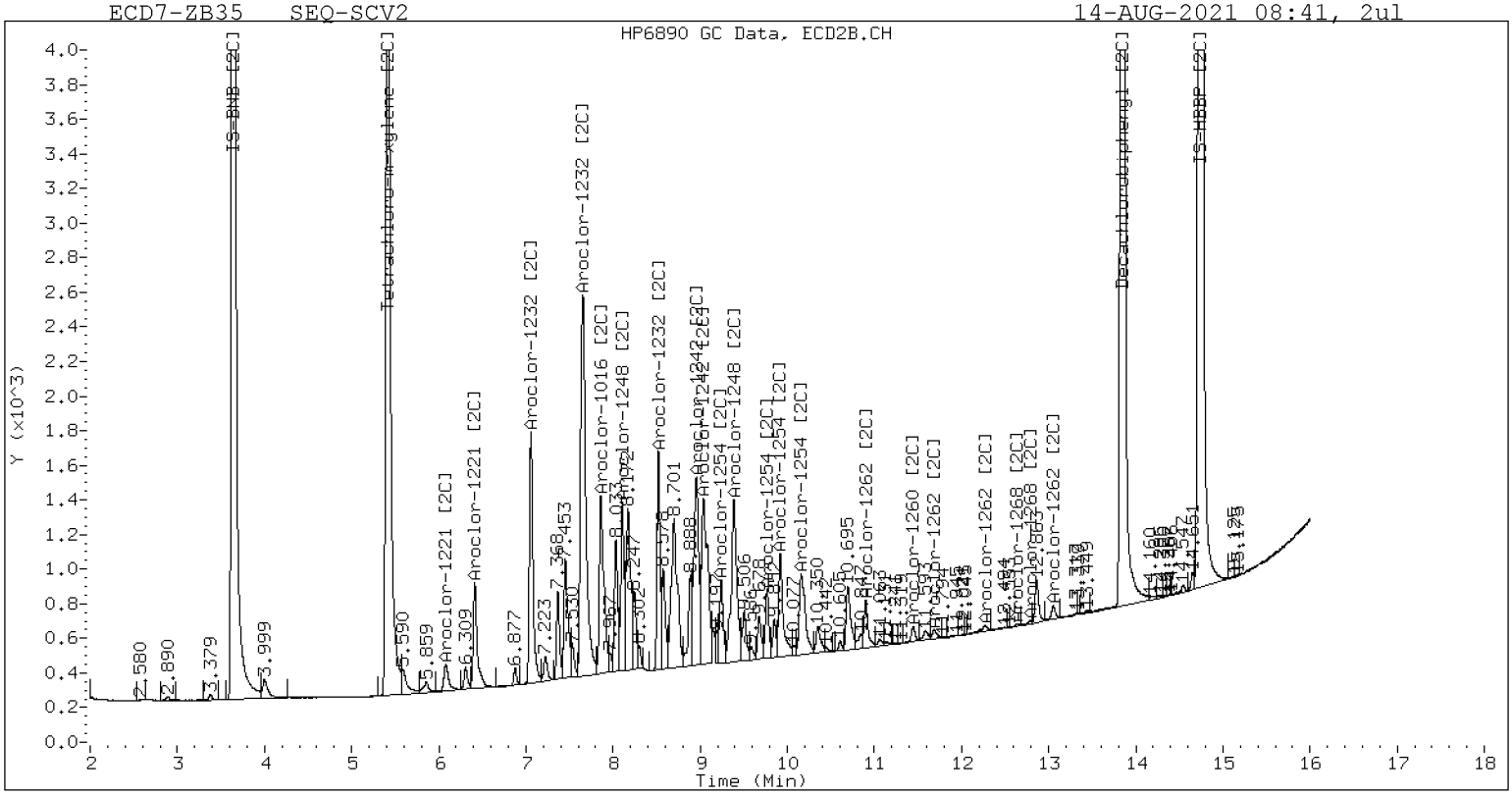
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV2 14-AUG-2021 08:41, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-SCV2 14-AUG-2021 08:41, 2ul

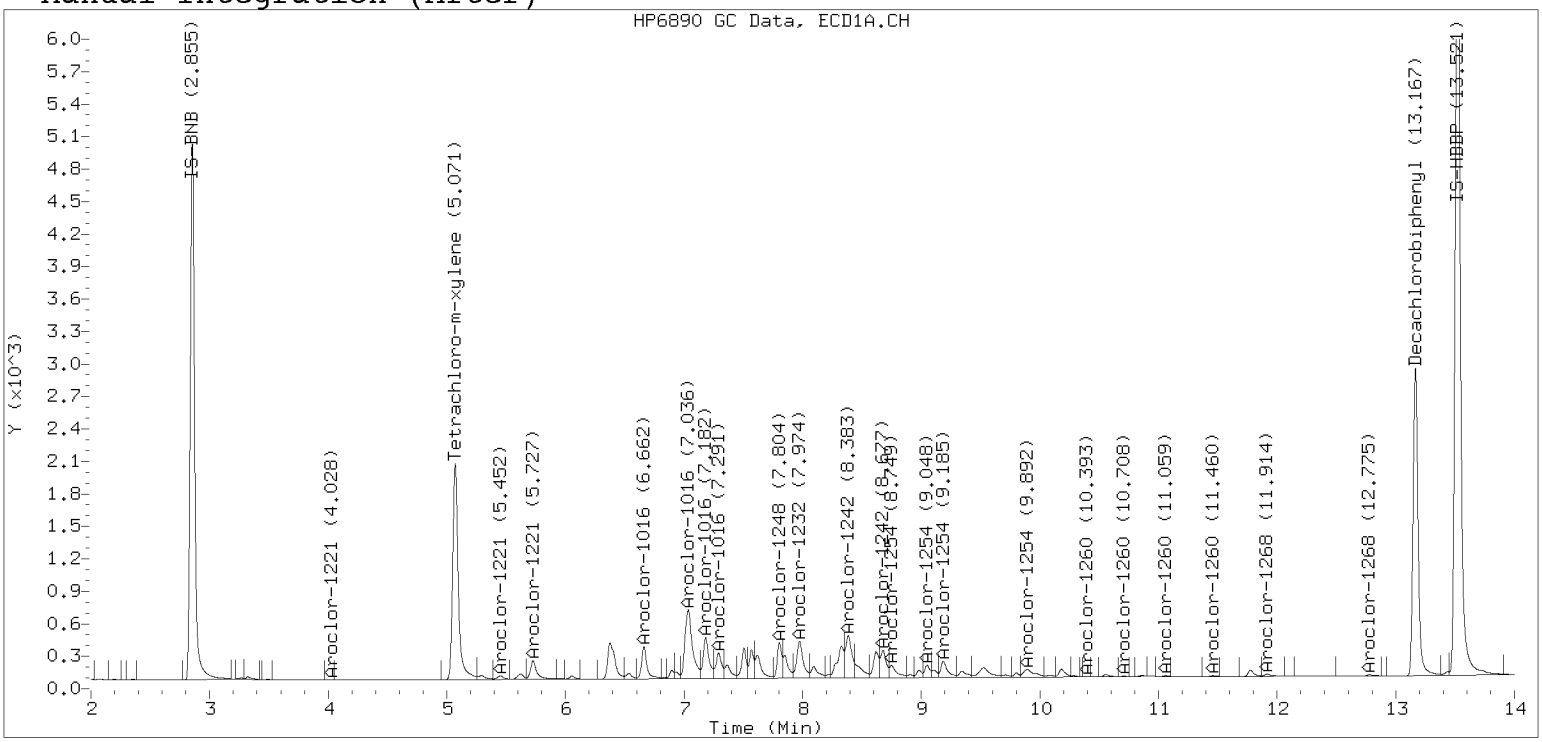


ZB-35 Manual Integration: YES

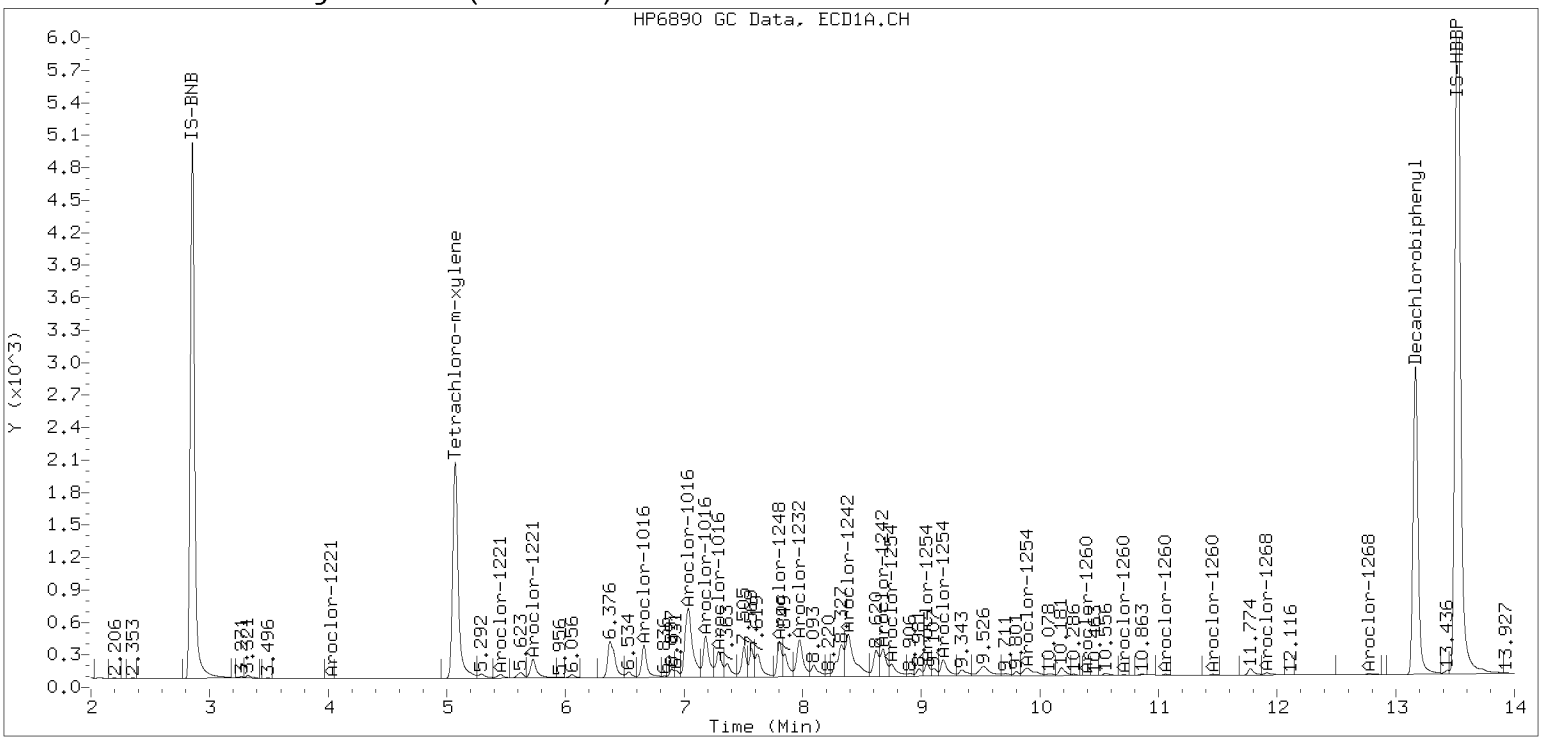
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/210813.b/08132142ECD7.D Injection Date: 14-AUG-2021 08:41

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Calibration: EH00034
Sequence: SJH0177

SDG: 21G0303
Project: Lower Duwamish AOC4
Laboratory ID: SJH0177-SCV3
Sequence Name: AR1248SCV3
Standard ID: J008141

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1248	250.00	262	4.6	20.00
Aroclor 1248 [2C]	250.00	275	10.0	20.00
Decachlorobiphenyl	40.000	39.5	-1.3	20.00
Tetrachlorometaxylene	40.000	41.7	4.2	20.00
Decachlorobiphenyl [2C]	40.000	38.4	-3.9	20.00
Tetrachlorometaxylene [2C]	40.000	40.4	1.0	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: /210813.b/08132143ECD7.D
Data file 2: /210813.b/210813.b/08132143ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV3
Client ID:
Injection Date: 14-AUG-2021 09:02
Report Date: 08/16/2021 17:58
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.071	0.002	133217	5.416	-0.001	384693	41.7	40.4	3.0	Tetrachloro-m-xylene
13.165	-0.001	166922	13.848	-0.032	892438	39.5	38.4	2.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	264526	2.2
Hexabromobiphenyl	425681	465895	9.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	740726	2.7
Hexabromobiphenyl	863111	1045189	21.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	9682	103.2	1	7.058	0.001	46276	109.6
Aroclor-1016	2	7.035	0.006	37972	132.4	2	7.654	0.006	128803	136.3
Aroclor-1016	3	7.185	0.009	16001	124.3	3	7.862	0.007	26557	71.6
Aroclor-1016	4	7.292	0.007	10150	125.7	4	8.107	0.002	83644	372.8
Total Col1Ave (4 peaks): 121.4						Total Col2Ave (4 peaks): 172.6				RPD = 35
Corrected Ave (3 peaks): 117.7						Corrected Ave (3 peaks): 105.8				RPD = 11
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	5.455	0.004	449	13.7	2	6.091	0.019	6638	52.2
Aroclor-1221	3	5.728	0.004	2260	25.5	3	6.414	0.005	8501	38.3
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	5.728	0.002	2260	32.4	2	7.058	-0.000	46276	239.2
Aroclor-1232	3	7.035	0.002	37972	356.8	3	7.654	0.003	128803	332.7
Aroclor-1232	4	7.972	-0.000	39250	896.5	4	8.523	0.001	102298	1014.3
Total Col1Ave (3 peaks): 428.6						Total Col2Ave (3 peaks): 528.7				RPD = 21
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.663	0.004	9682	132.8	1	7.058	0.000	46276	135.9
Aroclor-1242	2	7.035	0.005	37972	174.8	2	7.654	0.005	128803	174.1
Aroclor-1242	3	8.381	0.007	54555	443.2	3	8.956	0.007	151640	438.8
Aroclor-1242	4	8.678	0.004	31259	621.5	4	9.034	0.006	104178	265.6
Total Col1Ave (4 peaks): 343.1						Total Col2Ave (4 peaks): 253.6				RPD = 30
Corrected Ave (3 peaks): 250.3						Corrected Ave (3 peaks): 191.9				RPD = 26
Aroclor-1248	1	7.802	0.004	28742	259.3	1	8.107	0.002	83644	272.5
Aroclor-1248	2	7.972	0.004	39250	271.2	2	8.523	0.003	102298	273.8
Aroclor-1248	3	8.381	0.007	54555	257.5	3	8.956	0.009	151640	254.8
Aroclor-1248	4	8.678	0.004	31259	258.4	4	9.383	0.006	151004	298.8
Total Col1Ave (4 peaks): 261.6						Total Col2Ave (4 peaks): 275.0				RPD = 5
Corrected Ave (3 peaks): 258.4						Corrected Ave (3 peaks): 267.0				RPD = 3
Aroclor-1254	1	8.678	0.002	31259	137.0	1	9.242	0.003	54333	86.2
Aroclor-1254	2	8.749	0.003	18396	174.1	2	9.383	0.052	151004	408.3
Aroclor-1254	3	9.047	0.006	14863	99.9	3	9.767	0.004	47940	99.8
Aroclor-1254	4	9.184	0.008	25850	91.0	4	9.918	0.004	90159	84.7
Aroclor-1254	5	9.891	0.024	17966	100.7	5	10.157	0.010	92605	85.8
Total Col1Ave (5 peaks): 120.5						Total Col2Ave (5 peaks): 152.9				RPD = 24
Corrected Ave (4 peaks): 107.1						Corrected Ave (4 peaks): 89.1				RPD = 18
Aroclor-1260	1	10.390	0.007	578	2.8	1	11.440	0.015	6820	7.8
Aroclor-1260	2	10.706	0.006	437	2.1	2	11.683	0.002	7655	3.0
Aroclor-1260	3	11.059	0.008	1267	2.3	3	12.263	0.002	5159	3.2
Aroclor-1260	4	11.460	0.007	540	2.2	4	12.973	0.001	2451	3.2
Aroclor-1260	5	11.559	0.005	490	4.0	NS	---			----
Total Col1Ave (5 peaks): 2.7						Total Col2Ave (4 peaks): 4.3				RPD = 47*
Corrected Ave (4 peaks): 2.3						Corrected Ave (3 peaks): 3.1				RPD = 29
Aroclor-1262	1	10.390	0.006	578	2.0	1	10.972	0.001	4108	3.2
Aroclor-1262	2	11.460	0.005	540	2.9	2	11.683	-0.002	7655	2.8
Aroclor-1262	3	11.632	0.005	592	2.2	3	12.188	-0.000	3699	3.1
Aroclor-1262	4	12.278	0.004	571	2.6	4	12.973	0.001	2451	2.2
Total Col1Ave (4 peaks): 2.5						Total Col2Ave (4 peaks): 2.8				RPD = 14
Corrected Ave (3 peaks): 2.3						Corrected Ave (3 peaks): 2.7				RPD = 17
Aroclor-1268	1	11.559	0.002	490	0.8	1	12.188	-0.012	3699	1.2
Aroclor-1268	2	11.632	0.006	592	0.9	2	12.263	-0.004	5159	1.6
Aroclor-1268	3	11.915	-0.086	879	1.7	3	12.643	-0.001	909	0.3
Aroclor-1268	4	12.775	0.003	932	0.6	4	12.788	0.005	972	1.4
Total Col1Ave (4 peaks): 1.0						Total Col2Ave (4 peaks): 1.1				RPD = 13
Corrected Ave (3 peaks): 0.7						Corrected Ave (3 peaks): 1.0				RPD = 27

Total PCB Area Col1 (5.169 - 13.066) = 608290 Col1 Total PCB = 0.2 ppm*

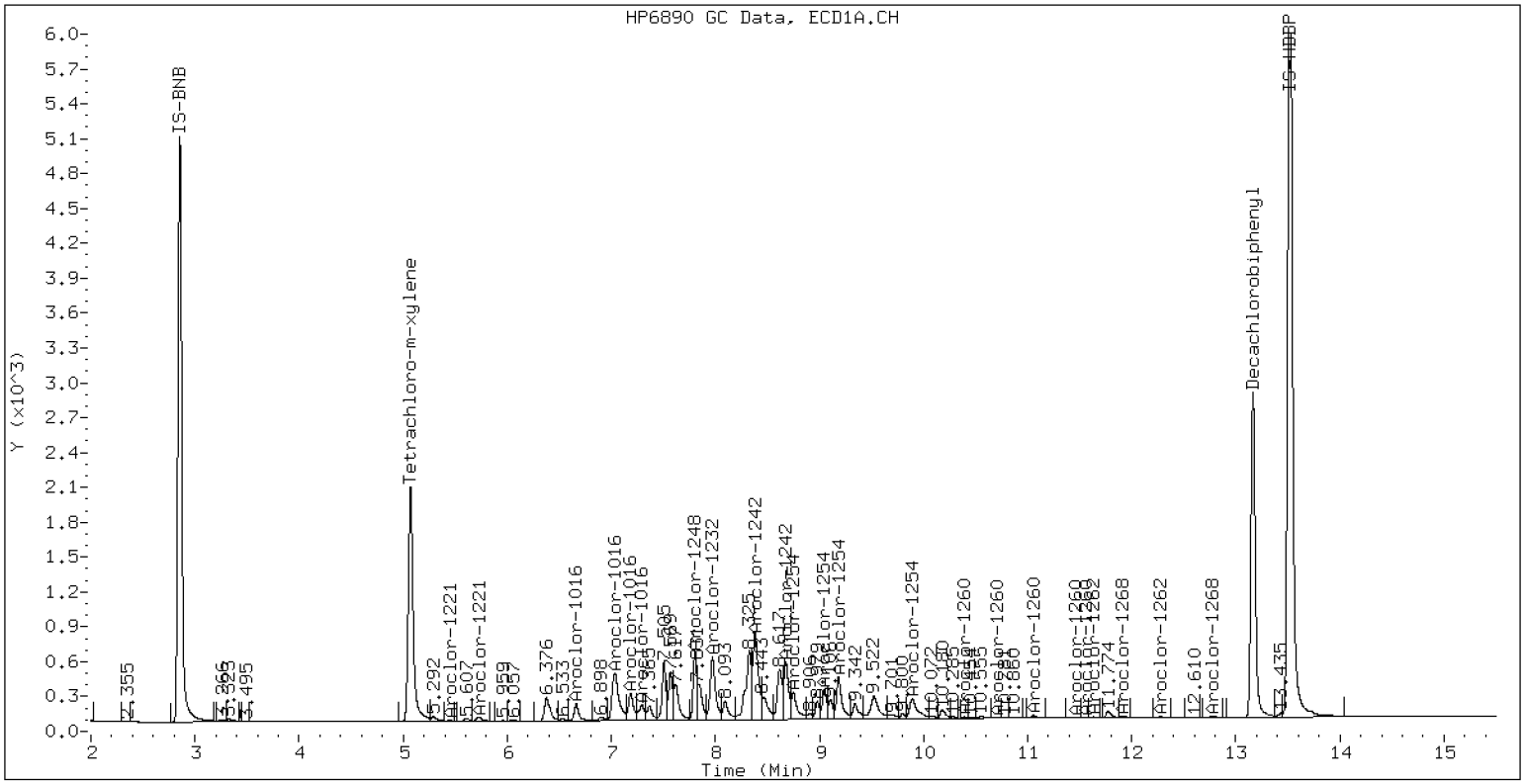
Total PCB Area Col2 (5.169 - 13.066) = 2317749 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

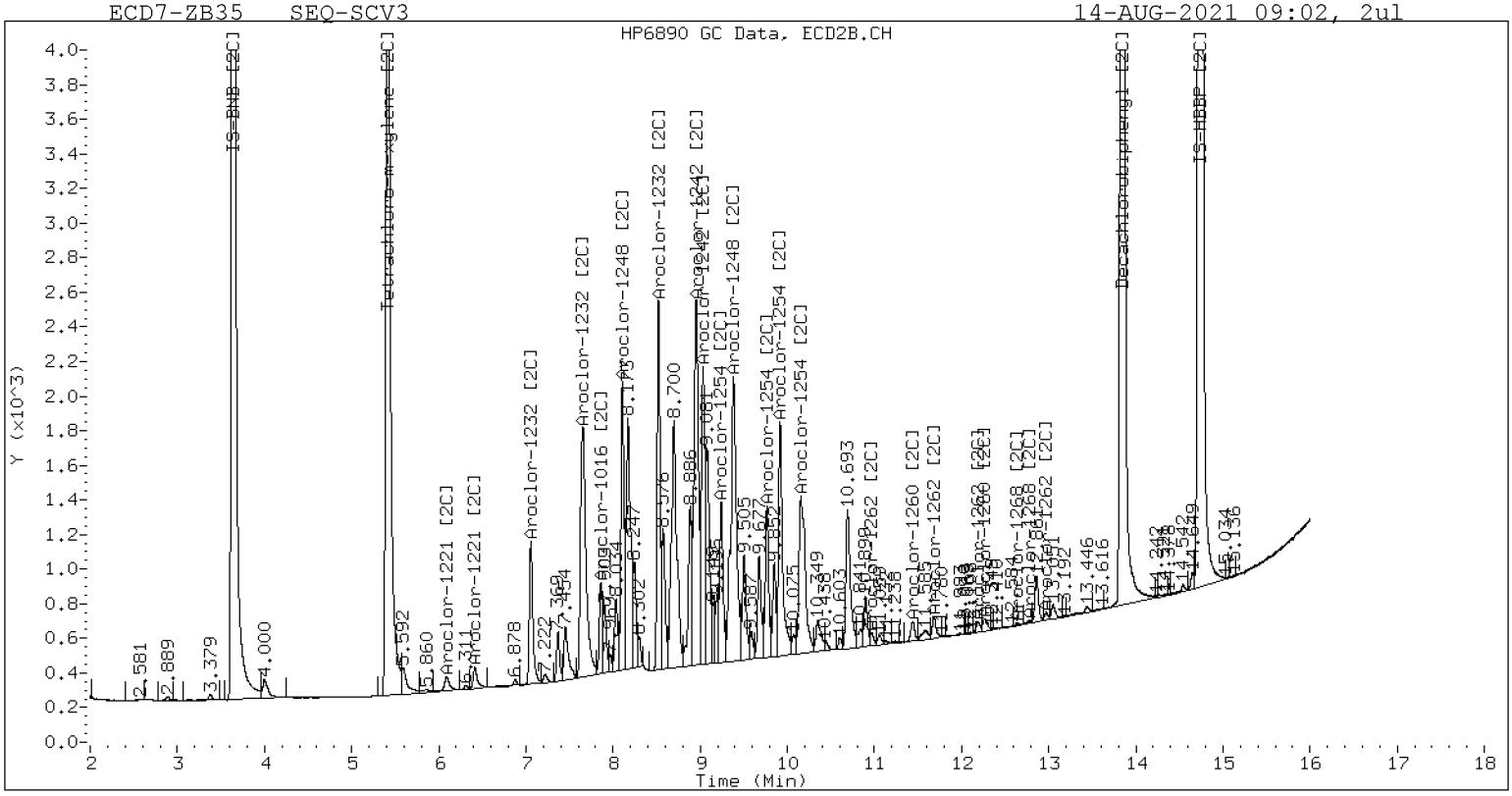
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV3 14-AUG-2021 09:02, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-SCV3 14-AUG-2021 09:02, 2ul

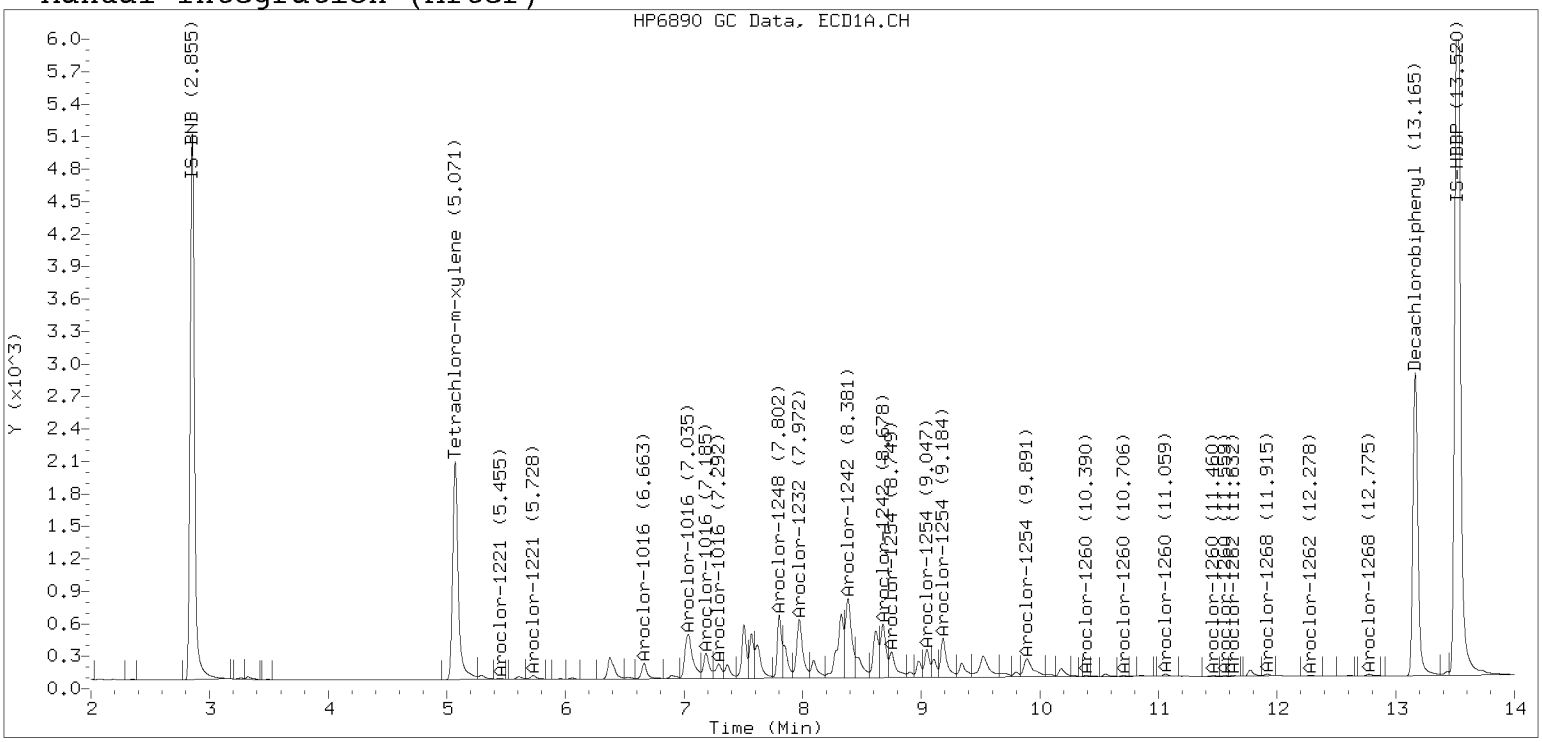


ZB-35 Manual Integration: NO

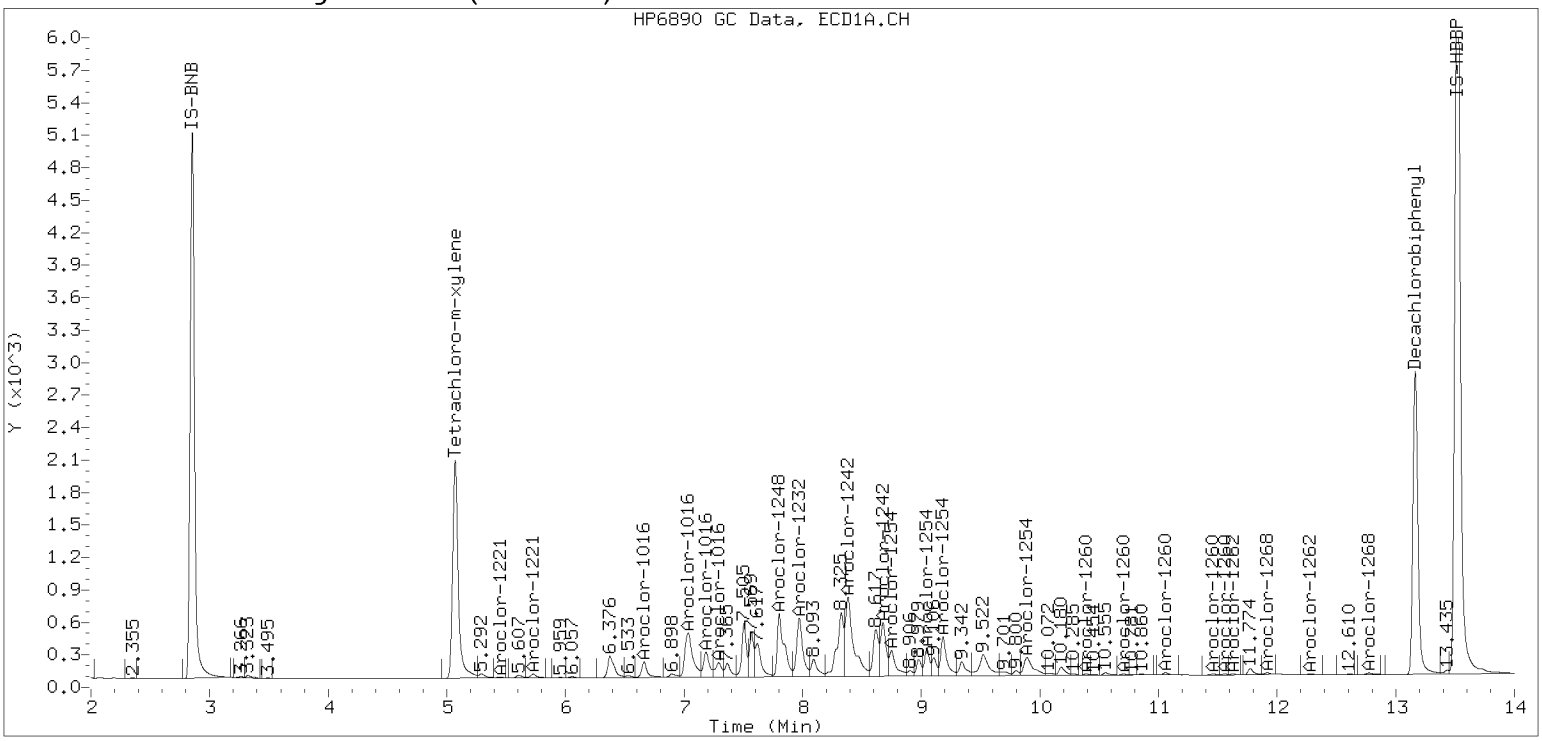
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/210813.b/08132143ECD7.D Injection Date: 14-AUG-2021 09:02

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Calibration: EH00034
Sequence: SJH0177

SDG: 21G0303
Project: Lower Duwamish AOC4
Laboratory ID: SJH0177-SCV4
Sequence Name: AR1254SCV4
Standard ID: J008142

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1254	250.00	282	12.7	20.00
Aroclor 1254 [2C]	250.00	264	5.8	20.00
Decachlorobiphenyl	40.000	40.1	0.2	20.00
Tetrachlorometaxylene	40.000	42.6	6.5	20.00
Decachlorobiphenyl [2C]	40.000	38.6	-3.4	20.00
Tetrachlorometaxylene [2C]	40.000	41.4	3.6	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: /210813.b/08132144ECD7.D
Data file 2: /210813.b/210813.b/08132144ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV4
Client ID:
Injection Date: 14-AUG-2021 09:22
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	134141	5.416	-0.001	389116	42.6	41.4	2.8	Tetrachloro-m-xylene
13.166	0.000	166634	13.848	-0.032	887620	40.1	38.6	3.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	260417	0.6
Hexabromobiphenyl	425681	458139	7.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	730797	1.4
Hexabromobiphenyl	863111	1034233	19.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	131	1.4	1	7.062	0.005	1136	2.7
Aroclor-1016	2	7.039	0.009	605	2.1	2	7.659	0.011	3270	3.5
Aroclor-1016	3	7.189	0.014	416	3.3	3	7.909	0.054	1836	5.0
Aroclor-1016	4	---			0.0	4	8.109	0.004	59728	269.8
Total Col1Ave (3 peaks): 2.3						Total Col2Ave (4 peaks): 70.3 RPD = 187*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 3.8				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.094	0.021	4462	35.5
Aroclor-1221	3	---			0.0	3	6.411	0.002	1085	5.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	7.062	0.004	1136	6.0
Aroclor-1232	3	7.039	0.005	605	5.8	3	7.659	0.008	3270	8.6
Aroclor-1232	4	7.975	0.003	5517	128.0	4	8.524	0.002	40317	405.2
Col1Ave: <3 Quant Peaks						Col2Ave: 139.9				
Aroclor-1242	1	6.663	0.004	131	1.8	1	7.062	0.005	1136	3.4
Aroclor-1242	2	7.039	0.008	605	2.8	2	7.659	0.010	3270	4.5
Aroclor-1242	3	8.385	0.011	48414	399.6	3	8.960	0.012	63036	184.9
Aroclor-1242	4	8.679	0.005	62054	1253.2	4	9.035	0.007	12438	32.1
Total Col1Ave (4 peaks): 414.4						Total Col2Ave (4 peaks): 56.2 RPD = 152*				
Corrected Ave (3 peaks): 134.7						Corrected Ave (3 peaks): 13.3 RPD = 164*				
Aroclor-1248	1	7.804	0.005	12376	113.4	1	8.109	0.003	59728	197.2
Aroclor-1248	2	7.975	0.007	5517	38.7	2	8.524	0.004	40317	109.4
Aroclor-1248	3	8.385	0.011	48414	232.1	3	8.960	0.014	63036	107.4
Aroclor-1248	4	8.679	0.005	62054	521.1	4	9.335	-0.041	91889	184.3
Total Col1Ave (4 peaks): 226.3						Total Col2Ave (4 peaks): 149.6 RPD = 41*				
Corrected Ave (3 peaks): 128.1						Corrected Ave (3 peaks): 133.7 RPD = 4				
Aroclor-1254	1	8.679	0.003	62054	276.2	1	9.242	0.003	166697	268.1
Aroclor-1254	2	8.751	0.005	29615	284.7	2	9.335	0.004	91889	251.8
Aroclor-1254	3	9.046	0.005	40463	276.3	3	9.766	0.003	128036	270.1
Aroclor-1254	4	9.181	0.005	78989	282.3	4	9.918	0.004	270040	257.1
Aroclor-1254	5	9.873	0.006	50845	289.4	5	10.155	0.008	293166	275.2
Total Col1Ave (5 peaks): 281.8						Total Col2Ave (5 peaks): 264.5 RPD = 6				
Corrected Ave (4 peaks): 279.9						Corrected Ave (4 peaks): 261.8 RPD = 7				
Aroclor-1260	1	10.386	0.003	4281	20.8	1	11.441	0.015	77320	89.9
Aroclor-1260	2	10.706	0.006	4756	23.5	2	11.684	0.003	61993	24.8
Aroclor-1260	3	11.057	0.007	11820	21.6	3	12.266	0.005	35733	22.2
Aroclor-1260	4	11.458	0.005	9286	38.1	4	12.973	0.001	1994	2.6
Aroclor-1260	5	11.627	0.073	440	3.6	NS	---			----
Total Col1Ave (5 peaks): 21.5						Total Col2Ave (4 peaks): 34.9 RPD = 47*				
Corrected Ave (4 peaks): 17.4						Corrected Ave (3 peaks): 16.5 RPD = 5				
Aroclor-1262	1	10.386	0.002	4281	15.3	1	10.897	-0.073	251611	198.9
Aroclor-1262	2	11.458	0.003	9286	51.3	2	11.684	-0.001	61993	23.2
Aroclor-1262	3	11.627	0.000	440	1.7	3	12.205	0.017	9780	8.3
Aroclor-1262	4	12.279	0.005	629	2.9	4	12.973	0.000	1994	1.8
Total Col1Ave (4 peaks): 17.8						Total Col2Ave (4 peaks): 58.1 RPD = 106*				
Corrected Ave (3 peaks): 6.6						Corrected Ave (3 peaks): 11.1 RPD = 50*				
Aroclor-1268	1	11.627	0.070	440	0.7	1	12.205	0.005	9780	3.3
Aroclor-1268	2	---			0.0	2	12.266	-0.001	35733	11.0
Aroclor-1268	3	11.912	-0.088	968	1.9	3	12.633	-0.011	400	0.1
Aroclor-1268	4	12.774	0.002	1001	0.6	4	12.861	0.078	15819	22.8
Total Col1Ave (3 peaks): 1.1						Total Col2Ave (4 peaks): 9.3 RPD = 158*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 4.8				

Total PCB Area Col1 (5.169 - 13.066) = 819275 Col1 Total PCB = 0.3 ppm*

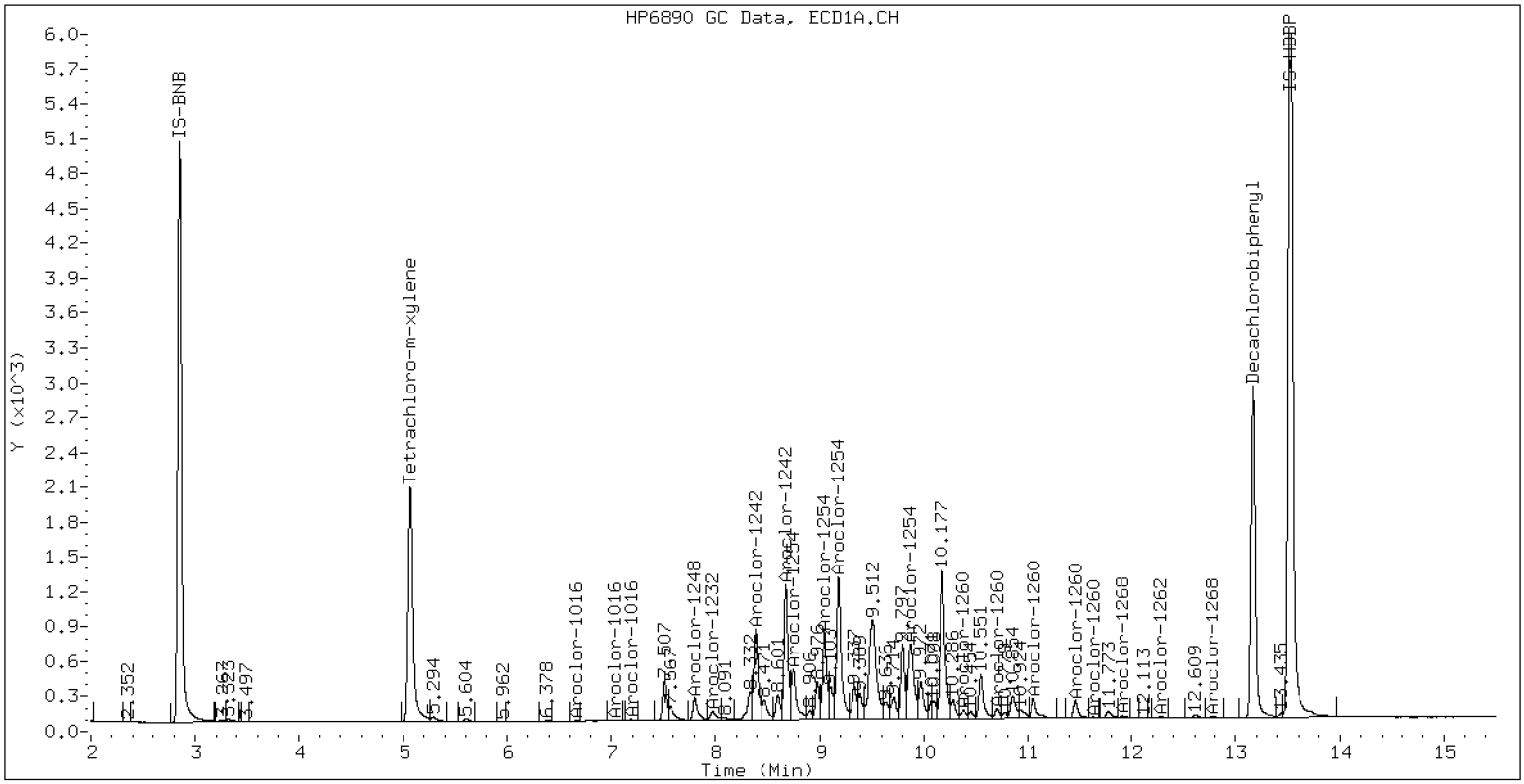
Total PCB Area Col2 (5.169 - 13.066) = 3111878 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

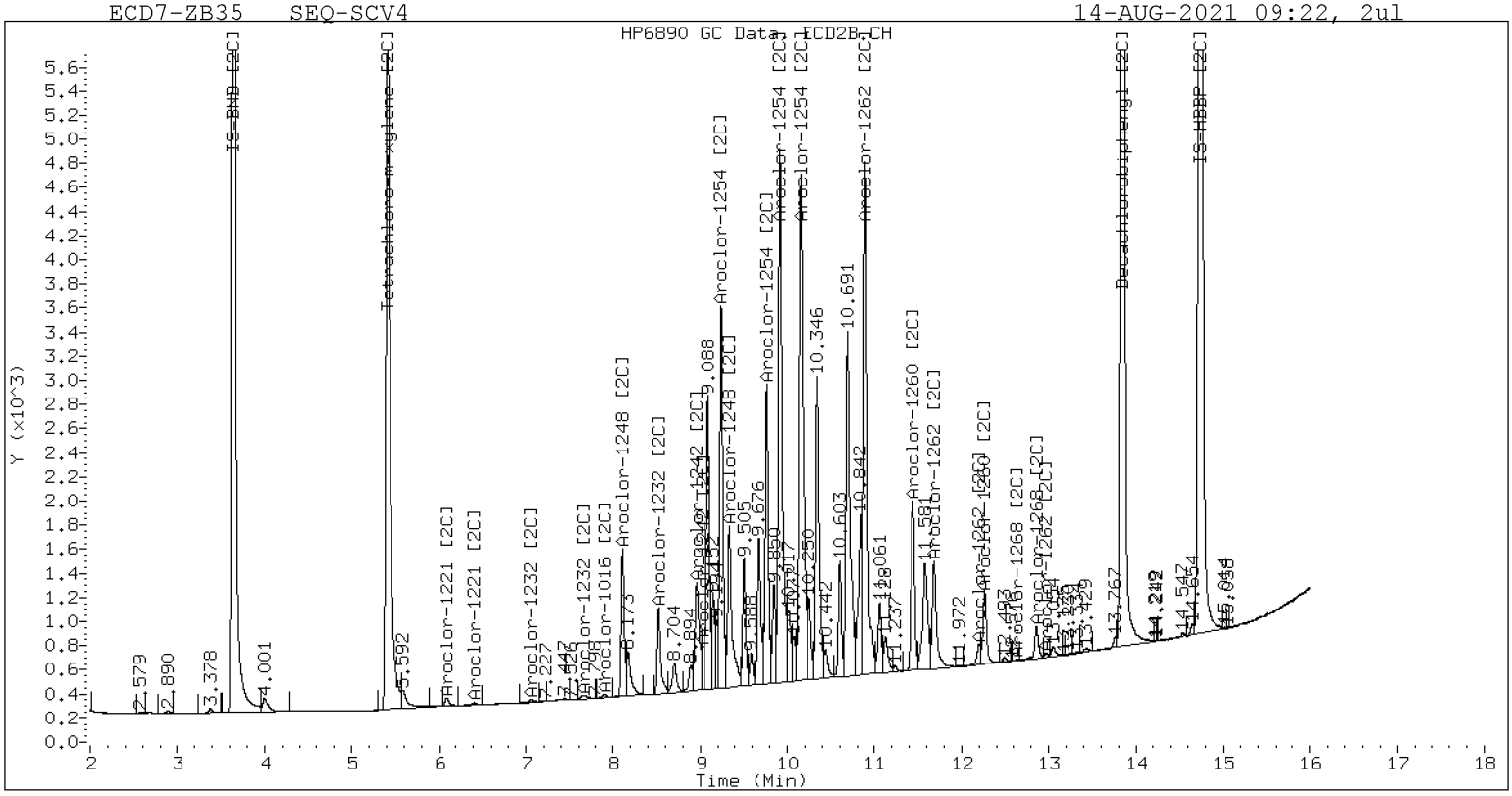
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV4 14-AUG-2021 09:22, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV4 14-AUG-2021 09:22, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Calibration: EH00034
Sequence: SJH0177

SDG: 21G0303
Project: Lower Duwamish AOC4
Laboratory ID: SJH0177-SCV5
Sequence Name: AR2162SCV5
Standard ID: J008143

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1221	250.00	293	17.0	20.00
Aroclor 1221 [2C]	250.00	266	6.4	20.00
Decachlorobiphenyl	40.000	38.8	-2.9	20.00
Tetrachlorometaxylene	40.000	40.6	1.5	20.00
Decachlorobiphenyl [2C]	40.000	37.6	-5.9	20.00
Tetrachlorometaxylene [2C]	40.000	39.1	-2.1	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: /210813.b/08132145ECD7.D
Data file 2: /210813.b/210813.b/08132145ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV5
Client ID:
Injection Date: 14-AUG-2021 09:43
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.072	0.003	131998	5.417	-0.000	375118	40.6	39.1	3.6	Tetrachloro-m-xylene
13.166	-0.000	164634	13.848	-0.032	881936	38.8	37.6	3.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	269058	3.9
Hexabromobiphenyl	425681	467004	9.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	745766	3.4
Hexabromobiphenyl	863111	1054321	22.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	1551	16.3	1	7.061	0.004	17081	40.2
Aroclor-1016	2	7.039	0.009	4280	14.7	2	7.658	0.011	15832	16.6
Aroclor-1016	3	7.184	0.008	2282	17.4	3	7.865	0.010	6703	18.0
Aroclor-1016	4	7.294	0.009	1564	19.1	4	8.109	0.004	3939	17.4
Total Col1Ave (4 peaks):				16.8		Total Col2Ave (4 peaks):			23.1	RPD = 31
Corrected Ave (3 peaks):				16.1		Corrected Ave (3 peaks):			17.3	RPD = 7
Aroclor-1221	1	4.018	0.002	6262	294.7	1	4.680	0.004	15071	269.2
Aroclor-1221	2	5.454	0.003	9982	299.7	2	6.075	0.003	33472	261.2
Aroclor-1221	3	5.728	0.004	25492	283.3	3	6.413	0.004	59675	267.2
Total Col1Ave (3 peaks):				292.6		Total Col2Ave (3 peaks):			265.9	RPD = 10
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.018	-0.000	6262	479.9	1	4.680	0.001	15071	452.2
Aroclor-1232	2	5.728	0.002	25492	359.4	2	7.061	0.003	17081	87.7
Aroclor-1232	3	7.039	0.005	4280	39.5	3	7.658	0.007	15832	40.6
Aroclor-1232	4	7.978	0.006	798	17.9	4	8.525	0.003	2523	24.8
Total Col1Ave (4 peaks):				224.2		Total Col2Ave (4 peaks):			151.3	RPD = 39
Corrected Ave (3 peaks):				139.0		Corrected Ave (3 peaks):			51.1	RPD = 93*
Aroclor-1242	1	6.663	0.004	1551	20.9	1	7.061	0.004	17081	49.8
Aroclor-1242	2	7.039	0.009	4280	19.4	2	7.658	0.010	15832	21.3
Aroclor-1242	3	8.388	0.013	9148	73.1	3	8.966	0.018	6505	18.7
Aroclor-1242	4	8.680	0.006	9619	188.0	4	9.089	0.061	25267	64.0
Total Col1Ave (4 peaks):				75.3		Total Col2Ave (4 peaks):			38.4	RPD = 65*
Corrected Ave (3 peaks):				37.8		Corrected Ave (3 peaks):			29.9	RPD = 23
Aroclor-1248	1	7.805	0.007	1067	9.5	1	8.109	0.003	3939	12.7
Aroclor-1248	2	7.978	0.010	798	5.4	2	8.525	0.005	2523	6.7
Aroclor-1248	3	8.388	0.013	9148	42.4	3	8.966	0.020	6505	10.9
Aroclor-1248	4	8.680	0.007	9619	78.2	4	9.396	0.019	4022	7.9
Total Col1Ave (4 peaks):				33.9		Total Col2Ave (4 peaks):			9.6	RPD = 112*
Corrected Ave (3 peaks):				19.1		Corrected Ave (3 peaks):			8.5	RPD = 77*
Aroclor-1254	1	8.680	0.005	9619	41.4	1	9.245	0.005	26890	42.4
Aroclor-1254	2	---			0.0	2	9.336	0.005	2650	7.1
Aroclor-1254	3	9.050	0.008	1343	8.9	3	9.769	0.007	4242	8.8
Aroclor-1254	4	9.145	-0.031	9990	34.6	4	9.932	0.019	121430	113.3
Aroclor-1254	5	9.858	-0.010	13751	75.8	5	10.160	0.013	143957	132.4
Total Col1Ave (4 peaks):				40.2		Total Col2Ave (5 peaks):			60.8	RPD = 41*
Corrected Ave (3 peaks):				28.3		Corrected Ave (4 peaks):			42.9	RPD = 41*
Aroclor-1260	1	10.387	0.004	74432	354.3	1	11.427	0.001	248521	283.6
Aroclor-1260	2	10.705	0.005	63581	308.3	2	11.682	0.001	656259	257.6
Aroclor-1260	3	11.056	0.005	158724	284.8	3	12.261	0.000	468343	285.9
Aroclor-1260	4	11.457	0.004	49425	199.0	4	12.974	0.001	287502	367.1
Aroclor-1260	5	11.557	0.003	61640	495.8	NS	---			----
Total Col1Ave (5 peaks):				328.4		Total Col2Ave (4 peaks):			298.6	RPD = 10
Corrected Ave (4 peaks):				286.6		Corrected Ave (3 peaks):			275.7	RPD = 4
Aroclor-1262	1	10.387	0.003	74432	261.2	1	10.970	-0.000	313779	243.4
Aroclor-1262	2	11.457	0.002	49425	267.8	2	11.682	-0.003	656259	241.2
Aroclor-1262	3	11.628	0.001	70335	264.4	3	12.188	0.000	303167	251.1
Aroclor-1262	4	12.278	0.003	58296	266.9	4	12.974	0.001	287502	255.5
Total Col1Ave (4 peaks):				265.1		Total Col2Ave (4 peaks):			247.8	RPD = 7
Corrected Ave (3 peaks):				264.2		Corrected Ave (3 peaks):			245.2	RPD = 7
Aroclor-1268	1	11.557	0.000	61640	98.4	1	12.188	-0.012	303167	100.1
Aroclor-1268	2	11.628	0.002	70335	107.0	2	12.261	-0.006	468343	141.7
Aroclor-1268	3	12.031	0.030	24251	46.9	3	12.635	-0.009	18559	6.5
Aroclor-1268	4	12.770	-0.001	19100	11.5	4	12.783	0.000	11203	15.9
Total Col1Ave (4 peaks):				65.9		Total Col2Ave (4 peaks):			66.0	RPD = 0

Corrected Ave (3 peaks): 52.2 Corrected Ave (3 peaks): 40.8 RPD = 25

Total PCB Area Col1 (5.169 - 13.066) = 1098701 Col1 Total PCB = 0.4 ppm*

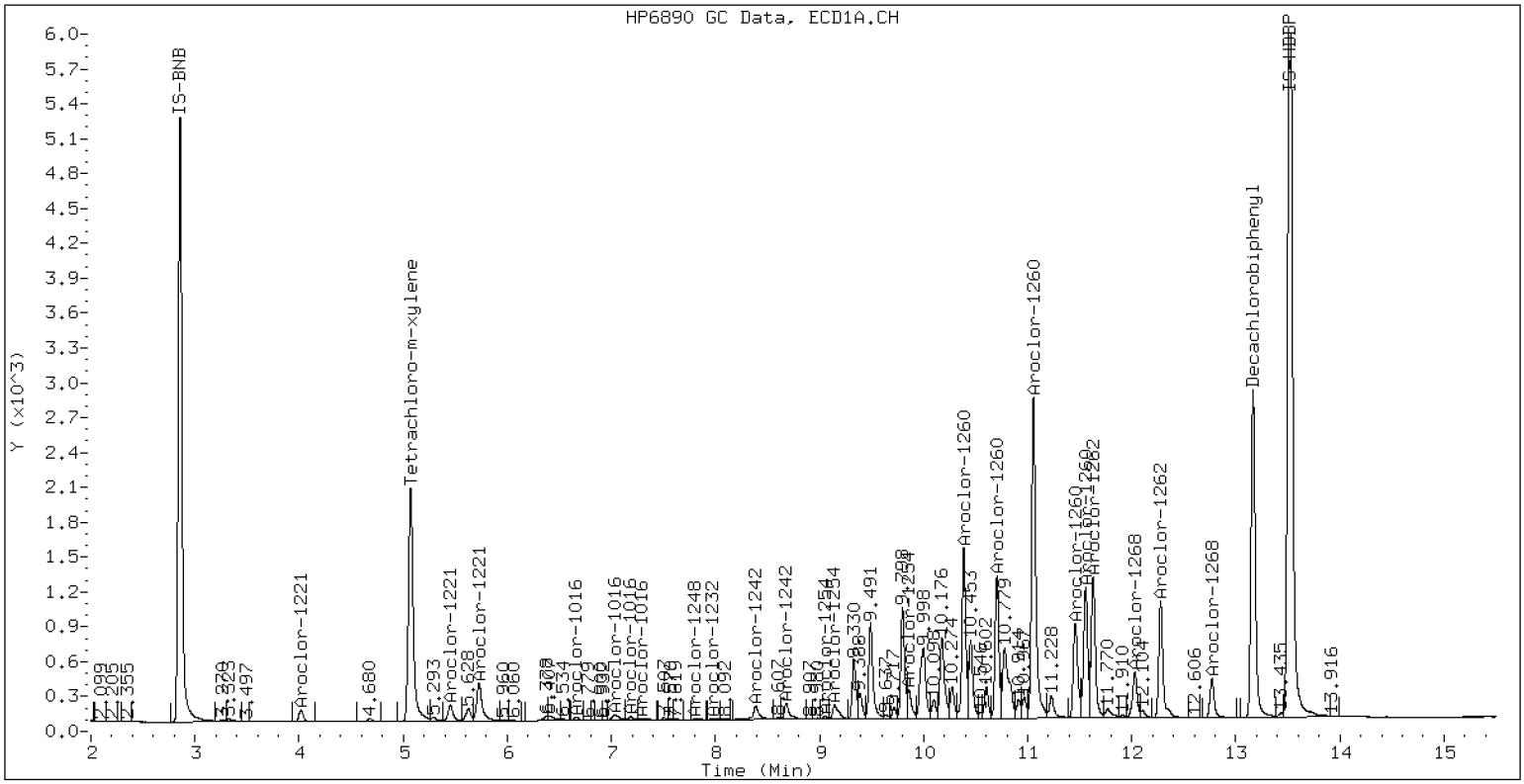
Total PCB Area Col2 (5.169 - 13.066) = 4504756 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

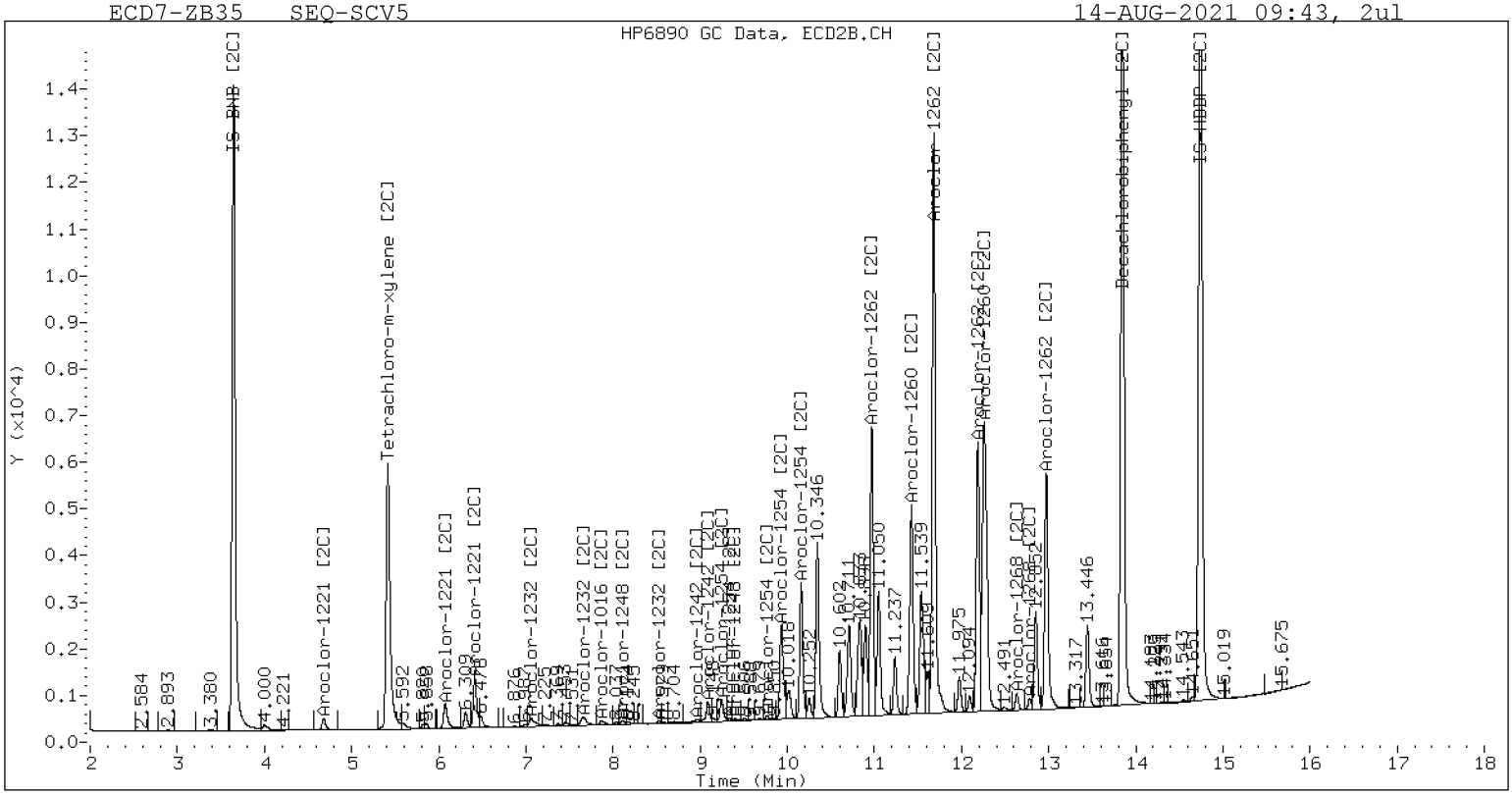
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV5 14-AUG-2021 09:43, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV5 14-AUG-2021 09:43, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Calibration: EH00034
Sequence: SJH0177

SDG: 21G0303
Project: Lower Duwamish AOC4
Laboratory ID: SJH0177-SCV6
Sequence Name: AR3268SCV6
Standard ID: J008144

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1232	250.00	284	13.8	20.00
Aroclor 1232 [2C]	250.00	286	14.5	20.00
Decachlorobiphenyl	40.000	59.6	49.1	20.00
Tetrachlorometaxylene	40.000	41.2	3.1	20.00
Decachlorobiphenyl [2C]	40.000	59.3	48.2	20.00
Tetrachlorometaxylene [2C]	40.000	39.7	-0.8	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: /210813.b/08132146ECD7.D
Data file 2: /210813.b/210813.b/08132146ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV6
Client ID:
Injection Date: 14-AUG-2021 10:03
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	131287	5.416	-0.000	375338	41.2	39.7	3.8	Tetrachloro-m-xylene
13.165	-0.001	248059	13.848	-0.032	1383308	59.6	59.3	0.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	263445	1.8
Hexabromobiphenyl	425681	458283	7.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	736133	2.1
Hexabromobiphenyl	863111	1049914	21.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	11471	122.8	1	7.059	0.002	54454	129.7
Aroclor-1016	2	7.037	0.008	32172	112.6	2	7.656	0.009	111127	118.4
Aroclor-1016	3	7.183	0.007	15436	120.4	3	7.862	0.007	47184	128.0
Aroclor-1016	4	7.292	0.007	9103	113.2	4	8.108	0.003	26255	117.7
Total Col1Ave (4 peaks):				117.2		Total Col2Ave (4 peaks):			123.5	RPD = 5
Corrected Ave (3 peaks):				115.4		Corrected Ave (3 peaks):			121.4	RPD = 5
Aroclor-1221	1	4.017	0.002	3341	160.6	1	4.679	0.002	8452	153.0
Aroclor-1221	2	5.453	0.002	5429	166.5	2	6.077	0.004	21053	166.4
Aroclor-1221	3	5.727	0.003	17948	203.7	3	6.414	0.005	55556	252.0
Total Col1Ave (3 peaks):				176.9		Total Col2Ave (3 peaks):			190.5	RPD = 7
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.017	-0.001	3341	261.5	1	4.679	-0.000	8452	256.9
Aroclor-1232	2	5.727	0.001	17948	258.4	2	7.059	0.001	54454	283.3
Aroclor-1232	3	7.037	0.003	32172	303.5	3	7.656	0.005	111127	288.8
Aroclor-1232	4	7.974	0.002	13693	314.0	4	8.524	0.002	31722	316.5
Total Col1Ave (4 peaks):				284.4		Total Col2Ave (4 peaks):			286.4	RPD = 1
Corrected Ave (3 peaks):				274.5		Corrected Ave (3 peaks):			276.3	RPD = 1
Aroclor-1242	1	6.663	0.004	11471	158.0	1	7.059	0.002	54454	160.9
Aroclor-1242	2	7.037	0.007	32172	148.7	2	7.656	0.008	111127	151.2
Aroclor-1242	3	8.385	0.010	20544	167.6	3	8.959	0.010	61163	178.1
Aroclor-1242	4	8.676	0.002	6934	138.4	4	9.041	0.013	55525	142.5
Total Col1Ave (4 peaks):				153.2		Total Col2Ave (4 peaks):			158.1	RPD = 3
Corrected Ave (3 peaks):				148.4		Corrected Ave (3 peaks):			151.5	RPD = 2
Aroclor-1248	1	7.804	0.005	9056	82.0	1	8.108	0.002	26255	86.1
Aroclor-1248	2	7.974	0.006	13693	95.0	2	8.524	0.003	31722	85.4
Aroclor-1248	3	8.385	0.010	20544	97.4	3	8.959	0.012	61163	103.4
Aroclor-1248	4	8.676	0.002	6934	57.6	4	9.391	0.015	44441	88.5
Total Col1Ave (4 peaks):				83.0		Total Col2Ave (4 peaks):			90.8	RPD = 9
Corrected Ave (3 peaks):				78.2		Corrected Ave (3 peaks):			86.7	RPD = 10
Aroclor-1254	1	8.676	0.000	6934	30.5	1	9.243	0.003	10554	16.9
Aroclor-1254	2	8.748	0.002	3715	35.3	2	9.391	0.060	44441	120.9
Aroclor-1254	3	9.050	0.008	2122	14.3	3	9.769	0.007	7619	16.0
Aroclor-1254	4	9.187	0.011	3159	11.2	4	9.922	0.009	13052	12.3
Aroclor-1254	5	9.896	0.029	1953	11.0	5	10.167	0.020	14279	13.3
Total Col1Ave (5 peaks):				20.5		Total Col2Ave (5 peaks):			35.9	RPD = 55*
Corrected Ave (4 peaks):				16.7		Corrected Ave (4 peaks):			14.6	RPD = 14
Aroclor-1260	1	10.388	0.005	30028	145.6	1	11.405	-0.020	170014	194.8
Aroclor-1260	2	10.704	0.004	2256	11.1	2	11.680	-0.001	78239	30.8
Aroclor-1260	3	11.056	0.005	17997	32.9	3	12.254	-0.007	838267	513.9
Aroclor-1260	4	11.458	0.006	301	1.2	4	12.972	0.000	307546	394.4
Aroclor-1260	5	11.557	0.003	165147	1353.6	NS	---			----
Total Col1Ave (5 peaks):				308.9		Total Col2Ave (4 peaks):			283.5	RPD = 9
Corrected Ave (4 peaks):				47.7		Corrected Ave (3 peaks):			206.7	RPD = 125*
Aroclor-1262	1	10.388	0.004	30028	107.4	1	10.971	0.001	118268	92.1
Aroclor-1262	2	11.458	0.004	301	1.7	2	11.680	-0.005	78239	28.9
Aroclor-1262	3	11.626	-0.000	172148	659.4	3	12.187	-0.001	744741	619.3
Aroclor-1262	4	12.276	0.002	62869	293.3	4	12.972	-0.000	307546	274.4
Total Col1Ave (4 peaks):				265.4		Total Col2Ave (4 peaks):			253.7	RPD = 5
Corrected Ave (3 peaks):				134.1		Corrected Ave (3 peaks):			131.8	RPD = 2
Aroclor-1268	1	11.557	-0.000	165147	268.6	1	12.187	-0.013	744741	246.9
Aroclor-1268	2	11.626	0.001	172148	266.9	2	12.254	-0.013	838267	254.7
Aroclor-1268	3	12.000	-0.000	135416	266.9	3	12.635	-0.009	744001	261.5
Aroclor-1268	4	12.770	-0.002	428256	261.7	4	12.782	-0.001	187584	266.5
Total Col1Ave (4 peaks):				266.0		Total Col2Ave (4 peaks):			257.4	RPD = 3

Corrected Ave (3 peaks): 265.2 Corrected Ave (3 peaks): 254.3 RPD = 4

Total PCB Area Col1 (5.169 - 13.066) = 1378298 Col1 Total PCB = 0.5 ppm*

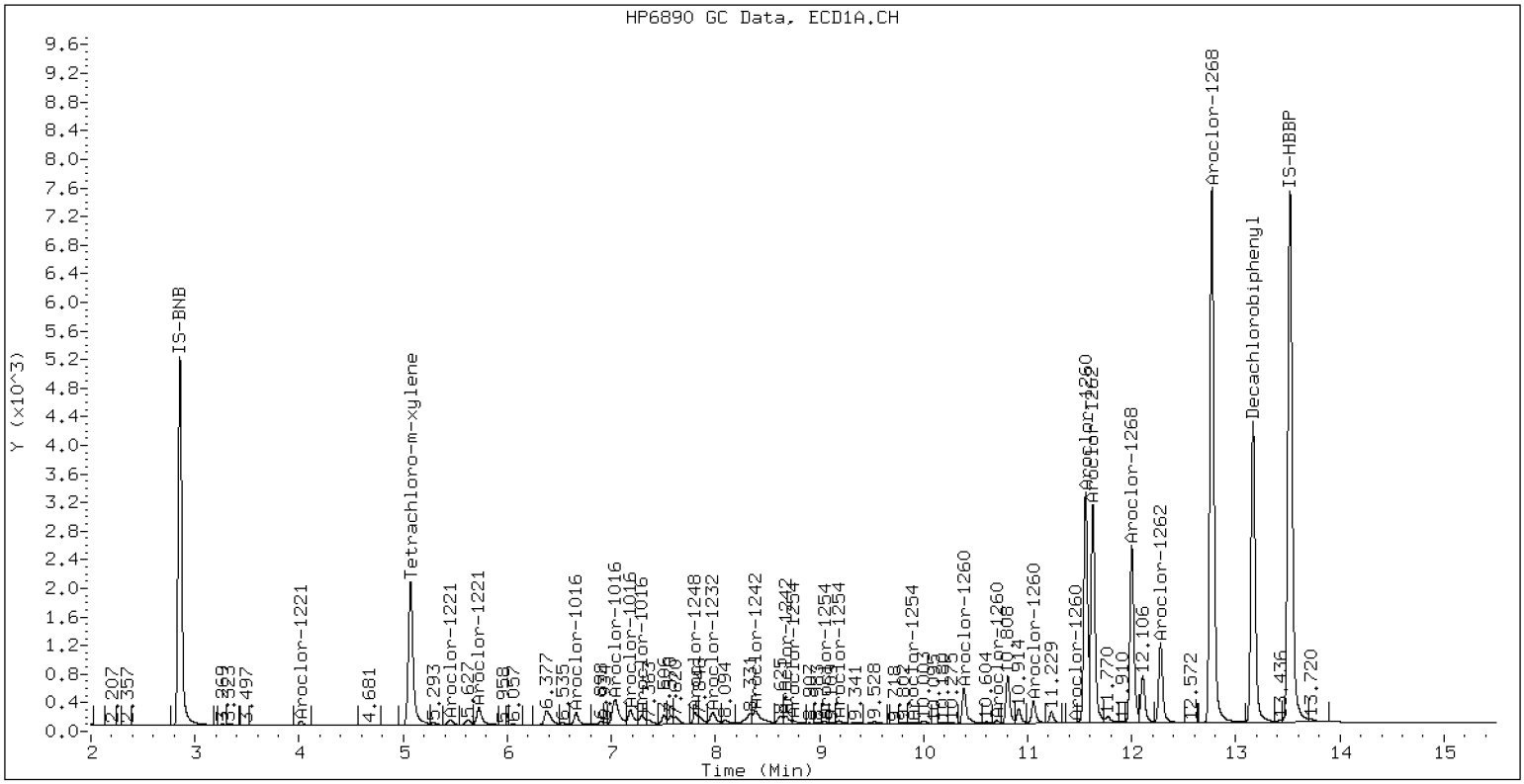
Total PCB Area Col2 (5.169 - 13.066) = 4537494 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

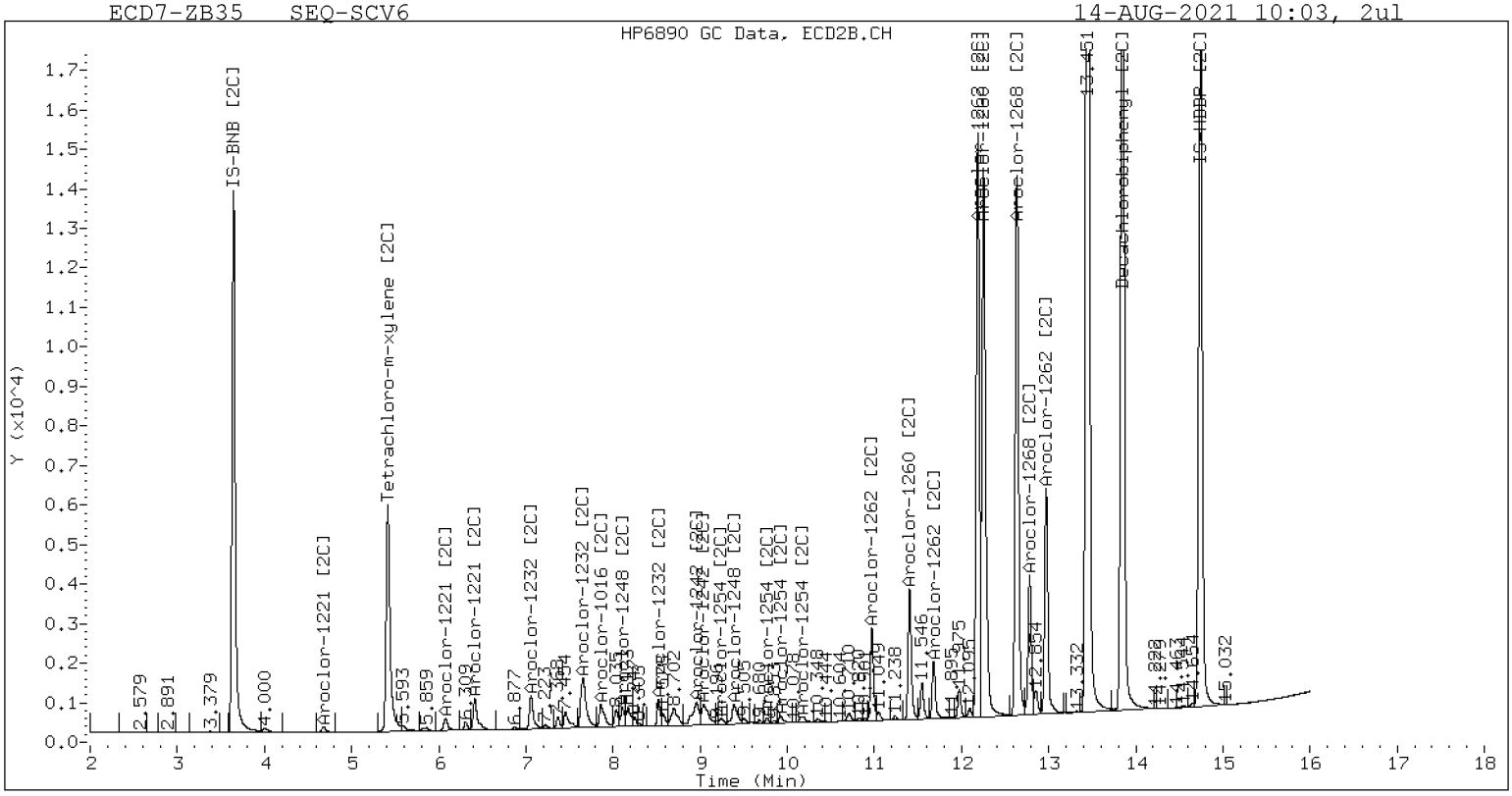
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV6 14-AUG-2021 10:03, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV6 14-AUG-2021 10:03, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142103ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/14/21
Lab Sample ID:	SJH0212-ICV1	Injection Time:	18:52
Sequence Name:	AR1254ICV1		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1254	A	250.00	253	0.0571741	0.0582074		1.4	
Aroclor-1254 (1)	A	250.00	254	0.0690183	0.0700024		1.6	
Aroclor-1254 (2)	A	250.00	250	0.0319506	0.0320164		0.0	
Aroclor-1254 (3)	A	250.00	242	0.0449859	0.0435500		-3.2	
Aroclor-1254 (4)	A	250.00	256	0.0859427	0.0881550		2.4	
Aroclor-1254 (5)	A	250.00	265	0.0539731	0.0573130		6.0	
Aroclor 1254 [2C]	A	250.00	239	0.0782980	0.0749664		-4.4	
Aroclor-1254 (1) [2C]	A	250.00	238	0.0680651	0.0647159		-4.8	
Aroclor-1254 (2) [2C]	A	250.00	233	0.0399453	0.0371660		-6.8	
Aroclor-1254 (3) [2C]	A	250.00	244	0.0518895	0.0505677		-2.4	
Aroclor-1254 (4) [2C]	A	250.00	232	0.1149829	0.1065227		-7.2	
Aroclor-1254 (5) [2C]	A	250.00	248	0.1166073	0.1158597		-0.8	
Decachlorobiphenyl	A	40.000	39.7	0.7261970	0.7212133		-0.8	
Tetrachlorometaxylene	A	40.000	41.1	0.9669678	0.9929471		2.8	
Decachlorobiphenyl [2C]	A	40.000	38.8	1.7775950	1.7245670		-3.0	
Tetrachlorometaxylene [2C]	A	40.000	40.0	1.0280520	1.0284380		0.0	

* Values outside of QC limits

* Values outside of QC limits

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

Data file 1: /210814.b/08142103ECD7.D
Data file 2: /210814.b/210814.b/08142103ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254ICV1
Client ID:
Injection Date: 14-AUG-2021 18:52
Report Date: 08/17/2021 09:15
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.002	127692	5.413	0.001	361301	41.1	40.0	2.6	Tetrachloro-m-xylene
13.165	-0.000	160087	13.847	0.000	803787	39.7	38.8	2.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	257198	-0.6
Hexabromobiphenyl	425681	443938	4.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	702621	-2.5
Hexabromobiphenyl	863111	932161	8.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- 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	8.677	0.001	56264	253.6	1	9.241	0.001	142096	237.7
Aroclor-1254	2	8.749	0.001	25733	250.5	2	9.334	0.001	81605	232.6
Aroclor-1254	3	9.045	0.000	35003	242.0	3	9.765	0.001	111031	243.6
Aroclor-1254	4	9.179	0.001	70854	256.4	4	9.916	0.002	233891	231.6
Aroclor-1254	5	9.871	0.001	46065	265.5	5	10.154	0.002	254392	248.4

Total Col1Ave (5 peaks): 253.6 Total Col2Ave (5 peaks): 238.8 RPD = 6

Corrected Ave (4 peaks): 250.6 Corrected Ave (4 peaks): 236.4 RPD = 6

CalAmt %D: 1.4 CalAmt %D: -4.5

Total PCB Area Col1 (5.167 - 13.066) = 717281 Col1 Total PCB = 0.3 ppm*

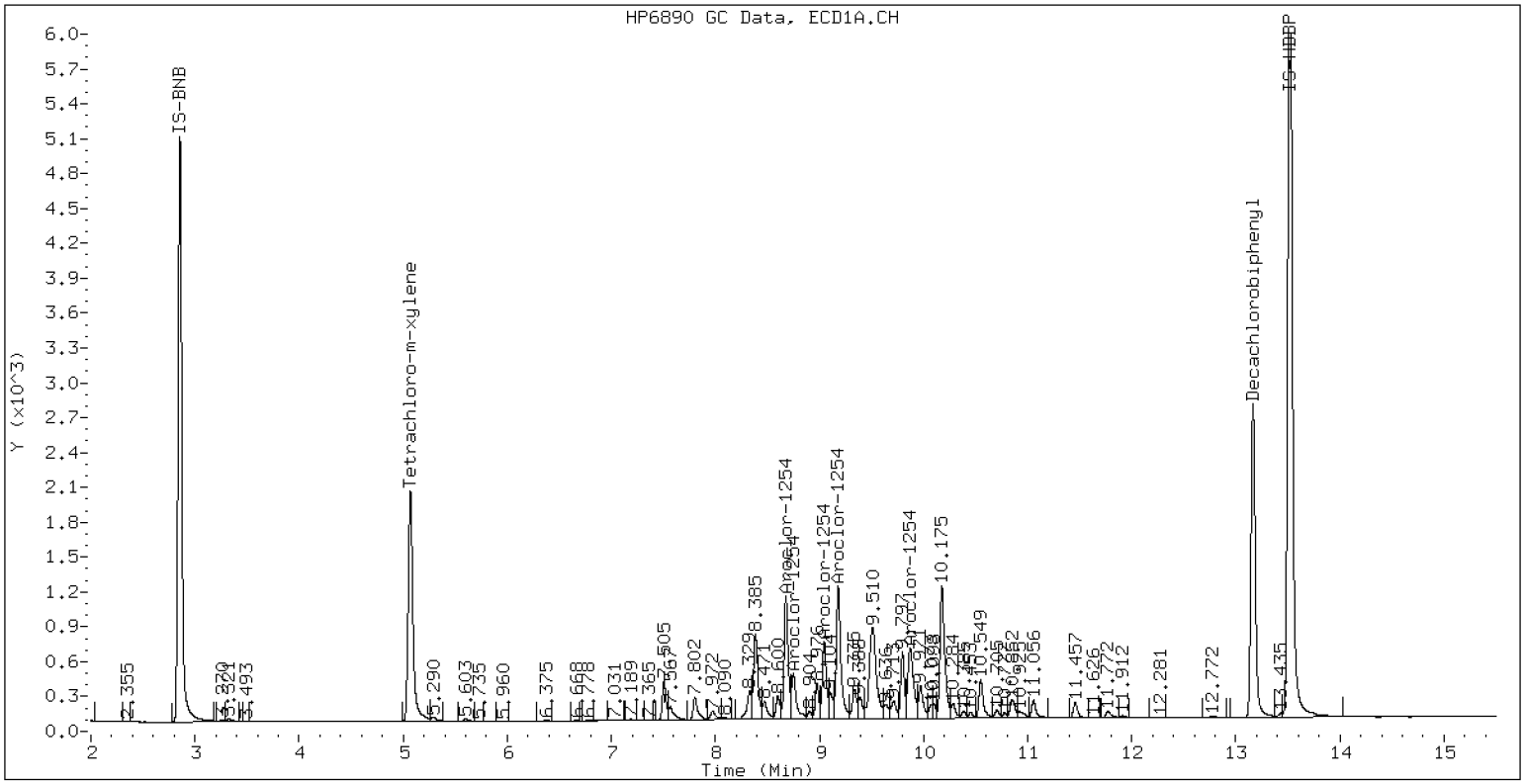
Total PCB Area Col2 (5.167 - 13.066) = 2704486 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

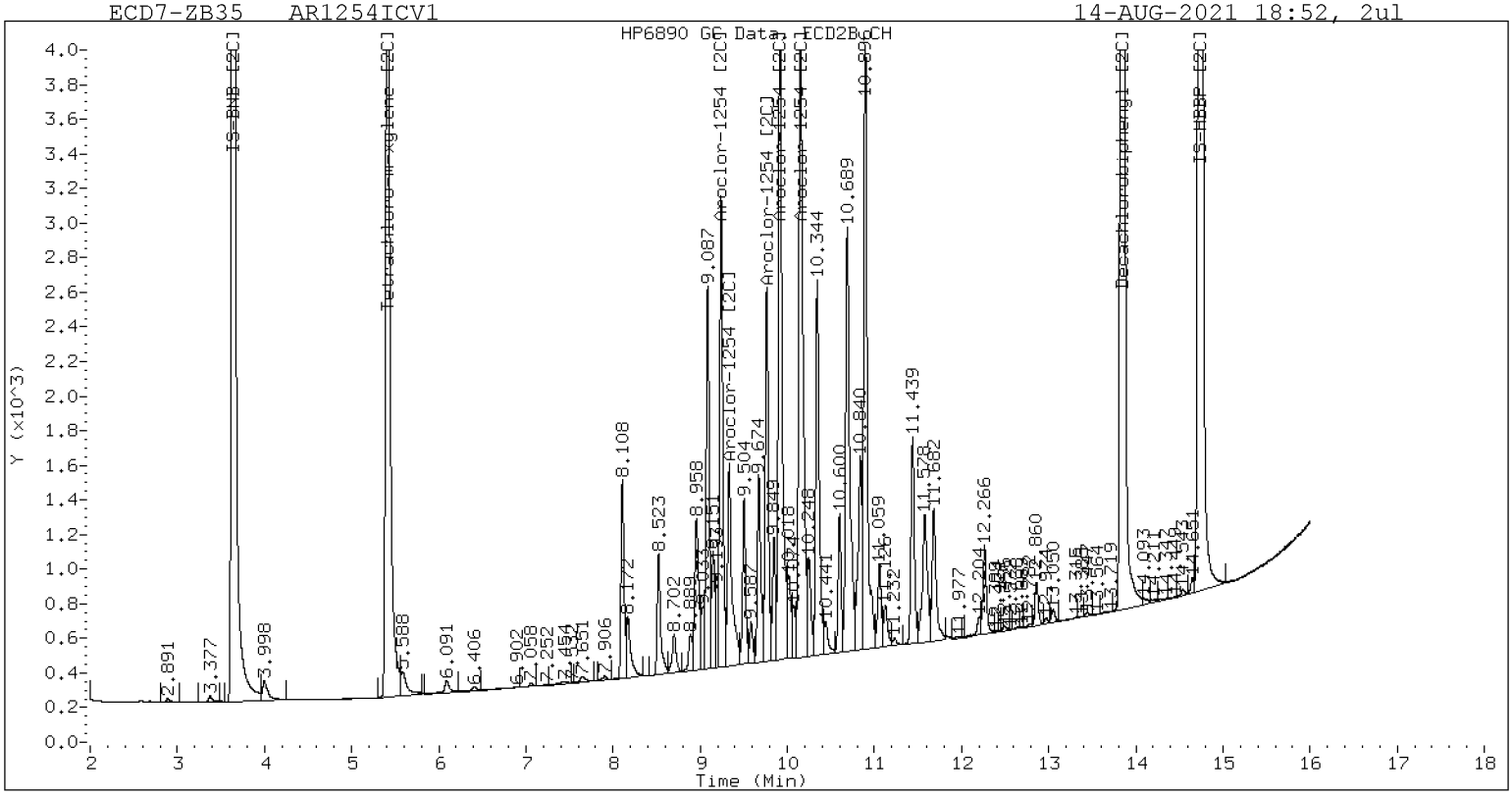
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254ICV1 14-AUG-2021 18:52, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254ICV1 14-AUG-2021 18:52, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142104ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/14/21
Lab Sample ID:	SJH0212-ICV2	Injection Time:	19:13
Sequence Name:	AR1660ICV2		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1016	A	250.00	267	0.0446218	0.0475420		6.7	
Aroclor-1016 (1)	A	250.00	266	0.0283733	0.0302221		6.4	
Aroclor-1016 (2)	A	250.00	266	0.0867650	0.0923516		6.4	
Aroclor-1016 (3)	A	250.00	266	0.0389383	0.0413645		6.4	
Aroclor-1016 (4)	A	250.00	269	0.0244108	0.0262298		7.6	
Aroclor 1016 [2C]	A	250.00	264	0.0529840	0.0559637		5.7	
Aroclor-1016 (1) [2C]	A	250.00	258	0.0456173	0.0471514		3.2	
Aroclor-1016 (2) [2C]	A	250.00	264	0.1020378	0.1077879		5.6	
Aroclor-1016 (3) [2C]	A	250.00	269	0.0400455	0.0431185		7.6	
Aroclor-1016 (4) [2C]	A	250.00	266	0.0242353	0.0257969		6.4	
Aroclor 1260	A	250.00	255	0.0461251	0.0469994		2.0	
Aroclor-1260 (1)	A	250.00	246	0.0359923	0.0353490		-1.6	
Aroclor-1260 (2)	A	250.00	256	0.0353250	0.0361994		2.4	
Aroclor-1260 (3)	A	250.00	254	0.0954741	0.0970662		1.6	
Aroclor-1260 (4)	A	250.00	262	0.0425365	0.0444992		4.8	
Aroclor-1260 (5)	A	250.00	257	0.0212978	0.0218831		2.8	
Aroclor 1260 [2C]	A	250.00	238	0.1108773	0.1046036		-4.9	
Aroclor-1260 (1) [2C]	A	250.00	235	0.0665032	0.0624834		-6.0	
Aroclor-1260 (2) [2C]	A	250.00	233	0.1932922	0.1799188		-6.8	
Aroclor-1260 (3) [2C]	A	250.00	235	0.1242917	0.1170105		-6.0	
Aroclor-1260 (4) [2C]	A	250.00	248	0.0594222	0.0590015		-0.8	
Decachlorobiphenyl	A	40.000	41.3	0.7261970	0.7493442		3.3	
Tetrachlorometaxylene	A	40.000	42.6	0.9669678	1.0292620		6.5	
Decachlorobiphenyl [2C]	A	40.000	40.0	1.7775950	1.7782320		0.0	
Tetrachlorometaxylene [2C]	A	40.000	41.0	1.0280520	1.0528820		2.5	

* Values outside of QC limits

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

Data file 1: /210814.b/08142104ECD7.D
Data file 2: /210814.b/210814.b/08142104ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660ICV2
Client ID:
Injection Date: 14-AUG-2021 19:13
Report Date: 08/17/2021 09:15
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.004	132412	5.414	0.002	375570	42.6	41.0	3.9	Tetrachloro-m-xylene
13.166	0.001	163408	13.847	-0.000	841648	41.3	40.0	3.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	257295	-0.6
Hexabromobiphenyl	425681	436136	2.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	713413	-1.0
Hexabromobiphenyl	863111	946612	9.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.662	0.002	24300	266.3	1	7.057	0.002	105120	258.4
Aroclor-1016	2	7.034	0.001	74255	266.1	2	7.653	0.002	240304	264.1
Aroclor-1016	3	7.181	0.002	33259	265.6	3	7.858	0.001	96129	269.2
Aroclor-1016	4	7.289	-0.000	21090	268.6	4	8.107	0.001	57512	266.1

Total Col1Ave (4 peaks): 266.6 Total Col2Ave (4 peaks): 264.4 RPD = 1
Corrected Ave (3 peaks): 266.0 Corrected Ave (3 peaks): 262.9 RPD = 1

CalAmt %D: 6.7 CalAmt %D: 5.8

Aroclor-1260	1	10.387	0.003	48178	245.5	1	11.427	0.001	184836	234.9
Aroclor-1260	2	10.703	0.000	49337	256.2	2	11.680	0.001	532229	232.7
Aroclor-1260	3	11.055	0.001	132294	254.2	3	12.262	0.002	346136	235.4
Aroclor-1260	4	11.456	0.001	60649	261.5	4	12.972	0.001	174536	248.2
Aroclor-1260	5	11.558	0.003	29825	256.9	NS	---			----

Total Col1Ave (5 peaks): 254.9 Total Col2Ave (4 peaks): 237.8 RPD = 7
Corrected Ave (4 peaks): 253.2 Corrected Ave (3 peaks): 234.3 RPD = 8

CalAmt %D: 1.9 CalAmt %D: -4.9

Total PCB Area Col1 (5.167 - 13.066) = 1318835 Col1 Total PCB = 0.5 ppm*

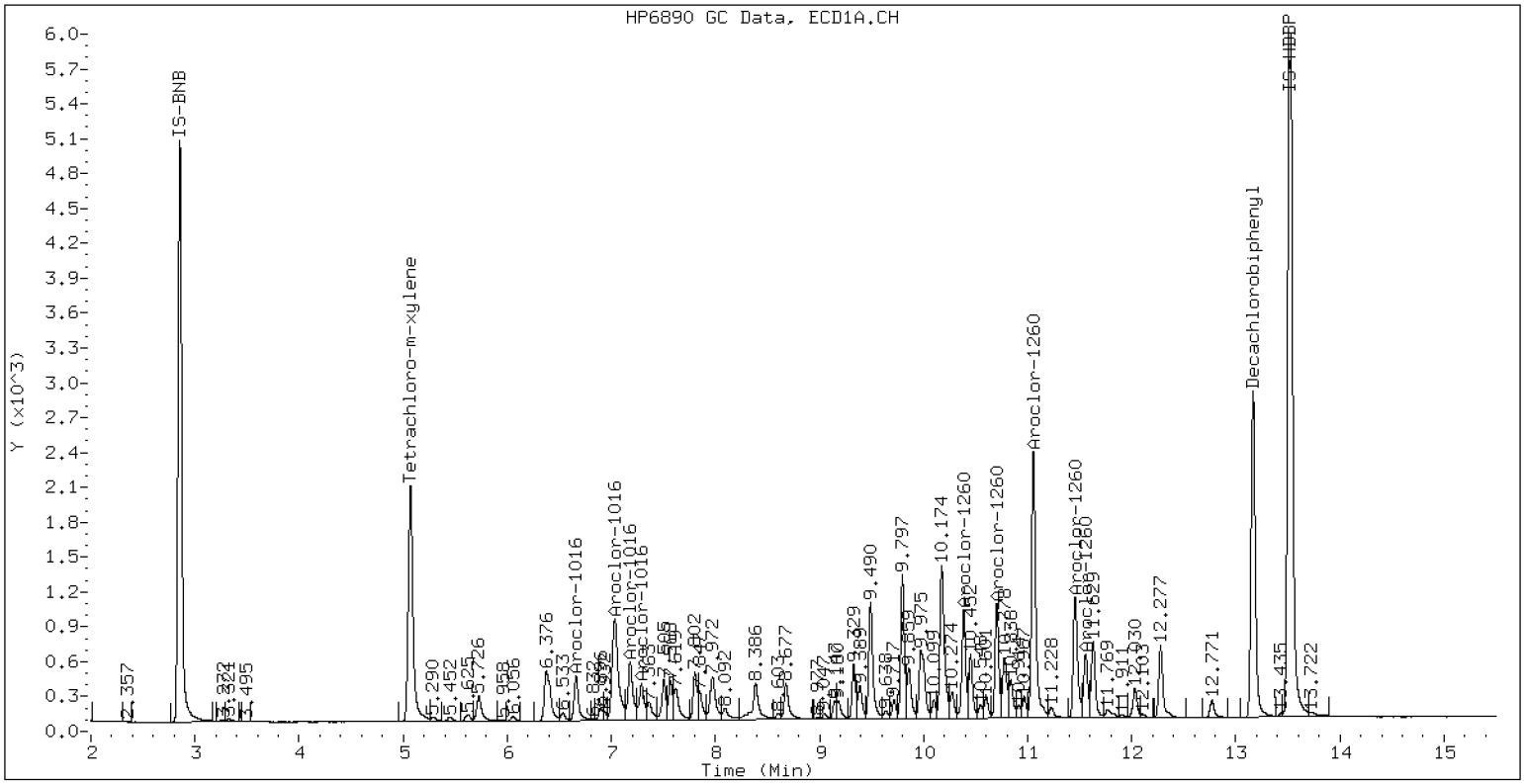
Total PCB Area Col2 (5.167 - 13.066) = 4873614 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

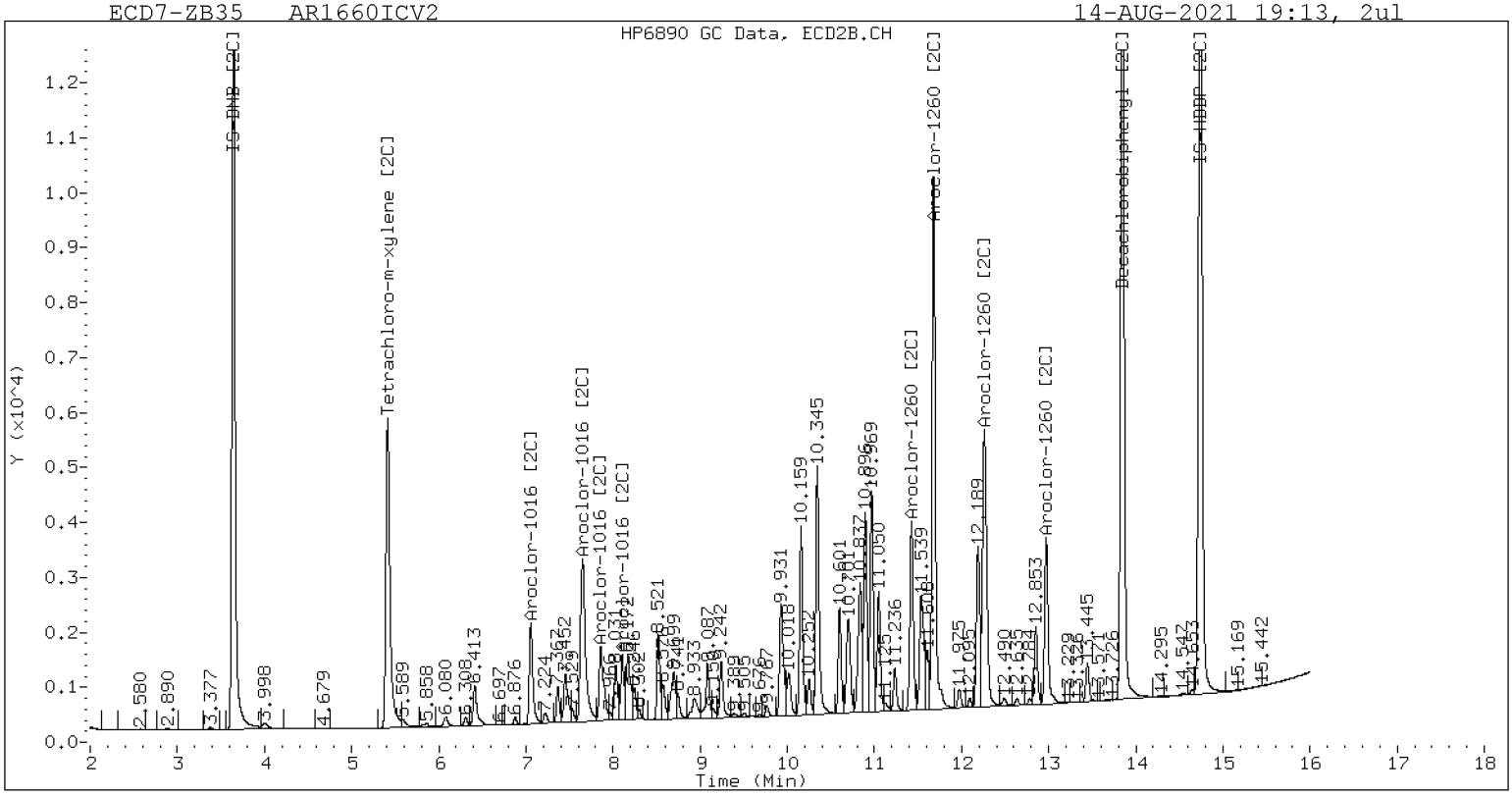
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660ICV2 14-AUG-2021 19:13, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660ICV2 14-AUG-2021 19:13, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08132141ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0177	Injection Date:	08/14/21
Lab Sample ID:	SJH0177-SCV1	Injection Time:	08:21
Sequence Name:	AR1660SCV1		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	285	0.0446218	0.0506821		13.9	+/-20
Aroclor 1016 [2C]	A	250.00	281	0.0529840	0.0593980		12.5	+/-20
Aroclor 1260	A	250.00	276	0.0461251	0.0512781		10.3	+/-20
Aroclor 1260 [2C]	A	250.00	259	0.1108773	0.1145107		3.4	+/-20
Decachlorobiphenyl	A	40.000	41.9	0.7261970	0.7611314		4.8	+/-20
Tetrachlorometaxylene	A	40.000	43.6	0.9669678	1.0549010		9.1	+/-20
Decachlorobiphenyl [2C]	A	40.000	41.2	1.7775950	1.8311900		3.0	+/-20
Tetrachlorometaxylene [2C]	A	40.000	41.9	1.0280520	1.0780260		4.9	+/-20

* Values outside of QC limits

* Values outside of QC limits

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

Data file 1: /210813.b/08132141ECD7.D
Data file 2: /210813.b/210813.b/08132141ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV1
Client ID:
Injection Date: 14-AUG-2021 08:21
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.072	0.003	130620	5.416	-0.001	380301	43.6	41.9	4.0	Tetrachloro-m-xylene
13.166	0.000	166891	13.848	-0.032	891664	41.9	41.2	1.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	247644	-4.3
Hexabromobiphenyl	425681	438534	3.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	705551	-2.1
Hexabromobiphenyl	863111	973863	12.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.662	0.004	25008	284.7	1	7.059	0.002	110603	274.9
Aroclor-1016	2	7.036	0.006	75849	282.4	2	7.653	0.006	251287	279.2
Aroclor-1016	3	7.182	0.006	34421	285.6	3	7.860	0.005	101098	286.3
Aroclor-1016	4	7.291	0.006	21611	286.0	4	8.108	0.003	60866	284.8
Total Col1Ave (4 peaks):					284.7	Total Col2Ave (4 peaks):				281.3 RPD = 1
Corrected Ave (3 peaks):					284.2	Corrected Ave (3 peaks):				279.6 RPD = 2
Aroclor-1221	1	4.024	0.008	183	9.4	1	4.683	0.006	532	10.0
Aroclor-1221	2	5.453	0.002	3388	110.5	2	6.080	0.008	14283	117.8
Aroclor-1221	3	5.728	0.004	17440	210.6	3	6.414	0.005	53146	251.5
Total Col1Ave (3 peaks):					110.2	Total Col2Ave (3 peaks):				126.5 RPD = 14
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.024	0.006	183	15.2	1	4.683	0.004	532	16.9
Aroclor-1232	2	5.728	0.002	17440	267.1	2	7.059	0.001	110603	600.3
Aroclor-1232	3	7.036	0.002	75849	761.3	3	7.653	0.002	251287	681.4
Aroclor-1232	4	7.973	0.001	32123	783.7	4	8.522	0.000	77885	810.7
Total Col1Ave (4 peaks):					456.8	Total Col2Ave (4 peaks):				527.3 RPD = 14
Corrected Ave (3 peaks):					347.9	Corrected Ave (3 peaks):				432.8 RPD = 22
Aroclor-1242	1	6.662	0.003	25008	366.5	1	7.059	0.002	110603	341.0
Aroclor-1242	2	7.036	0.006	75849	372.9	2	7.653	0.005	251287	356.6
Aroclor-1242	3	8.386	0.011	23127	200.7	3	8.934	-0.015	43631	132.5
Aroclor-1242	4	8.601	-0.072	2264	48.1	4	9.087	0.060	61086	163.5
Total Col1Ave (4 peaks):					247.1	Total Col2Ave (4 peaks):				248.4 RPD = 1
Corrected Ave (3 peaks):					205.1	Corrected Ave (3 peaks):				212.3 RPD = 3
Aroclor-1248	1	7.803	0.005	21981	211.8	1	8.108	0.002	60866	208.2
Aroclor-1248	2	7.973	0.005	32123	237.1	2	8.522	0.002	77885	218.9
Aroclor-1248	3	8.386	0.011	23127	116.6	3	8.934	-0.013	43631	77.0
Aroclor-1248	4	8.678	0.004	18050	159.4	4	9.393	0.016	3902	8.1
Total Col1Ave (4 peaks):					181.2	Total Col2Ave (4 peaks):				128.0 RPD = 34
Corrected Ave (3 peaks):					162.6	Corrected Ave (3 peaks):				97.8 RPD = 50*
Aroclor-1254	1	8.678	0.003	18050	84.5	1	9.242	0.003	55374	92.2
Aroclor-1254	2	---			0.0	2	9.393	0.062	3902	11.1
Aroclor-1254	3	9.048	0.006	1874	13.5	3	9.768	0.005	7503	16.4
Aroclor-1254	4	9.179	0.003	8064	30.3	4	9.930	0.017	138725	136.8
Aroclor-1254	5	9.859	-0.008	24786	148.4	5	10.160	0.012	181859	176.8
Total Col1Ave (4 peaks):					69.2	Total Col2Ave (5 peaks):				86.7 RPD = 22
Corrected Ave (3 peaks):					42.8	Corrected Ave (4 peaks):				64.1 RPD = 40*
Aroclor-1260	1	10.386	0.003	52476	266.0	1	11.427	0.002	206923	255.6
Aroclor-1260	2	10.705	0.005	54460	281.2	2	11.681	-0.000	606031	257.6
Aroclor-1260	3	11.055	0.005	146267	279.5	3	12.264	0.003	390976	258.4
Aroclor-1260	4	11.458	0.005	67567	289.8	4	12.974	0.002	190042	262.7
Aroclor-1260	5	11.557	0.003	30592	262.0	NS	---			----
Total Col1Ave (5 peaks):					275.7	Total Col2Ave (4 peaks):				258.6 RPD = 6
Corrected Ave (4 peaks):					272.2	Corrected Ave (3 peaks):				257.2 RPD = 6
Aroclor-1262	1	10.386	0.002	52476	196.1	1	10.970	-0.000	227139	190.7
Aroclor-1262	2	11.458	0.003	67567	389.9	2	11.681	-0.004	606031	241.2
Aroclor-1262	3	11.630	0.003	39662	158.8	3	12.190	0.002	176119	157.9
Aroclor-1262	4	12.278	0.004	37281	181.8	4	12.974	0.001	190042	182.8
Total Col1Ave (4 peaks):					231.6	Total Col2Ave (4 peaks):				193.2 RPD = 18
Corrected Ave (3 peaks):					178.9	Corrected Ave (3 peaks):				177.2 RPD = 1
Aroclor-1268	1	11.557	-0.000	30592	52.0	1	12.190	-0.010	176119	62.9
Aroclor-1268	2	11.630	0.004	39662	64.3	2	12.264	-0.003	390976	128.0
Aroclor-1268	3	12.031	0.031	15649	32.2	3	12.637	-0.007	5866	2.2
Aroclor-1268	4	12.771	-0.001	7371	4.7	4	12.784	0.001	4262	6.5
Total Col1Ave (4 peaks):					38.3	Total Col2Ave (4 peaks):				49.9 RPD = 26

Corrected Ave (3 peaks): 29.6 Corrected Ave (3 peaks): 23.9 RPD = 21

Total PCB Area Col1 (5.169 - 13.066) = 1398917 Col1 Total PCB = 0.6 ppm*

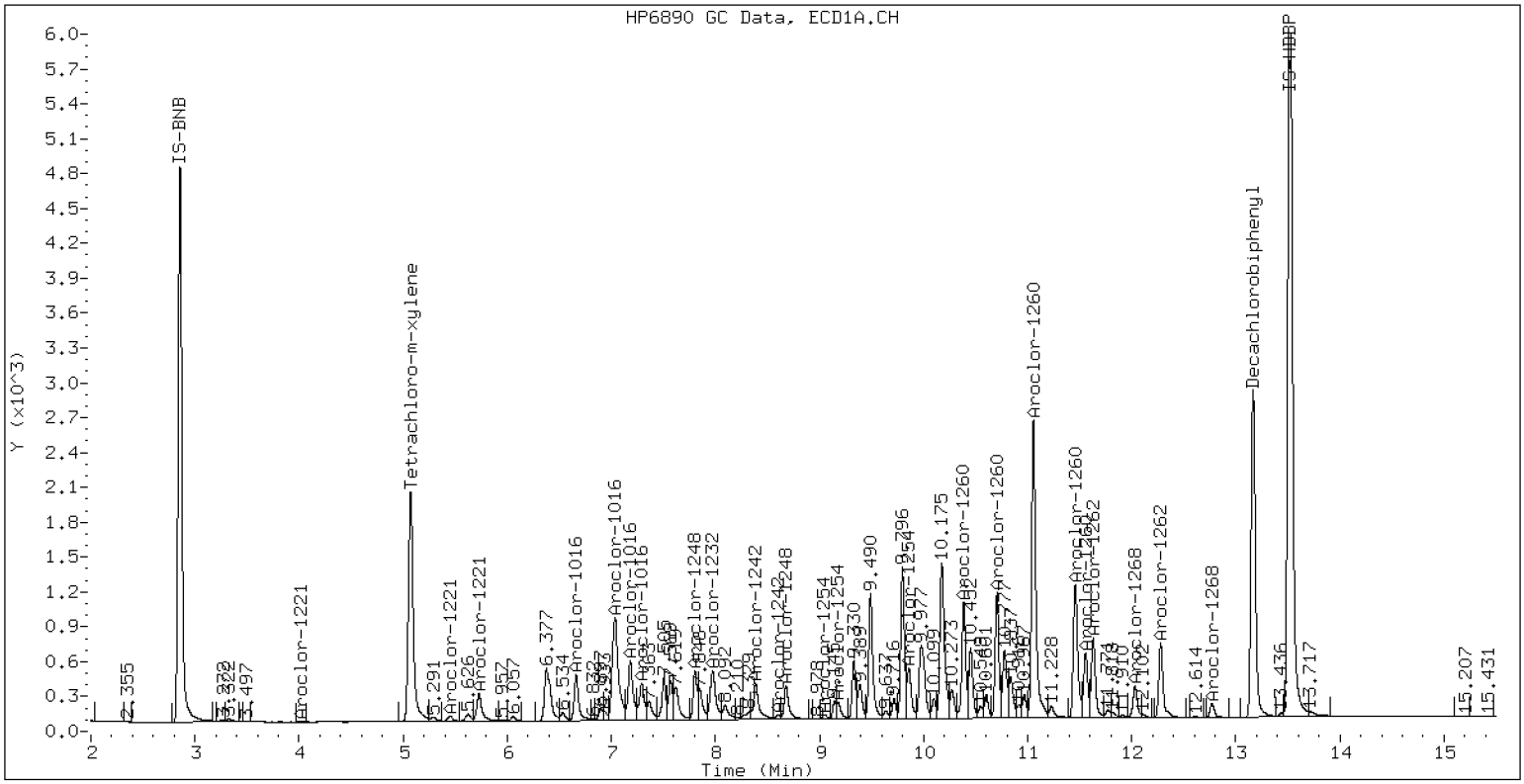
Total PCB Area Col2 (5.169 - 13.066) = 5304779 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

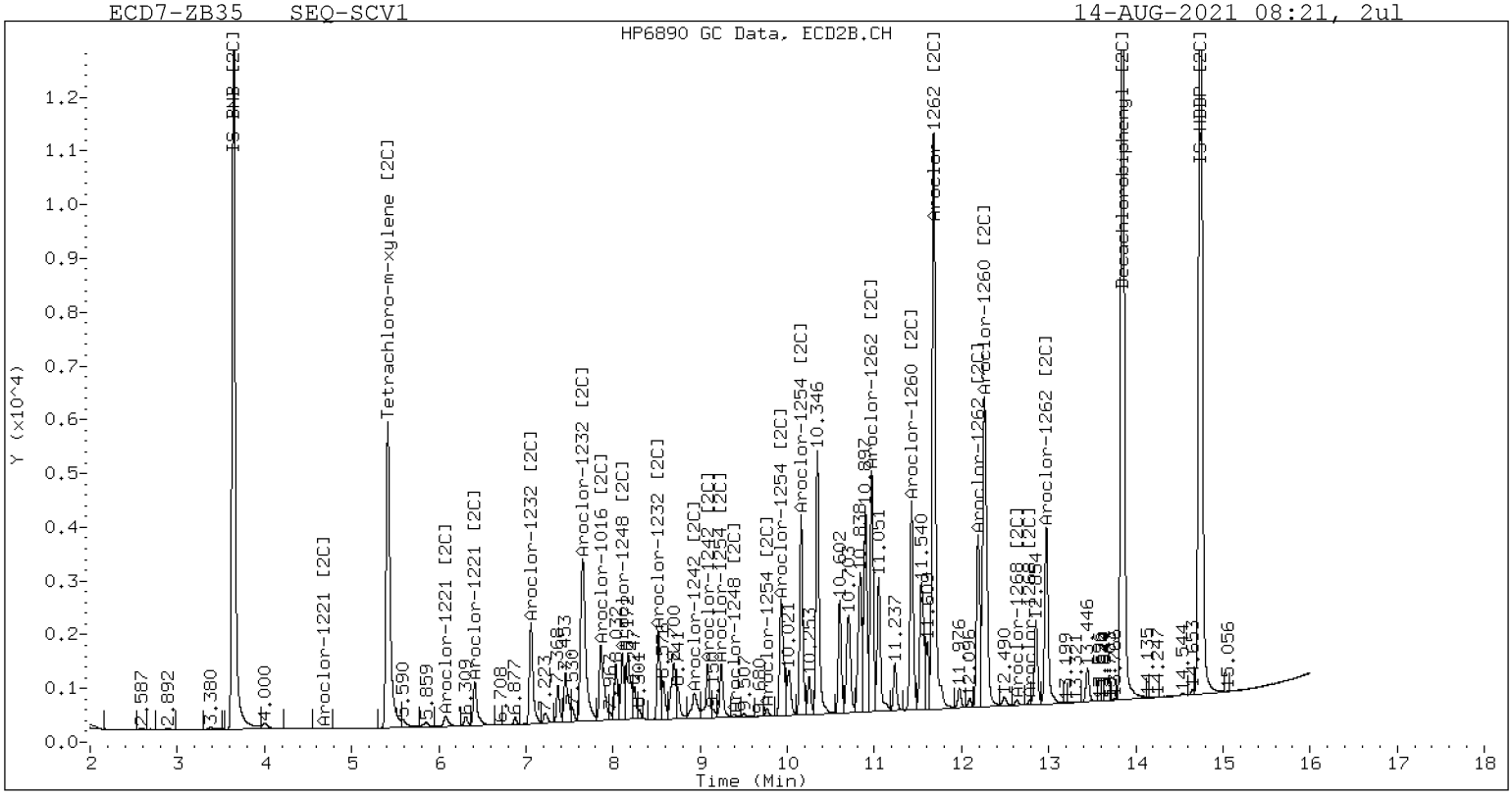
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV1 14-AUG-2021 08:21, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV1 14-AUG-2021 08:21, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08132142ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0177	Injection Date:	08/14/21
Lab Sample ID:	SJH0177-SCV2	Injection Time:	08:41
Sequence Name:	AR1242SCV2		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1242	A	250.00	282	0.0350459	0.0378590		12.6	+/-20
Aroclor 1242 [2C]	A	250.00	257	0.0490898	0.0506982		2.8	+/-20
Decachlorobiphenyl	A	40.000	40.6	0.7261970	0.7366527		1.4	+/-20
Tetrachlorometaxylene	A	40.000	42.4	0.9669678	1.0253500		6.0	+/-20
Decachlorobiphenyl [2C]	A	40.000	40.1	1.7775950	1.7819000		0.2	+/-20
Tetrachlorometaxylene [2C]	A	40.000	41.2	1.0280520	1.0587290		3.0	+/-20

* Values outside of QC limits

* Values outside of QC limits

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

Data file 1: /210813.b/08132142ECD7.D
Data file 2: /210813.b/210813.b/08132142ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV2
Client ID:
Injection Date: 14-AUG-2021 08:41
Report Date: 08/16/2021 17:58
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	132285	5.416	-0.001	383386	42.4	41.2	2.9	Tetrachloro-m-xylene
13.167	0.001	167664	13.849	-0.031	892912	40.6	40.1	1.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	258029	-0.3
Hexabromobiphenyl	425681	455205	6.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	724238	0.5
Hexabromobiphenyl	863111	1002202	16.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.662	0.004	19016	207.8	1	7.058	0.002	84149	203.8
Aroclor-1016	2	7.036	0.007	56530	202.0	2	7.655	0.007	190019	205.7
Aroclor-1016	3	7.182	0.006	26016	207.1	3	7.861	0.006	75921	209.4
Aroclor-1016	4	7.291	0.006	16388	208.1	4	8.108	0.003	48471	220.9
Total Col1Ave (4 peaks): 206.3						Total Col2Ave (4 peaks): 210.0 RPD = 2				
Corrected Ave (3 peaks): 205.6						Corrected Ave (3 peaks): 206.3 RPD = 0				
Aroclor-1221	1	4.028	0.013	116	5.7	1	---			0.0
Aroclor-1221	2	5.452	0.001	2495	78.1	2	6.082	0.010	11569	93.0
Aroclor-1221	3	5.727	0.003	12904	149.5	3	6.414	0.005	39789	183.5
Total Col1Ave (3 peaks): 77.8						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.028	0.010	116	9.3	1	---			0.0
Aroclor-1232	2	5.727	0.001	12904	189.7	2	7.058	0.000	84149	444.9
Aroclor-1232	3	7.036	0.003	56530	544.5	3	7.655	0.004	190019	502.0
Aroclor-1232	4	7.974	0.001	26547	621.6	4	8.522	0.000	61015	618.7
Total Col1Ave (4 peaks): 341.3						Total Col2Ave (3 peaks): 521.9 RPD = 42*				
Corrected Ave (3 peaks): 247.8						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.662	0.003	19016	267.5	1	7.058	0.001	84149	252.7
Aroclor-1242	2	7.036	0.006	56530	266.7	2	7.655	0.006	190019	262.7
Aroclor-1242	3	8.383	0.009	29618	246.7	3	8.960	0.011	88042	260.5
Aroclor-1242	4	8.677	0.003	16945	345.4	4	9.035	0.007	96759	252.3
Total Col1Ave (4 peaks): 281.6						Total Col2Ave (4 peaks): 257.1 RPD = 9				
Corrected Ave (3 peaks): 260.3						Corrected Ave (3 peaks): 255.2 RPD = 2				
Aroclor-1248	1	7.804	0.005	17658	163.3	1	8.108	0.002	48471	161.5
Aroclor-1248	2	7.974	0.006	26547	188.1	2	8.522	0.002	61015	167.0
Aroclor-1248	3	8.383	0.009	29618	143.3	3	8.960	0.014	88042	151.3
Aroclor-1248	4	8.677	0.004	16945	143.6	4	9.387	0.011	85570	173.2
Total Col1Ave (4 peaks): 159.6						Total Col2Ave (4 peaks): 163.2 RPD = 2				
Corrected Ave (3 peaks): 150.1						Corrected Ave (3 peaks): 159.9 RPD = 6				
Aroclor-1254	1	8.677	0.002	16945	76.1	1	9.243	0.003	29242	47.5
Aroclor-1254	2	8.749	0.003	9630	93.4	2	9.387	0.056	85570	236.6
Aroclor-1254	3	9.048	0.007	7009	48.3	3	9.768	0.005	22605	48.1
Aroclor-1254	4	9.185	0.010	12002	43.3	4	9.920	0.006	43258	41.6
Aroclor-1254	5	9.892	0.025	8818	50.7	5	10.159	0.012	45764	43.4
Total Col1Ave (5 peaks): 62.4						Total Col2Ave (5 peaks): 83.4 RPD = 29				
Corrected Ave (4 peaks): 54.6						Corrected Ave (4 peaks): 45.1 RPD = 19				
Aroclor-1260	1	10.393	0.010	159	0.8	1	11.445	0.020	5299	6.4
Aroclor-1260	2	10.708	0.008	221	1.1	2	11.687	0.006	3878	1.6
Aroclor-1260	3	11.059	0.009	267	0.5	3	12.271	0.010	3933	2.5
Aroclor-1260	4	11.460	0.007	376	1.6	4	13.053	0.081	5398	7.3
Aroclor-1260	5	---			0.0	NS	---			----
Total Col1Ave (4 peaks): 1.0						Total Col2Ave (4 peaks): 4.4 RPD = 128*				
Corrected Ave (3 peaks): 0.8						Corrected Ave (3 peaks): 3.5 RPD = 126*				
Aroclor-1262	1	10.393	0.009	159	0.6	1	10.901	-0.069	17524	14.3
Aroclor-1262	2	11.460	0.005	376	2.1	2	11.687	0.001	3878	1.5
Aroclor-1262	3	---			0.0	3	12.271	0.083	3933	3.4
Aroclor-1262	4	---			0.0	4	13.053	0.081	5398	5.0
Col1Ave: <3 Quant Peaks						Col2Ave: 6.1				
Aroclor-1268	1	11.460	-0.097	376	0.6	1	12.271	0.071	3933	1.4
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	11.914	-0.086	1770	3.5	3	12.639	-0.005	1023	0.4
Aroclor-1268	4	12.775	0.003	794	0.5	4	12.790	0.006	1260	1.9
Total Col1Ave (3 peaks): 1.5						Total Col2Ave (3 peaks): 1.2 RPD = 24				
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				

Total PCB Area Col1 (5.169 - 13.066) = 482960 Col1 Total PCB = 0.2 ppm*

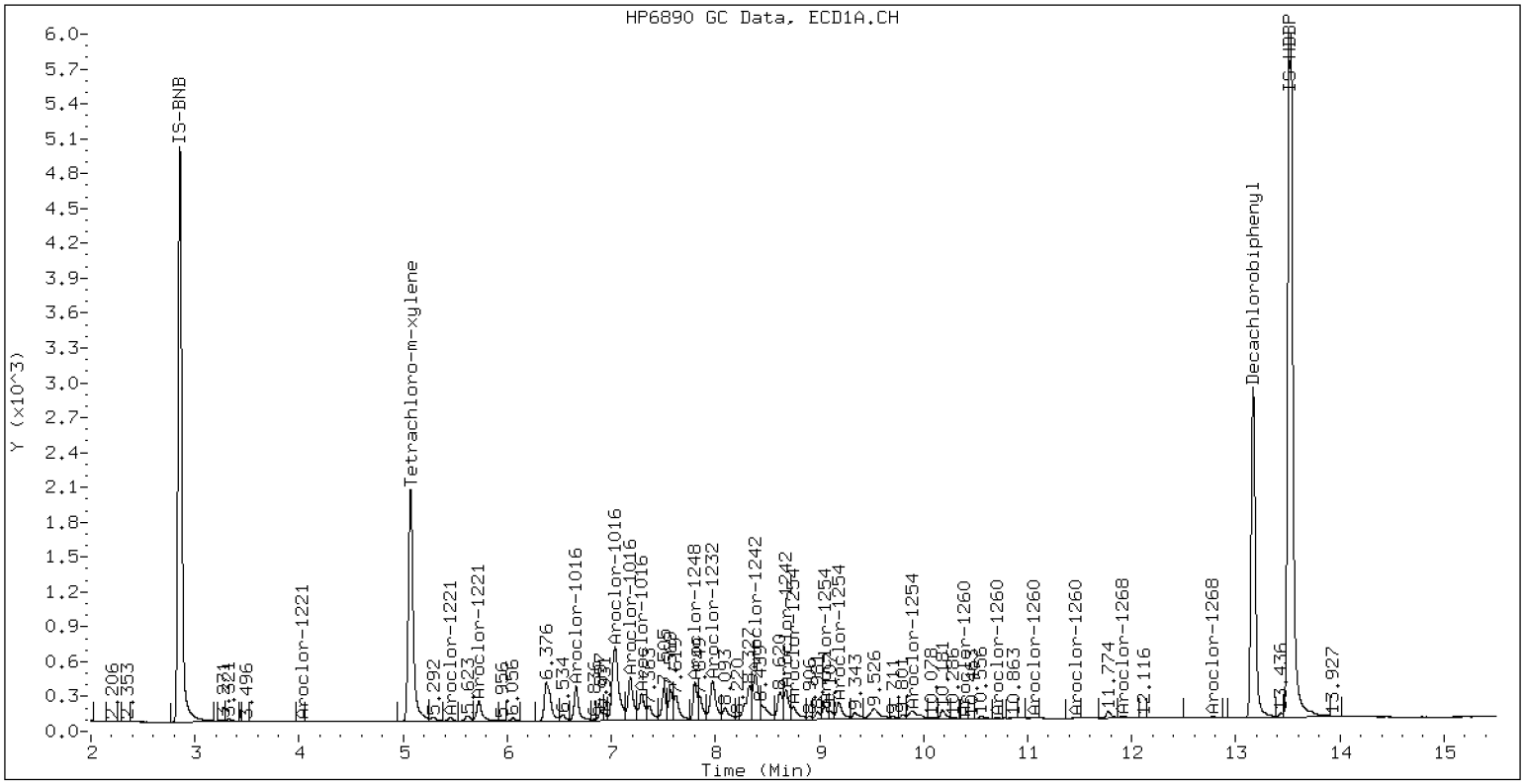
Total PCB Area Col2 (5.169 - 13.066) = 1884416 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

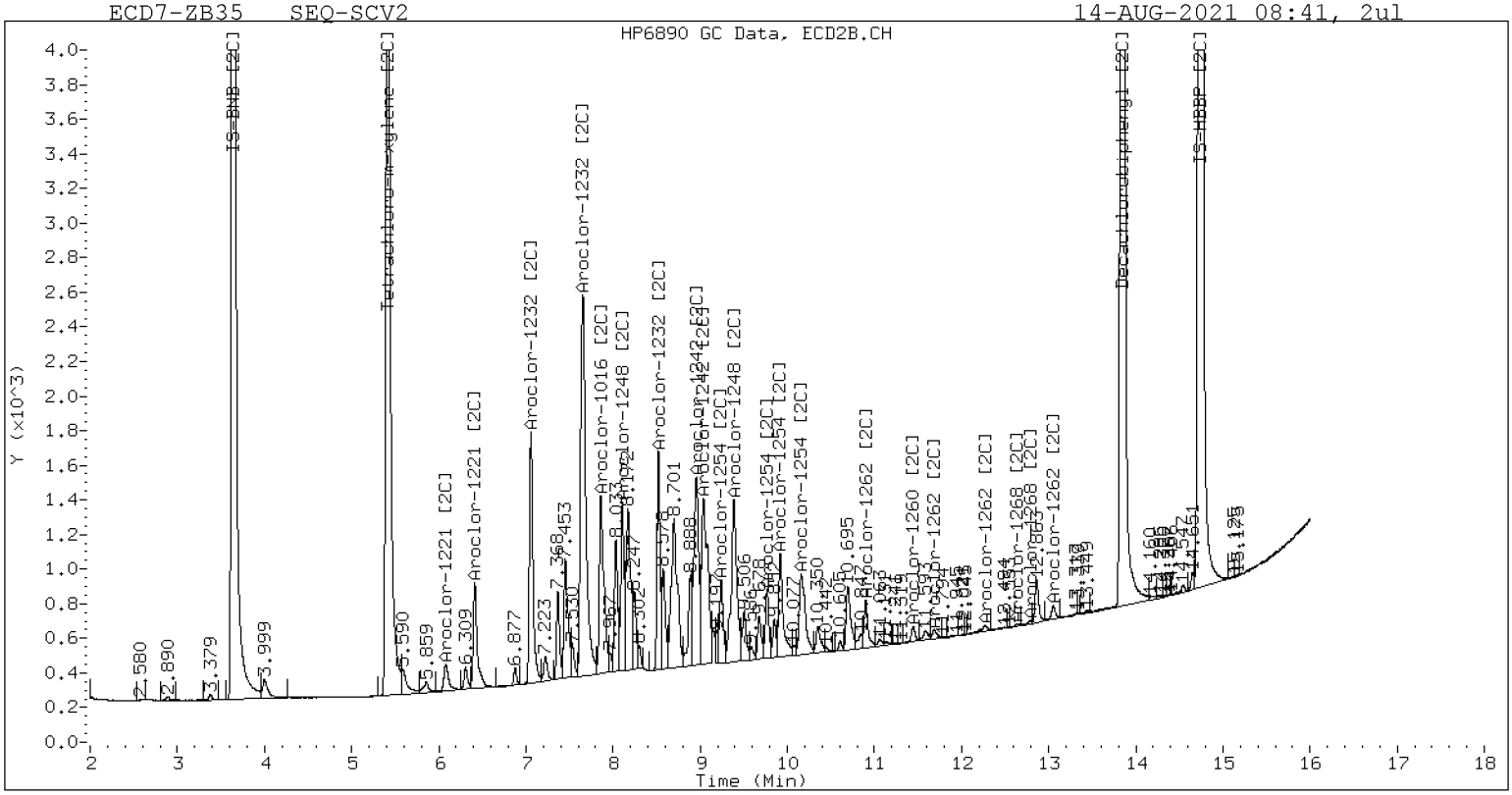
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV2 14-AUG-2021 08:41, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-SCV2 14-AUG-2021 08:41, 2ul

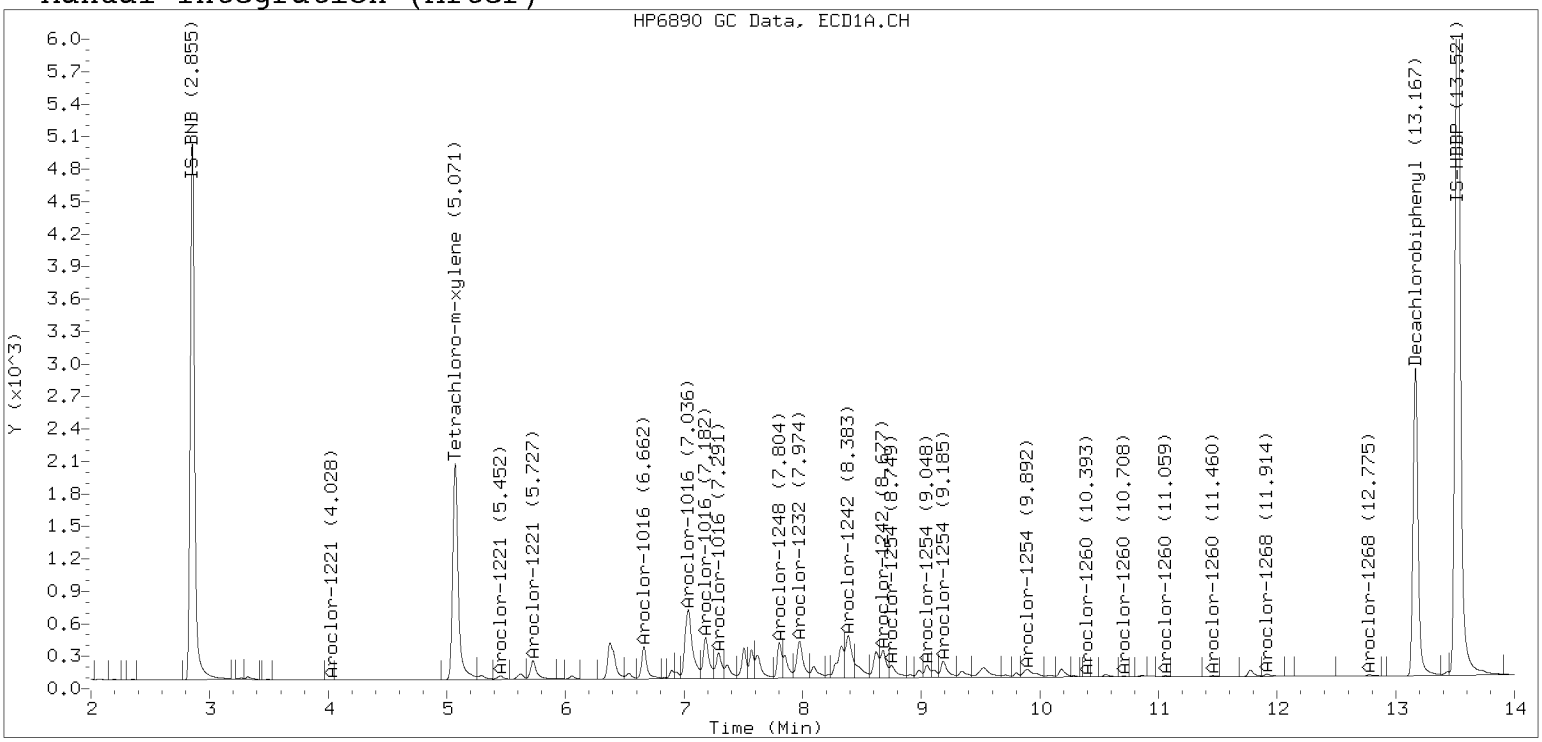


ZB-35 Manual Integration: YES

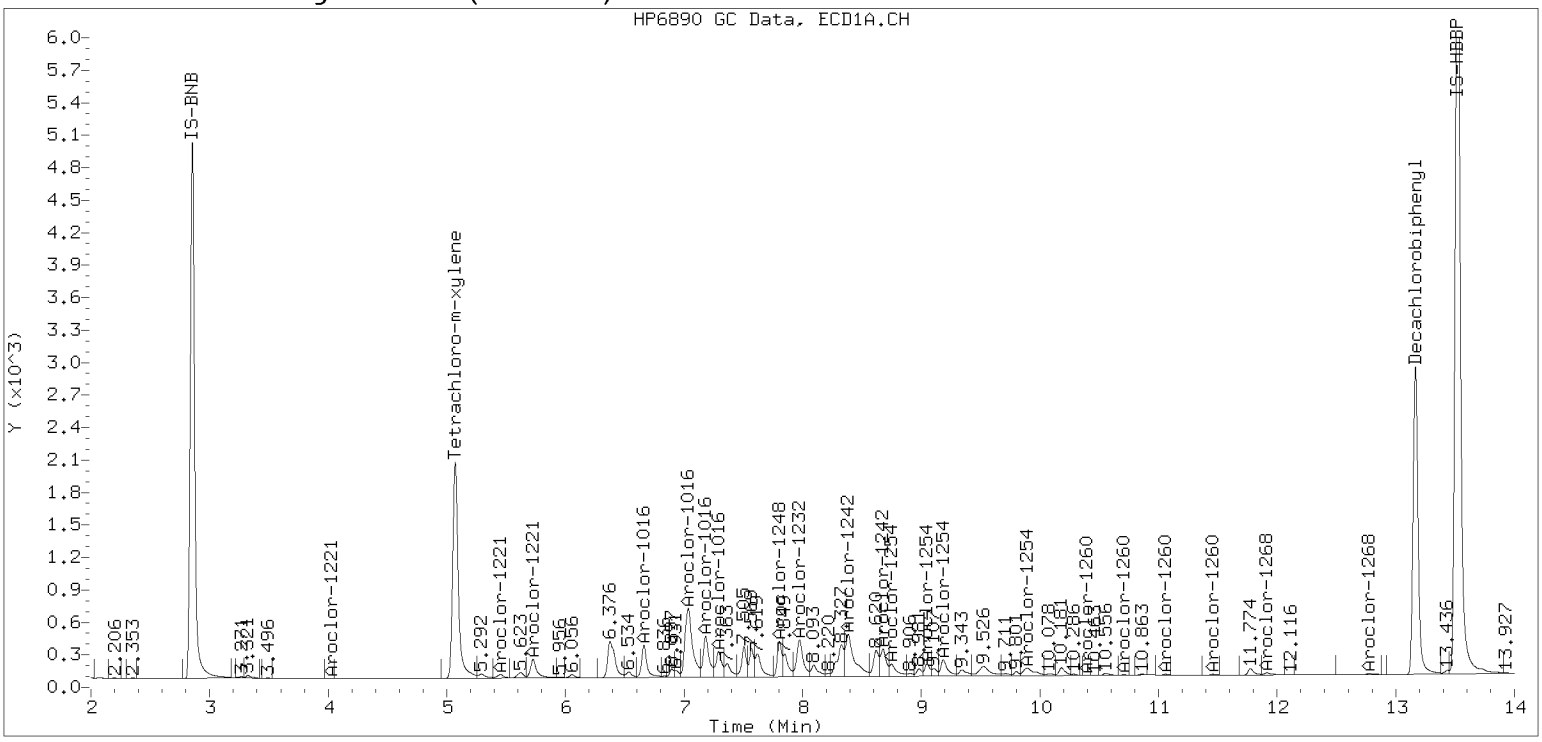
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/210813.b/08132142ECD7.D Injection Date: 14-AUG-2021 08:41

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08132143ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0177	Injection Date:	08/14/21
Lab Sample ID:	SJH0177-SCV3	Injection Time:	09:02
Sequence Name:	AR1248SCV3		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	262	0.0444871	0.0465152		4.6	+/-20
Aroclor 1248 [2C]	A	250.00	275	0.0480909	0.0527683		10.0	+/-20
Decachlorobiphenyl	A	40.000	39.5	0.7261970	0.7165649		-1.3	+/-20
Tetrachlorometaxylene	A	40.000	41.7	0.9669678	1.0072130		4.2	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.4	1.7775950	1.7077060		-3.9	+/-20
Tetrachlorometaxylene [2C]	A	40.000	40.4	1.0280520	1.0386920		1.0	+/-20

* Values outside of QC limits

* Values outside of QC limits

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

Data file 1: /210813.b/08132143ECD7.D
Data file 2: /210813.b/210813.b/08132143ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV3
Client ID:
Injection Date: 14-AUG-2021 09:02
Report Date: 08/16/2021 17:58
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	133217	5.416	-0.001	384693	41.7	40.4	3.0	Tetrachloro-m-xylene
13.165	-0.001	166922	13.848	-0.032	892438	39.5	38.4	2.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	264526	2.2
Hexabromobiphenyl	425681	465895	9.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	740726	2.7
Hexabromobiphenyl	863111	1045189	21.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	9682	103.2	1	7.058	0.001	46276	109.6
Aroclor-1016	2	7.035	0.006	37972	132.4	2	7.654	0.006	128803	136.3
Aroclor-1016	3	7.185	0.009	16001	124.3	3	7.862	0.007	26557	71.6
Aroclor-1016	4	7.292	0.007	10150	125.7	4	8.107	0.002	83644	372.8
Total Col1Ave (4 peaks):					121.4	Total Col2Ave (4 peaks):				172.6 RPD = 35
Corrected Ave (3 peaks):					117.7	Corrected Ave (3 peaks):				105.8 RPD = 11
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	5.455	0.004	449	13.7	2	6.091	0.019	6638	52.2
Aroclor-1221	3	5.728	0.004	2260	25.5	3	6.414	0.005	8501	38.3
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	5.728	0.002	2260	32.4	2	7.058	-0.000	46276	239.2
Aroclor-1232	3	7.035	0.002	37972	356.8	3	7.654	0.003	128803	332.7
Aroclor-1232	4	7.972	-0.000	39250	896.5	4	8.523	0.001	102298	1014.3
Total Col1Ave (3 peaks):					428.6	Total Col2Ave (3 peaks):				528.7 RPD = 21
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.663	0.004	9682	132.8	1	7.058	0.000	46276	135.9
Aroclor-1242	2	7.035	0.005	37972	174.8	2	7.654	0.005	128803	174.1
Aroclor-1242	3	8.381	0.007	54555	443.2	3	8.956	0.007	151640	438.8
Aroclor-1242	4	8.678	0.004	31259	621.5	4	9.034	0.006	104178	265.6
Total Col1Ave (4 peaks):					343.1	Total Col2Ave (4 peaks):				253.6 RPD = 30
Corrected Ave (3 peaks):					250.3	Corrected Ave (3 peaks):				191.9 RPD = 26
Aroclor-1248	1	7.802	0.004	28742	259.3	1	8.107	0.002	83644	272.5
Aroclor-1248	2	7.972	0.004	39250	271.2	2	8.523	0.003	102298	273.8
Aroclor-1248	3	8.381	0.007	54555	257.5	3	8.956	0.009	151640	254.8
Aroclor-1248	4	8.678	0.004	31259	258.4	4	9.383	0.006	151004	298.8
Total Col1Ave (4 peaks):					261.6	Total Col2Ave (4 peaks):				275.0 RPD = 5
Corrected Ave (3 peaks):					258.4	Corrected Ave (3 peaks):				267.0 RPD = 3
Aroclor-1254	1	8.678	0.002	31259	137.0	1	9.242	0.003	54333	86.2
Aroclor-1254	2	8.749	0.003	18396	174.1	2	9.383	0.052	151004	408.3
Aroclor-1254	3	9.047	0.006	14863	99.9	3	9.767	0.004	47940	99.8
Aroclor-1254	4	9.184	0.008	25850	91.0	4	9.918	0.004	90159	84.7
Aroclor-1254	5	9.891	0.024	17966	100.7	5	10.157	0.010	92605	85.8
Total Col1Ave (5 peaks):					120.5	Total Col2Ave (5 peaks):				152.9 RPD = 24
Corrected Ave (4 peaks):					107.1	Corrected Ave (4 peaks):				89.1 RPD = 18
Aroclor-1260	1	10.390	0.007	578	2.8	1	11.440	0.015	6820	7.8
Aroclor-1260	2	10.706	0.006	437	2.1	2	11.683	0.002	7655	3.0
Aroclor-1260	3	11.059	0.008	1267	2.3	3	12.263	0.002	5159	3.2
Aroclor-1260	4	11.460	0.007	540	2.2	4	12.973	0.001	2451	3.2
Aroclor-1260	5	11.559	0.005	490	4.0	NS	---			----
Total Col1Ave (5 peaks):					2.7	Total Col2Ave (4 peaks):				4.3 RPD = 47*
Corrected Ave (4 peaks):					2.3	Corrected Ave (3 peaks):				3.1 RPD = 29
Aroclor-1262	1	10.390	0.006	578	2.0	1	10.972	0.001	4108	3.2
Aroclor-1262	2	11.460	0.005	540	2.9	2	11.683	-0.002	7655	2.8
Aroclor-1262	3	11.632	0.005	592	2.2	3	12.188	-0.000	3699	3.1
Aroclor-1262	4	12.278	0.004	571	2.6	4	12.973	0.001	2451	2.2
Total Col1Ave (4 peaks):					2.5	Total Col2Ave (4 peaks):				2.8 RPD = 14
Corrected Ave (3 peaks):					2.3	Corrected Ave (3 peaks):				2.7 RPD = 17
Aroclor-1268	1	11.559	0.002	490	0.8	1	12.188	-0.012	3699	1.2
Aroclor-1268	2	11.632	0.006	592	0.9	2	12.263	-0.004	5159	1.6
Aroclor-1268	3	11.915	-0.086	879	1.7	3	12.643	-0.001	909	0.3
Aroclor-1268	4	12.775	0.003	932	0.6	4	12.788	0.005	972	1.4
Total Col1Ave (4 peaks):					1.0	Total Col2Ave (4 peaks):				1.1 RPD = 13
Corrected Ave (3 peaks):					0.7	Corrected Ave (3 peaks):				1.0 RPD = 27

Total PCB Area Col1 (5.169 - 13.066) = 608290 Col1 Total PCB = 0.2 ppm*

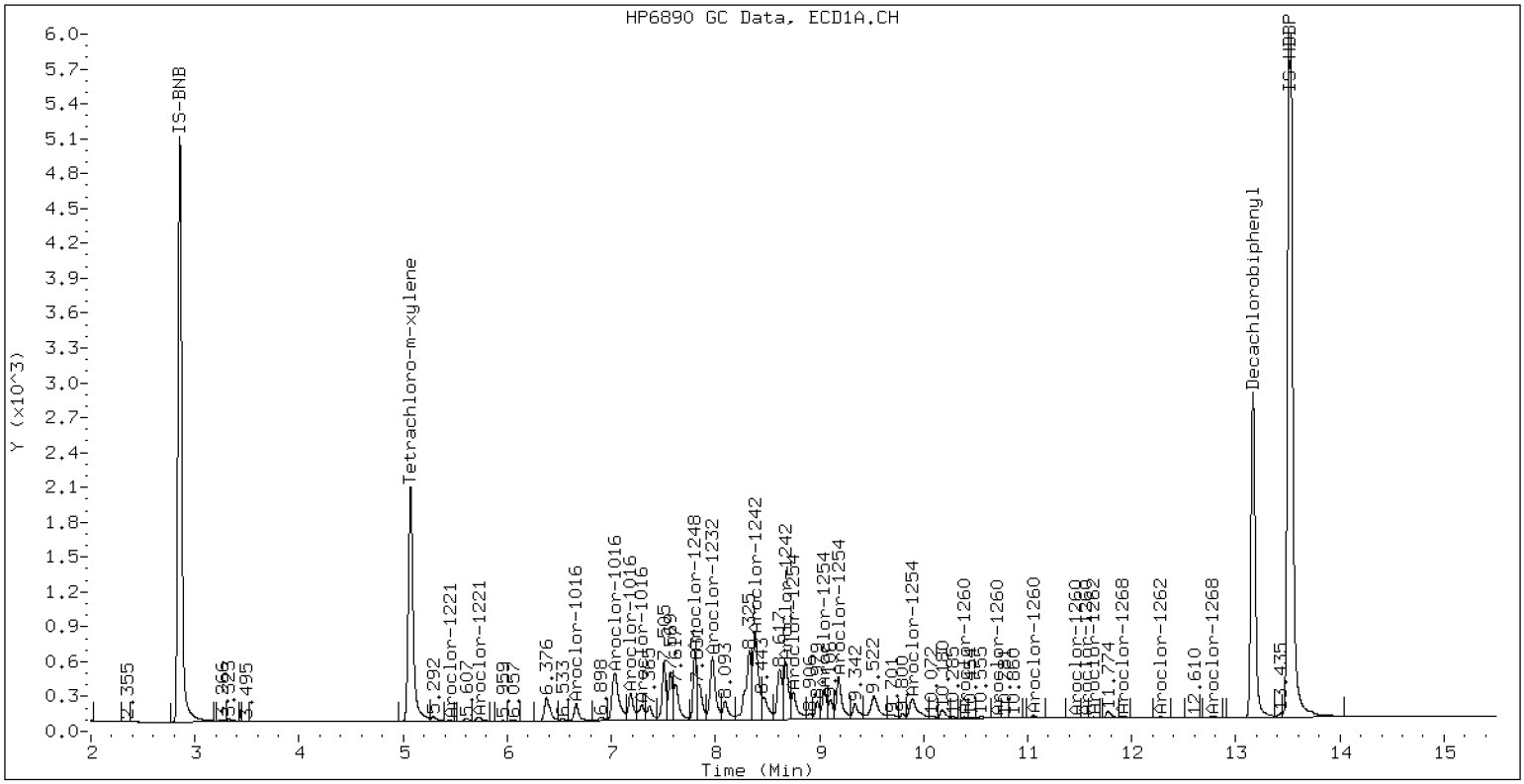
Total PCB Area Col2 (5.169 - 13.066) = 2317749 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

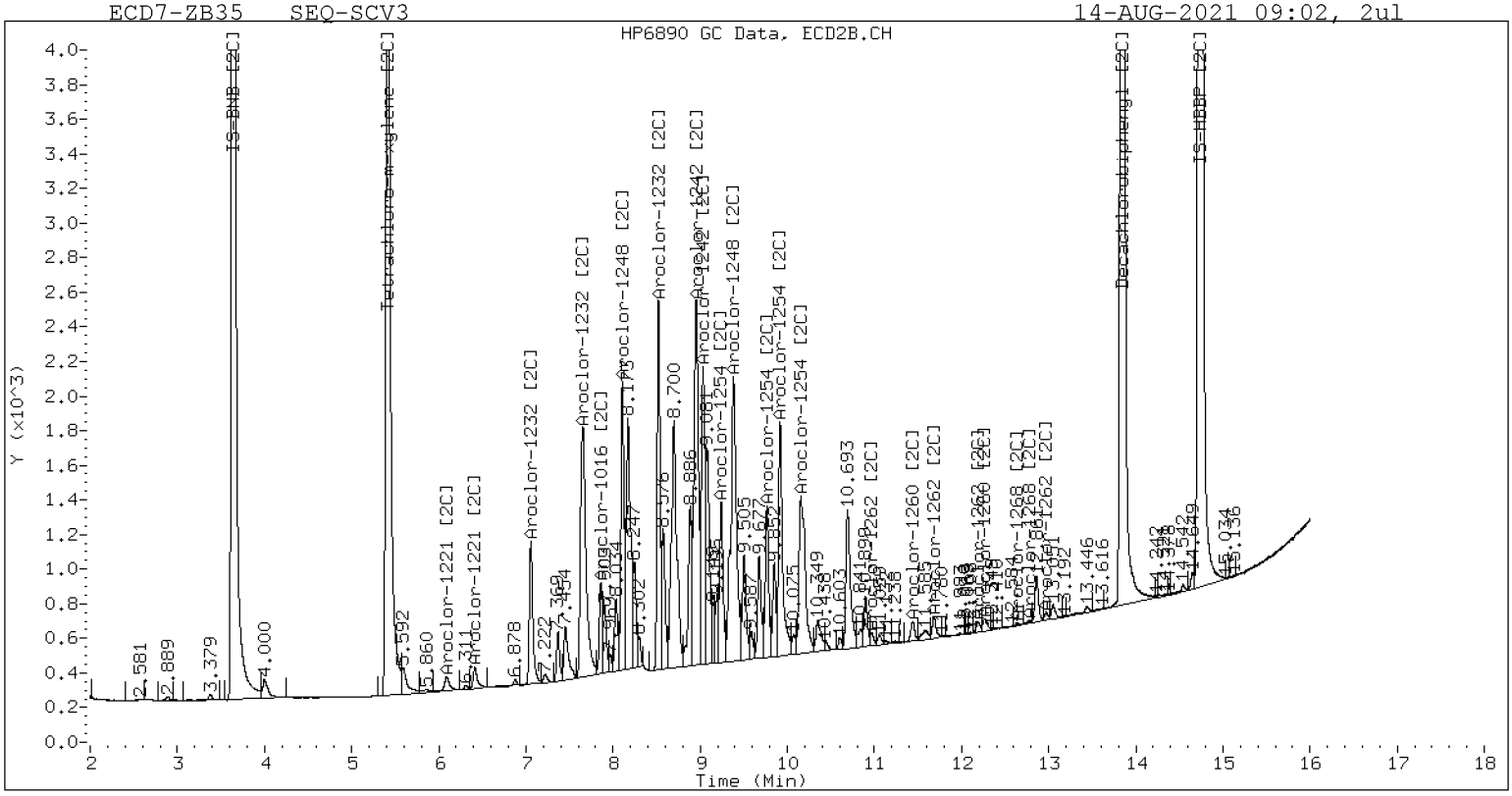
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV3 14-AUG-2021 09:02, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-SCV3 14-AUG-2021 09:02, 2ul

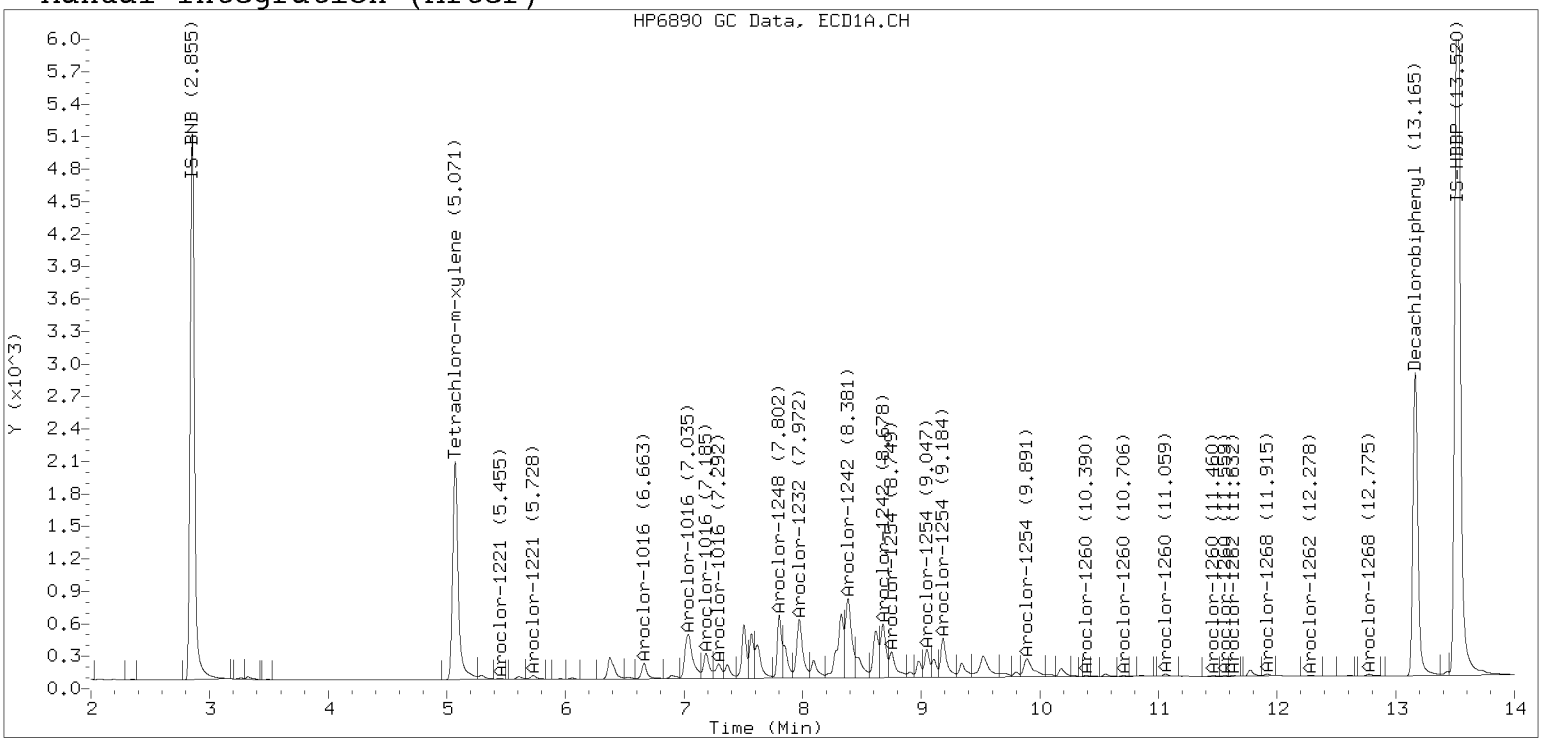


ZB-35 Manual Integration: NO

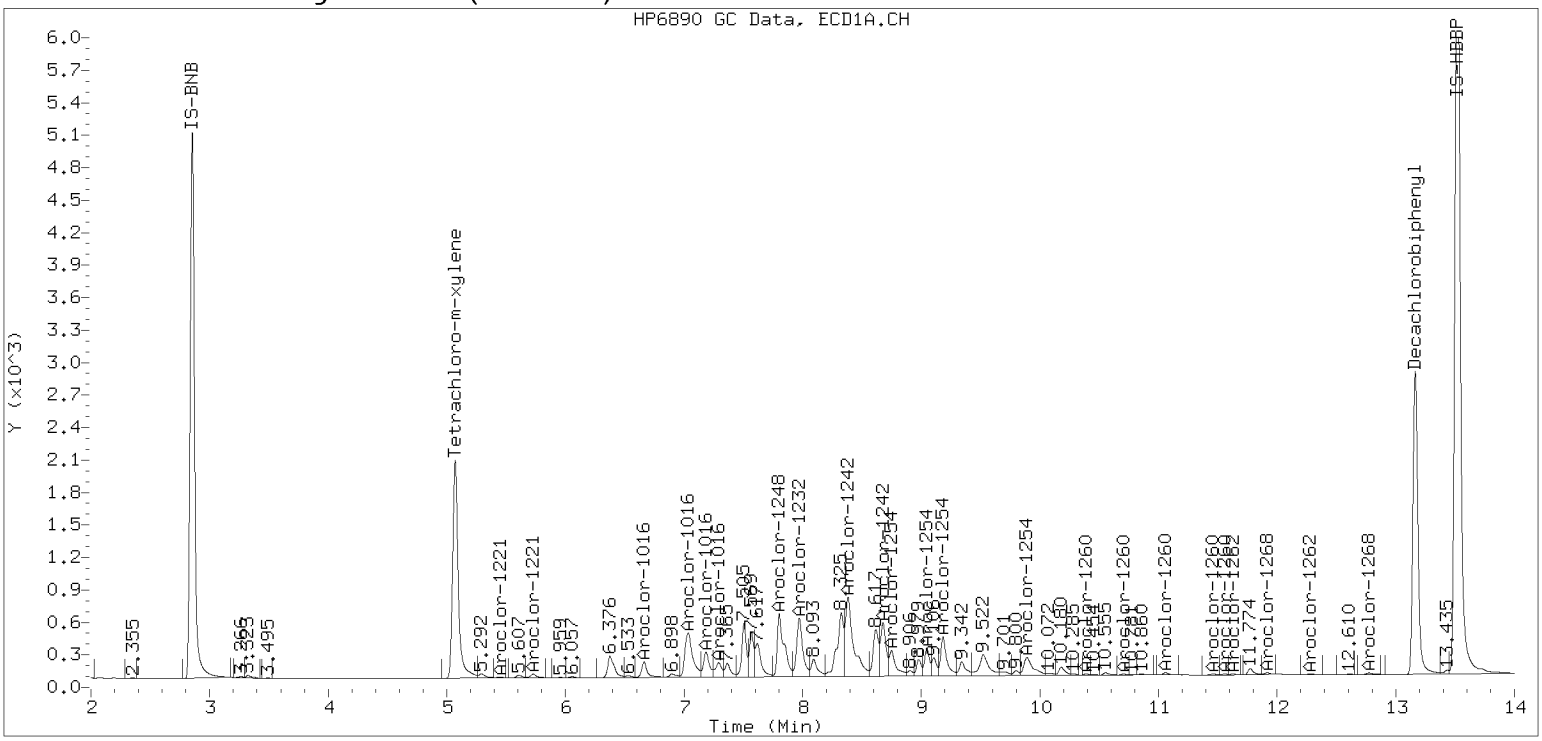
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/210813.b/08132143ECD7.D Injection Date: 14-AUG-2021 09:02

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08132144ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0177	Injection Date:	08/14/21
Lab Sample ID:	SJH0177-SCV4	Injection Time:	09:22
Sequence Name:	AR1254SCV4		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1254	A	250.00	282	0.0571741	0.0643807		12.7	+/-20
Aroclor 1254 [2C]	A	250.00	264	0.0782980	0.0831818		5.8	+/-20
Decachlorobiphenyl	A	40.000	40.1	0.7261970	0.7274386		0.2	+/-20
Tetrachlorometaxylene	A	40.000	42.6	0.9669678	1.0302020		6.5	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.6	1.7775950	1.7164800		-3.4	+/-20
Tetrachlorometaxylene [2C]	A	40.000	41.4	1.0280520	1.0649090		3.6	+/-20

* Values outside of QC limits

* Values outside of QC limits

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

Data file 1: /210813.b/08132144ECD7.D
Data file 2: /210813.b/210813.b/08132144ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV4
Client ID:
Injection Date: 14-AUG-2021 09:22
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	134141	5.416	-0.001	389116	42.6	41.4	2.8	Tetrachloro-m-xylene
13.166	0.000	166634	13.848	-0.032	887620	40.1	38.6	3.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	260417	0.6
Hexabromobiphenyl	425681	458139	7.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	730797	1.4
Hexabromobiphenyl	863111	1034233	19.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	131	1.4	1	7.062	0.005	1136	2.7
Aroclor-1016	2	7.039	0.009	605	2.1	2	7.659	0.011	3270	3.5
Aroclor-1016	3	7.189	0.014	416	3.3	3	7.909	0.054	1836	5.0
Aroclor-1016	4	---			0.0	4	8.109	0.004	59728	269.8
Total Col1Ave (3 peaks): 2.3						Total Col2Ave (4 peaks): 70.3 RPD = 187*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 3.8				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.094	0.021	4462	35.5
Aroclor-1221	3	---			0.0	3	6.411	0.002	1085	5.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	7.062	0.004	1136	6.0
Aroclor-1232	3	7.039	0.005	605	5.8	3	7.659	0.008	3270	8.6
Aroclor-1232	4	7.975	0.003	5517	128.0	4	8.524	0.002	40317	405.2
Col1Ave: <3 Quant Peaks						Col2Ave: 139.9				
Aroclor-1242	1	6.663	0.004	131	1.8	1	7.062	0.005	1136	3.4
Aroclor-1242	2	7.039	0.008	605	2.8	2	7.659	0.010	3270	4.5
Aroclor-1242	3	8.385	0.011	48414	399.6	3	8.960	0.012	63036	184.9
Aroclor-1242	4	8.679	0.005	62054	1253.2	4	9.035	0.007	12438	32.1
Total Col1Ave (4 peaks): 414.4						Total Col2Ave (4 peaks): 56.2 RPD = 152*				
Corrected Ave (3 peaks): 134.7						Corrected Ave (3 peaks): 13.3 RPD = 164*				
Aroclor-1248	1	7.804	0.005	12376	113.4	1	8.109	0.003	59728	197.2
Aroclor-1248	2	7.975	0.007	5517	38.7	2	8.524	0.004	40317	109.4
Aroclor-1248	3	8.385	0.011	48414	232.1	3	8.960	0.014	63036	107.4
Aroclor-1248	4	8.679	0.005	62054	521.1	4	9.335	-0.041	91889	184.3
Total Col1Ave (4 peaks): 226.3						Total Col2Ave (4 peaks): 149.6 RPD = 41*				
Corrected Ave (3 peaks): 128.1						Corrected Ave (3 peaks): 133.7 RPD = 4				
Aroclor-1254	1	8.679	0.003	62054	276.2	1	9.242	0.003	166697	268.1
Aroclor-1254	2	8.751	0.005	29615	284.7	2	9.335	0.004	91889	251.8
Aroclor-1254	3	9.046	0.005	40463	276.3	3	9.766	0.003	128036	270.1
Aroclor-1254	4	9.181	0.005	78989	282.3	4	9.918	0.004	270040	257.1
Aroclor-1254	5	9.873	0.006	50845	289.4	5	10.155	0.008	293166	275.2
Total Col1Ave (5 peaks): 281.8						Total Col2Ave (5 peaks): 264.5 RPD = 6				
Corrected Ave (4 peaks): 279.9						Corrected Ave (4 peaks): 261.8 RPD = 7				
Aroclor-1260	1	10.386	0.003	4281	20.8	1	11.441	0.015	77320	89.9
Aroclor-1260	2	10.706	0.006	4756	23.5	2	11.684	0.003	61993	24.8
Aroclor-1260	3	11.057	0.007	11820	21.6	3	12.266	0.005	35733	22.2
Aroclor-1260	4	11.458	0.005	9286	38.1	4	12.973	0.001	1994	2.6
Aroclor-1260	5	11.627	0.073	440	3.6	NS	---			----
Total Col1Ave (5 peaks): 21.5						Total Col2Ave (4 peaks): 34.9 RPD = 47*				
Corrected Ave (4 peaks): 17.4						Corrected Ave (3 peaks): 16.5 RPD = 5				
Aroclor-1262	1	10.386	0.002	4281	15.3	1	10.897	-0.073	251611	198.9
Aroclor-1262	2	11.458	0.003	9286	51.3	2	11.684	-0.001	61993	23.2
Aroclor-1262	3	11.627	0.000	440	1.7	3	12.205	0.017	9780	8.3
Aroclor-1262	4	12.279	0.005	629	2.9	4	12.973	0.000	1994	1.8
Total Col1Ave (4 peaks): 17.8						Total Col2Ave (4 peaks): 58.1 RPD = 106*				
Corrected Ave (3 peaks): 6.6						Corrected Ave (3 peaks): 11.1 RPD = 50*				
Aroclor-1268	1	11.627	0.070	440	0.7	1	12.205	0.005	9780	3.3
Aroclor-1268	2	---			0.0	2	12.266	-0.001	35733	11.0
Aroclor-1268	3	11.912	-0.088	968	1.9	3	12.633	-0.011	400	0.1
Aroclor-1268	4	12.774	0.002	1001	0.6	4	12.861	0.078	15819	22.8
Total Col1Ave (3 peaks): 1.1						Total Col2Ave (4 peaks): 9.3 RPD = 158*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 4.8				

Total PCB Area Col1 (5.169 - 13.066) = 819275 Col1 Total PCB = 0.3 ppm*

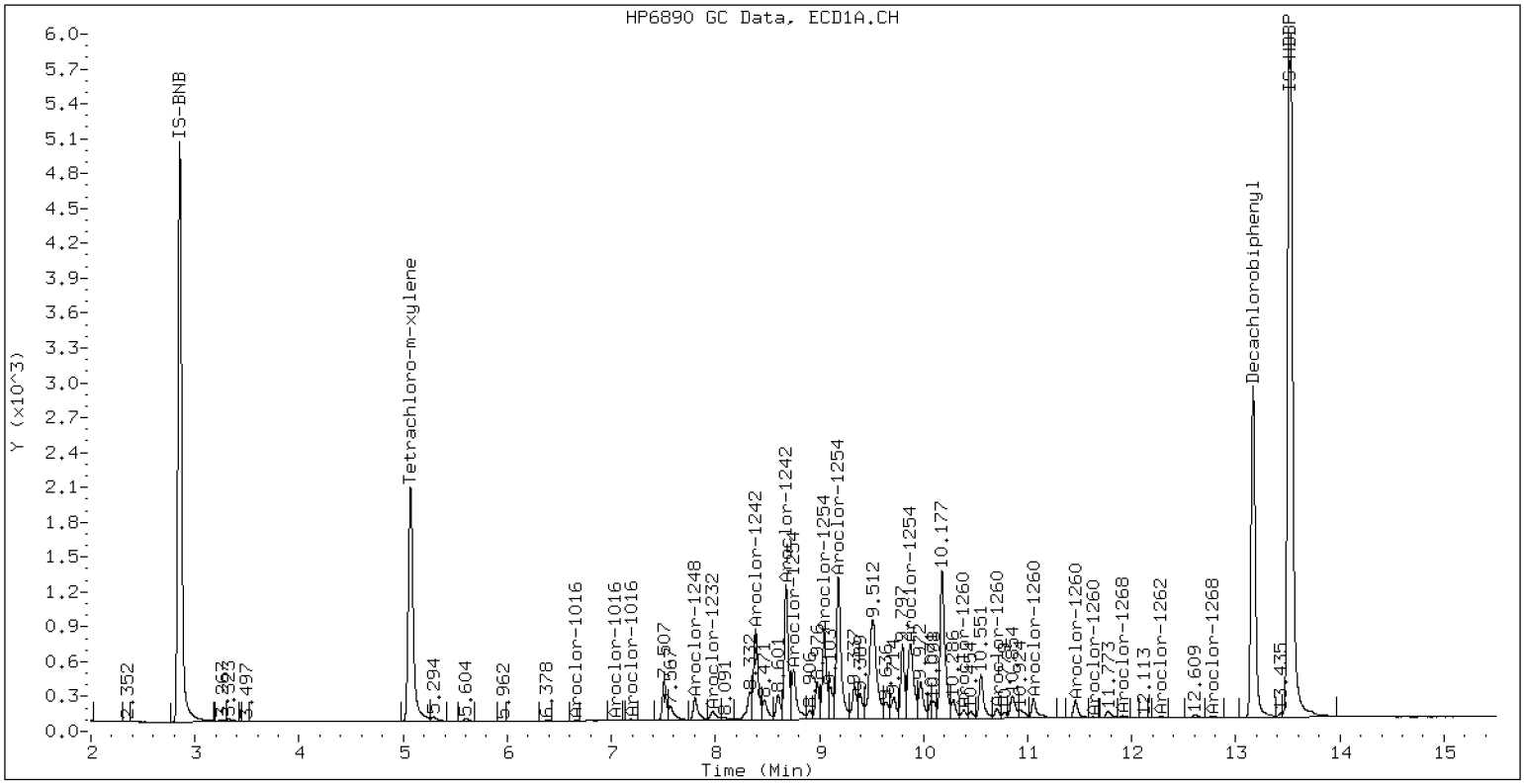
Total PCB Area Col2 (5.169 - 13.066) = 3111878 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

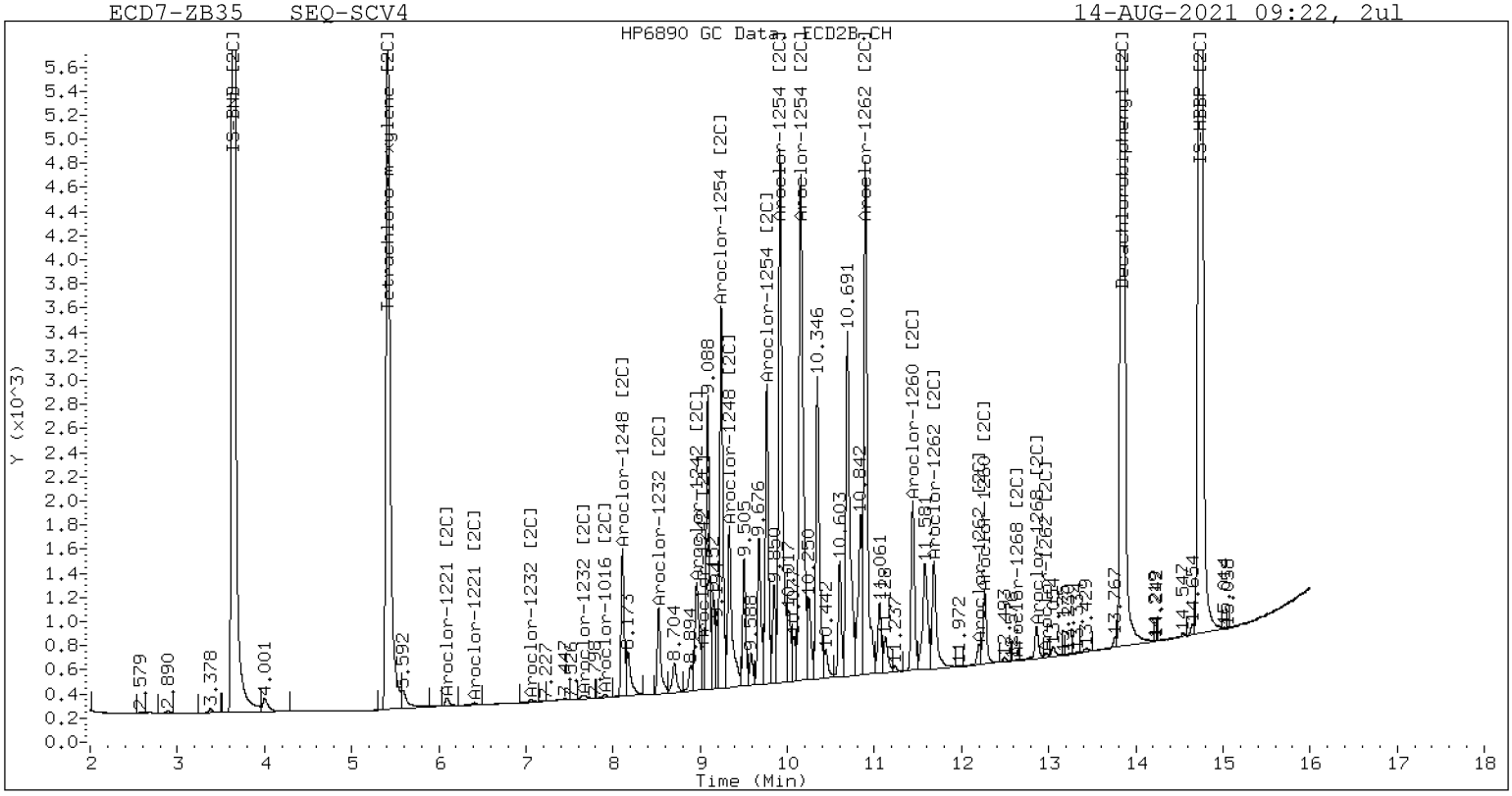
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV4 14-AUG-2021 09:22, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV4 14-AUG-2021 09:22, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08132145ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0177	Injection Date:	08/14/21
Lab Sample ID:	SJH0177-SCV5	Injection Time:	09:43
Sequence Name:	AR2162SCV5		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1221	A	250.00	293	0.0143248	0.0165460		17.0	+/-20
Aroclor 1221 [2C]	A	250.00	266	0.0145693	0.0154784		6.4	+/-20
Decachlorobiphenyl	A	40.000	38.8	0.7261970	0.7050646		-2.9	+/-20
Tetrachlorometaxylene	A	40.000	40.6	0.9669678	0.9811862		1.5	+/-20
Decachlorobiphenyl [2C]	A	40.000	37.6	1.7775950	1.6729930		-5.9	+/-20
Tetrachlorometaxylene [2C]	A	40.000	39.1	1.0280520	1.0059940		-2.1	+/-20

* Values outside of QC limits

* Values outside of QC limits

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

Data file 1: /210813.b/08132145ECD7.D
Data file 2: /210813.b/210813.b/08132145ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV5
Client ID:
Injection Date: 14-AUG-2021 09:43
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.072	0.003	131998	5.417	-0.000	375118	40.6	39.1	3.6	Tetrachloro-m-xylene
13.166	-0.000	164634	13.848	-0.032	881936	38.8	37.6	3.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	269058	3.9
Hexabromobiphenyl	425681	467004	9.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	745766	3.4
Hexabromobiphenyl	863111	1054321	22.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	1551	16.3	1	7.061	0.004	17081	40.2
Aroclor-1016	2	7.039	0.009	4280	14.7	2	7.658	0.011	15832	16.6
Aroclor-1016	3	7.184	0.008	2282	17.4	3	7.865	0.010	6703	18.0
Aroclor-1016	4	7.294	0.009	1564	19.1	4	8.109	0.004	3939	17.4
Total Col1Ave (4 peaks):				16.8		Total Col2Ave (4 peaks):			23.1	RPD = 31
Corrected Ave (3 peaks):				16.1		Corrected Ave (3 peaks):			17.3	RPD = 7
Aroclor-1221	1	4.018	0.002	6262	294.7	1	4.680	0.004	15071	269.2
Aroclor-1221	2	5.454	0.003	9982	299.7	2	6.075	0.003	33472	261.2
Aroclor-1221	3	5.728	0.004	25492	283.3	3	6.413	0.004	59675	267.2
Total Col1Ave (3 peaks):				292.6		Total Col2Ave (3 peaks):			265.9	RPD = 10
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.018	-0.000	6262	479.9	1	4.680	0.001	15071	452.2
Aroclor-1232	2	5.728	0.002	25492	359.4	2	7.061	0.003	17081	87.7
Aroclor-1232	3	7.039	0.005	4280	39.5	3	7.658	0.007	15832	40.6
Aroclor-1232	4	7.978	0.006	798	17.9	4	8.525	0.003	2523	24.8
Total Col1Ave (4 peaks):				224.2		Total Col2Ave (4 peaks):			151.3	RPD = 39
Corrected Ave (3 peaks):				139.0		Corrected Ave (3 peaks):			51.1	RPD = 93*
Aroclor-1242	1	6.663	0.004	1551	20.9	1	7.061	0.004	17081	49.8
Aroclor-1242	2	7.039	0.009	4280	19.4	2	7.658	0.010	15832	21.3
Aroclor-1242	3	8.388	0.013	9148	73.1	3	8.966	0.018	6505	18.7
Aroclor-1242	4	8.680	0.006	9619	188.0	4	9.089	0.061	25267	64.0
Total Col1Ave (4 peaks):				75.3		Total Col2Ave (4 peaks):			38.4	RPD = 65*
Corrected Ave (3 peaks):				37.8		Corrected Ave (3 peaks):			29.9	RPD = 23
Aroclor-1248	1	7.805	0.007	1067	9.5	1	8.109	0.003	3939	12.7
Aroclor-1248	2	7.978	0.010	798	5.4	2	8.525	0.005	2523	6.7
Aroclor-1248	3	8.388	0.013	9148	42.4	3	8.966	0.020	6505	10.9
Aroclor-1248	4	8.680	0.007	9619	78.2	4	9.396	0.019	4022	7.9
Total Col1Ave (4 peaks):				33.9		Total Col2Ave (4 peaks):			9.6	RPD = 112*
Corrected Ave (3 peaks):				19.1		Corrected Ave (3 peaks):			8.5	RPD = 77*
Aroclor-1254	1	8.680	0.005	9619	41.4	1	9.245	0.005	26890	42.4
Aroclor-1254	2	---			0.0	2	9.336	0.005	2650	7.1
Aroclor-1254	3	9.050	0.008	1343	8.9	3	9.769	0.007	4242	8.8
Aroclor-1254	4	9.145	-0.031	9990	34.6	4	9.932	0.019	121430	113.3
Aroclor-1254	5	9.858	-0.010	13751	75.8	5	10.160	0.013	143957	132.4
Total Col1Ave (4 peaks):				40.2		Total Col2Ave (5 peaks):			60.8	RPD = 41*
Corrected Ave (3 peaks):				28.3		Corrected Ave (4 peaks):			42.9	RPD = 41*
Aroclor-1260	1	10.387	0.004	74432	354.3	1	11.427	0.001	248521	283.6
Aroclor-1260	2	10.705	0.005	63581	308.3	2	11.682	0.001	656259	257.6
Aroclor-1260	3	11.056	0.005	158724	284.8	3	12.261	0.000	468343	285.9
Aroclor-1260	4	11.457	0.004	49425	199.0	4	12.974	0.001	287502	367.1
Aroclor-1260	5	11.557	0.003	61640	495.8	NS	---			----
Total Col1Ave (5 peaks):				328.4		Total Col2Ave (4 peaks):			298.6	RPD = 10
Corrected Ave (4 peaks):				286.6		Corrected Ave (3 peaks):			275.7	RPD = 4
Aroclor-1262	1	10.387	0.003	74432	261.2	1	10.970	-0.000	313779	243.4
Aroclor-1262	2	11.457	0.002	49425	267.8	2	11.682	-0.003	656259	241.2
Aroclor-1262	3	11.628	0.001	70335	264.4	3	12.188	0.000	303167	251.1
Aroclor-1262	4	12.278	0.003	58296	266.9	4	12.974	0.001	287502	255.5
Total Col1Ave (4 peaks):				265.1		Total Col2Ave (4 peaks):			247.8	RPD = 7
Corrected Ave (3 peaks):				264.2		Corrected Ave (3 peaks):			245.2	RPD = 7
Aroclor-1268	1	11.557	0.000	61640	98.4	1	12.188	-0.012	303167	100.1
Aroclor-1268	2	11.628	0.002	70335	107.0	2	12.261	-0.006	468343	141.7
Aroclor-1268	3	12.031	0.030	24251	46.9	3	12.635	-0.009	18559	6.5
Aroclor-1268	4	12.770	-0.001	19100	11.5	4	12.783	0.000	11203	15.9
Total Col1Ave (4 peaks):				65.9		Total Col2Ave (4 peaks):			66.0	RPD = 0

Corrected Ave (3 peaks): 52.2 Corrected Ave (3 peaks): 40.8 RPD = 25

Total PCB Area Col1 (5.169 - 13.066) = 1098701 Col1 Total PCB = 0.4 ppm*

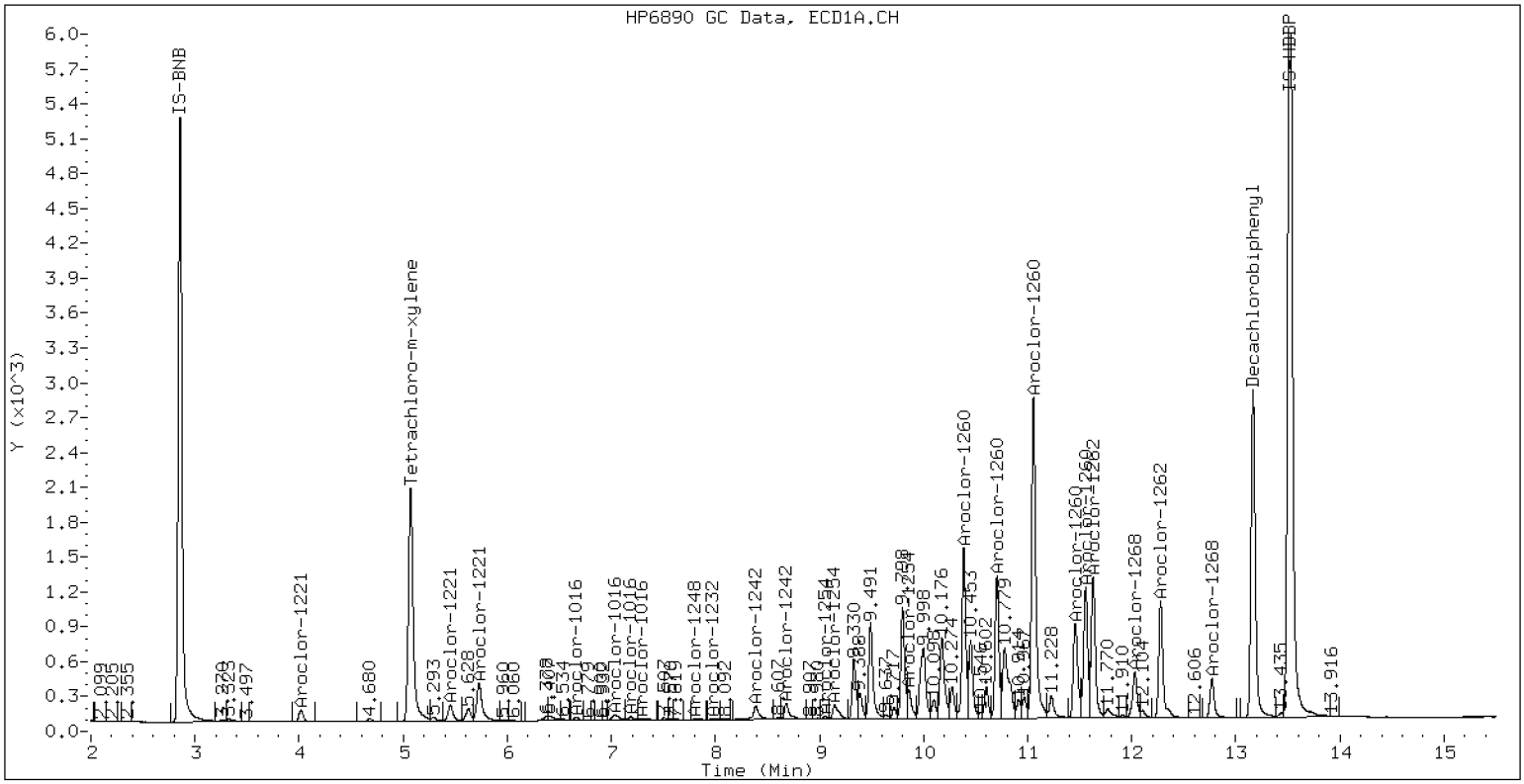
Total PCB Area Col2 (5.169 - 13.066) = 4504756 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

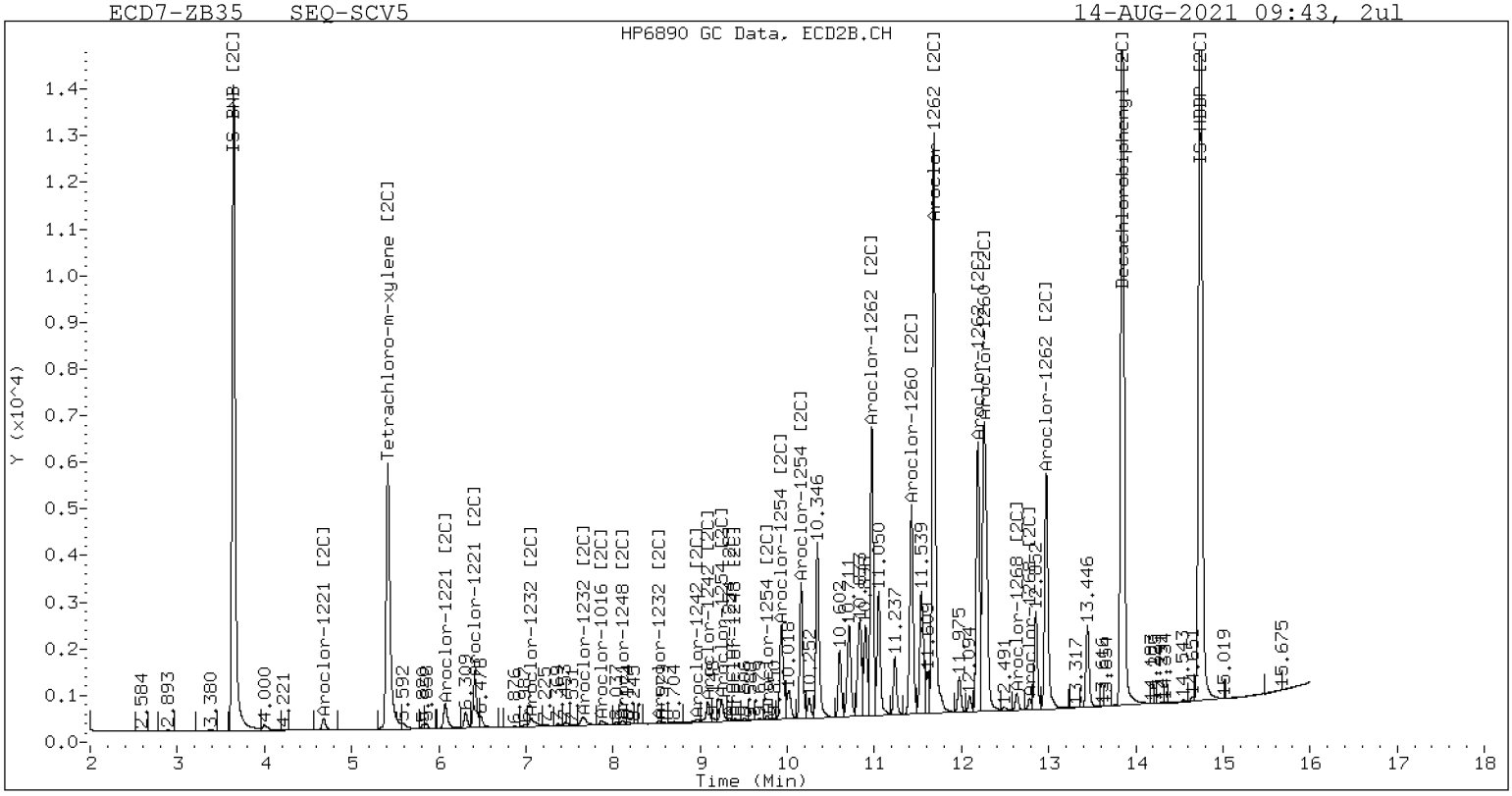
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV5 14-AUG-2021 09:43, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV5 14-AUG-2021 09:43, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08132146ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0177	Injection Date:	08/14/21
Lab Sample ID:	SJH0177-SCV6	Injection Time:	10:03
Sequence Name:	AR3268SCV6		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1232	A	250.00	284	0.0175991	0.0203926		13.8	+/-20
Aroclor 1232 [2C]	A	250.00	286	0.0192937	0.0223606		14.5	+/-20
Decachlorobiphenyl	A	40.000	59.6	0.7261970	1.0825580		49.1	+/-20
Tetrachlorometaxylene	A	40.000	41.2	0.9669678	0.9966938		3.1	+/-20
Decachlorobiphenyl [2C]	A	40.000	59.3	1.7775950	2.6350880		48.2	+/-20
Tetrachlorometaxylene [2C]	A	40.000	39.7	1.0280520	1.0197560		-0.8	+/-20

* Values outside of QC limits

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

Data file 1: /210813.b/08132146ECD7.D
Data file 2: /210813.b/210813.b/08132146ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV6
Client ID:
Injection Date: 14-AUG-2021 10:03
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	131287	5.416	-0.000	375338	41.2	39.7	3.8	Tetrachloro-m-xylene
13.165	-0.001	248059	13.848	-0.032	1383308	59.6	59.3	0.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	263445	1.8
Hexabromobiphenyl	425681	458283	7.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	736133	2.1
Hexabromobiphenyl	863111	1049914	21.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	11471	122.8	1	7.059	0.002	54454	129.7
Aroclor-1016	2	7.037	0.008	32172	112.6	2	7.656	0.009	111127	118.4
Aroclor-1016	3	7.183	0.007	15436	120.4	3	7.862	0.007	47184	128.0
Aroclor-1016	4	7.292	0.007	9103	113.2	4	8.108	0.003	26255	117.7
Total Col1Ave (4 peaks):				117.2		Total Col2Ave (4 peaks):			123.5	RPD = 5
Corrected Ave (3 peaks):				115.4		Corrected Ave (3 peaks):			121.4	RPD = 5
Aroclor-1221	1	4.017	0.002	3341	160.6	1	4.679	0.002	8452	153.0
Aroclor-1221	2	5.453	0.002	5429	166.5	2	6.077	0.004	21053	166.4
Aroclor-1221	3	5.727	0.003	17948	203.7	3	6.414	0.005	55556	252.0
Total Col1Ave (3 peaks):				176.9		Total Col2Ave (3 peaks):			190.5	RPD = 7
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.017	-0.001	3341	261.5	1	4.679	-0.000	8452	256.9
Aroclor-1232	2	5.727	0.001	17948	258.4	2	7.059	0.001	54454	283.3
Aroclor-1232	3	7.037	0.003	32172	303.5	3	7.656	0.005	111127	288.8
Aroclor-1232	4	7.974	0.002	13693	314.0	4	8.524	0.002	31722	316.5
Total Col1Ave (4 peaks):				284.4		Total Col2Ave (4 peaks):			286.4	RPD = 1
Corrected Ave (3 peaks):				274.5		Corrected Ave (3 peaks):			276.3	RPD = 1
Aroclor-1242	1	6.663	0.004	11471	158.0	1	7.059	0.002	54454	160.9
Aroclor-1242	2	7.037	0.007	32172	148.7	2	7.656	0.008	111127	151.2
Aroclor-1242	3	8.385	0.010	20544	167.6	3	8.959	0.010	61163	178.1
Aroclor-1242	4	8.676	0.002	6934	138.4	4	9.041	0.013	55525	142.5
Total Col1Ave (4 peaks):				153.2		Total Col2Ave (4 peaks):			158.1	RPD = 3
Corrected Ave (3 peaks):				148.4		Corrected Ave (3 peaks):			151.5	RPD = 2
Aroclor-1248	1	7.804	0.005	9056	82.0	1	8.108	0.002	26255	86.1
Aroclor-1248	2	7.974	0.006	13693	95.0	2	8.524	0.003	31722	85.4
Aroclor-1248	3	8.385	0.010	20544	97.4	3	8.959	0.012	61163	103.4
Aroclor-1248	4	8.676	0.002	6934	57.6	4	9.391	0.015	44441	88.5
Total Col1Ave (4 peaks):				83.0		Total Col2Ave (4 peaks):			90.8	RPD = 9
Corrected Ave (3 peaks):				78.2		Corrected Ave (3 peaks):			86.7	RPD = 10
Aroclor-1254	1	8.676	0.000	6934	30.5	1	9.243	0.003	10554	16.9
Aroclor-1254	2	8.748	0.002	3715	35.3	2	9.391	0.060	44441	120.9
Aroclor-1254	3	9.050	0.008	2122	14.3	3	9.769	0.007	7619	16.0
Aroclor-1254	4	9.187	0.011	3159	11.2	4	9.922	0.009	13052	12.3
Aroclor-1254	5	9.896	0.029	1953	11.0	5	10.167	0.020	14279	13.3
Total Col1Ave (5 peaks):				20.5		Total Col2Ave (5 peaks):			35.9	RPD = 55*
Corrected Ave (4 peaks):				16.7		Corrected Ave (4 peaks):			14.6	RPD = 14
Aroclor-1260	1	10.388	0.005	30028	145.6	1	11.405	-0.020	170014	194.8
Aroclor-1260	2	10.704	0.004	2256	11.1	2	11.680	-0.001	78239	30.8
Aroclor-1260	3	11.056	0.005	17997	32.9	3	12.254	-0.007	838267	513.9
Aroclor-1260	4	11.458	0.006	301	1.2	4	12.972	0.000	307546	394.4
Aroclor-1260	5	11.557	0.003	165147	1353.6	NS	---			----
Total Col1Ave (5 peaks):				308.9		Total Col2Ave (4 peaks):			283.5	RPD = 9
Corrected Ave (4 peaks):				47.7		Corrected Ave (3 peaks):			206.7	RPD = 125*
Aroclor-1262	1	10.388	0.004	30028	107.4	1	10.971	0.001	118268	92.1
Aroclor-1262	2	11.458	0.004	301	1.7	2	11.680	-0.005	78239	28.9
Aroclor-1262	3	11.626	-0.000	172148	659.4	3	12.187	-0.001	744741	619.3
Aroclor-1262	4	12.276	0.002	62869	293.3	4	12.972	-0.000	307546	274.4
Total Col1Ave (4 peaks):				265.4		Total Col2Ave (4 peaks):			253.7	RPD = 5
Corrected Ave (3 peaks):				134.1		Corrected Ave (3 peaks):			131.8	RPD = 2
Aroclor-1268	1	11.557	-0.000	165147	268.6	1	12.187	-0.013	744741	246.9
Aroclor-1268	2	11.626	0.001	172148	266.9	2	12.254	-0.013	838267	254.7
Aroclor-1268	3	12.000	-0.000	135416	266.9	3	12.635	-0.009	744001	261.5
Aroclor-1268	4	12.770	-0.002	428256	261.7	4	12.782	-0.001	187584	266.5
Total Col1Ave (4 peaks):				266.0		Total Col2Ave (4 peaks):			257.4	RPD = 3

Corrected Ave (3 peaks): 265.2 Corrected Ave (3 peaks): 254.3 RPD = 4

Total PCB Area Col1 (5.169 - 13.066) = 1378298 Col1 Total PCB = 0.5 ppm*

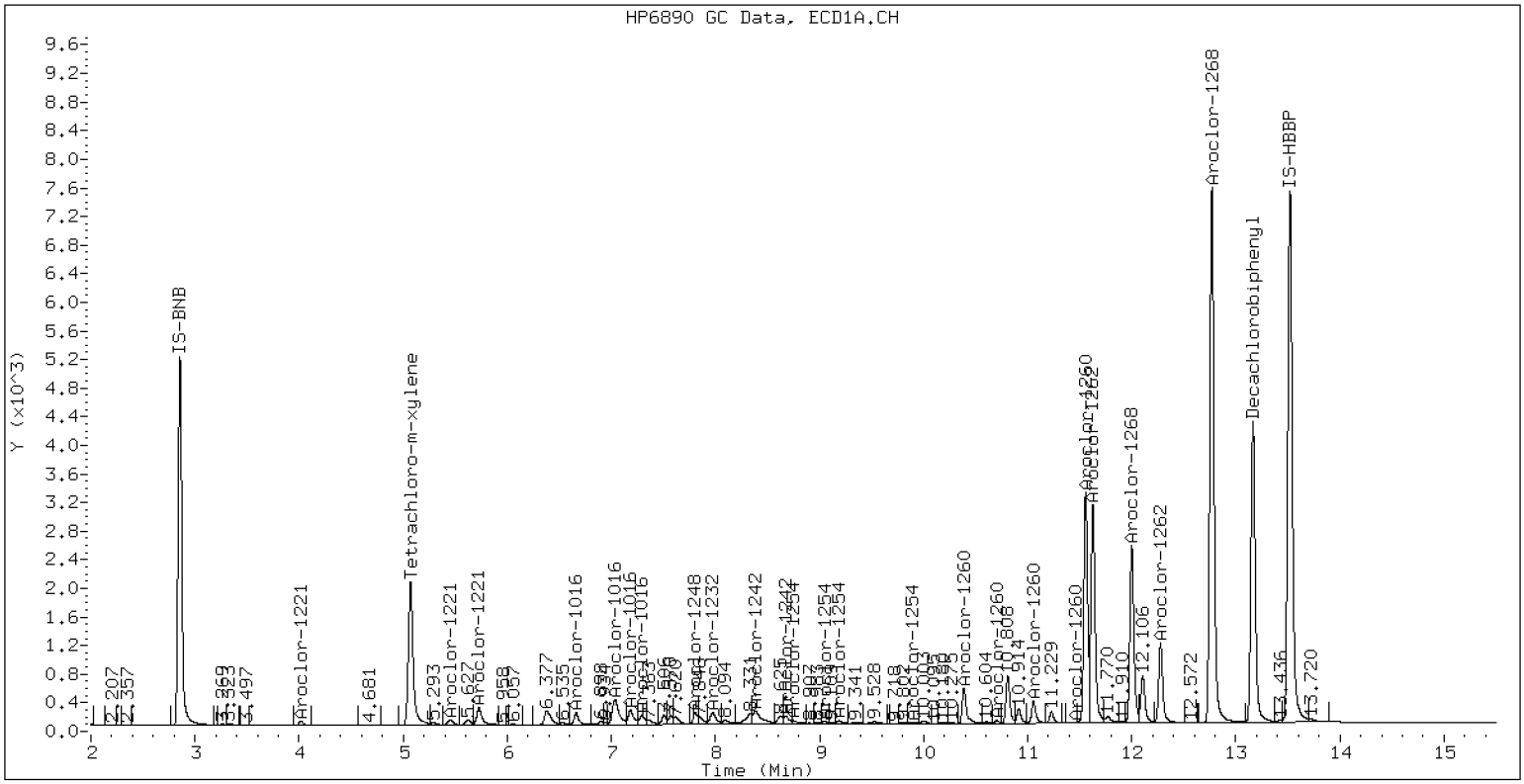
Total PCB Area Col2 (5.169 - 13.066) = 4537494 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

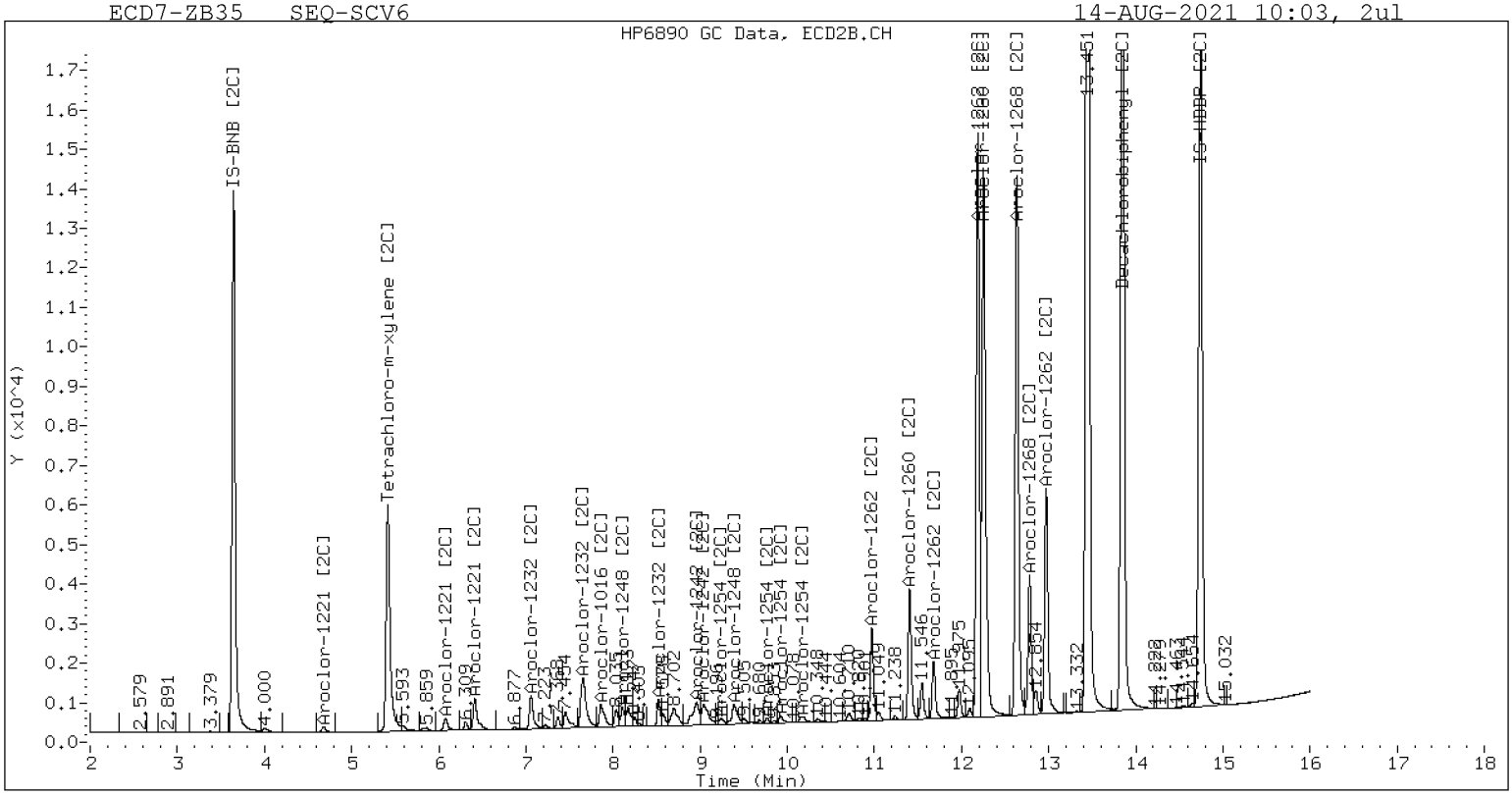
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV6 14-AUG-2021 10:03, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV6 14-AUG-2021 10:03, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142118ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/14/21
Lab Sample ID:	SJH0212-CCV1	Injection Time:	00:00
Sequence Name:	AR1248CCV1		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	263	0.0444871	0.0469949		5.3	
Aroclor-1248 (1)	A	250.00	268	0.0335259	0.0359491		7.2	
Aroclor-1248 (2)	A	250.00	268	0.0437624	0.0469636		7.2	
Aroclor-1248 (3)	A	250.00	268	0.0640809	0.0686550		7.2	
Aroclor-1248 (4)	A	250.00	249	0.0365791	0.0364119		-0.4	
Aroclor 1248 [2C]	A	250.00	255	0.0480909	0.0488949		2.0	
Aroclor-1248 (1) [2C]	A	250.00	257	0.0331517	0.0341300		2.8	
Aroclor-1248 (2) [2C]	A	250.00	261	0.0403519	0.0421316		4.4	
Aroclor-1248 (3) [2C]	A	250.00	249	0.0642727	0.0640095		-0.4	
Aroclor-1248 (4) [2C]	A	250.00	253	0.0545874	0.0553083		1.2	
Decachlorobiphenyl	A	40.000	39.6	0.7261970	0.7184049		-1.0	
Tetrachlorometaxylene	A	40.000	40.9	0.9669678	0.9882379		2.3	
Decachlorobiphenyl [2C]	A	40.000	38.2	1.7775950	1.6986640		-4.5	
Tetrachlorometaxylene [2C]	A	40.000	40.0	1.0280520	1.0276350		0.0	

* Values outside of QC limits

* Values outside of QC limits

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

Data file 1: /210814.b/08142118ECD7.D
Data file 2: /210814.b/210814.b/08142118ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248CCV1
Client ID:
Injection Date: 14-AUG-2021 00:00
Report Date: 08/17/2021 09:15
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.001	131195	5.414	0.002	379837	40.9	40.0	2.2	Tetrachloro-m-xylene
13.165	-0.001	166555	13.847	0.000	877551	39.6	38.2	3.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	265513	2.6
Hexabromobiphenyl	425681	463680	8.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	739245	2.5
Hexabromobiphenyl	863111	1033225	19.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1248	1	7.801	0.001	29828	268.1	1	8.107	0.001	78845	257.4
Aroclor-1248	2	7.971	0.001	38967	268.3	2	8.522	0.002	97330	261.0
Aroclor-1248	3	8.381	0.001	56965	267.8	3	8.954	0.002	147871	249.0
Aroclor-1248	4	8.676	0.001	30212	248.9	4	9.383	0.004	127770	253.3

Total Col1Ave (4 peaks): 263.3 Total Col2Ave (4 peaks): 255.2 RPD = 3

Corrected Ave (3 peaks): 261.6 Corrected Ave (3 peaks): 253.2 RPD = 3

CalAmt %D: 5.3 CalAmt %D: 2.1

Total PCB Area Col1 (5.167 - 13.066) = 591947 Col1 Total PCB = 0.2 ppm*

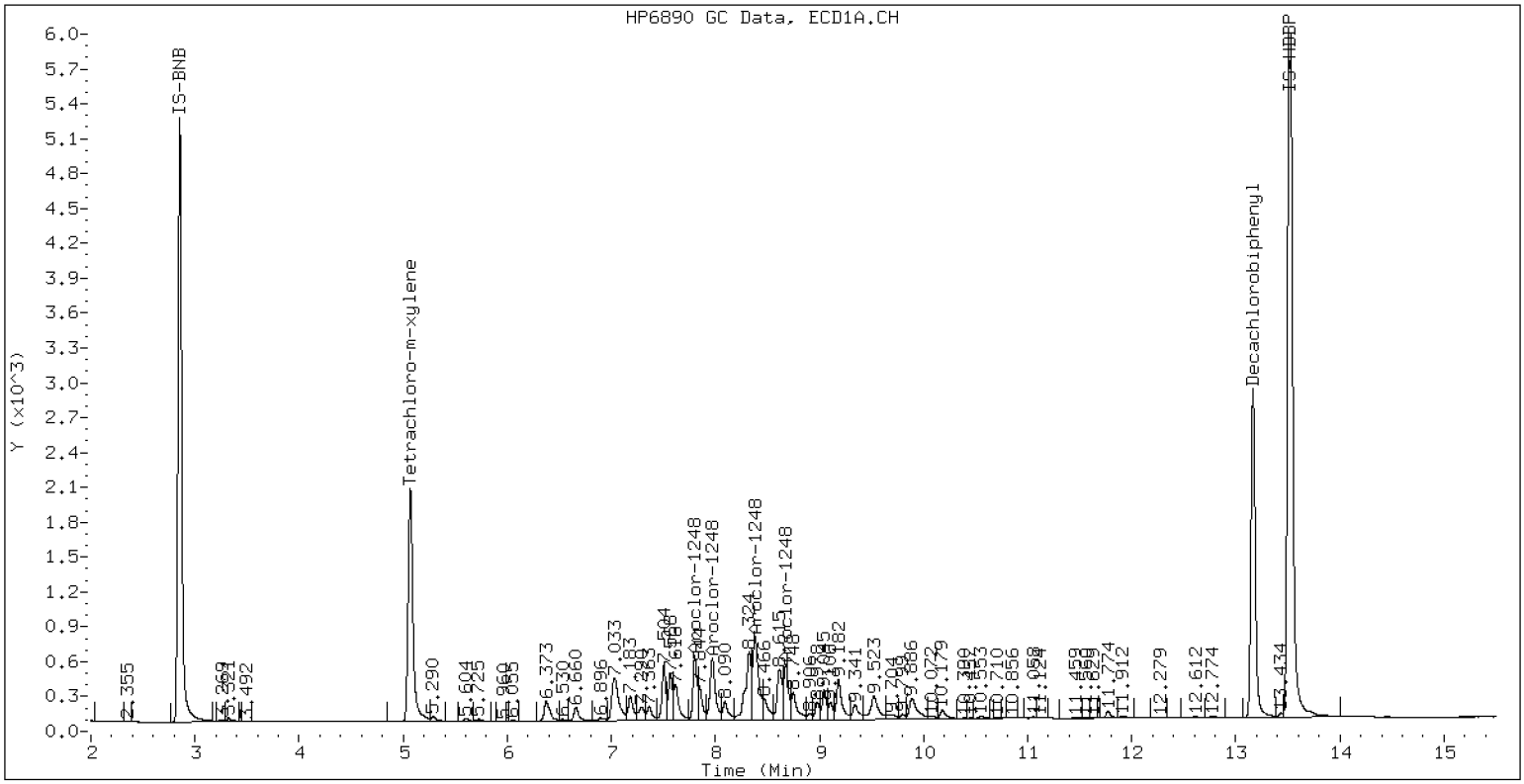
Total PCB Area Col2 (5.167 - 13.066) = 2207556 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

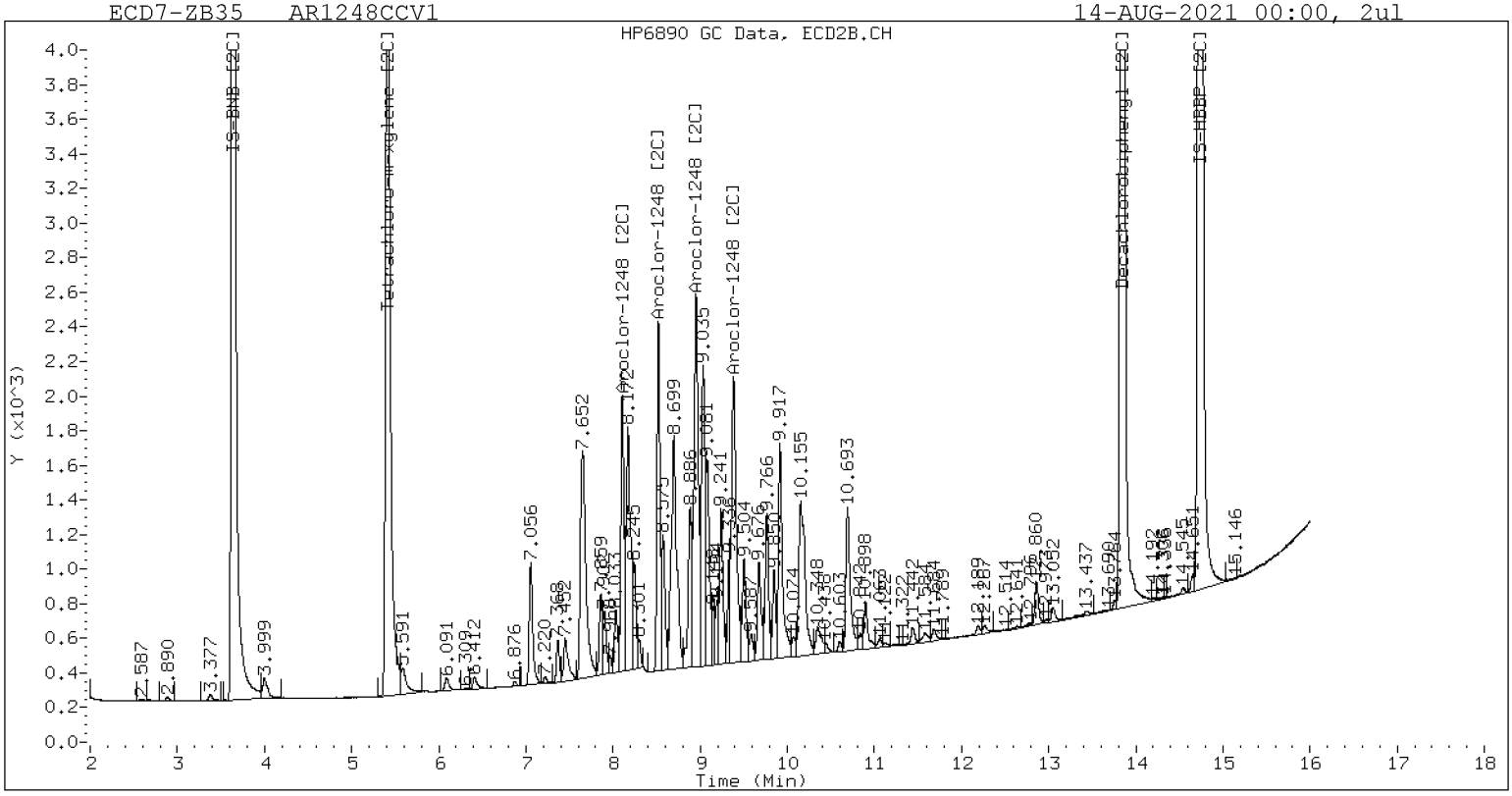
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248CCV1 14-AUG-2021 00:00, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248CCV1 14-AUG-2021 00:00, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142119ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/15/21
Lab Sample ID:	SJH0212-CCV2	Injection Time:	00:20
Sequence Name:	AR1660CCV2		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	258	0.0446218	0.0462840		3.2	
Aroclor-1016 (1)	A	250.00	256	0.0283733	0.0290209		2.4	
Aroclor-1016 (2)	A	250.00	262	0.0867650	0.0909901		4.8	
Aroclor-1016 (3)	A	250.00	257	0.0389383	0.0399842		2.8	
Aroclor-1016 (4)	A	250.00	257	0.0244108	0.0251408		2.8	
Aroclor 1016 [2C]	A	250.00	268	0.0529840	0.0567120		7.3	
Aroclor-1016 (1) [2C]	A	250.00	260	0.0456173	0.0475453		4.0	
Aroclor-1016 (2) [2C]	A	250.00	267	0.1020378	0.1091737		6.8	
Aroclor-1016 (3) [2C]	A	250.00	273	0.0400455	0.0436946		9.2	
Aroclor-1016 (4) [2C]	A	250.00	273	0.0242353	0.0264345		9.2	
Aroclor 1260	A	250.00	249	0.0461251	0.0459534		-0.3	
Aroclor-1260 (1)	A	250.00	238	0.0359923	0.0342662		-4.8	
Aroclor-1260 (2)	A	250.00	251	0.0353250	0.0354852		0.4	
Aroclor-1260 (3)	A	250.00	249	0.0954741	0.0951188		-0.4	
Aroclor-1260 (4)	A	250.00	255	0.0425365	0.0433624		2.0	
Aroclor-1260 (5)	A	250.00	253	0.0212978	0.0215346		1.2	
Aroclor 1260 [2C]	A	250.00	232	0.1108773	0.1019419		-7.3	
Aroclor-1260 (1) [2C]	A	250.00	228	0.0665032	0.0607139		-8.8	
Aroclor-1260 (2) [2C]	A	250.00	226	0.1932922	0.1748384		-9.6	
Aroclor-1260 (3) [2C]	A	250.00	230	0.1242917	0.1143539		-8.0	
Aroclor-1260 (4) [2C]	A	250.00	243	0.0594222	0.0578613		-2.8	
Decachlorobiphenyl	A	40.000	40.7	0.7261970	0.7386403		1.8	
Tetrachlorometaxylene	A	40.000	42.5	0.9669678	1.0278550		6.3	
Decachlorobiphenyl [2C]	A	40.000	39.3	1.7775950	1.7479780		-1.8	
Tetrachlorometaxylene [2C]	A	40.000	41.3	1.0280520	1.0619840		3.3	

* Values outside of QC limits

* Values outside of QC limits

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

Data file 1: /210814.b/08142119ECD7.D
Data file 2: /210814.b/210814.b/08142119ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV2
Client ID:
Injection Date: 15-AUG-2021 00:20
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.002	134871	5.414	0.002	390120	42.5	41.3	2.9	Tetrachloro-m-xylene
13.164	-0.001	168109	13.848	0.001	888458	40.7	39.3	3.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	262432	1.4
Hexabromobiphenyl	425681	455185	6.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	734700	1.9
Hexabromobiphenyl	863111	1016555	17.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.660	0.000	23800	255.7	1	7.056	0.001	109161	260.6
Aroclor-1016	2	7.034	0.001	74621	262.2	2	7.652	0.002	250656	267.5
Aroclor-1016	3	7.180	0.001	32791	256.7	3	7.858	0.001	100320	272.8
Aroclor-1016	4	7.289	-0.001	20618	257.5	4	8.106	0.000	60692	272.7

Total Col1Ave (4 peaks): 258.0 Total Col2Ave (4 peaks): 268.4 RPD = 4
Corrected Ave (3 peaks): 256.6 Corrected Ave (3 peaks): 266.9 RPD = 4

CalAmt %D: 3.2 CalAmt %D: 7.4

Aroclor-1260	1	10.386	0.002	48742	238.0	1	11.427	0.001	192872	228.2
Aroclor-1260	2	10.703	-0.000	50476	251.1	2	11.680	0.002	555415	226.1
Aroclor-1260	3	11.054	0.000	135302	249.1	3	12.263	0.003	363272	230.0
Aroclor-1260	4	11.456	0.001	61681	254.9	4	12.973	0.002	183810	243.4
Aroclor-1260	5	11.557	0.002	30632	252.8	NS	---			----

Total Col1Ave (5 peaks): 249.2 Total Col2Ave (4 peaks): 232.0 RPD = 7
Corrected Ave (4 peaks): 247.7 Corrected Ave (3 peaks): 228.1 RPD = 8

CalAmt %D: -0.3 CalAmt %D: -7.2

Total PCB Area Col1 (5.167 - 13.066) = 1318510 Col1 Total PCB = 0.5 ppm*

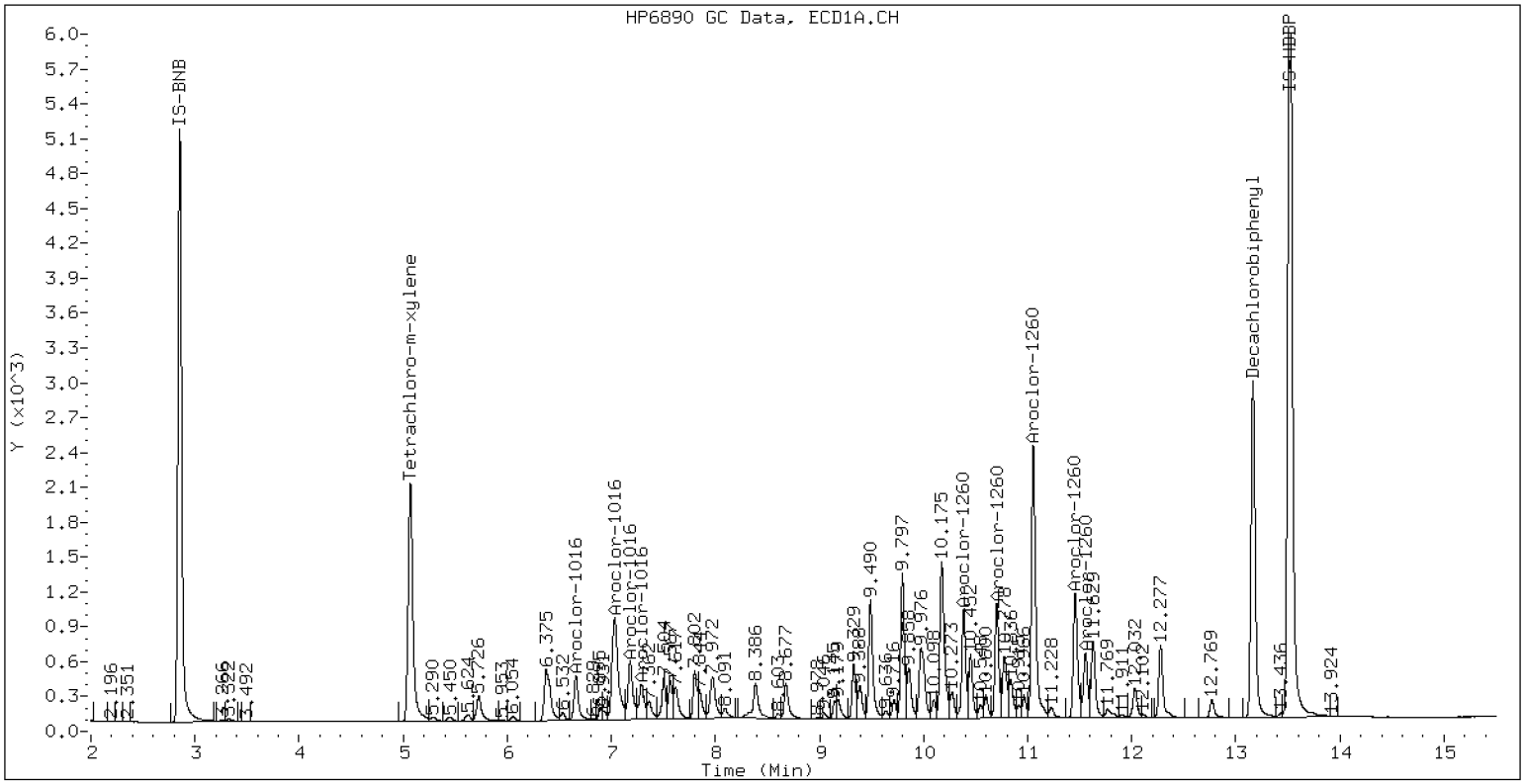
Total PCB Area Col2 (5.167 - 13.066) = 5084094 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

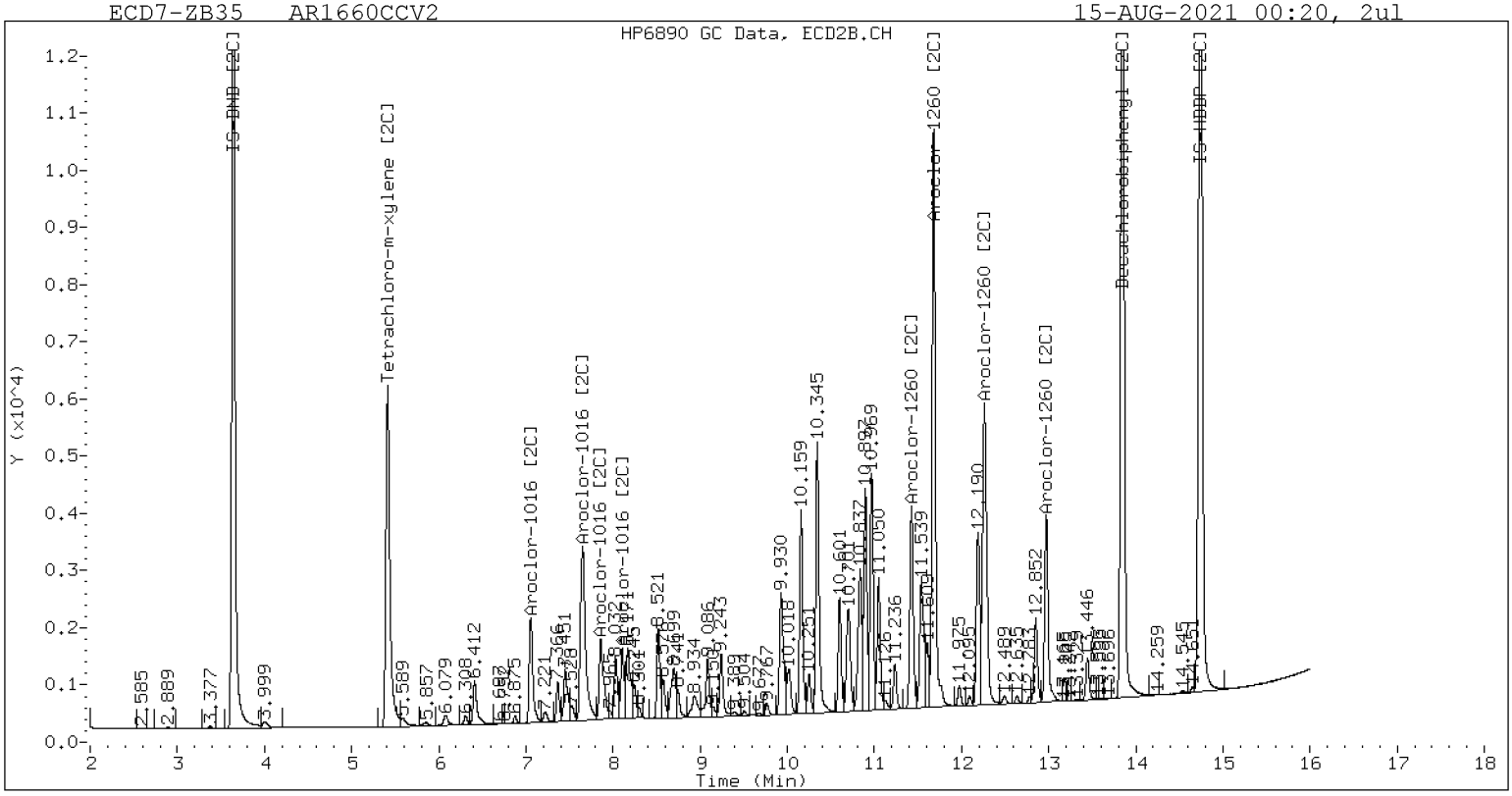
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV2 15-AUG-2021 00:20, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV2 15-AUG-2021 00:20, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142129ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/15/21
Lab Sample ID:	SJH0212-CCV3	Injection Time:	03:45
Sequence Name:	AR1242CCV3		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1242	A	250.00	258	0.0350459	0.0365112		3.0	
Aroclor-1242 (1)	A	250.00	269	0.0220414	0.0237598		7.6	
Aroclor-1242 (2)	A	250.00	270	0.0657077	0.0710833		8.0	
Aroclor-1242 (3)	A	250.00	242	0.0372229	0.0360304		-3.2	
Aroclor-1242 (4)	A	250.00	249	0.0152114	0.0151713		-0.4	
Aroclor 1242 [2C]	A	250.00	255	0.0490898	0.0502701		1.9	
Aroclor-1242 (1) [2C]	A	250.00	258	0.0367813	0.0379352		3.2	
Aroclor-1242 (2) [2C]	A	250.00	260	0.0798974	0.0832279		4.0	
Aroclor-1242 (3) [2C]	A	250.00	246	0.0373257	0.0367522		-1.6	
Aroclor-1242 (4) [2C]	A	250.00	255	0.0423546	0.0431651		2.0	
Decachlorobiphenyl	A	40.000	39.6	0.7261970	0.7181001		-1.0	
Tetrachlorometaxylene	A	40.000	41.4	0.9669678	1.0013280		3.5	
Decachlorobiphenyl [2C]	A	40.000	38.1	1.7775950	1.6948560		-4.8	
Tetrachlorometaxylene [2C]	A	40.000	40.5	1.0280520	1.0405590		1.3	

* Values outside of QC limits

* Values outside of QC limits

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

Data file 1: /210814.b/08142129ECD7.D
Data file 2: /210814.b/210814.b/08142129ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242CCV3
Client ID:
Injection Date: 15-AUG-2021 03:45
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.070	0.002	135710	5.414	0.001	395184	41.4	40.5	2.3	Tetrachloro-m-xylene
13.165	-0.001	171101	13.848	0.001	908208	39.6	38.1	3.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	271060	4.7
Hexabromobiphenyl	425681	476538	11.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	759561	5.4
Hexabromobiphenyl	863111	1071723	24.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1242	1	6.660	0.000	20126	269.5	1	7.057	0.000	90044	257.8
Aroclor-1242	2	7.034	0.000	60212	270.5	2	7.653	0.000	197552	260.4
Aroclor-1242	3	8.381	0.000	30520	242.0	3	8.956	0.000	87236	246.2
Aroclor-1242	4	8.676	0.000	12851	249.3	4	9.037	0.000	102458	254.8

Total Col1Ave (4 peaks): 257.8 Total Col2Ave (4 peaks): 254.8 RPD = 1

Corrected Ave (3 peaks): 253.6 Corrected Ave (3 peaks): 252.9 RPD = 0

CalAmt %D: 3.1 CalAmt %D: 1.9

Total PCB Area Col1 (5.167 - 13.066) = 456258 Col1 Total PCB = 0.2 ppm*

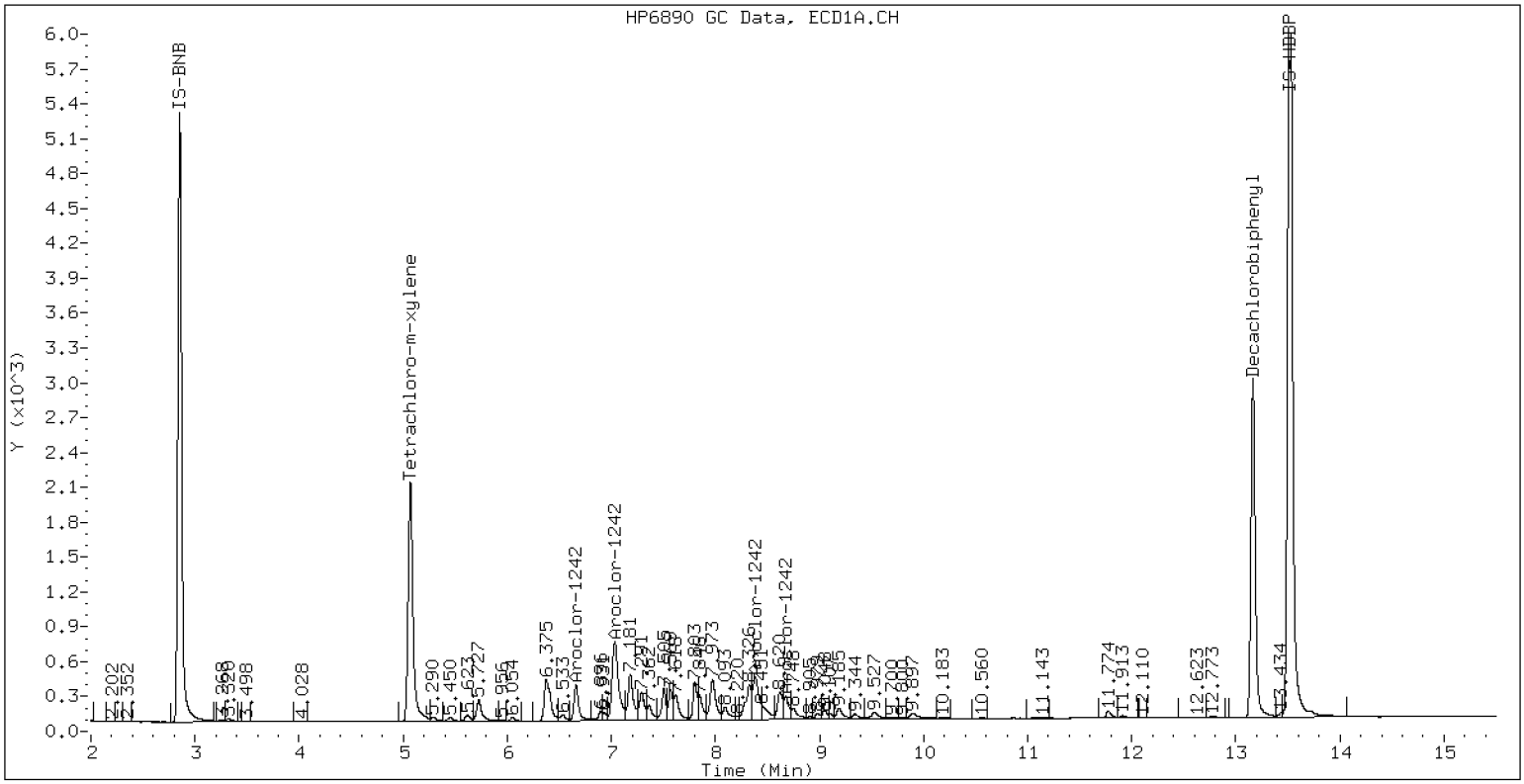
Total PCB Area Col2 (5.167 - 13.066) = 1823824 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

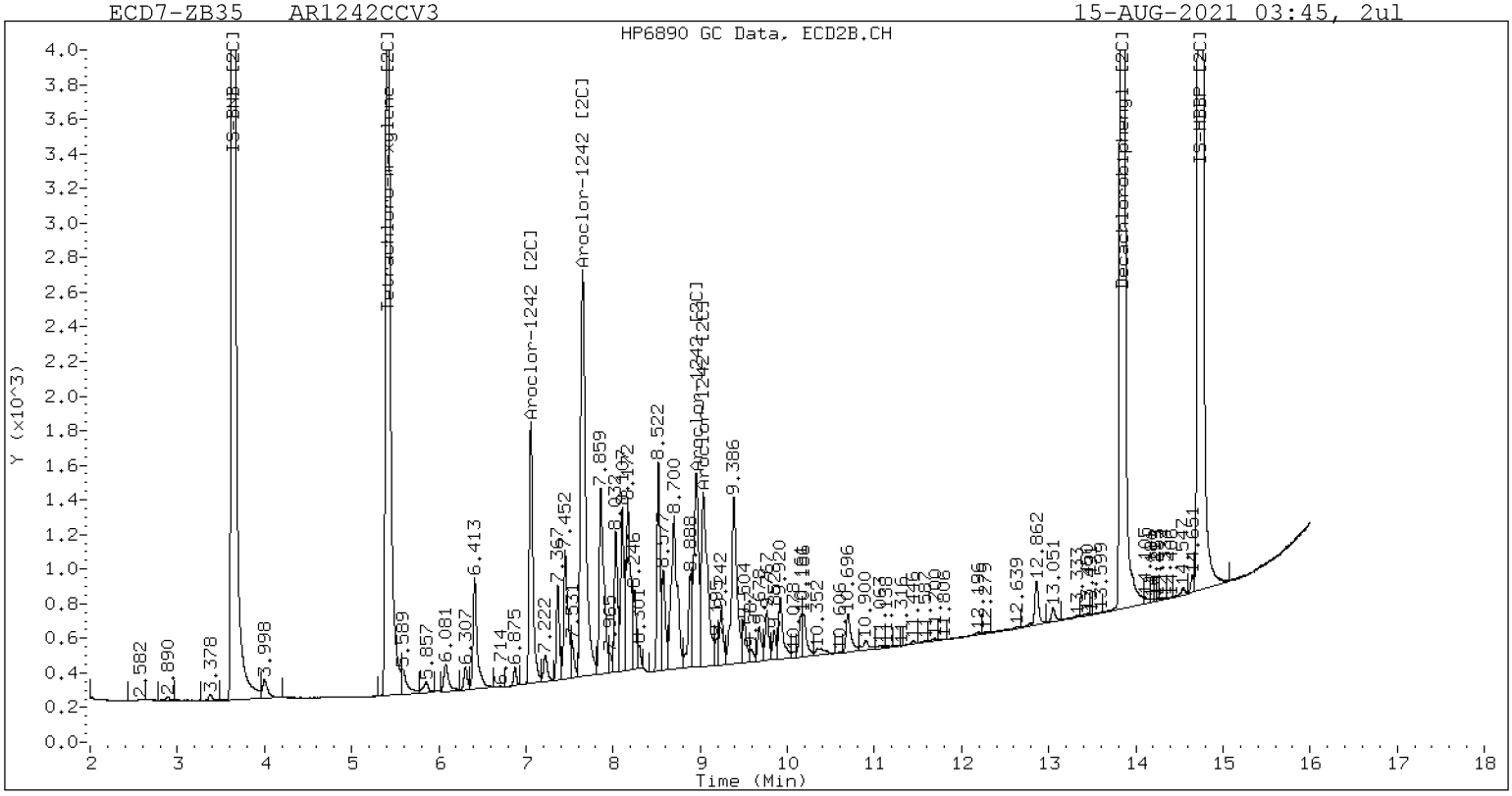
PCB Dual Column Chromatograms

ECD7-ZB5 AR1242CCV3 15-AUG-2021 03:45, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 AR1242CCV3 15-AUG-2021 03:45, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142130ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/15/21
Lab Sample ID:	SJH0212-CCV4	Injection Time:	04:06
Sequence Name:	AR1660CCV4		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	265	0.0446218	0.0473021		6.0	
Aroclor-1016 (1)	A	250.00	263	0.0283733	0.0298452		5.2	
Aroclor-1016 (2)	A	250.00	265	0.0867650	0.0919220		6.0	
Aroclor-1016 (3)	A	250.00	266	0.0389383	0.0414446		6.4	
Aroclor-1016 (4)	A	250.00	266	0.0244108	0.0259966		6.4	
Aroclor 1016 [2C]	A	250.00	270	0.0529840	0.0571373		8.0	
Aroclor-1016 (1) [2C]	A	250.00	263	0.0456173	0.0479504		5.2	
Aroclor-1016 (2) [2C]	A	250.00	270	0.1020378	0.1101331		8.0	
Aroclor-1016 (3) [2C]	A	250.00	275	0.0400455	0.0440517		10.0	
Aroclor-1016 (4) [2C]	A	250.00	272	0.0242353	0.0264140		8.8	
Aroclor 1260	A	250.00	251	0.0461251	0.0463787		0.6	
Aroclor-1260 (1)	A	250.00	238	0.0359923	0.0343469		-4.8	
Aroclor-1260 (2)	A	250.00	253	0.0353250	0.0357905		1.2	
Aroclor-1260 (3)	A	250.00	252	0.0954741	0.0961310		0.8	
Aroclor-1260 (4)	A	250.00	258	0.0425365	0.0438309		3.2	
Aroclor-1260 (5)	A	250.00	256	0.0212978	0.0217942		2.4	
Aroclor 1260 [2C]	A	250.00	231	0.1108773	0.1013548		-7.8	
Aroclor-1260 (1) [2C]	A	250.00	226	0.0665032	0.0602541		-9.6	
Aroclor-1260 (2) [2C]	A	250.00	224	0.1932922	0.1734242		-10.4	
Aroclor-1260 (3) [2C]	A	250.00	230	0.1242917	0.1141089		-8.0	
Aroclor-1260 (4) [2C]	A	250.00	242	0.0594222	0.0576321		-3.2	
Decachlorobiphenyl	A	40.000	40.9	0.7261970	0.7424202		2.3	
Tetrachlorometaxylene	A	40.000	42.4	0.9669678	1.0255670		6.0	
Decachlorobiphenyl [2C]	A	40.000	39.2	1.7775950	1.7412830		-2.0	
Tetrachlorometaxylene [2C]	A	40.000	41.6	1.0280520	1.0681360		4.0	

* Values outside of QC limits

* Values outside of QC limits

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

Data file 1: /210814.b/08142130ECD7.D
Data file 2: /210814.b/210814.b/08142130ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV4
Client ID:
Injection Date: 15-AUG-2021 04:06
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	0.001	137589	5.413	0.001	401846	42.4	41.6	2.1	Tetrachloro-m-xylene
13.166	0.000	171982	13.847	0.000	925295	40.9	39.2	4.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	268318	3.7
Hexabromobiphenyl	425681	463301	8.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	752425	4.4
Hexabromobiphenyl	863111	1062774	23.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1016	1	6.660	0.001	25025	263.0	1	7.057	0.001	112747	262.8
Aroclor-1016	2	7.034	0.001	77076	264.9	2	7.653	0.002	258959	269.8
Aroclor-1016	3	7.179	0.000	34751	266.1	3	7.859	0.001	103580	275.0
Aroclor-1016	4	7.289	-0.001	21798	266.2	4	8.107	0.001	62108	272.5
Total Col1Ave (4 peaks):				265.0		Total Col2Ave (4 peaks):			270.0	RPD = 2
Corrected Ave (3 peaks):				264.6		Corrected Ave (3 peaks):			268.4	RPD = 1
CalAmt %D:				6.0		CalAmt %D:			8.0	
Aroclor-1260	1	10.387	0.003	49728	238.6	1	11.426	0.000	200114	226.5
Aroclor-1260	2	10.704	0.001	51818	253.3	2	11.680	0.001	575971	224.3
Aroclor-1260	3	11.054	0.001	139180	251.7	3	12.262	0.002	378975	229.5
Aroclor-1260	4	11.456	0.000	63459	257.6	4	12.973	0.001	191406	242.5
Aroclor-1260	5	11.556	0.001	31554	255.8	NS	---			----
Total Col1Ave (5 peaks):				251.4		Total Col2Ave (4 peaks):			230.7	RPD = 9
Corrected Ave (4 peaks):				249.9		Corrected Ave (3 peaks):			226.8	RPD = 10
CalAmt %D:				0.6		CalAmt %D:			-7.7	

Total PCB Area Col1 (5.167 - 13.066) = 1378872 Col1 Total PCB = 0.5 ppm*

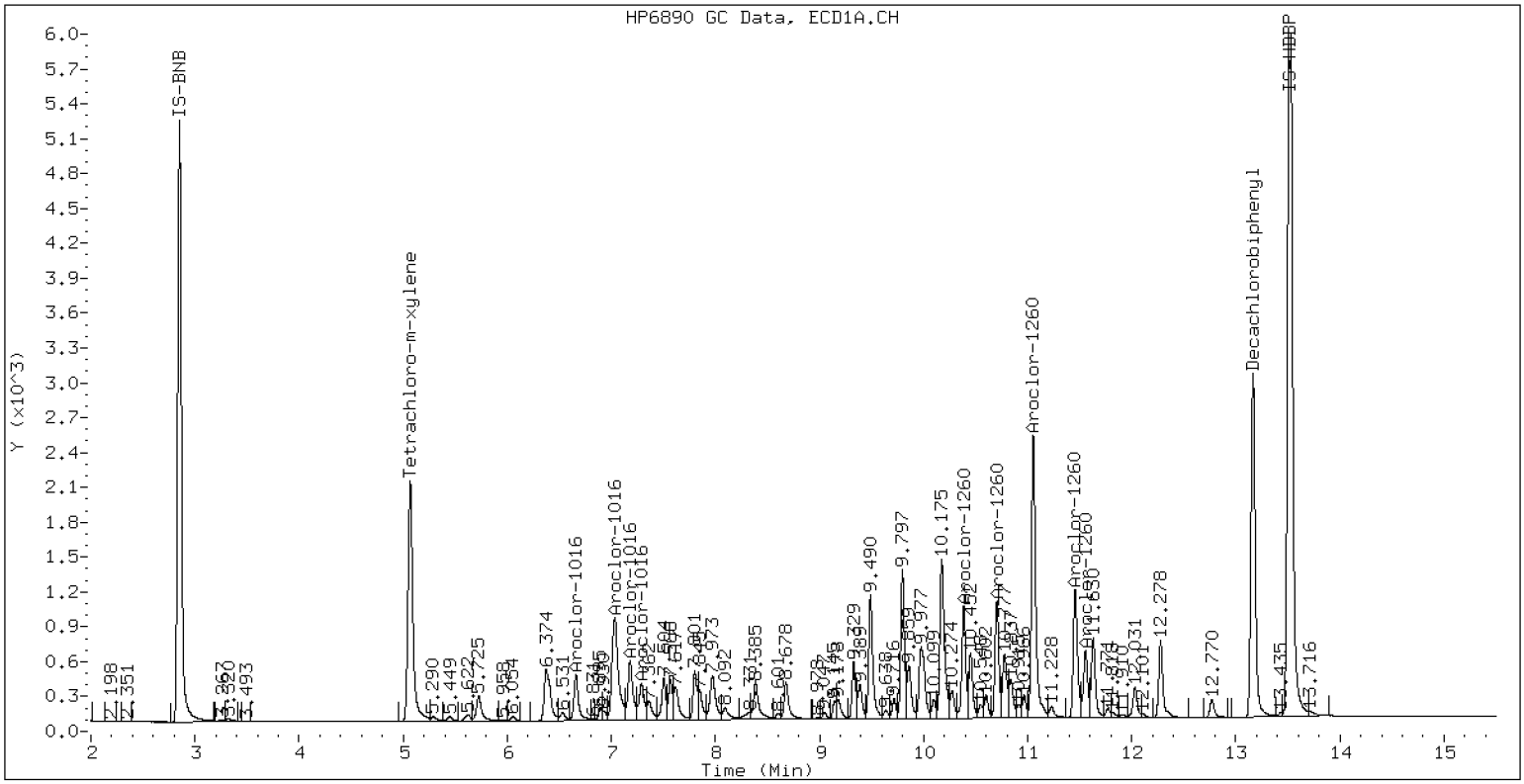
Total PCB Area Col2 (5.167 - 13.066) = 5266293 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

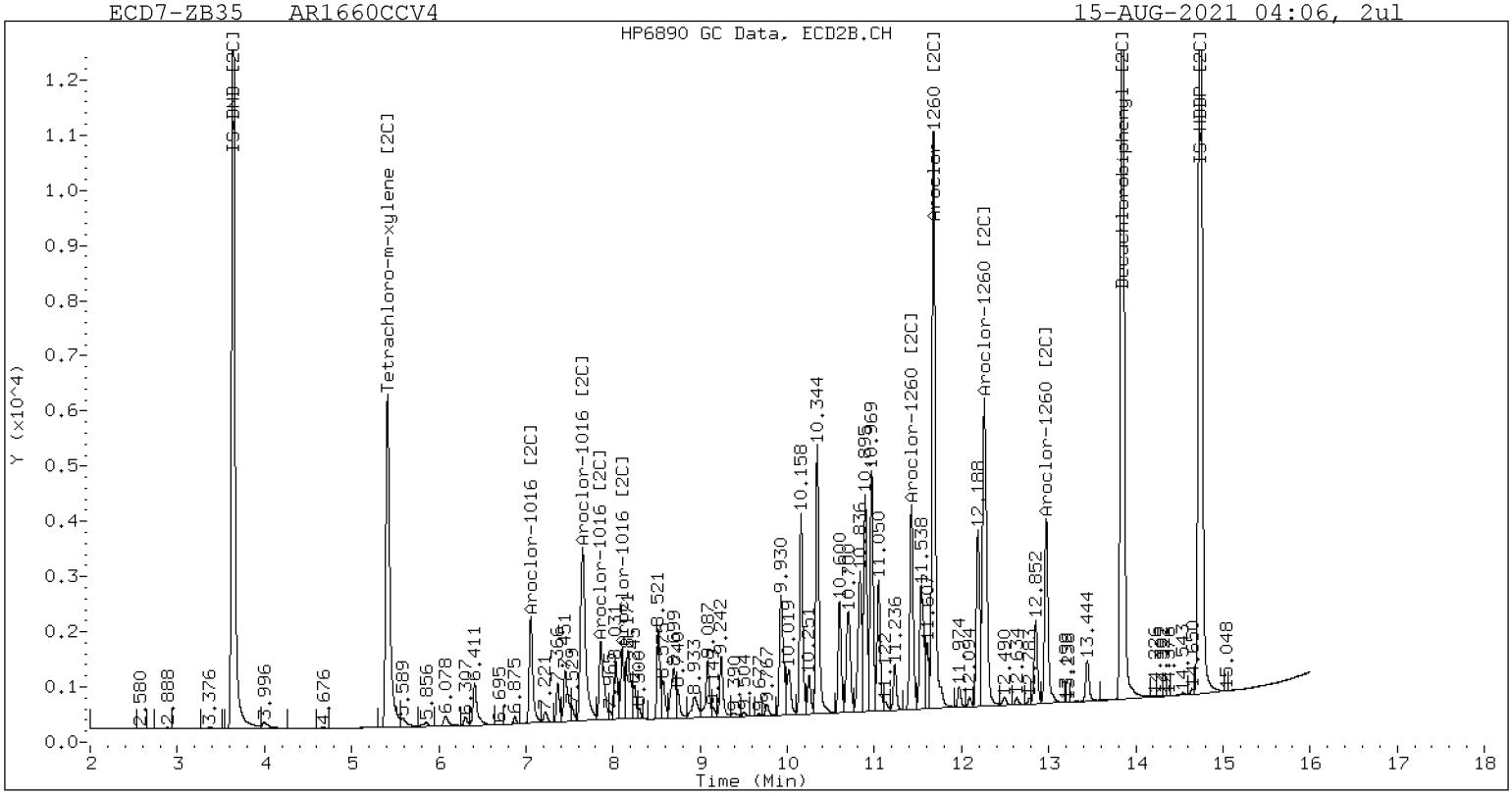
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV4 15-AUG-2021 04:06, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV4 15-AUG-2021 04:06, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142144ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/15/21
Lab Sample ID:	SJH0212-CCV5	Injection Time:	08:53
Sequence Name:	AR1254CCV5		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1254	A	250.00	249	0.0571741	0.0569919		-0.3	
Aroclor-1254 (1)	A	250.00	250	0.0690183	0.0689734		0.0	
Aroclor-1254 (2)	A	250.00	253	0.0319506	0.0322855		1.2	
Aroclor-1254 (3)	A	250.00	238	0.0449859	0.0427534		-4.8	
Aroclor-1254 (4)	A	250.00	249	0.0859427	0.0857240		-0.4	
Aroclor-1254 (5)	A	250.00	256	0.0539731	0.0552234		2.4	
Aroclor 1254 [2C]	A	250.00	231	0.0782980	0.0725417		-7.5	
Aroclor-1254 (1) [2C]	A	250.00	234	0.0680651	0.0637472		-6.4	
Aroclor-1254 (2) [2C]	A	250.00	225	0.0399453	0.0360075		-10.0	
Aroclor-1254 (3) [2C]	A	250.00	235	0.0518895	0.0488790		-6.0	
Aroclor-1254 (4) [2C]	A	250.00	224	0.1149829	0.1030539		-10.4	
Aroclor-1254 (5) [2C]	A	250.00	238	0.1166073	0.1110207		-4.8	
Decachlorobiphenyl	A	40.000	40.0	0.7261970	0.7261120		0.0	
Tetrachlorometaxylene	A	40.000	40.6	0.9669678	0.9826819		1.5	
Decachlorobiphenyl [2C]	A	40.000	37.5	1.7775950	1.6651180		-6.3	
Tetrachlorometaxylene [2C]	A	40.000	40.2	1.0280520	1.0326780		0.5	

* Values outside of QC limits

* Values outside of QC limits

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

Data file 1: /210814.b/08142144ECD7.D
Data file 2: /210814.b/210814.b/08142144ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254CCV5
Client ID:
Injection Date: 15-AUG-2021 08:53
Report Date: 08/17/2021 09:17
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.067	0.000	131786	5.411	-0.001	397040	40.7	40.2	1.2	Tetrachloro-m-xylene
13.164	-0.002	144281	13.846	-0.001	747766	40.0	37.5	6.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	268217	3.6
Hexabromobiphenyl	425681	397407	-6.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	768952	6.7
Hexabromobiphenyl	863111	898154	4.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1254	1	8.676	0.000	57812	249.8	1	9.240	0.000	153183	234.1
Aroclor-1254	2	8.748	0.000	27061	252.6	2	9.333	0.000	86525	225.4
Aroclor-1254	3	9.045	0.000	35835	237.6	3	9.763	0.000	117455	235.5
Aroclor-1254	4	9.179	0.000	71852	249.4	4	9.915	0.000	247636	224.1
Aroclor-1254	5	9.870	0.000	46287	255.8	5	10.152	0.000	266780	238.0

Total Col1Ave (5 peaks): 249.0 Total Col2Ave (5 peaks): 231.4 RPD = 7

Corrected Ave (4 peaks): 247.4 Corrected Ave (4 peaks): 229.8 RPD = 7

CalAmt %D: -0.4 CalAmt %D: -7.4

Total PCB Area Col1 (5.167 - 13.066) = 734846 Col1 Total PCB = 0.3 ppm*

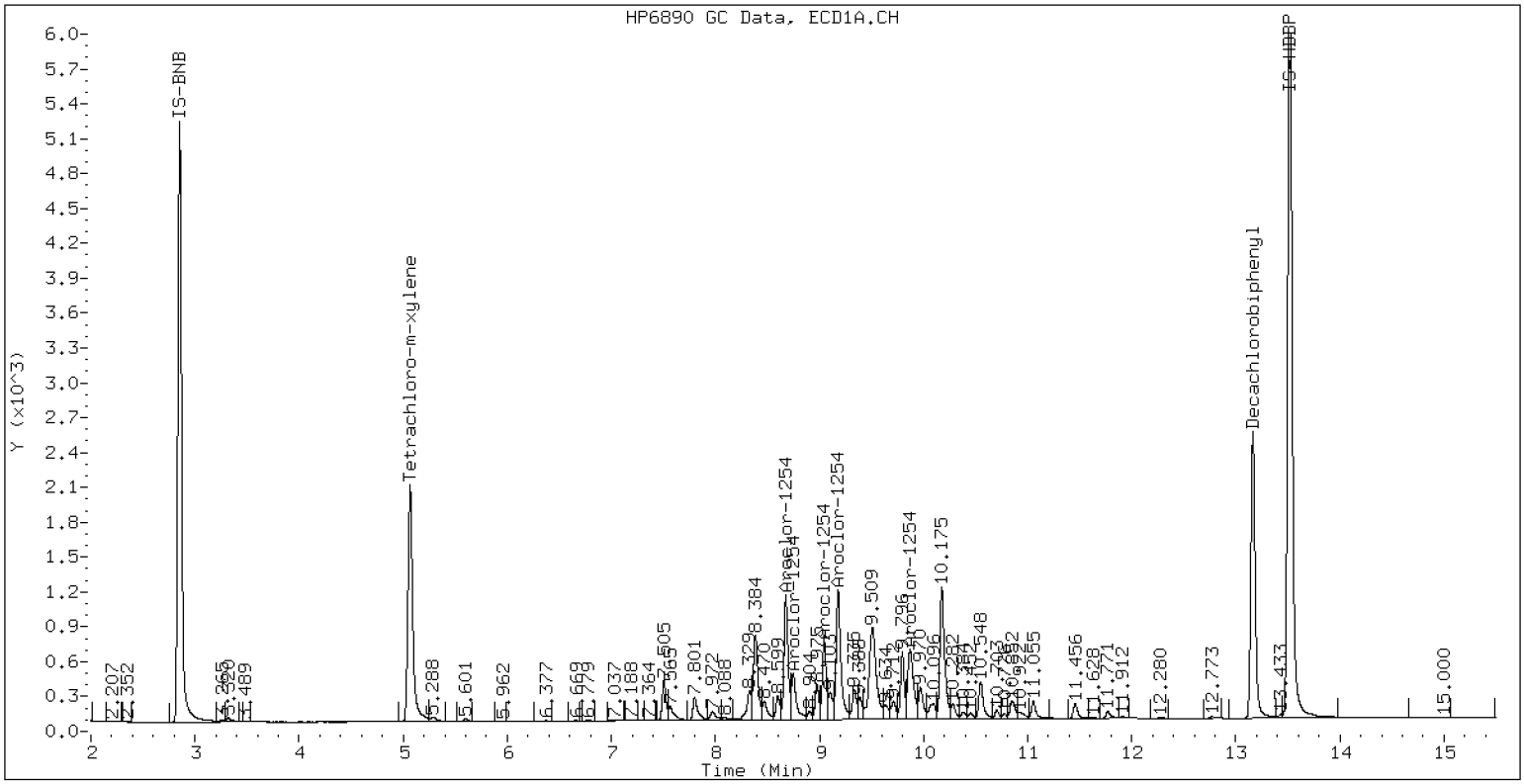
Total PCB Area Col2 (5.167 - 13.066) = 2846319 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

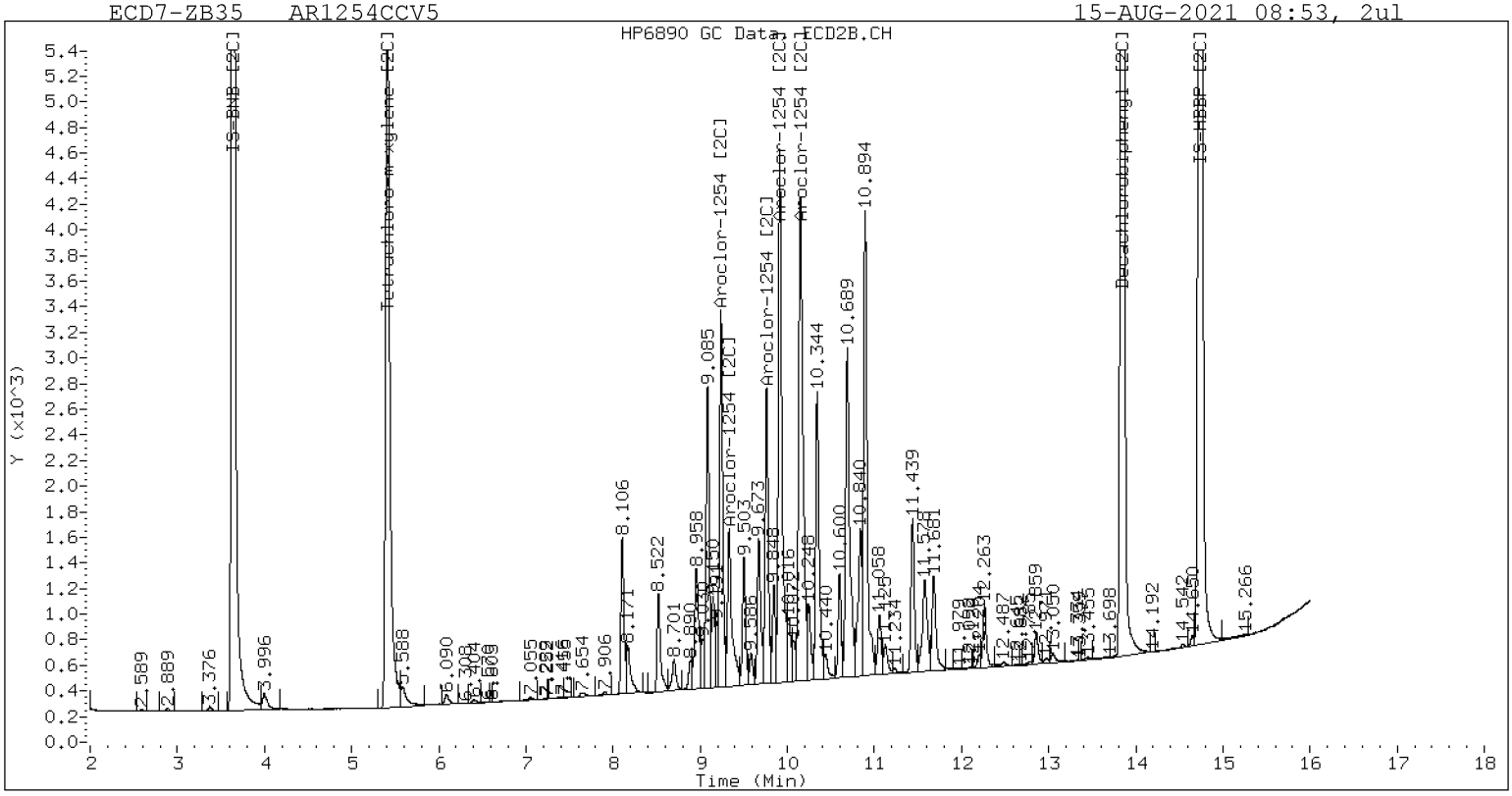
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254CCV5 15-AUG-2021 08:53, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254CCV5 15-AUG-2021 08:53, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142145ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/15/21
Lab Sample ID:	SJH0212-CCV6	Injection Time:	09:13
Sequence Name:	AR1660CCV6		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	265	0.0446218	0.0472971		6.0	
Aroclor-1016 (1)	A	250.00	264	0.0283733	0.0299249		5.6	
Aroclor-1016 (2)	A	250.00	265	0.0867650	0.0920218		6.0	
Aroclor-1016 (3)	A	250.00	264	0.0389383	0.0412033		5.6	
Aroclor-1016 (4)	A	250.00	267	0.0244108	0.0260386		6.8	
Aroclor 1016 [2C]	A	250.00	269	0.0529840	0.0569513		7.6	
Aroclor-1016 (1) [2C]	A	250.00	261	0.0456173	0.0476999		4.4	
Aroclor-1016 (2) [2C]	A	250.00	270	0.1020378	0.1100102		8.0	
Aroclor-1016 (3) [2C]	A	250.00	273	0.0400455	0.0436942		9.2	
Aroclor-1016 (4) [2C]	A	250.00	272	0.0242353	0.0264007		8.8	
Aroclor 1260	A	250.00	264	0.0461251	0.0487088		5.6	
Aroclor-1260 (1)	A	250.00	254	0.0359923	0.0365304		1.6	
Aroclor-1260 (2)	A	250.00	266	0.0353250	0.0376569		6.4	
Aroclor-1260 (3)	A	250.00	264	0.0954741	0.1007641		5.6	
Aroclor-1260 (4)	A	250.00	270	0.0425365	0.0459355		8.0	
Aroclor-1260 (5)	A	250.00	266	0.0212978	0.0226571		6.4	
Aroclor 1260 [2C]	A	250.00	241	0.1108773	0.1058815		-3.8	
Aroclor-1260 (1) [2C]	A	250.00	239	0.0665032	0.0636052		-4.4	
Aroclor-1260 (2) [2C]	A	250.00	236	0.1932922	0.1826957		-5.6	
Aroclor-1260 (3) [2C]	A	250.00	238	0.1242917	0.1180863		-4.8	
Aroclor-1260 (4) [2C]	A	250.00	249	0.0594222	0.0591387		-0.4	
Decachlorobiphenyl	A	40.000	41.2	0.7261970	0.7473435		3.0	
Tetrachlorometaxylene	A	40.000	42.3	0.9669678	1.0217770		5.8	
Decachlorobiphenyl [2C]	A	40.000	39.2	1.7775950	1.7409050		-2.0	
Tetrachlorometaxylene [2C]	A	40.000	41.4	1.0280520	1.0646640		3.5	

* Values outside of QC limits

* Values outside of QC limits

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

Data file 1: /210814.b/08142145ECD7.D
Data file 2: /210814.b/210814.b/08142145ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV6
Client ID:
Injection Date: 15-AUG-2021 09:13
Report Date: 08/17/2021 09:17
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	0.000	137431	5.412	-0.001	410453	42.3	41.4	2.0	Tetrachloro-m-xylene
13.165	-0.000	159547	13.845	-0.002	854055	41.2	39.2	5.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	269004	3.9
Hexabromobiphenyl	425681	426971	0.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	771047	6.9
Hexabromobiphenyl	863111	981162	13.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.660	0.000	25156	263.7	1	7.056	0.001	114934	261.4
Aroclor-1016	2	7.033	-0.000	77357	265.1	2	7.652	0.002	265072	269.5
Aroclor-1016	3	7.180	0.001	34637	264.5	3	7.858	0.001	105282	272.8
Aroclor-1016	4	7.288	-0.002	21889	266.7	4	8.106	0.000	63613	272.3

Total Col1Ave (4 peaks): 265.0 Total Col2Ave (4 peaks): 269.0 RPD = 2
Corrected Ave (3 peaks): 264.5 Corrected Ave (3 peaks): 267.8 RPD = 1

CalAmt %D: 6.0 CalAmt %D: 7.6

Aroclor-1260	1	10.385	0.001	48742	253.7	1	11.426	0.000	195022	239.1
Aroclor-1260	2	10.703	0.000	50245	266.5	2	11.680	0.001	560169	236.3
Aroclor-1260	3	11.055	0.001	134448	263.9	3	12.263	0.002	362068	237.5
Aroclor-1260	4	11.455	0.000	61291	270.0	4	12.972	0.001	181327	248.8
Aroclor-1260	5	11.557	0.002	30231	266.0	NS	---			----

Total Col1Ave (5 peaks): 264.0 Total Col2Ave (4 peaks): 240.4 RPD = 9
Corrected Ave (4 peaks): 262.5 Corrected Ave (3 peaks): 237.6 RPD = 10

CalAmt %D: 5.6 CalAmt %D: -3.8

Total PCB Area Col1 (5.167 - 13.066) = 1348670 Col1 Total PCB = 0.5 ppm*

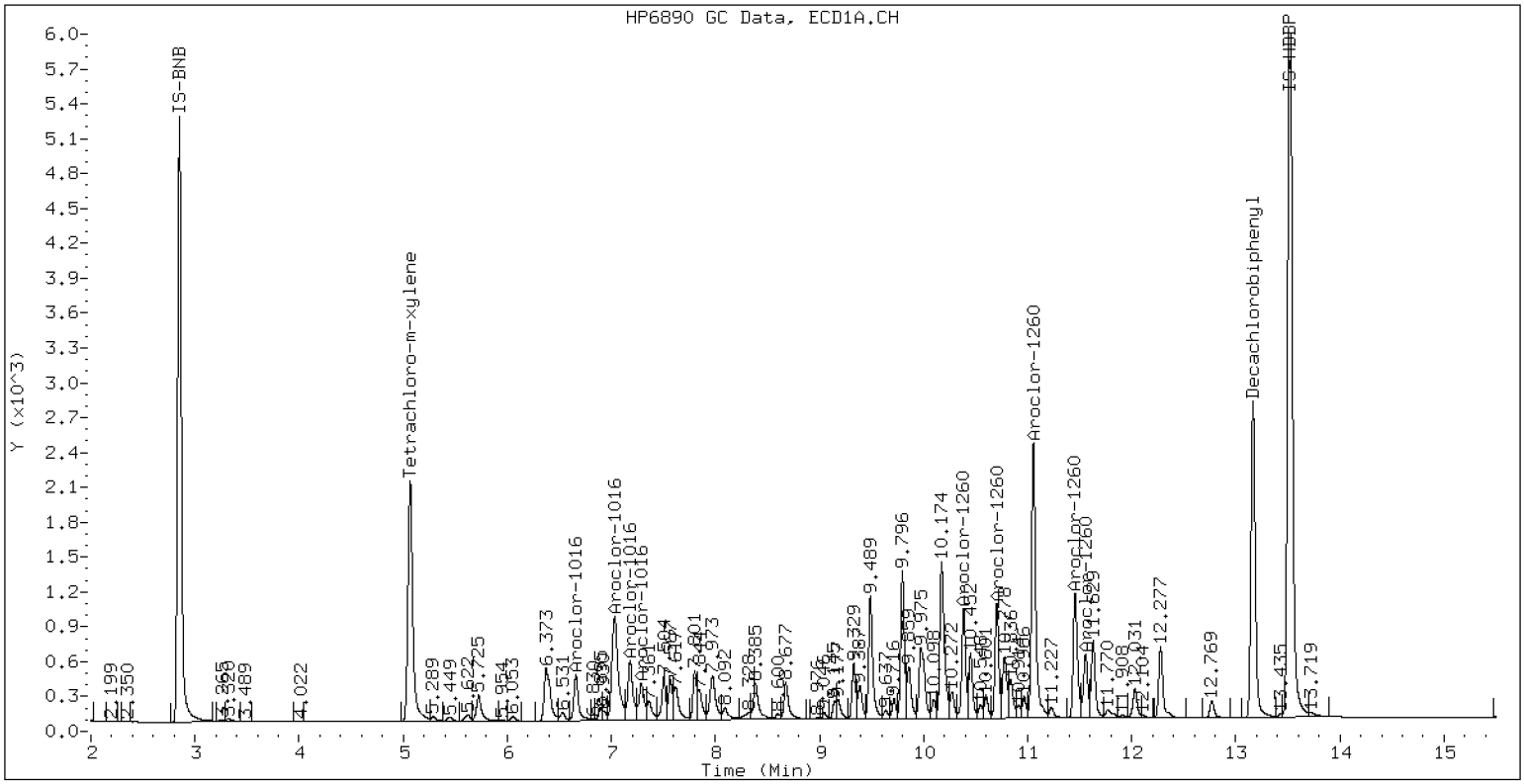
Total PCB Area Col2 (5.167 - 13.066) = 5214098 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

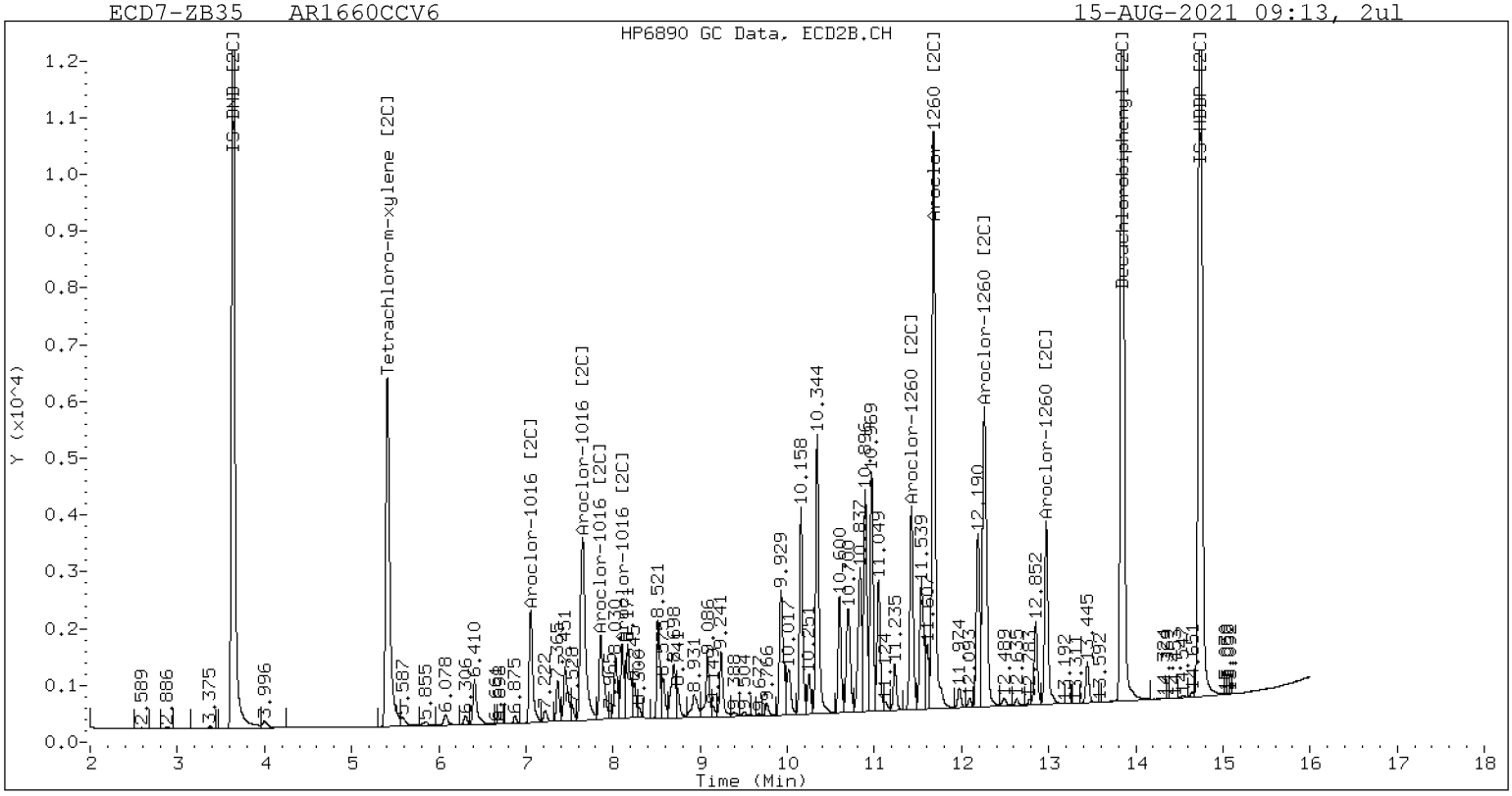
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV6 15-AUG-2021 09:13, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV6 15-AUG-2021 09:13, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142157ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/15/21
Lab Sample ID:	SJH0212-CCV7	Injection Time:	13:19
Sequence Name:	AR1248CCV7		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	255	0.0444871	0.0455910		2.1	
Aroclor-1248 (1)	A	250.00	256	0.0335259	0.0342836		2.4	
Aroclor-1248 (2)	A	250.00	263	0.0437624	0.0459754		5.2	
Aroclor-1248 (3)	A	250.00	260	0.0640809	0.0667348		4.0	
Aroclor-1248 (4)	A	250.00	242	0.0365791	0.0353704		-3.2	
Aroclor 1248 [2C]	A	250.00	250	0.0480909	0.0478217		-0.2	
Aroclor-1248 (1) [2C]	A	250.00	251	0.0331517	0.0333098		0.4	
Aroclor-1248 (2) [2C]	A	250.00	256	0.0403519	0.0414022		2.4	
Aroclor-1248 (3) [2C]	A	250.00	244	0.0642727	0.0626992		-2.4	
Aroclor-1248 (4) [2C]	A	250.00	247	0.0545874	0.0538755		-1.2	
Decachlorobiphenyl	A	40.000	39.8	0.7261970	0.7221650		-0.5	
Tetrachlorometaxylene	A	40.000	40.8	0.9669678	0.9874666		2.0	
Decachlorobiphenyl [2C]	A	40.000	36.9	1.7775950	1.6419550		-7.8	
Tetrachlorometaxylene [2C]	A	40.000	40.3	1.0280520	1.0353670		0.8	

* Values outside of QC limits

* Values outside of QC limits

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

Data file 1: /210814.b/08142157ECD7.D
Data file 2: /210814.b/210814.b/08142157ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248CCV7
Client ID:
Injection Date: 15-AUG-2021 13:19
Report Date: 08/17/2021 09:17
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.067	0.000	136065	5.412	-0.001	408659	40.8	40.3	1.4	Tetrachloro-m-xylene
13.166	0.000	155077	13.846	-0.001	823662	39.8	36.9	7.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	275584	6.5
Hexabromobiphenyl	425681	429478	0.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	789399	9.5
Hexabromobiphenyl	863111	1003270	16.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1248	1	7.800	0.000	29525	255.6	1	8.105	0.000	82171	251.2
Aroclor-1248	2	7.970	0.000	39594	262.6	2	8.520	0.000	102134	256.5
Aroclor-1248	3	8.379	0.000	57472	260.4	3	8.952	0.000	154671	243.9
Aroclor-1248	4	8.675	0.000	30461	241.7	4	9.380	0.000	132904	246.7

Total Col1Ave (4 peaks): 255.1 Total Col2Ave (4 peaks): 249.6 RPD = 2

Corrected Ave (3 peaks): 252.6 Corrected Ave (3 peaks): 247.3 RPD = 2

CalAmt %D: 2.0 CalAmt %D: -0.2

Total PCB Area Col1 (5.167 - 13.066) = 604375 Col1 Total PCB = 0.2 ppm*

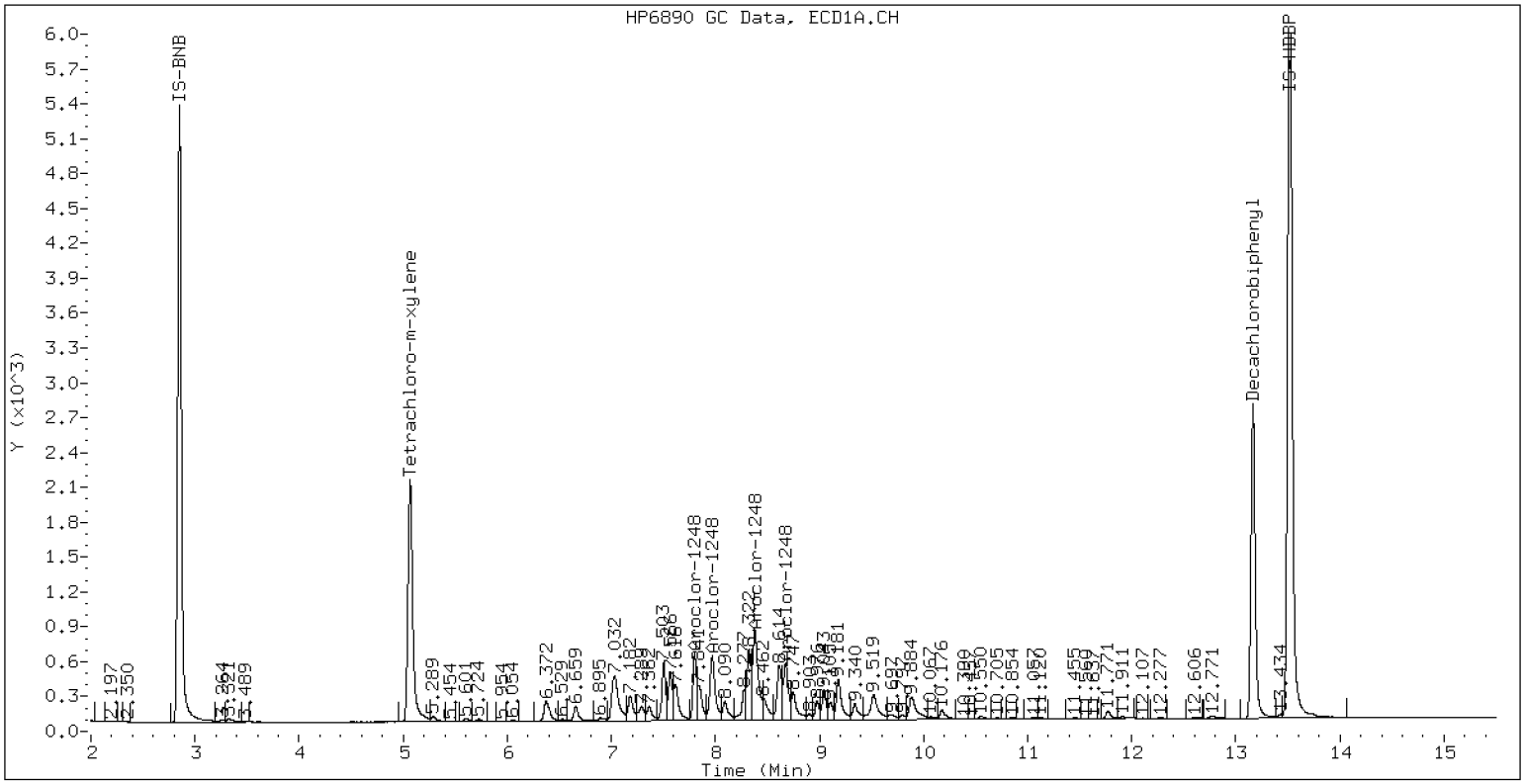
Total PCB Area Col2 (5.167 - 13.066) = 2326101 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

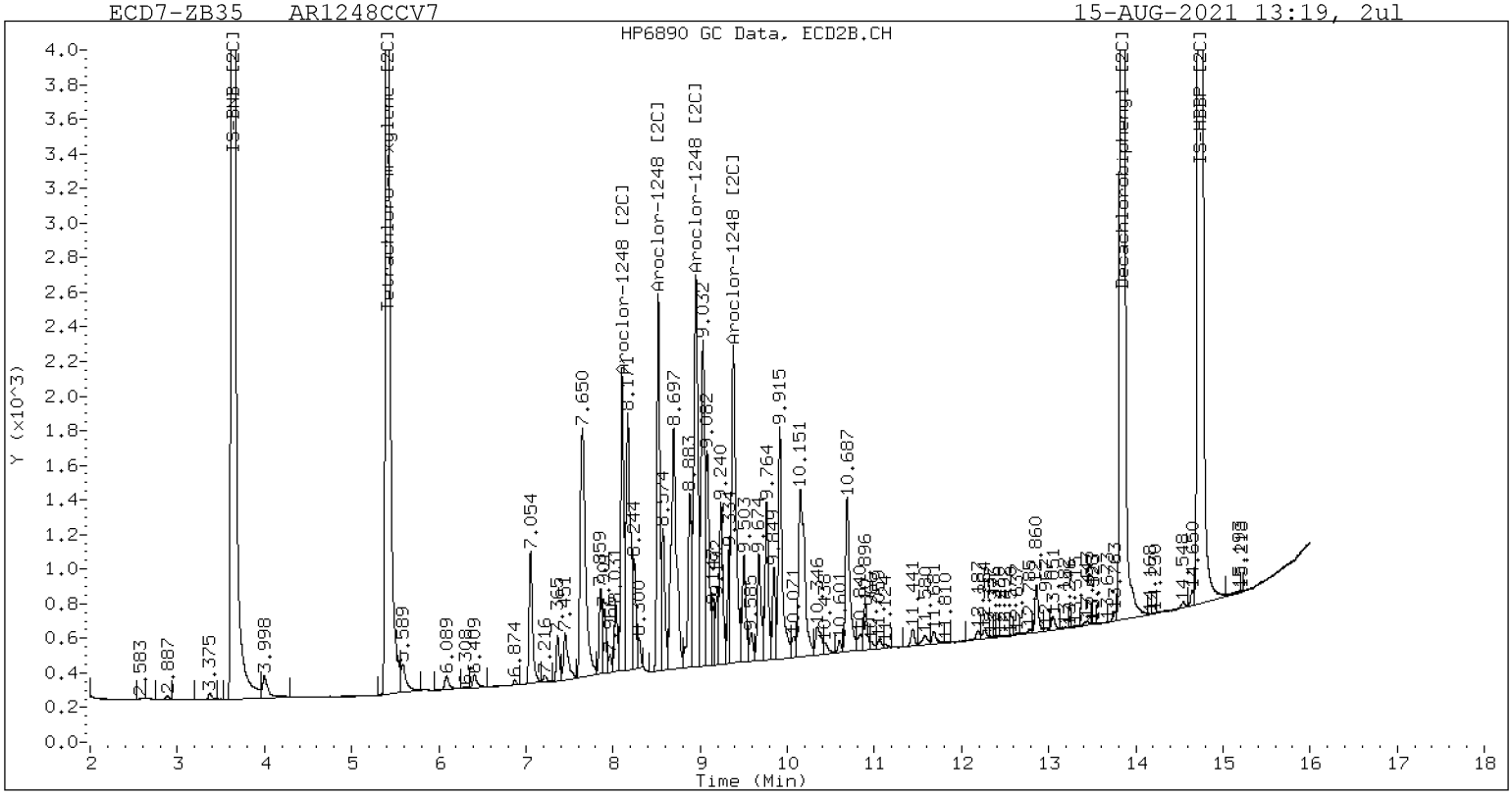
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248CCV7 15-AUG-2021 13:19, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 AR1248CCV7 15-AUG-2021 13:19, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142158ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/15/21
Lab Sample ID:	SJH0212-CCV8	Injection Time:	13:40
Sequence Name:	AR1660CCV8		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	267	0.0446218	0.0477126		6.9	
Aroclor-1016 (1)	A	250.00	266	0.0283733	0.0301930		6.4	
Aroclor-1016 (2)	A	250.00	268	0.0867650	0.0931210		7.2	
Aroclor-1016 (3)	A	250.00	263	0.0389383	0.0410062		5.2	
Aroclor-1016 (4)	A	250.00	272	0.0244108	0.0265301		8.8	
Aroclor 1016 [2C]	A	250.00	272	0.0529840	0.0573860		8.6	
Aroclor-1016 (1) [2C]	A	250.00	264	0.0456173	0.0481391		5.6	
Aroclor-1016 (2) [2C]	A	250.00	271	0.1020378	0.1106187		8.4	
Aroclor-1016 (3) [2C]	A	250.00	276	0.0400455	0.0441344		10.4	
Aroclor-1016 (4) [2C]	A	250.00	275	0.0242353	0.0266519		10.0	
Aroclor 1260	A	250.00	260	0.0461251	0.0480231		4.1	
Aroclor-1260 (1)	A	250.00	251	0.0359923	0.0361707		0.4	
Aroclor-1260 (2)	A	250.00	263	0.0353250	0.0372181		5.2	
Aroclor-1260 (3)	A	250.00	260	0.0954741	0.0991709		4.0	
Aroclor-1260 (4)	A	250.00	266	0.0425365	0.0453409		6.4	
Aroclor-1260 (5)	A	250.00	261	0.0212978	0.0222147		4.4	
Aroclor 1260 [2C]	A	250.00	237	0.1108773	0.1043014		-5.2	
Aroclor-1260 (1) [2C]	A	250.00	236	0.0665032	0.0626686		-5.6	
Aroclor-1260 (2) [2C]	A	250.00	232	0.1932922	0.1796385		-7.2	
Aroclor-1260 (3) [2C]	A	250.00	234	0.1242917	0.1163345		-6.4	
Aroclor-1260 (4) [2C]	A	250.00	246	0.0594222	0.0585639		-1.6	
Decachlorobiphenyl	A	40.000	40.8	0.7261970	0.7405503		2.0	
Tetrachlorometaxylene	A	40.000	42.6	0.9669678	1.0297700		6.5	
Decachlorobiphenyl [2C]	A	40.000	39.0	1.7775950	1.7312830		-2.5	
Tetrachlorometaxylene [2C]	A	40.000	41.6	1.0280520	1.0697420		4.0	

* Values outside of QC limits

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

Data file 1: /210814.b/08142158ECD7.D
Data file 2: /210814.b/210814.b/08142158ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV8
Client ID:
Injection Date: 15-AUG-2021 13:40
Report Date: 08/17/2021 09:17
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	0.001	136114	5.412	0.000	408510	42.6	41.6	2.3	Tetrachloro-m-xylene
13.164	-0.001	161320	13.847	0.000	884523	40.8	39.0	4.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	264358	2.1
Hexabromobiphenyl	425681	435676	2.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	763754	5.9
Hexabromobiphenyl	863111	1021812	18.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1016	1	6.660	0.000	24943	266.0	1	7.055	0.000	114895	263.8
Aroclor-1016	2	7.033	0.000	76929	268.3	2	7.651	0.000	264017	271.0
Aroclor-1016	3	7.179	0.000	33876	263.3	3	7.858	0.000	105337	275.5
Aroclor-1016	4	7.290	0.000	21917	271.7	4	8.106	0.000	63611	274.9
Total Col1Ave (4 peaks):				267.3		Total Col2Ave (4 peaks):			271.3	RPD = 1
Corrected Ave (3 peaks):				265.9		Corrected Ave (3 peaks):			269.9	RPD = 2
CalAmt %D:				6.9		CalAmt %D:			8.5	
Aroclor-1260	1	10.384	0.000	49246	251.2	1	11.426	0.000	200111	235.6
Aroclor-1260	2	10.703	0.000	50672	263.4	2	11.678	0.000	573615	232.3
Aroclor-1260	3	11.053	0.000	135020	259.7	3	12.260	0.000	371475	234.0
Aroclor-1260	4	11.455	0.000	61731	266.5	4	12.971	0.000	187004	246.4
Aroclor-1260	5	11.555	0.000	30245	260.8	NS	---			----
Total Col1Ave (5 peaks):				260.3		Total Col2Ave (4 peaks):			237.1	RPD = 9
Corrected Ave (4 peaks):				258.8		Corrected Ave (3 peaks):			234.0	RPD = 10
CalAmt %D:				4.1		CalAmt %D:			-5.2	

Total PCB Area Col1 (5.167 - 13.066) = 1350542 Col1 Total PCB = 0.5 ppm*

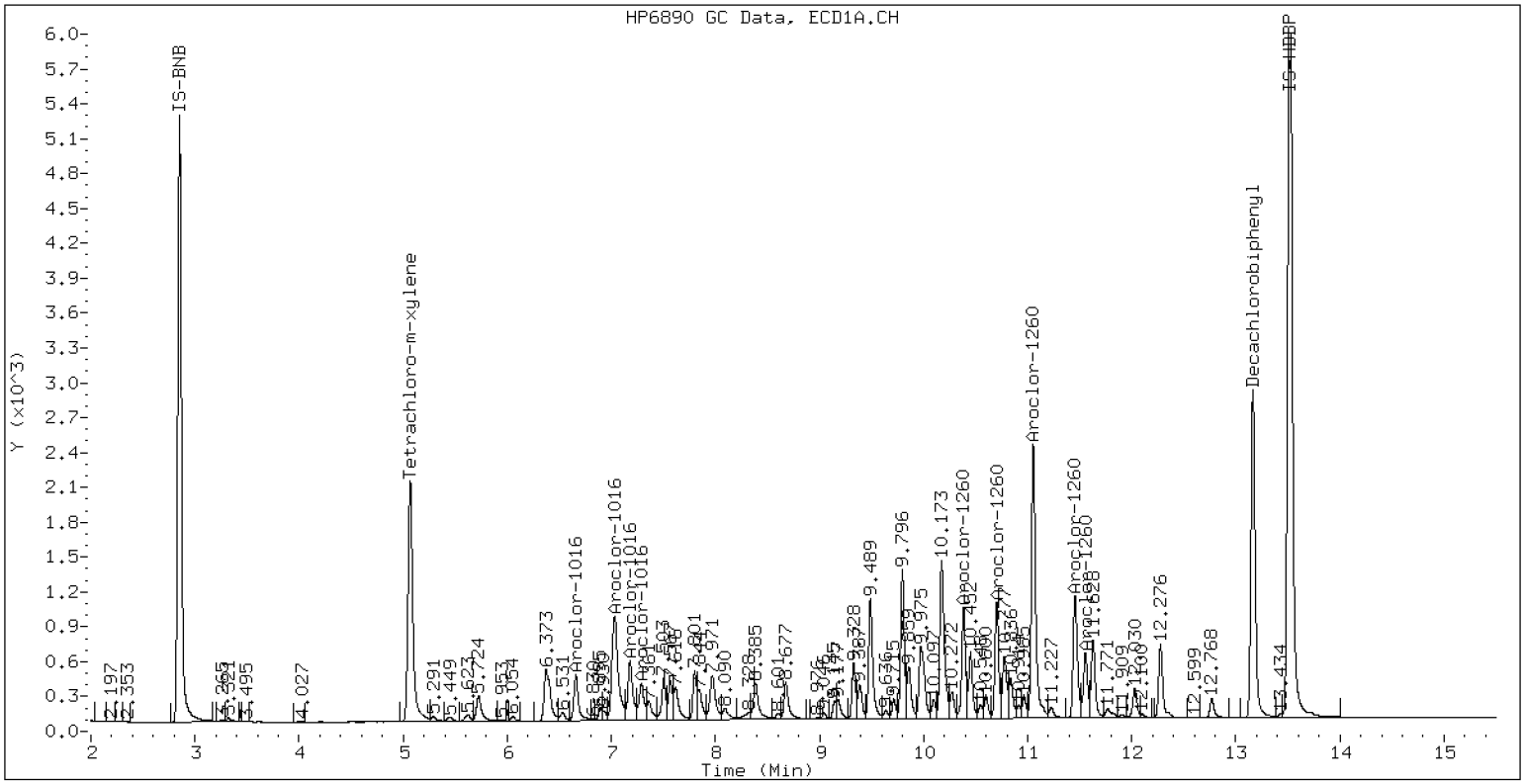
Total PCB Area Col2 (5.167 - 13.066) = 5305867 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

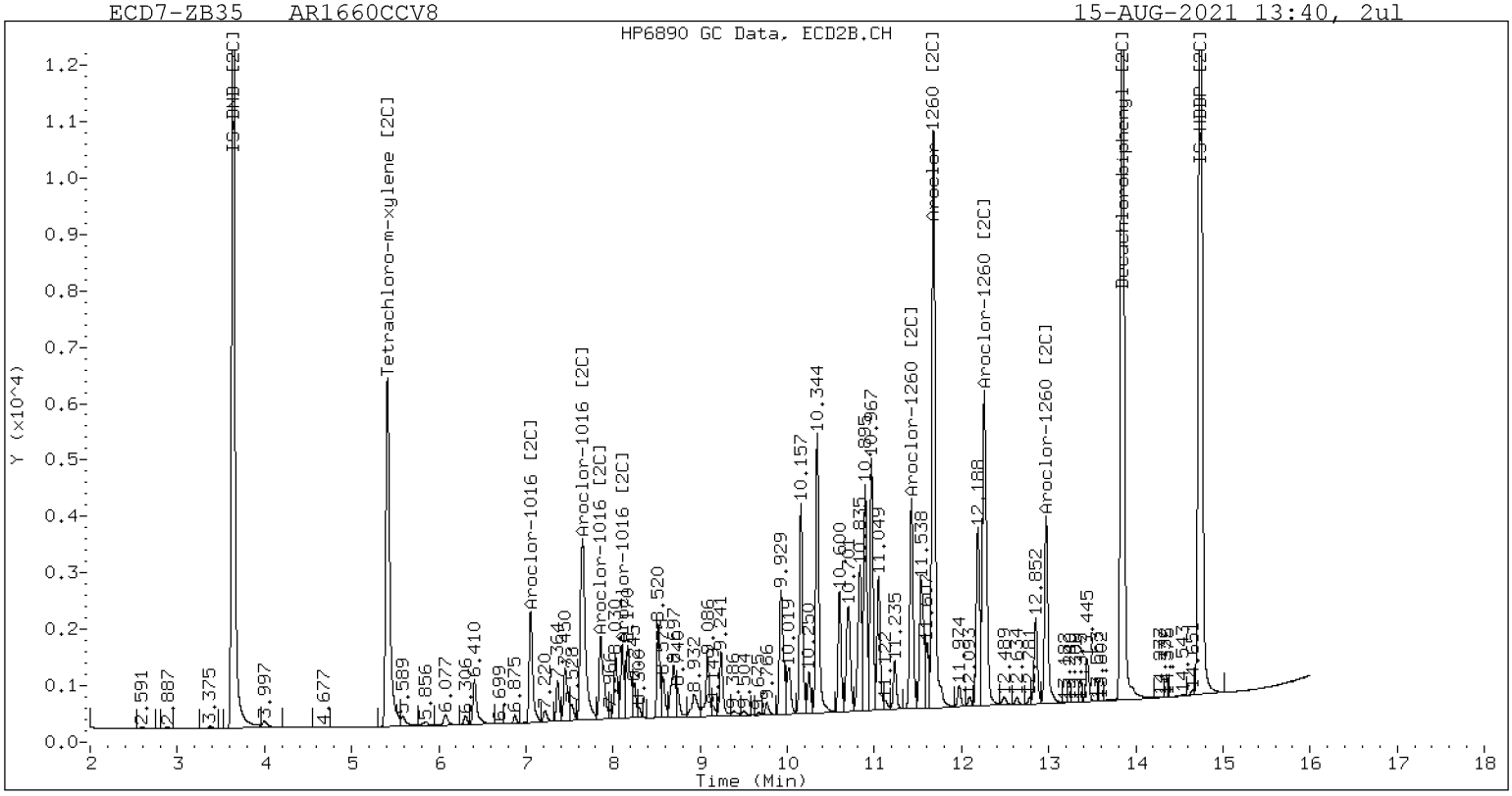
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV8 15-AUG-2021 13:40, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV8 15-AUG-2021 13:40, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dual Column

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0176	Instrument:	ECD7
		Calibration:	EH00034

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Cal Standard	SJH0176-CAL1	08132105ECD7.D	08132105ECD7.D	NA	08/13/21 20:03
Cal Standard	SJH0176-CAL2	08132106ECD7.D	08132106ECD7.D	NA	08/13/21 20:24
Cal Standard	SJH0176-CAL3	08132107ECD7.D	08132107ECD7.D	NA	08/13/21 20:44
Cal Standard	SJH0176-CAL4	08132108ECD7.D	08132108ECD7.D	NA	08/13/21 21:05
Cal Standard	SJH0176-CAL5	08132109ECD7.D	08132109ECD7.D	NA	08/13/21 21:25
Cal Standard	SJH0176-CAL6	08132110ECD7.D	08132110ECD7.D	NA	08/13/21 21:46
Cal Standard	SJH0176-CAL7	08132111ECD7.D	08132111ECD7.D	NA	08/13/21 22:06
Cal Standard	SJH0176-CAL8	08132112ECD7.D	08132112ECD7.D	NA	08/13/21 22:27
Cal Standard	SJH0176-CAL9	08132113ECD7.D	08132113ECD7.D	NA	08/13/21 22:47
Cal Standard	SJH0176-CALA	08132114ECD7.D	08132114ECD7.D	NA	08/13/21 23:08
Cal Standard	SJH0176-CALB	08132115ECD7.D	08132115ECD7.D	NA	08/13/21 23:28
Cal Standard	SJH0176-CALC	08132116ECD7.D	08132116ECD7.D	NA	08/13/21 23:49
Cal Standard	SJH0176-CALD	08132117ECD7.D	08132117ECD7.D	NA	08/14/21 00:09
Cal Standard	SJH0176-CALE	08132118ECD7.D	08132118ECD7.D	NA	08/14/21 00:30
Cal Standard	SJH0176-CALF	08132119ECD7.D	08132119ECD7.D	NA	08/14/21 00:50
Cal Standard	SJH0176-CALG	08132120ECD7.D	08132120ECD7.D	NA	08/14/21 01:11
Cal Standard	SJH0176-CALH	08132121ECD7.D	08132121ECD7.D	NA	08/14/21 01:31
Cal Standard	SJH0176-CALI	08132122ECD7.D	08132122ECD7.D	NA	08/14/21 01:52

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 8/16/2021 5:13:05PM

ANALYSIS SEQUENCE

SJH0176

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0176-CAL1	0.02PPM AR1660	QC		1	J008420	J008446	
SJH0176-CAL2	0.05PPM AR1660	QC		2	J008419	J008446	
SJH0176-CAL3	0.1PPM AR1660	QC		3	J008418	J008446	
SJH0176-CAL4	0.25PPM AR1660	QC		4	J008417	J008446	
SJH0176-CAL5	0.5PPM AR1660	QC		5	J008416	J008446	
SJH0176-CAL6	1PPM AR1660	QC		6	J008134	J008446	
SJH0176-CAL7	0.02PPM AR1242	QC		7	J008425	J008446	
SJH0176-CAL8	0.05PPM AR1242	QC		8	J008424	J008446	
SJH0176-CAL9	0.1PPM AR1242	QC		9	J008423	J008446	
SJH0176-CALA	0.25PPM AR1242	QC		10	J008422	J008446	
SJH0176-CALB	0.5PPM AR1242	QC		11	J008421	J008446	
SJH0176-CALC	1PPM AR1242	QC		12	J008397	J008446	
SJH0176-CALD	0.02PPM AR1248	QC		13	J008430	J008446	
SJH0176-CALE	0.05PPM AR1248	QC		14	J008429	J008446	
SJH0176-CALF	0.1PPM AR1248	QC		15	J008428	J008446	
SJH0176-CALG	0.25PPM AR1248	QC		16	J008427	J008446	
SJH0176-CALH	0.5PPM AR1248	QC		17	J008426	J008446	
SJH0176-CALI	1PPM AR1248	QC		18	J008398	J008446	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

ARI Job No.: RINS Method: PCB.m Instrument: ecd7.i Date: 13-AUG-2021

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1841	08132101.D	RINSE		1	NO MANUAL INTEGRATION
1902	08132102.D	RINSE		1	NO MANUAL INTEGRATION
1922	08132103.D	RINSE		1	NO MANUAL INTEGRATION
1943	08132104.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
2003	08132105.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
2024	08132106.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
2044	08132107.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
2105	08132108.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
2125	08132109.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
2146	08132110.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
2206	08132111.D	SEQ-CAL7		1	Aroclor-1242,
2227	08132112.D	SEQ-CAL8		1	Aroclor-1242,
2247	08132113.D	SEQ-CAL9		1	Aroclor-1242,
2308	08132114.D	SEQ-CALA		1	Aroclor-1242,
2328	08132115.D	SEQ-CALB		1	Aroclor-1242,
2349	08132116.D	SEQ-CALC		1	NO MANUAL INTEGRATION
0009	08132117.D	SEQ-CALD		1	Aroclor-1248,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0030	08132118.D	SEQ-CALE		1	Aroclor-1248,
0050	08132119.D	SEQ-CALF		1	Aroclor-1248,
0111	08132120.D	SEQ-CALG		1	NO MANUAL INTEGRATION
0131	08132121.D	SEQ-CALH		1	NO MANUAL INTEGRATION
0152	08132122.D	SEQ-CALI		1	NO MANUAL INTEGRATION
0212	08132123.D	SEQ-CALJ		1	NO MANUAL INTEGRATION
0233	08132124.D	SEQ-CALK		1	NO MANUAL INTEGRATION
0253	08132125.D	SEQ-CALL		1	NO MANUAL INTEGRATION
0313	08132126.D	SEQ-CALM		1	NO MANUAL INTEGRATION
0334	08132127.D	SEQ-CALN		1	NO MANUAL INTEGRATION
0354	08132128.D	SEQ-CALO		1	NO MANUAL INTEGRATION
0415	08132129.D	SEQ-CALP		1	NO MANUAL INTEGRATION
0435	08132130.D	SEQ-CALQ		1	NO MANUAL INTEGRATION
0456	08132131.D	SEQ-CALR		1	NO MANUAL INTEGRATION
0516	08132132.D	SEQ-CALS		1	NO MANUAL INTEGRATION
0537	08132133.D	SEQ-CALT		1	NO MANUAL INTEGRATION
0557	08132134.D	SEQ-CALU		1	NO MANUAL INTEGRATION
0618	08132135.D	SEQ-CALV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0638	08132136.D	SEQ-CALW		1	NO MANUAL INTEGRATION
0659	08132137.D	SEQ-CALX		1	NO MANUAL INTEGRATION
0719	08132138.D	SEQ-CALY		1	NO MANUAL INTEGRATION
0740	08132139.D	SEQ-CALZ		1	NO MANUAL INTEGRATION
0800	08132140.D	SEQ-CALAA		1	NO MANUAL INTEGRATION
0821	08132141.D	SEQ-SCV1		1	NO MANUAL INTEGRATION
0841	08132142.D	SEQ-SCV2		1	NO MANUAL INTEGRATION
0902	08132143.D	SEQ-SCV3		1	NO MANUAL INTEGRATION
0922	08132144.D	SEQ-SCV4		1	NO MANUAL INTEGRATION
0943	08132145.D	SEQ-SCV5		1	NO MANUAL INTEGRATION
1003	08132146.D	SEQ-SCV6		1	NO MANUAL INTEGRATION
1024	08132147.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
1044	08132148.D	DS		1	NO MANUAL INTEGRATION
1841	08132101.D	RINSE		1	NO MANUAL INTEGRATION
1902	08132102.D	RINSE		1	NO MANUAL INTEGRATION
1922	08132103.D	RINSE		1	NO MANUAL INTEGRATION
1943	08132104.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
2003	08132105.D	SEQ-CAL1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2024	08132106.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
2044	08132107.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
2105	08132108.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
2125	08132109.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
2146	08132110.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
2206	08132111.D	SEQ-CAL7		1	Aroclor-1242 [2C],
2227	08132112.D	SEQ-CAL8		1	Aroclor-1242 [2C],
2247	08132113.D	SEQ-CAL9		1	Aroclor-1242 [2C],
2308	08132114.D	SEQ-CALA		1	NO MANUAL INTEGRATION
2328	08132115.D	SEQ-CALB		1	NO MANUAL INTEGRATION
2349	08132116.D	SEQ-CALC		1	NO MANUAL INTEGRATION
0009	08132117.D	SEQ-CALD		1	Aroclor-1248 [2C],
0030	08132118.D	SEQ-CALE		1	Aroclor-1248 [2C],
0050	08132119.D	SEQ-CALF		1	NO MANUAL INTEGRATION
0111	08132120.D	SEQ-CALG		1	NO MANUAL INTEGRATION
0131	08132121.D	SEQ-CALH		1	NO MANUAL INTEGRATION
0152	08132122.D	SEQ-CALI		1	Aroclor-1248 [2C],
0212	08132123.D	SEQ-CALJ		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0233	08132124.D	SEQ-CALK		1	NO MANUAL INTEGRATION
0253	08132125.D	SEQ-CALL		1	NO MANUAL INTEGRATION
0313	08132126.D	SEQ-CALM		1	NO MANUAL INTEGRATION
0334	08132127.D	SEQ-CALN		1	NO MANUAL INTEGRATION
0354	08132128.D	SEQ-CALO		1	NO MANUAL INTEGRATION
0415	08132129.D	SEQ-CALP		1	NO MANUAL INTEGRATION
0435	08132130.D	SEQ-CALQ		1	NO MANUAL INTEGRATION
0456	08132131.D	SEQ-CALR		1	NO MANUAL INTEGRATION
0516	08132132.D	SEQ-CALS		1	NO MANUAL INTEGRATION
0537	08132133.D	SEQ-CALT		1	NO MANUAL INTEGRATION
0557	08132134.D	SEQ-CALU		1	NO MANUAL INTEGRATION
0618	08132135.D	SEQ-CALV		1	NO MANUAL INTEGRATION
0638	08132136.D	SEQ-CALW		1	NO MANUAL INTEGRATION
0659	08132137.D	SEQ-CALX		1	NO MANUAL INTEGRATION
0719	08132138.D	SEQ-CALY		1	NO MANUAL INTEGRATION
0740	08132139.D	SEQ-CALZ		1	NO MANUAL INTEGRATION
0800	08132140.D	SEQ-CALAA		1	NO MANUAL INTEGRATION
0821	08132141.D	SEQ-SCV1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0841	08132142.D	SEQ-SCV2		1	Aroclor-1242 [2C], Aroclor-1248 [2C],
0902	08132143.D	SEQ-SCV3		1	NO MANUAL INTEGRATION
0922	08132144.D	SEQ-SCV4		1	NO MANUAL INTEGRATION
0943	08132145.D	SEQ-SCV5		1	NO MANUAL INTEGRATION
1003	08132146.D	SEQ-SCV6		1	NO MANUAL INTEGRATION
1024	08132147.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
1044	08132148.D	DS		1	NO MANUAL INTEGRATION

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	13-AUG-2021 18:41	08132101.D	1	RINSE	
2	13-AUG-2021 19:02	08132102.D	1	RINSE	
3	13-AUG-2021 19:22	08132103.D	1	RINSE	
4	13-AUG-2021 19:43	08132104.D	1	SEQ-IBL1	
5	13-AUG-2021 20:03	08132105.D	1	SEQ-CAL1	
6	13-AUG-2021 20:24	08132106.D	1	SEQ-CAL2	
7	13-AUG-2021 20:44	08132107.D	1	SEQ-CAL3	
8	13-AUG-2021 21:05	08132108.D	1	SEQ-CAL4	
9	13-AUG-2021 21:25	08132109.D	1	SEQ-CAL5	
10	13-AUG-2021 21:46	08132110.D	1	SEQ-CAL6	
11	13-AUG-2021 22:06	08132111.D	1	SEQ-CAL7	
12	13-AUG-2021 22:27	08132112.D	1	SEQ-CAL8	
13	13-AUG-2021 22:47	08132113.D	1	SEQ-CAL9	
14	13-AUG-2021 23:08	08132114.D	1	SEQ-CALA	
15	13-AUG-2021 23:28	08132115.D	1	SEQ-CALB	
16	13-AUG-2021 23:49	08132116.D	1	SEQ-CALC	
17	14-AUG-2021 00:09	08132117.D	1	SEQ-CALD	
18	14-AUG-2021 00:30	08132118.D	1	SEQ-CALE	
19	14-AUG-2021 00:50	08132119.D	1	SEQ-CALF	
20	14-AUG-2021 01:11	08132120.D	1	SEQ-CALG	
21	14-AUG-2021 01:31	08132121.D	1	SEQ-CALH	
22	14-AUG-2021 01:52	08132122.D	1	SEQ-CALI	
23	14-AUG-2021 02:12	08132123.D	1	SEQ-CALJ	
24	14-AUG-2021 02:33	08132124.D	1	SEQ-CALK	
25	14-AUG-2021 02:53	08132125.D	1	SEQ-CALL	
26	14-AUG-2021 03:13	08132126.D	1	SEQ-CALM	
27	14-AUG-2021 03:34	08132127.D	1	SEQ-CALN	
28	14-AUG-2021 03:54	08132128.D	1	SEQ-CALO	
29	14-AUG-2021 04:15	08132129.D	1	SEQ-CALP	
30	14-AUG-2021 04:35	08132130.D	1	SEQ-CALQ	
31	14-AUG-2021 04:56	08132131.D	1	SEQ-CALR	
32	14-AUG-2021 05:16	08132132.D	1	SEQ-CALS	
33	14-AUG-2021 05:37	08132133.D	1	SEQ-CALT	
34	14-AUG-2021 05:57	08132134.D	1	SEQ-CALU	
35	14-AUG-2021 06:18	08132135.D	1	SEQ-CALV	
36	14-AUG-2021 06:38	08132136.D	1	SEQ-CALW	
37	14-AUG-2021 06:59	08132137.D	1	SEQ-CALX	
38	14-AUG-2021 07:19	08132138.D	1	SEQ-CALY	
39	14-AUG-2021 07:40	08132139.D	1	SEQ-CALZ	
40	14-AUG-2021 08:00	08132140.D	1	SEQ-CALAA	
41	14-AUG-2021 08:21	08132141.D	1	SEQ-SCV1	
42	14-AUG-2021 08:41	08132142.D	1	SEQ-SCV2	
43	14-AUG-2021 09:02	08132143.D	1	SEQ-SCV3	
44	14-AUG-2021 09:22	08132144.D	1	SEQ-SCV4	
45	14-AUG-2021 09:43	08132145.D	1	SEQ-SCV5	
46	14-AUG-2021 10:03	08132146.D	1	SEQ-SCV6	
47	14-AUG-2021 10:24	08132147.D	1	0.1PPMDDTS	
48	14-AUG-2021 10:44	08132148.D	1	DS	

Security Status Report

Date: 16-Aug-2021 17:20

08132101ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132102ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132103ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132104ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132105ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132106ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132107ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132108ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132109ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132110ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132111ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132112ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132113ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132114ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132115ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132116ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132117ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132118ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132119ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132120ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132121ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132122ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132123ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132124ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132125ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132126ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132127ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132128ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132131ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132132ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132133ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132137ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132138ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132139ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132140ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132141ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132142ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132143ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132144ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44

08132145ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132147ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132148ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44

Analytical Resources, Incorporated
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Dual Column

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0177	Instrument:	ECD7
		Calibration:	EH00034

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Cal Standard	SJH0177-CAL1	08132123ECD7.D	08132123ECD7.D	NA	08/14/21 02:12
Cal Standard	SJH0177-CAL2	08132124ECD7.D	08132124ECD7.D	NA	08/14/21 02:33
Cal Standard	SJH0177-CAL3	08132125ECD7.D	08132125ECD7.D	NA	08/14/21 02:53
Cal Standard	SJH0177-CAL4	08132126ECD7.D	08132126ECD7.D	NA	08/14/21 03:13
Cal Standard	SJH0177-CAL5	08132127ECD7.D	08132127ECD7.D	NA	08/14/21 03:34
Cal Standard	SJH0177-CAL6	08132128ECD7.D	08132128ECD7.D	NA	08/14/21 03:54
Cal Standard	SJH0177-CAL7	08132129ECD7.D	08132129ECD7.D	NA	08/14/21 04:15
Cal Standard	SJH0177-CAL8	08132130ECD7.D	08132130ECD7.D	NA	08/14/21 04:35
Cal Standard	SJH0177-CAL9	08132131ECD7.D	08132131ECD7.D	NA	08/14/21 04:56
Cal Standard	SJH0177-CALA	08132132ECD7.D	08132132ECD7.D	NA	08/14/21 05:16
Cal Standard	SJH0177-CALB	08132133ECD7.D	08132133ECD7.D	NA	08/14/21 05:37
Cal Standard	SJH0177-CALC	08132134ECD7.D	08132134ECD7.D	NA	08/14/21 05:57
Cal Standard	SJH0177-CALD	08132135ECD7.D	08132135ECD7.D	NA	08/14/21 06:18
Cal Standard	SJH0177-CALE	08132136ECD7.D	08132136ECD7.D	NA	08/14/21 06:38
Cal Standard	SJH0177-CALF	08132137ECD7.D	08132137ECD7.D	NA	08/14/21 06:59
Cal Standard	SJH0177-CALG	08132138ECD7.D	08132138ECD7.D	NA	08/14/21 07:19
Cal Standard	SJH0177-CALH	08132139ECD7.D	08132139ECD7.D	NA	08/14/21 07:40
Cal Standard	SJH0177-CALI	08132140ECD7.D	08132140ECD7.D	NA	08/14/21 08:00
Secondary Cal Check	SJH0177-SCV1	08132141ECD7.D	08132141ECD7.D	NA	08/14/21 08:21
Secondary Cal Check	SJH0177-SCV2	08132142ECD7.D	08132142ECD7.D	NA	08/14/21 08:41
Secondary Cal Check	SJH0177-SCV3	08132143ECD7.D	08132143ECD7.D	NA	08/14/21 09:02
Secondary Cal Check	SJH0177-SCV4	08132144ECD7.D	08132144ECD7.D	NA	08/14/21 09:22
Secondary Cal Check	SJH0177-SCV5	08132145ECD7.D	08132145ECD7.D	NA	08/14/21 09:43
Secondary Cal Check	SJH0177-SCV6	08132146ECD7.D	08132146ECD7.D	NA	08/14/21 10:03

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Printed: 8/16/2021 5:27:01PM

ANALYSIS SEQUENCE

SJH0177

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0177-CAL1	0.02PPM AR1254	QC		1	J008435	J008446	
SJH0177-CAL2	0.05PPM AR1254	QC		2	J008434	J008446	
SJH0177-CAL3	0.1PPM AR1254	QC		3	J008433	J008446	
SJH0177-CAL4	0.25PPM AR1254	QC		4	J008432	J008446	
SJH0177-CAL5	0.5PPM AR1254	QC		5	J008431	J008446	
SJH0177-CAL6	1PPM AR1254	QC		6	J008399	J008446	
SJH0177-CAL7	0.02PPM AR2162	QC		7	J008440	J008446	
SJH0177-CAL8	0.05PPM AR2162	QC		8	J008439	J008446	
SJH0177-CAL9	0.1PPM AR2162	QC		9	J008438	J008446	
SJH0177-CALA	0.25PPM AR2162	QC		10	J008437	J008446	
SJH0177-CALB	0.5PPM AR2162	QC		11	J008436	J008446	
SJH0177-CALC	1PPM AR2162	QC		12	J008400	J008446	
SJH0177-CALD	0.02PPM AR3268	QC		13	J008445	J008446	
SJH0177-CALE	0.05PPM AR3268	QC		14	J008444	J008446	
SJH0177-CALF	0.1PPM AR3268	QC		15	J008443	J008446	
SJH0177-CALG	0.25PPM AR3268	QC		16	J008442	J008446	
SJH0177-CALH	0.5PPM AR3268	QC		17	J008441	J008446	
SJH0177-CALI	1PPM AR3268	QC		18	J008401	J008446	
SJH0177-SCV1	AR1660SCV1	QC		19	J008139	J008446	
SJH0177-SCV2	AR1242SCV2	QC		20	J008140	J008446	
SJH0177-SCV3	AR1248SCV3	QC		21	J008141	J008446	
SJH0177-SCV4	AR1254SCV4	QC		22	J008142	J008446	

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ANALYSIS SEQUENCE

SJH0177

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0177-SCV5	AR2162SCV5	QC		23	J008143	J008446	
SJH0177-SCV6	AR3268SCV6	QC		24	J008144	J008446	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

ARI Job No.: RINS Method: PCB.m Instrument: ecd7.i Date: 13-AUG-2021

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1841	08132101.D	RINSE		1	NO MANUAL INTEGRATION
1902	08132102.D	RINSE		1	NO MANUAL INTEGRATION
1922	08132103.D	RINSE		1	NO MANUAL INTEGRATION
1943	08132104.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
2003	08132105.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
2024	08132106.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
2044	08132107.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
2105	08132108.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
2125	08132109.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
2146	08132110.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
2206	08132111.D	SEQ-CAL7		1	Aroclor-1242,
2227	08132112.D	SEQ-CAL8		1	Aroclor-1242,
2247	08132113.D	SEQ-CAL9		1	Aroclor-1242,
2308	08132114.D	SEQ-CALA		1	Aroclor-1242,
2328	08132115.D	SEQ-CALB		1	Aroclor-1242,
2349	08132116.D	SEQ-CALC		1	NO MANUAL INTEGRATION
0009	08132117.D	SEQ-CALD		1	Aroclor-1248,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0030	08132118.D	SEQ-CALE		1	Aroclor-1248,
0050	08132119.D	SEQ-CALF		1	Aroclor-1248,
0111	08132120.D	SEQ-CALG		1	NO MANUAL INTEGRATION
0131	08132121.D	SEQ-CALH		1	NO MANUAL INTEGRATION
0152	08132122.D	SEQ-CALI		1	NO MANUAL INTEGRATION
0212	08132123.D	SEQ-CALJ		1	NO MANUAL INTEGRATION
0233	08132124.D	SEQ-CALK		1	NO MANUAL INTEGRATION
0253	08132125.D	SEQ-CALL		1	NO MANUAL INTEGRATION
0313	08132126.D	SEQ-CALM		1	NO MANUAL INTEGRATION
0334	08132127.D	SEQ-CALN		1	NO MANUAL INTEGRATION
0354	08132128.D	SEQ-CALO		1	NO MANUAL INTEGRATION
0415	08132129.D	SEQ-CALP		1	NO MANUAL INTEGRATION
0435	08132130.D	SEQ-CALQ		1	NO MANUAL INTEGRATION
0456	08132131.D	SEQ-CALR		1	NO MANUAL INTEGRATION
0516	08132132.D	SEQ-CALS		1	NO MANUAL INTEGRATION
0537	08132133.D	SEQ-CALT		1	NO MANUAL INTEGRATION
0557	08132134.D	SEQ-CALU		1	NO MANUAL INTEGRATION
0618	08132135.D	SEQ-CALV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0638	08132136.D	SEQ-CALW		1	NO MANUAL INTEGRATION
0659	08132137.D	SEQ-CALX		1	NO MANUAL INTEGRATION
0719	08132138.D	SEQ-CALY		1	NO MANUAL INTEGRATION
0740	08132139.D	SEQ-CALZ		1	NO MANUAL INTEGRATION
0800	08132140.D	SEQ-CALAA		1	NO MANUAL INTEGRATION
0821	08132141.D	SEQ-SCV1		1	NO MANUAL INTEGRATION
0841	08132142.D	SEQ-SCV2		1	NO MANUAL INTEGRATION
0902	08132143.D	SEQ-SCV3		1	NO MANUAL INTEGRATION
0922	08132144.D	SEQ-SCV4		1	NO MANUAL INTEGRATION
0943	08132145.D	SEQ-SCV5		1	NO MANUAL INTEGRATION
1003	08132146.D	SEQ-SCV6		1	NO MANUAL INTEGRATION
1024	08132147.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
1044	08132148.D	DS		1	NO MANUAL INTEGRATION
1841	08132101.D	RINSE		1	NO MANUAL INTEGRATION
1902	08132102.D	RINSE		1	NO MANUAL INTEGRATION
1922	08132103.D	RINSE		1	NO MANUAL INTEGRATION
1943	08132104.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
2003	08132105.D	SEQ-CAL1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2024	08132106.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
2044	08132107.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
2105	08132108.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
2125	08132109.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
2146	08132110.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
2206	08132111.D	SEQ-CAL7		1	Aroclor-1242 [2C],
2227	08132112.D	SEQ-CAL8		1	Aroclor-1242 [2C],
2247	08132113.D	SEQ-CAL9		1	Aroclor-1242 [2C],
2308	08132114.D	SEQ-CALA		1	NO MANUAL INTEGRATION
2328	08132115.D	SEQ-CALB		1	NO MANUAL INTEGRATION
2349	08132116.D	SEQ-CALC		1	NO MANUAL INTEGRATION
0009	08132117.D	SEQ-CALD		1	Aroclor-1248 [2C],
0030	08132118.D	SEQ-CALE		1	Aroclor-1248 [2C],
0050	08132119.D	SEQ-CALF		1	NO MANUAL INTEGRATION
0111	08132120.D	SEQ-CALG		1	NO MANUAL INTEGRATION
0131	08132121.D	SEQ-CALH		1	NO MANUAL INTEGRATION
0152	08132122.D	SEQ-CALI		1	Aroclor-1248 [2C],
0212	08132123.D	SEQ-CALJ		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0233	08132124.D	SEQ-CALK		1	NO MANUAL INTEGRATION
0253	08132125.D	SEQ-CALL		1	NO MANUAL INTEGRATION
0313	08132126.D	SEQ-CALM		1	NO MANUAL INTEGRATION
0334	08132127.D	SEQ-CALN		1	NO MANUAL INTEGRATION
0354	08132128.D	SEQ-CALO		1	NO MANUAL INTEGRATION
0415	08132129.D	SEQ-CALP		1	NO MANUAL INTEGRATION
0435	08132130.D	SEQ-CALQ		1	NO MANUAL INTEGRATION
0456	08132131.D	SEQ-CALR		1	NO MANUAL INTEGRATION
0516	08132132.D	SEQ-CALS		1	NO MANUAL INTEGRATION
0537	08132133.D	SEQ-CALT		1	NO MANUAL INTEGRATION
0557	08132134.D	SEQ-CALU		1	NO MANUAL INTEGRATION
0618	08132135.D	SEQ-CALV		1	NO MANUAL INTEGRATION
0638	08132136.D	SEQ-CALW		1	NO MANUAL INTEGRATION
0659	08132137.D	SEQ-CALX		1	NO MANUAL INTEGRATION
0719	08132138.D	SEQ-CALY		1	NO MANUAL INTEGRATION
0740	08132139.D	SEQ-CALZ		1	NO MANUAL INTEGRATION
0800	08132140.D	SEQ-CALAA		1	NO MANUAL INTEGRATION
0821	08132141.D	SEQ-SCV1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0841	08132142.D	SEQ-SCV2		1	Aroclor-1242 [2C], Aroclor-1248 [2C],
0902	08132143.D	SEQ-SCV3		1	NO MANUAL INTEGRATION
0922	08132144.D	SEQ-SCV4		1	NO MANUAL INTEGRATION
0943	08132145.D	SEQ-SCV5		1	NO MANUAL INTEGRATION
1003	08132146.D	SEQ-SCV6		1	NO MANUAL INTEGRATION
1024	08132147.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
1044	08132148.D	DS		1	NO MANUAL INTEGRATION

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	13-AUG-2021 18:41	08132101.D	1	RINSE	
2	13-AUG-2021 19:02	08132102.D	1	RINSE	
3	13-AUG-2021 19:22	08132103.D	1	RINSE	
4	13-AUG-2021 19:43	08132104.D	1	SEQ-IBL1	
5	13-AUG-2021 20:03	08132105.D	1	SEQ-CAL1	
6	13-AUG-2021 20:24	08132106.D	1	SEQ-CAL2	
7	13-AUG-2021 20:44	08132107.D	1	SEQ-CAL3	
8	13-AUG-2021 21:05	08132108.D	1	SEQ-CAL4	
9	13-AUG-2021 21:25	08132109.D	1	SEQ-CAL5	
10	13-AUG-2021 21:46	08132110.D	1	SEQ-CAL6	
11	13-AUG-2021 22:06	08132111.D	1	SEQ-CAL7	
12	13-AUG-2021 22:27	08132112.D	1	SEQ-CAL8	
13	13-AUG-2021 22:47	08132113.D	1	SEQ-CAL9	
14	13-AUG-2021 23:08	08132114.D	1	SEQ-CALA	
15	13-AUG-2021 23:28	08132115.D	1	SEQ-CALB	
16	13-AUG-2021 23:49	08132116.D	1	SEQ-CALC	
17	14-AUG-2021 00:09	08132117.D	1	SEQ-CALD	
18	14-AUG-2021 00:30	08132118.D	1	SEQ-CALE	
19	14-AUG-2021 00:50	08132119.D	1	SEQ-CALF	
20	14-AUG-2021 01:11	08132120.D	1	SEQ-CALG	
21	14-AUG-2021 01:31	08132121.D	1	SEQ-CALH	
22	14-AUG-2021 01:52	08132122.D	1	SEQ-CALI	
23	14-AUG-2021 02:12	08132123.D	1	SEQ-CALJ	
24	14-AUG-2021 02:33	08132124.D	1	SEQ-CALK	
25	14-AUG-2021 02:53	08132125.D	1	SEQ-CALL	
26	14-AUG-2021 03:13	08132126.D	1	SEQ-CALM	
27	14-AUG-2021 03:34	08132127.D	1	SEQ-CALN	
28	14-AUG-2021 03:54	08132128.D	1	SEQ-CALO	
29	14-AUG-2021 04:15	08132129.D	1	SEQ-CALP	
30	14-AUG-2021 04:35	08132130.D	1	SEQ-CALQ	
31	14-AUG-2021 04:56	08132131.D	1	SEQ-CALR	
32	14-AUG-2021 05:16	08132132.D	1	SEQ-CALS	
33	14-AUG-2021 05:37	08132133.D	1	SEQ-CALT	
34	14-AUG-2021 05:57	08132134.D	1	SEQ-CALU	
35	14-AUG-2021 06:18	08132135.D	1	SEQ-CALV	
36	14-AUG-2021 06:38	08132136.D	1	SEQ-CALW	
37	14-AUG-2021 06:59	08132137.D	1	SEQ-CALX	
38	14-AUG-2021 07:19	08132138.D	1	SEQ-CALY	
39	14-AUG-2021 07:40	08132139.D	1	SEQ-CALZ	
40	14-AUG-2021 08:00	08132140.D	1	SEQ-CALAA	
41	14-AUG-2021 08:21	08132141.D	1	SEQ-SCV1	
42	14-AUG-2021 08:41	08132142.D	1	SEQ-SCV2	
43	14-AUG-2021 09:02	08132143.D	1	SEQ-SCV3	
44	14-AUG-2021 09:22	08132144.D	1	SEQ-SCV4	
45	14-AUG-2021 09:43	08132145.D	1	SEQ-SCV5	
46	14-AUG-2021 10:03	08132146.D	1	SEQ-SCV6	
47	14-AUG-2021 10:24	08132147.D	1	0.1PPMDDTS	
48	14-AUG-2021 10:44	08132148.D	1	DS	

Security Status Report

Date: 16-Aug-2021 17:20

08132101ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132144ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44

08132145ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132146ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132147ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132148ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dual Column

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0212	Instrument:	ECD7
		Calibration:	EH00034

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Calibration Check	SJH0212-CCV1	08142118ECD7.D	08142118ECD7.D	NA	08/14/21 00:00
Initial Cal Check	SJH0212-ICV1	08142103ECD7.D	08142103ECD7.D	NA	08/14/21 18:52
Initial Cal Check	SJH0212-ICV2	08142104ECD7.D	08142104ECD7.D	NA	08/14/21 19:13
Calibration Check	SJH0212-CCV2	08142119ECD7.D	08142119ECD7.D	NA	08/15/21 00:20
Calibration Check	SJH0212-CCV3	08142129ECD7.D	08142129ECD7.D	NA	08/15/21 03:45
Calibration Check	SJH0212-CCV4	08142130ECD7.D	08142130ECD7.D	NA	08/15/21 04:06
Blank	BJH0034-BLK1	08142131ECD7.D	08142131ECD7.D	Solid	08/15/21 04:26
LCS	BJH0034-BS1	08142132ECD7.D	08142132ECD7.D	Solid	08/15/21 04:47
Reference	BJH0034-SRM1	08142133ECD7.D	08142133ECD7.D	Solid	08/15/21 05:07
LDW21-IT694A	21G0303-01	08142134ECD7.D	08142134ECD7.D	Solid	08/15/21 05:28
LDW21-IT694B	21G0303-02	08142135ECD7.D	08142135ECD7.D	Solid	08/15/21 05:48
LDW21-IT694C	21G0303-03	08142136ECD7.D	08142136ECD7.D	Solid	08/15/21 06:09
LDW21-IT694E	21G0303-04	08142137ECD7.D	08142137ECD7.D	Solid	08/15/21 06:29
LDW21-IT694E	BJH0034-MS1	08142138ECD7.D	08142138ECD7.D	Solid	08/15/21 06:50
LDW21-IT694E	BJH0034-MSD1	08142139ECD7.D	08142139ECD7.D	Solid	08/15/21 07:10
Calibration Check	SJH0212-CCV5	08142144ECD7.D	08142144ECD7.D	NA	08/15/21 08:53
Calibration Check	SJH0212-CCV6	08142145ECD7.D	08142145ECD7.D	NA	08/15/21 09:13
Calibration Check	SJH0212-CCV7	08142157ECD7.D	08142157ECD7.D	NA	08/15/21 13:19
Calibration Check	SJH0212-CCV8	08142158ECD7.D	08142158ECD7.D	NA	08/15/21 13:40

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ANALYSIS SEQUENCE

SJH0212

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0212-ICV1	AR1254ICV1	QC		1	J008432	J008446	
SJH0212-ICV2	AR1660ICV2	QC		2	J008417	J008446	
BJG0589-BLK1	Blank	QC		3		J008446	
BJG0589-BS1	LCS	QC		4		J008446	
BJG0589-BSD1	LCS Dup	QC		5		J008446	
21G0236-01	LTST-W-EFF-072121	8082A PCB Water 0.01	A 01	6		J008446	
21G0257-01	SW21-SW1-18	8082A PCB Water 0.01	A 01	7		J008446	
21G0257-02	SW21-SW1-20	8082A PCB Water 0.01	A 01	8		J008446	
21G0257-03	SW21-SW1-19	8082A PCB Water 0.01	A 01	9		J008446	
21G0257-04	SW21-MA09	8082A PCB Water 0.01	A 01	10		J008446	
21G0292-01	SW21-NMC-TG	8082A PCB Water 0.01	A 01	11		J008446	
21G0292-02	SW21-MA25	8082A PCB Water 0.01	A 01	12		J008446	
21G0292-03	SW21-SW1-15	8082A PCB Water 0.01	A 01	13		J008446	
21G0292-04	SW21-DU01	8082A PCB Water 0.01	A 01	14		J008446	
21G0300-01	SW21-SW1-16	8082A PCB Water 0.01	A 01	15		J008446	
SJH0212-CCV1	AR1248CCV1	QC		16	J008427	J008446	
SJH0212-CCV2	AR1660CCV2	QC		17	J008417	J008446	
21G0300-02	SW21-TC-04	8082A PCB Water 0.01	A 01	18		J008446	
21G0300-03	SW21-DB-07	8082A PCB Water 0.01	A 01	19		J008446	
21G0300-04	SW21-TC-01	8082A PCB Water 0.01	A 01	20		J008446	
21G0300-05	SW21-TC-02	8082A PCB Water 0.01	A 01	21		J008446	
21G0300-06	SW21-TC-03	8082A PCB Water 0.01	A 01	22		J008446	

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ANALYSIS SEQUENCE

SJH0212

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
21G0300-07	SW21-SW1-17	8082A PCB Water 0.01	A 01	23		J008446	
21G0300-08	SW21-DB-14	8082A PCB Water 0.01	A 01	24		J008446	
BJG0589-MS1	Matrix Spike	QC		25		J008446	
BJG0589-MSD1	Matrix Spike Dup	QC		26		J008446	
SJH0212-CCV3	AR1242CCV3	QC		27	J008422	J008446	
SJH0212-CCV4	AR1660CCV4	QC		28	J008417	J008446	
BJH0034-BLK1	Blank	QC		29		J008446	
BJH0034-BS1	LCS	QC		30		J008446	
BJH0034-SRM1	Reference	QC		31		J008446	
21G0303-01	LDW21-IT694A	8082A PCB Solid 4	B 01	32		J008446	
21G0303-02	LDW21-IT694B	8082A PCB Solid 4	B 01	33		J008446	
21G0303-03	LDW21-IT694C	8082A PCB Solid 4	B 01	34		J008446	
21G0303-04	LDW21-IT694E	8082A PCB Solid 4	B 01	35		J008446	
BJH0034-MS1	Matrix Spike	QC		36		J008446	
BJH0034-MSD1	Matrix Spike Dup	QC		37		J008446	
21G0305-01	LDW21-SC569	8082A PCB Solid 4	B 01	38		J008446	
21G0305-02	LDW21-SC567	8082A PCB Solid 4	B 01	39		J008446	
21G0305-03	LDW21-SC566	8082A PCB Solid 4	B 01	40		J008446	
21G0305-04	LDW21-SC561	8082A PCB Solid 4	B 01	41		J008446	
SJH0212-CCV5	AR1254CCV5	QC		42	J008432	J008446	
SJH0212-CCV6	AR1660CCV6	QC		43	J008417	J008446	
21G0305-05	LDW21-SC526	8082A PCB Solid 4	B 01	44		J008446	

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Printed: 8/17/2021 4:09:20PM

ANALYSIS SEQUENCE

SJH0212

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
21G0305-06	LDW21-SC526FD	8082A PCB Solid 4	B 01	45		J008446	
21G0305-07	LDW21-SC530	8082A PCB Solid 4	B 01	46		J008446	
21G0305-08	LDW21-SC540	8082A PCB Solid 4	B 01	47		J008446	
21G0305-09	LDW21-SC574	8082A PCB Solid 4	B 01	48		J008446	
21G0305-10	LDW21-SC551	8082A PCB Solid 4	B 01	49		J008446	
21G0306-01	LDW21-SC550	8082A PCB Solid 4	B 01	50		J008446	
21G0306-02	LDW21-SC550FD	8082A PCB Solid 4	B 01	51		J008446	
BJH0344-BLK1	Blank	QC		52		J008446	
BJH0344-BS1	LCS	QC		53		J008446	
21H0142-01	8-11-21T2	8082A PCB Medium Level Oils	A 01	54		J008446	
SJH0212-CCV7	AR1248CCV7	QC		55	J008427	J008446	
SJH0212-CCV8	AR1660CCV8	QC		56	J008417	J008446	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210814.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	14-AUG-2021 18:11	08142101ECD7.D	1	DDT	
2	14-AUG-2021 18:32	08142102ECD7.D	1	BD	
3	14-AUG-2021 18:52	08142103ECD7.D	1	AR1254ICV1	
4	14-AUG-2021 19:13	08142104ECD7.D	1	AR1660ICV2	
5	14-AUG-2021 19:33	08142105ECD7.D	1	BJG0589-BLK1	
6	14-AUG-2021 19:54	08142106ECD7.D	1	BJG0589-BS1	
7	14-AUG-2021 20:14	08142107ECD7.D	1	BJG0589-BSD1	
8	14-AUG-2021 20:35	08142108ECD7.D	1	21G0236-01	
9	14-AUG-2021 20:55	08142109ECD7.D	1	21G0257-01	
10	14-AUG-2021 21:16	08142110ECD7.D	1	21G0257-02	
11	14-AUG-2021 21:36	08142111ECD7.D	1	21G0257-03	
12	14-AUG-2021 21:57	08142112ECD7.D	1	21G0257-04	
13	14-AUG-2021 22:17	08142113ECD7.D	1	21G0292-01	
14	14-AUG-2021 22:38	08142114ECD7.D	1	21G0292-02	
15	14-AUG-2021 22:58	08142115ECD7.D	1	21G0292-03	
16	14-AUG-2021 23:19	08142116ECD7.D	1	21G0292-04	
17	14-AUG-2021 23:39	08142117ECD7.D	1	21G0300-01	
18	14-AUG-2021 00:00	08142118ECD7.D	1	AR1248CCV1	
19	15-AUG-2021 00:20	08142119ECD7.D	1	AR1660CCV2	
20	15-AUG-2021 00:41	08142120ECD7.D	1	21G0300-02	
21	15-AUG-2021 01:01	08142121ECD7.D	1	21G0300-03	
22	15-AUG-2021 01:22	08142122ECD7.D	1	21G0300-04	
23	15-AUG-2021 01:42	08142123ECD7.D	1	21G0300-05	
24	15-AUG-2021 02:03	08142124ECD7.D	1	21G0300-06	
25	15-AUG-2021 02:23	08142125ECD7.D	1	21G0300-07	
26	15-AUG-2021 02:44	08142126ECD7.D	1	21G0300-08	
27	15-AUG-2021 03:04	08142127ECD7.D	1	BJG0589-MS1	
28	15-AUG-2021 03:25	08142128ECD7.D	1	BJG0589-MSD1	
29	15-AUG-2021 03:45	08142129ECD7.D	1	AR1242CCV3	
30	15-AUG-2021 04:06	08142130ECD7.D	1	AR1660CCV4	
31	15-AUG-2021 04:26	08142131ECD7.D	1	BJH0034-BLK1	
32	15-AUG-2021 04:47	08142132ECD7.D	1	BJH0034-BS1	
33	15-AUG-2021 05:07	08142133ECD7.D	1	BJH0034-SRM1	
34	15-AUG-2021 05:28	08142134ECD7.D	1	21G0303-01	
35	15-AUG-2021 05:48	08142135ECD7.D	1	21G0303-02	
36	15-AUG-2021 06:09	08142136ECD7.D	1	21G0303-03	
37	15-AUG-2021 06:29	08142137ECD7.D	1	21G0303-04	
38	15-AUG-2021 06:50	08142138ECD7.D	1	BJH0034-MS1	
39	15-AUG-2021 07:10	08142139ECD7.D	1	BJH0034-MSD1	
40	15-AUG-2021 07:31	08142140ECD7.D	1	21G0305-01	
41	15-AUG-2021 07:51	08142141ECD7.D	1	21G0305-02	
42	15-AUG-2021 08:12	08142142ECD7.D	1	21G0305-03	
43	15-AUG-2021 08:32	08142143ECD7.D	1	21G0305-04	
44	15-AUG-2021 08:53	08142144ECD7.D	1	AR1254CCV5	
45	15-AUG-2021 09:13	08142145ECD7.D	1	AR1660CCV6	
46	15-AUG-2021 09:34	08142146ECD7.D	1	21G0305-05	
47	15-AUG-2021 09:54	08142147ECD7.D	1	21G0305-06	
48	15-AUG-2021 10:15	08142148ECD7.D	1	21G0305-07	
49	15-AUG-2021 10:35	08142149ECD7.D	1	21G0305-08	
50	15-AUG-2021 10:56	08142150ECD7.D	1	21G0305-09	

	Inject Date/Time	Filename	DF	LabID	ClientID
51	15-AUG-2021 11:16	08142151ECD7.D	1	21G0305-10	
52	15-AUG-2021 11:37	08142152ECD7.D	10	21G0306-01	
53	15-AUG-2021 11:57	08142153ECD7.D	10	21G0306-02	
54	15-AUG-2021 12:18	08142154ECD7.D	1	BJH0344-BLK1	
55	15-AUG-2021 12:38	08142155ECD7.D	1	BJH0344-BS1	
56	15-AUG-2021 12:59	08142156ECD7.D	1	21H0142-01	
57	15-AUG-2021 13:19	08142157ECD7.D	1	AR1248CCV7	
58	15-AUG-2021 13:40	08142158ECD7.D	1	AR1660CCV8	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210814.b

ARI Job No.: DDT Method: PCB.m Instrument: ecd7.i Date: 14-AUG-2021

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1811	08142101ECD7.D	DDT		1	NO MANUAL INTEGRATION
1832	08142102ECD7.D	BD		1	NO MANUAL INTEGRATION
1852	08142103ECD7.D	AR1254ICV1		1	NO MANUAL INTEGRATION
1913	08142104ECD7.D	AR1660ICV2		1	NO MANUAL INTEGRATION
1933	08142105ECD7.D	BJG0589-BLK1		1	NO MANUAL INTEGRATION
1954	08142106ECD7.D	BJG0589-BS1		1	NO MANUAL INTEGRATION
2014	08142107ECD7.D	BJG0589-BSD1		1	NO MANUAL INTEGRATION
2035	08142108ECD7.D	21G0236-01		1	NO MANUAL INTEGRATION
2055	08142109ECD7.D	21G0257-01		1	NO MANUAL INTEGRATION
2116	08142110ECD7.D	21G0257-02		1	NO MANUAL INTEGRATION
2136	08142111ECD7.D	21G0257-03		1	NO MANUAL INTEGRATION
2157	08142112ECD7.D	21G0257-04		1	NO MANUAL INTEGRATION
2217	08142113ECD7.D	21G0292-01		1	NO MANUAL INTEGRATION
2238	08142114ECD7.D	21G0292-02		1	NO MANUAL INTEGRATION
2258	08142115ECD7.D	21G0292-03		1	NO MANUAL INTEGRATION
2319	08142116ECD7.D	21G0292-04		1	NO MANUAL INTEGRATION
2339	08142117ECD7.D	21G0300-01		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210814.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0000	08142118ECD7.D	AR1248CCV1		1	NO MANUAL INTEGRATION
0020	08142119ECD7.D	AR1660CCV2		1	NO MANUAL INTEGRATION
0041	08142120ECD7.D	21G0300-02		1	NO MANUAL INTEGRATION
0101	08142121ECD7.D	21G0300-03		1	NO MANUAL INTEGRATION
0122	08142122ECD7.D	21G0300-04		1	NO MANUAL INTEGRATION
0142	08142123ECD7.D	21G0300-05		1	NO MANUAL INTEGRATION
0203	08142124ECD7.D	21G0300-06		1	NO MANUAL INTEGRATION
0223	08142125ECD7.D	21G0300-07		1	NO MANUAL INTEGRATION
0244	08142126ECD7.D	21G0300-08		1	NO MANUAL INTEGRATION
0304	08142127ECD7.D	BJG0589-MS1		1	NO MANUAL INTEGRATION
0325	08142128ECD7.D	BJG0589-MSD1		1	NO MANUAL INTEGRATION
0345	08142129ECD7.D	AR1242CCV3		1	Aroclor-1242,
0406	08142130ECD7.D	AR1660CCV4		1	NO MANUAL INTEGRATION
0426	08142131ECD7.D	BJH0034-BLK1		1	NO MANUAL INTEGRATION
0447	08142132ECD7.D	BJH0034-BS1		1	NO MANUAL INTEGRATION
0507	08142133ECD7.D	BJH0034-SRM1		1	NO MANUAL INTEGRATION
0528	08142134ECD7.D	21G0303-01		1	Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268,
0548	08142135ECD7.D	21G0303-02		1	Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210814.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0609	08142136ECD7.D	21G0303-03		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268, Decachlorobiphenyl,
0629	08142137ECD7.D	21G0303-04		1	NO MANUAL INTEGRATION
0650	08142138ECD7.D	BJH0034-MS1		1	NO MANUAL INTEGRATION
0710	08142139ECD7.D	BJH0034-MSD1		1	NO MANUAL INTEGRATION
0731	08142140ECD7.D	21G0305-01		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262,
0751	08142141ECD7.D	21G0305-02		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262,
0812	08142142ECD7.D	21G0305-03		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268, IS-HBBP, Decachlorobiphenyl,
0832	08142143ECD7.D	21G0305-04		1	NO MANUAL INTEGRATION
0853	08142144ECD7.D	AR1254CCV5		1	NO MANUAL INTEGRATION
0913	08142145ECD7.D	AR1660CCV6		1	NO MANUAL INTEGRATION
0934	08142146ECD7.D	21G0305-05		1	NO MANUAL INTEGRATION
0954	08142147ECD7.D	21G0305-06		1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268,
1015	08142148ECD7.D	21G0305-07		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268,
1035	08142149ECD7.D	21G0305-08		1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268, IS-HBBP, Decachlorobiphenyl,
1056	08142150ECD7.D	21G0305-09		1	NO MANUAL INTEGRATION
1116	08142151ECD7.D	21G0305-10		1	NO MANUAL INTEGRATION
1137	08142152ECD7.D	21G0306-01		10	NO MANUAL INTEGRATION
1157	08142153ECD7.D	21G0306-02		10	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210814.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1218	08142154ECD7.D	BJH0344-BLK1		1	NO MANUAL INTEGRATION
1238	08142155ECD7.D	BJH0344-BS1		1	NO MANUAL INTEGRATION
1259	08142156ECD7.D	21H0142-01		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262,
1319	08142157ECD7.D	AR1248CCV7		1	Aroclor-1248,
1340	08142158ECD7.D	AR1660CCV8		1	NO MANUAL INTEGRATION
1811	08142101ECD7.D	DDT		1	NO MANUAL INTEGRATION
1832	08142102ECD7.D	BD		1	NO MANUAL INTEGRATION
1852	08142103ECD7.D	AR1254ICV1		1	NO MANUAL INTEGRATION
1913	08142104ECD7.D	AR1660ICV2		1	NO MANUAL INTEGRATION
1933	08142105ECD7.D	BJG0589-BLK1		1	NO MANUAL INTEGRATION
1954	08142106ECD7.D	BJG0589-BS1		1	NO MANUAL INTEGRATION
2014	08142107ECD7.D	BJG0589-BSD1		1	NO MANUAL INTEGRATION
2035	08142108ECD7.D	21G0236-01		1	NO MANUAL INTEGRATION
2055	08142109ECD7.D	21G0257-01		1	NO MANUAL INTEGRATION
2116	08142110ECD7.D	21G0257-02		1	NO MANUAL INTEGRATION
2136	08142111ECD7.D	21G0257-03		1	NO MANUAL INTEGRATION
2157	08142112ECD7.D	21G0257-04		1	NO MANUAL INTEGRATION
2217	08142113ECD7.D	21G0292-01		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210814.b\210814.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2238	08142114ECD7.D	21G0292-02		1	NO MANUAL INTEGRATION
2258	08142115ECD7.D	21G0292-03		1	NO MANUAL INTEGRATION
2319	08142116ECD7.D	21G0292-04		1	NO MANUAL INTEGRATION
2339	08142117ECD7.D	21G0300-01		1	NO MANUAL INTEGRATION
0000	08142118ECD7.D	AR1248CCV1		1	NO MANUAL INTEGRATION
0020	08142119ECD7.D	AR1660CCV2		1	NO MANUAL INTEGRATION
0041	08142120ECD7.D	21G0300-02		1	NO MANUAL INTEGRATION
0101	08142121ECD7.D	21G0300-03		1	NO MANUAL INTEGRATION
0122	08142122ECD7.D	21G0300-04		1	NO MANUAL INTEGRATION
0142	08142123ECD7.D	21G0300-05		1	NO MANUAL INTEGRATION
0203	08142124ECD7.D	21G0300-06		1	NO MANUAL INTEGRATION
0223	08142125ECD7.D	21G0300-07		1	NO MANUAL INTEGRATION
0244	08142126ECD7.D	21G0300-08		1	NO MANUAL INTEGRATION
0304	08142127ECD7.D	BJG0589-MS1		1	NO MANUAL INTEGRATION
0325	08142128ECD7.D	BJG0589-MSD1		1	NO MANUAL INTEGRATION
0345	08142129ECD7.D	AR1242CCV3		1	NO MANUAL INTEGRATION
0406	08142130ECD7.D	AR1660CCV4		1	NO MANUAL INTEGRATION
0426	08142131ECD7.D	BJH0034-BLK1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210814.b\210814.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0447	08142132ECD7.D	BJH0034-BS1		1	NO MANUAL INTEGRATION
0507	08142133ECD7.D	BJH0034-SRM1		1	Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], Aroclor-1268 [2C],
0528	08142134ECD7.D	21G0303-01		1	NO MANUAL INTEGRATION
0548	08142135ECD7.D	21G0303-02		1	NO MANUAL INTEGRATION
0609	08142136ECD7.D	21G0303-03		1	NO MANUAL INTEGRATION
0629	08142137ECD7.D	21G0303-04		1	NO MANUAL INTEGRATION
0650	08142138ECD7.D	BJH0034-MS1		1	NO MANUAL INTEGRATION
0710	08142139ECD7.D	BJH0034-MSD1		1	NO MANUAL INTEGRATION
0731	08142140ECD7.D	21G0305-01		1	NO MANUAL INTEGRATION
0751	08142141ECD7.D	21G0305-02		1	NO MANUAL INTEGRATION
0812	08142142ECD7.D	21G0305-03		1	NO MANUAL INTEGRATION
0832	08142143ECD7.D	21G0305-04		1	NO MANUAL INTEGRATION
0853	08142144ECD7.D	AR1254CCV5		1	NO MANUAL INTEGRATION
0913	08142145ECD7.D	AR1660CCV6		1	NO MANUAL INTEGRATION
0934	08142146ECD7.D	21G0305-05		1	NO MANUAL INTEGRATION
0954	08142147ECD7.D	21G0305-06		1	NO MANUAL INTEGRATION
1015	08142148ECD7.D	21G0305-07		1	NO MANUAL INTEGRATION
1035	08142149ECD7.D	21G0305-08		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210814.b\210814.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1056	08142150ECD7.D	21G0305-09		1	NO MANUAL INTEGRATION
1116	08142151ECD7.D	21G0305-10		1	NO MANUAL INTEGRATION
1137	08142152ECD7.D	21G0306-01		10	NO MANUAL INTEGRATION
1157	08142153ECD7.D	21G0306-02		10	NO MANUAL INTEGRATION
1218	08142154ECD7.D	BJH0344-BLK1		1	NO MANUAL INTEGRATION
1238	08142155ECD7.D	BJH0344-BS1		1	NO MANUAL INTEGRATION
1259	08142156ECD7.D	21H0142-01		1	Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C],
1319	08142157ECD7.D	AR1248CCV7		1	NO MANUAL INTEGRATION
1340	08142158ECD7.D	AR1660CCV8		1	NO MANUAL INTEGRATION

Security Status Report

Date: 17-Aug-2021 16:08

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08142158ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0177	Instrument:	ECD7
Calibration:	EH00034	Calibration Date:	08/14/2021

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJH0177-SCV1 (Solid)			Lab File ID: 08132141ECD7.D				Analyzed: 08/14/21 08:21	
Decachlorobiphenyl	40.000	105	80 - 120	13.166	13.16367	0.0023	N/A	
Tetrachlorometaxylene	40.000	109	80 - 120	5.071	5.0675	0.0035	N/A	
Decachlorobiphenyl [2C]	40.000	103	80 - 120	13.847	13.846	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	105	80 - 120	5.416	5.412667	0.0033	N/A	
SJH0177-SCV2 (Solid)			Lab File ID: 08132142ECD7.D				Analyzed: 08/14/21 08:41	
Decachlorobiphenyl	40.000	101	80 - 120	13.166	13.16367	0.0023	N/A	
Tetrachlorometaxylene	40.000	106	80 - 120	5.071	5.0675	0.0035	N/A	
Decachlorobiphenyl [2C]	40.000	100	80 - 120	13.848	13.846	0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	103	80 - 120	5.415	5.412667	0.0023	N/A	
SJH0177-SCV3 (Solid)			Lab File ID: 08132143ECD7.D				Analyzed: 08/14/21 09:02	
Decachlorobiphenyl	40.000	98.7	80 - 120	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	40.000	104	80 - 120	5.07	5.0675	0.0025	N/A	
Decachlorobiphenyl [2C]	40.000	96.1	80 - 120	13.848	13.846	0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	101	80 - 120	5.415	5.412667	0.0023	N/A	
SJH0177-SCV4 (Solid)			Lab File ID: 08132144ECD7.D				Analyzed: 08/14/21 09:22	
Decachlorobiphenyl	40.000	100	80 - 120	13.165	13.16367	0.0013	N/A	
Tetrachlorometaxylene	40.000	107	80 - 120	5.07	5.0675	0.0025	N/A	
Decachlorobiphenyl [2C]	40.000	96.6	80 - 120	13.848	13.846	0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	104	80 - 120	5.415	5.412667	0.0023	N/A	
SJH0177-SCV5 (Solid)			Lab File ID: 08132145ECD7.D				Analyzed: 08/14/21 09:43	
Decachlorobiphenyl	40.000	97.1	80 - 120	13.165	13.16367	0.0013	N/A	
Tetrachlorometaxylene	40.000	101	80 - 120	5.071	5.0675	0.0035	N/A	
Decachlorobiphenyl [2C]	40.000	94.1	80 - 120	13.848	13.846	0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	97.9	80 - 120	5.416	5.412667	0.0033	N/A	
SJH0177-SCV6 (Solid)			Lab File ID: 08132146ECD7.D				Analyzed: 08/14/21 10:03	
Decachlorobiphenyl	40.000	149	80 - 200	13.165	13.16367	0.0013	N/A	
Tetrachlorometaxylene	40.000	103	80 - 120	5.071	5.0675	0.0035	N/A	
Decachlorobiphenyl [2C]	40.000	148	80 - 200	13.848	13.846	0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	99.2	80 - 120	5.416	5.412667	0.0033	N/A	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0212	Instrument:	ECD7
Calibration:	EH00034	Calibration Date:	08/14/2021

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJH0212-CCV1 (Water)			Lab File ID: 08142118ECD7.D				Analyzed: 08/14/21 00:00	
Decachlorobiphenyl	40.000	99.0	0 - 200	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	40.000	102	0 - 200	5.068	5.0675	0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	95.5	0 - 200	13.847	13.846	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	100	0 - 200	5.414	5.412667	0.0013	N/A	
SJH0212-ICV1 (Water)			Lab File ID: 08142103ECD7.D				Analyzed: 08/14/21 18:52	
Decachlorobiphenyl	40.000	99.3	0 - 200	13.165	13.16367	0.0013	N/A	
Tetrachlorometaxylene	40.000	103	0 - 200	5.069	5.0675	0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	97.0	0 - 200	13.847	13.846	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	100	0 - 200	5.413	5.412667	0.0003	N/A	
SJH0212-ICV2 (Water)			Lab File ID: 08142104ECD7.D				Analyzed: 08/14/21 19:13	
Decachlorobiphenyl	40.000	103	0 - 200	13.166	13.16367	0.0023	N/A	
Tetrachlorometaxylene	40.000	107	0 - 200	5.07	5.0675	0.0025	N/A	
Decachlorobiphenyl [2C]	40.000	100	0 - 200	13.846	13.846	0.0000	N/A	
Tetrachlorometaxylene [2C]	40.000	103	0 - 200	5.414	5.412667	0.0013	N/A	
SJH0212-CCV2 (Water)			Lab File ID: 08142119ECD7.D				Analyzed: 08/15/21 00:20	
Decachlorobiphenyl	40.000	102	0 - 200	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	40.000	106	0 - 200	5.069	5.0675	0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	98.3	0 - 200	13.848	13.846	0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	103	0 - 200	5.414	5.412667	0.0013	N/A	
SJH0212-CCV3 (Water)			Lab File ID: 08142129ECD7.D				Analyzed: 08/15/21 03:45	
Decachlorobiphenyl	40.000	99.0	0 - 200	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	40.000	104	0 - 200	5.069	5.0675	0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	95.3	0 - 200	13.847	13.846	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	101	0 - 200	5.413	5.412667	0.0003	N/A	
SJH0212-CCV4 (Water)			Lab File ID: 08142130ECD7.D				Analyzed: 08/15/21 04:06	
Decachlorobiphenyl	40.000	102	0 - 200	13.165	13.16367	0.0013	N/A	
Tetrachlorometaxylene	40.000	106	0 - 200	5.067	5.0675	-0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	98.0	0 - 200	13.847	13.846	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	104	0 - 200	5.413	5.412667	0.0003	N/A	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0212	Instrument:	ECD7
Calibration:	EH00034	Calibration Date:	08/14/2021

Surrogate Compound	Spike Level ug/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
BJH0034-BLK1 (Solid)			Lab File ID: 08142131ECD7.D				Analyzed: 08/15/21 04:26	
Decachlorobiphenyl	8.0000	95.3	40 - 126	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	8.0000	83.5	44 - 120	5.068	5.0675	0.0005	N/A	
Decachlorobiphenyl [2C]	8.0000	94.4	40 - 126	13.848	13.846	0.0020	N/A	
Tetrachlorometaxylene [2C]	8.0000	77.5	44 - 120	5.411	5.412667	-0.0017	N/A	
BJH0034-BS1 (Solid)			Lab File ID: 08142132ECD7.D				Analyzed: 08/15/21 04:47	
Decachlorobiphenyl	8.0000	92.6	40 - 126	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	8.0000	84.5	44 - 120	5.067	5.0675	-0.0005	N/A	
Decachlorobiphenyl [2C]	8.0000	87.5	40 - 126	13.846	13.846	0.0000	N/A	
Tetrachlorometaxylene [2C]	8.0000	80.1	44 - 120	5.411	5.412667	-0.0017	N/A	
BJH0034-SRM1 (Solid)			Lab File ID: 08142133ECD7.D				Analyzed: 08/15/21 05:07	
Decachlorobiphenyl	40.000	88.0	40 - 126	13.158	13.16367	-0.0057	N/A	
Tetrachlorometaxylene	40.000	79.7	44 - 120	5.066	5.0675	-0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	77.4	40 - 126	13.841	13.846	-0.0050	N/A	
Tetrachlorometaxylene [2C]	40.000	74.1	44 - 120	5.41	5.412667	-0.0027	N/A	
21G0303-01 (Solid)			Lab File ID: 08142134ECD7.D				Analyzed: 08/15/21 05:28	
Decachlorobiphenyl	7.9769	88.7	40 - 126	13.156	13.16367	-0.0077	N/A	
Tetrachlorometaxylene	7.9769	76.9	44 - 120	5.063	5.0675	-0.0045	N/A	
Decachlorobiphenyl [2C]	7.9769	66.5	40 - 126	13.84	13.846	-0.0060	N/A	
Tetrachlorometaxylene [2C]	7.9769	66.6	44 - 120	5.408	5.412667	-0.0047	N/A	
21G0303-02 (Solid)			Lab File ID: 08142135ECD7.D				Analyzed: 08/15/21 05:48	
Decachlorobiphenyl	7.9824	89.9	40 - 126	13.154	13.16367	-0.0097	N/A	
Tetrachlorometaxylene	7.9824	84.5	44 - 120	5.061	5.0675	-0.0065	N/A	
Decachlorobiphenyl [2C]	7.9824	67.5	40 - 126	13.838	13.846	-0.0080	N/A	
Tetrachlorometaxylene [2C]	7.9824	69.0	44 - 120	5.405	5.412667	-0.0077	N/A	
21G0303-03 (Solid)			Lab File ID: 08142136ECD7.D				Analyzed: 08/15/21 06:09	
Decachlorobiphenyl	7.9900	92.2	40 - 126	13.155	13.16367	-0.0087	N/A	
Tetrachlorometaxylene	7.9900	83.9	44 - 120	5.064	5.0675	-0.0035	N/A	
Decachlorobiphenyl [2C]	7.9900	70.6	40 - 126	13.839	13.846	-0.0070	N/A	
Tetrachlorometaxylene [2C]	7.9900	75.5	44 - 120	5.408	5.412667	-0.0047	N/A	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0212	Instrument:	ECD7
Calibration:	EH00034	Calibration Date:	08/14/2021

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
21G0303-04 (Solid)			Lab File ID: 08142137ECD7.D				Analyzed: 08/15/21 06:29	
Decachlorobiphenyl	8.0005	98.8	40 - 126	13.162	13.16367	-0.0017	N/A	
Tetrachlorometaxylene	8.0005	94.3	44 - 120	5.067	5.0675	-0.0005	N/A	
Decachlorobiphenyl [2C]	8.0005	92.7	40 - 126	13.845	13.846	-0.0010	N/A	
Tetrachlorometaxylene [2C]	8.0005	88.1	44 - 120	5.411	5.412667	-0.0017	N/A	
BJH0034-MS1 (Solid)			Lab File ID: 08142138ECD7.D				Analyzed: 08/15/21 06:50	
Decachlorobiphenyl	8.0005	98.2	40 - 126	13.163	13.16367	-0.0007	N/A	
Tetrachlorometaxylene	8.0005	89.9	44 - 120	5.067	5.0675	-0.0005	N/A	
Decachlorobiphenyl [2C]	8.0005	92.3	40 - 126	13.846	13.846	0.0000	N/A	
Tetrachlorometaxylene [2C]	8.0005	85.3	44 - 120	5.411	5.412667	-0.0017	N/A	
BJH0034-MSD1 (Solid)			Lab File ID: 08142139ECD7.D				Analyzed: 08/15/21 07:10	
Decachlorobiphenyl	8.0005	96.3	40 - 126	13.163	13.16367	-0.0007	N/A	
Tetrachlorometaxylene	8.0005	88.2	44 - 120	5.068	5.0675	0.0005	N/A	
Decachlorobiphenyl [2C]	8.0005	90.5	40 - 126	13.844	13.846	-0.0020	N/A	
Tetrachlorometaxylene [2C]	8.0005	81.7	44 - 120	5.411	5.412667	-0.0017	N/A	
SJH0212-CCV5 (Water)			Lab File ID: 08142144ECD7.D				Analyzed: 08/15/21 08:53	
Decachlorobiphenyl	40.000	100	0 - 200	13.163	13.16367	-0.0007	N/A	
Tetrachlorometaxylene	40.000	102	0 - 200	5.067	5.0675	-0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	93.8	0 - 200	13.846	13.846	0.0000	N/A	
Tetrachlorometaxylene [2C]	40.000	101	0 - 200	5.411	5.412667	-0.0017	N/A	
SJH0212-CCV6 (Water)			Lab File ID: 08142145ECD7.D				Analyzed: 08/15/21 09:13	
Decachlorobiphenyl	40.000	103	0 - 200	13.165	13.16367	0.0013	N/A	
Tetrachlorometaxylene	40.000	106	0 - 200	5.067	5.0675	-0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	98.0	0 - 200	13.845	13.846	-0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	104	0 - 200	5.411	5.412667	-0.0017	N/A	
SJH0212-CCV7 (Water)			Lab File ID: 08142157ECD7.D				Analyzed: 08/15/21 13:19	
Decachlorobiphenyl	40.000	99.5	0 - 200	13.165	13.16367	0.0013	N/A	
Tetrachlorometaxylene	40.000	102	0 - 200	5.067	5.0675	-0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	92.3	0 - 200	13.845	13.846	-0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	101	0 - 200	5.411	5.412667	-0.0017	N/A	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0212	Instrument:	ECD7
Calibration:	EH00034	Calibration Date:	08/13/2021

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJH0212-CCV8 (Water)			Lab File ID: 08142158ECD7.D				Analyzed: 08/15/21 13:40	
Decachlorobiphenyl	40.000	102	0 - 200	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	40.000	107	0 - 200	5.068	5.0675	0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	97.5	0 - 200	13.847	13.846	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	104	0 - 200	5.412	5.412667	-0.0007	N/A	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0177	Instrument:	ECD7
		Calibration:	EH00034

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SJH0177-SCV1)		(Solid)		Lab File ID: 08132141ECD7.D				Analyzed: 08/14/21 08:21	
1-Bromo-2-Nitrobenzene	247644	2.856				50 - 200		+/-0.50	
Hexabromobiphenyl	438534	13.52				50 - 200		+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	705551	3.645				50 - 200		+/-0.50	
Hexabromobiphenyl [2C]	973863	14.744				50 - 200		+/-0.50	
Secondary Cal Check (SJH0177-SCV2)		(Solid)		Lab File ID: 08132142ECD7.D				Analyzed: 08/14/21 08:41	
1-Bromo-2-Nitrobenzene	258029	2.855				50 - 200		+/-0.50	
Hexabromobiphenyl	455205	13.52				50 - 200		+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	724238	3.645				50 - 200		+/-0.50	
Hexabromobiphenyl [2C]	1002202	14.745				50 - 200		+/-0.50	
Secondary Cal Check (SJH0177-SCV3)		(Solid)		Lab File ID: 08132143ECD7.D				Analyzed: 08/14/21 09:02	
1-Bromo-2-Nitrobenzene	264526	2.854				50 - 200		+/-0.50	
Hexabromobiphenyl	465895	13.52				50 - 200		+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	740726	3.644				50 - 200		+/-0.50	
Hexabromobiphenyl [2C]	1045189	14.744				50 - 200		+/-0.50	
Secondary Cal Check (SJH0177-SCV4)		(Solid)		Lab File ID: 08132144ECD7.D				Analyzed: 08/14/21 09:22	
1-Bromo-2-Nitrobenzene	260417	2.853				50 - 200		+/-0.50	
Hexabromobiphenyl	458139	13.52				50 - 200		+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	730797	3.644				50 - 200		+/-0.50	
Hexabromobiphenyl [2C]	1034233	14.745				50 - 200		+/-0.50	
Secondary Cal Check (SJH0177-SCV5)		(Solid)		Lab File ID: 08132145ECD7.D				Analyzed: 08/14/21 09:43	
1-Bromo-2-Nitrobenzene	269058	2.856				50 - 200		+/-0.50	
Hexabromobiphenyl	467004	13.521				50 - 200		+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	745766	3.646				50 - 200		+/-0.50	
Hexabromobiphenyl [2C]	1054321	14.744				50 - 200		+/-0.50	
Secondary Cal Check (SJH0177-SCV6)		(Solid)		Lab File ID: 08132146ECD7.D				Analyzed: 08/14/21 10:03	
1-Bromo-2-Nitrobenzene	263445	2.855				50 - 200		+/-0.50	
Hexabromobiphenyl	458283	13.52				50 - 200		+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	736133	3.645				50 - 200		+/-0.50	
Hexabromobiphenyl [2C]	1049914	14.745				50 - 200		+/-0.50	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0212	Instrument:	ECD7
		Calibration:	EH00034

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SJH0212-ICV1)		(Water)		Lab File ID: 08142103ECD7.D				Analyzed: 08/14/21 18:52	
1-Bromo-2-Nitrobenzene	257198	2.855	257295	2.855	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	443938	13.519	436136	13.52	102	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	702621	3.643	713413	3.644	98	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	932161	14.742	946612	14.741	98	50 - 200	0.001	+/-0.50	
Initial Cal Check (SJH0212-ICV2)		(Water)		Lab File ID: 08142104ECD7.D				Analyzed: 08/14/21 19:13	
1-Bromo-2-Nitrobenzene	257295	2.855	257295	2.855	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	436136	13.52	436136	13.52	100	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	713413	3.644	713413	3.644	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	946612	14.741	946612	14.741	100	50 - 200	0.000	+/-0.50	
Blank (BJH0034-BLK1)		(Solid)		Lab File ID: 08142131ECD7.D				Analyzed: 08/15/21 04:26	
1-Bromo-2-Nitrobenzene	274156	2.853	257295	2.855	107	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl	508387	13.517	436136	13.52	117	50 - 200	-0.003	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	752335	3.642	713413	3.644	105	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	1151739	14.74	946612	14.741	122	50 - 200	-0.001	+/-0.50	
LCS (BJH0034-BS1)		(Solid)		Lab File ID: 08142132ECD7.D				Analyzed: 08/15/21 04:47	
1-Bromo-2-Nitrobenzene	280139	2.851	257295	2.855	109	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl	517241	13.517	436136	13.52	119	50 - 200	-0.003	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	764233	3.64	713413	3.644	107	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl [2C]	1179918	14.74	946612	14.741	125	50 - 200	-0.001	+/-0.50	
Reference (BJH0034-SRM1)		(Solid)		Lab File ID: 08142133ECD7.D				Analyzed: 08/15/21 05:07	
1-Bromo-2-Nitrobenzene	265628	2.852	257295	2.855	103	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl	392793	13.509	436136	13.52	90	50 - 200	-0.011	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	725062	3.64	713413	3.644	102	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl [2C]	1019741	14.737	946612	14.741	108	50 - 200	-0.004	+/-0.50	
LDW21-IT694A (21G0303-01)		(Solid)		Lab File ID: 08142134ECD7.D				Analyzed: 08/15/21 05:28	
1-Bromo-2-Nitrobenzene	264959	2.853	257198	2.855	103	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl	337077	13.508	436136	13.52	77	50 - 200	-0.012	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	665534	3.642	702621	3.643	95	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	944904	14.736	946612	14.741	100	50 - 200	-0.005	+/-0.50	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0212	Instrument:	ECD7
		Calibration:	EH00034

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW21-IT694B (21G0303-02)		(Solid)		Lab File ID: 08142135ECD7.D				Analyzed: 08/15/21 05:48	
1-Bromo-2-Nitrobenzene	243254	2.852	257198	2.855	95	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl	283270	13.506	436136	13.52	65	50 - 200	-0.014	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	593856	3.64	702621	3.643	85	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl [2C]	797222	14.732	946612	14.741	84	50 - 200	-0.009	+/-0.50	
LDW21-IT694C (21G0303-03)		(Solid)		Lab File ID: 08142136ECD7.D				Analyzed: 08/15/21 06:09	
1-Bromo-2-Nitrobenzene	262442	2.852	257198	2.855	102	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl	322852	13.508	436136	13.52	74	50 - 200	-0.012	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	698769	3.641	702621	3.643	99	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	918136	14.736	946612	14.741	97	50 - 200	-0.005	+/-0.50	
LDW21-IT694E (21G0303-04)		(Solid)		Lab File ID: 08142137ECD7.D				Analyzed: 08/15/21 06:29	
1-Bromo-2-Nitrobenzene	273521	2.853	257198	2.855	106	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl	475431	13.515	436136	13.52	109	50 - 200	-0.005	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	764134	3.642	702621	3.643	109	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	1122841	14.739	946612	14.741	119	50 - 200	-0.002	+/-0.50	
Matrix Spike (BJH0034-MS1)		(Solid)		Lab File ID: 08142138ECD7.D				Analyzed: 08/15/21 06:50	
1-Bromo-2-Nitrobenzene	277223	2.852	257295	2.855	108	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl	472936	13.515	436136	13.52	108	50 - 200	-0.005	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	759828	3.64	713413	3.644	107	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl [2C]	1131574	14.74	946612	14.741	120	50 - 200	-0.001	+/-0.50	
Matrix Spike Dup (BJH0034-MSD1)		(Solid)		Lab File ID: 08142139ECD7.D				Analyzed: 08/15/21 07:10	
1-Bromo-2-Nitrobenzene	271018	2.851	257295	2.855	105	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl	475466	13.515	436136	13.52	109	50 - 200	-0.005	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	752329	3.64	713413	3.644	105	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl [2C]	1124945	14.739	946612	14.741	119	50 - 200	-0.002	+/-0.50	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	21G0303
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0303-01	File ID:	08142134ECD7.D
Sampled:	07/20/21 16:39	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 05:28
Solids:	74.62	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BJH0034	Sequence:	SJH0212		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1254	1	9.848	9.868333	0.0203	14258.2	14.6	27.2
	* 2	10.147	10.155	0.008	80468.6	19.2	
Aroclor 1260	* 1	11.546	11.55517	0.00917	121858.4	127	43.4
	2	12.962	12.9715	0.0095	539956	81.7	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	21G0303
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0303-02	File ID:	08142135ECD7.D
Sampled:	07/20/21 16:39	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 05:48
Solids:	69.29	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BJH0034	Sequence:	SJH0212		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1260	* 1	11.537	11.55517	0.0182	2167.4	2.7	40.
	2	12.96	12.9715	0.0115	9660.5	1.8	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

HOLDING TIME SUMMARY

Analysis: EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 21G0303

Client: Anchor QEA, LLC Project: Lower Duwamish AOC4

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
LDW21-IT694A 21G0303-01	07/20/21 16:39	07/21/21 10:47	08/03/21 11:35	13	14	08/15/21 05:28	12	40	
LDW21-IT694B 21G0303-02	07/20/21 16:39	07/21/21 10:47	08/03/21 11:35	13	14	08/15/21 05:48	12	40	
LDW21-IT694C 21G0303-03	07/20/21 16:39	07/21/21 10:47	08/03/21 11:35	13	14	08/15/21 06:09	12	40	
LDW21-IT694E 21G0303-04	07/20/21 16:39	07/21/21 10:47	08/03/21 11:35	13	14	08/15/21 06:29	12	40	
Matrix Spike BJH0034-MS1	07/20/21 16:39	07/21/21 10:47	08/03/21 11:35	13	14	08/15/21 06:50	12	40	
Matrix Spike Dup BJH0034-MSD1	07/20/21 16:39	07/21/21 10:47	08/03/21 11:35	13	14	08/15/21 07:10	12	40	

* Indicates hold time exceedance.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
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

Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Water
Instrument: ECD7

Analyte	MDL	RL	Units
Aroclor 1016	1.56	4.00	ug/kg
Aroclor 1016 [2C]	1.56	4.00	ug/kg
Aroclor 1242	1.56	4.00	ug/kg
Aroclor 1242 [2C]	1.56	4.00	ug/kg
Aroclor 1248	1.56	4.00	ug/kg
Aroclor 1248 [2C]	1.56	4.00	ug/kg
Aroclor 1254	1.56	4.00	ug/kg
Aroclor 1254 [2C]	1.56	4.00	ug/kg
Aroclor 1260	0.589	4.00	ug/kg
Aroclor 1260 [2C]	0.589	4.00	ug/kg

AccuStandard
125 Market Street
New Haven, CT 06513
(203) 786-5290

CERTIFICATE OF PRODUCT DATA

PRODUCT: S-279N
DESCRIPTION: Volatile Organic Compound (TCMx)
LOT #: 0052481B-1
SOLVENT: N/A

EXPIRATION: July 28, 2015

This product is guaranteed accurate to ±0.5% of the Certified Analyte concentration through the Expiration Date on the Label.

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[1]	Certified Analyte Concentration[2]
Tetrachloro-meta-xylene (TCMX)	877-09-8	96.0	N/A	N/A

Te

* I1769A

Certified by: R. Cooper

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 ±4% which is the Combined Uncertainty uc(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 Uc(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.

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.

This product was manufactured in accordance to quality system requirements of ISO 9001:2000 and ISO 17025

* Recertified ~ 4-6-09 (18)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analytical Standard Record

Standard ID: C000147 **Printed: 4/23/2015 11:52:09AM**

Description:	tetrachlormetaxylene	Expires:	15-Jan-2020
Standard Type:	Other	Prepared:	15-Jan-2014
Solvent:	n/a	Prepared By:	Joshua Rains
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	27-Feb-2015 13:01 by JGR
Vendor:	Accustandard	Lot #:	0052481b-1
Vendor Catalog #:			

Comments

see I1769a
updated for calibration TCX DCBP 06/12/14 sdrd

Analyte	CAS Number	Concentration	Units
Tetrachlorometaxylene [2C]	877-09-8	1000000	ug/mL
Tetrachlorometaxylene	877-09-8	1000000	ug/mL
TCX 1660 [2C]	877-09-8	1000000	ug/mL
TCX 1660	877-09-8	1000000	ug/mL
TCX [2C]	877-09-8	1000000	ug/mL
TCX (A) [2C]	877-09-8	1000000	ug/mL
TCX (A)	877-09-8	1000000	ug/mL
TCX	877-09-8	1000000	ug/mL

Reviewed By Date

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,

* I1768A

Certified by: R. Cooper

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 ±4% which is the Combined Uncertainty uc(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 Uc(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.

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.

This product was manufactured in accordance to quality system requirements of ISO 9001:2000 and ISO 17025

* Recertified 2 4-6-09 (JS)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analytical Standard Record

Standard ID: C000148 **Printed: 4/23/2015 11:54:44AM**

Description:	decachlorbiphenyl	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 #:	990521lb-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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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**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101467
Description: Aroclor 1016
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Isooctane

Lot Number: CL12908
Certification Date: November 19, 2018
Expiration Date: October 31, 2026

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1016	12674-11-2	1000	± 0.553%

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IL11110613_us

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova
Certified Reference Materials

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.

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Chemical Testing Laboratory
Certificate No. 2427.03

Certificate of Analysis

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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 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] 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 98[5] 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/IEC17025 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)

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**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101462
Description: Aroclor 1260
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Hexane

Lot Number: CL13054
Certification Date: November 29, 2018
Expiration Date: November 30, 2026

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1260	11096-82-5	1000	± 0.520%

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Recd. JR
09/22/20

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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.

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL111110613_US

Certificate of Analysis

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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 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] 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 98[5] 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)

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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).

J000580

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.

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 9001
Registered
TUV USA, Inc.

John Russo
President

Monica Bourgeois
Director of QA/RA

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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).

J000581

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 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

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

www.agilent.com/quality/
CSD-QA-015.1

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ISO 17025 Cert No. AT-1937

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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).

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

2021/15/21
J000582

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO17025 Cert No. AT-1937

Agilent

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.

M Bourgeois

Monica Bourgeois
QMS Representative

J 000583

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

ISO Guide 34 Cert No.
AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Management System

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO17025 Cert No.
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Certificate of Analysis
ISO Guide 34

Aroclor 1248 Standard

Product Number: PP-342 **Page:** 1 of 1

Lot Number: CT-0774 **Lot Issue Date:** 08-Mar-2019 **Expiration Date:** 31-Mar-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 1248	012672-29-6	NT01718	100.3 ± 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.

M Bourgeois

Monica Bourgeois
QMS Representative

J000584
01/15/21

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER
ISO Guide 34 Cert No.
AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Management System

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO17025 Cert No.
AT-1937

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Certificate of Analysis

Aroclor 1254 Solution

Product Number:	PP-352			**Page:**	1 of 1
Lot Number:	CK-4250	**Lot Issue Date:**	31-Dec-2013	**Expiration Date:**	31-Jan-2022

This certified 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	100.0 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15-30°C).

J000585

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.

ACCREDITED

ISO 17025:2005 Accredited A2LA Cert. No. 0851-01

ISO 9001:2008 Registered TUV USA, Inc. Cert. No. 09-1009

250 Smith Street, North Kingstown, RI 02852 USA
401-294-9400 Fax: 295-2330
wwww.ultrasci.com

William J. Leary
Quality Assurance Manager

Agilent

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).

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

J000 587

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

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Certificate of Analysis
ISO 17034

Aroclor 1268 Standard

Product Number: PP-382-1 **Page:** 1 of 1

Lot Number: 0006478417 **Lot Issue Date:** 24-Jul-2019 **Expiration Date:** 31-Aug-2027

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 1268	011100-14-4	RM00937	100.3 ± 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.

M Bourgeois

Monica Bourgeois
QMS Representative

J000588

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ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

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CHAIN-OF-CUSTODY RECORD

COC No. 15130

Order Number: CB014550

Date Shipped: 6/30/2021

AirBill No(s): 460843969796

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

To: SUE DUNNIHOO
ANALYTICAL RESOURCES INC.
4611 S. 134TH PLACE SUITE 100
TUKWILA WA 98168
250-695-6207

Sample ID	Qty	Description/Remarks	→ Catalogue Number
PSRM0134 - J006840	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0135 - J006841	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0136 - J006842	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0137 - J006843	1	PUGET SOUND SEDIMENT RM	PS-SRM
		6/30/2021	
		DUWAMISH AOC4	

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

Relinquished by: (Signature)	Date/Time 1400 6/30/2021	Received by: (Signature)	Date/Time 07/01/2021 1042
Custody Seal(s): Present/Absent	Remarks:		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

Report No. 00, 9/11/2014

SMP Version 3.3

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-IT694A

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0303-01 D	SDG:	21G0303
Sampled:	07/20/21 16:39	Prepared:	08/03/21 13:45	File ID:	CubeData_08092021@1245-062
% Solids:	71.45	Preparation:	PSEP 1986 (modified)	Analyzed:	08/08/21 13:06
Batch:	BJH0062	Sequence:	SJH0071	Initial/Final:	0.5282 g Wet / 0.5282 mL
Instrument:	TOC Cube			Calibration:	EG00035

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.90	1	0.02	0.02	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-IT694B

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0303-02RE2 D	SDG:	21G0303
Sampled:	07/20/21 16:39	Prepared:	08/03/21 13:45	File ID:	CubeData_08312021@1034-796
% Solids:	70.42	Preparation:	PSEP 1986 (modified)	Analyzed:	08/30/21 13:41
Batch:	BJH0062	Sequence:	SJH0331	Initial/Final:	0.1386 g Wet / 0.1386 mL
Instrument:	TOC Cube			Calibration:	EH00065

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	4.79	1	0.02	0.02	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-IT694C

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0303-03 D	SDG:	21G0303
Sampled:	07/20/21 16:39	Prepared:	08/03/21 13:45	File ID:	CubeData_08092021@1245-075
% Solids:	72.09	Preparation:	PSEP 1986 (modified)	Analyzed:	08/08/21 14:09
Batch:	BJH0062	Sequence:	SJH0071	Initial/Final:	0.5287 g Wet / 0.5287 mL
Instrument:	TOC Cube			Calibration:	EG00035

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.94	1	0.02	0.02	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-IT694E

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0303-04 D	SDG:	21G0303
Sampled:	07/20/21 16:39	Prepared:	08/03/21 13:45	File ID:	CubeData_08092021@1245-109
% Solids:	80.12	Preparation:	PSEP 1986 (modified)	Analyzed:	08/08/21 17:20
Batch:	BJH0062	Sequence:	SJH0071	Initial/Final:	0.6364 g Wet / 0.6364 mL
Instrument:	TOC Cube			Calibration:	EG00035

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.06	1	0.02	0.02	

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PREPARATION BATCH SUMMARY

EPA 9060A m

Laboratory:	Analytical Resources, Inc.			SDG:	21G0303
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Batch:	BJH0062	Batch Matrix:	Solid	Preparation:	PSEP 1986 (modified)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-IT694A	21G0303-01	eData_08092021@1245-	08/03/21 13:45	
LDW21-IT694B	21G0303-02RE2	eData_08312021@1034-	08/03/21 13:45	Added 8/16/2021 By BF
LDW21-IT694C	21G0303-03	eData_08092021@1245-	08/03/21 13:45	
LDW21-IT694E	21G0303-04	eData_08092021@1245-	08/03/21 13:45	
Blank	BJH0062-BLK1	eData_08092021@1245-	08/03/21 13:45	
LCS	BJH0062-BS1	eData_08092021@1245-	08/03/21 13:45	
MRL Check	BJH0062-MRL1	eData_08092021@1245-	08/03/21 13:45	
Reference	BJH0062-SRM1	eData_08092021@1245-	08/03/21 13:45	

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Form I

METHOD BLANK DATA SHEET

EPA 9060A m

TotalAnalytes

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	21G0303
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Batch:	BJH0062	Laboratory ID:	BJH0062-BLK1	Prepared:	08/03/21 13:45
Matrix:	Solid	Preparation:	PSEP 1986 (modified)	Analyzed:	08/07/21 23:58
Sequence:	SJH0071	Calibration:	EG00035	Instrument:	TOC Cube

CAS NO.	Analyte	Concentration (% wet)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	ND	1	0.02	0.02	U

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LCS / LCS DUPLICATE RECOVERY

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Matrix:	Solid	Analyzed:	08/08/21 00:30
Batch:	BJH0062	Laboratory ID:	BJH0062-BS1
Preparation:	PSEP 1986 (modified)	Sequence Name:	LCS
Initial/Final:	0.0244 g / 0.0244 mL		

COMPOUND	SPIKE ADDED (% wet)	LCS CONCENTRATION (% wet)	Q	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	44.4	43.9		98.7	80 - 120

* Indicates values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

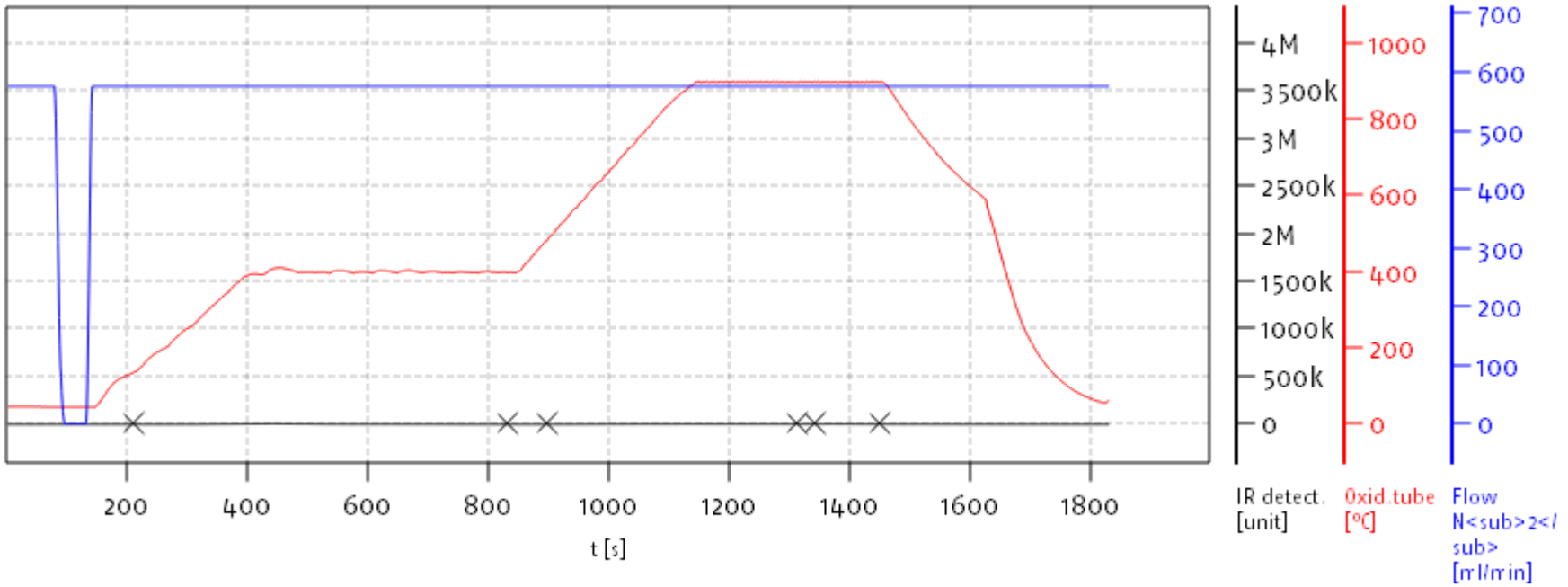
Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0169	Instrument:	TOC Cube
		Calibration:	EG00035

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Cal Standard	SJG0169-CAL1	peData_07142021@1025-(	NA	07/13/21 15:07
Cal Standard	SJG0169-CAL2	peData_07142021@1025-(	NA	07/13/21 15:38
Cal Standard	SJG0169-CAL3	peData_07142021@1025-(	NA	07/13/21 16:09
Cal Standard	SJG0169-CAL4	peData_07142021@1025-(	NA	07/13/21 16:40
Cal Standard	SJG0169-CAL5	peData_07142021@1025-(	NA	07/13/21 17:11
Cal Standard	SJG0169-CAL6	peData_07142021@1025-(	NA	07/13/21 17:41
Cal Standard	SJG0169-CAL7	peData_07142021@1025-(	NA	07/13/21 18:12
Cal Standard	SJG0169-CAL8	peData_07142021@1025-(	NA	07/13/21 18:43
Cal Standard	SJG0169-CAL9	peData_07142021@1025-(	NA	07/13/21 19:14
Cal Standard	SJG0169-CALA	peData_07142021@1025-(	NA	07/13/21 19:45
Cal Standard	SJG0169-CALB	peData_07142021@1025-(	NA	07/13/21 20:16
Cal Standard	SJG0169-CALC	peData_07142021@1025-(	NA	07/13/21 20:47
Cal Standard	SJG0169-CALD	peData_07142021@1025-(	NA	07/13/21 21:18
Cal Standard	SJG0169-CALE	peData_07142021@1025-(	NA	07/13/21 21:49
Cal Standard	SJG0169-CALF	peData_07142021@1025-(	NA	07/13/21 22:20
Cal Standard	SJG0169-CALG	peData_07142021@1025-(	NA	07/13/21 22:50
Cal Standard	SJG0169-CALH	peData_07142021@1025-(	NA	07/13/21 23:21
Cal Standard	SJG0169-CALI	peData_07142021@1025-(	NA	07/13/21 23:52
Cal Standard	SJG0169-CALJ	peData_07142021@1025-(	NA	07/14/21 00:23
Cal Standard	SJG0169-CALK	peData_07142021@1025-(	NA	07/14/21 00:55
Cal Standard	SJG0169-CALL	peData_07142021@1025-(	NA	07/14/21 01:26
Cal Standard	SJG0169-CALM	peData_07142021@1025-(	NA	07/14/21 01:56
Cal Standard	SJG0169-CALN	peData_07142021@1025-(	NA	07/14/21 02:27
Initial Cal Check	SJG0169-ICV1	peData_07142021@1025-(	NA	07/14/21 05:02
Initial Cal Blank	SJG0169-ICB1	peData_07142021@1025-(	NA	07/14/21 05:33
Cal Standard	SJG0169-CALO	peData_07142021@1025-(	NA	07/14/21 10:22

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	1	BLANK	1.00		1.00	CARBON	7/13/2021 2:06 PM	0.000	0.000	0.000	bl	41 637	34 438	10 598	1.0000	1.0000



Name:

Access: soliTOC superuser

Date: Wed Jul 14 09:43:57 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

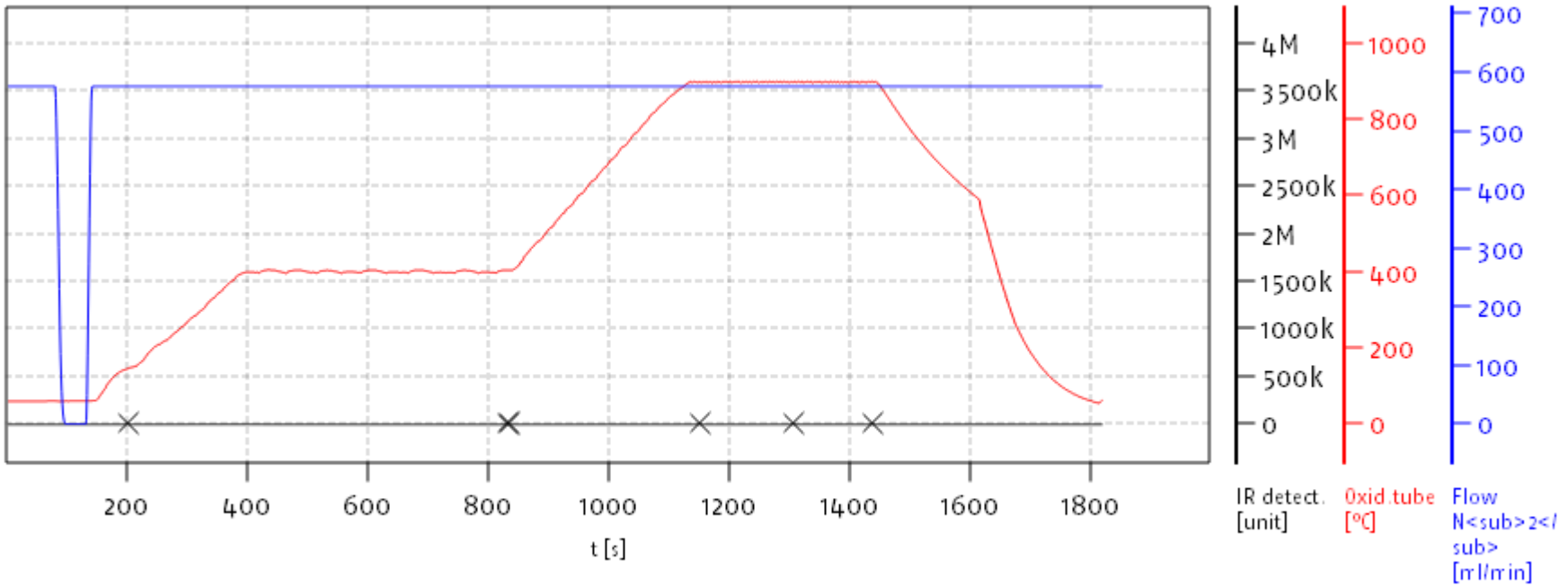
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EG00035 071321BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	2	BLANK	1.00		1.00	CARBON	7/13/2021 2:37 PM	0.000	0.000	0.000	bl	4 874	0	164	1.0000	1.0000



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Soli TOC Cube, Carbon
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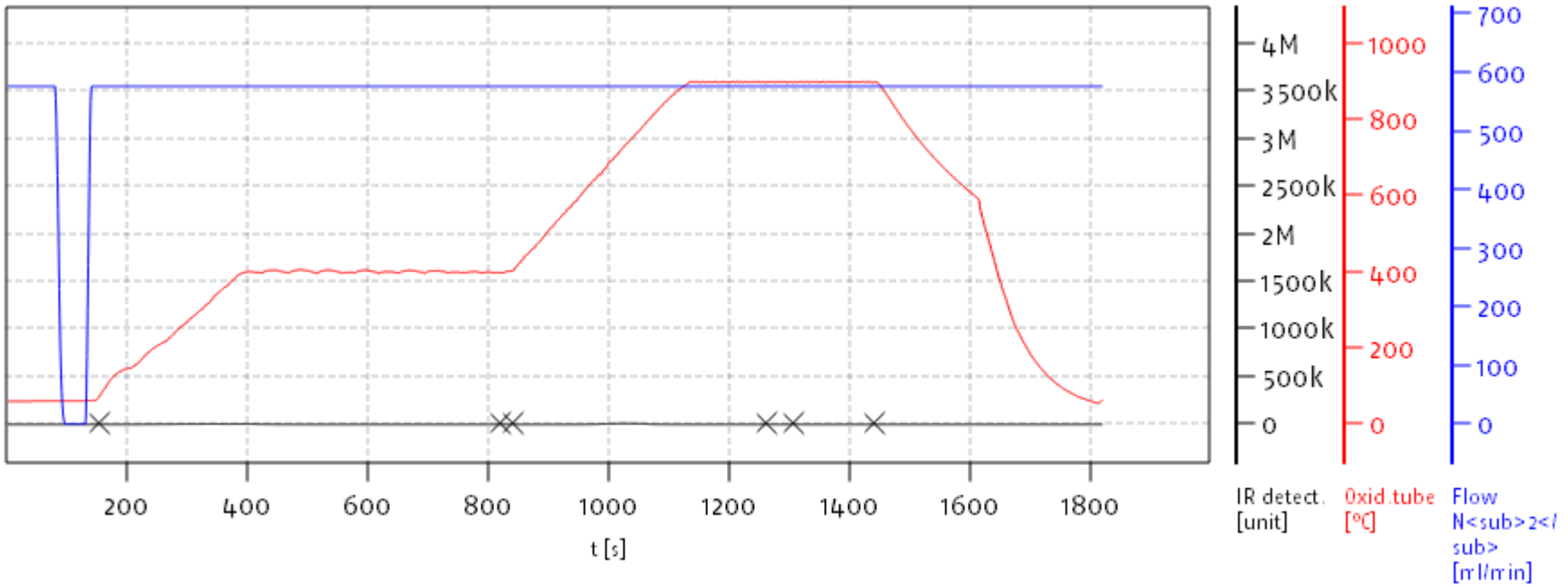
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	3	SEQ-CAL1	200.00	0.0027	1.00	CARBON	7/13/2021 3:07 PM	0.029	0.008	0.037	bl,C2u	31 040	28 300	256	1.0000	0.3447



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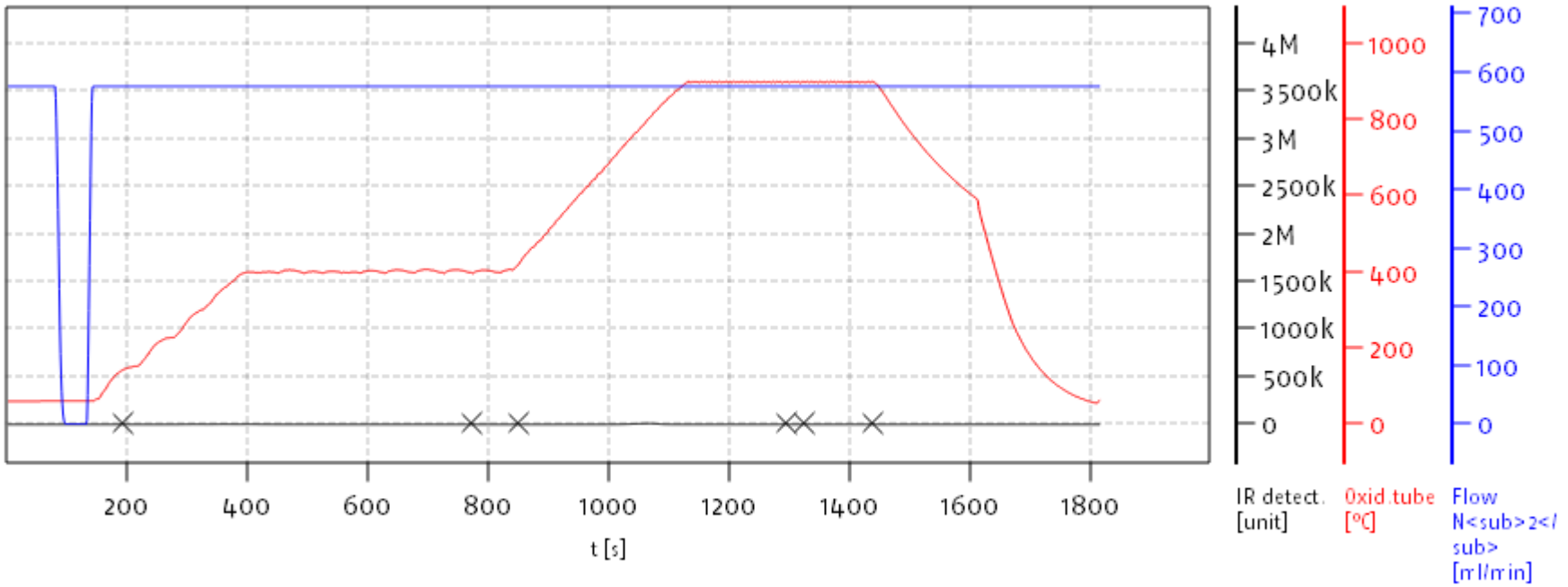
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	4	SEQ-CAL2	200.00	0.0050	1.00	CARBON	7/13/2021 3:38 PM	0.013	0.015	0.028	bl,C2u	10 883	17 832	143	1.0000	0.9493



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Balance: BAL3
Analyst: BF

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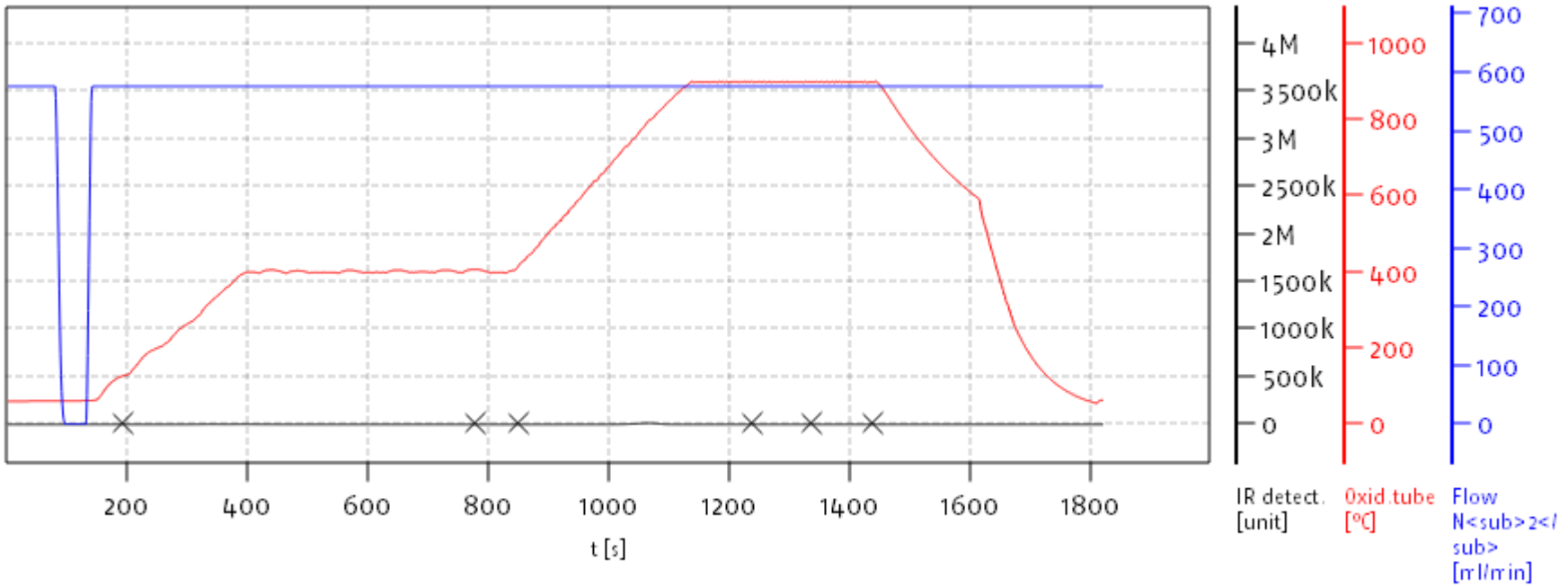
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	5	SEQ-CAL3	200.00	0.0068	1.00	CARBON	7/13/2021 4:09 PM	0.012	0.022	0.034	bl,C2u	9 870	22 430	107	1.0000	1.1246



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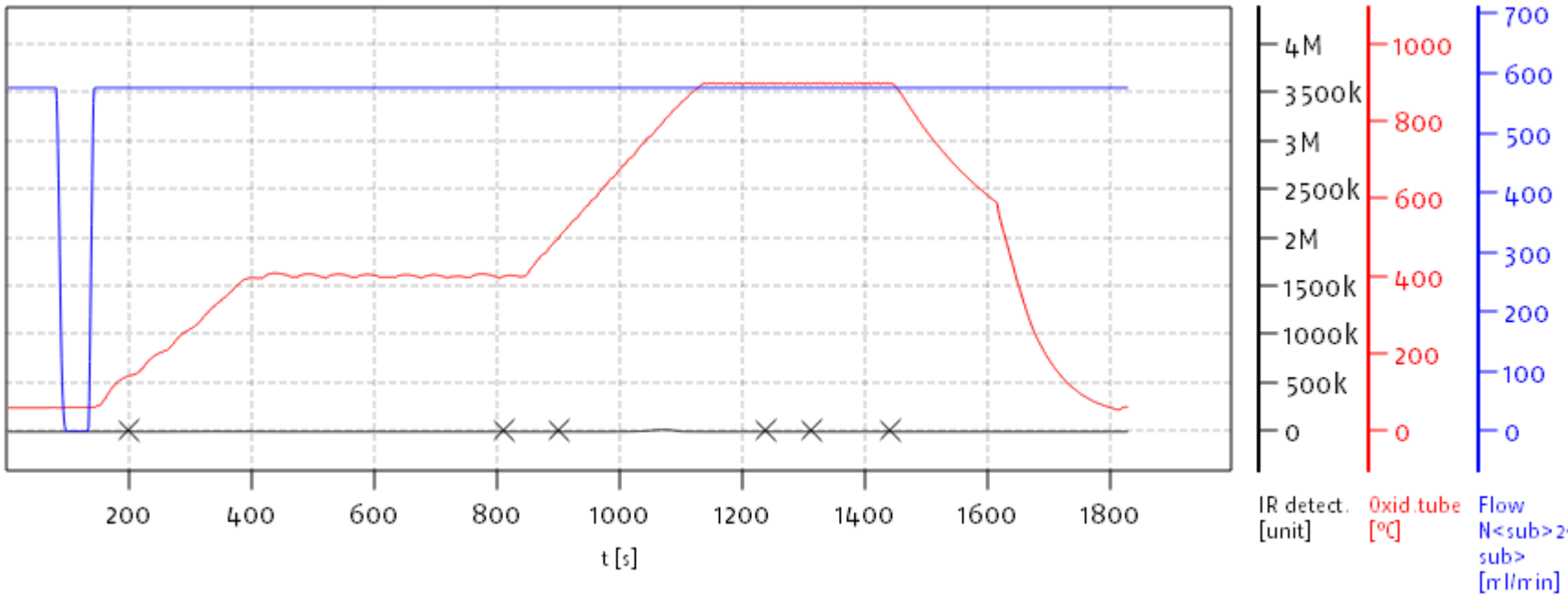
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	6	SEQ-CAL4	200.00	0.0099	1.00	CARBON	7/13/2021 4:40 PM	0.012	0.030	0.042	bl,C2u	9 549	35 259	82	1.0000	1.0150



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Balance: BAL3
Analyst: BF

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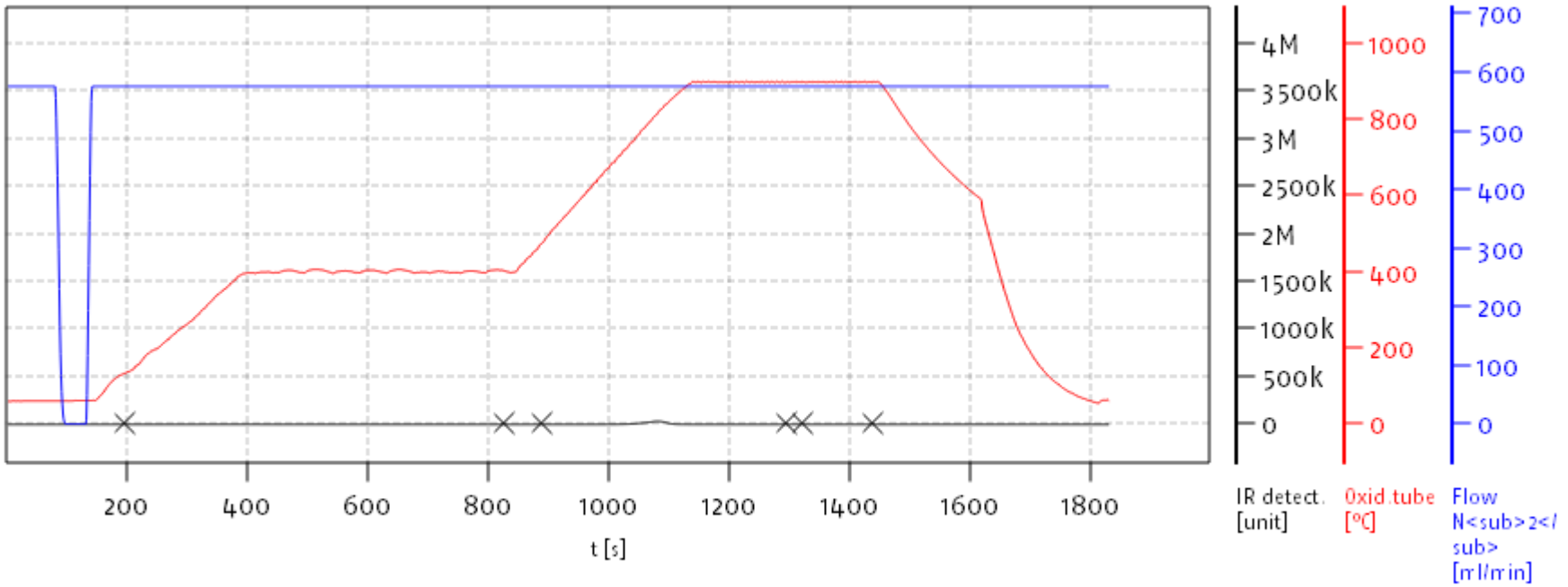
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	7	SEQ-CAL5	200.00	0.0155	1.00	CARBON	7/13/2021 5:11 PM	0.008	0.045	0.053	bl,C1u,C2u	4 269	54 591	65	1.0000	0.9980



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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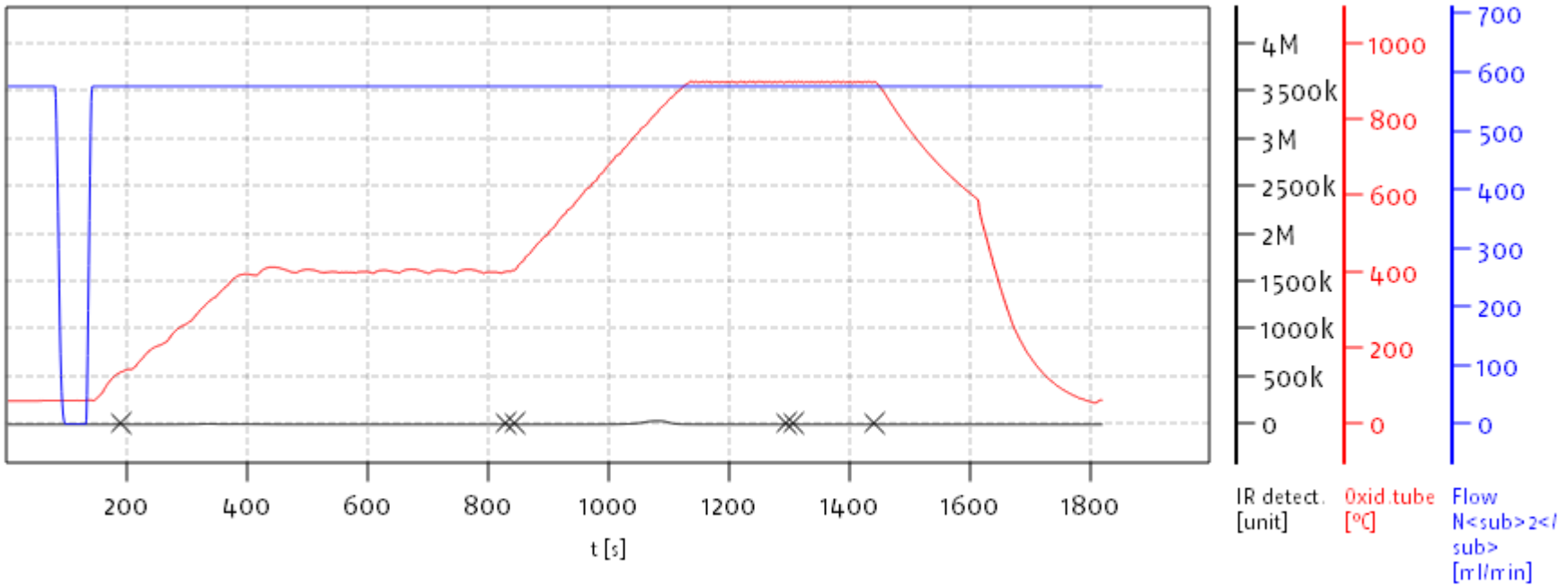
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	8	SEQ-CAL6	200.00	0.0198	1.00	CARBON	7/13/2021 5:41 PM	0.019	0.061	0.080	bl,C2u	18 512	73 034	79	1.0000	1.0264



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Access: soliTOC superuser

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Serial No: 0300.181017
Mode CCC

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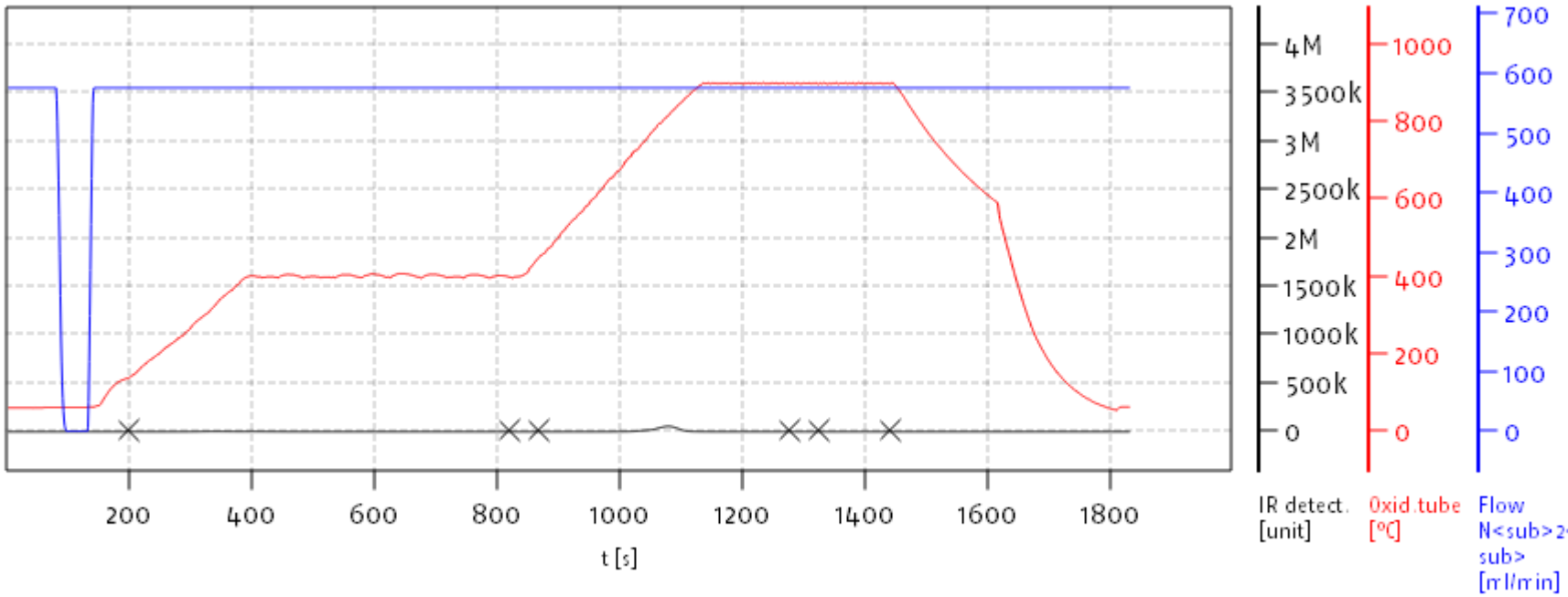
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	9	SEQ-CAL7	200.00	0.0257	1.00	CARBON	7/13/2021 6:12 PM	0.014	0.075	0.089	bl,C2u	12 682	95 421	29	1.0000	0.9745



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Access: soliTOC superuser

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soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

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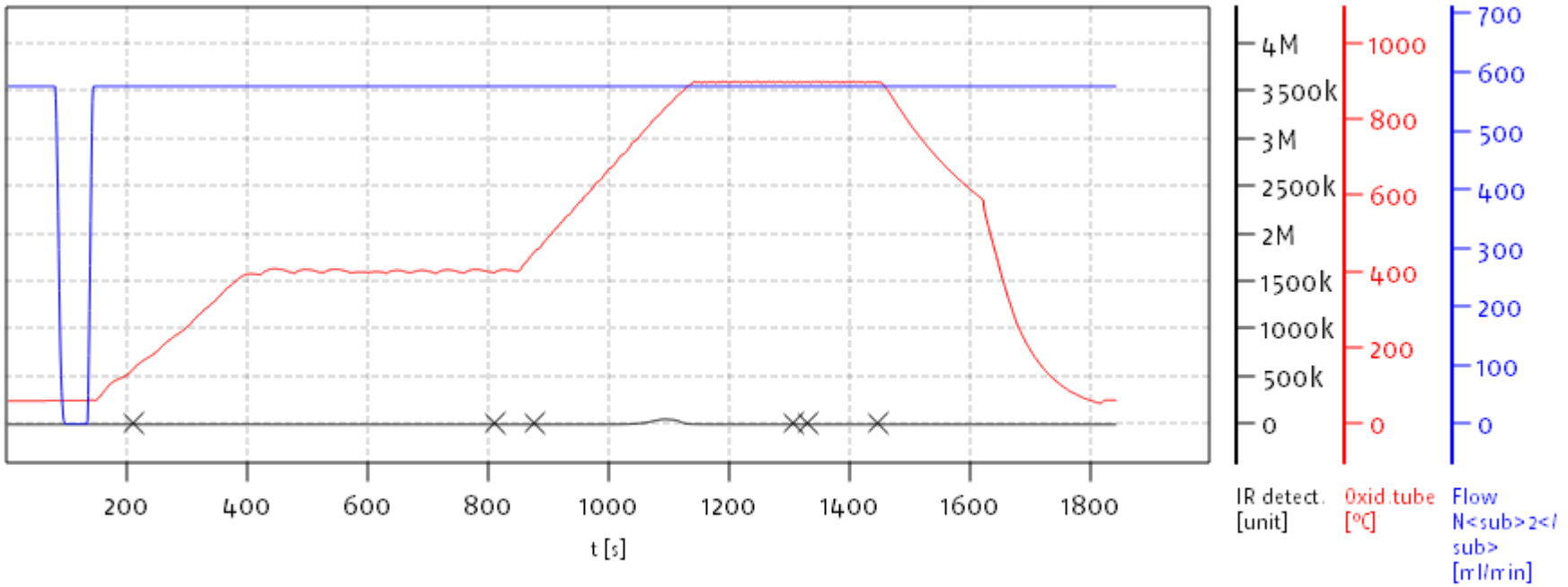
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	10	SEQ-CAL8	200.00	0.0300	1.00	CARBON	7/13/2021 6:43 PM	0.008	0.091	0.098	bl,C1u,C2u	4 663	112 452	86	1.0000	0.9989



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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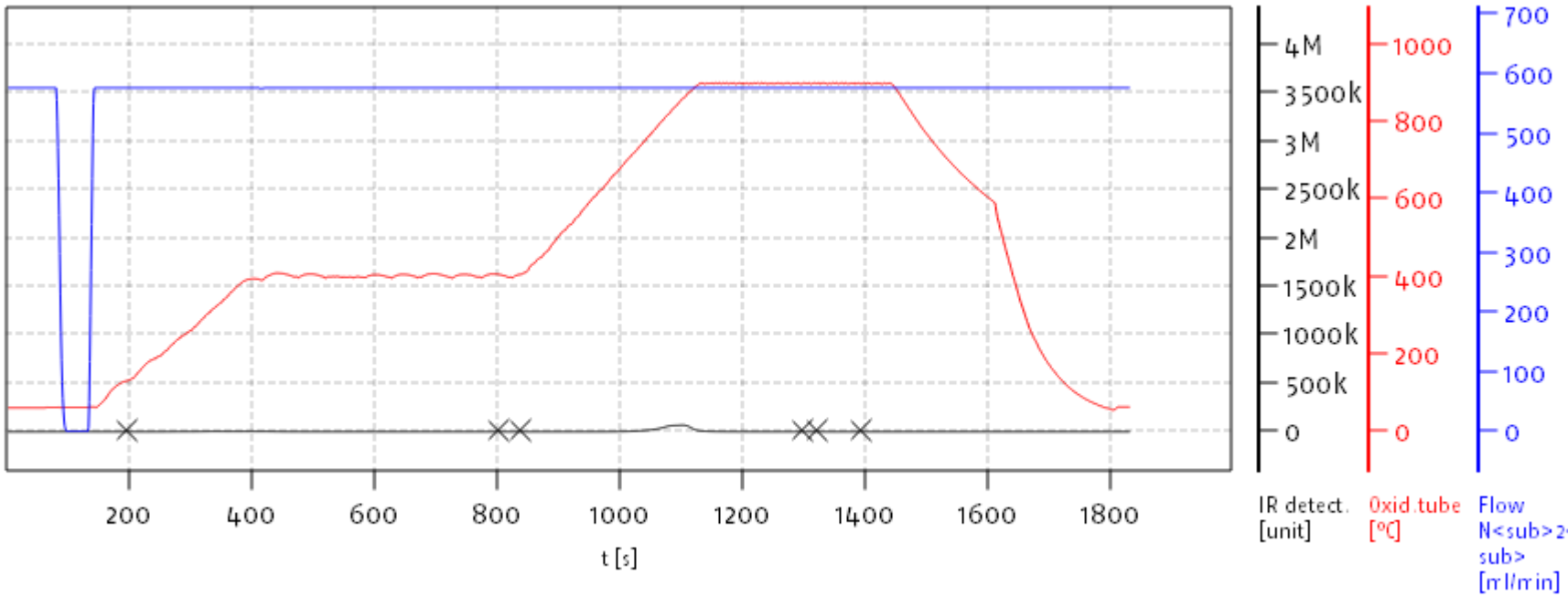
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	11	SEQ-CAL9	200.00	0.0407	1.00	CARBON	7/13/2021 7:14 PM	0.021	0.120	0.141	bl,C2u	21 063	157 168	339	1.0000	0.9528



Name:

Access: soliTOC superuser

Date: Wed Jul 14 09:43:57 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

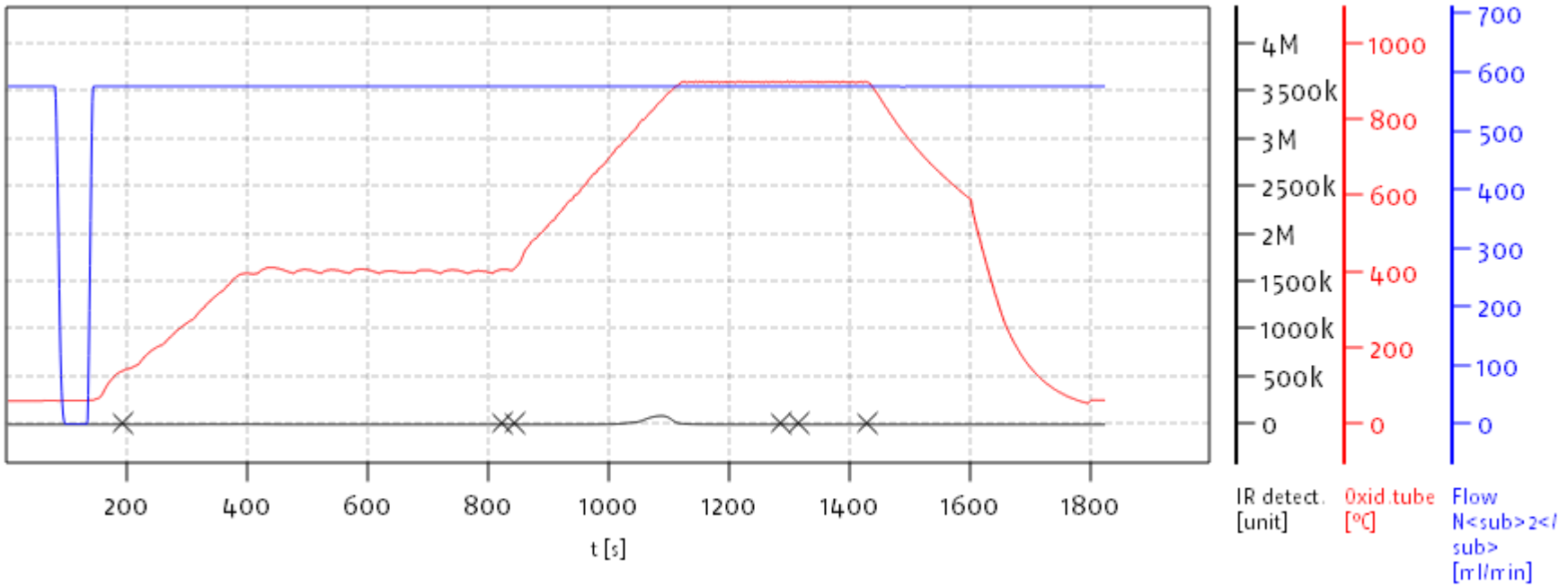
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EG00035 071321BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	12	SEQ-CALA	200.00	0.0501	1.00	CARBON	7/13/2021 7:45 PM	0.013	0.151	0.164	bl,C2u	11 050	187 538	95	1.0000	1.0068



Name:

Access: soliTOC superuser

Date: Wed Jul 14 09:43:57 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

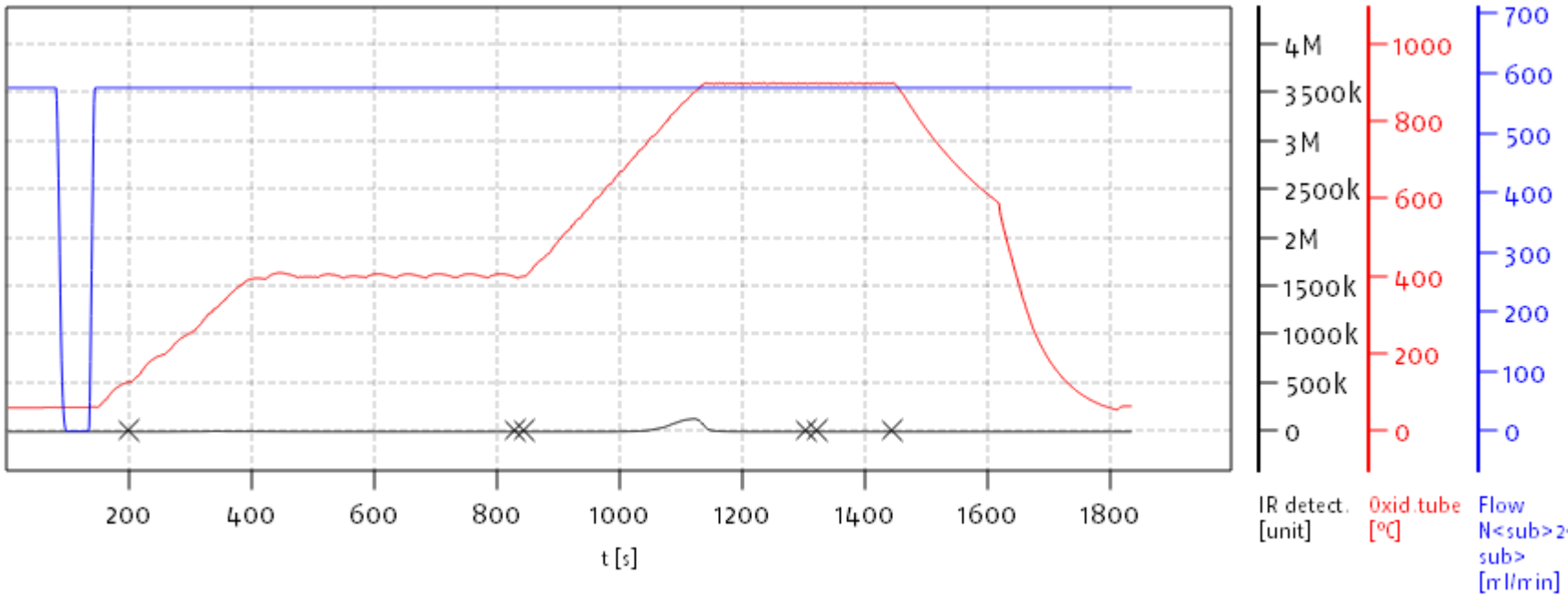
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EG00035 071321BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	13	SEQ-CALB	200.00	0.0041	1.00	CARBON	7/13/2021 8:16 PM	0.021	0.258	0.279	bl,C2u	21 325	304 031	81	1.0000	1.0675



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Access: soliTOC superuser

Date: Wed Jul 14 09:43:57 2021

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Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

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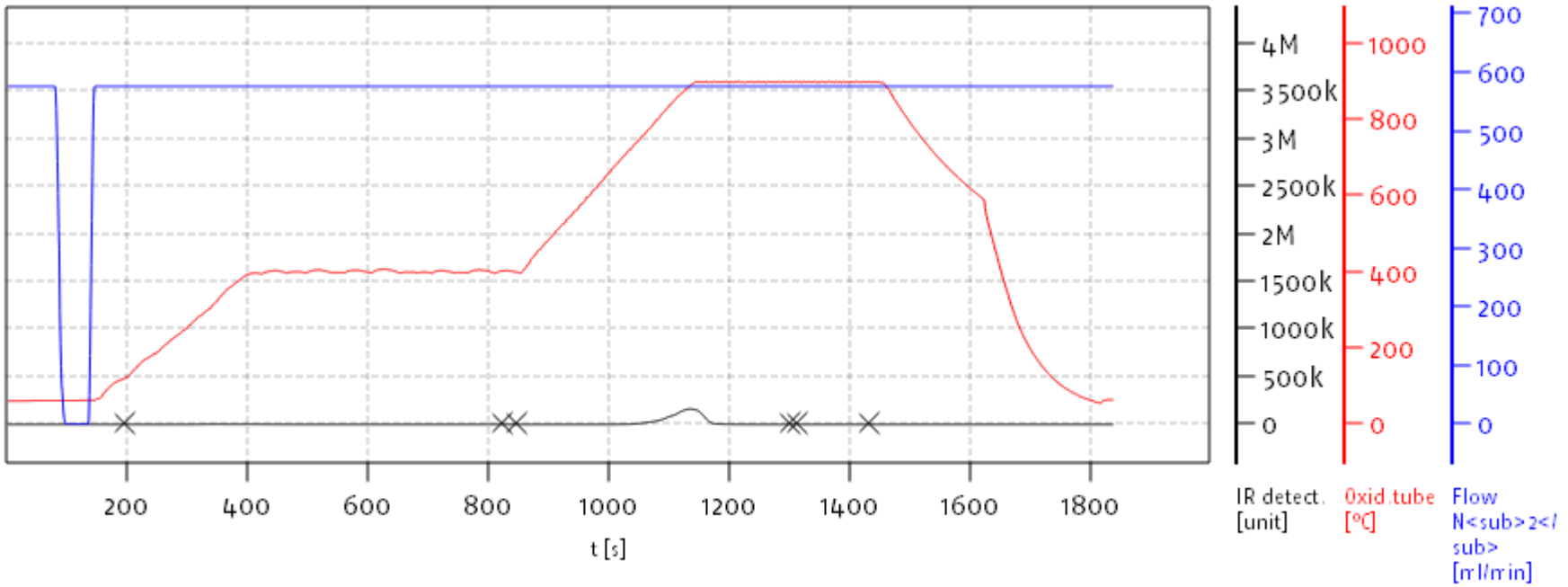
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	14	SEQ-CALC	200.00	0.0051	1.00	CARBON	7/13/2021 8:47 PM	0.013	0.324	0.337	bl,C2u	11 360	386 243	161	1.0000	1.0571



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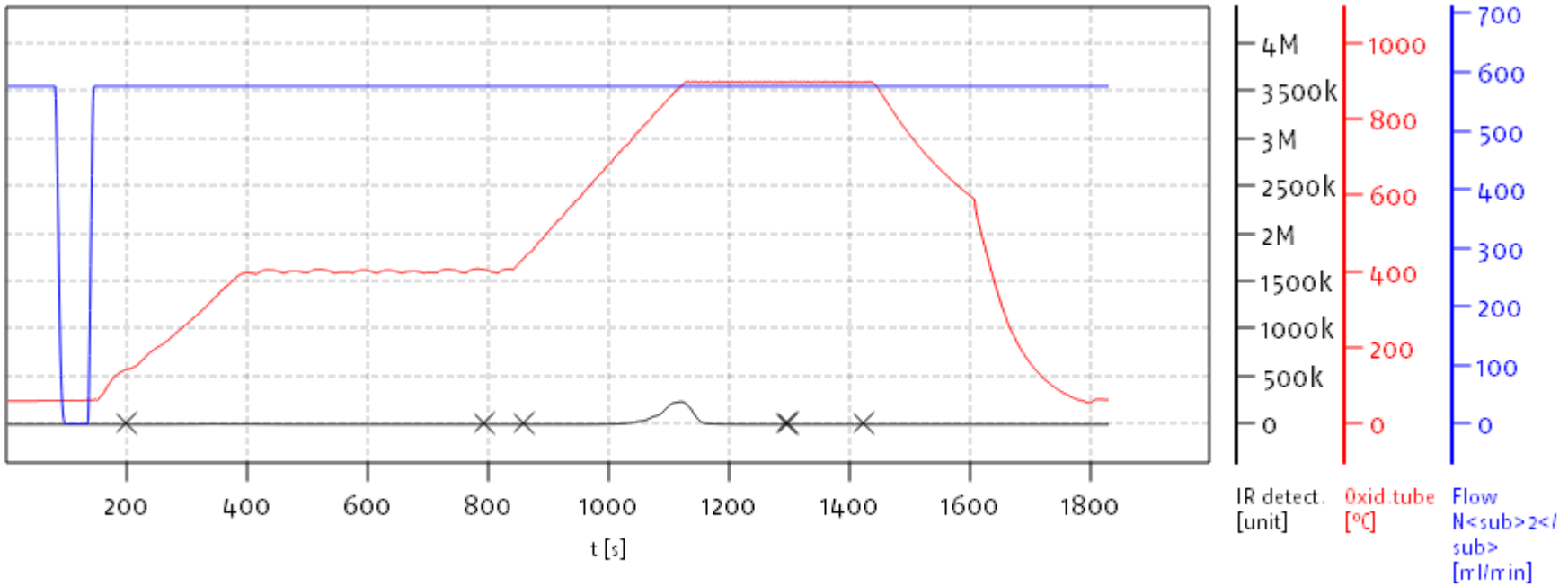
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	15	SEQ-CALD	200.00	0.0073	1.00	CARBON	7/13/2021 9:18 PM	0.017	0.444	0.461	bl,C2u	15 984	558 687	174	1.0000	1.0036



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Access: soliTOC superuser

Date: Wed Jul 14 09:43:57 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

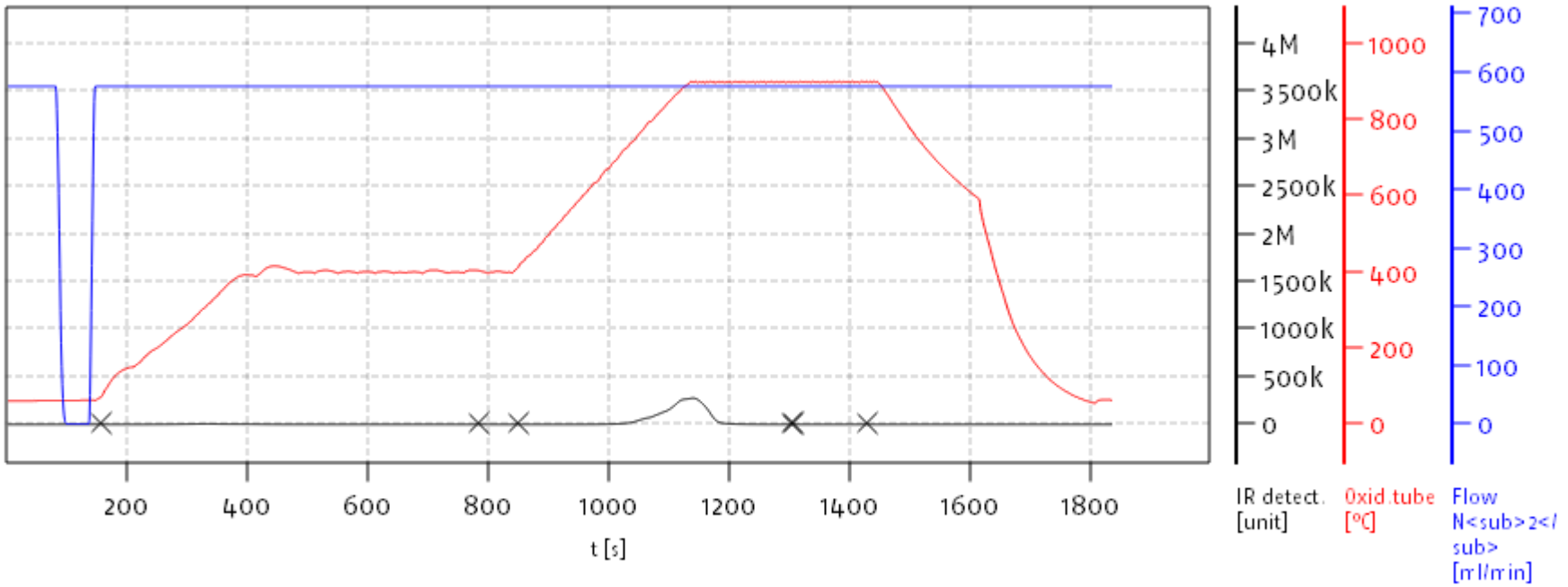
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EG00035 071321BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	16	SEQ-CALE	200.00	0.0109	1.00	CARBON	7/13/2021 9:49 PM	0.024	0.600	0.624	bl,C2u	25 032	838 073	291	1.0000	0.9055



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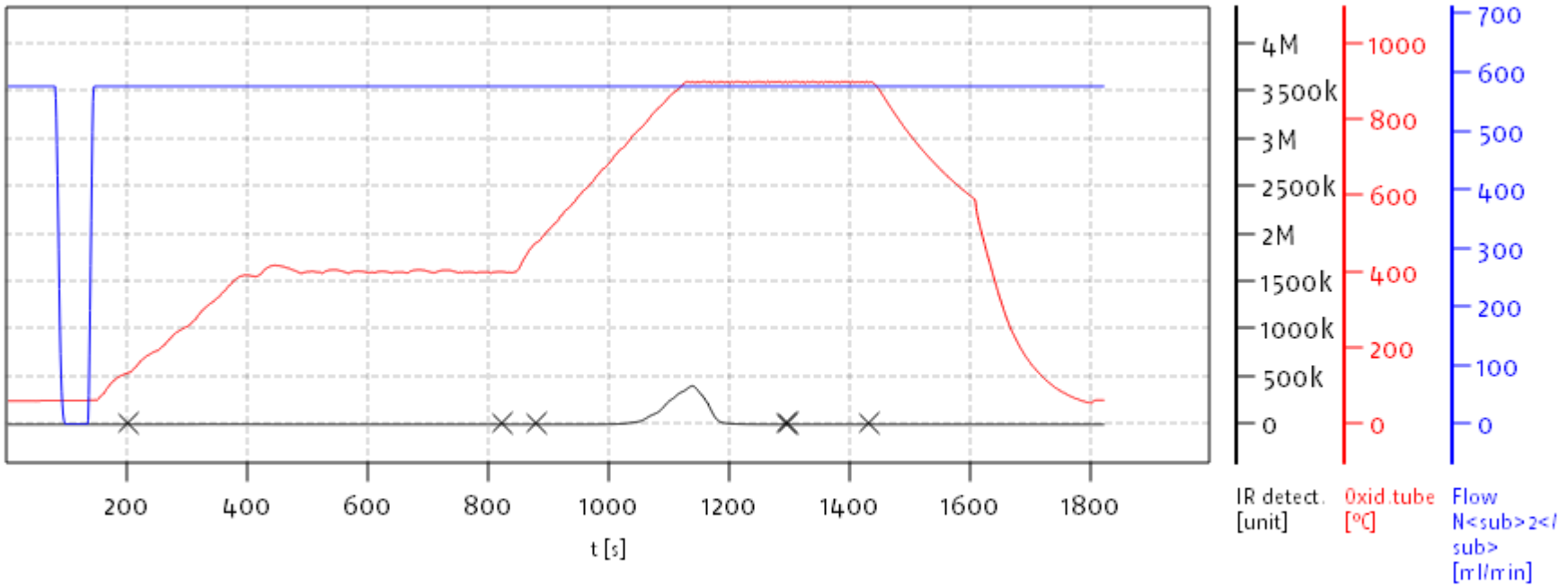
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	17	SEQ-CALF	200.00	0.0145	1.00	CARBON	7/13/2021 10:20 PM	0.011	0.906	0.917	bl,C1u,C2u	7 705	1 129 877	389	1.0000	1.0150



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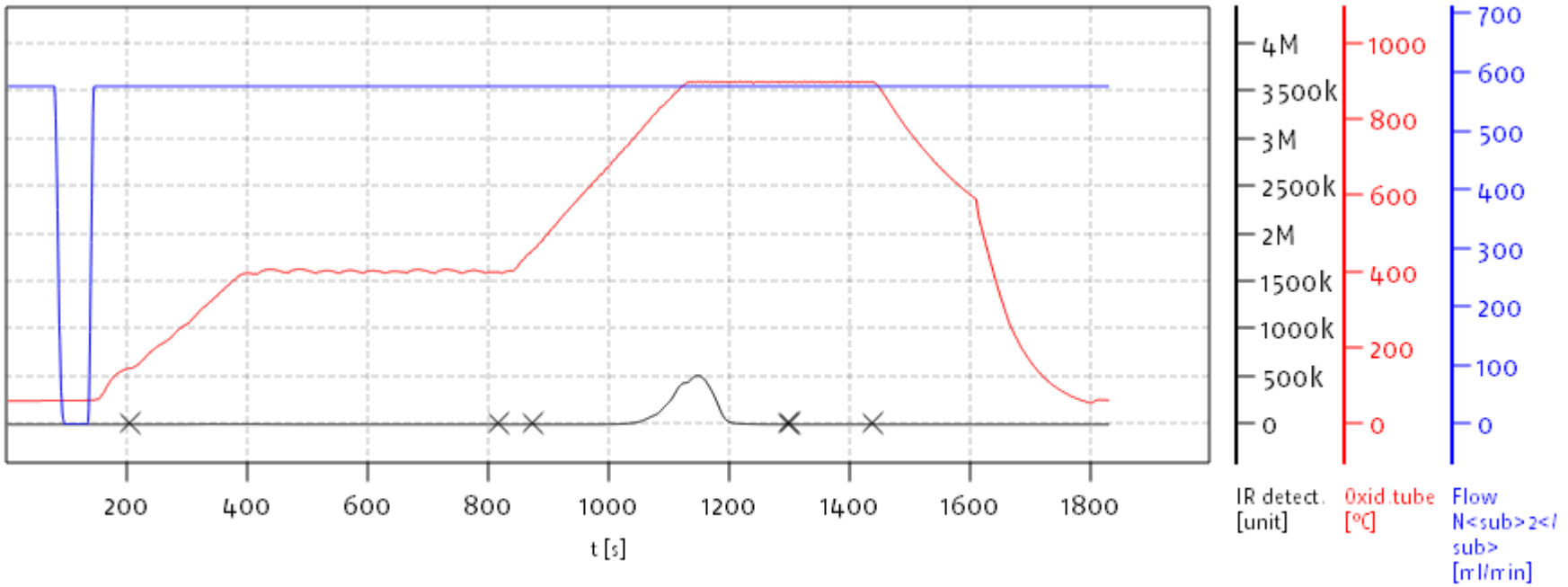
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	18	SEQ-CALG	200.00	0.0199	1.00	CARBON	7/13/2021 10:50 PM	0.015	1.206	1.221	bl,C2u	12 993	1 534 582	594	1.0000	0.9954



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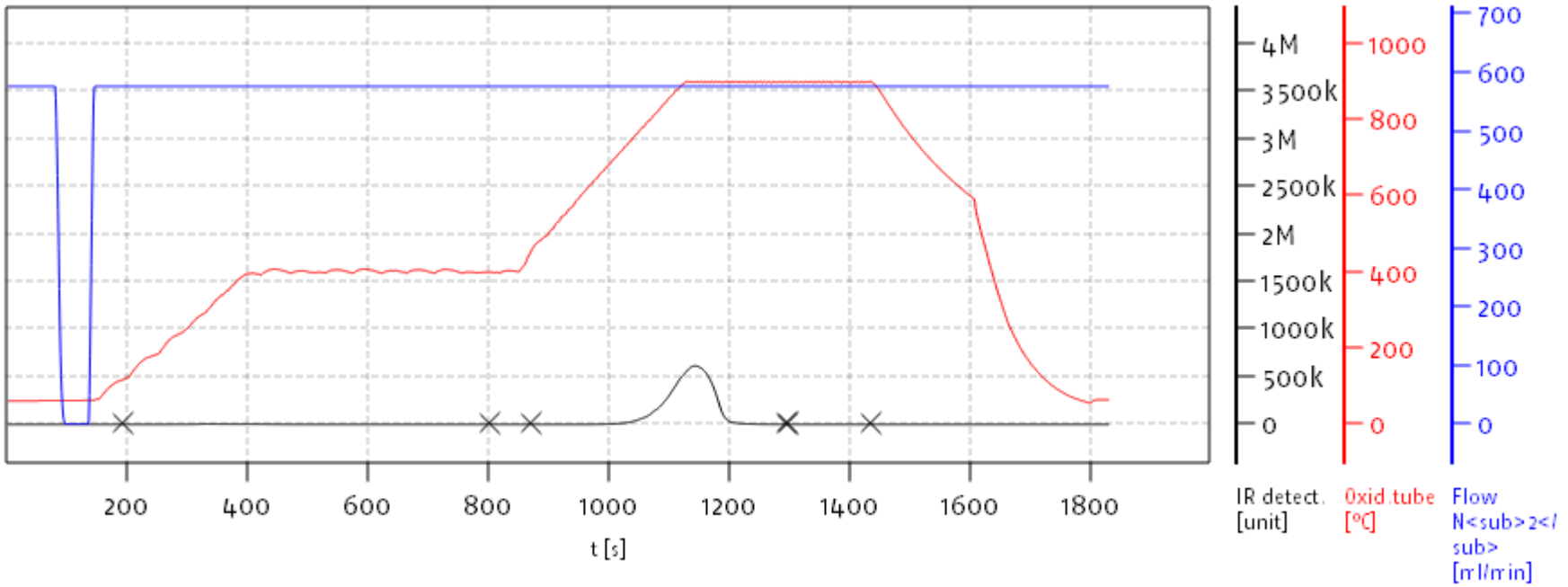
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	19	SEQ-CALH	200.00	0.0249	1.00	CARBON	7/13/2021 11:21 PM	0.021	1.524	1.545	bl,C2u	20 201	1 923 277	918	1.0000	1.0040



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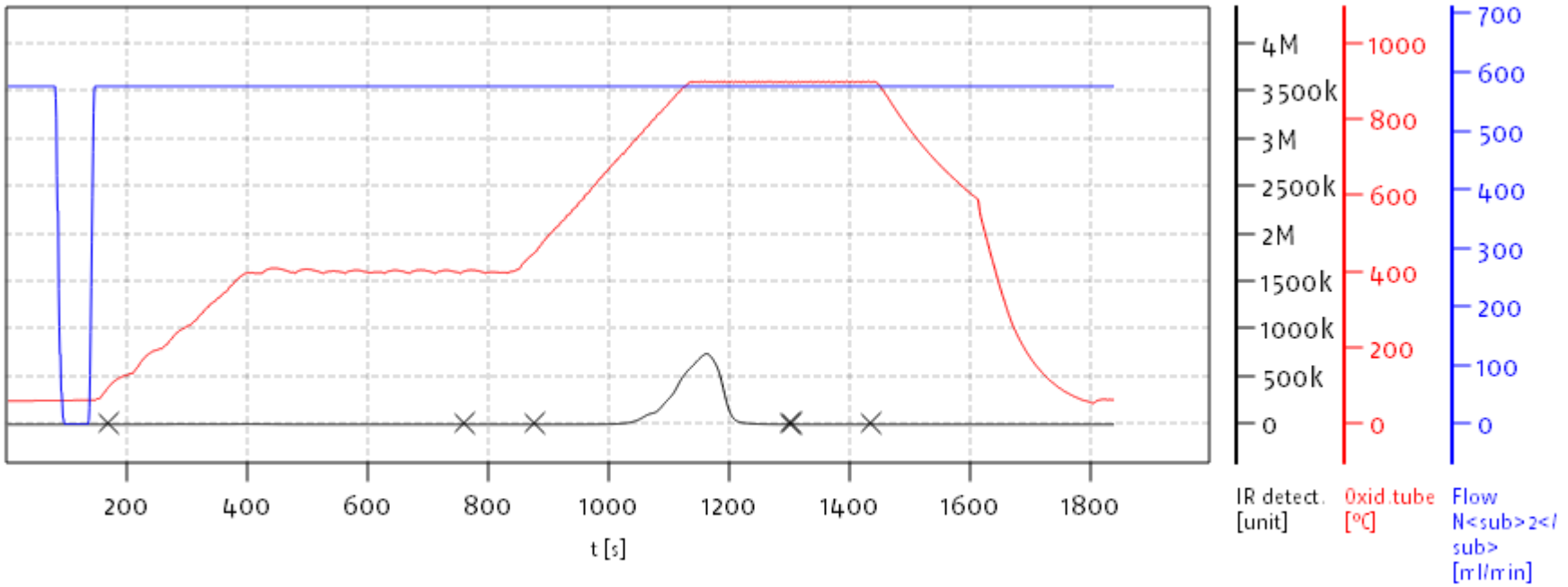
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	20	SEQ-CALI	200.00	0.0306	1.00	CARBON	7/13/2021 11:52 PM	0.021	1.800	1.821	bl,C2u	20 790	2 358 162	940	1.0000	0.9674



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Analyst: BF

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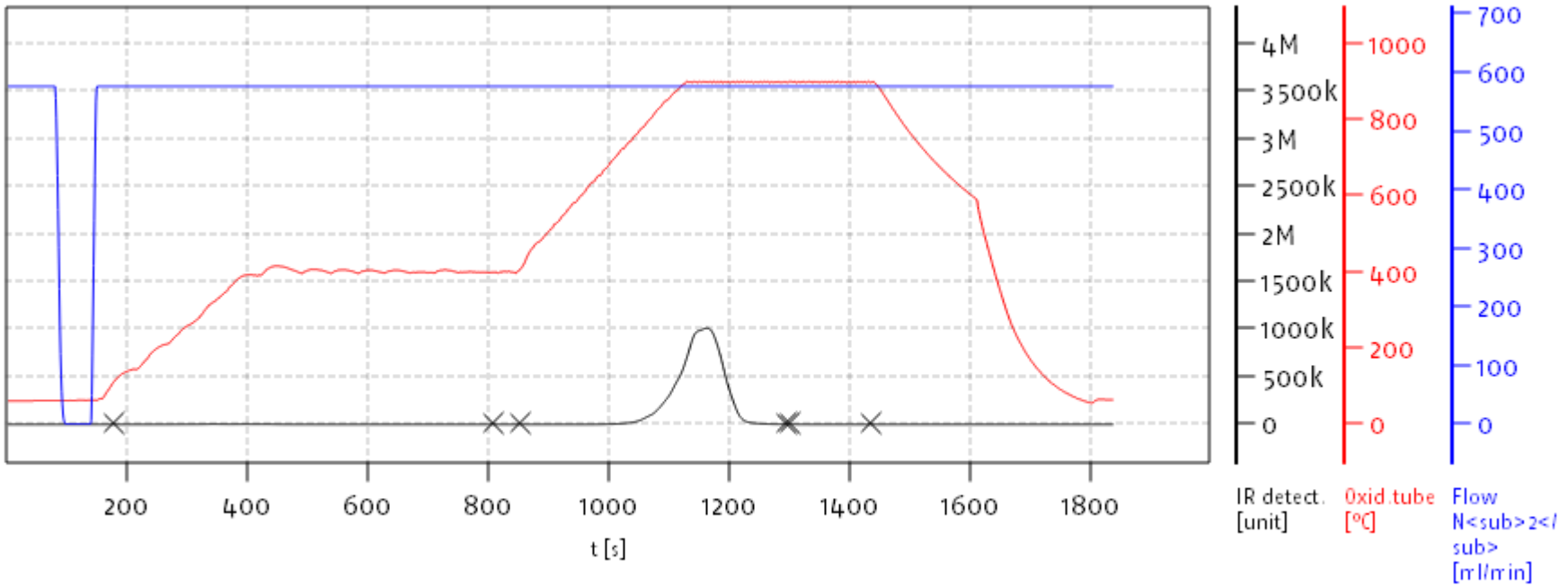
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	21	SEQ-CALJ	200.00	0.0419	1.00	CARBON	7/14/2021 12:23 AM	0.020	2.400	2.420	bl,C2u	17 643	3 227 695	2 142	1.0000	0.9426



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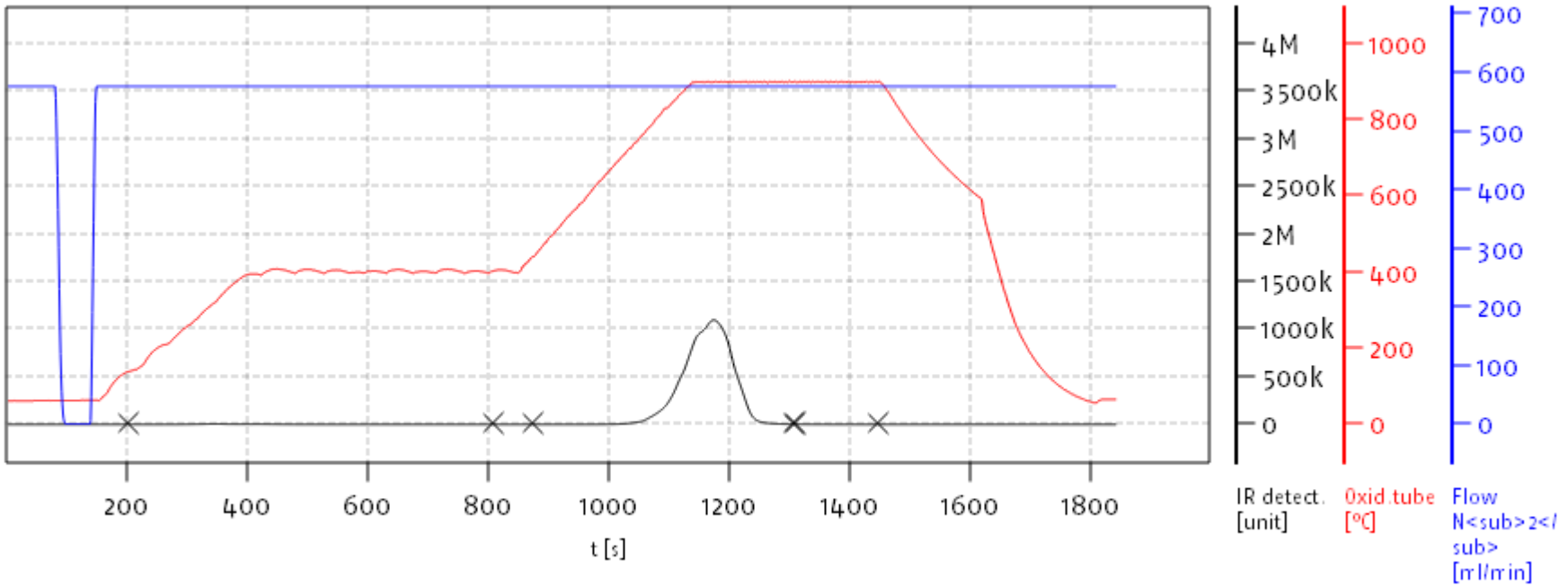
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	22	SEQ-CALK	200.00	0.0501	1.00	CARBON	7/14/2021 12:55 AM	0.023	3.012	3.035	bl,C2u	21 378	3 860 392	2 936	1.0000	0.9892



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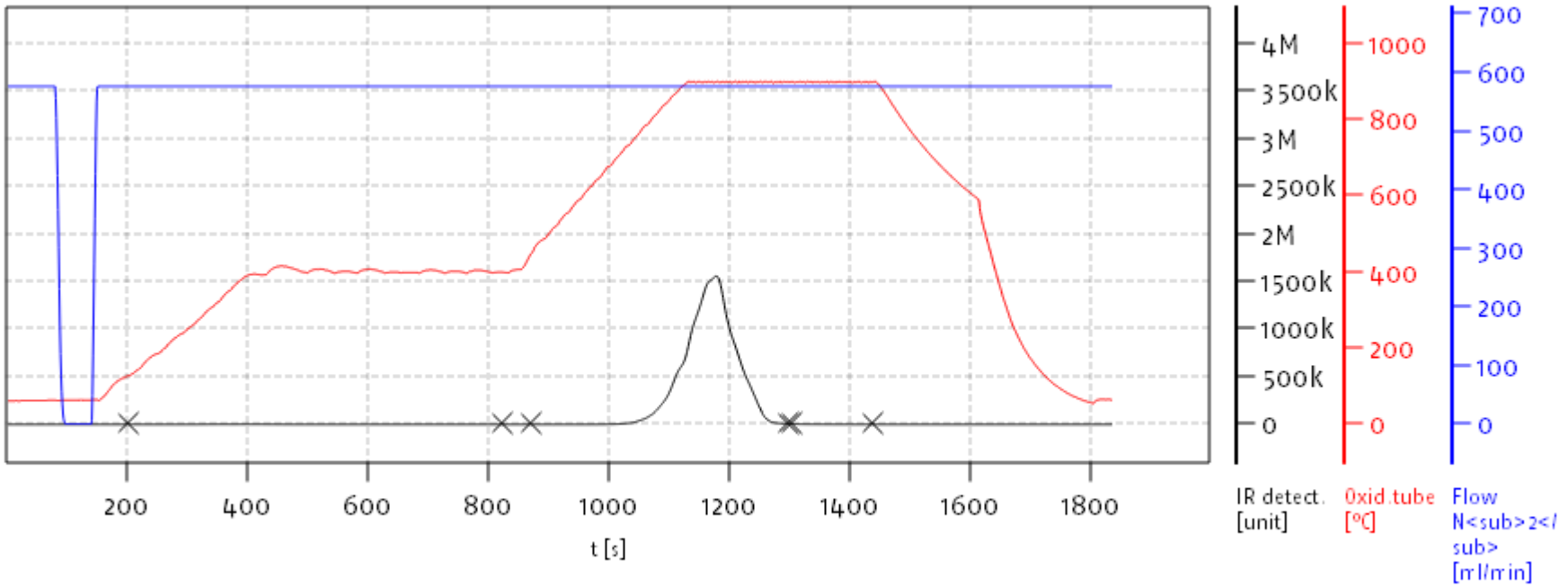
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	23	SEQ-CALL	200.00	0.0700	1.00	CARBON	7/14/2021 1:26 AM	0.016	4.206	4.222	bl,C1u,C2u	8 341	5 418 041	6 511	1.0000	0.9844



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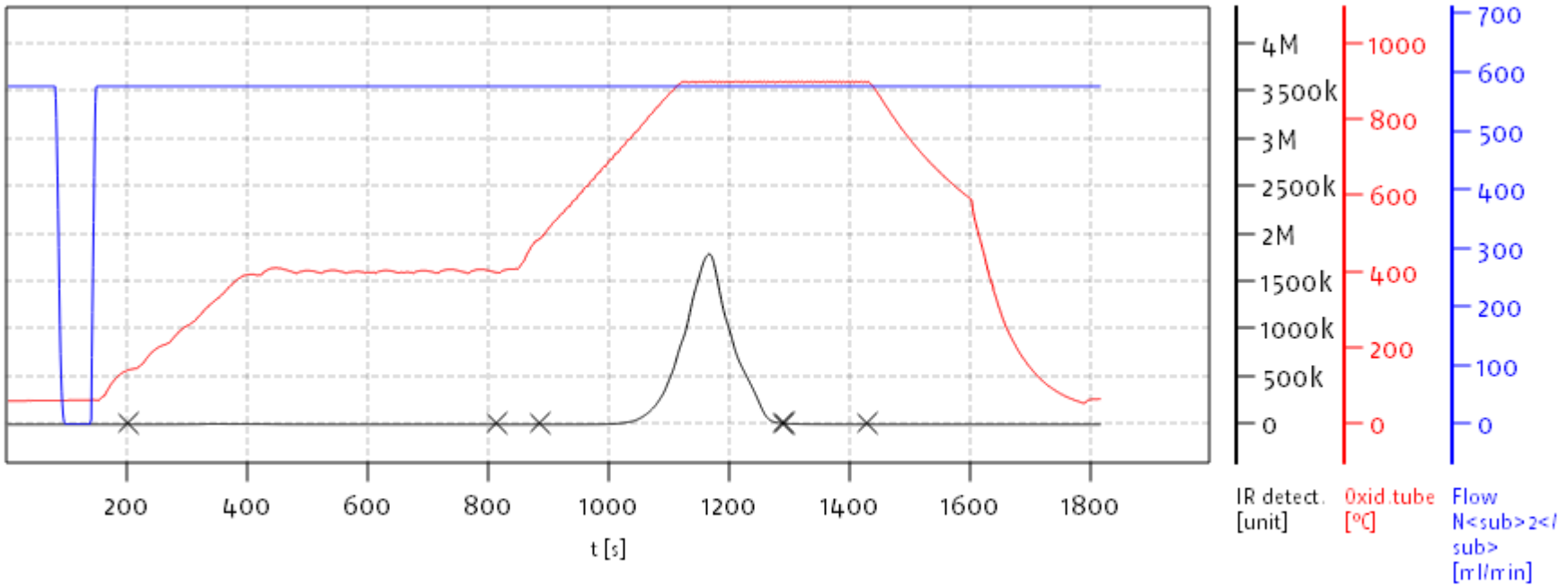
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	24	SEQ-CALM	200.00	0.0808	1.00	CARBON	7/14/2021 1:56 AM	0.032	4.812	4.844	bl	24 602	6 251 692	10 888	1.0000	0.9761



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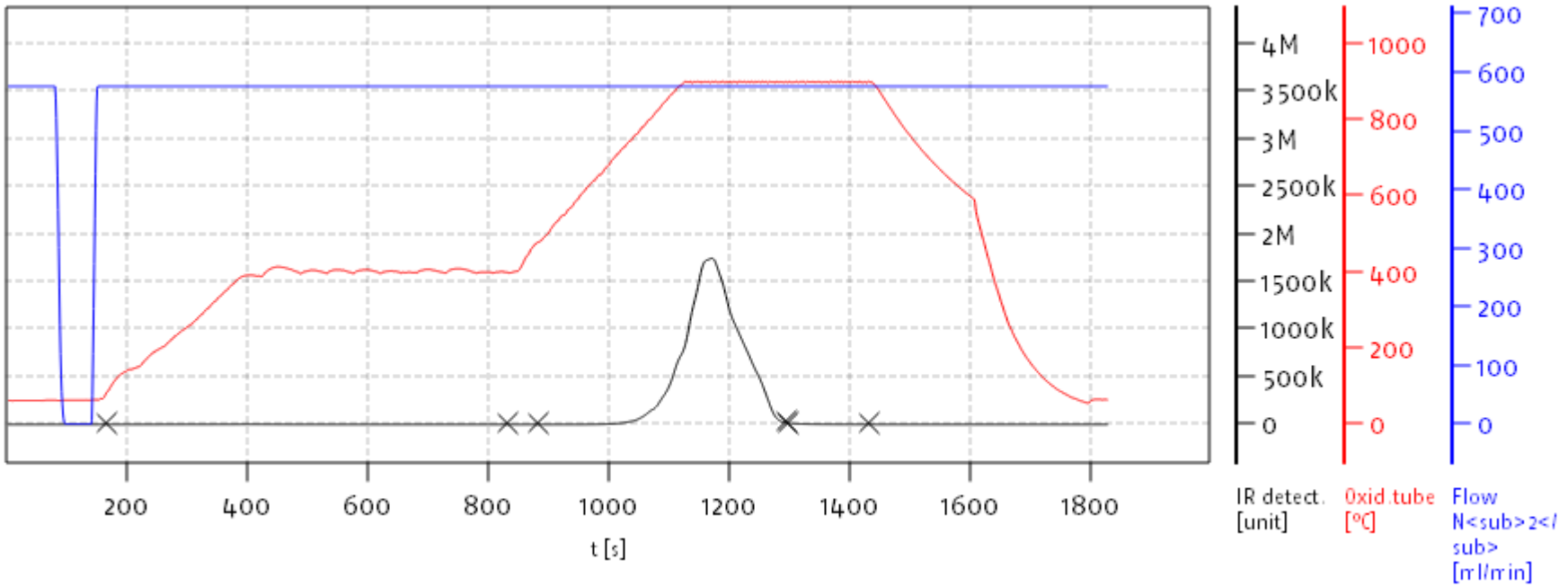
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	25	SEQ-CALN	200.00	0.0897	1.00	CARBON	7/14/2021 2:27 AM	0.025	5.406	5.431	bl	11 970	6 909 943	14 720	1.0000	0.9922



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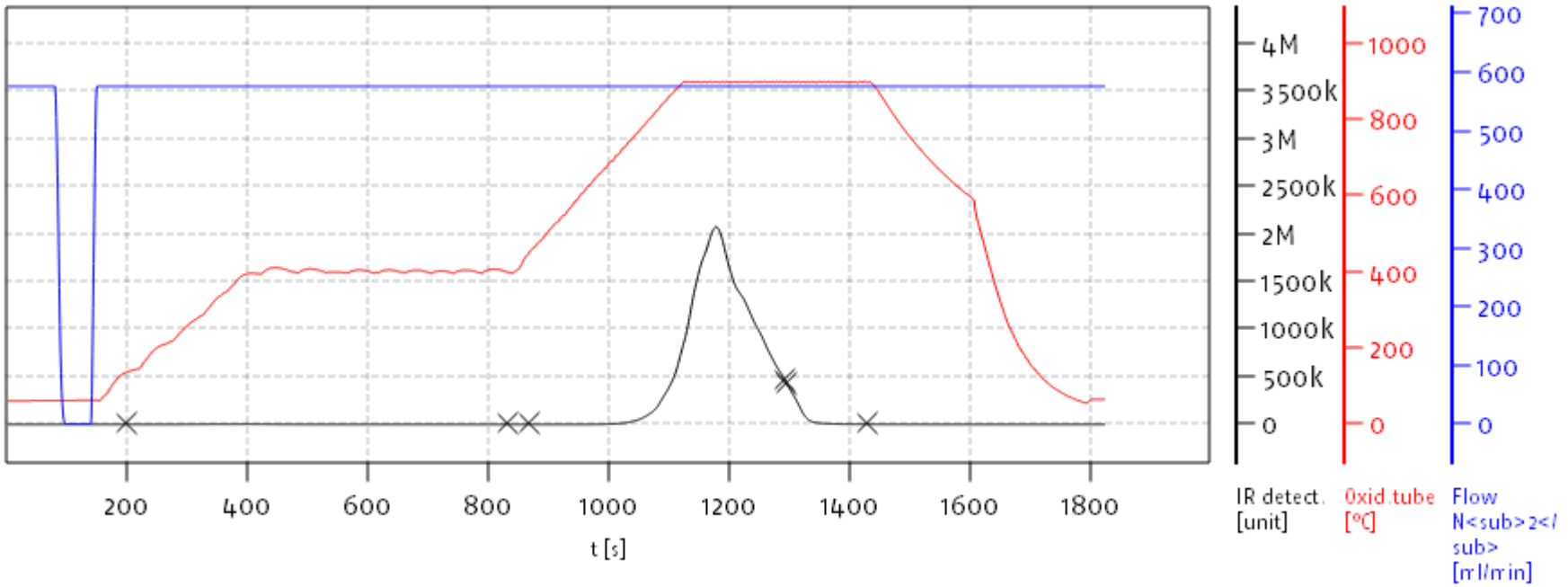
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	26	SEQ-CALO	200.00	0.1237	1.00	CARBON	7/14/2021 2:58 AM	0.271	7.218	7.489	bl,C3o	14 303	9 169 261	324 811	1.0000	0.9985



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Soli TOC Cube, Carbon
Balance: BAL3
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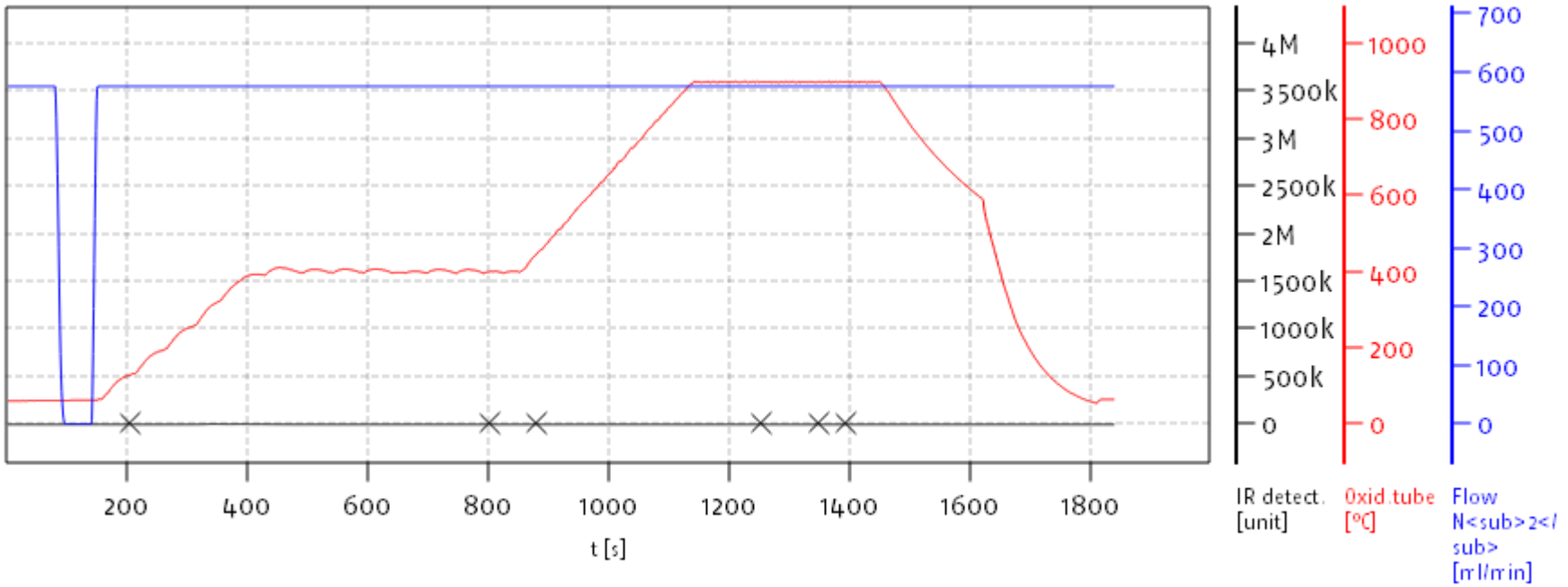
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	27	BLANK	1.00		1.00	CARBON	7/14/2021 3:29 AM	0.000	0.000	0.000	bl	15 377	4	0	1.0000	0.9704



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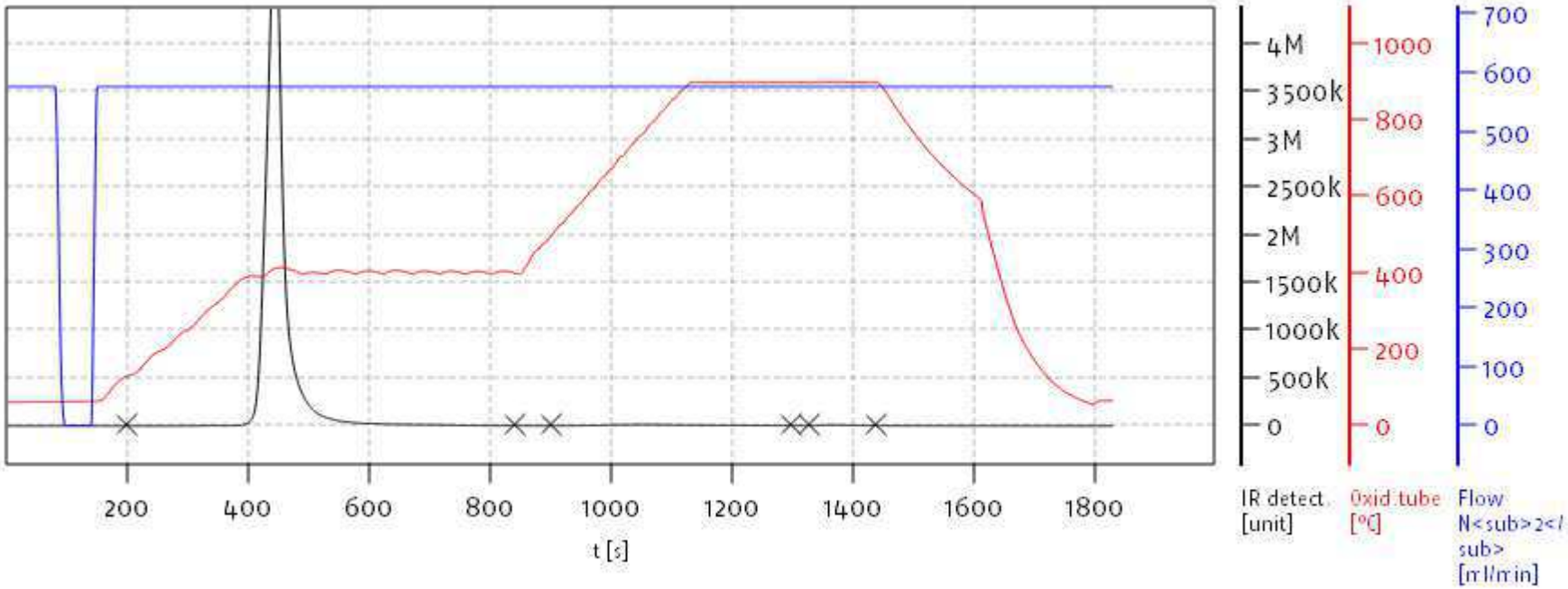
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	28	Dfactor	24.90		1.00	CARBON	7/14/2021 4:00 AM	44.620	0.675	45.295	bl	6 675 069	104 070	24 945	1.0513	1.0000



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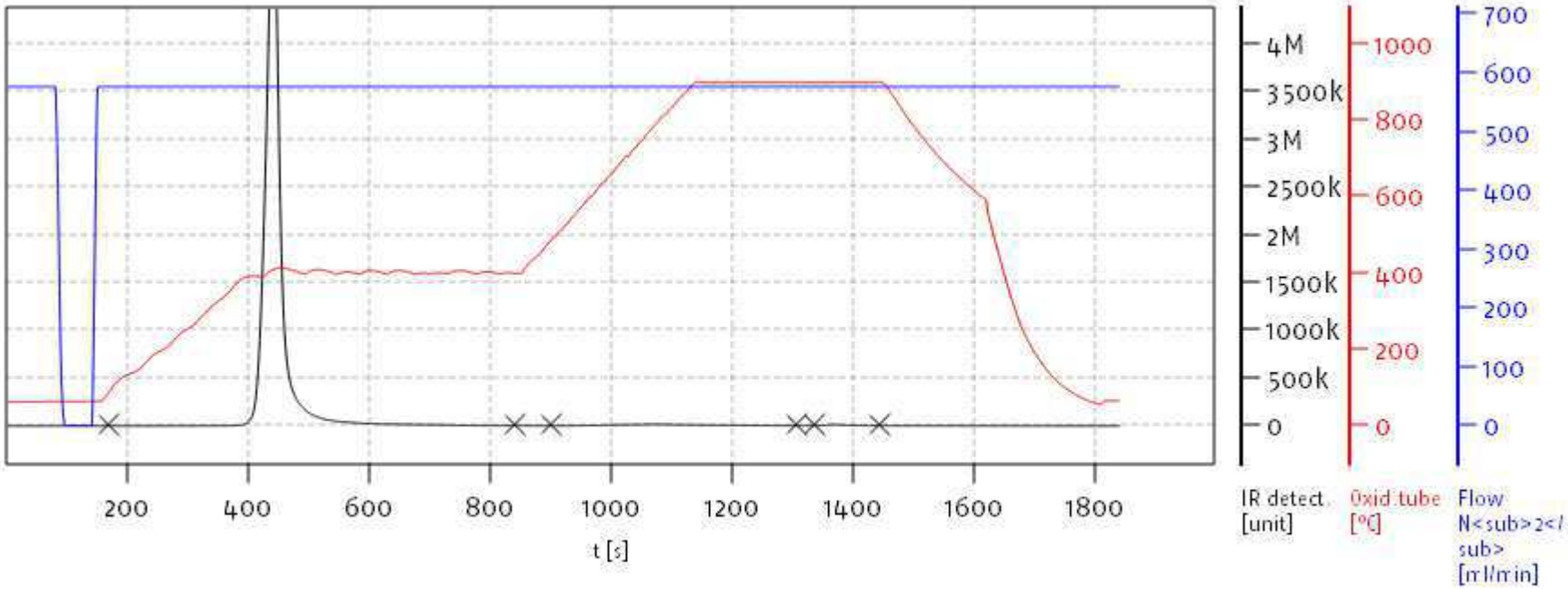
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	29	Dfactor	22.60		1.00	CARBON	7/14/2021 4:31 AM	44.643	0.810	45.453	bl	6 011 996	113 561	25 659	1.0594	1.0000



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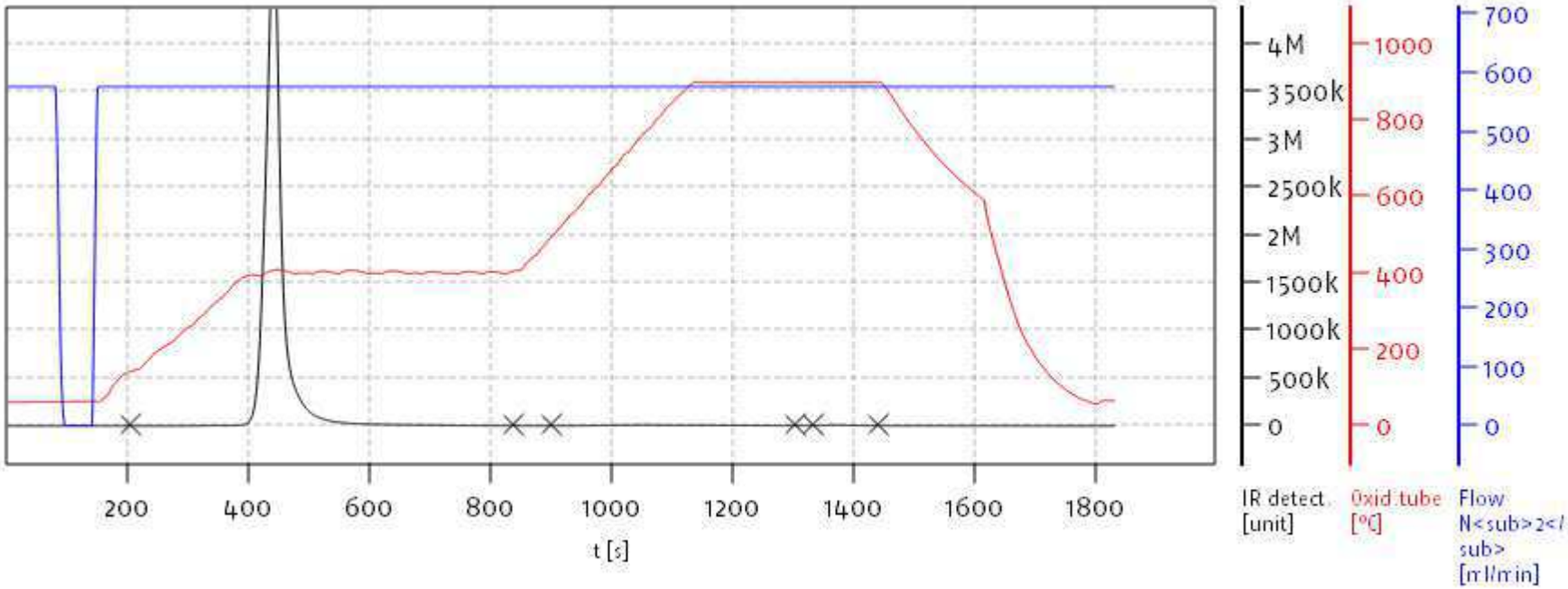
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	30	SEQ-ICV1	22.00		1.00	CARBON	7/14/2021 5:02 AM	44.870	0.594	45.465	bl	5 908 965	82 878	20 547	1.0554	0.9704



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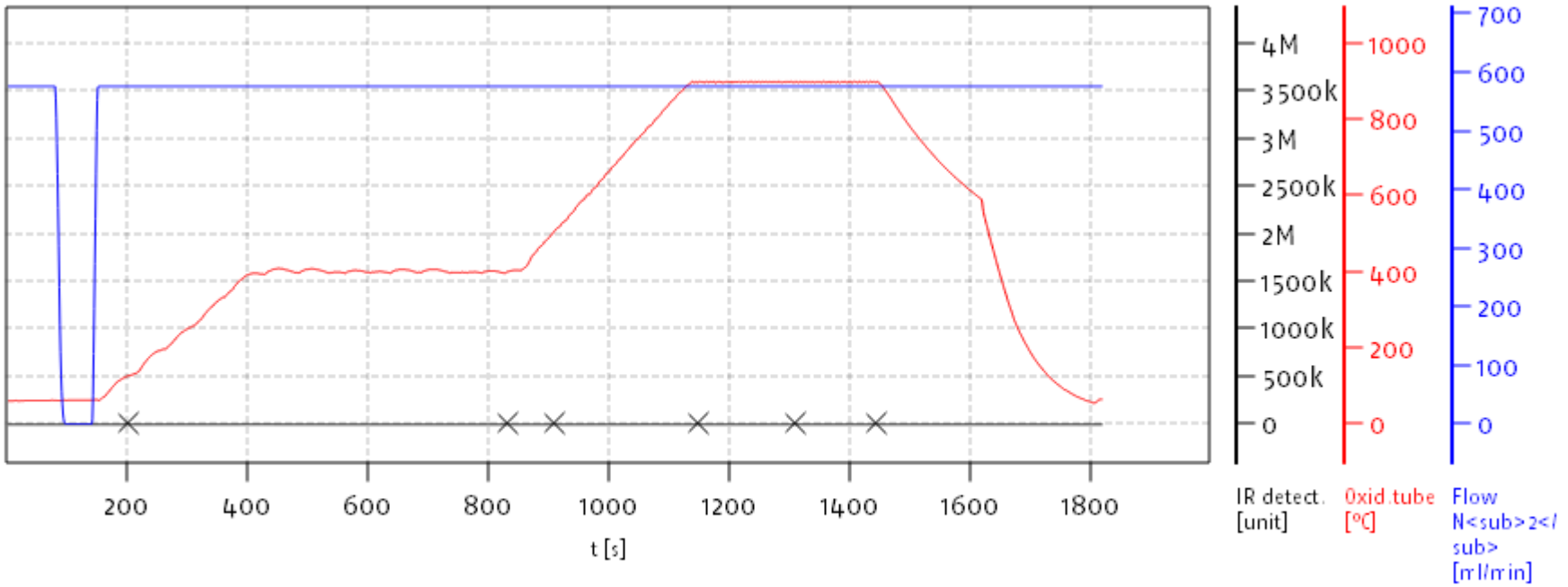
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	31	SEQ-ICB1	618.10		1.00	CARBON	7/14/2021 5:33 AM	0.002	0.001	0.003	bl,C1u,C3u,C2u	2 837	1 593	526	1.0554	0.9704



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Soli TOC Cube, Carbon
Balance: BAL3
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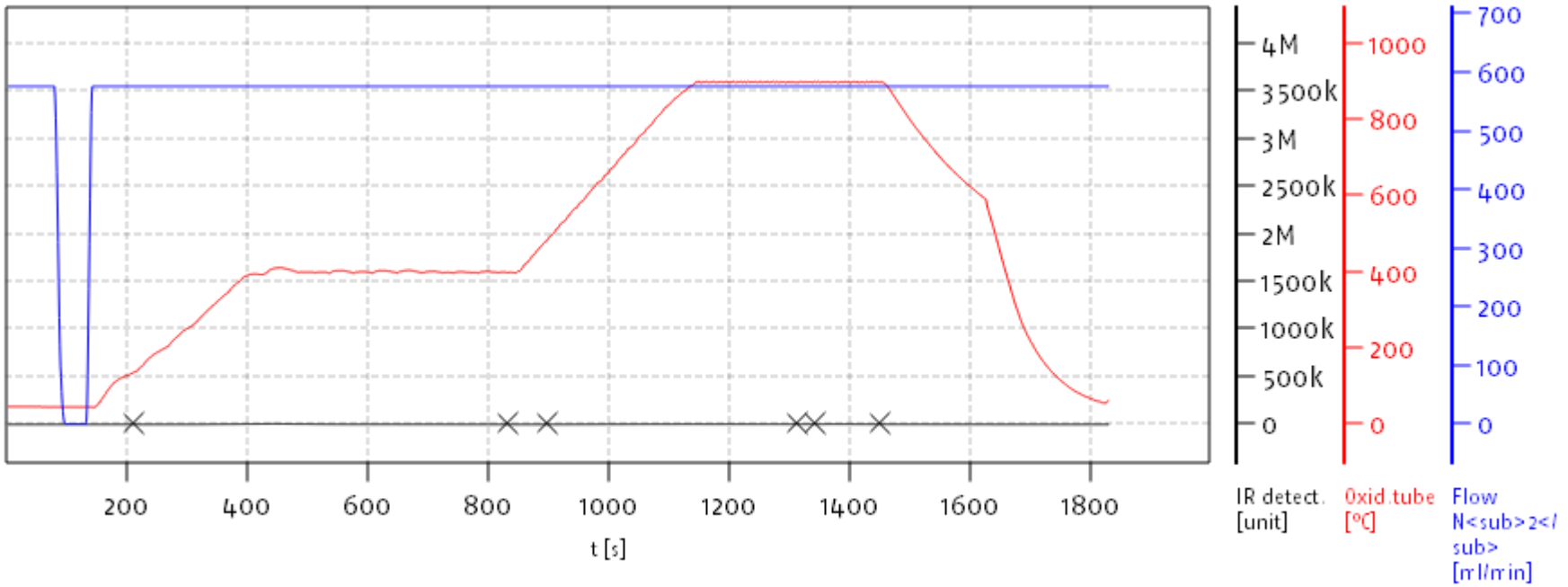
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	1	BLANK	1.00		1.00	CARBON	7/13/2021 2:06 PM	0.000	0.000	0.000	bl	41 637	34 438	10 598	1.0000	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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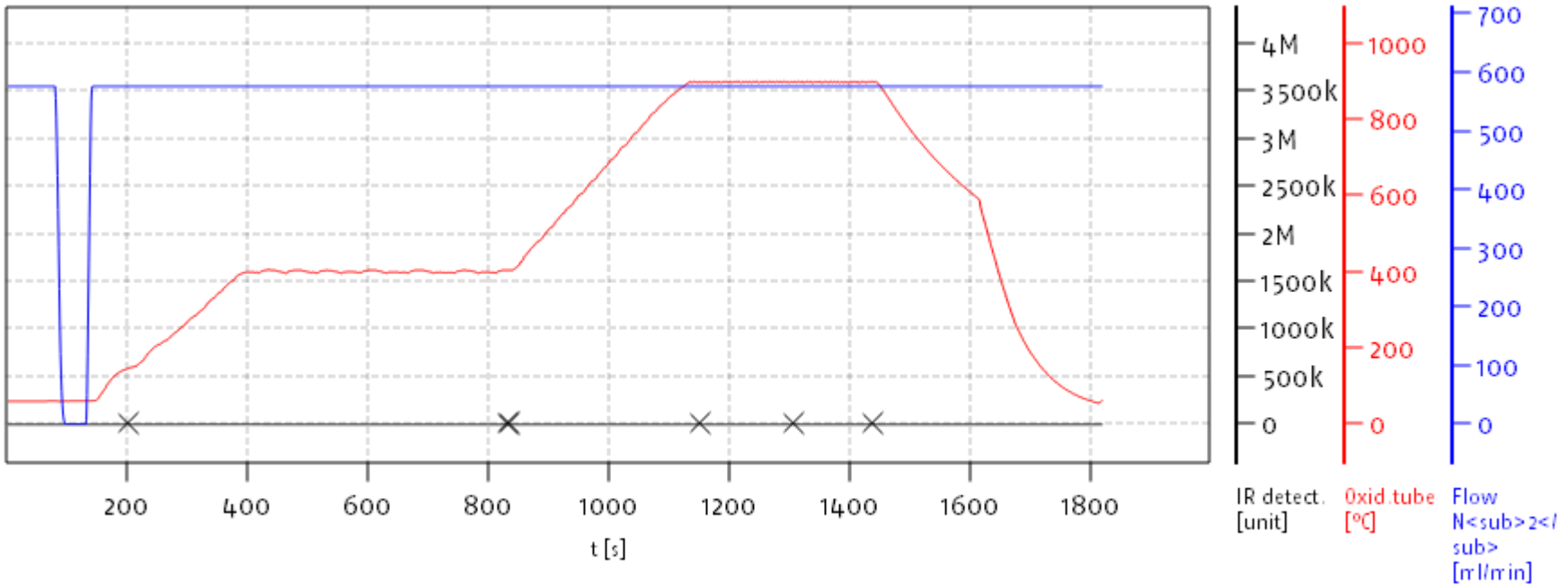
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	2	BLANK	1.00		1.00	CARBON	7/13/2021 2:37 PM	0.000	0.000	0.000	bl	4 874	0	164	1.0000	1.0000



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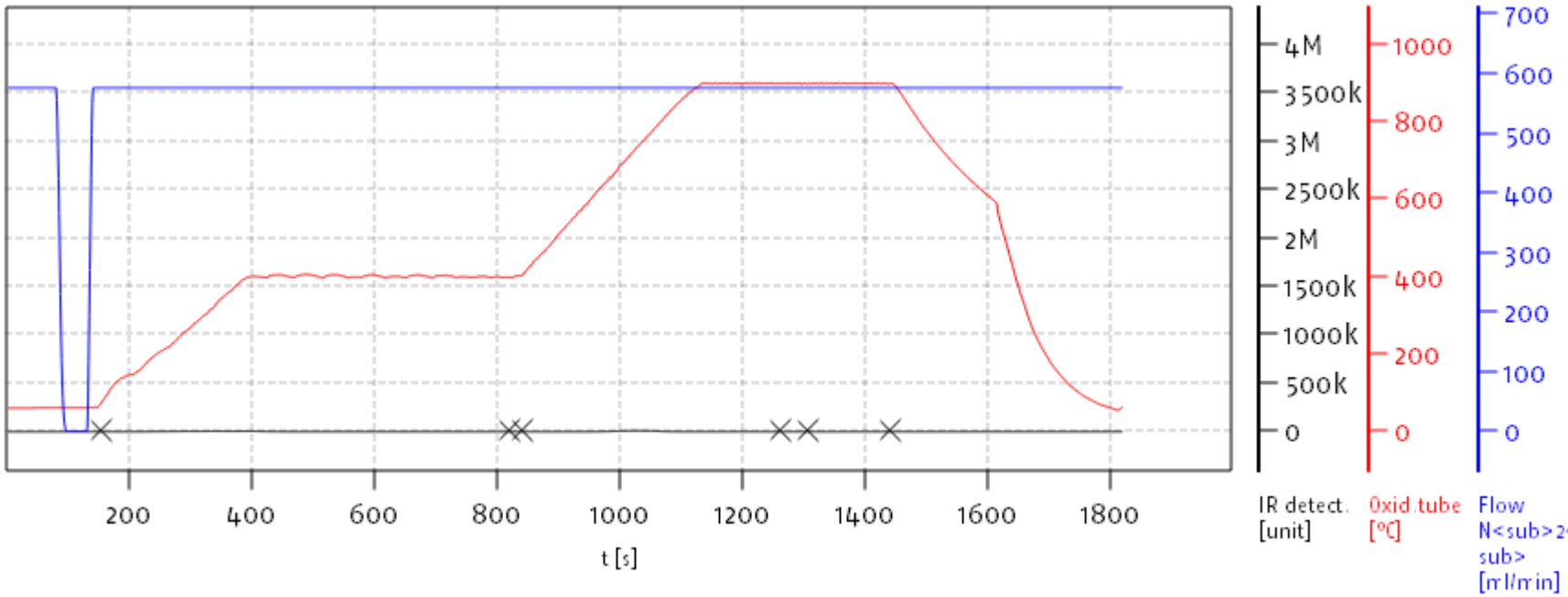
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	3	SEQ-CAL1	200.00	0.0027	1.00	CARBON	7/13/2021 3:07 PM	0.029	0.008	0.037	bl,C2u	31 040	28 300	256	1.0000	0.3447



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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: BF

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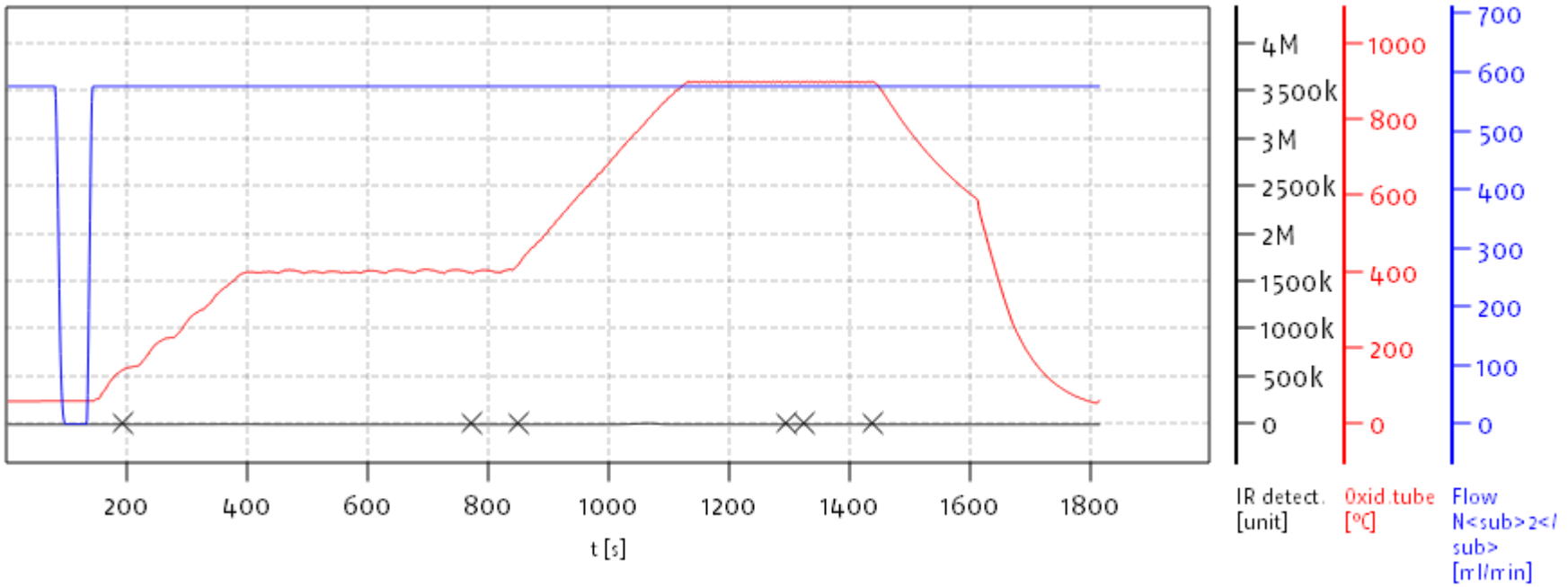
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	4	SEQ-CAL2	200.00	0.0050	1.00	CARBON	7/13/2021 3:38 PM	0.013	0.015	0.028	bl,C2u	10 883	17 832	143	1.0000	0.9493



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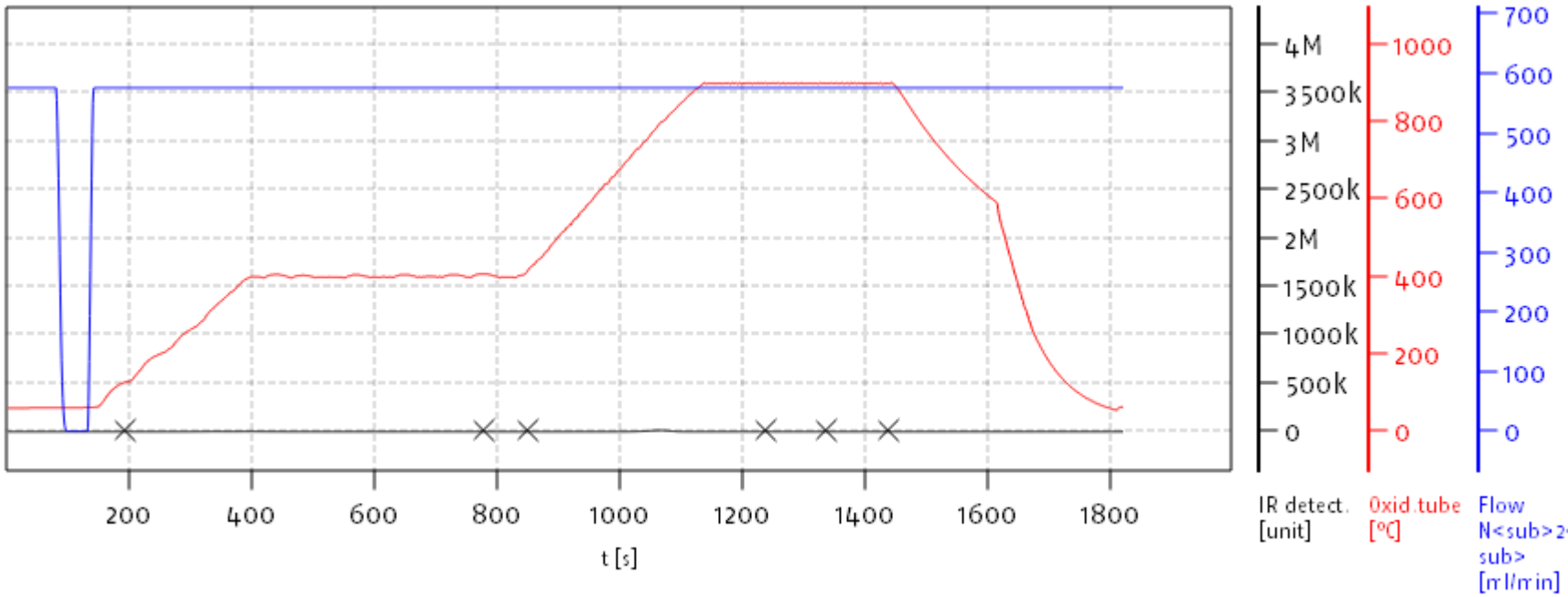
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	5	SEQ-CAL3	200.00	0.0068	1.00	CARBON	7/13/2021 4:09 PM	0.012	0.022	0.034	bl,C2u	9 870	22 430	107	1.0000	1.1246



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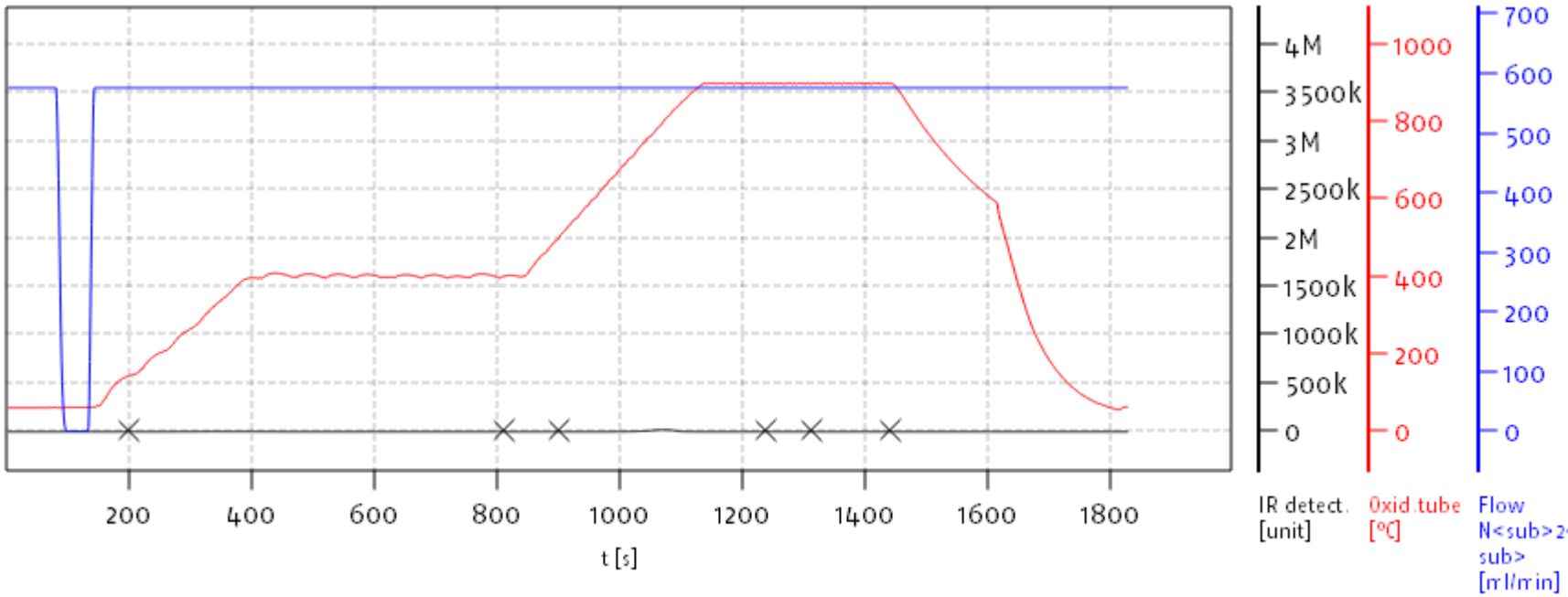
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	6	SEQ-CAL4	200.00	0.0099	1.00	CARBON	7/13/2021 4:40 PM	0.012	0.030	0.042	bl,C2u	9 549	35 259	82	1.0000	1.0150



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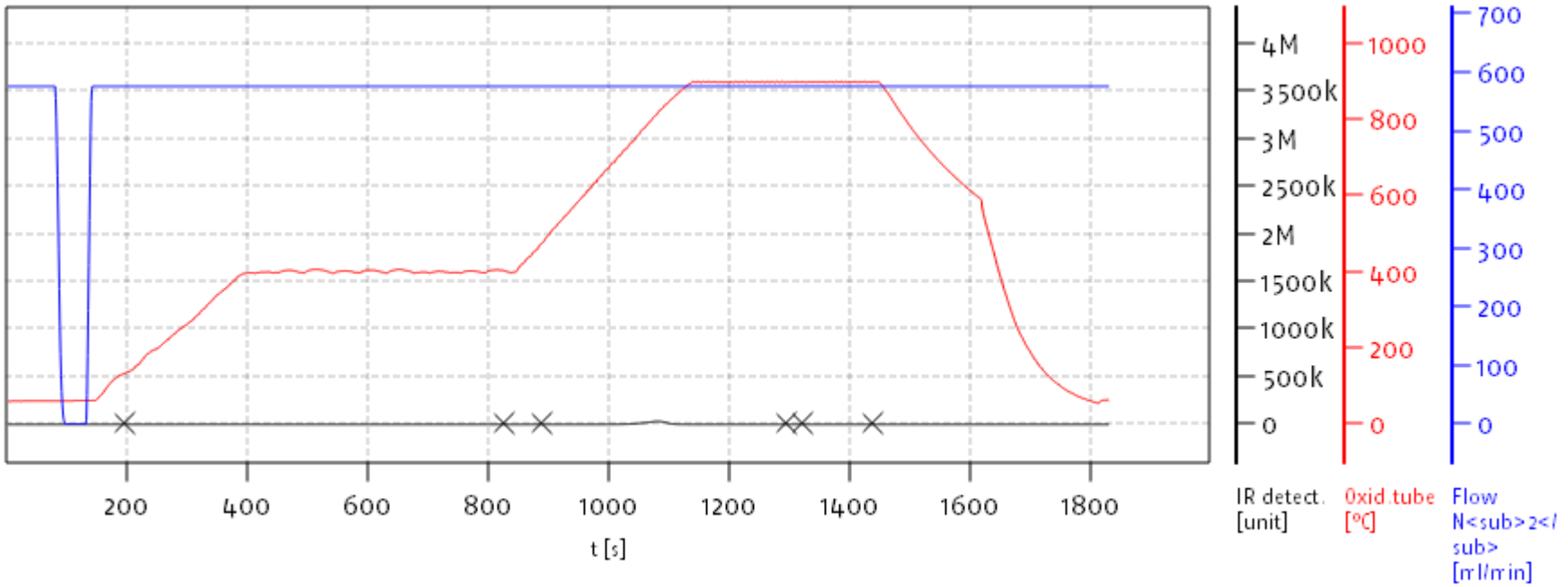
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	7	SEQ-CAL5	200.00	0.0155	1.00	CARBON	7/13/2021 5:11 PM	0.008	0.045	0.053	bl,C1u,C2u	4 269	54 591	65	1.0000	0.9980



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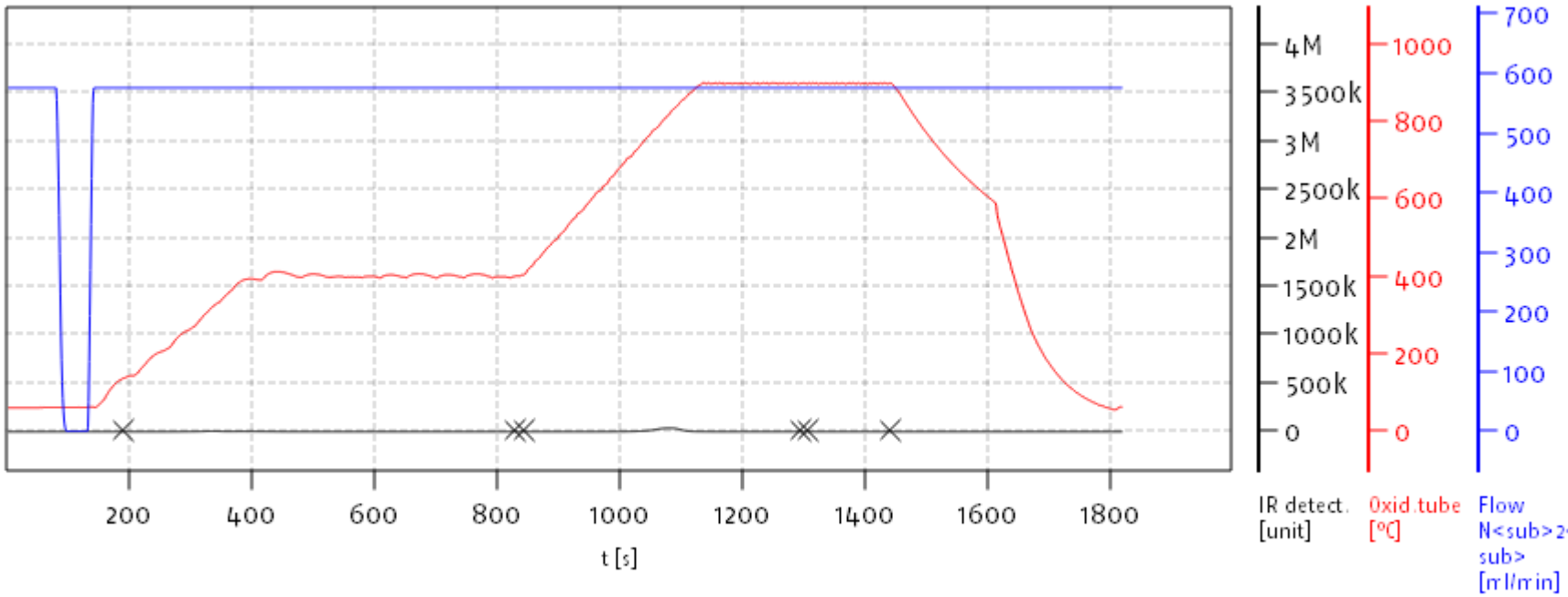
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	8	SEQ-CAL6	200.00	0.0198	1.00	CARBON	7/13/2021 5:41 PM	0.019	0.061	0.080	bl,C2u	18 512	73 034	79	1.0000	1.0264



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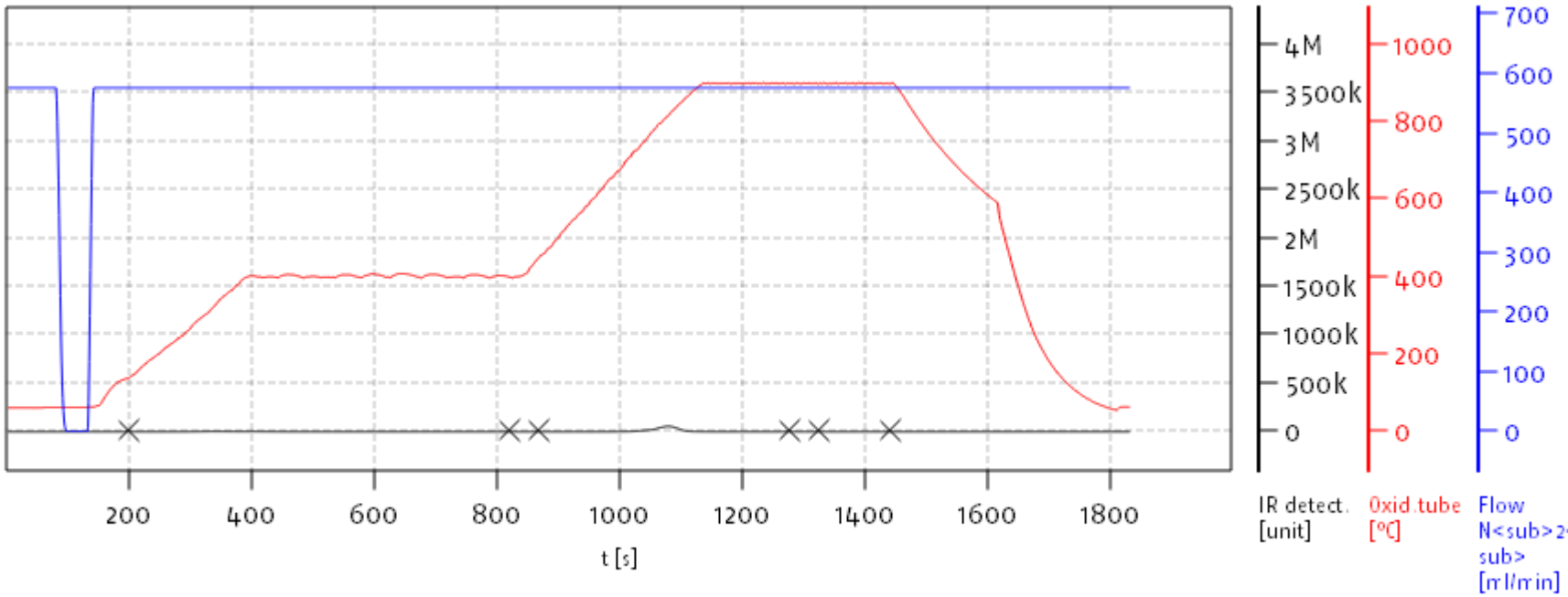
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	9	SEQ-CAL7	200.00	0.0257	1.00	CARBON	7/13/2021 6:12 PM	0.014	0.075	0.089	bl,C2u	12 682	95 421	29	1.0000	0.9745



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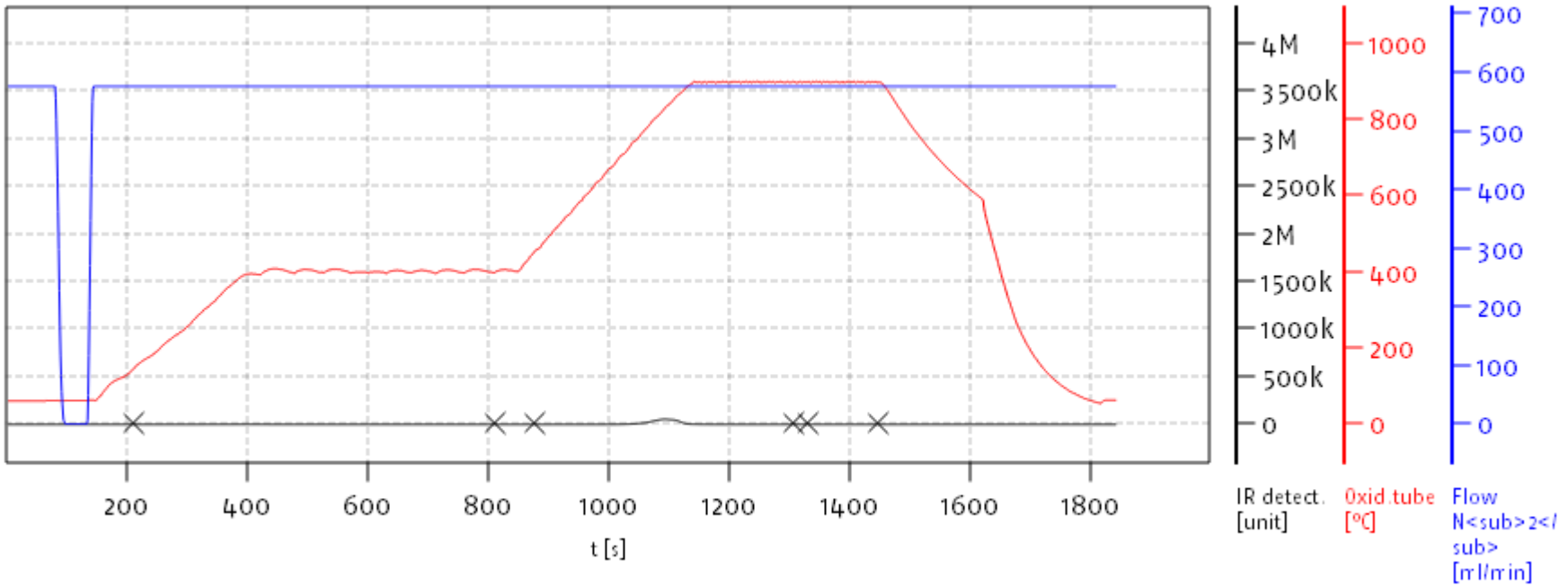
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	10	SEQ-CAL8	200.00	0.0300	1.00	CARBON	7/13/2021 6:43 PM	0.008	0.091	0.098	bl,C1u,C2u	4 663	112 452	86	1.0000	0.9989



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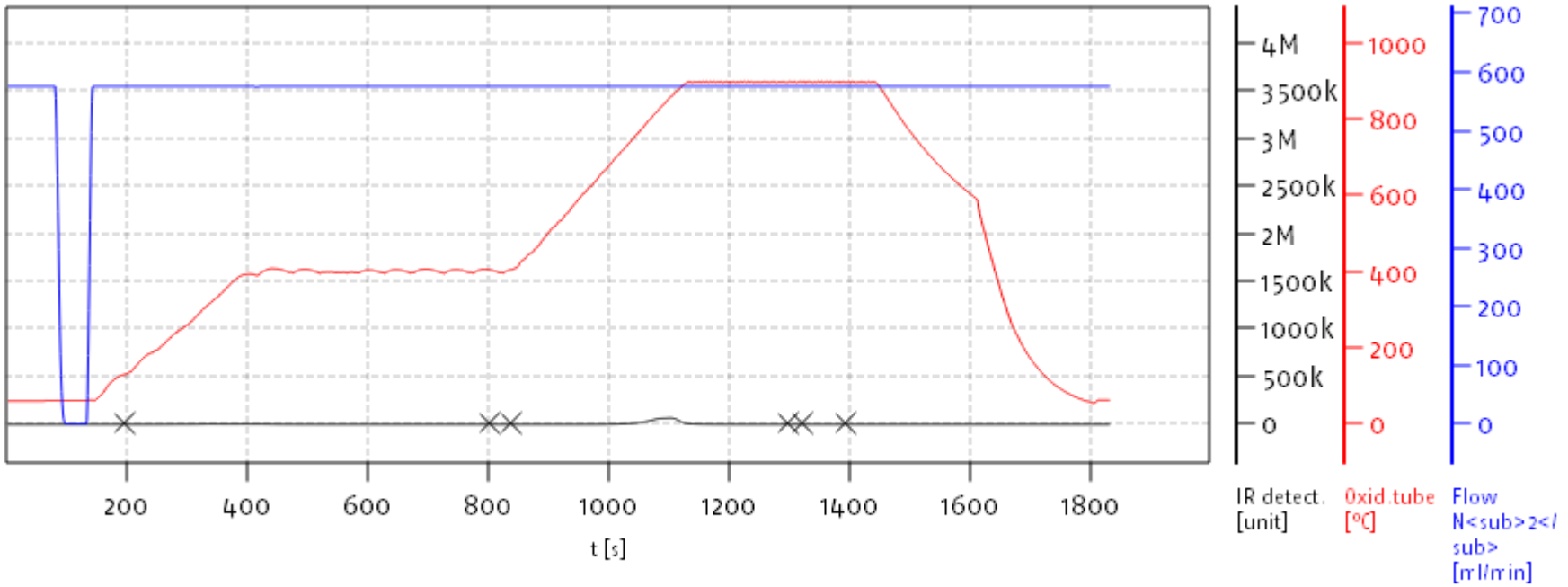
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	11	SEQ-CAL9	200.00	0.0407	1.00	CARBON	7/13/2021 7:14 PM	0.021	0.120	0.141	bl,C2u	21 063	157 168	339	1.0000	0.9528



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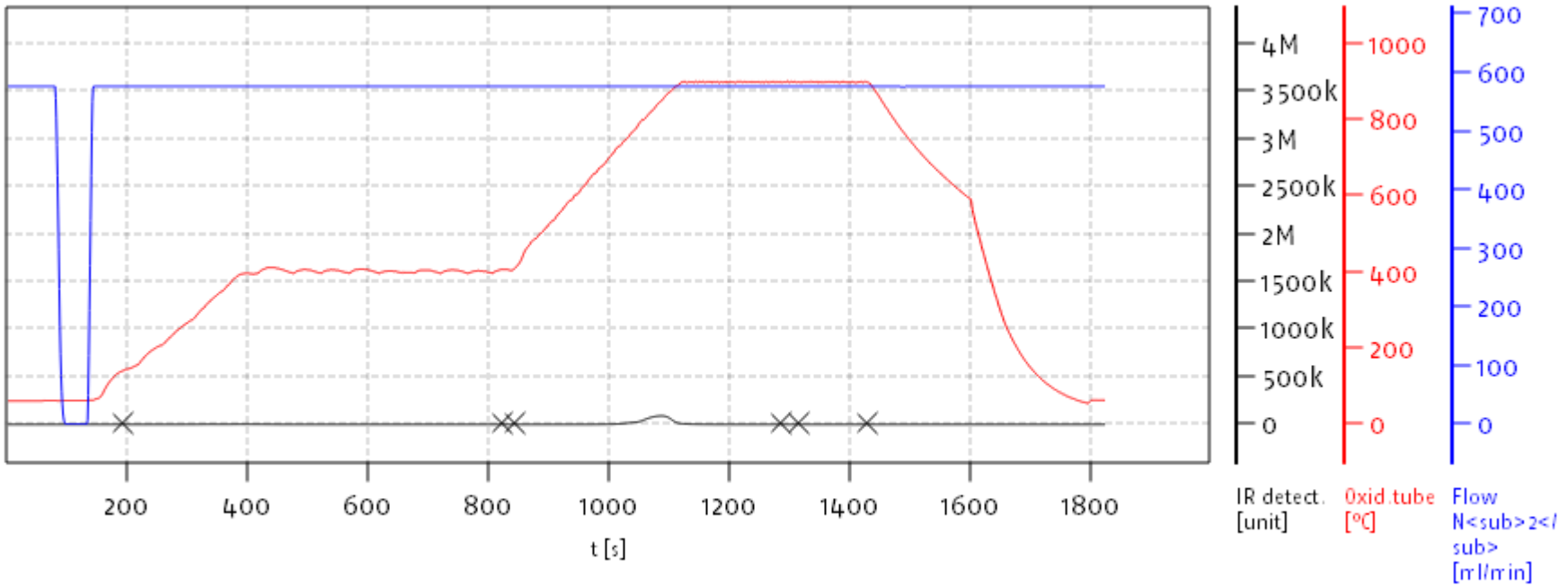
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	12	SEQ-CALA	200.00	0.0501	1.00	CARBON	7/13/2021 7:45 PM	0.013	0.151	0.164	bl,C2u	11 050	187 538	95	1.0000	1.0068



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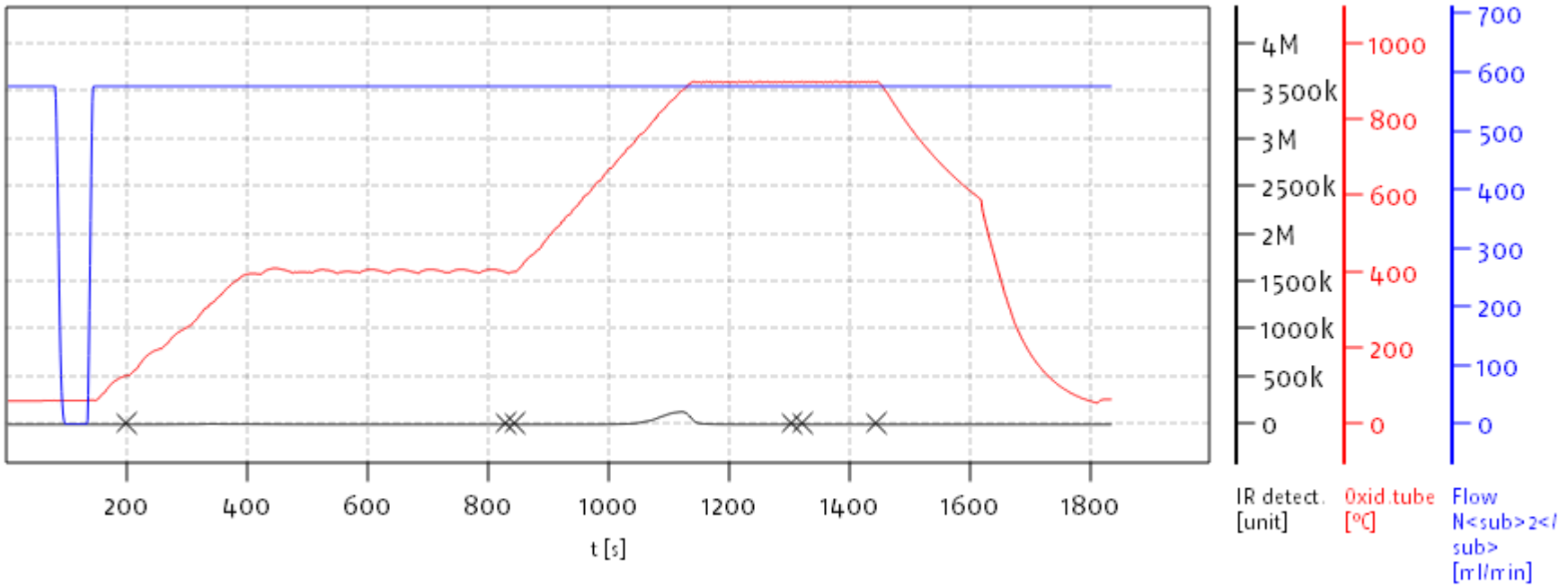
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	13	SEQ-CALB	200.00	0.0041	1.00	CARBON	7/13/2021 8:16 PM	0.021	0.258	0.279	bl,C2u	21 325	304 031	81	1.0000	1.0675



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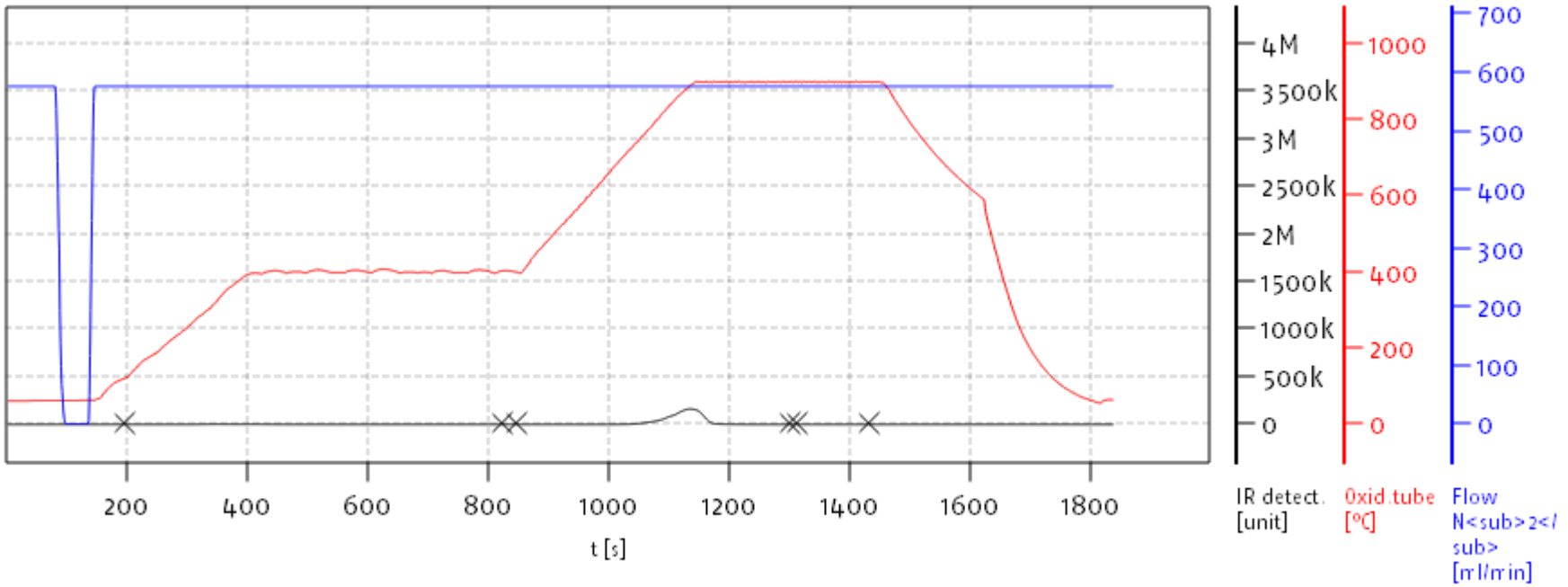
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	14	SEQ-CALC	200.00	0.0051	1.00	CARBON	7/13/2021 8:47 PM	0.013	0.324	0.337	bl,C2u	11 360	386 243	161	1.0000	1.0571



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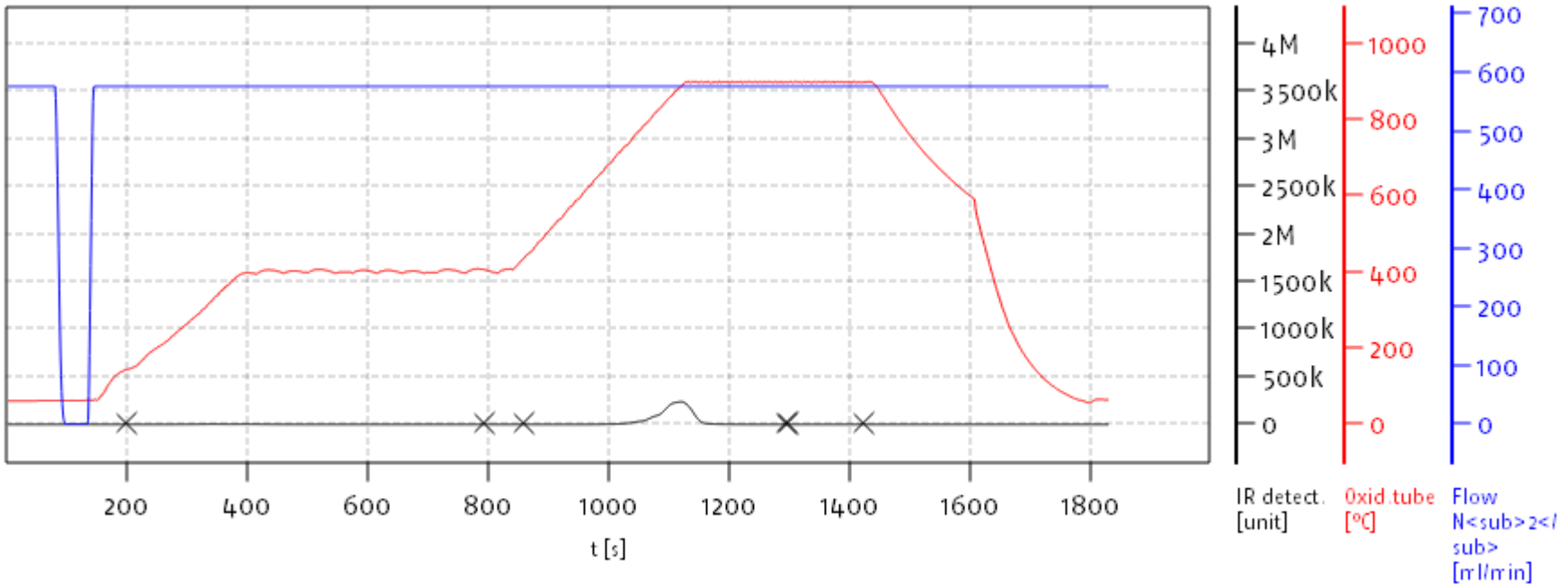
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	15	SEQ-CALD	200.00	0.0073	1.00	CARBON	7/13/2021 9:18 PM	0.017	0.444	0.461	bl,C2u	15 984	558 687	174	1.0000	1.0036



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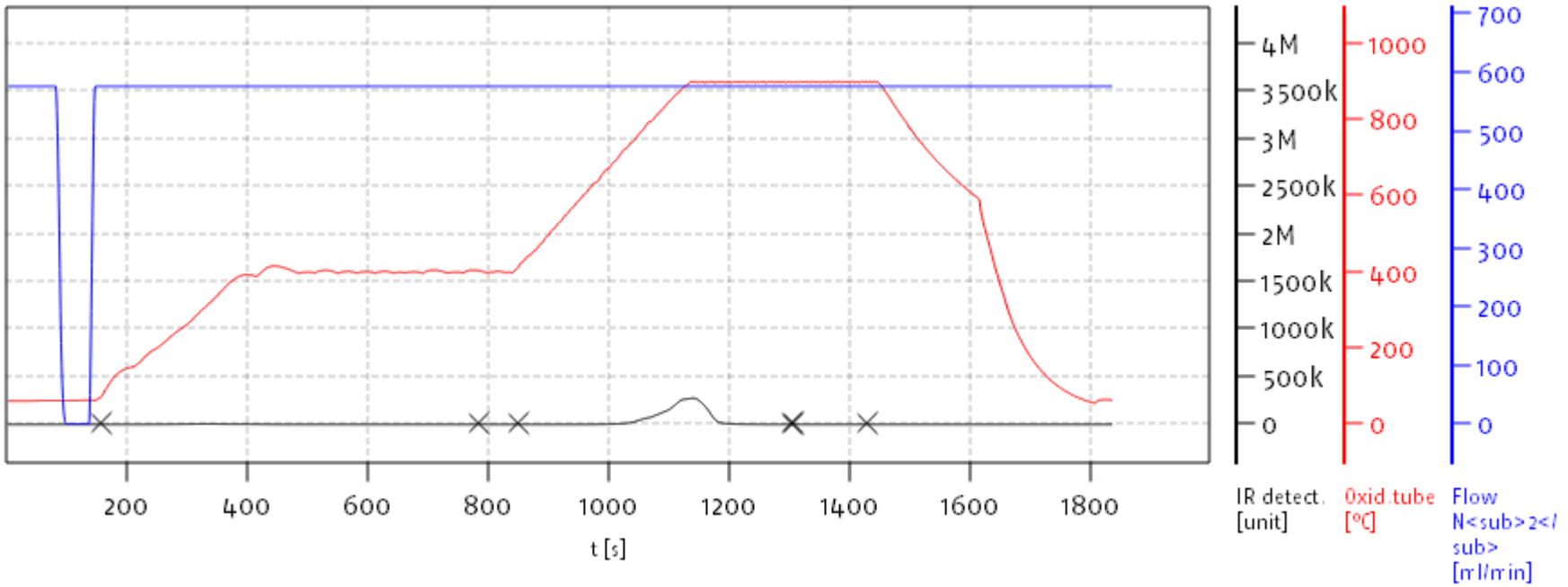
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	16	SEQ-CALE	200.00	0.0109	1.00	CARBON	7/13/2021 9:49 PM	0.024	0.600	0.624	bl,C2u	25 032	838 073	291	1.0000	0.9055



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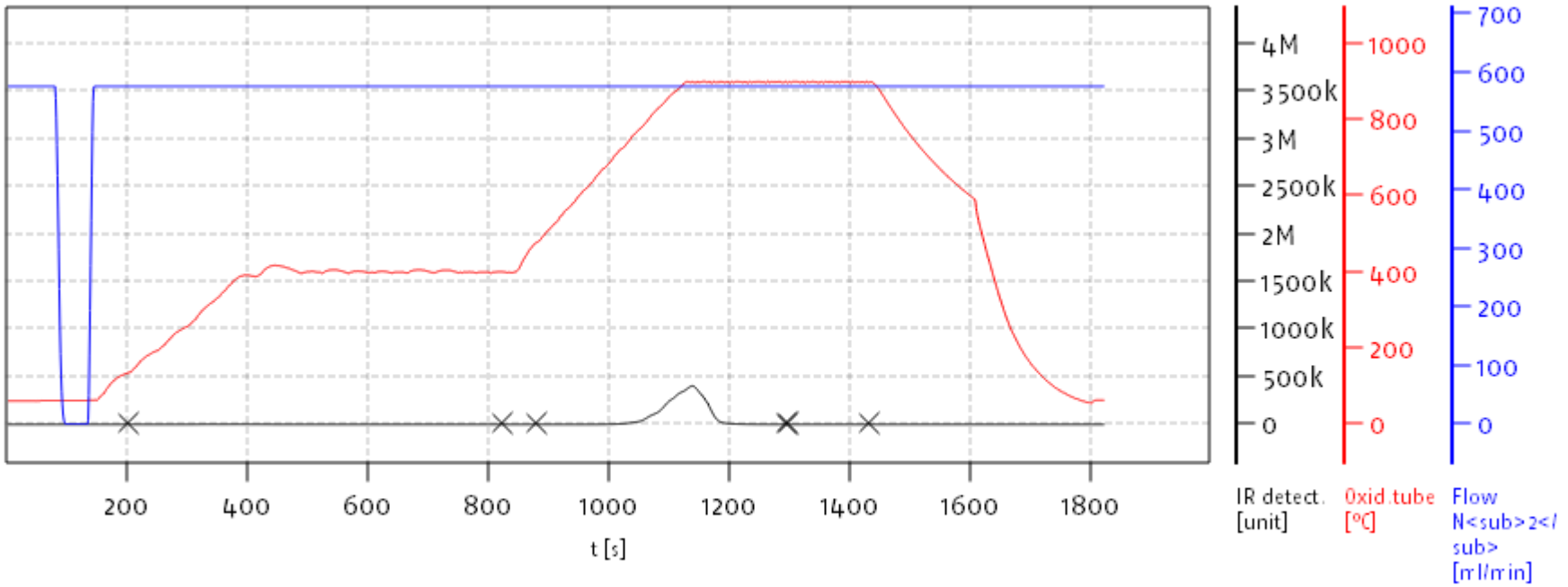
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	17	SEQ-CALF	200.00	0.0145	1.00	CARBON	7/13/2021 10:20 PM	0.011	0.906	0.917	bl,C1u,C2u	7 705	1 129 877	389	1.0000	1.0150



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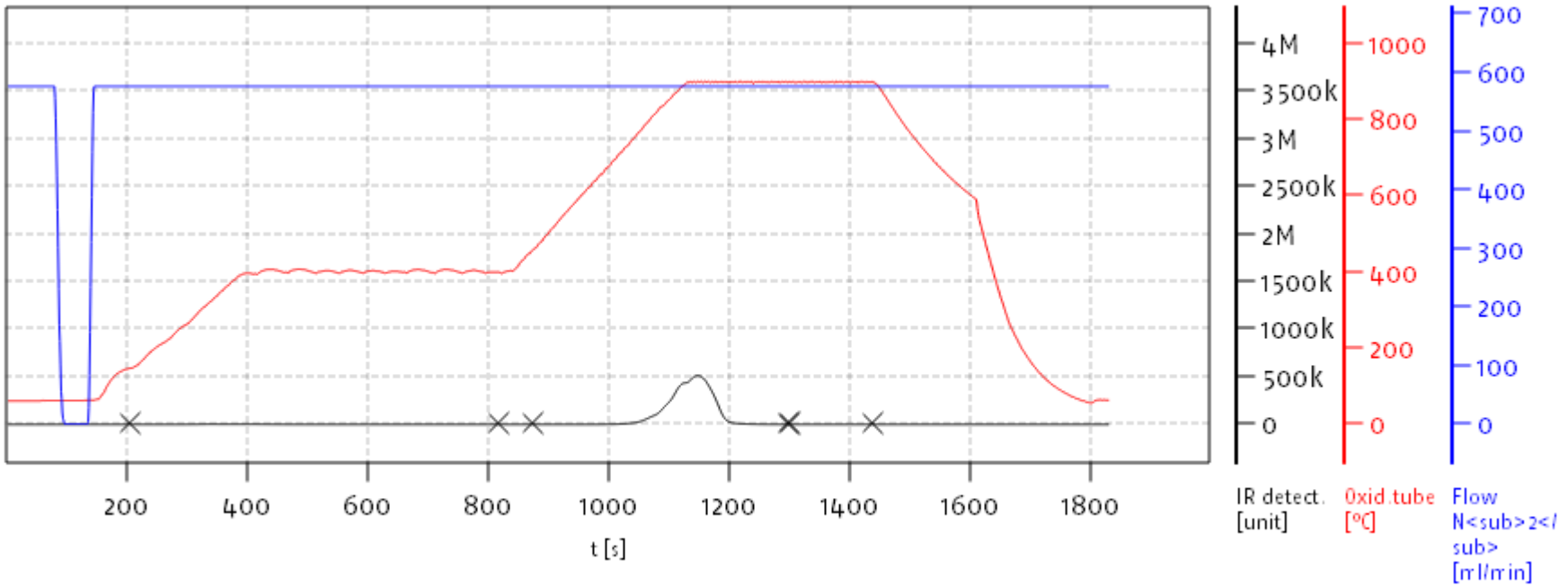
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	18	SEQ-CALG	200.00	0.0199	1.00	CARBON	7/13/2021 10:50 PM	0.015	1.206	1.221	bl,C2u	12 993	1 534 582	594	1.0000	0.9954



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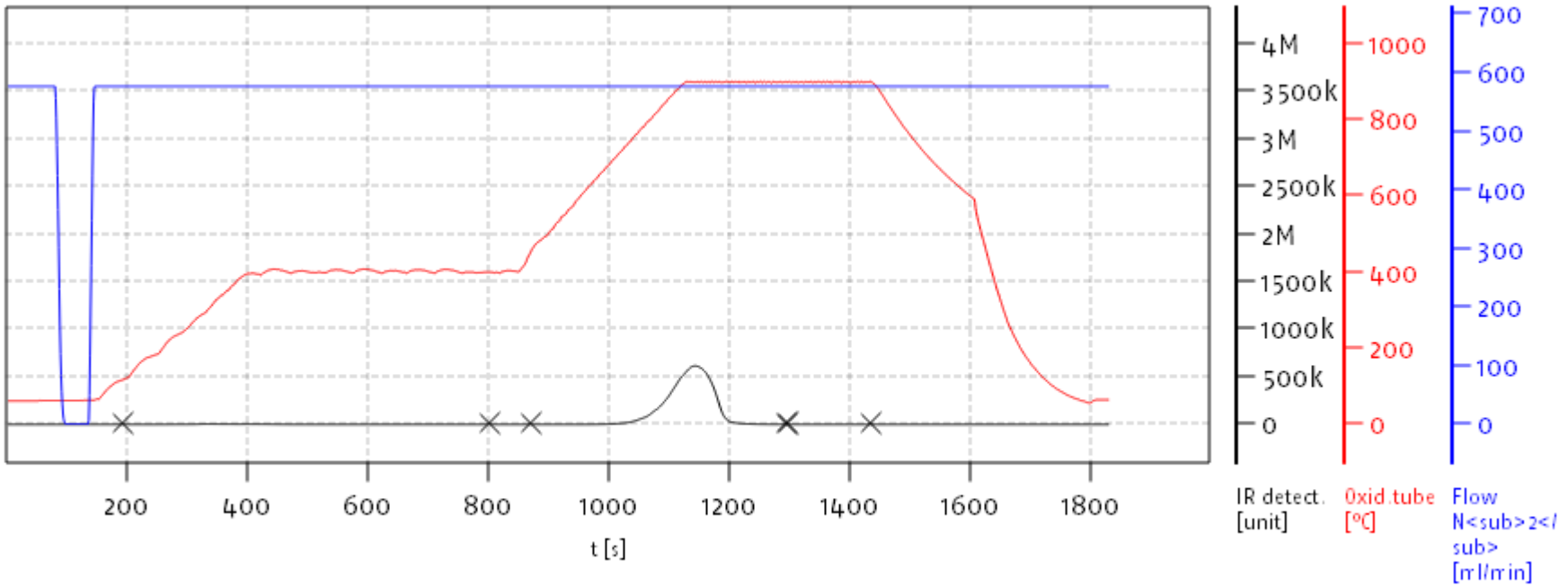
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	19	SEQ-CALH	200.00	0.0249	1.00	CARBON	7/13/2021 11:21 PM	0.021	1.524	1.545	bl,C2u	20 201	1 923 277	918	1.0000	1.0040



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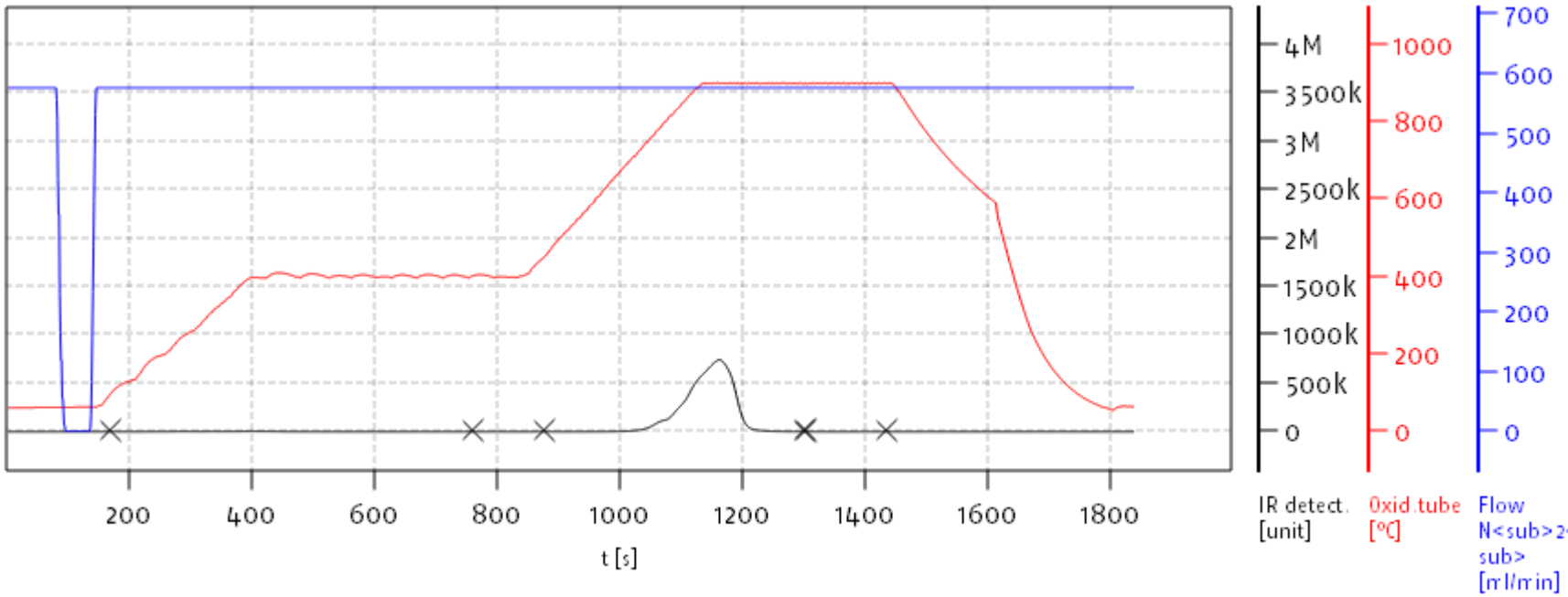
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	20	SEQ-CALI	200.00	0.0306	1.00	CARBON	7/13/2021 11:52 PM	0.021	1.800	1.821	bl,C2u	20 790	2 358 162	940	1.0000	0.9674



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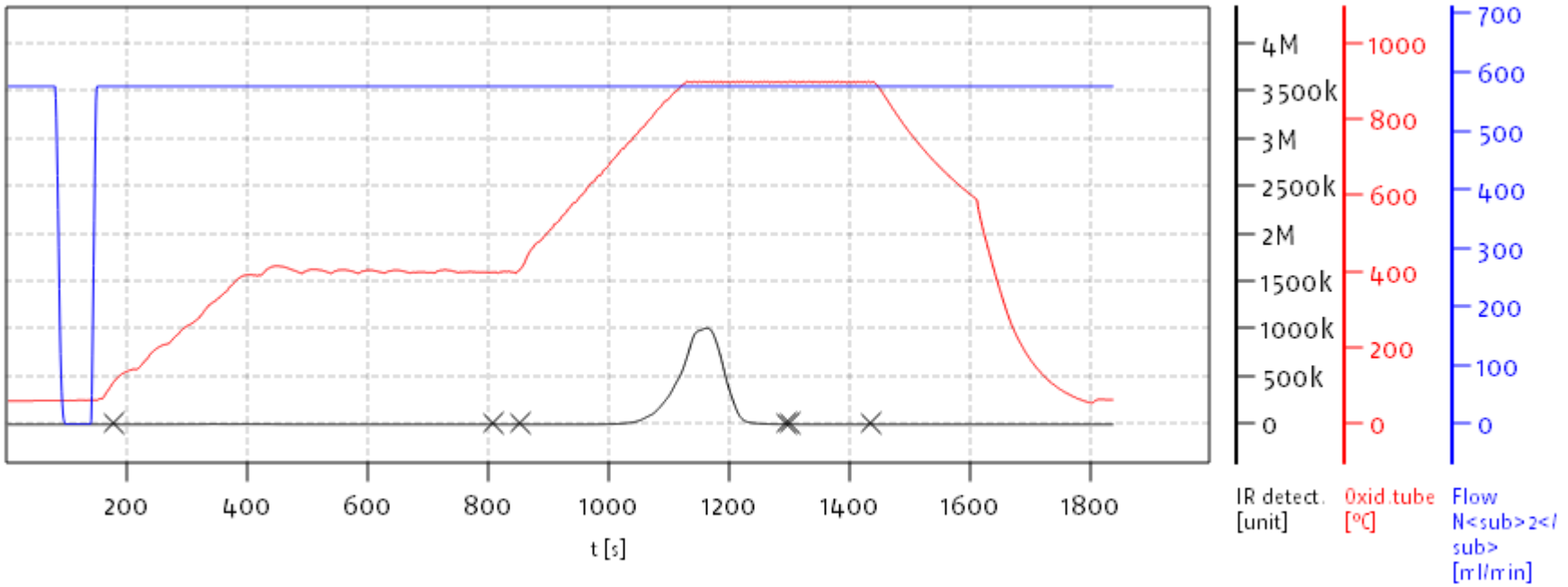
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	21	SEQ-CALJ	200.00	0.0419	1.00	CARBON	7/14/2021 12:23 AM	0.020	2.400	2.420	bl,C2u	17 643	3 227 695	2 142	1.0000	0.9426



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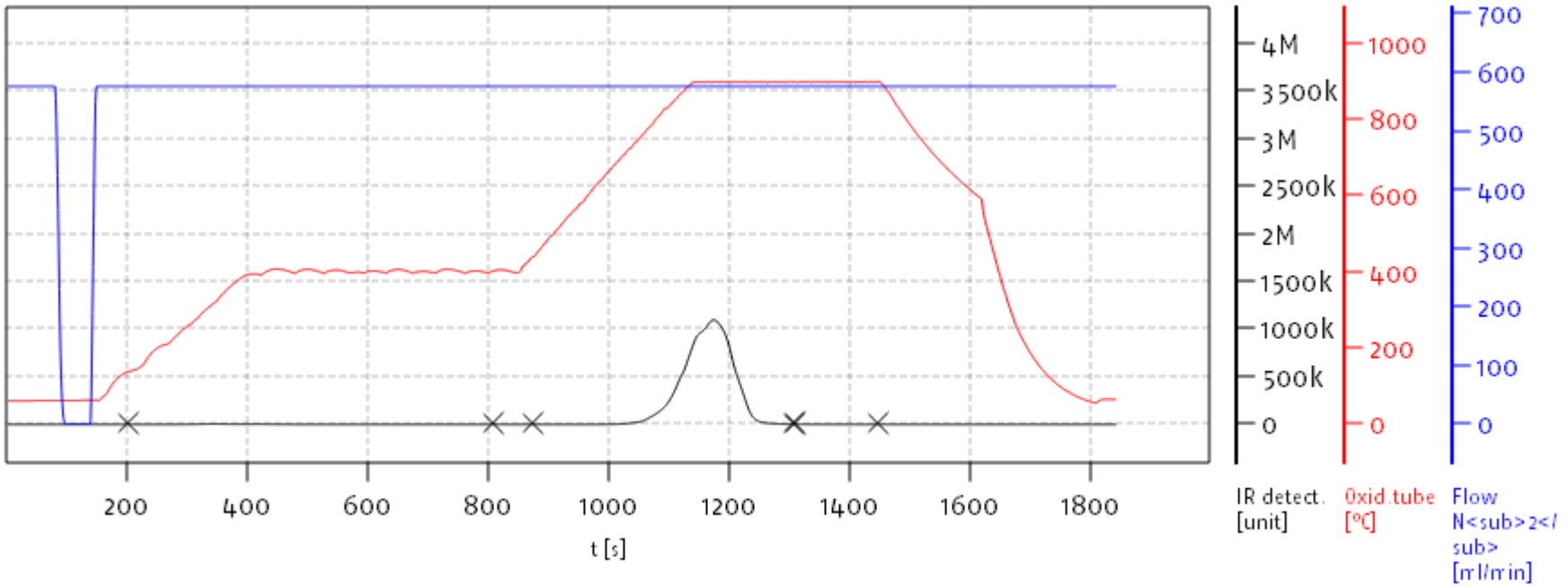
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	22	SEQ-CALK	200.00	0.0501	1.00	CARBON	7/14/2021 12:55 AM	0.023	3.012	3.035	bl,C2u	21 378	3 860 392	2 936	1.0000	0.9892



Name:

Access: soliTOC superuser

Date: Wed Jul 14 10:35:53 2021

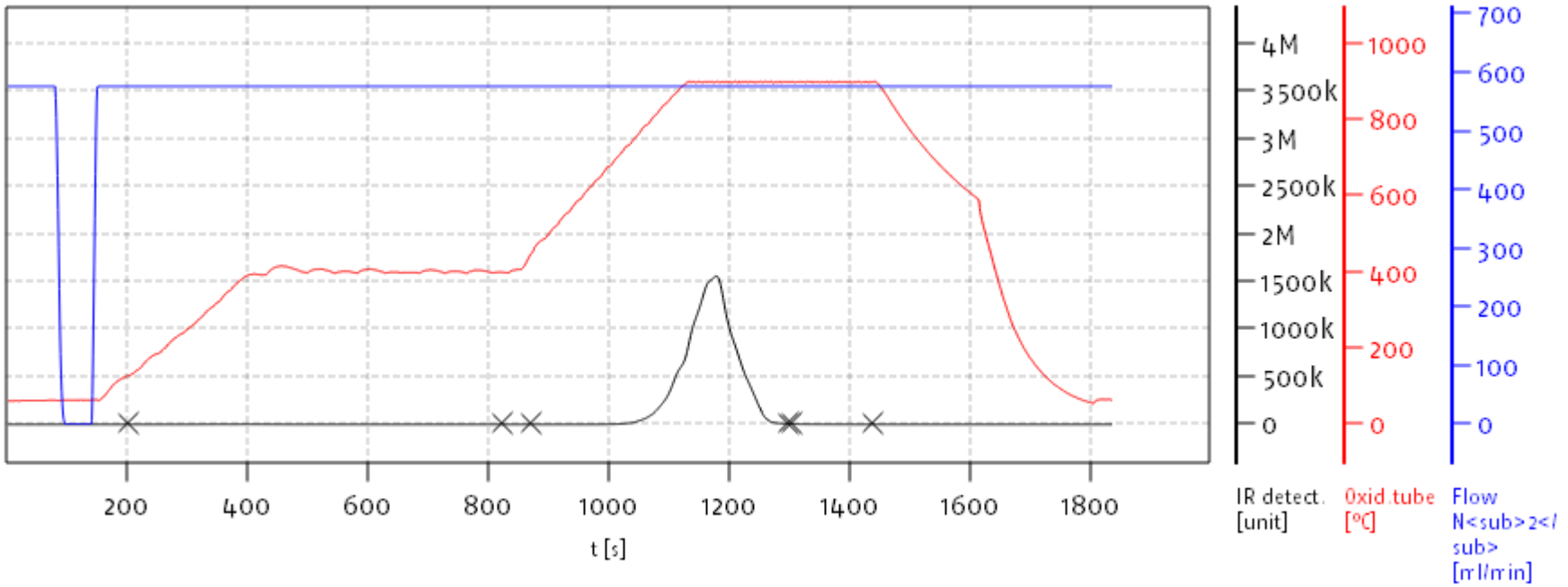
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	23	SEQ-CALL	200.00	0.0700	1.00	CARBON	7/14/2021 1:26 AM	0.016	4.206	4.222	bl,C1u,C2u	8 341	5 418 041	6 511	1.0000	0.9844



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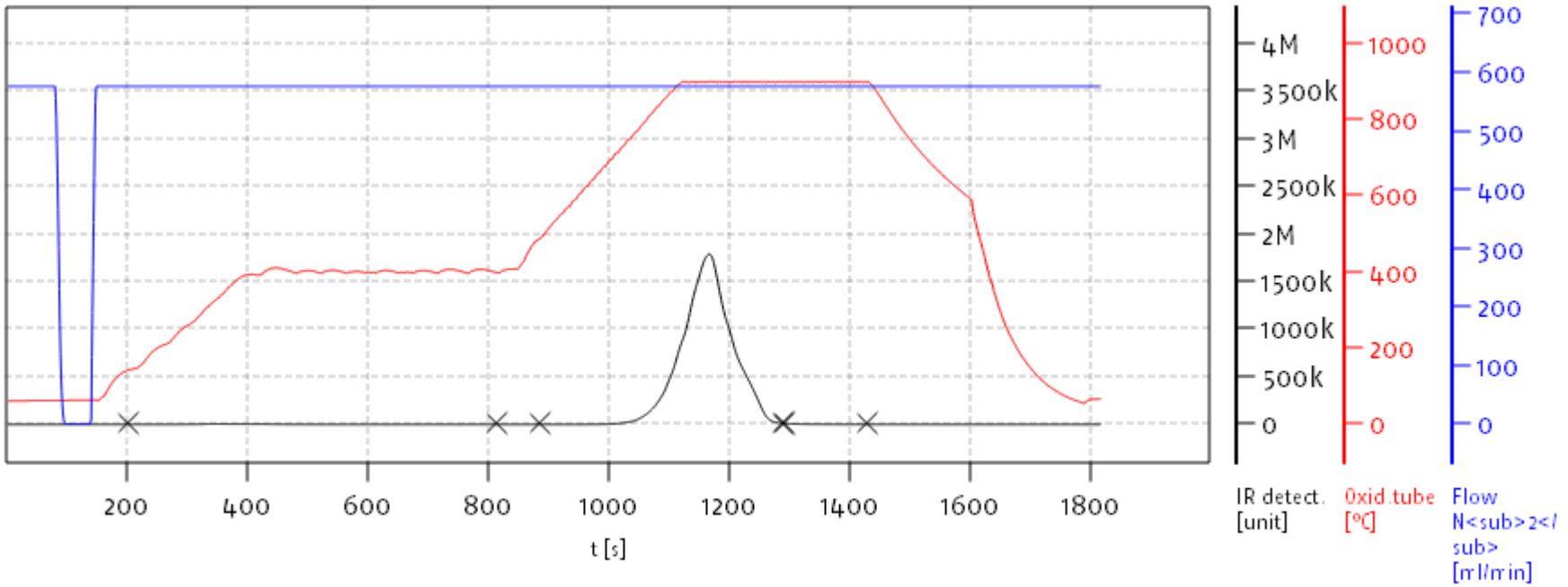
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EG00035 071321BF from: 7/14/2021 10:24 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	24	SEQ-CALM	200.00	0.0808	1.00	CARBON	7/14/2021 1:56 AM	0.032	4.812	4.844	bl	24 602	6 251 692	10 888	1.0000	0.9761



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Soli TOC Cube, Carbon
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Analyst: BF

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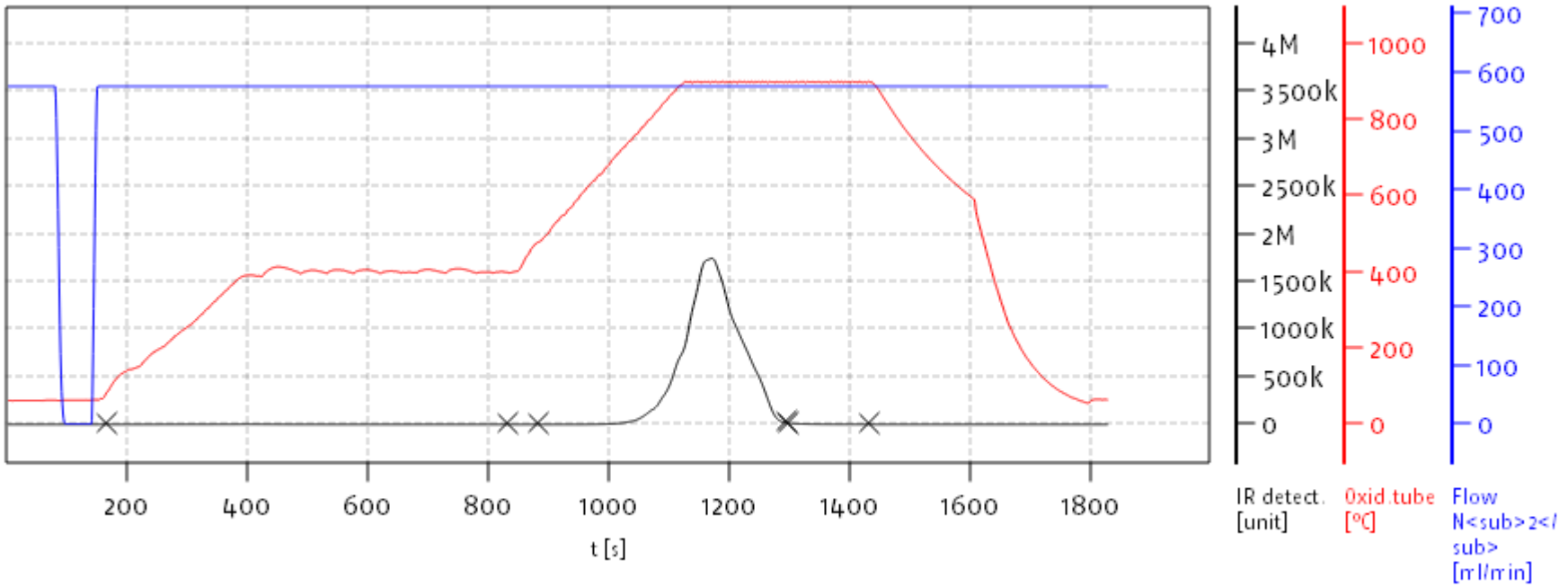
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	25	SEQ-CALN	200.00	0.0897	1.00	CARBON	7/14/2021 2:27 AM	0.025	5.406	5.431	bl	11 970	**6 909 943**	**14 720**	1.0000	0.9922



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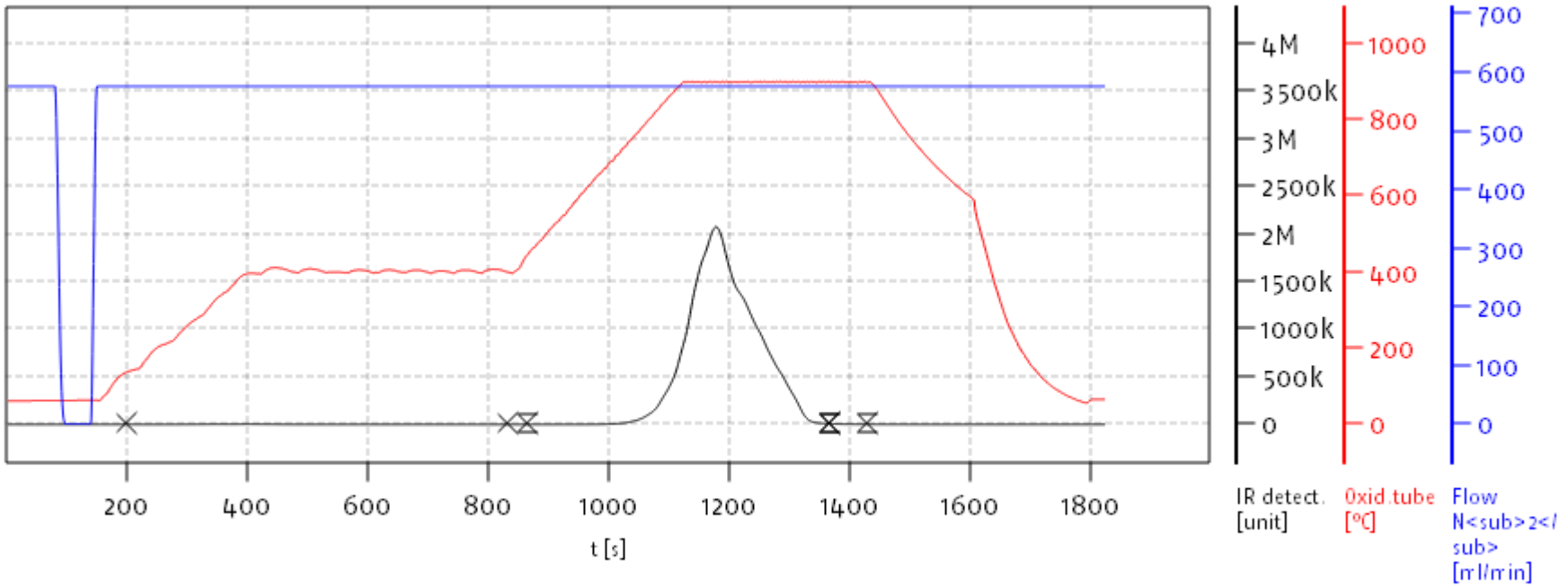
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	26	SEQ-CALO	200.00	0.1237	1.00	CARBON	7/14/2021 10:22 AM	0.013	7.434	7.447	bl,C3o	14 303	9 443 796	0	1.0000	0.9985



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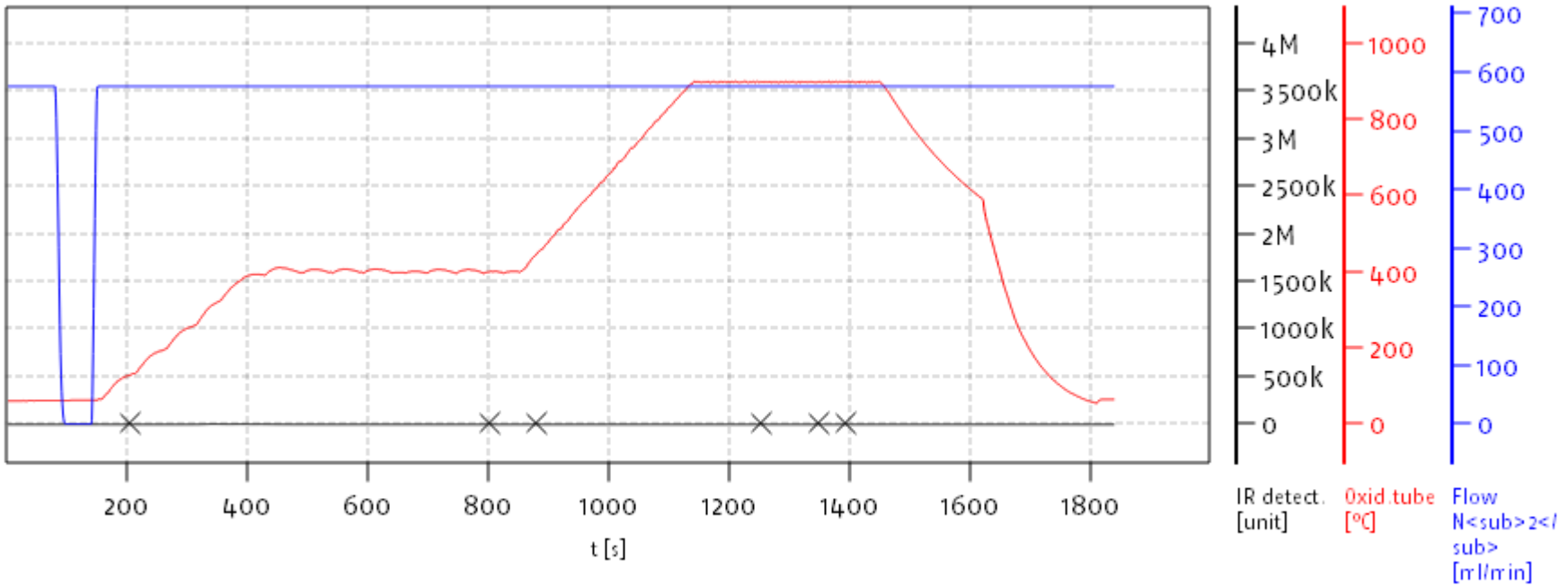
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	27	BLANK	1.00		1.00	CARBON	7/14/2021 3:29 AM	0.000	0.000	0.000	bl	15 377	4	0	1.0000	0.9704



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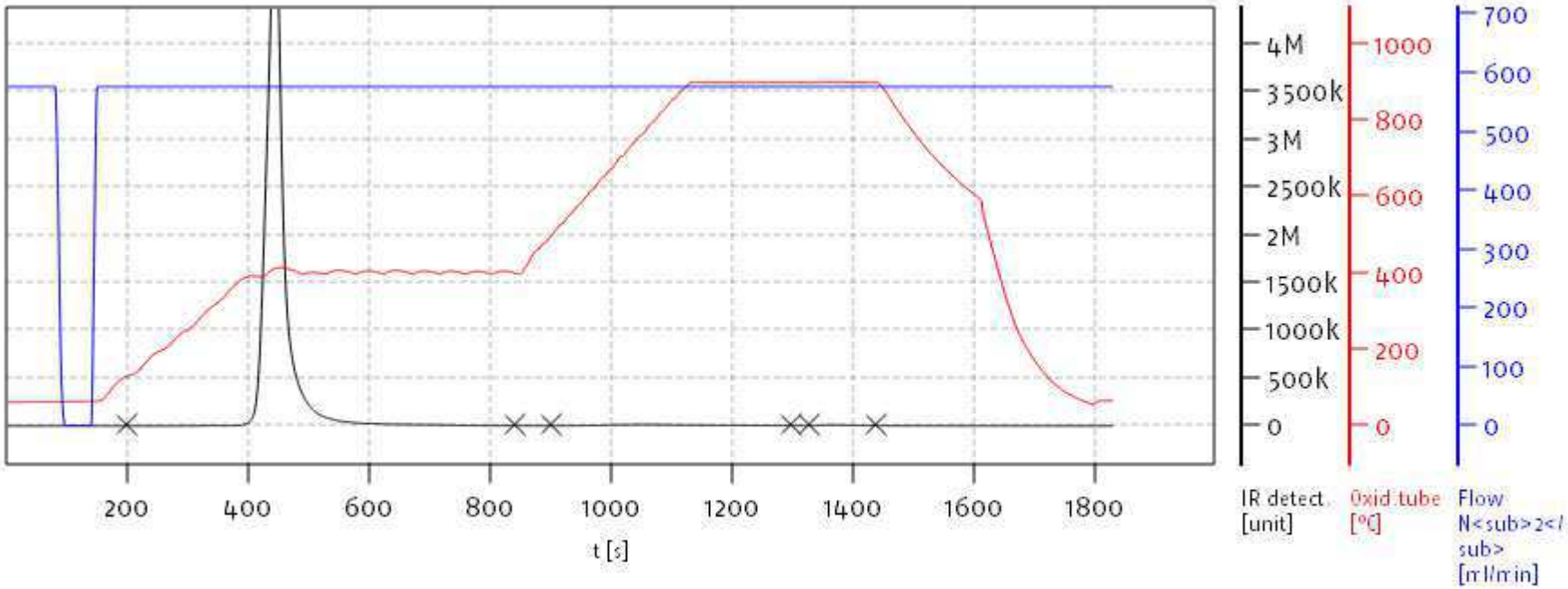
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	28	Dfactor	24.90		1.00	CARBON	7/14/2021 4:00 AM	44.620	0.675	45.295	bl	6 675 069	104 070	24 945	1.0513	1.0000



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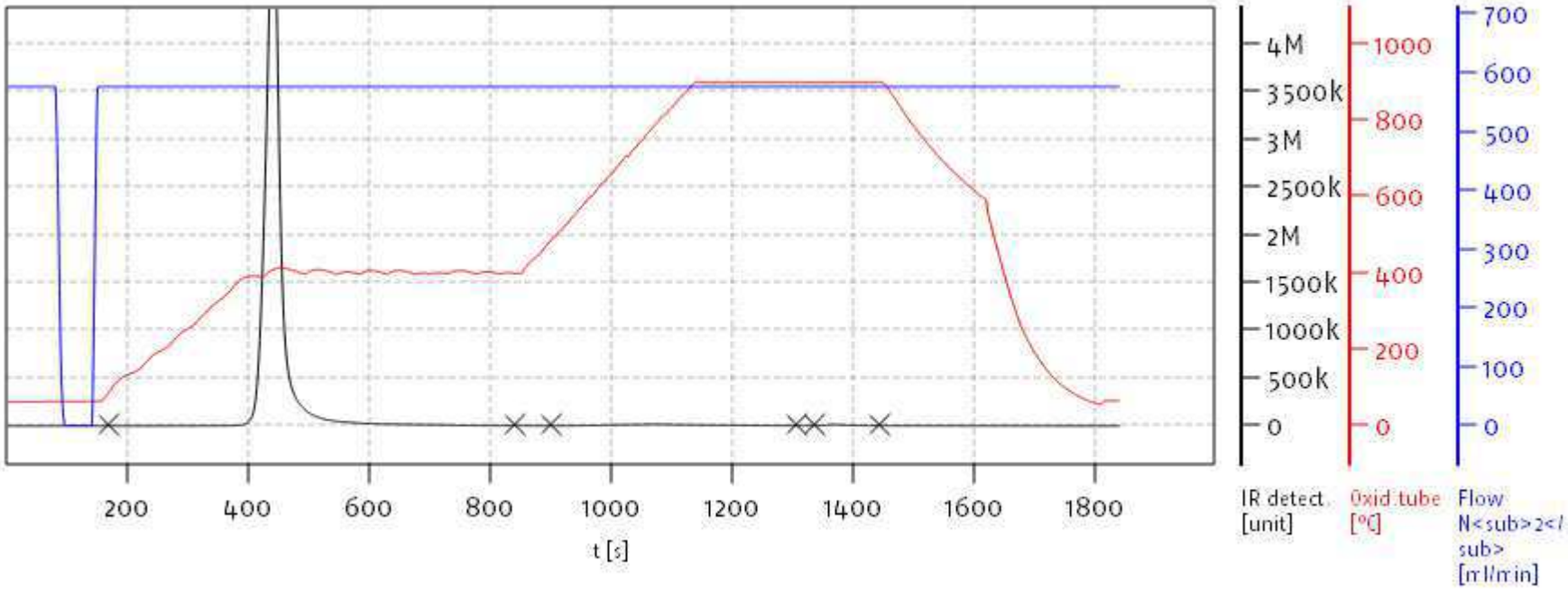
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	29	Dfactor	22.60		1.00	CARBON	7/14/2021 4:31 AM	44.643	0.810	45.453	bl	6 011 996	113 561	25 659	1.0594	1.0000



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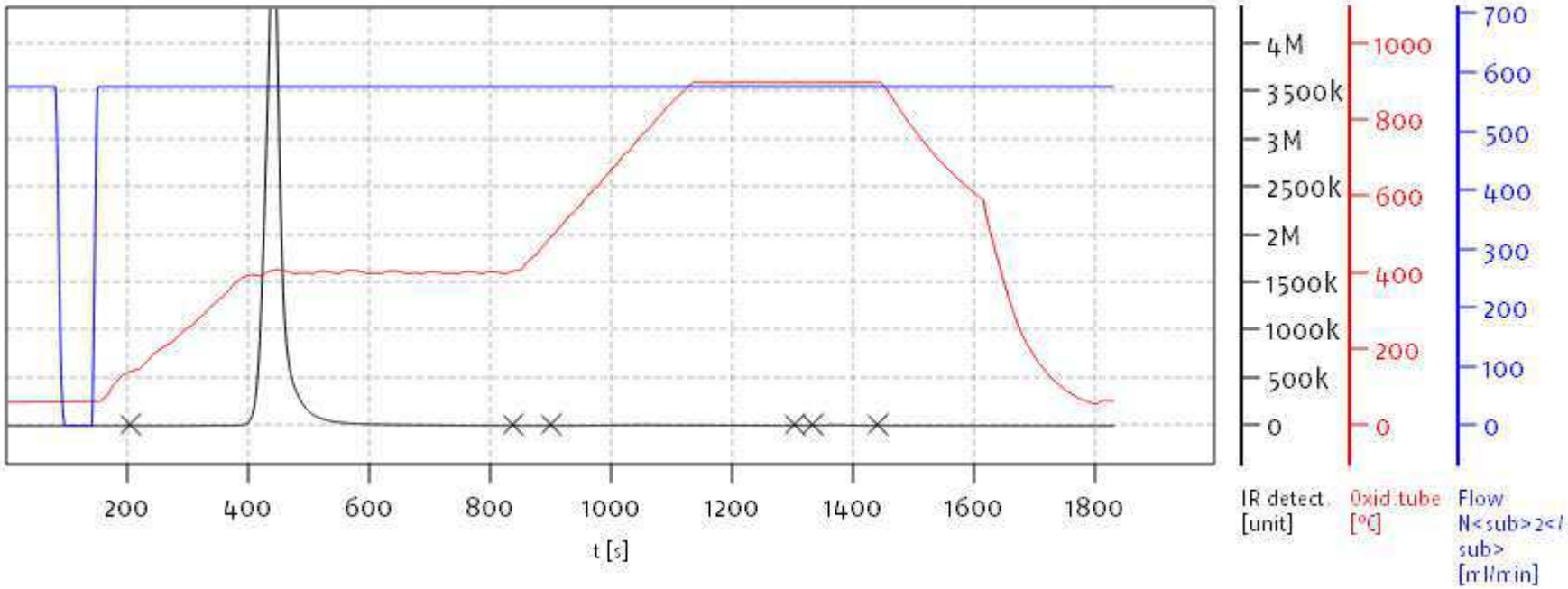
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	30	SEQ-ICV1	22.00		1.00	CARBON	7/14/2021 5:02 AM	44.870	0.594	45.465	bl	5 908 965	82 878	20 547	1.0554	0.9704



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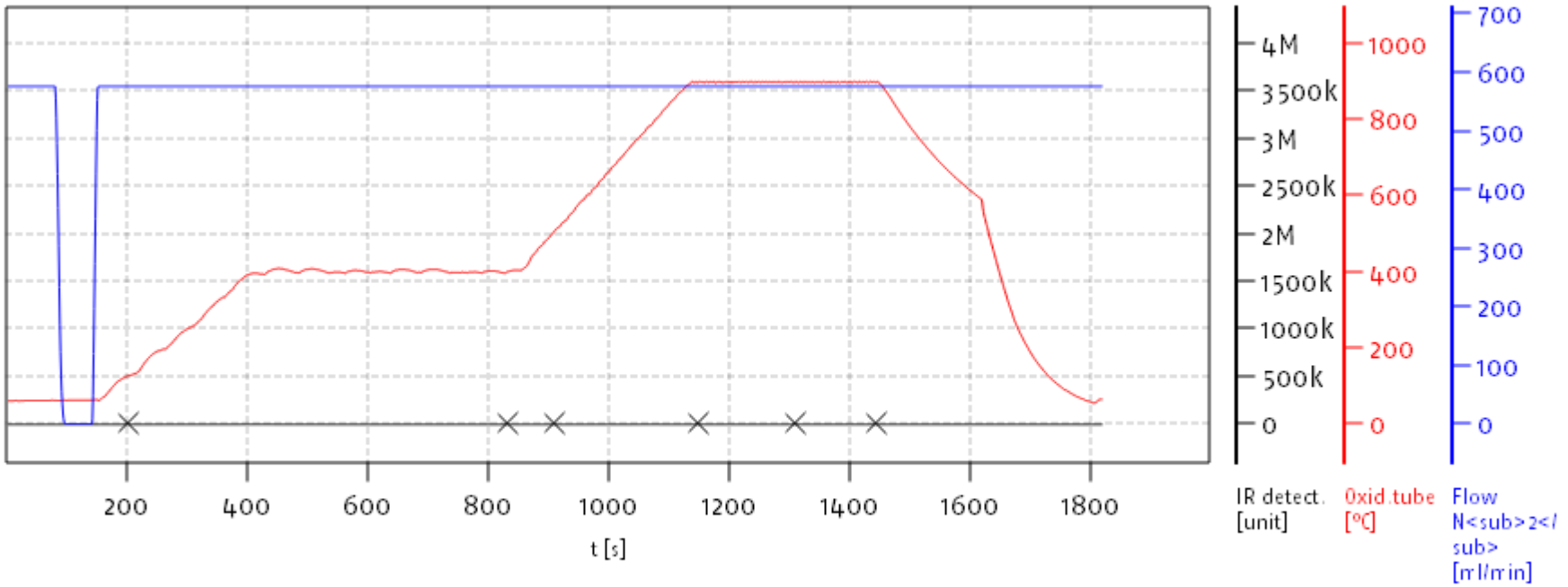
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	31	SEQ-ICB1	618.10		1.00	CARBON	7/14/2021 5:33 AM	0.002	0.001	0.003	bl,C1u,C3u,C2u	2 837	1 593	526	1.0554	0.9704



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Document: TOC Calibration EG00035 071321BF from: 7/14/2021 10:24 AM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

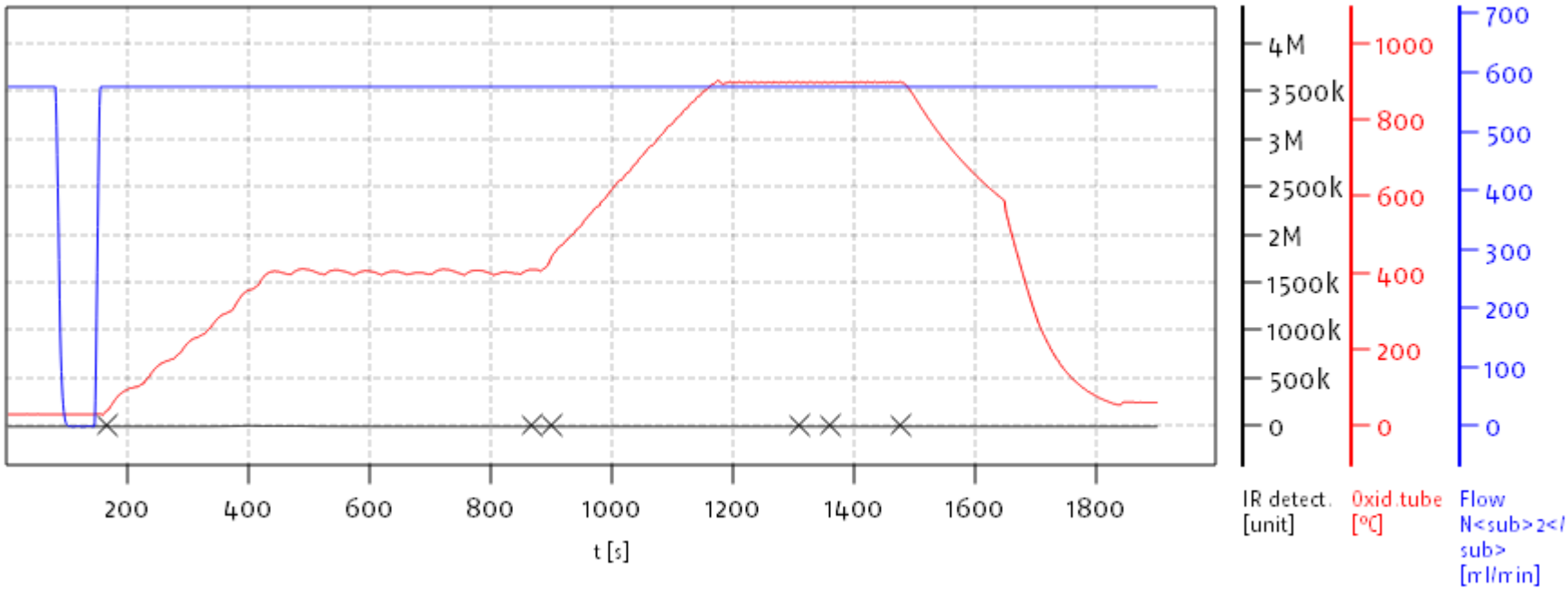
Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0071	Instrument:	TOC Cube
		Calibration:	EG00035

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Initial Cal Check	SJH0071-ICV1	peData_08092021@1245-(	NA	08/06/21 12:39
Initial Cal Blank	SJH0071-ICB1	peData_08092021@1245-(	NA	08/06/21 13:11
Calibration Check	SJH0071-CCV1	peData_08092021@1245-1	NA	08/06/21 20:05
Calibration Blank	SJH0071-CCB1	peData_08092021@1245-1	NA	08/06/21 20:37
Calibration Check	SJH0071-CCV2	peData_08092021@1245-2	NA	08/07/21 02:24
Calibration Blank	SJH0071-CCB2	peData_08092021@1245-2	NA	08/07/21 02:56
Calibration Check	SJH0071-CCV3	peData_08092021@1245-2	NA	08/07/21 08:41
Calibration Blank	SJH0071-CCB3	peData_08092021@1245-2	NA	08/07/21 09:12
Calibration Check	SJH0071-CCV4	peData_08092021@1245-2	NA	08/07/21 15:02
Calibration Blank	SJH0071-CCB4	peData_08092021@1245-2	NA	08/07/21 15:34
Calibration Check	SJH0071-CCV5	peData_08092021@1245-(	NA	08/07/21 21:21
Calibration Blank	SJH0071-CCB5	peData_08092021@1245-(	NA	08/07/21 21:52
MRL Check	BJH0062-MRL1	peData_08092021@1245-(	Solid	08/07/21 23:27
Blank	BJH0062-BLK1	peData_08092021@1245-(	Solid	08/07/21 23:58
LCS	BJH0062-BS1	peData_08092021@1245-(	Solid	08/08/21 00:30
Reference	BJH0062-SRM1	peData_08092021@1245-(	Solid	08/08/21 01:01
Calibration Check	SJH0071-CCV6	peData_08092021@1245-(	NA	08/08/21 03:39
Calibration Blank	SJH0071-CCB6	peData_08092021@1245-(	NA	08/08/21 04:10
Calibration Check	SJH0071-CCV7	peData_08092021@1245-(	NA	08/08/21 09:56
Calibration Blank	SJH0071-CCB7	peData_08092021@1245-(	NA	08/08/21 10:27
LDW21-IT694A	21G0303-01	peData_08092021@1245-(	Solid	08/08/21 13:06
LDW21-IT694C	21G0303-03	peData_08092021@1245-(	Solid	08/08/21 14:09
Calibration Check	SJH0071-CCV8	peData_08092021@1245-(	NA	08/08/21 16:17
Calibration Blank	SJH0071-CCB8	peData_08092021@1245-1	NA	08/08/21 16:48
LDW21-IT694E	21G0303-04	peData_08092021@1245-1	Solid	08/08/21 17:20
Calibration Check	SJH0071-CCV9	peData_08092021@1245-1	NA	08/08/21 22:36
Calibration Blank	SJH0071-CCB9	peData_08092021@1245-1	NA	08/08/21 23:07
Calibration Check	SJH0071-CCVA	peData_08092021@1245-2	NA	08/09/21 04:21
Calibration Blank	SJH0071-CCBA	peData_08092021@1245-2	NA	08/09/21 04:52

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	34	BLANK	1.00		1.00	CARBON	8/6/2021 11:03 AM	0.000	0.000	0.000	bl	41 993	5 038	1 374	1.0000	1.0000



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Access: soliTOC superuser

Date: Mon Aug 9 12:29:09 2021

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Mode CCC

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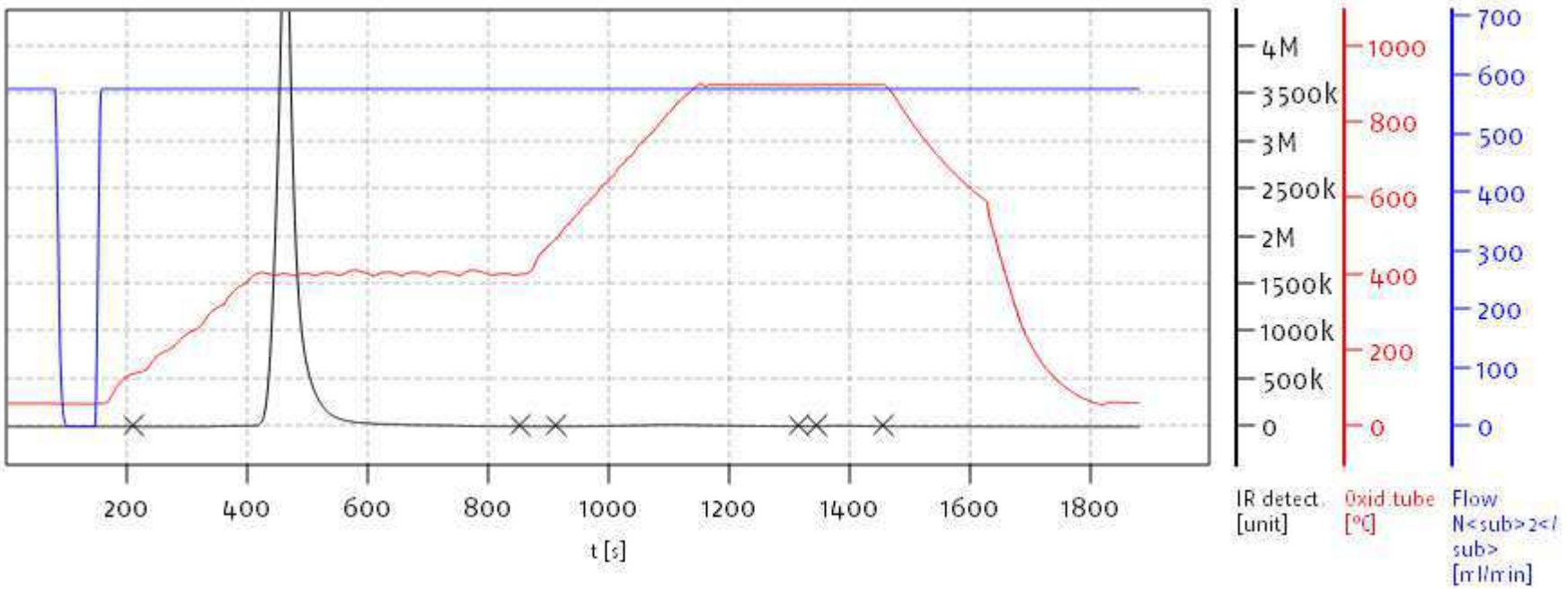
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	35	Dfactor	25.50		1.00	CARBON	8/6/2021 11:35 AM	44.703	0.931	45.634	bl	6 969 390	134 915	23 273	1.0532	1.0000



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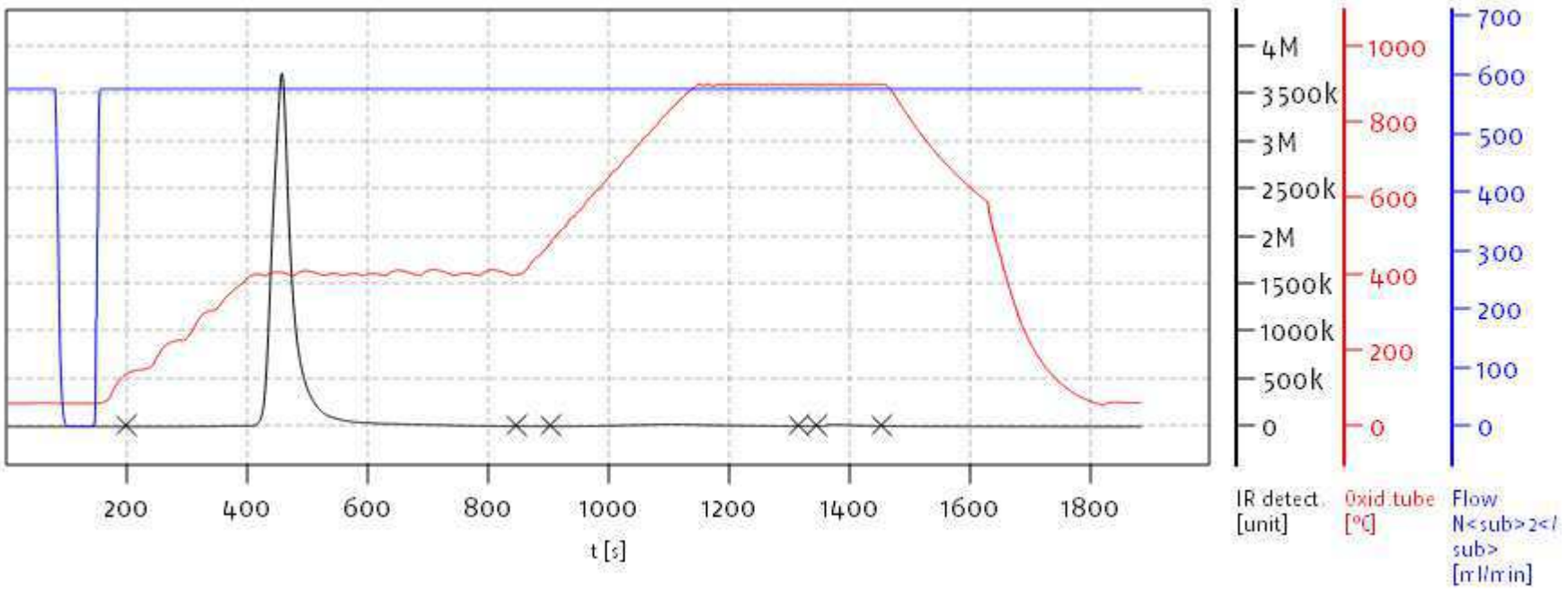
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	36	Dfactor	20.70		1.00	CARBON	8/6/2021 12:07 PM	44.926	1.467	46.393	bl	5 442 650	177 952	45 240	1.0939	1.0000



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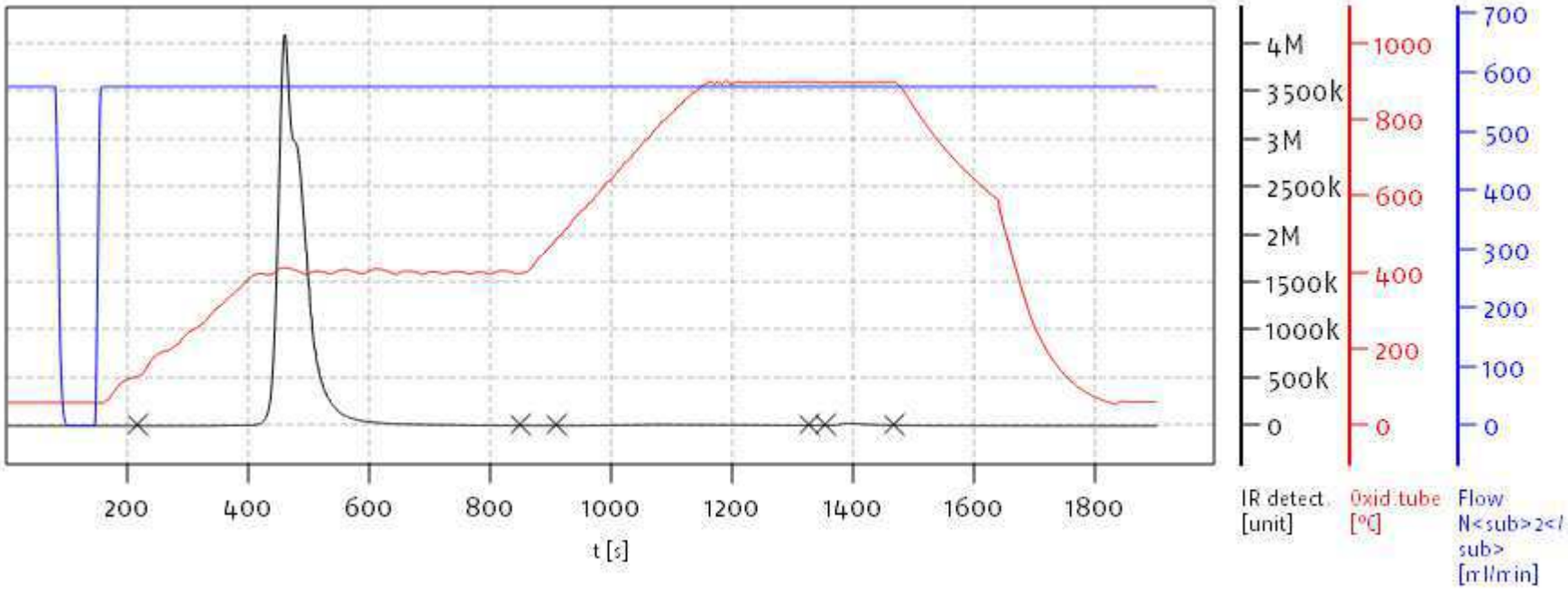
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	37	SJH0071-ICV1	27.30		1.00	CARBON	8/6/2021 12:39 PM	45.148	0.797	45.945	bl	7 364 210	122 062	58 517	1.0736	1.0000



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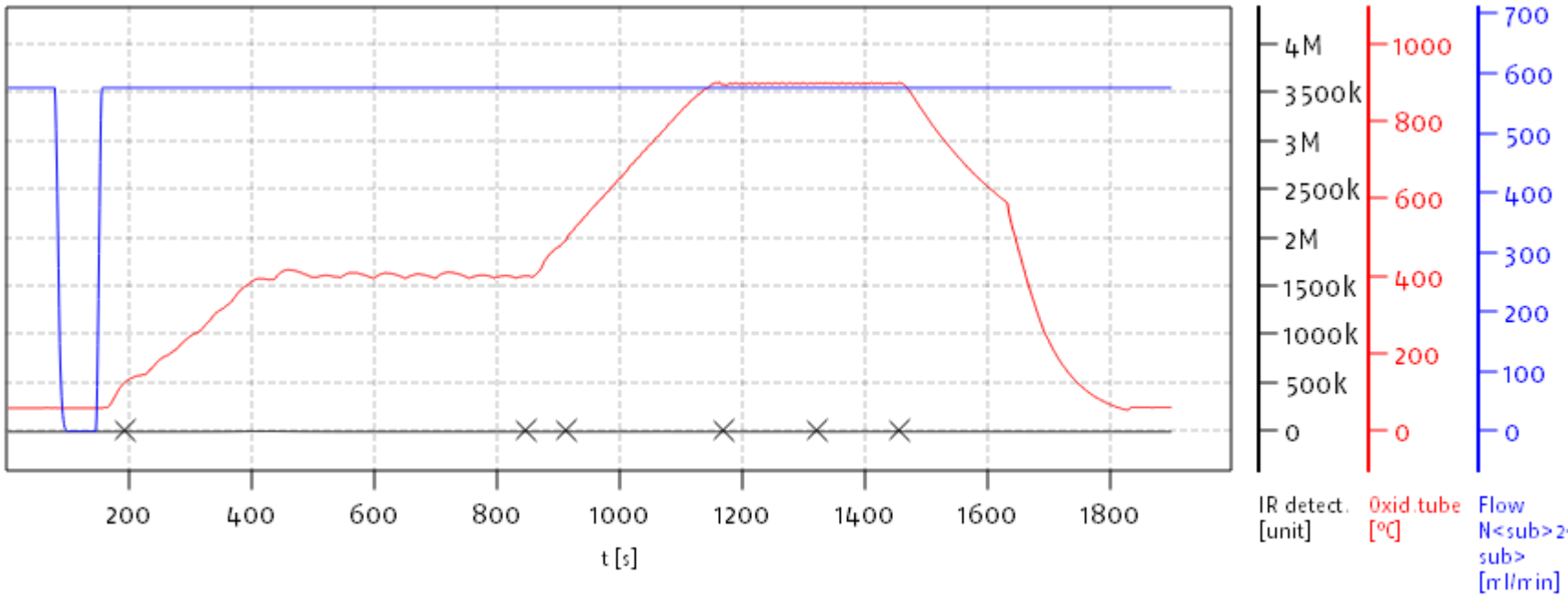
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	38	SJH0071-ICB1	613.70		1.00	CARBON	8/6/2021 1:11 PM	0.016	0.005	0.021	bl,C3u,C2u	19 976	2 070	2 644	1.0736	1.0000



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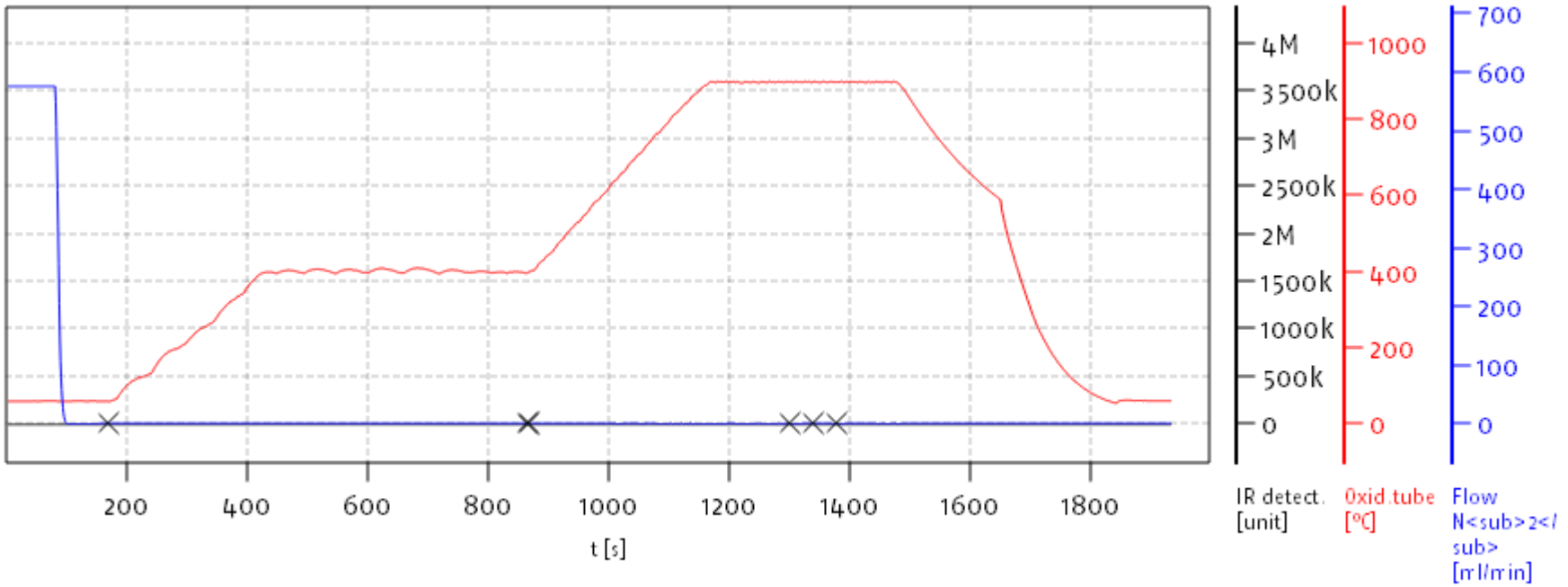
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	39	21G0246-02	523.70		1.00	CARBON	8/6/2021 1:44 PM	0.016	0.008	0.024	bl,C2u	12 395	7 576	651	1.0736	1.0000



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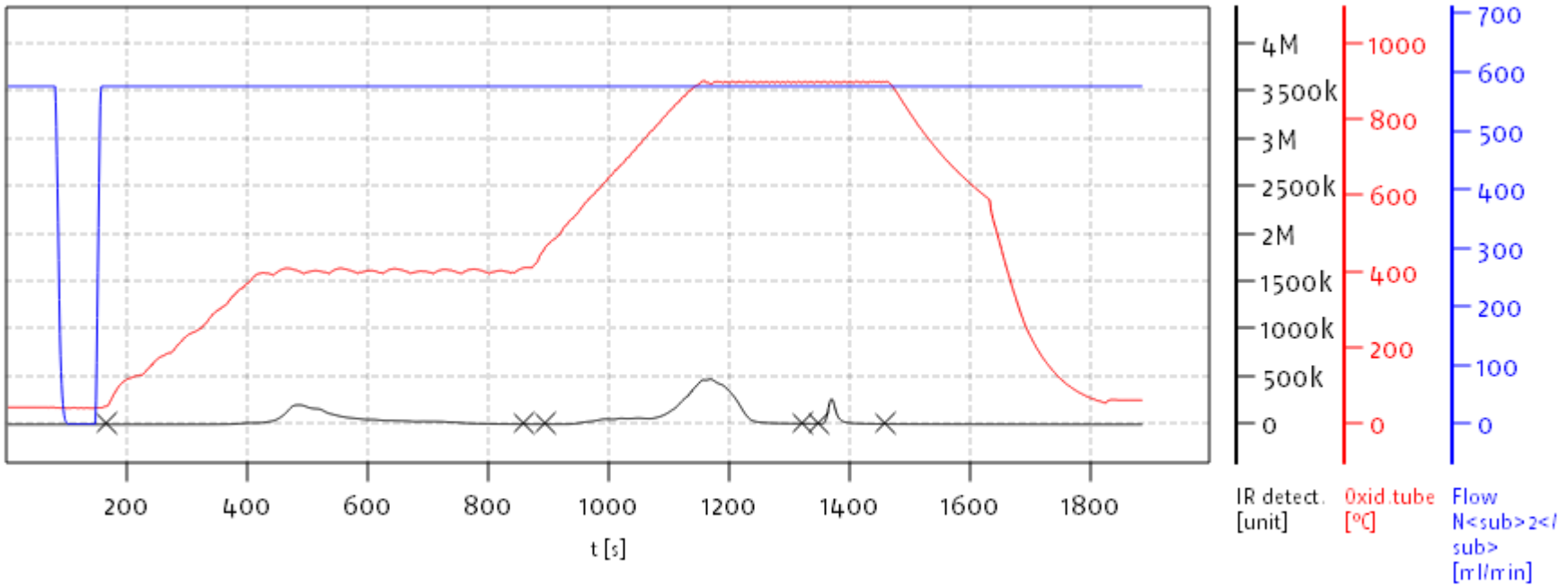
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	40	21G0246-03	561.40		1.00	CARBON	8/6/2021 3:20 PM	0.347	0.548	0.896	bl	971 081	1 980 270	183 627	1.0736	1.0000



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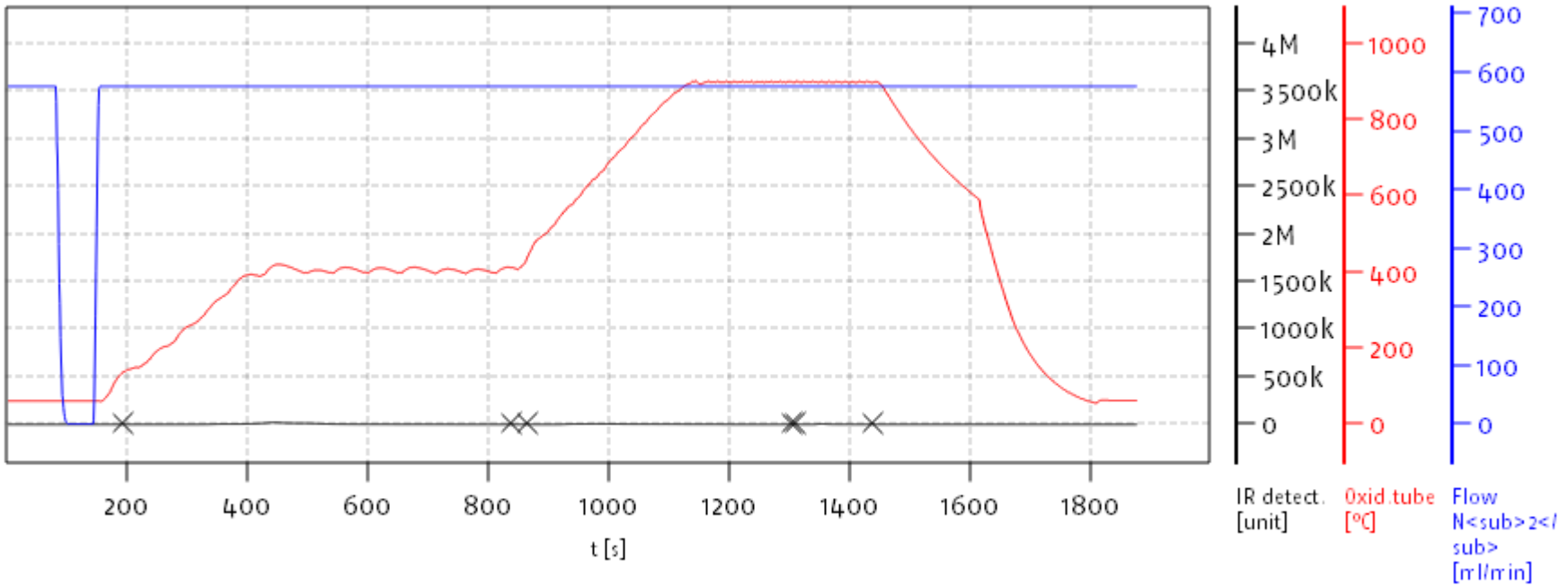
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	41	21G0246-04	420.00		1.00	CARBON	8/6/2021 3:52 PM	0.051	0.021	0.072	bl,C2u	87 275	38 391	5 671	1.0736	1.0000



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Access: soliTOC superuser

Date: Mon Aug 9 12:29:09 2021

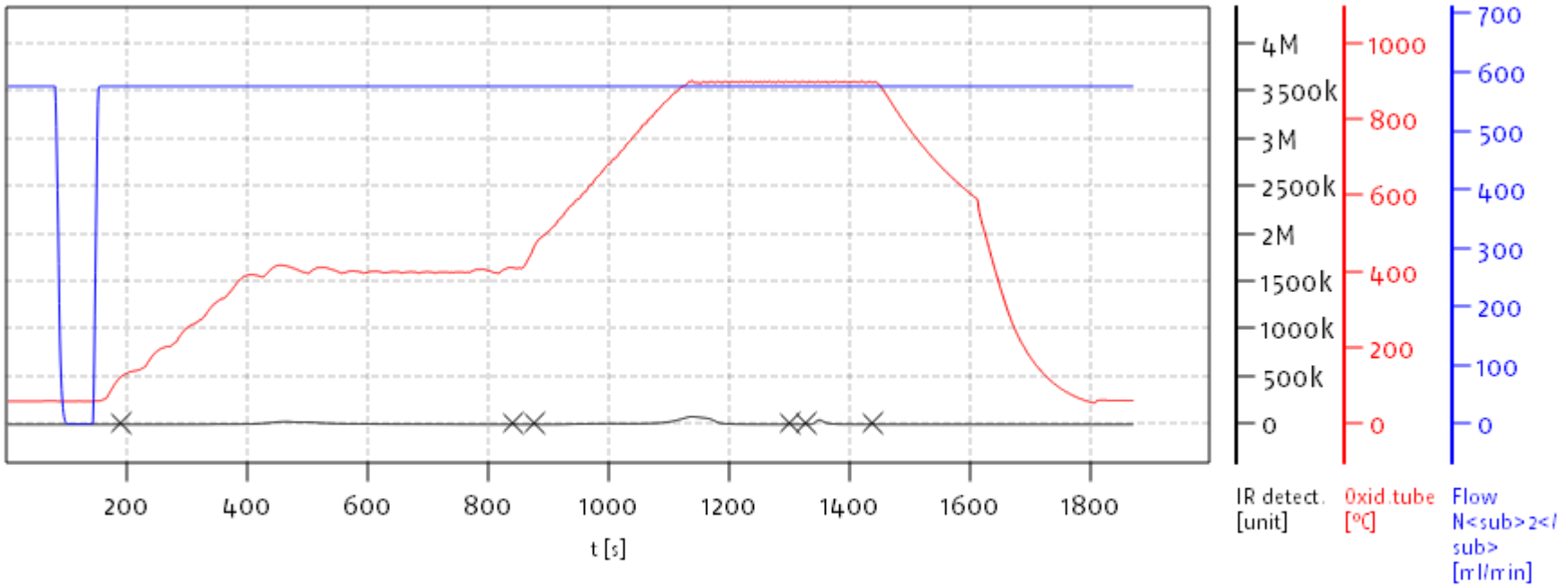
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	42	21G0246-05	537.20		1.00	CARBON	8/6/2021 4:23 PM	0.064	0.077	0.141	bl	137 612	250 306	34 778	1.0736	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

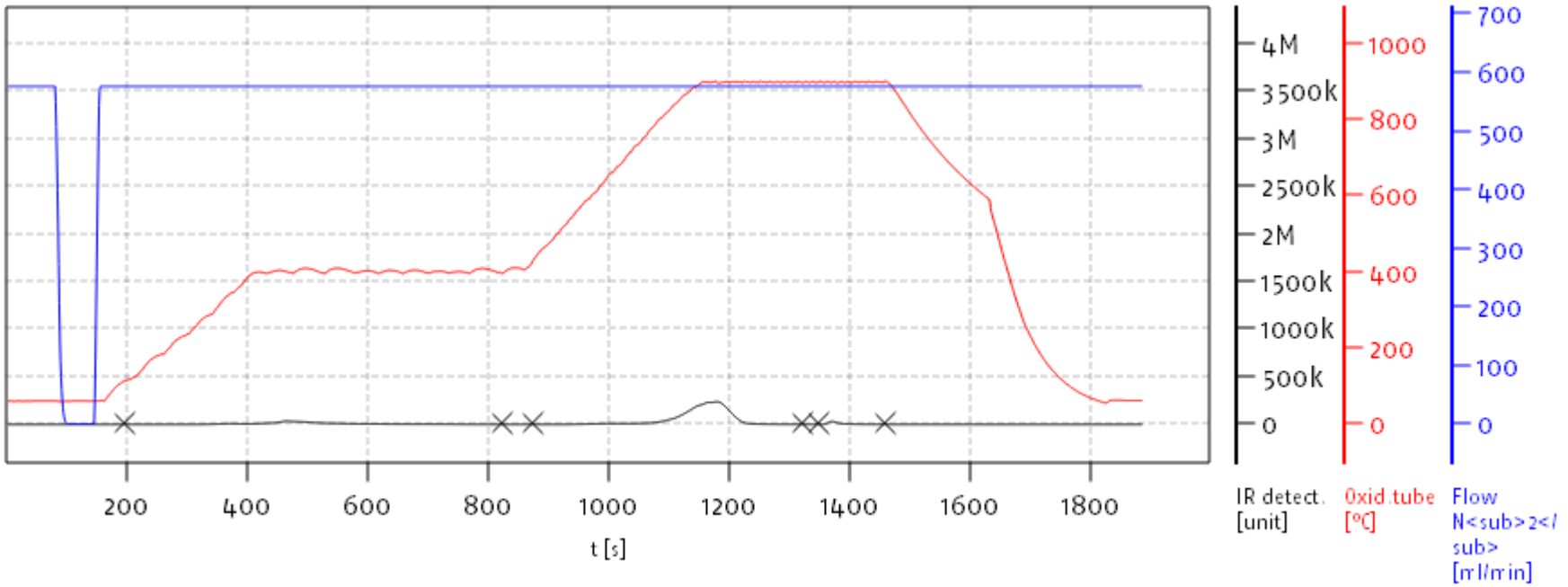
elementar
EXCELLENCE IN ELEMENTS

Document: 080621BF from: 8/9/2021 11:02 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	43	21G0246-06	505.40		1.00	CARBON	8/6/2021 4:55 PM	0.072	0.243	0.315	bl	157 896	778 965	26 573	1.0736	1.0000



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Mode CCC

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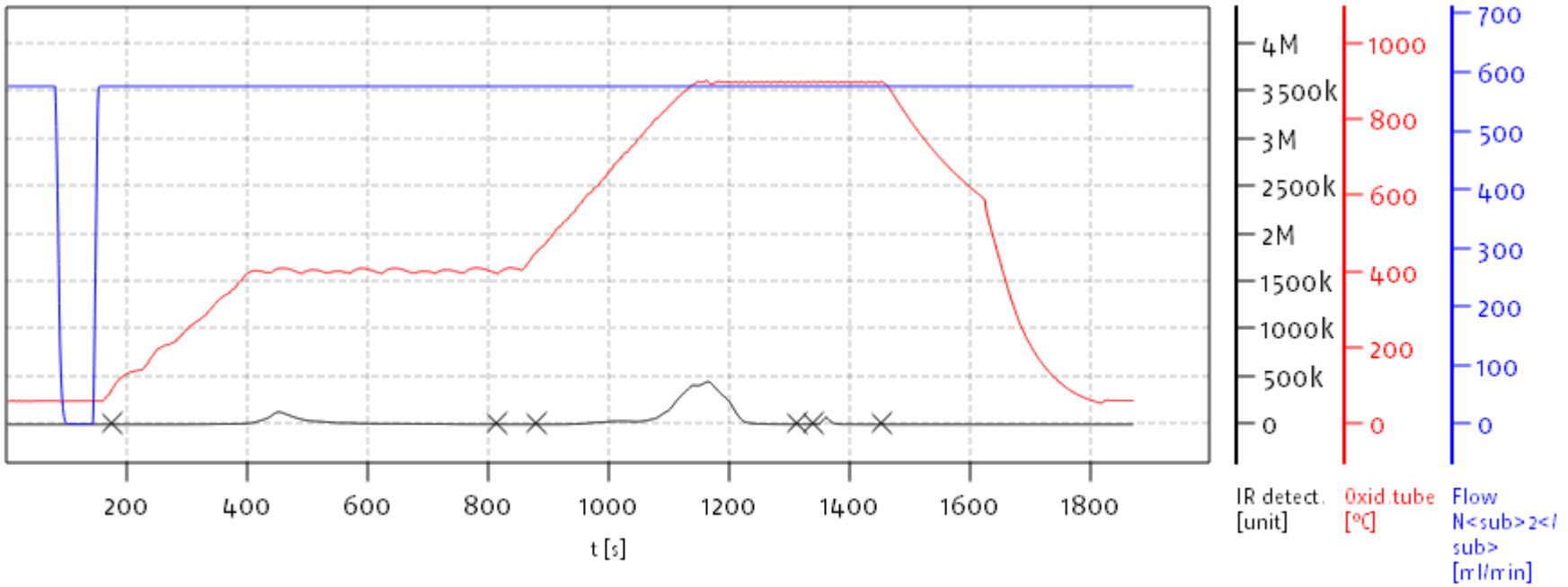
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	44	21G0246-07	271.50		1.00	CARBON	8/6/2021 5:27 PM	0.286	0.952	1.239	bl	393 856	1 660 110	41 718	1.0736	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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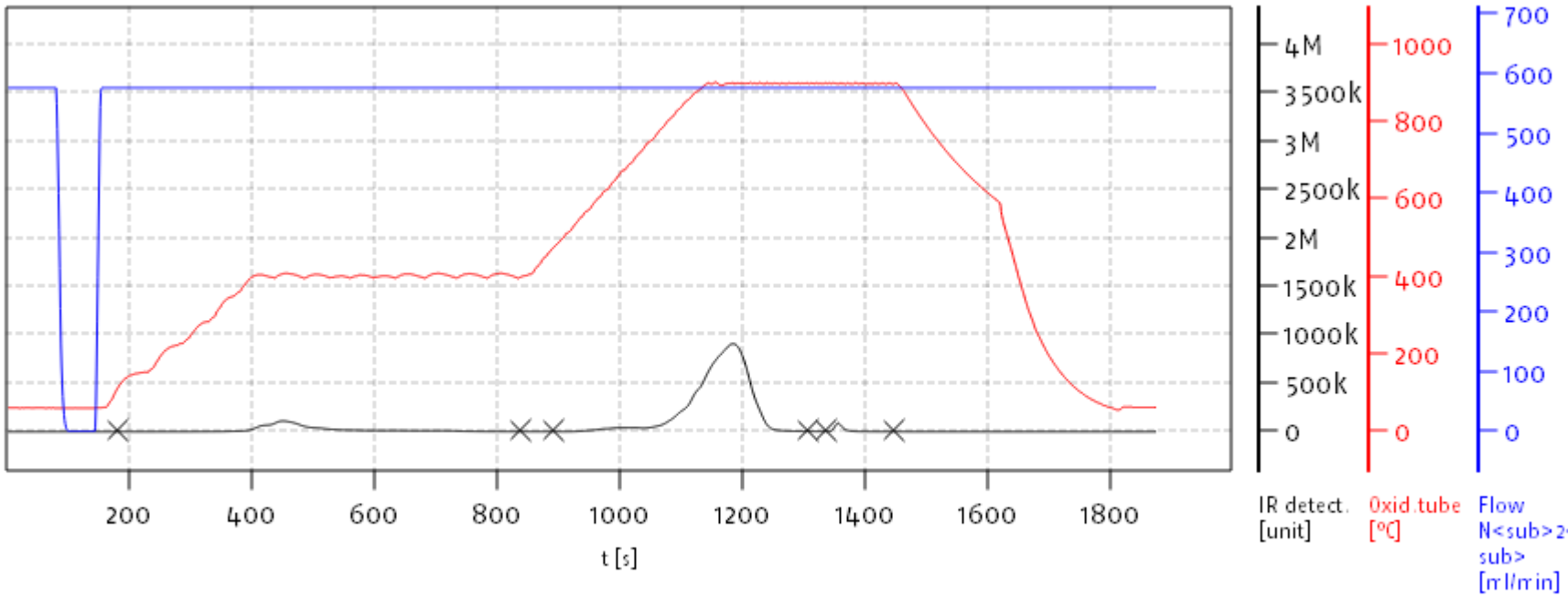
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	45	21G0246-08	563.40		1.00	CARBON	8/6/2021 5:58 PM	0.153	0.901	1.054	bl	431 851	3 278 800	54 582	1.0736	1.0000



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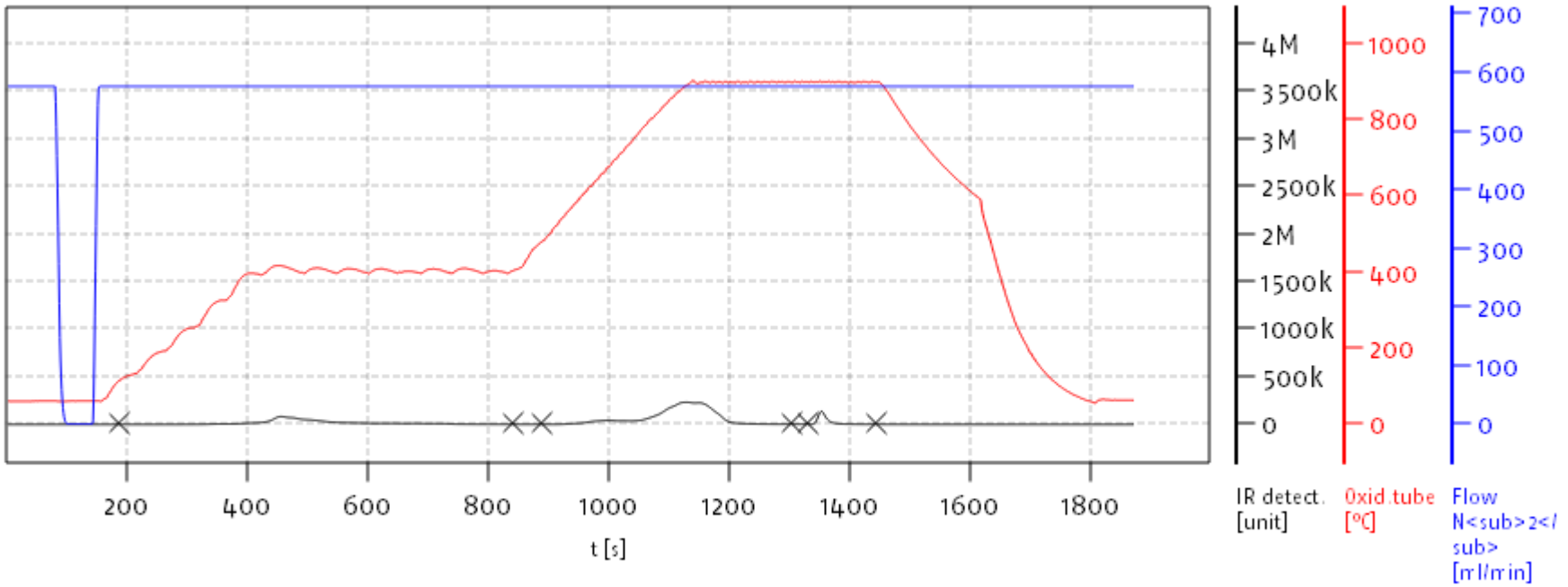
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	46	21G0246-09	695.80		1.00	CARBON	8/6/2021 6:30 PM	0.114	0.226	0.340	bl	355 273	1 002 470	92 985	1.0736	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
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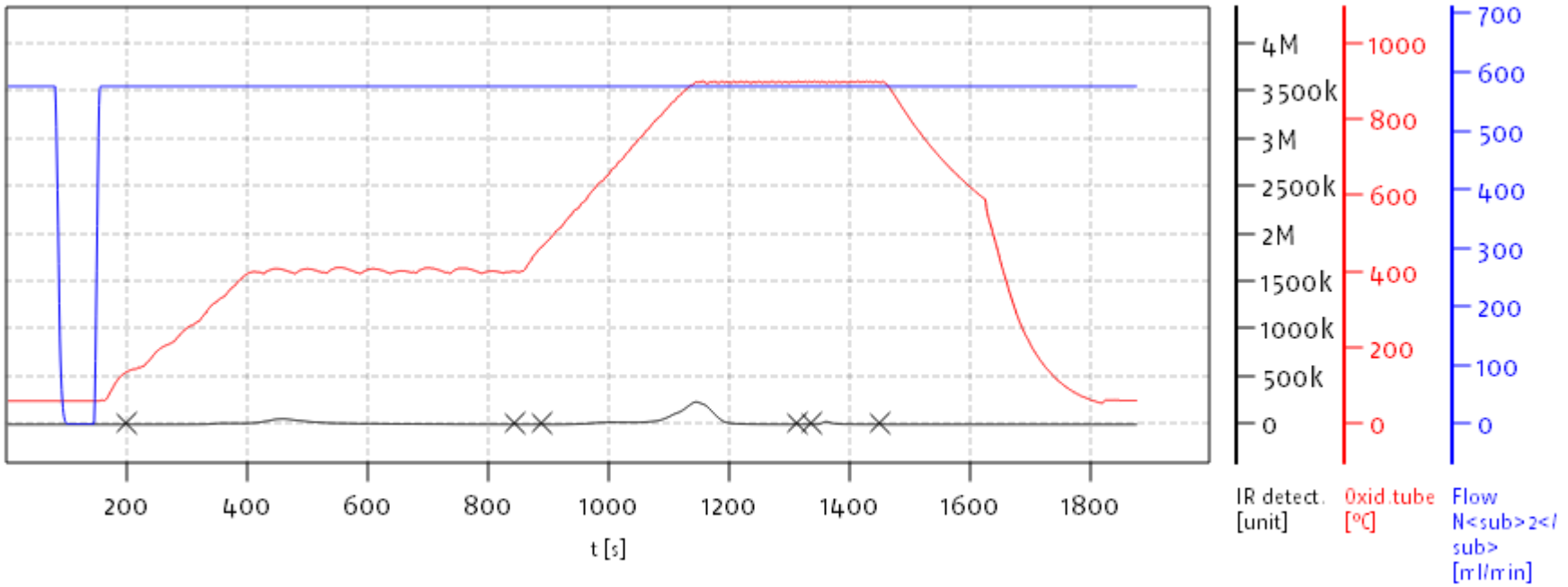
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	47	21G0246-10	522.70		1.00	CARBON	8/6/2021 7:02 PM	0.101	0.207	0.308	bl	258 567	683 775	24 055	1.0736	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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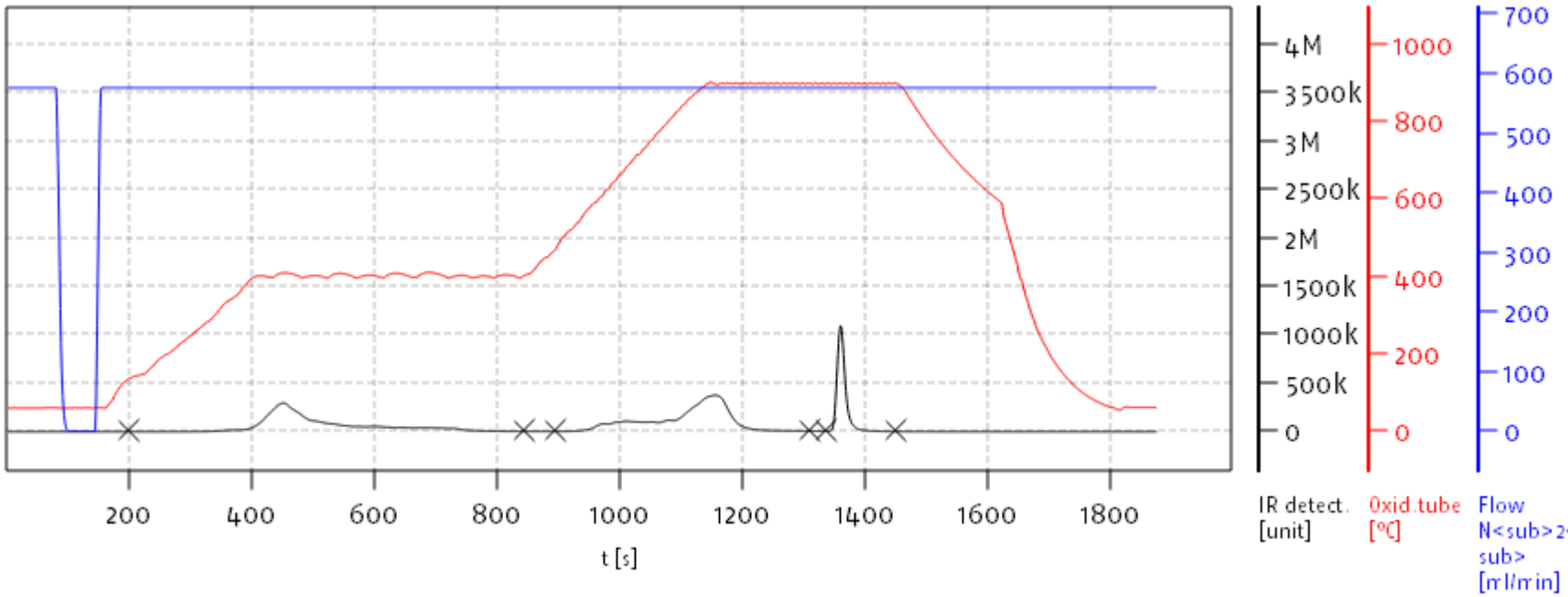
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	48	21G0246-11	570.80		1.00	CARBON	8/6/2021 7:33 PM	0.541	0.428	0.969	bl	1 230 490	1 565 580	646 077	1.0736	1.0000



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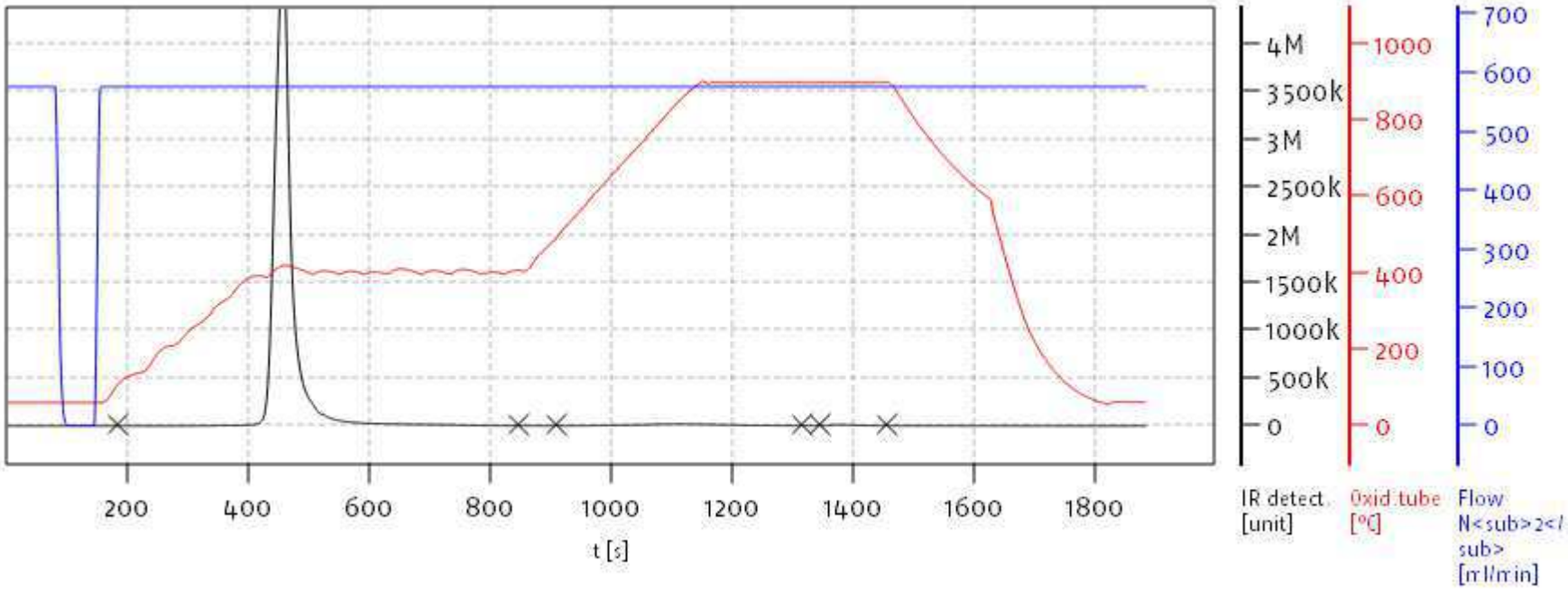
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	49	SJH0071-CCV1	21.60		1.00	CARBON	8/6/2021 8:05 PM	45.408	1.093	46.502	bl	5 873 510	134 014	24 206	1.0736	1.0000



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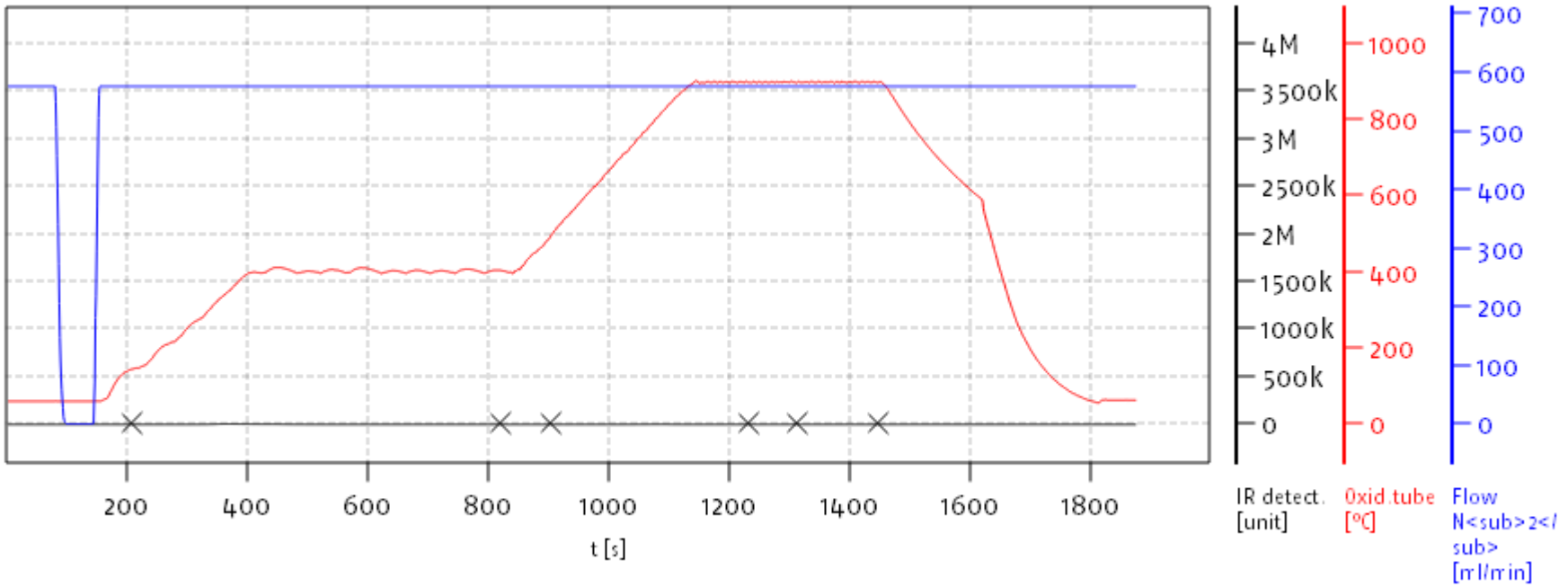
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	50	SJH0071-CCB1	549.50		1.00	CARBON	8/6/2021 8:37 PM	0.017	0.006	0.023	bl,C3u,C2u	18 689	3 640	652	1.0736	1.0000



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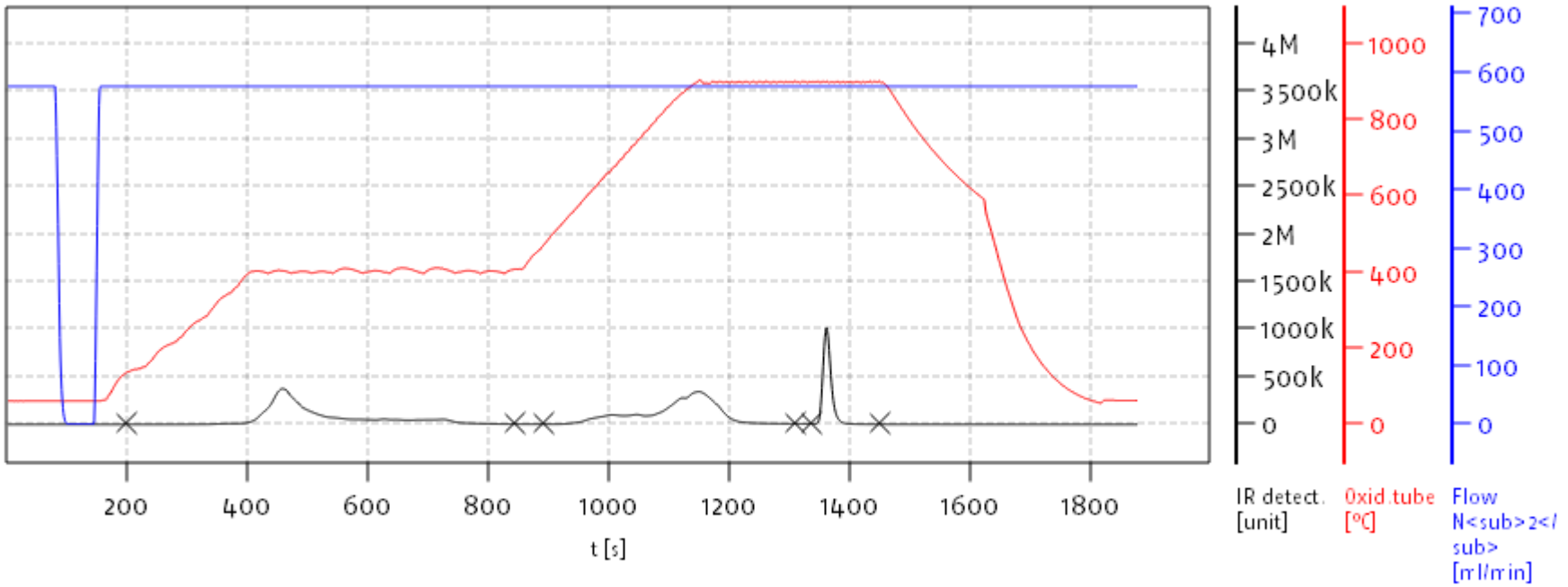
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	51	21G0246-12	518.70		1.00	CARBON	8/6/2021 9:08 PM	0.625	0.464	1.089	bl	1 369 420	1 543 490	596 289	1.0736	1.0000



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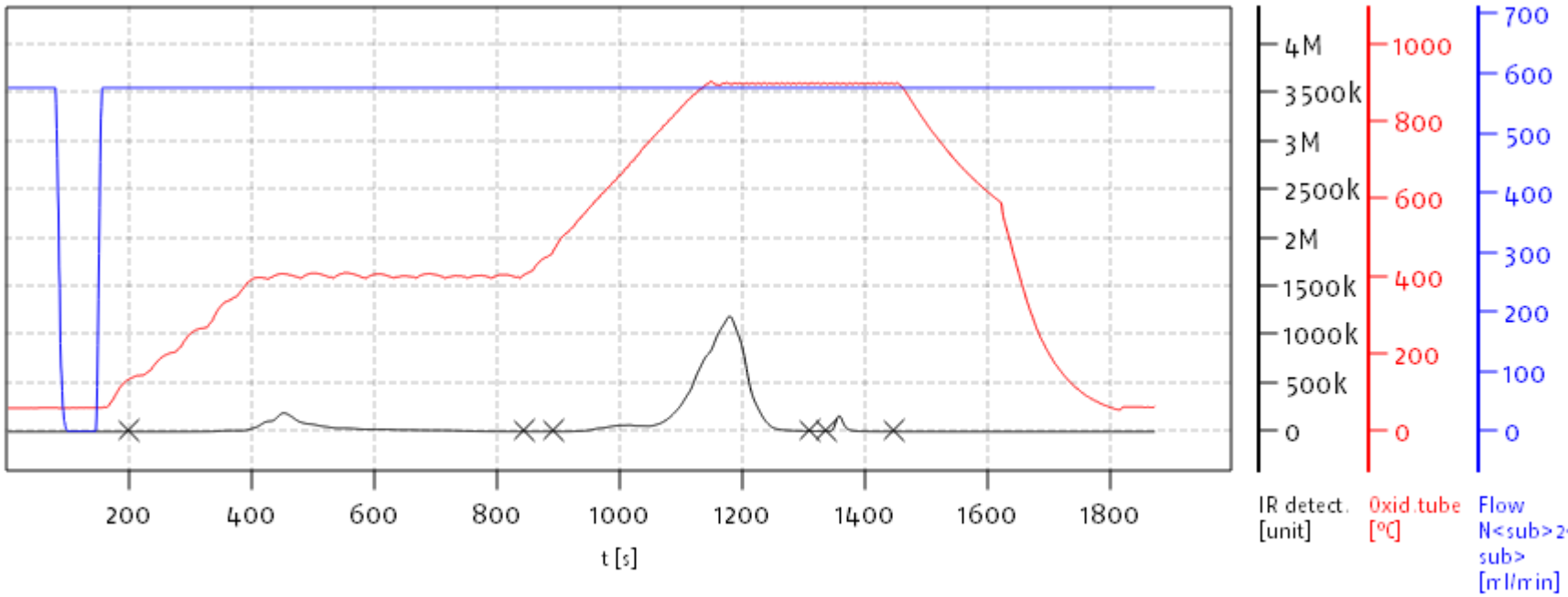
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	52	21G0246-13	531.40		1.00	CARBON	8/6/2021 9:40 PM	0.258	1.198	1.456	bl	696 884	4 115 250	101 756	1.0736	1.0000



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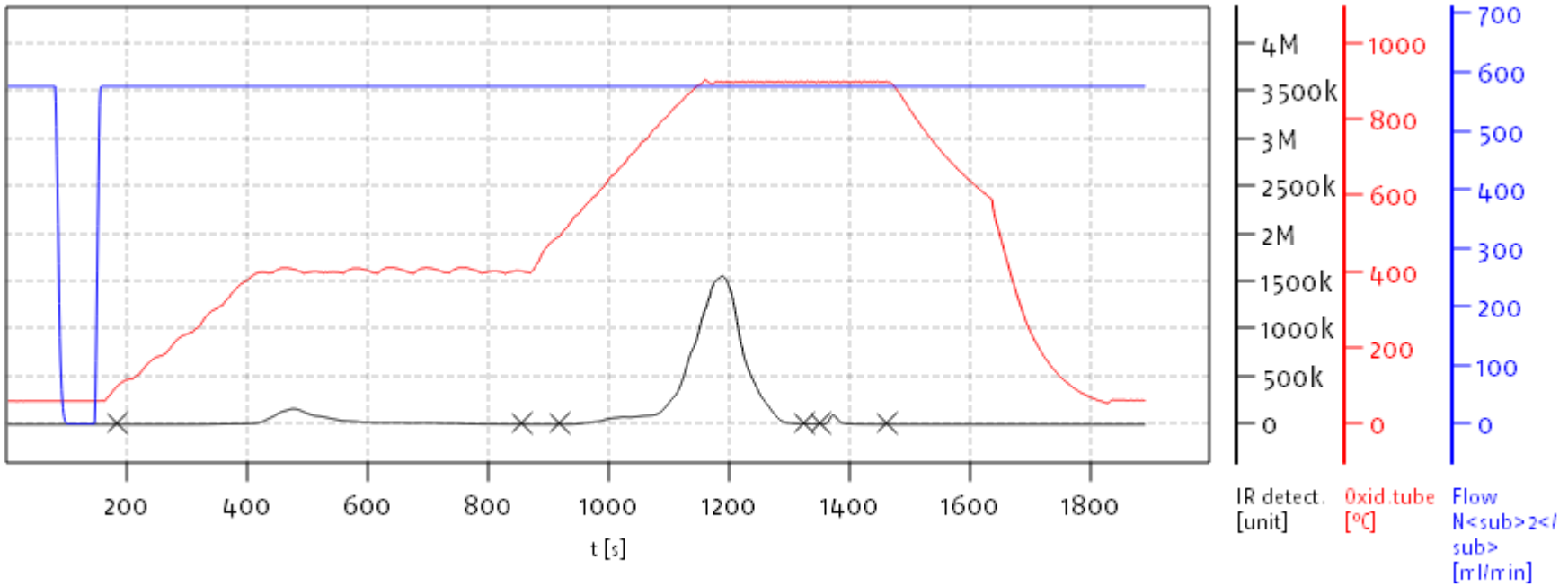
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	53	21G0246-14	552.40		1.00	CARBON	8/6/2021 10:12 PM	0.234	1.621	1.855	bl	683 505	5 795 380	65 874	1.0736	1.0000



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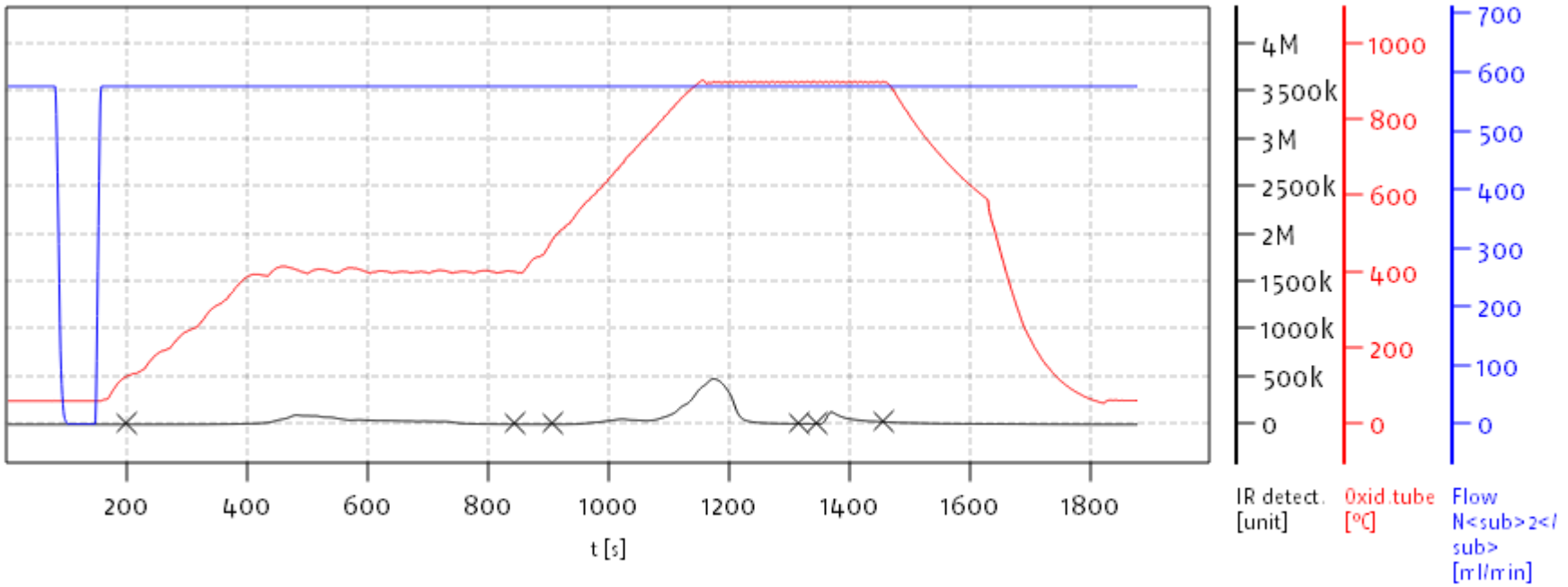
EXCELLENCE IN ELEMENTS

Document: 080621BF from: 8/9/2021 11:02 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	54	21G0246-15	530.70		1.00	CARBON	8/6/2021 10:44 PM	0.277	0.478	0.755	bl	641 710	1 627 230	226 610	1.0736	1.0000



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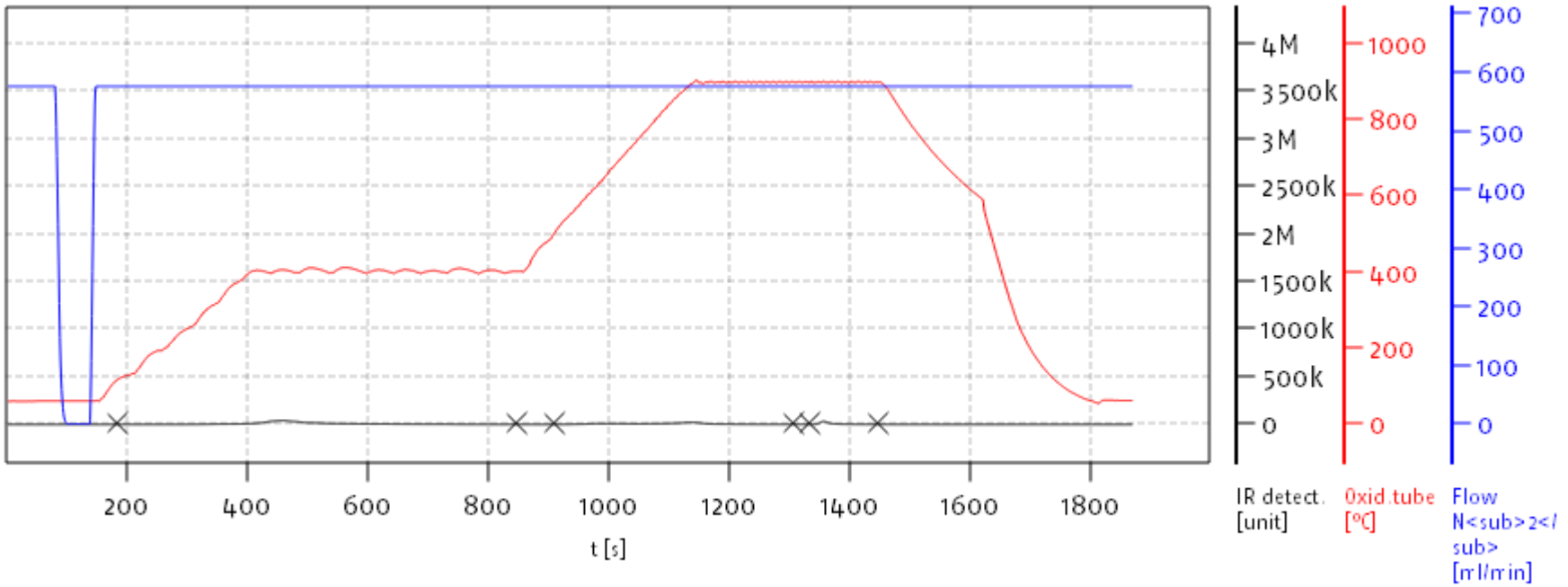
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	55	21G0246-16	523.30		1.00	CARBON	8/6/2021 11:15 PM	0.073	0.033	0.106	bl	169 875	92 908	25 200	1.0736	1.0000



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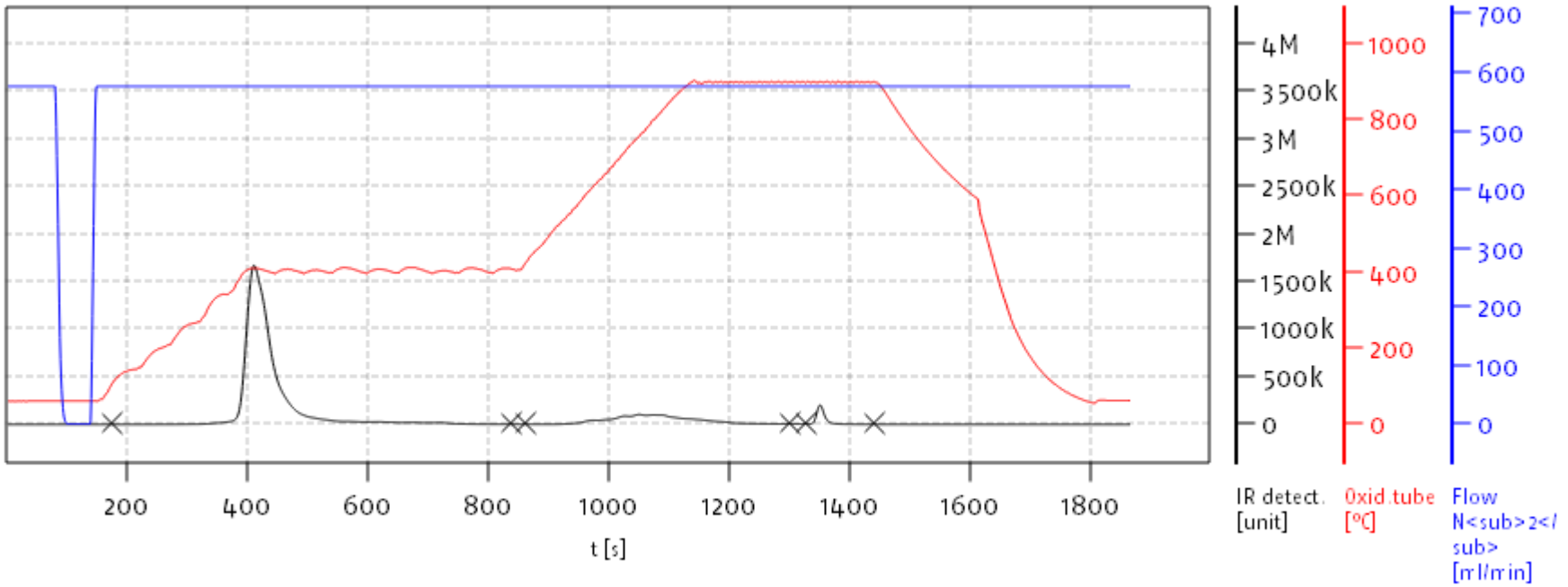
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	56	21G0272-01	502.90		1.00	CARBON	8/6/2021 11:47 PM	1.112	0.200	1.312	bl	3 233 200	633 498	121 660	1.0736	1.0000



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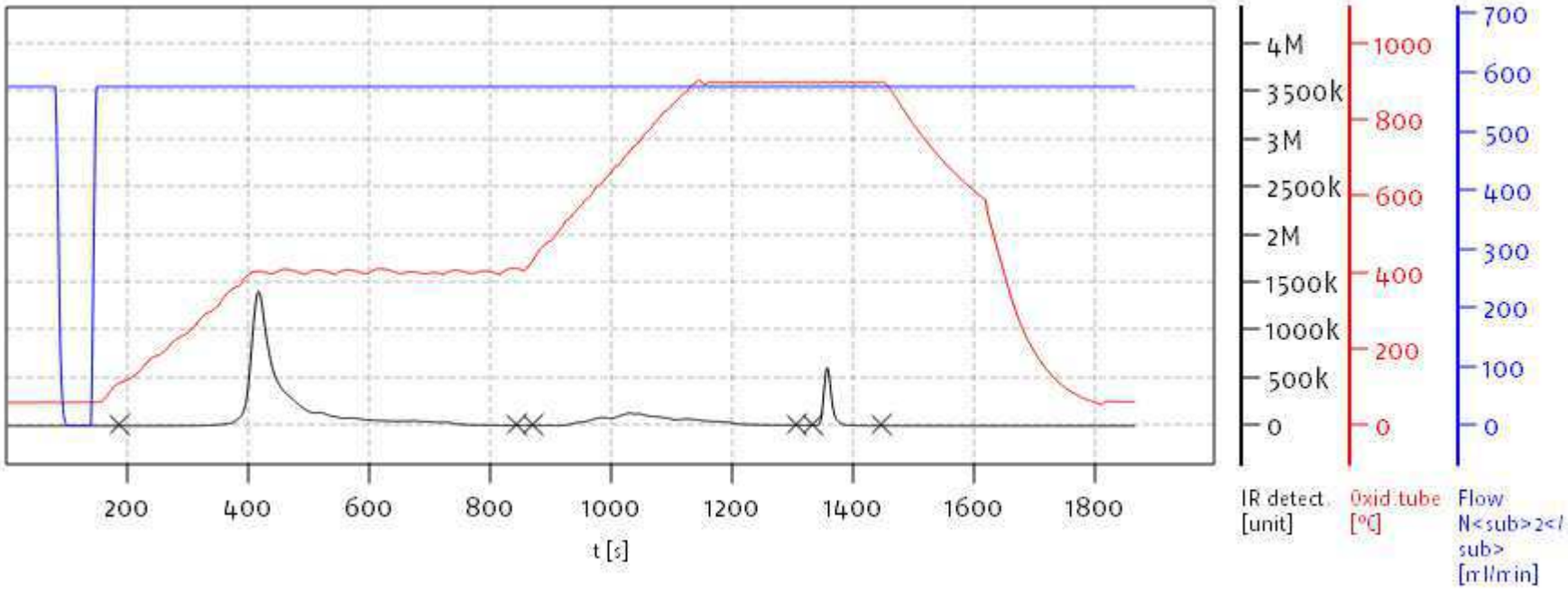
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	57	BJH0059-DUP2	538.70		1.00	CARBON	8/7/2021 12:18 AM	1.041	0.238	1.279	bl	3 031 180	812 038	349 287	1.0736	1.0000



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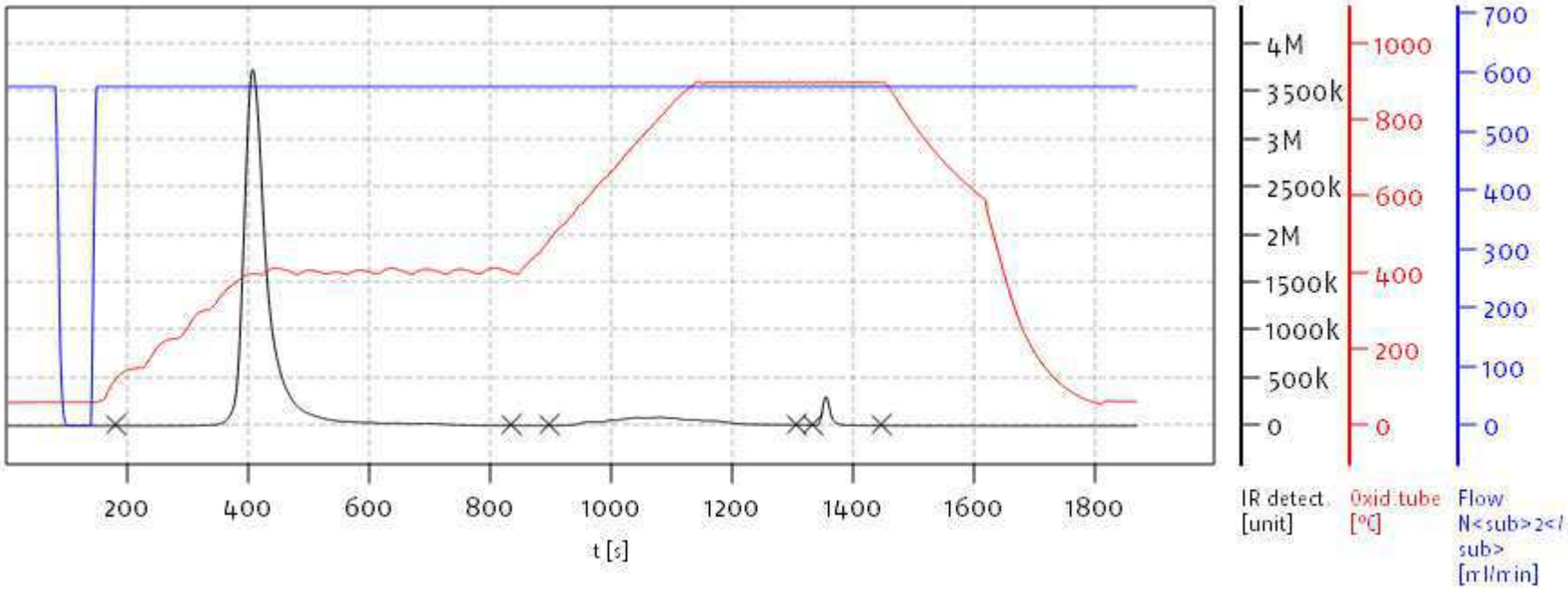
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	58	BJH0059-MS2	524.40	0.0117	1.00	CARBON	8/7/2021 12:50 AM	2.093	0.200	2.293	bl	6 429 700	663 314	185 294	1.0736	1.0000



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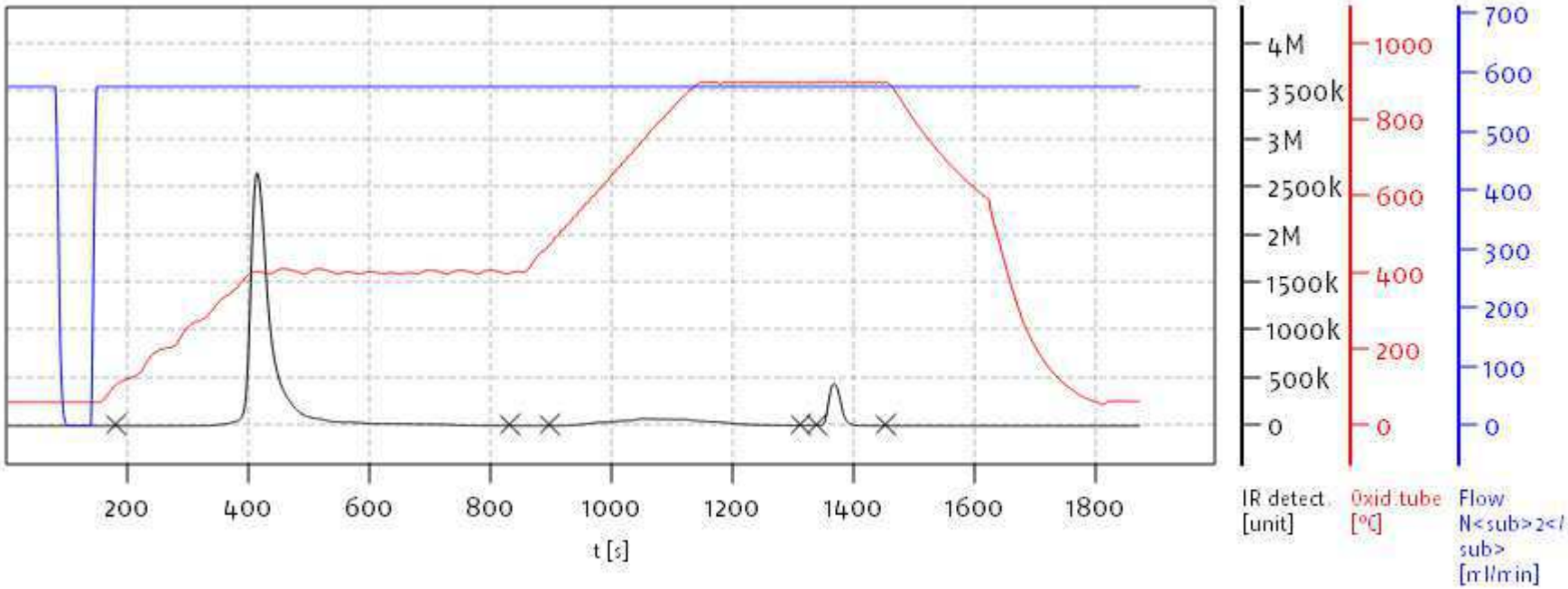
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	59	21G0272-02	519.80		1.00	CARBON	8/7/2021 1:21 AM	1.368	0.165	1.533	bl	3 909 230	536 276	382 502	1.0736	1.0000



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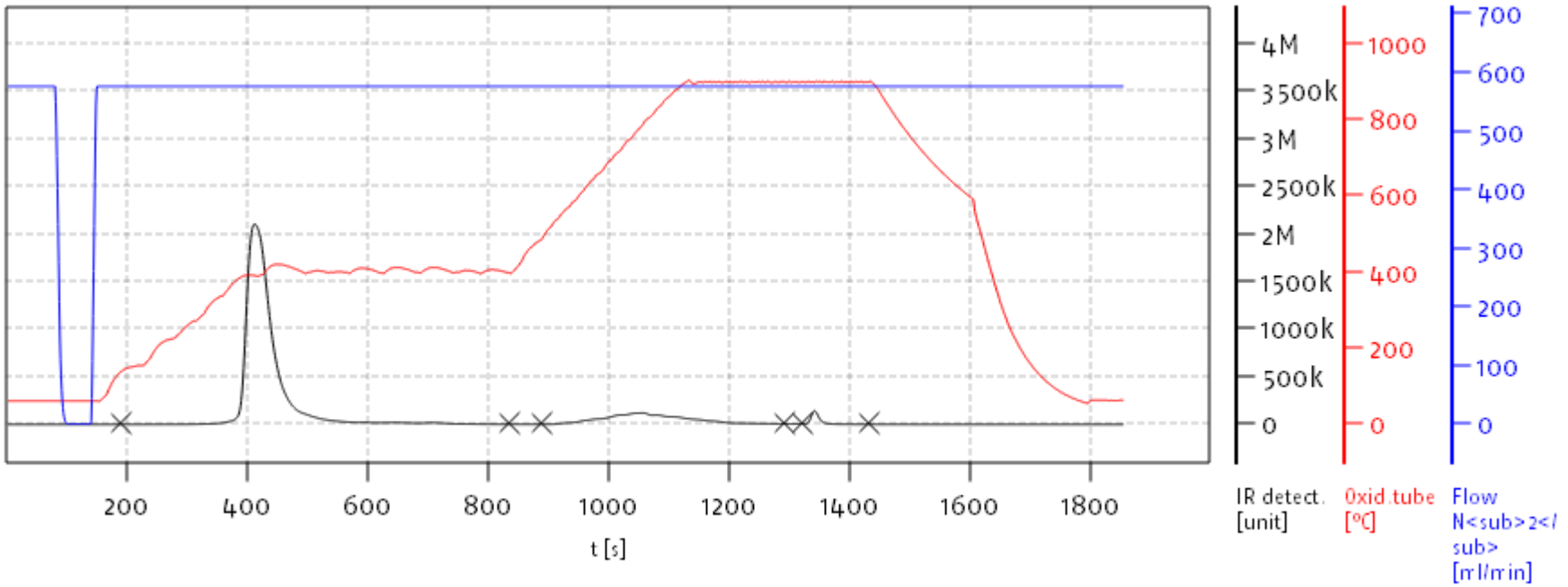
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	60	21G0272-03	647.70		1.00	CARBON	8/7/2021 1:53 AM	1.048	0.176	1.224	bl	3 987 560	721 676	88 507	1.0736	1.0000



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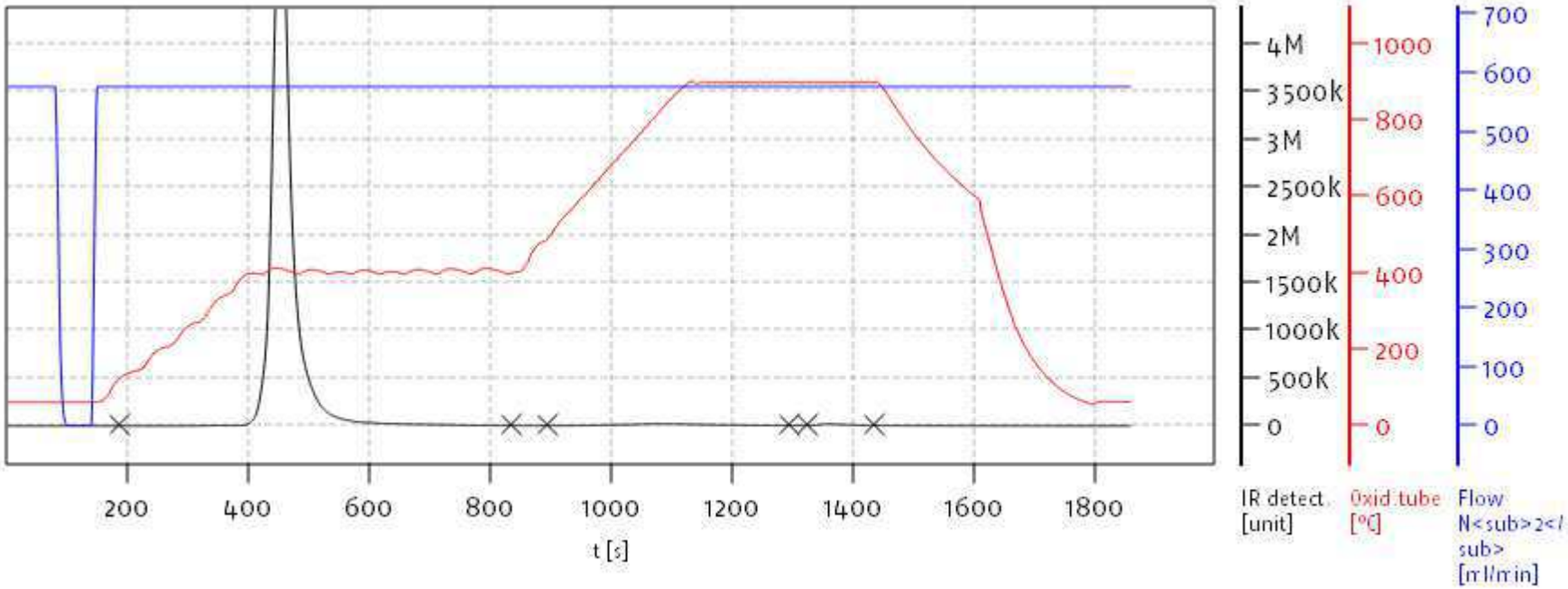
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	61	SJH0071-CCV2	29.60		1.00	CARBON	8/7/2021 2:24 AM	44.933	0.898	45.832	bl	7 969 450	153 335	41 965	1.0736	1.0000



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Access: soliTOC superuser

Date: Mon Aug 9 12:29:09 2021

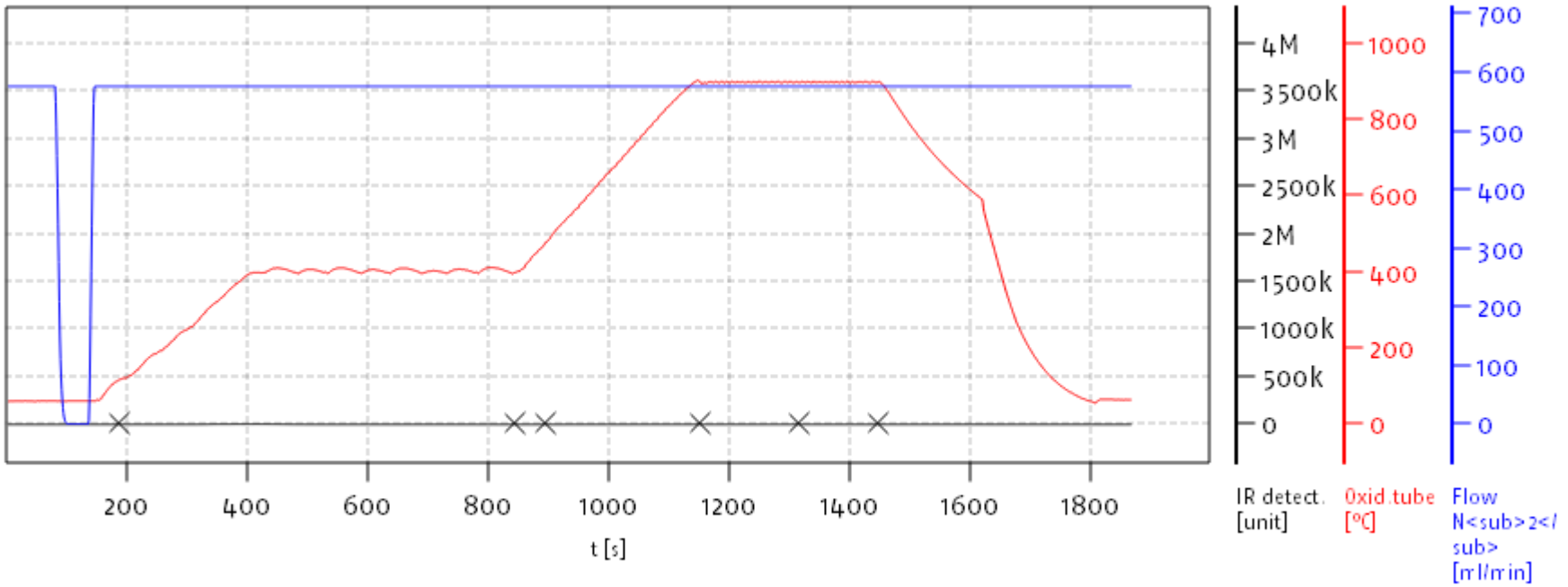
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	62	SJH0071-CCB2	574.20		1.00	CARBON	8/7/2021 2:56 AM	0.016	0.006	0.021	bl,C3u,C2u	17 208	1 254	675	1.0736	1.0000



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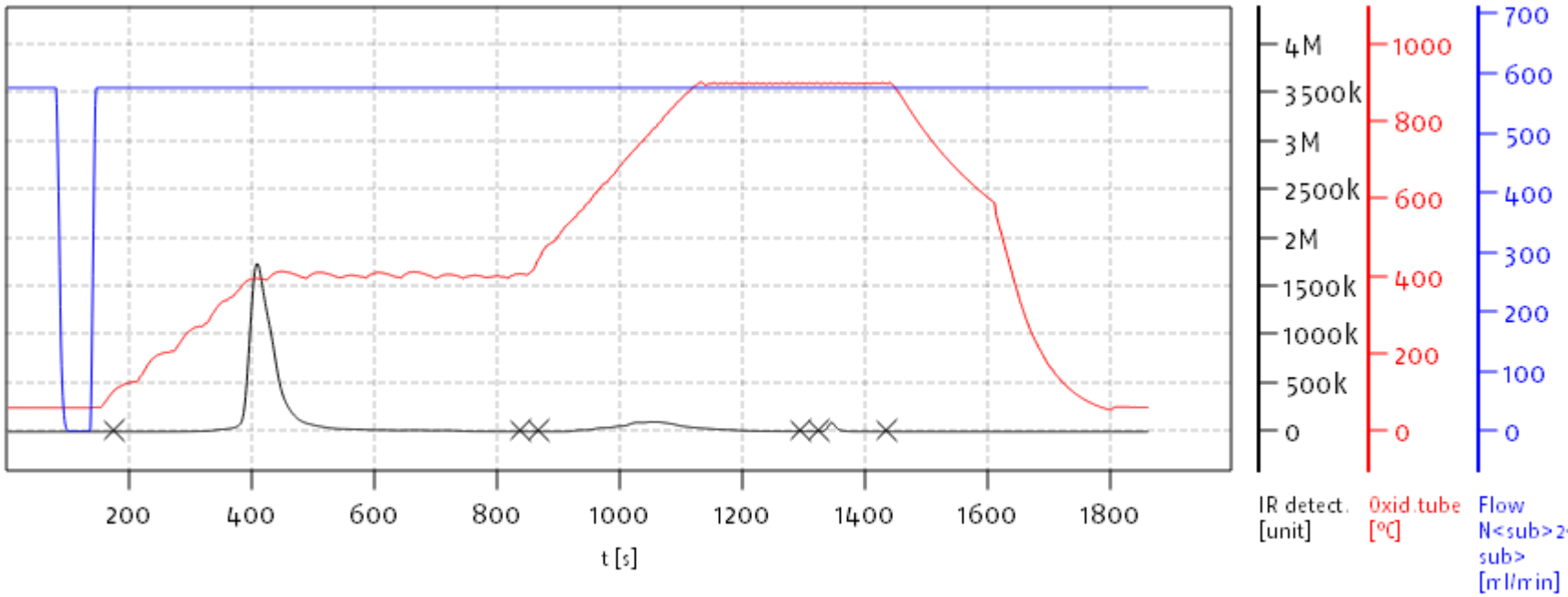
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	63	21G0272-04	574.50		1.00	CARBON	8/7/2021 3:27 AM	0.925	0.151	1.076	bl	3 123 950	544 061	58 500	1.0736	1.0000



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Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
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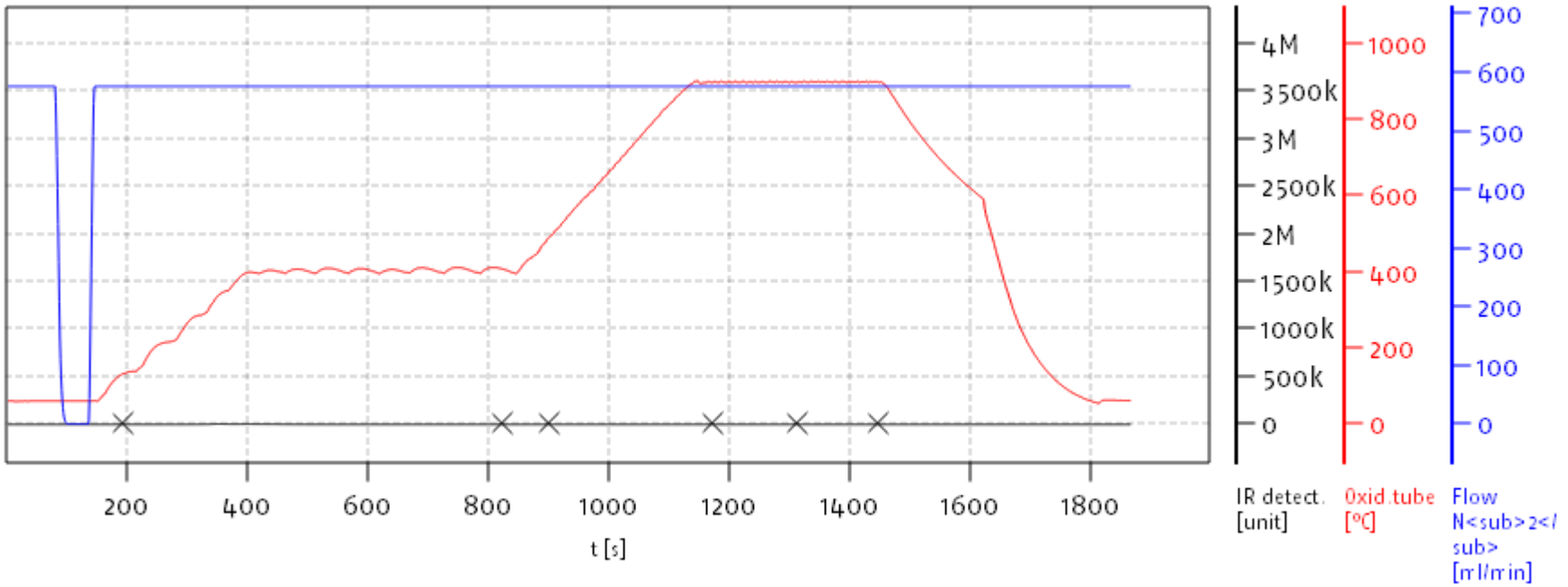
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	64	BJH0060-MRL1	516.30		1.00	CARBON	8/7/2021 3:59 AM	0.018	0.006	0.024	bl,C3u,C2u	19 644	1 049	458	1.0736	1.0000



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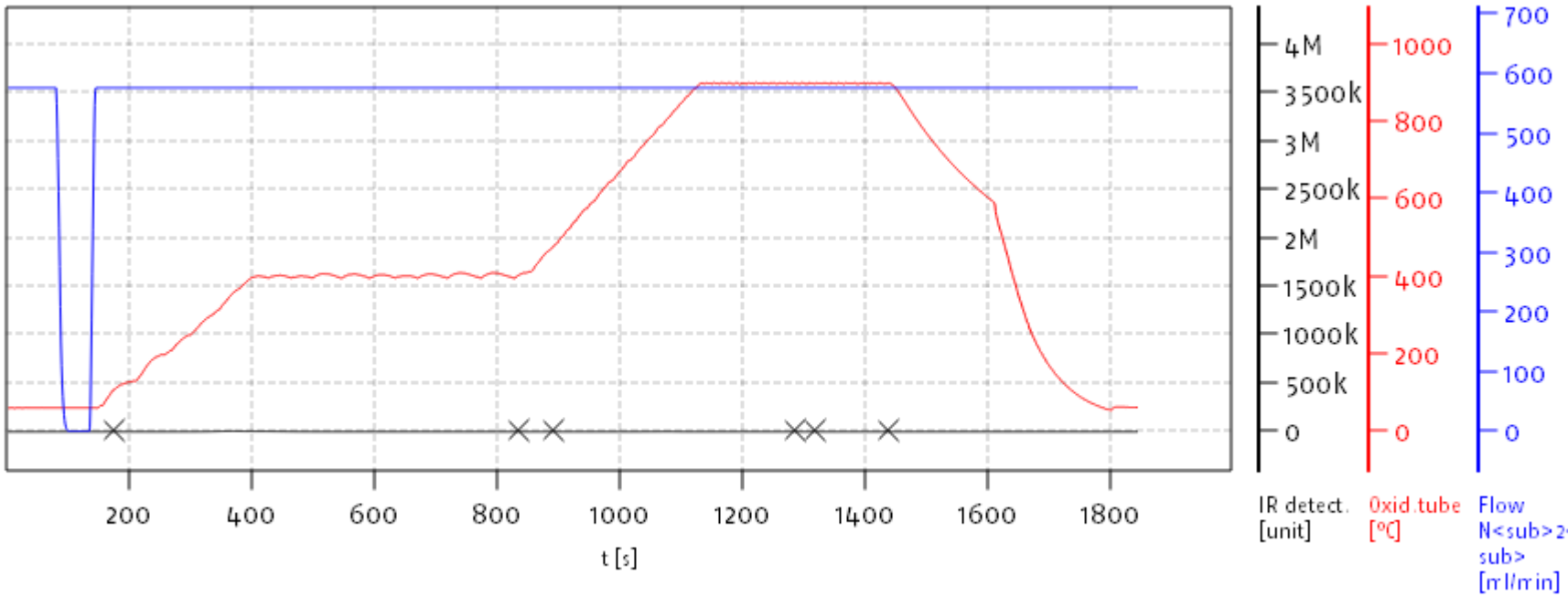
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
32	65	BJH0060-BLK1	619.40		1.00	CARBON	8/7/2021 4:30 AM	0.016	0.006	0.022	bl,C3u,C2u	23 806	4 219	372	1.0736	1.0000



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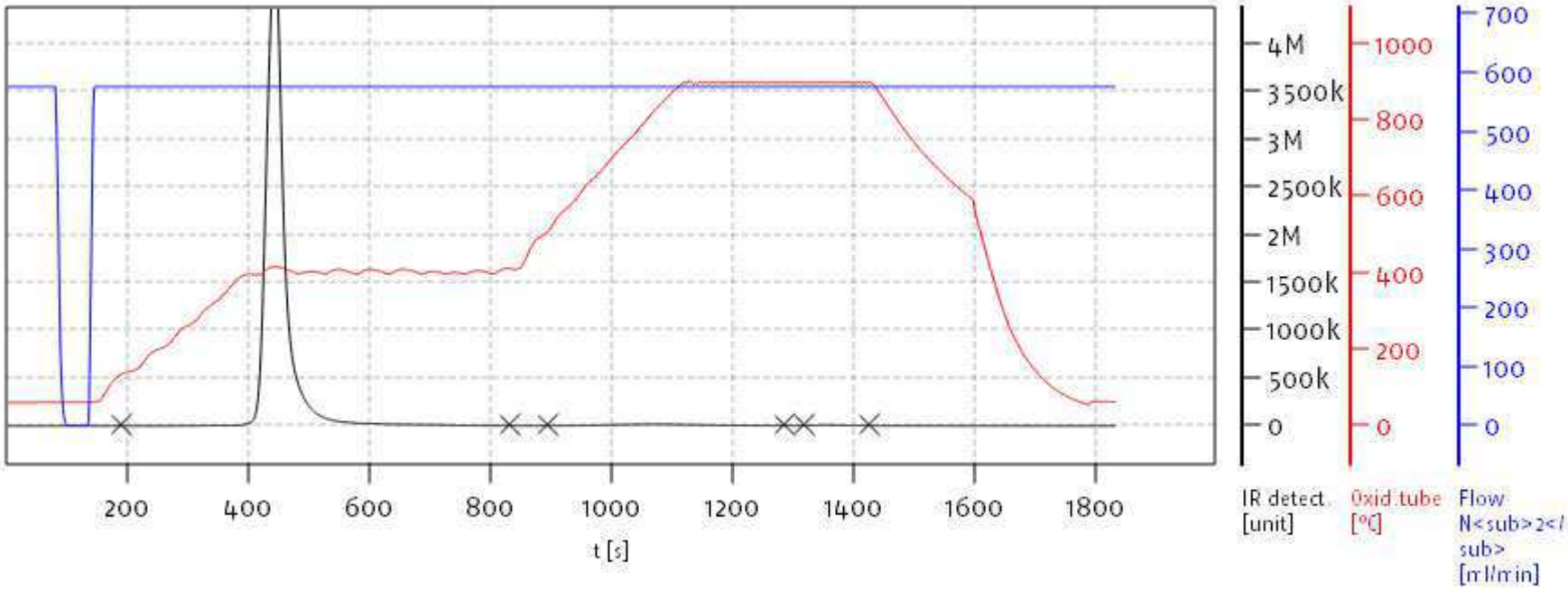
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
33	66	BJH0060-BS1	23.60		1.00	CARBON	8/7/2021 5:01 AM	45.238	0.925	46.163	bl	6 400 020	122 474	22 614	1.0736	1.0000



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Balance: BAL3
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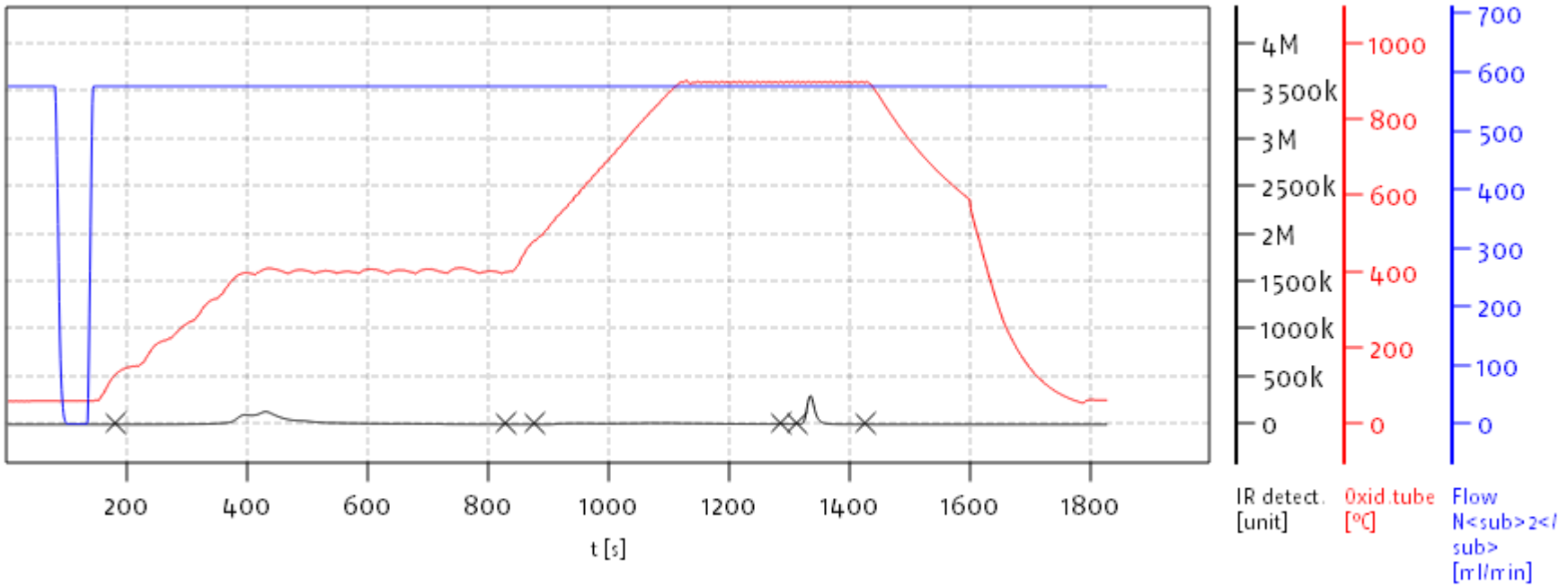
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
34	67	BJH0060-SRM1	40.80		1.00	CARBON	8/7/2021 5:31 AM	2.853	0.543	3.396	bl	499 626	124 517	179 570	1.0736	1.0000



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Balance: BAL3
Analyst: BF

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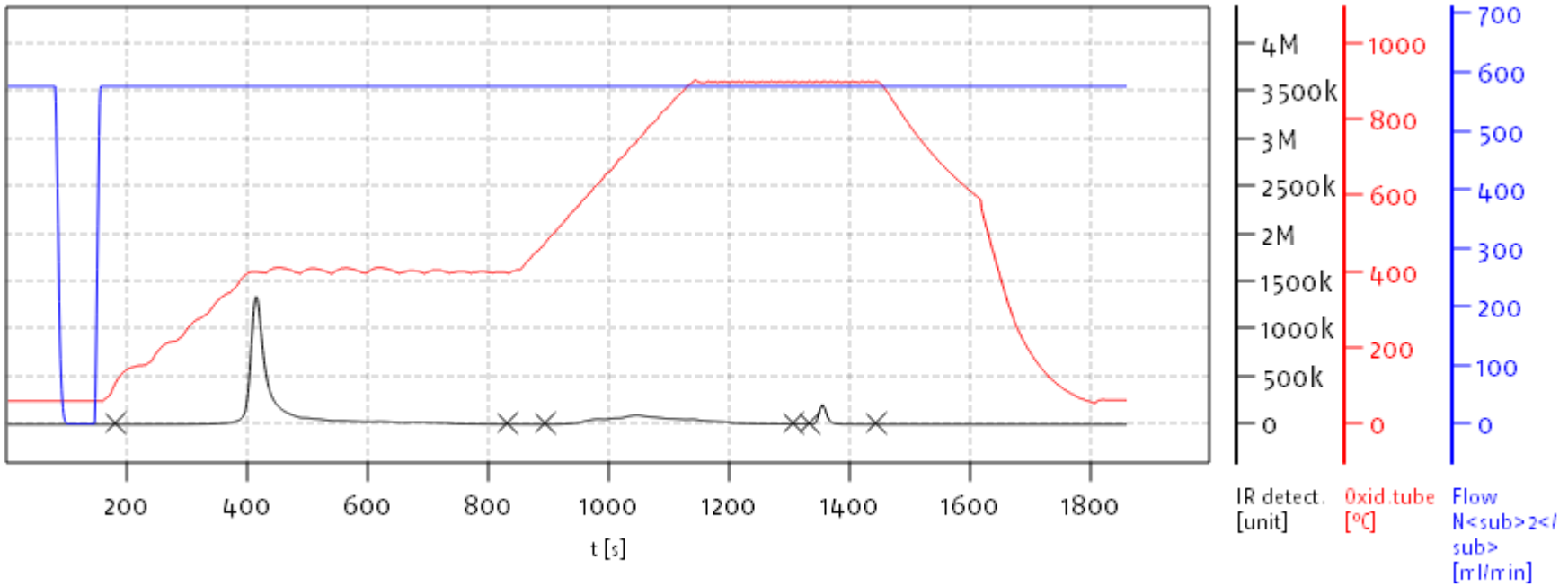
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
35	68	21G0282-01	504.80		1.00	CARBON	8/7/2021 6:03 AM	0.665	0.184	0.848	bl	1 879 550	582 622	121 064	1.0736	1.0000



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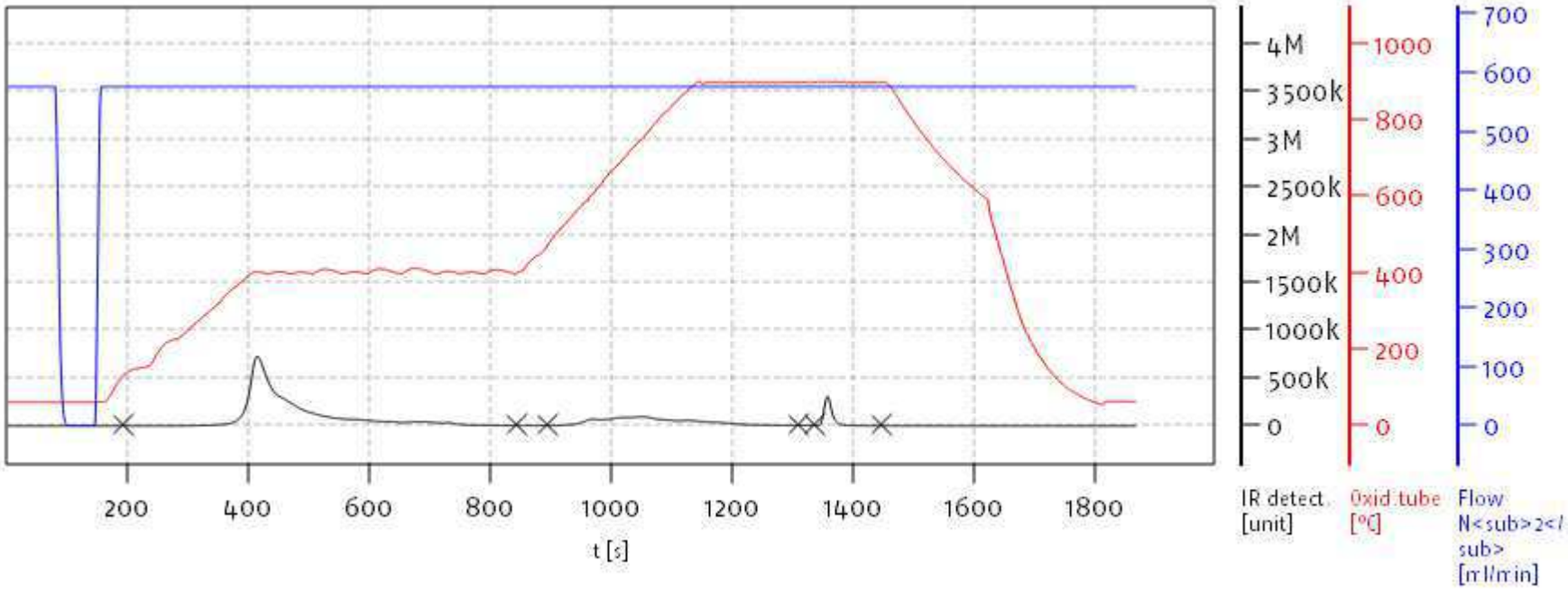
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
36	69	BJH0060-DUP1	553.50		1.00	CARBON	8/7/2021 6:34 AM	0.684	0.186	0.870	bl	2 083 720	648 843	180 837	1.0736	1.0000



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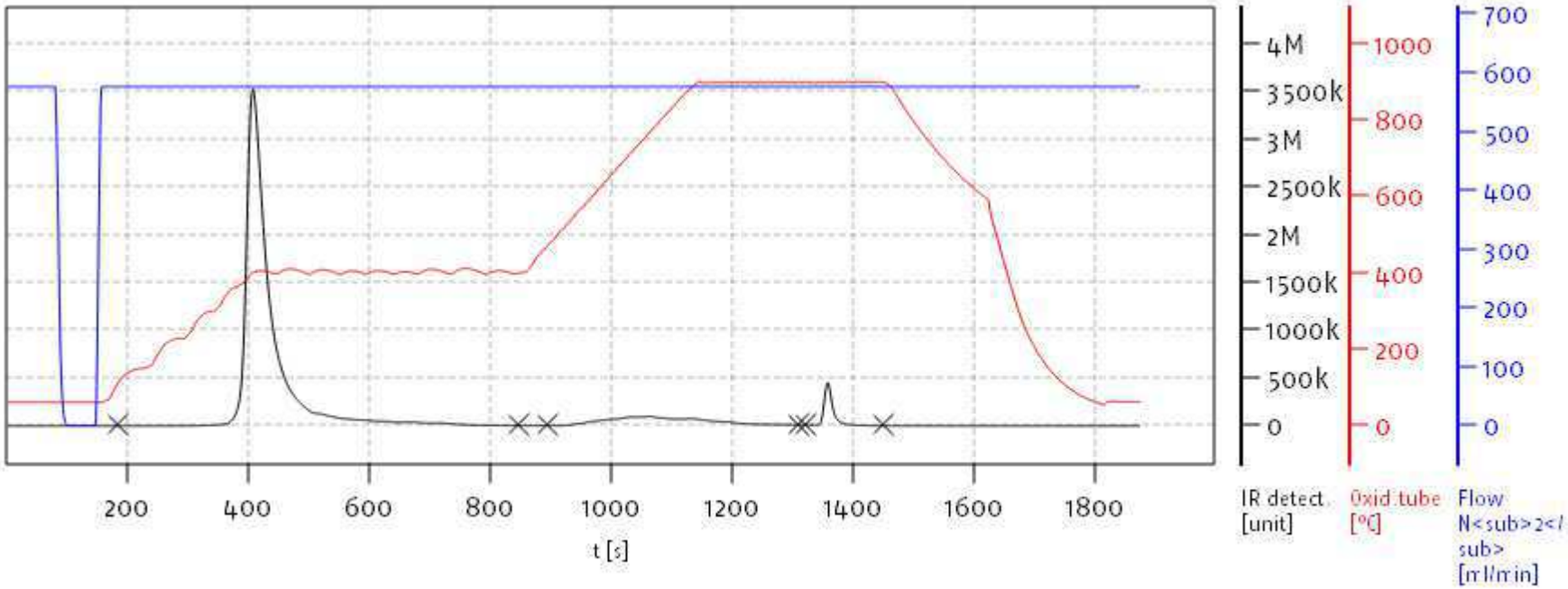
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
37	70	BJH0060-MS1	529.90	0.0148	1.00	CARBON	8/7/2021 7:06 AM	1.948	0.217	2.165	bl	5 933 980	726 438	292 557	1.0736	1.0000



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Balance: BAL3
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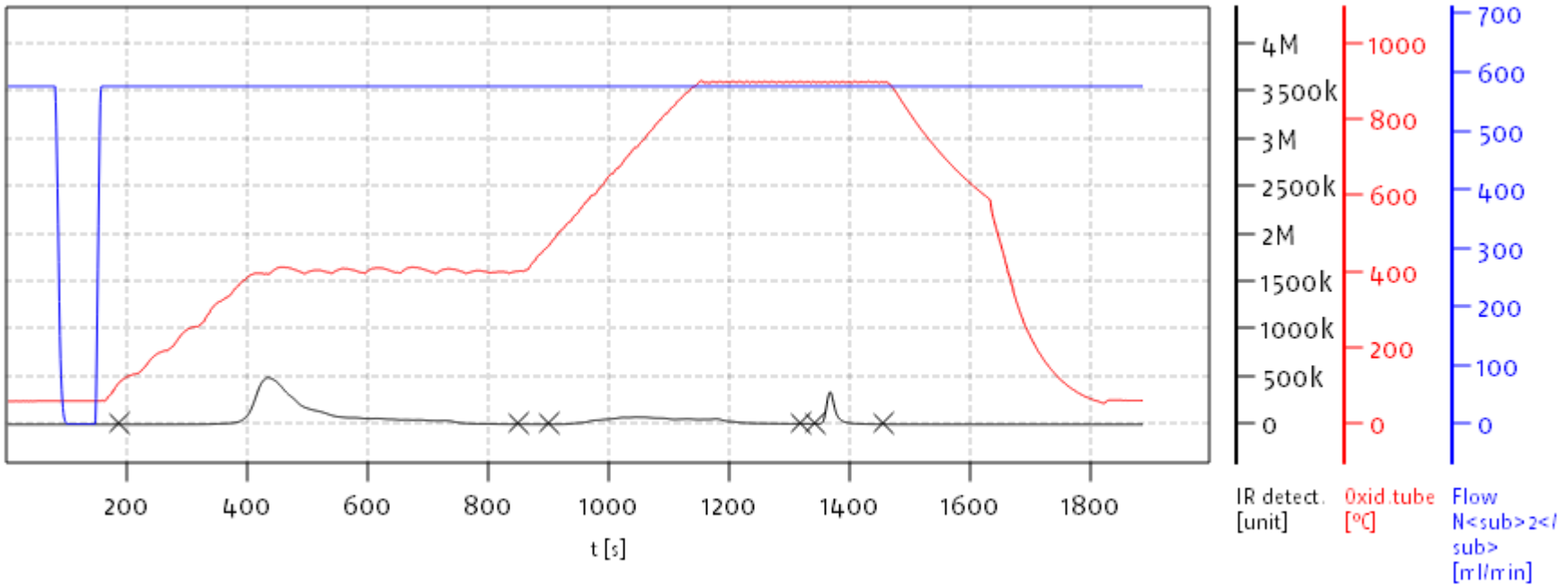
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
38	71	21G0282-02	527.10		1.00	CARBON	8/7/2021 7:38 AM	0.685	0.178	0.863	bl	1 934 310	590 872	226 835	1.0736	1.0000



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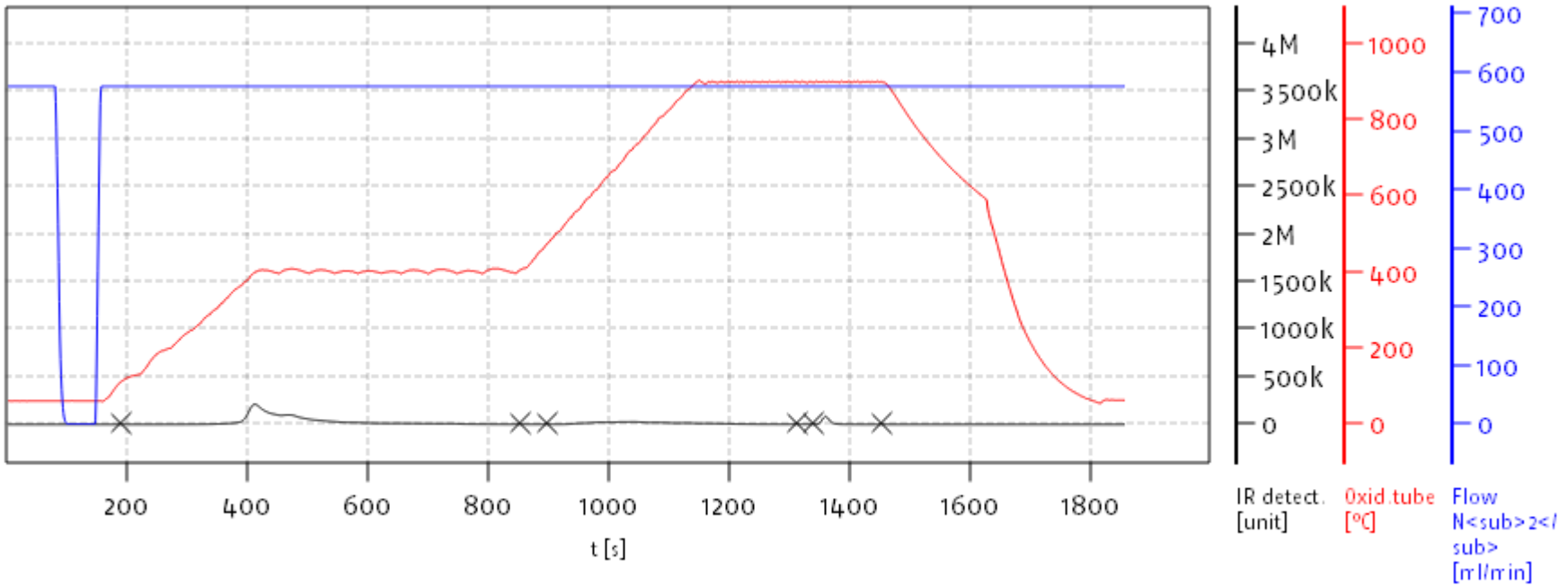
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
39	72	21G0282-03	278.30		1.00	CARBON	8/7/2021 8:09 AM	0.449	0.111	0.560	bl	673 335	181 662	47 756	1.0736	1.0000



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Date: Mon Aug 9 12:29:09 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

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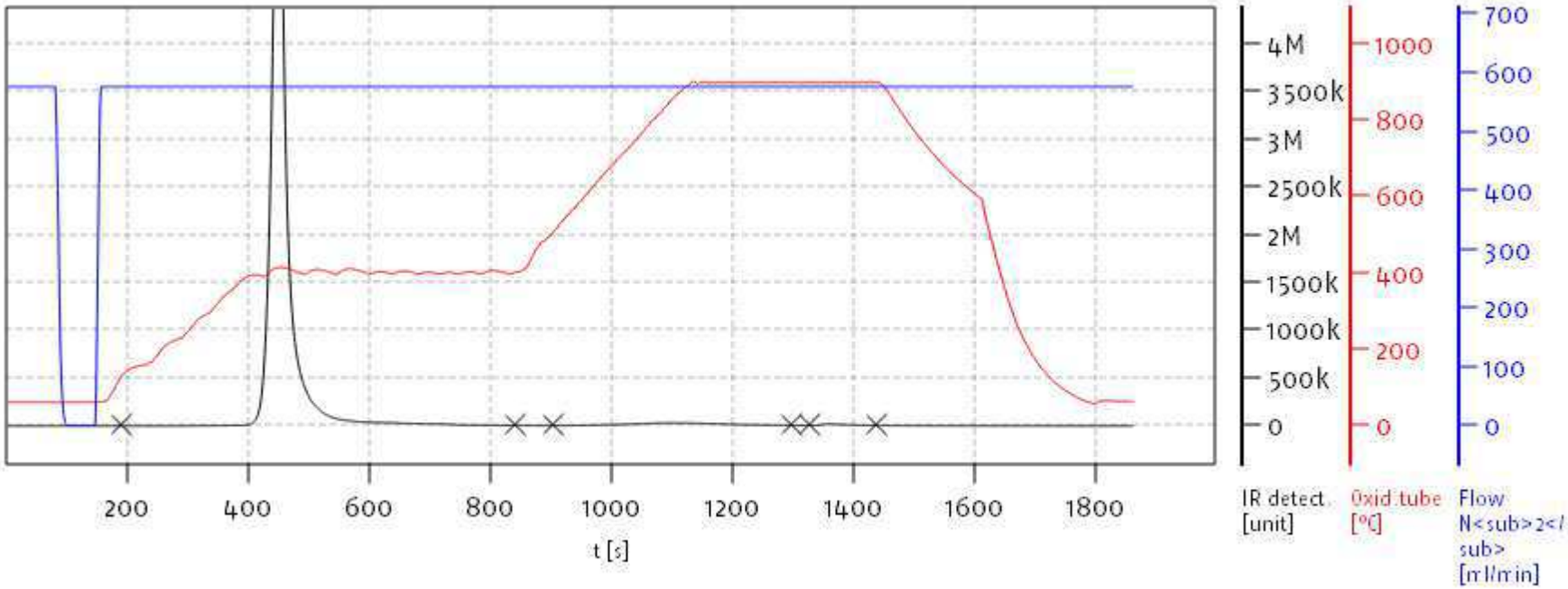
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
40	73	SJH0071-CCV3	28.40		1.00	CARBON	8/7/2021 8:41 AM	44.090	1.366	45.455	bl	7 498 430	232 535	41 847	1.0736	1.0000



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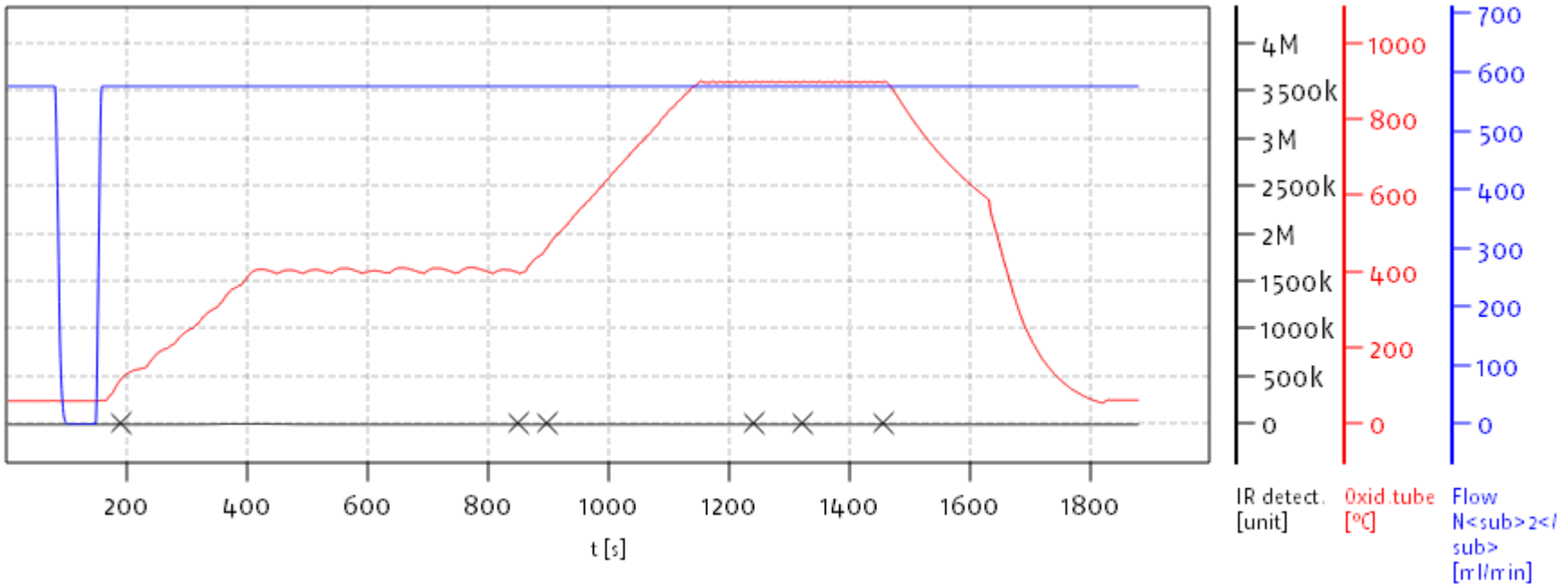
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
41	74	SJH0071-CCB3	526.30		1.00	CARBON	8/7/2021 9:12 AM	0.020	0.006	0.026	bl,C3u,C2u	26 170	2 358	672	1.0736	1.0000



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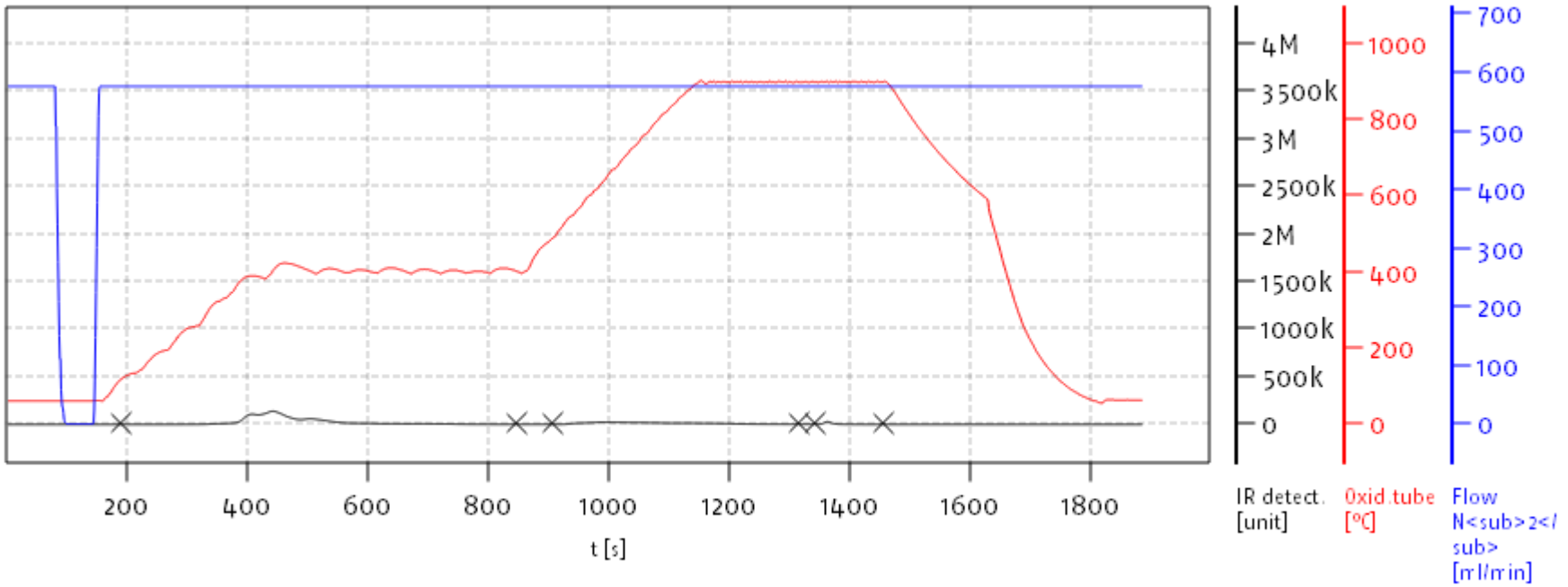
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
42	75	21G0282-04	315.30		1.00	CARBON	8/7/2021 9:44 AM	0.324	0.096	0.421	bl	563 799	177 636	18 886	1.0736	1.0000



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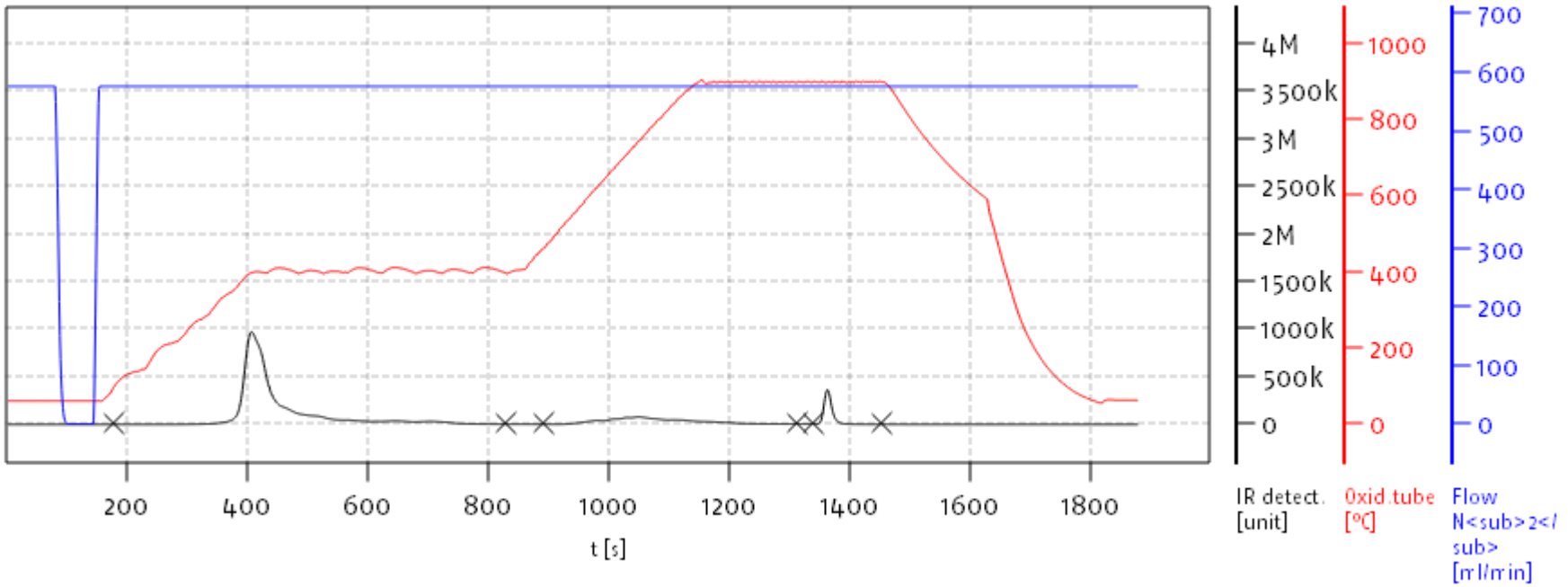
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
43	76	21G0282-05	288.80		1.00	CARBON	8/7/2021 10:16 AM	1.373	0.260	1.633	bl	2 165 090	468 339	210 827	1.0736	1.0000



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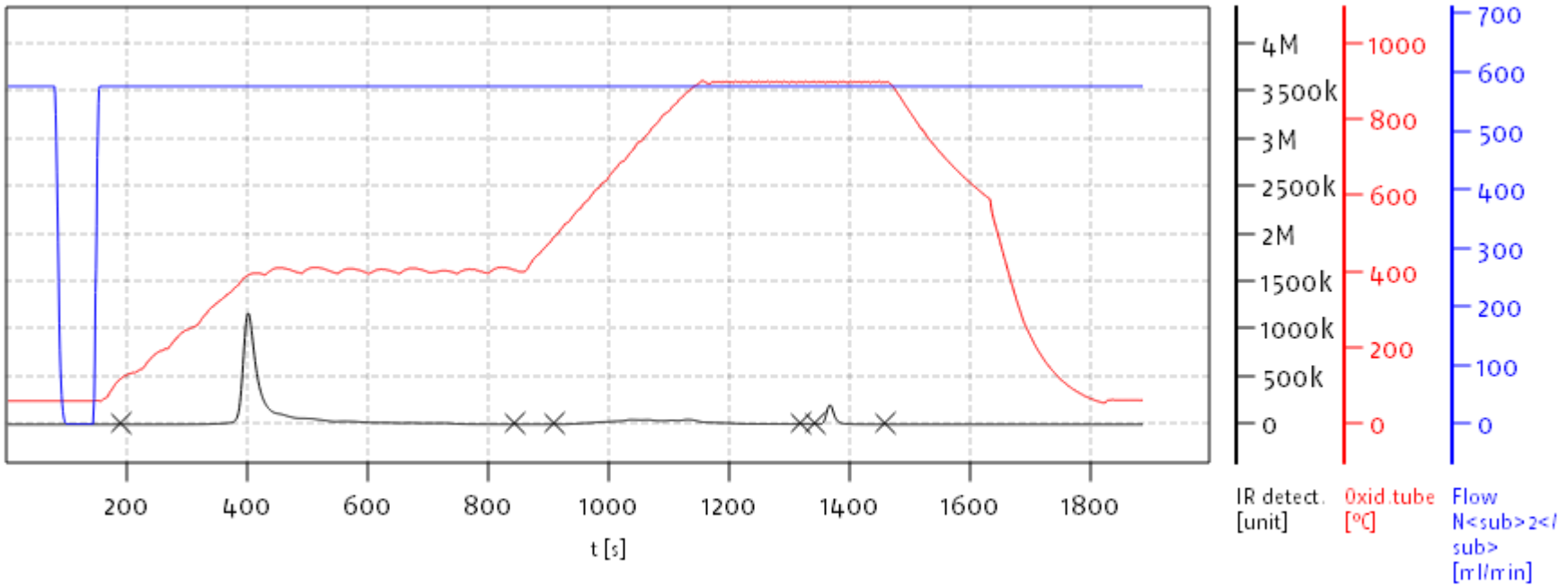
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
44	77	21G0282-06	210.10		1.00	CARBON	8/7/2021 10:48 AM	1.374	0.263	1.637	bl	1 597 390	339 649	119 676	1.0736	1.0000



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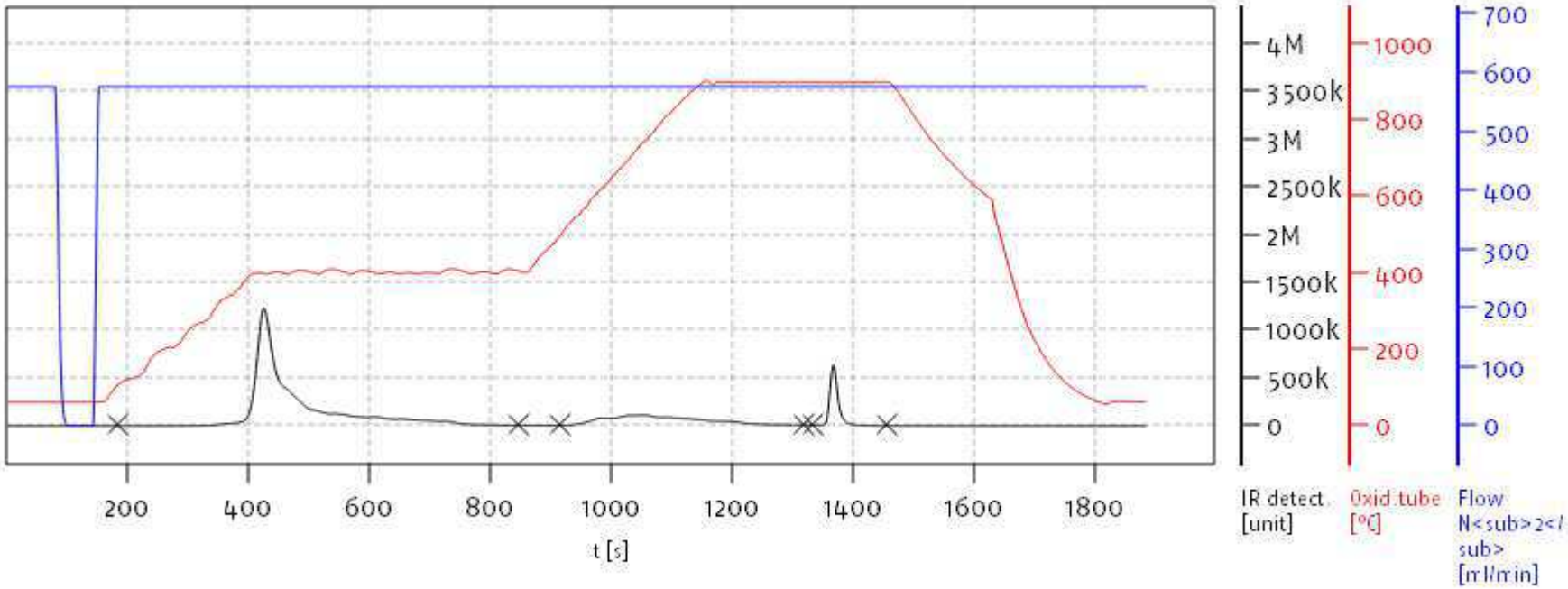
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
45	78	21G0283-01	546.60		1.00	CARBON	8/7/2021 11:20 AM	1.001	0.238	1.239	bl	2 913 520	823 981	385 764	1.0736	1.0000



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Balance: BAL3
Analyst: BF

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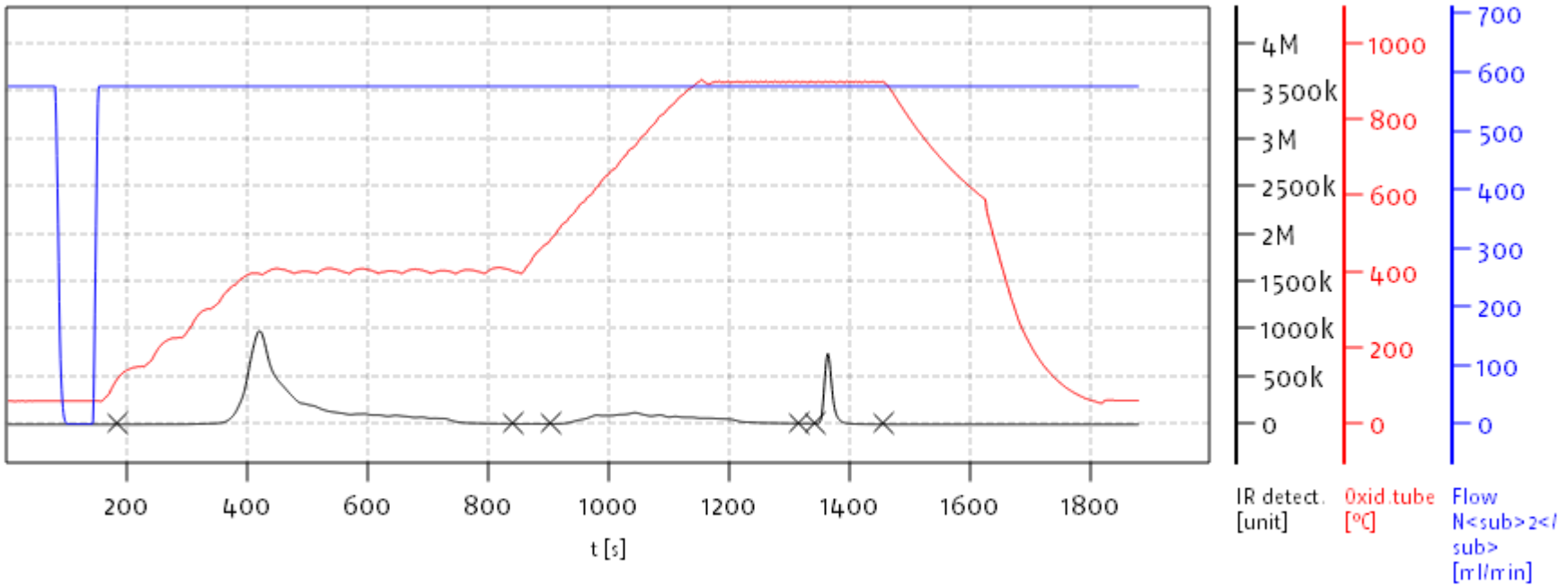
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
46	79	BJH0060-DUP2	593.50		1.00	CARBON	8/7/2021 11:51 AM	1.018	0.239	1.258	bl	3 219 840	903 775	427 881	1.0736	1.0000



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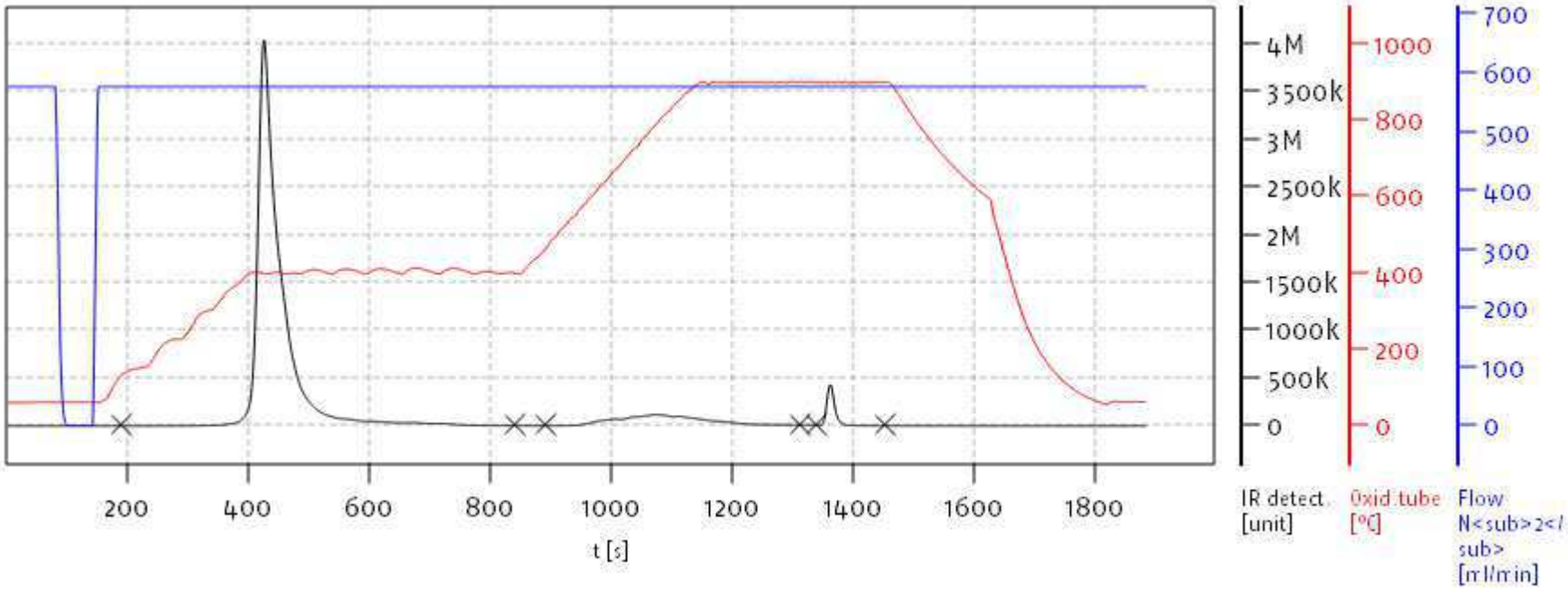
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
47	80	BJH0060-MS2	546.30	0.0115	1.00	CARBON	8/7/2021 12:23 PM	2.034	0.220	2.254	bl	6 447 910	762 761	252 459	1.0736	1.0000



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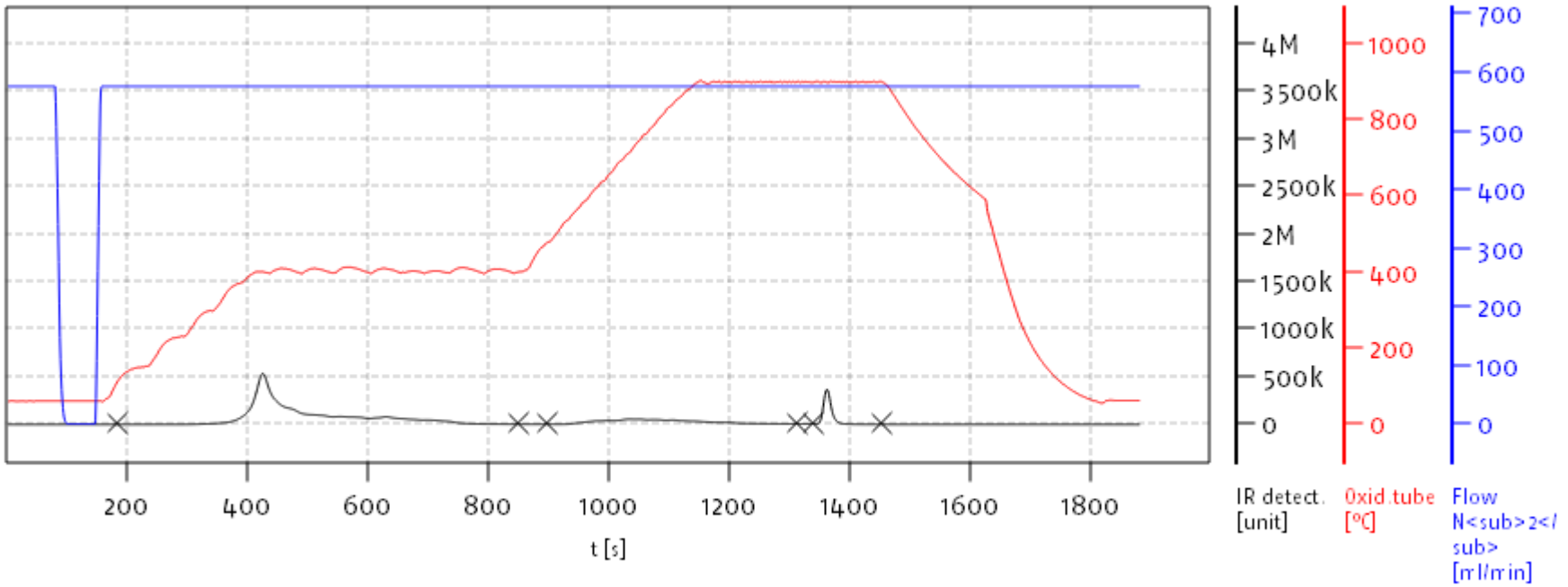
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
48	81	21G0283-02	329.90		1.00	CARBON	8/7/2021 12:55 PM	0.948	0.197	1.145	bl	1 656 050	403 696	212 354	1.0736	1.0000



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Access: soliTOC superuser

Date: Mon Aug 9 12:29:09 2021

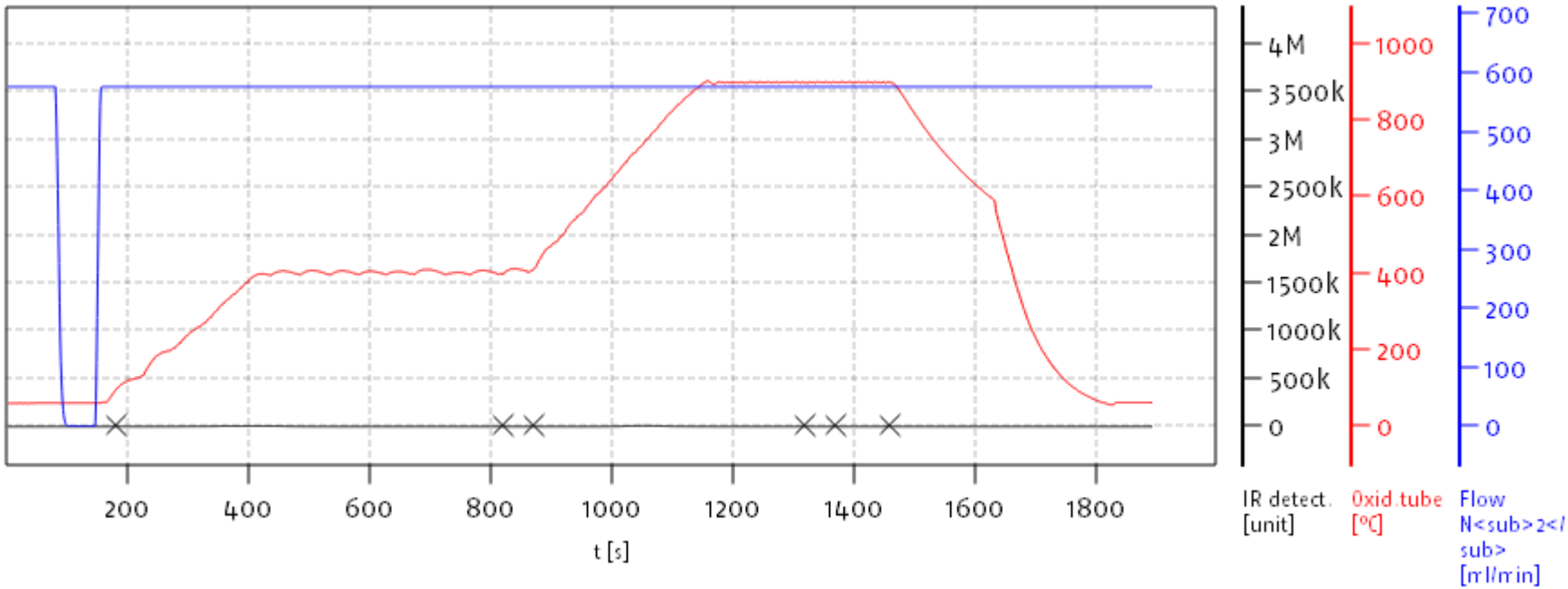
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
49	82	BLANK	1.00		1.00	CARBON	8/7/2021 1:27 PM	0.000	0.000	0.000	bl	30 808	25 012	337	1.0736	1.0000



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Mode CCC

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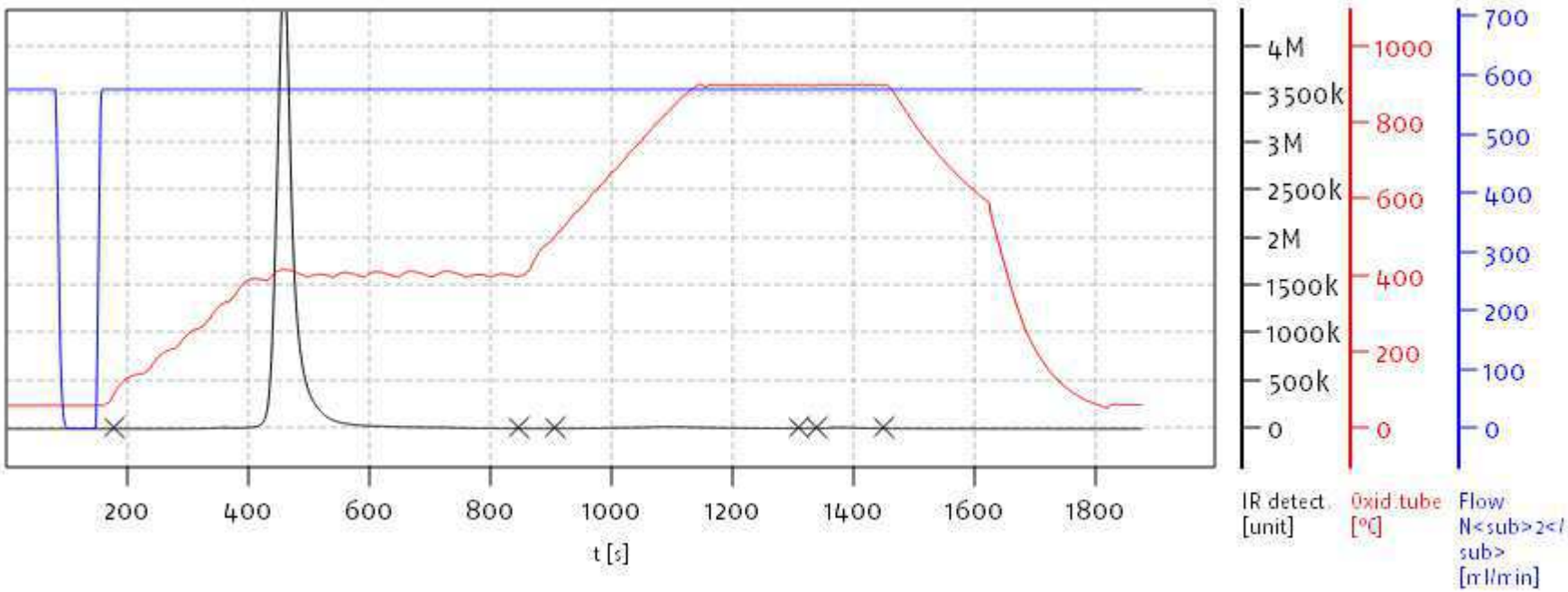
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
50	83	Dfactor	21.50		1.00	CARBON	8/7/2021 1:58 PM	44.819	1.179	45.997	bl	5 827 250	145 277	32 767	1.0615	1.0000



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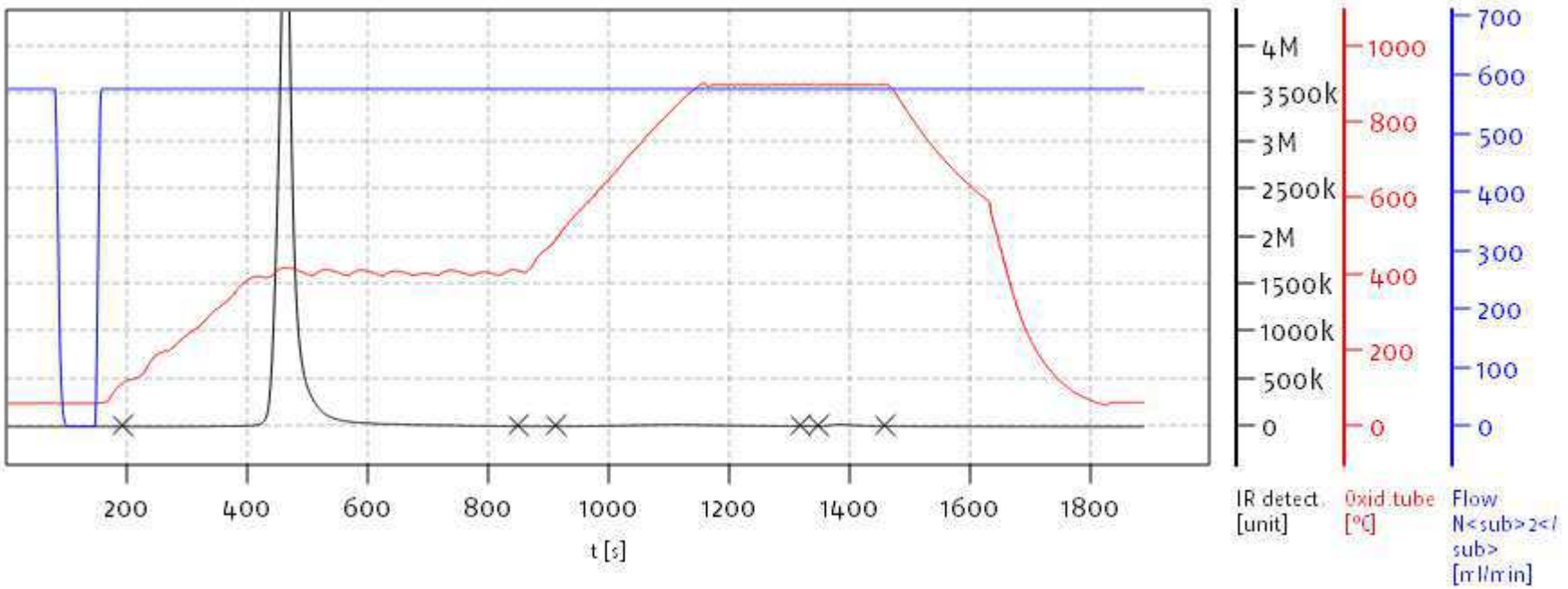
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
51	84	Dfactor	23.40		1.00	CARBON	8/7/2021 2:30 PM	44.874	1.165	46.039	bl	6 270 940	157 700	45 819	1.0738	1.0000



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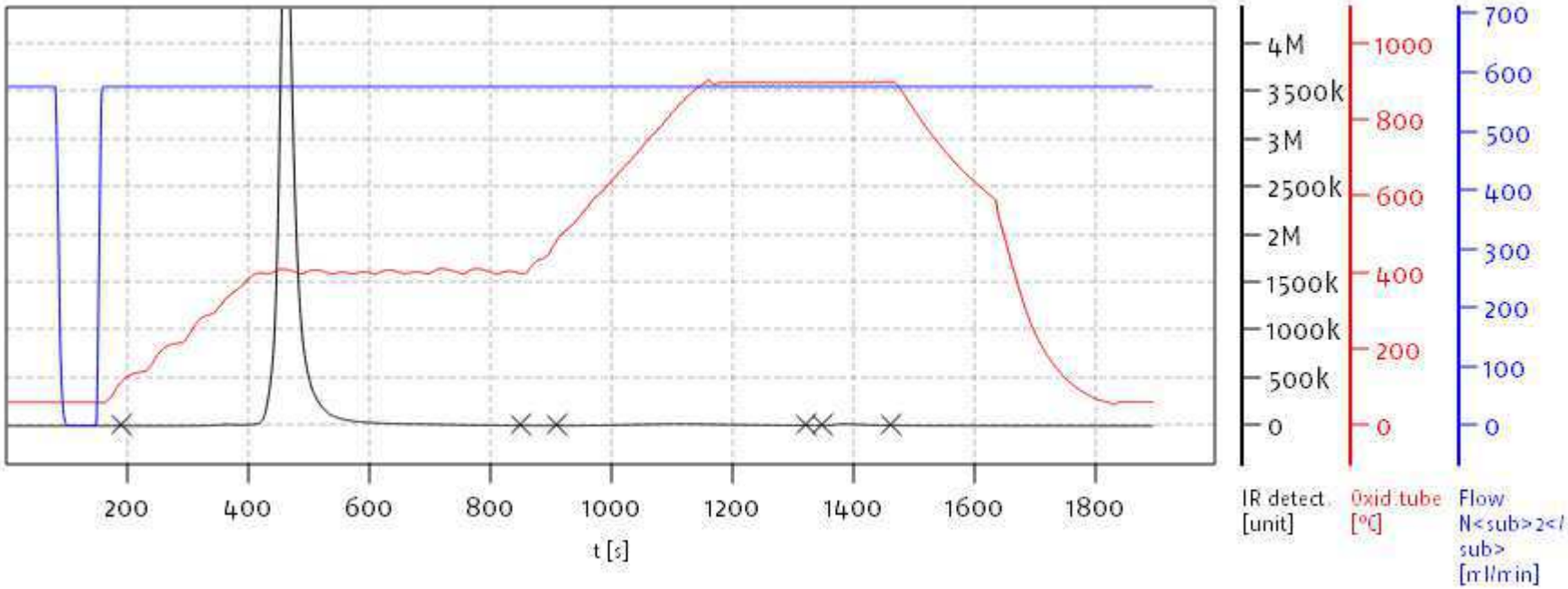
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
52	85	SJH0071-CCV4	24.70		1.00	CARBON	8/7/2021 3:02 PM	45.357	1.128	46.485	bl	6 735 230	161 638	45 215	1.0676	1.0000



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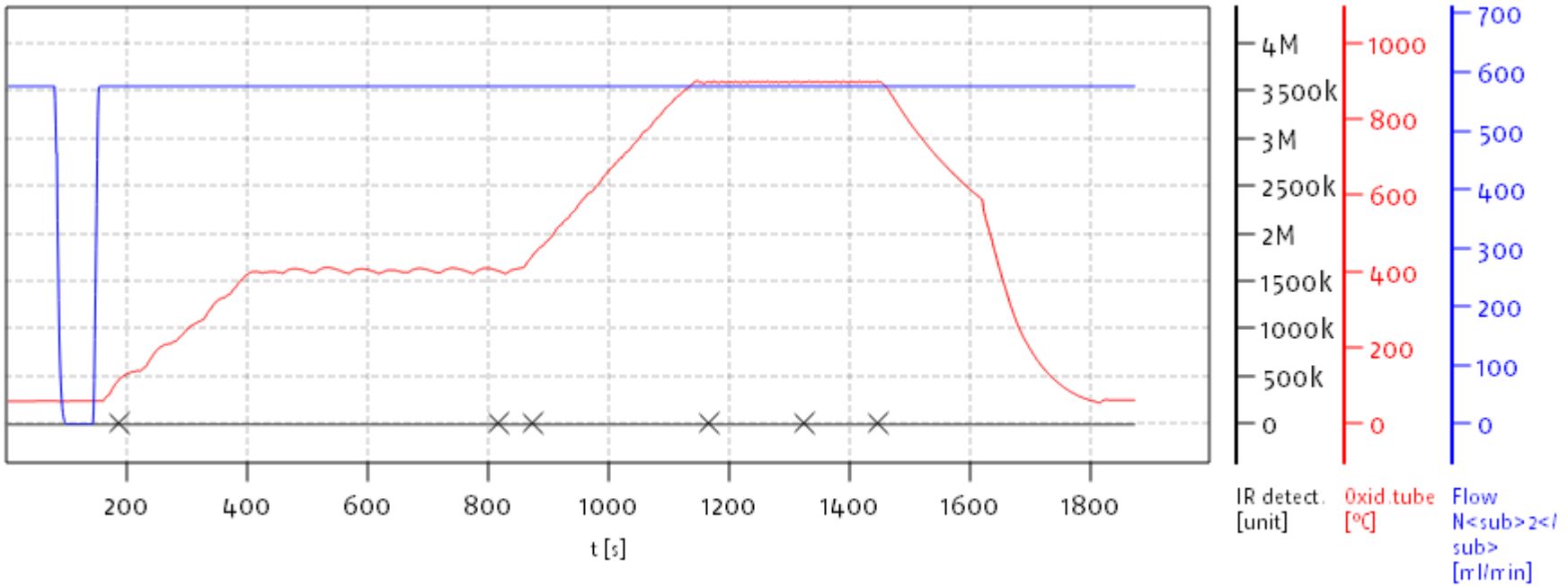
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
53	86	SJH0071-CCB4	644.70		1.00	CARBON	8/7/2021 3:34 PM	0.012	0.005	0.017	bl,C3u,C2u	7 404	2 377	1 063	1.0676	1.0000



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EXCELLENCE IN ELEMENTS

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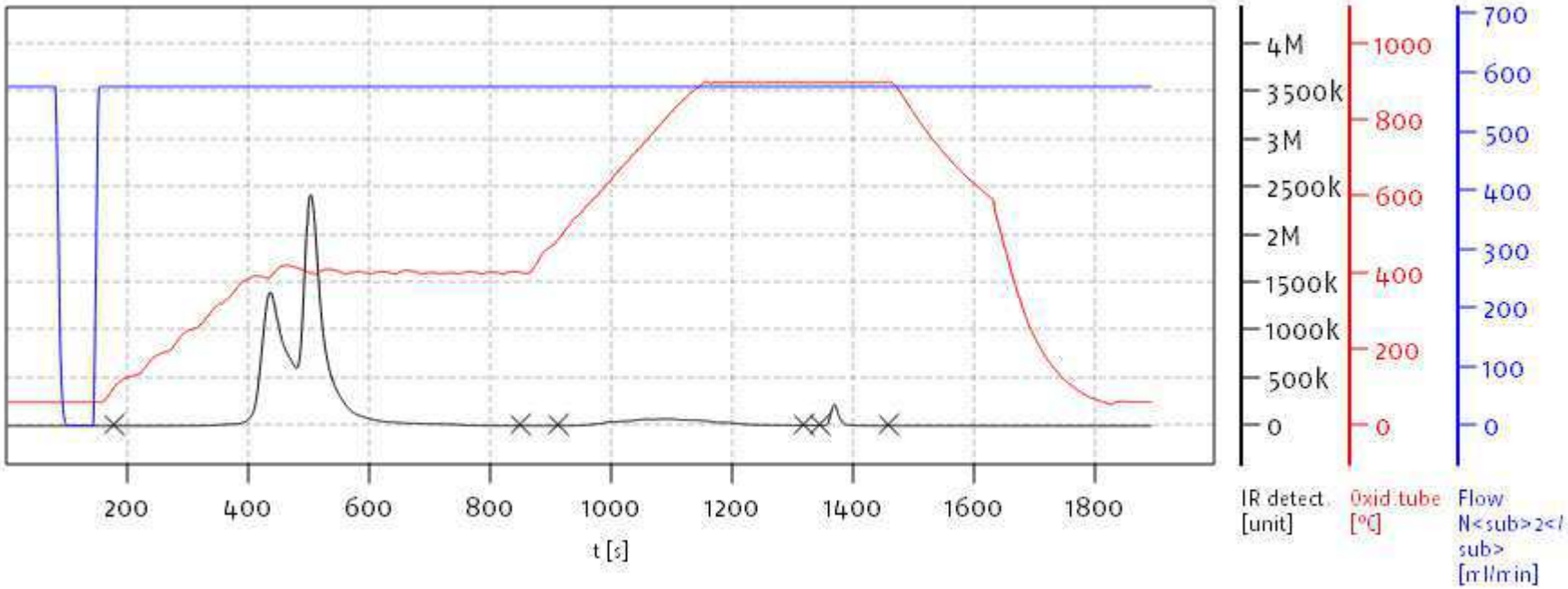
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
54	87	21G0283-03	522.90		1.00	CARBON	8/7/2021 4:06 PM	1.963	0.156	2.119	bl	6 079 710	510 851	134 883	1.0676	1.0000



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Soli TOC Cube, Carbon
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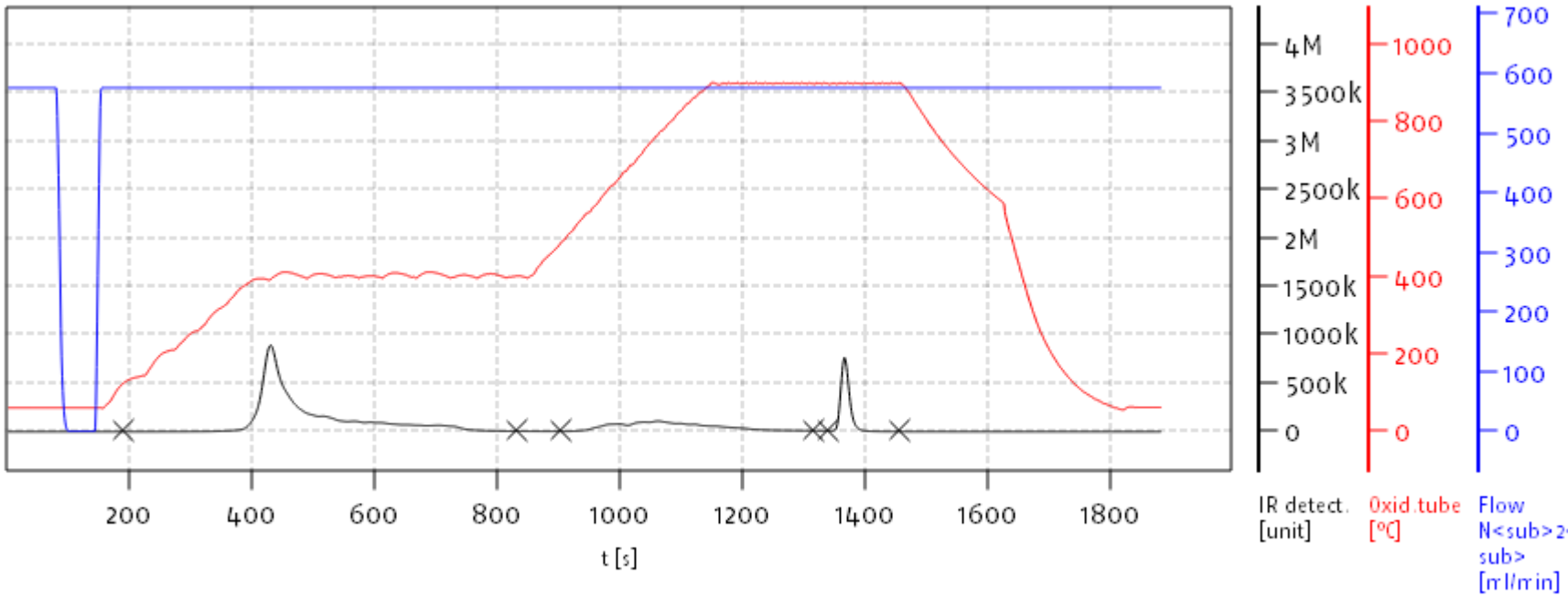
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
55	88	21G0283-04	521.80		1.00	CARBON	8/7/2021 4:38 PM	0.931	0.230	1.161	bl	2 470 970	758 913	476 930	1.0676	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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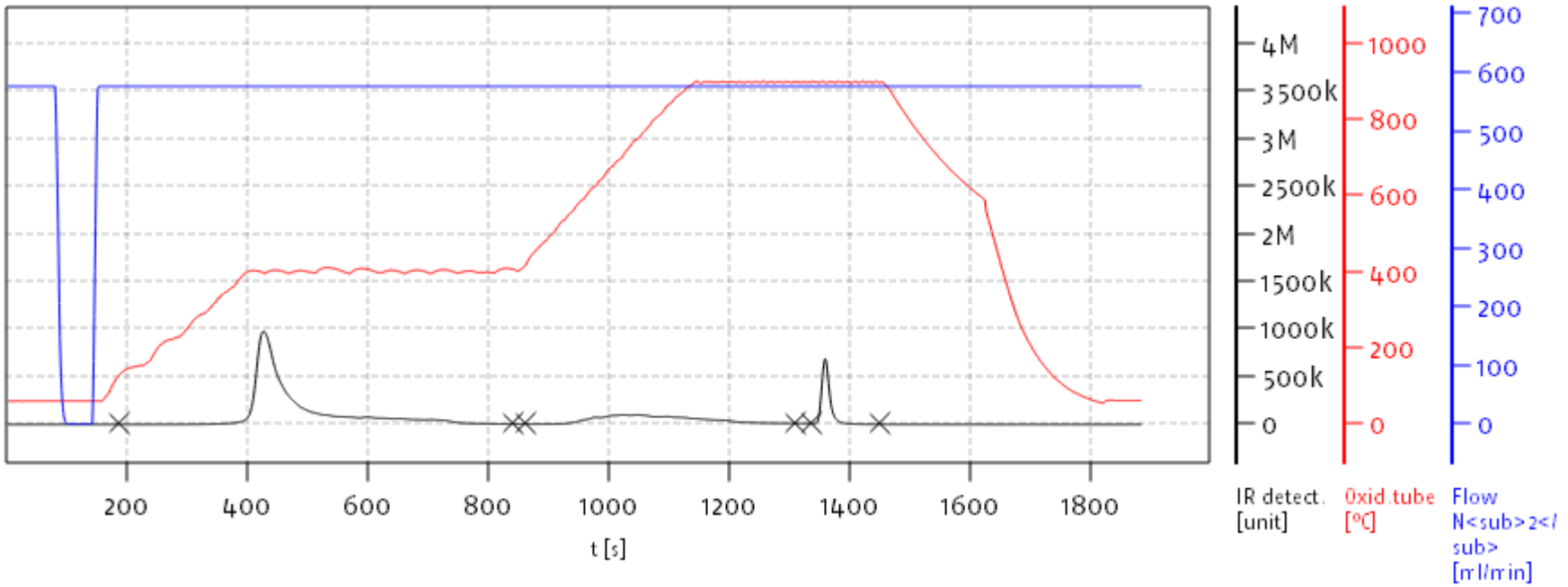
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
56	89	21G0283-05	520.90		1.00	CARBON	8/7/2021 5:09 PM	0.889	0.239	1.128	bl	2 402 590	787 584	403 541	1.0676	1.0000



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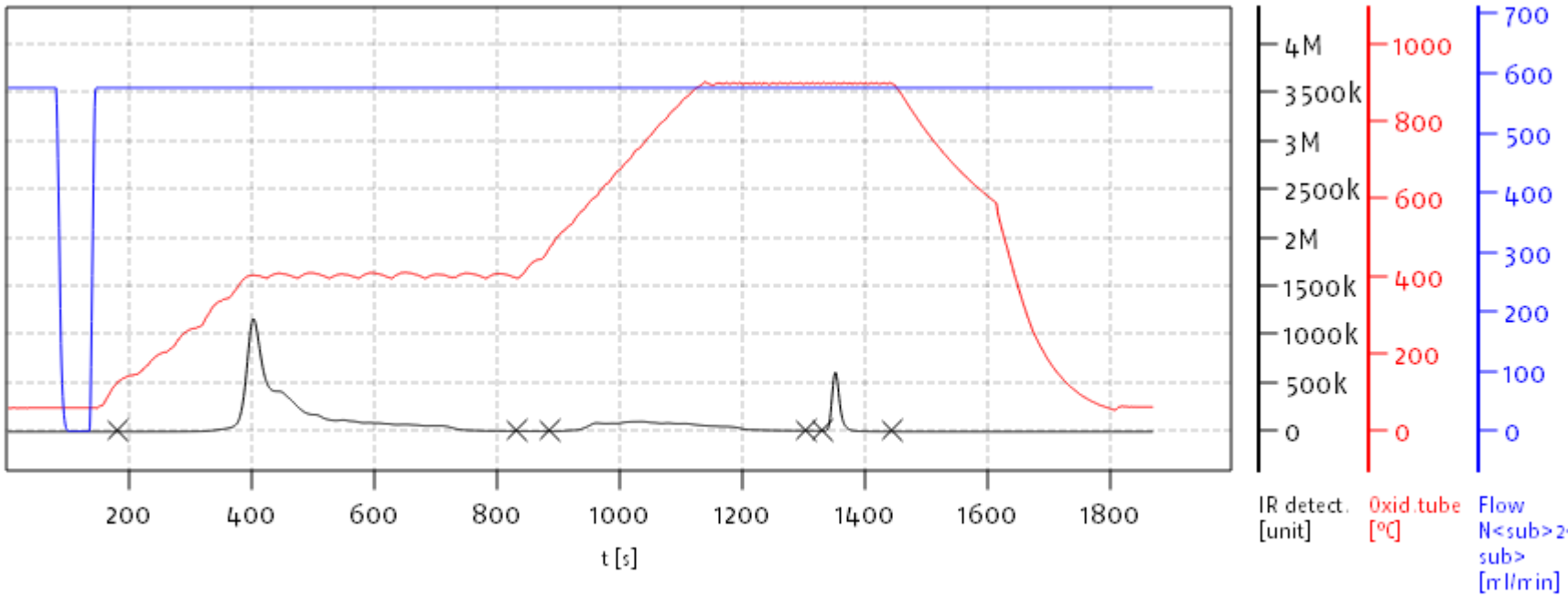
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
57	1	21G0283-06	551.20		1.00	CARBON	8/7/2021 5:41 PM	1.017	0.237	1.254	bl	3 045 040	829 481	349 299	1.0676	1.0000



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Analyst: BF

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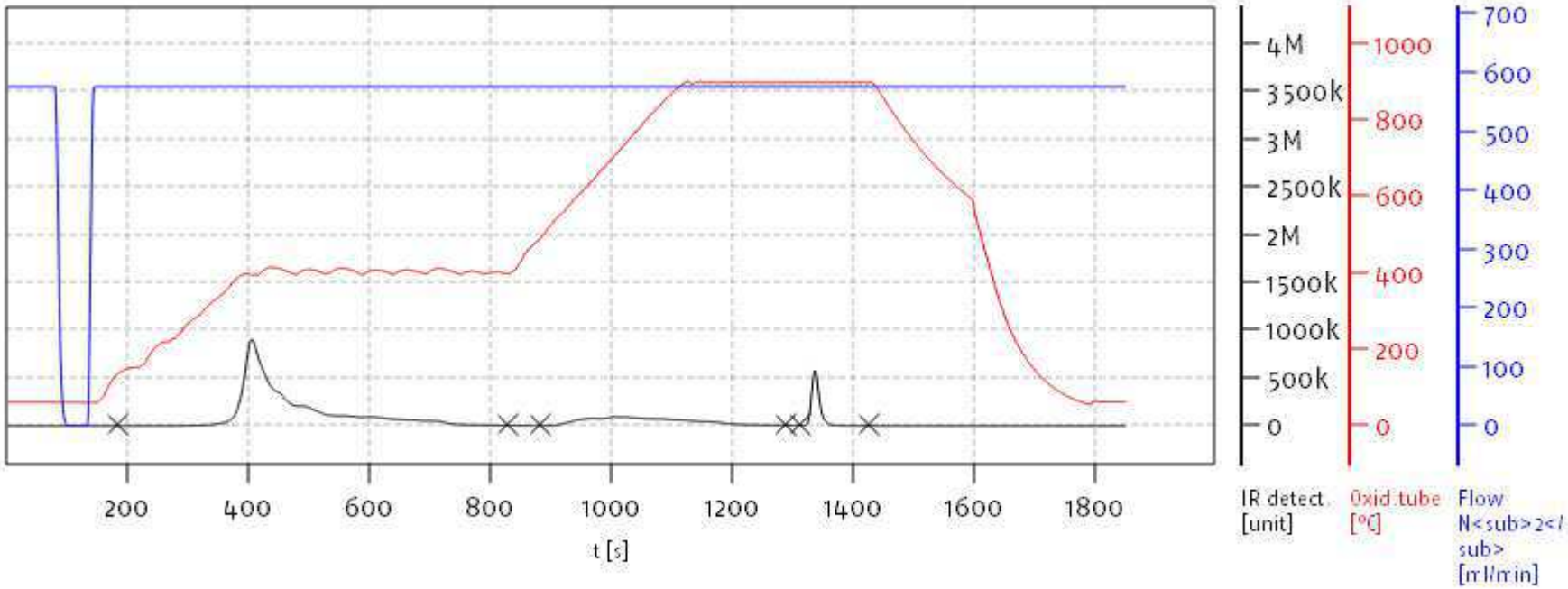
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
58	2	21G0283-07	509.10		1.00	CARBON	8/7/2021 6:12 PM	1.004	0.224	1.228	bl	2 759 400	720 485	333 723	1.0676	1.0000



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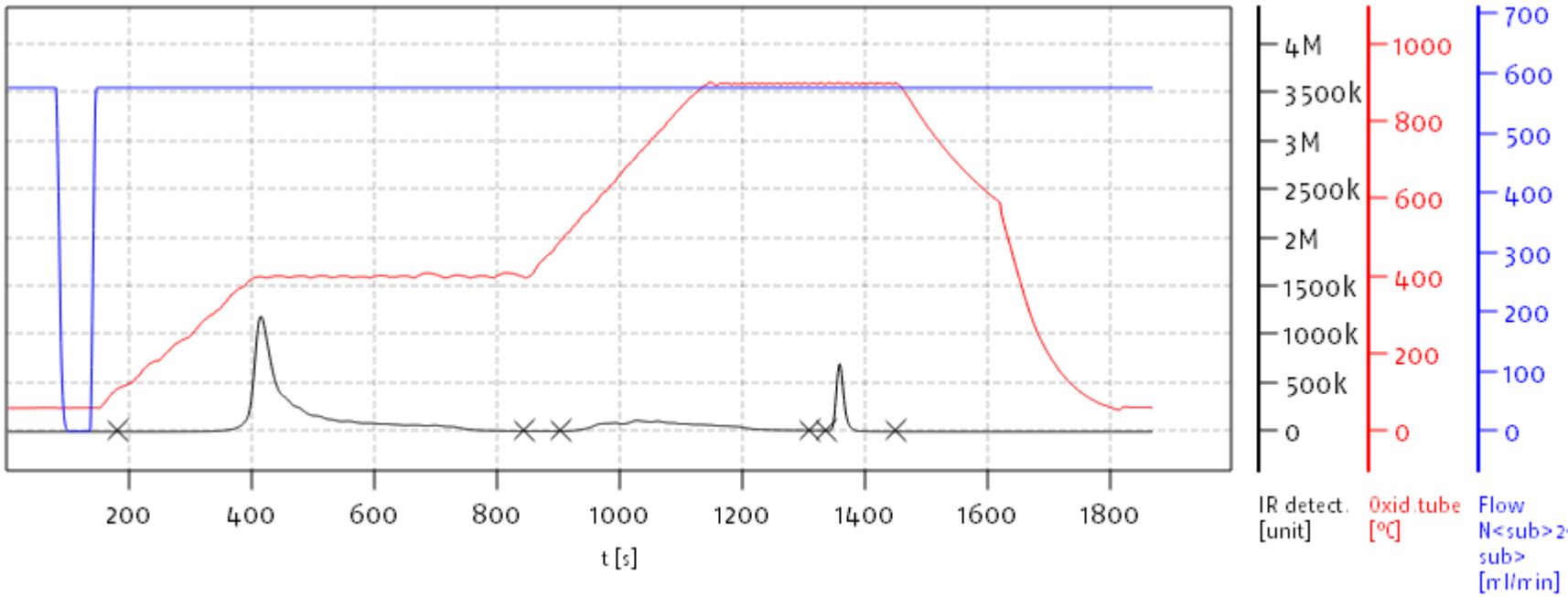
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
59	3	21G0283-08	540.10		1.00	CARBON	8/7/2021 6:44 PM	1.000	0.252	1.252	bl	2 879 850	865 552	392 206	1.0676	1.0000



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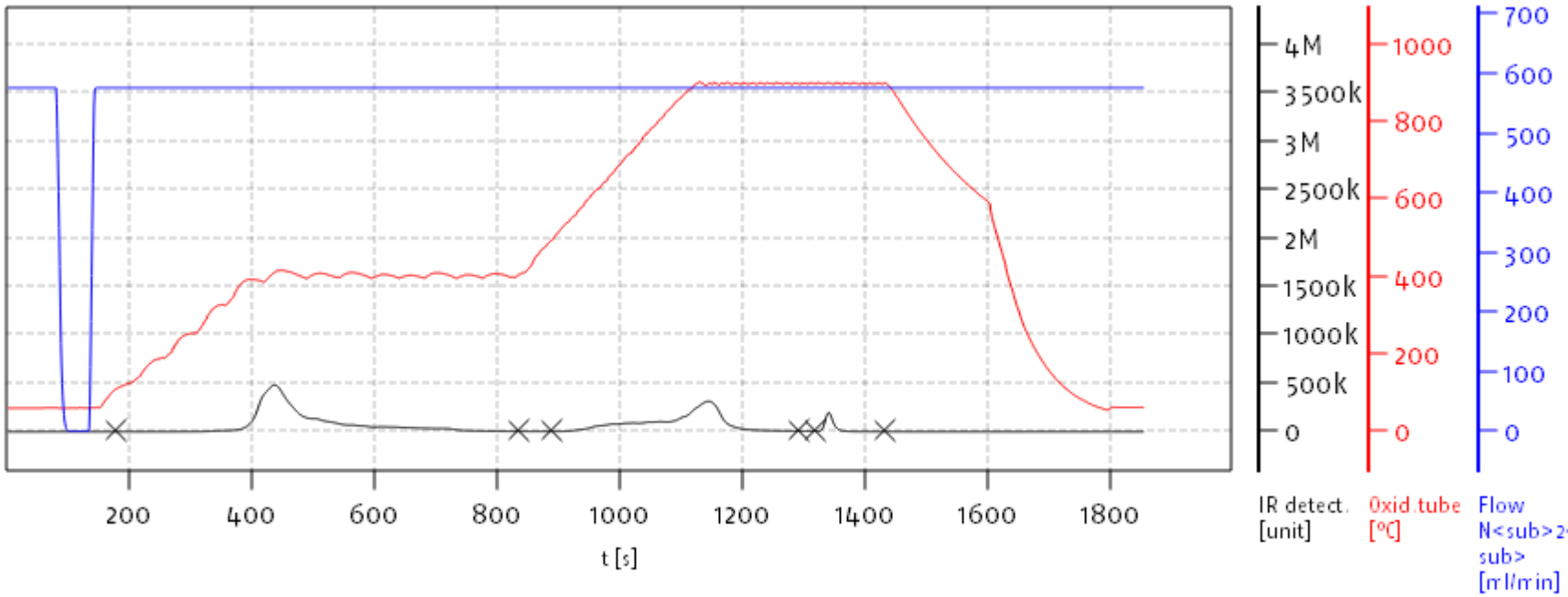
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
60	4	21G0283-09	528.30		1.00	CARBON	8/7/2021 7:15 PM	0.575	0.367	0.943	bl	1 698 880	1 241 330	119 405	1.0676	1.0000



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Soli TOC Cube, Carbon
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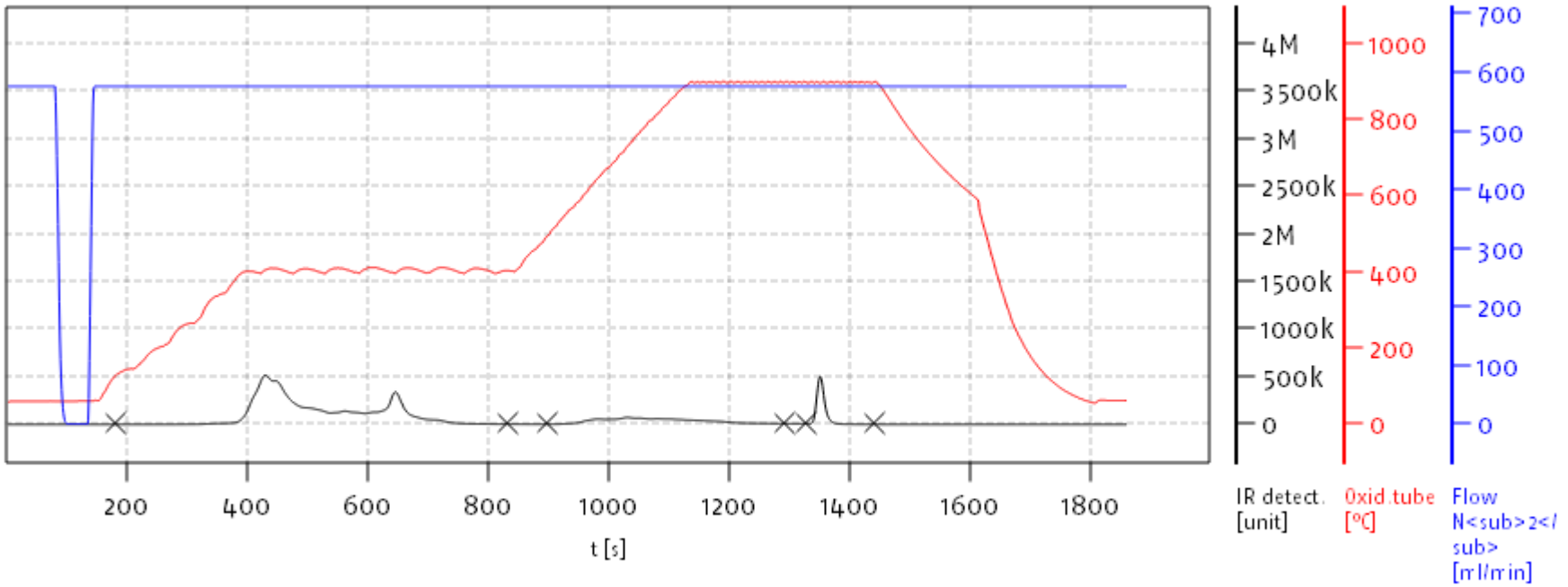
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
61	5	21G0283-10	571.70		1.00	CARBON	8/7/2021 7:47 PM	0.800	0.147	0.948	bl	2 475 000	527 848	288 913	1.0676	1.0000



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EXCELLENCE IN ELEMENTS

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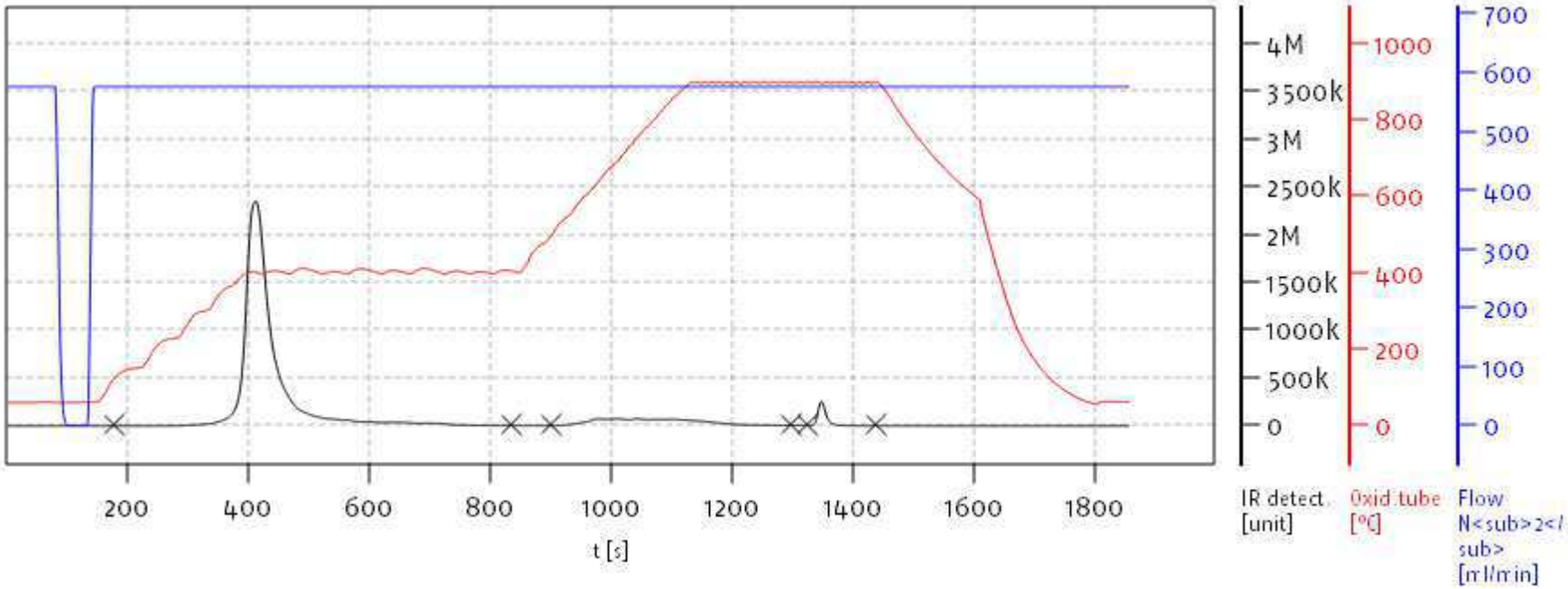
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
62	6	21G0283-11	508.90		1.00	CARBON	8/7/2021 8:18 PM	1.541	0.186	1.727	bl	4 588 860	596 146	154 263	1.0676	1.0000



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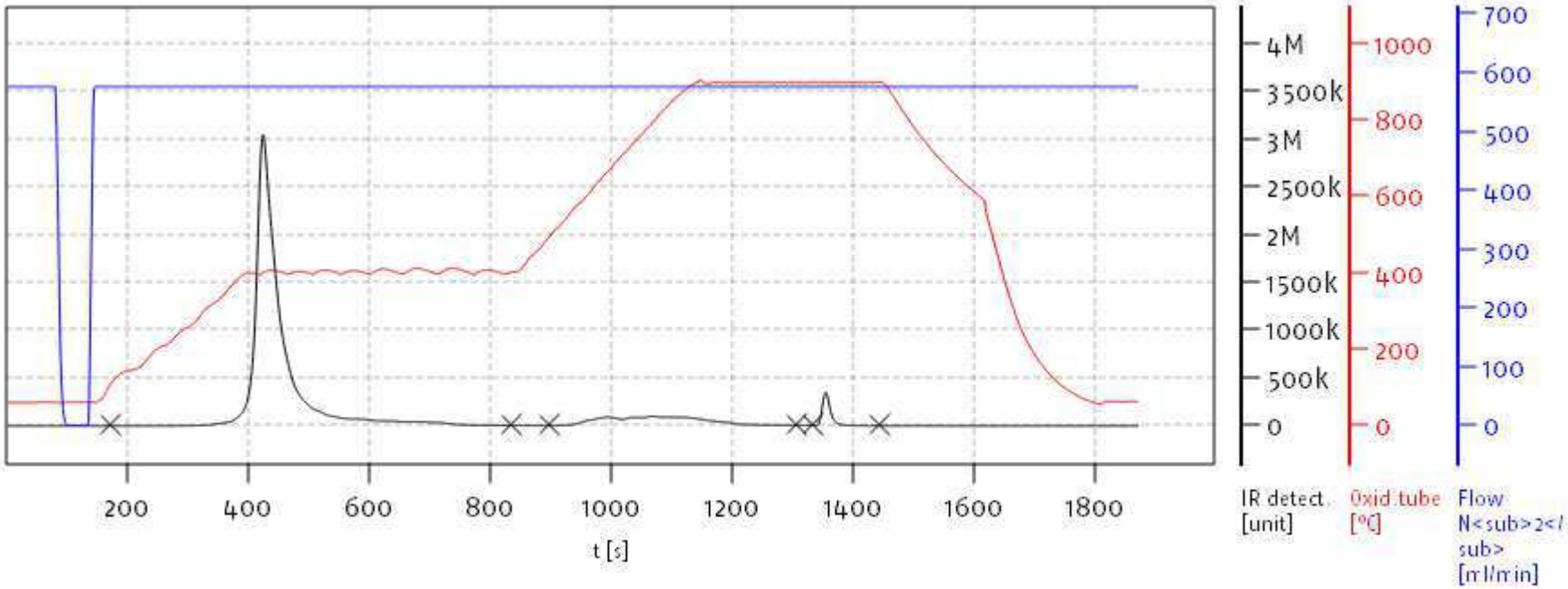
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
63	7	21G0283-12	629.70		1.00	CARBON	8/7/2021 8:49 PM	1.441	0.193	1.634	bl	5 284 070	769 128	210 547	1.0676	1.0000



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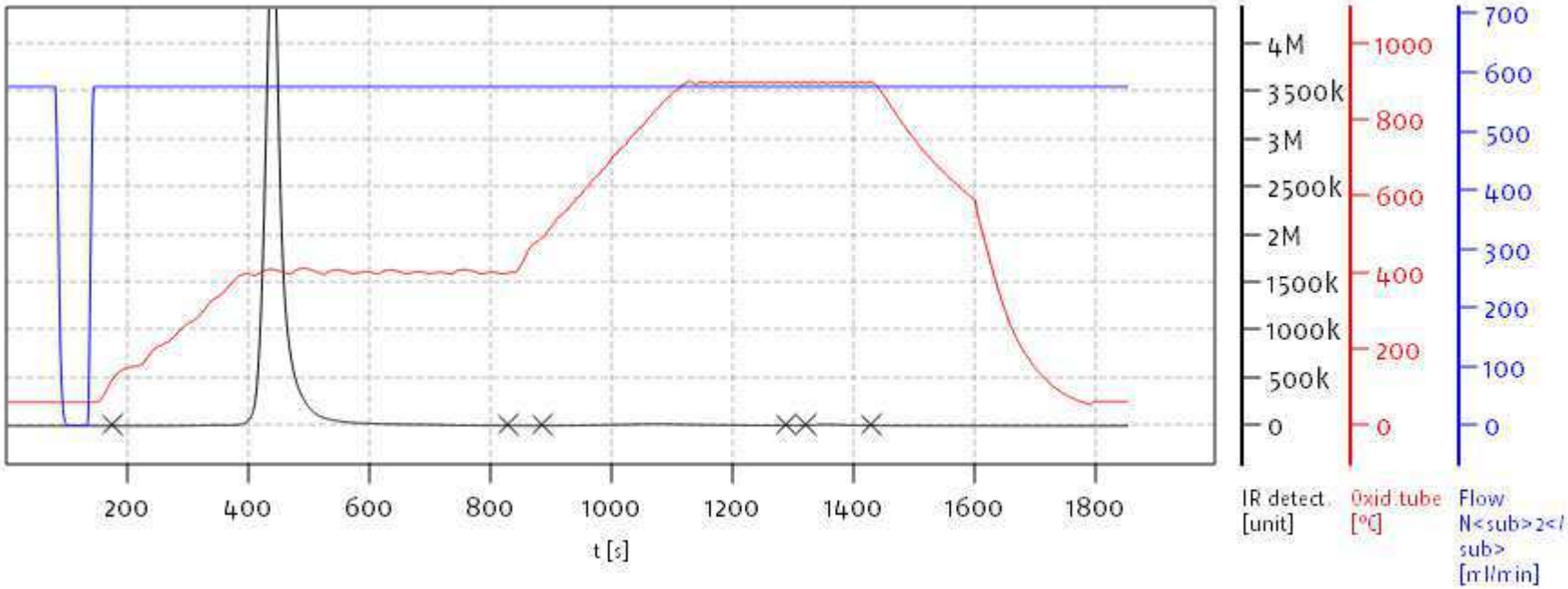
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
64	8	SJH0071-CCV5	23.70		1.00	CARBON	8/7/2021 9:21 PM	44.886	1.054	45.939	bl	6 402 420	142 844	33 389	1.0676	1.0000



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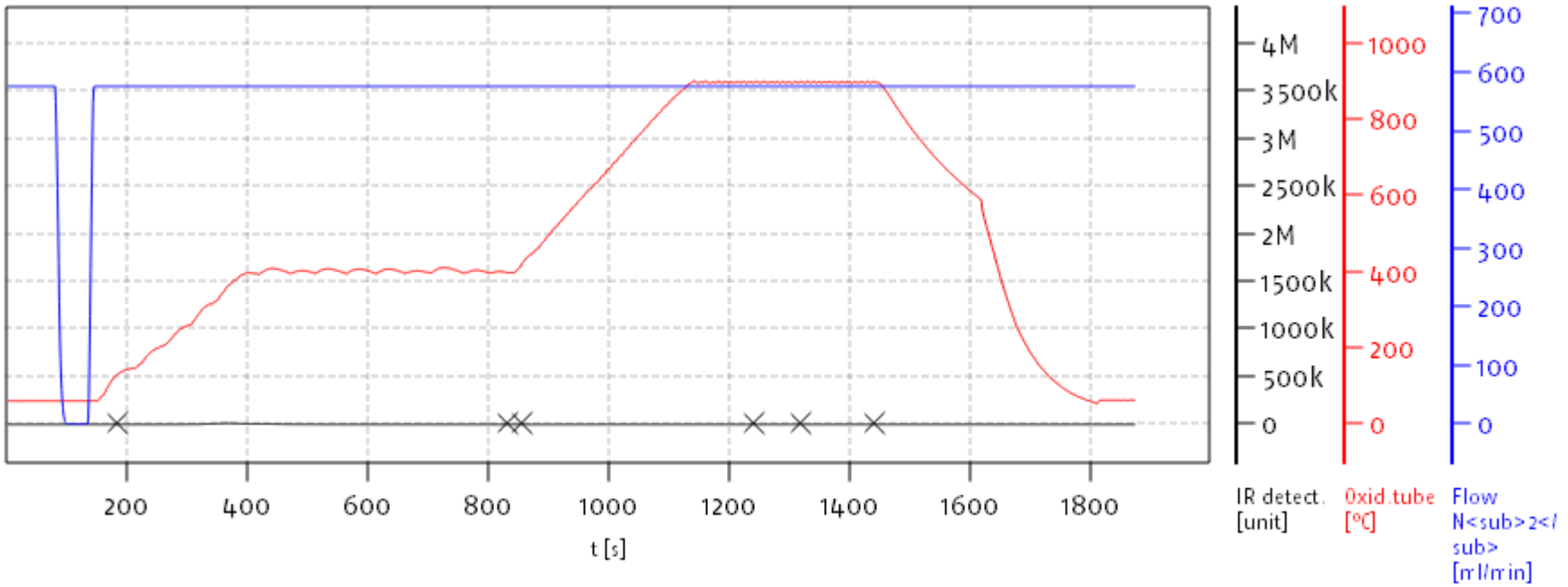
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
65	9	SJH0071-CCB5	729.60		1.00	CARBON	8/7/2021 9:52 PM	0.018	0.005	0.023	bl,C3u,C2u	41 777	2 196	739	1.0676	1.0000



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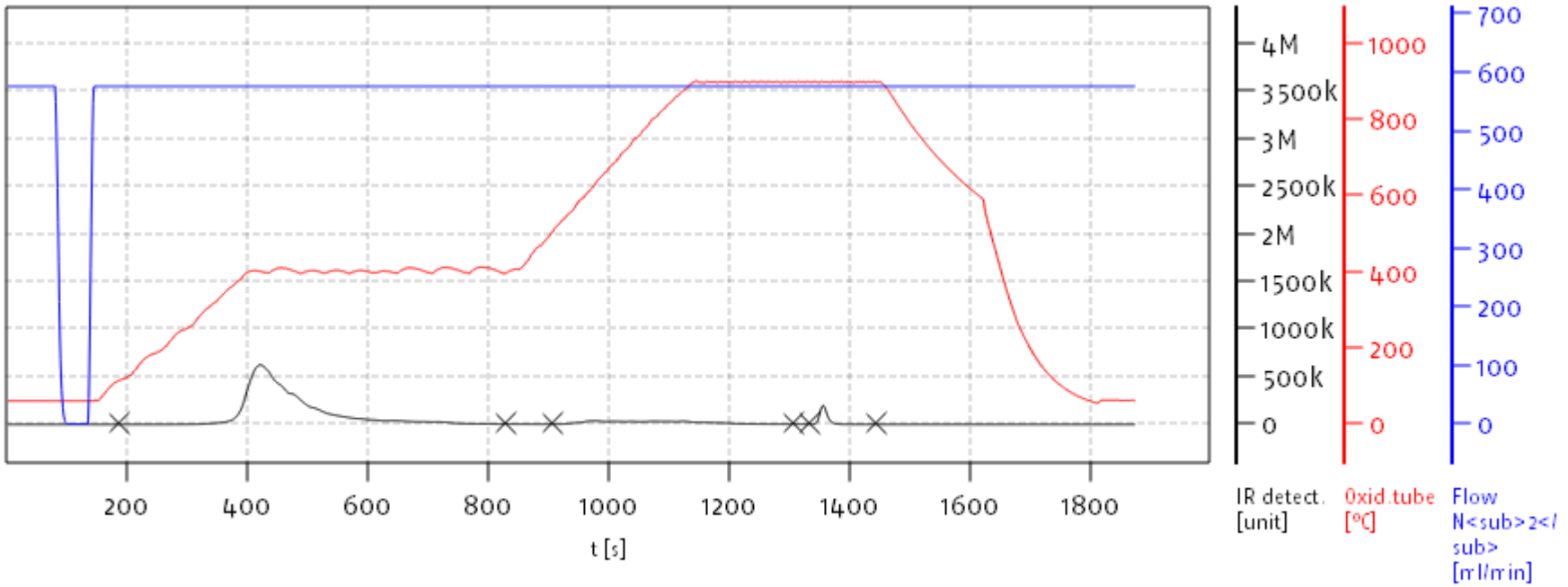
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
66	10	21G0283-13	507.50		1.00	CARBON	8/7/2021 10:24 PM	0.815	0.095	0.911	bl	2 375 310	295 162	111 597	1.0676	1.0000



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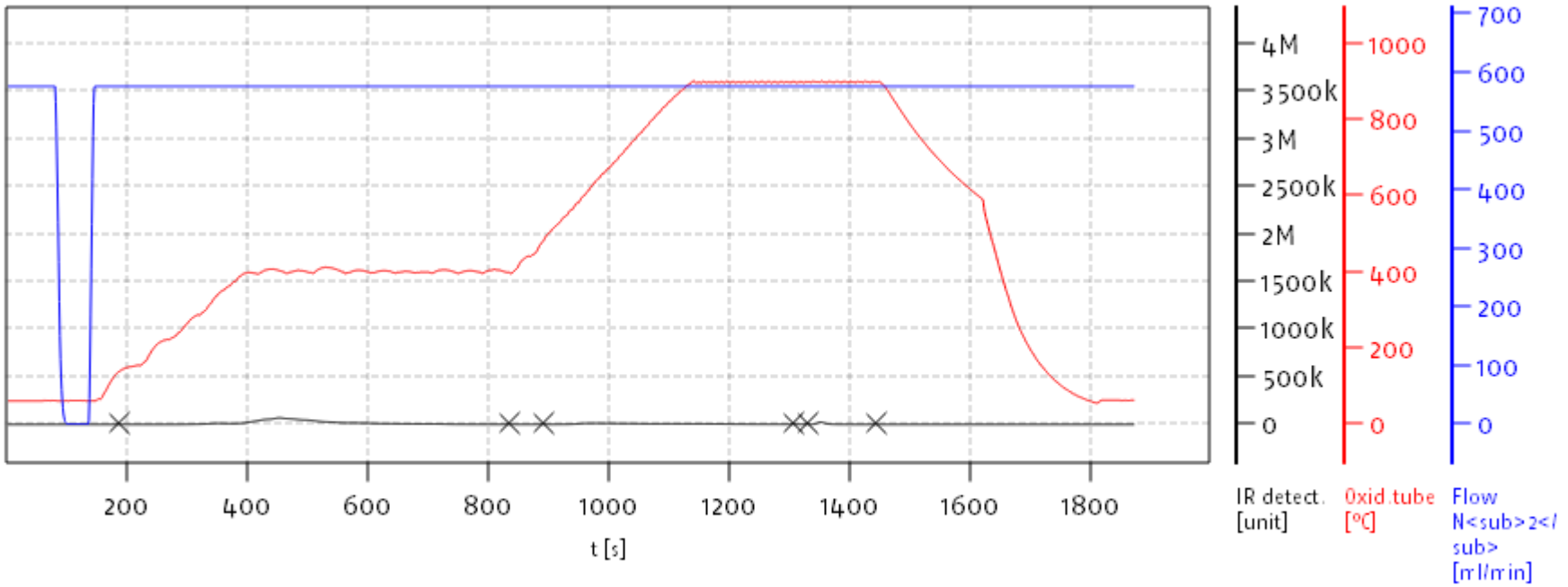
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
67	11	21G0283-14	604.00		1.00	CARBON	8/7/2021 10:56 PM	0.110	0.028	0.138	bl	351 188	89 742	15 548	1.0676	1.0000



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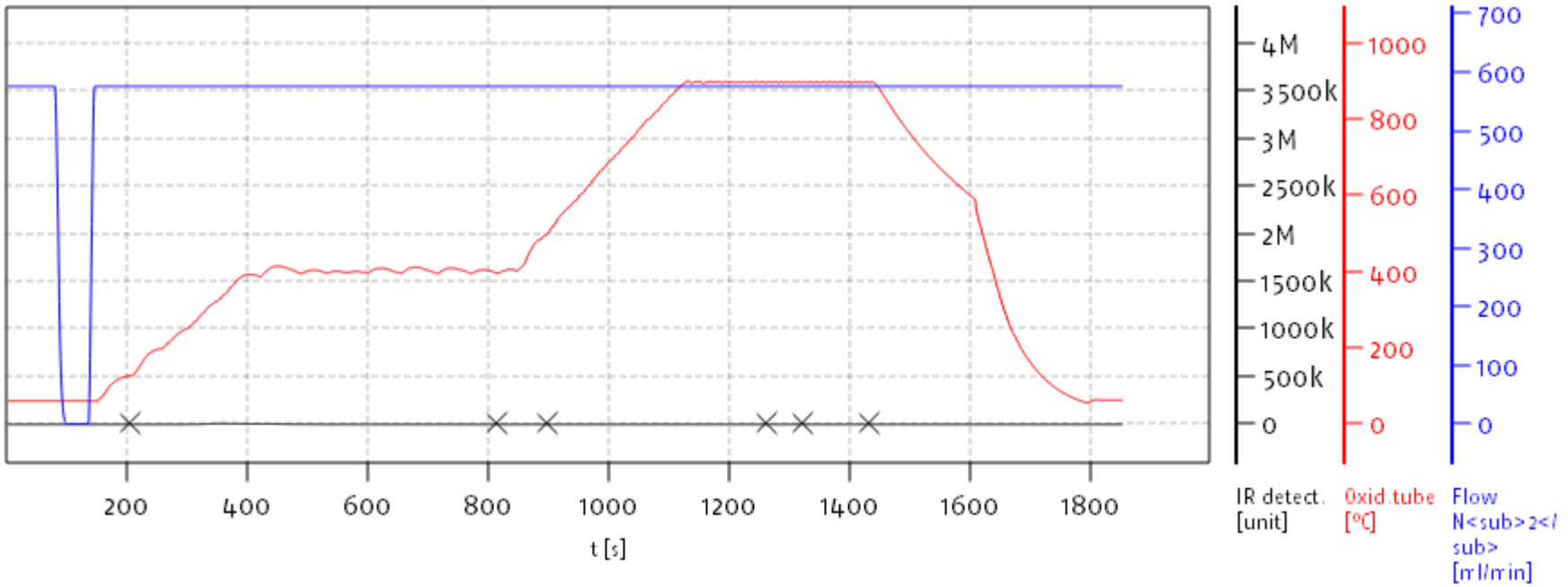
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
68	12	BJH0062-MRL1	528.20		1.00	CARBON	8/7/2021 11:27 PM	0.024	0.006	0.030	bl,C3u,C2u	39 163	1 715	375	1.0676	1.0000



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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: BF

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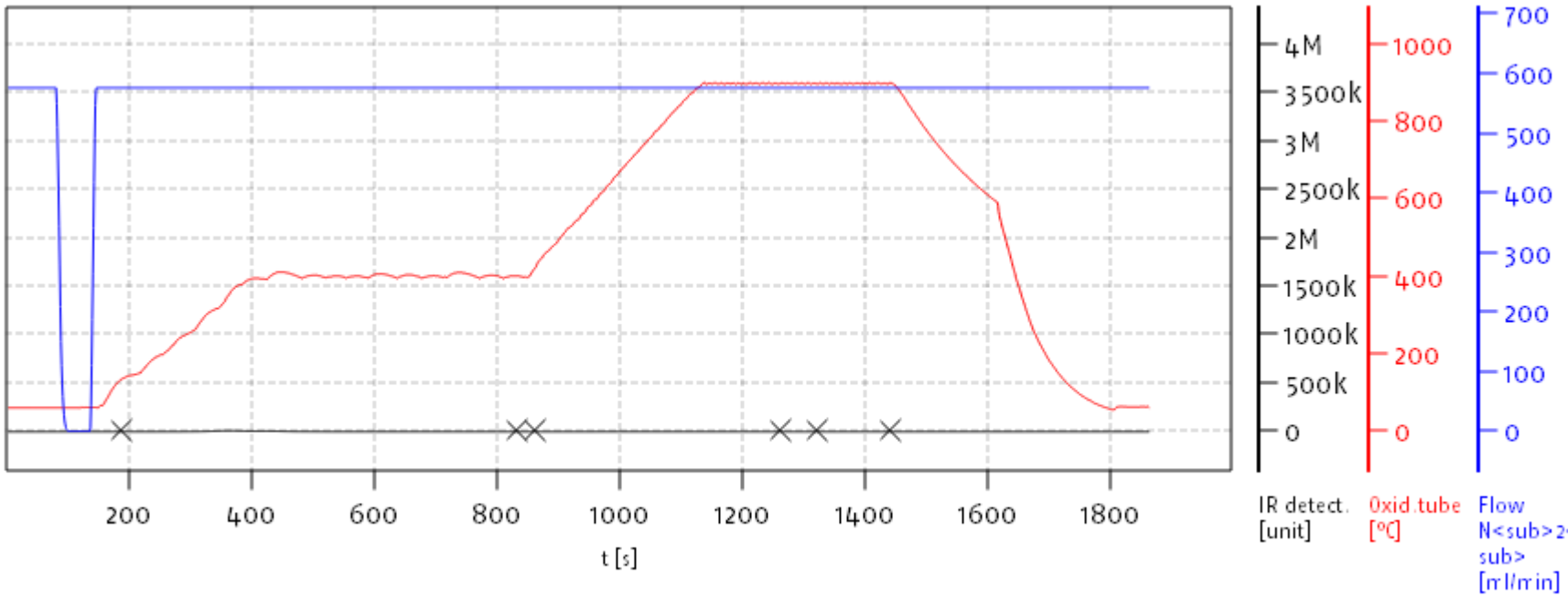
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
69	13	BJH0062-BLK1	664.70		1.00	CARBON	8/7/2021 11:58 PM	0.019	0.005	0.024	bl,C3u,C2u	40 303	2 810	377	1.0676	1.0000



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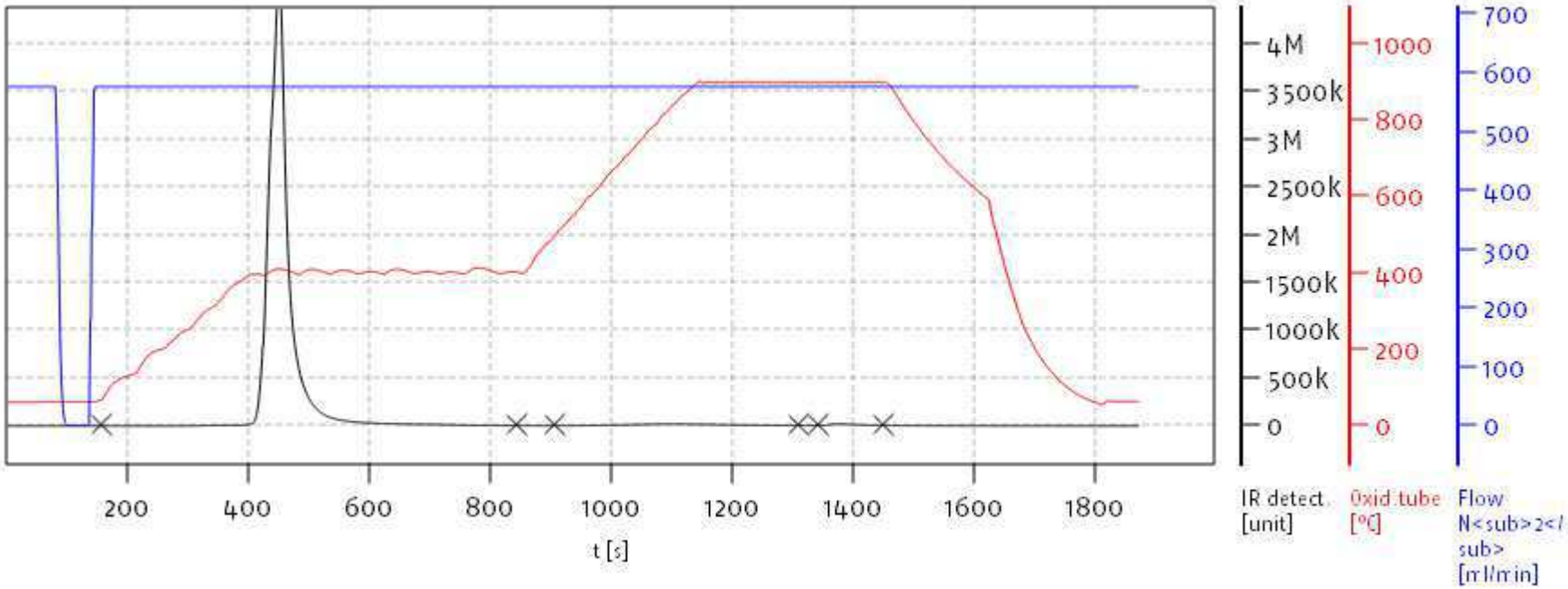
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
70	14	BJH0062-BS1	24.40		1.00	CARBON	8/8/2021 12:30 AM	43.866	1.071	44.936	bl	6 431 600	150 323	44 658	1.0676	1.0000



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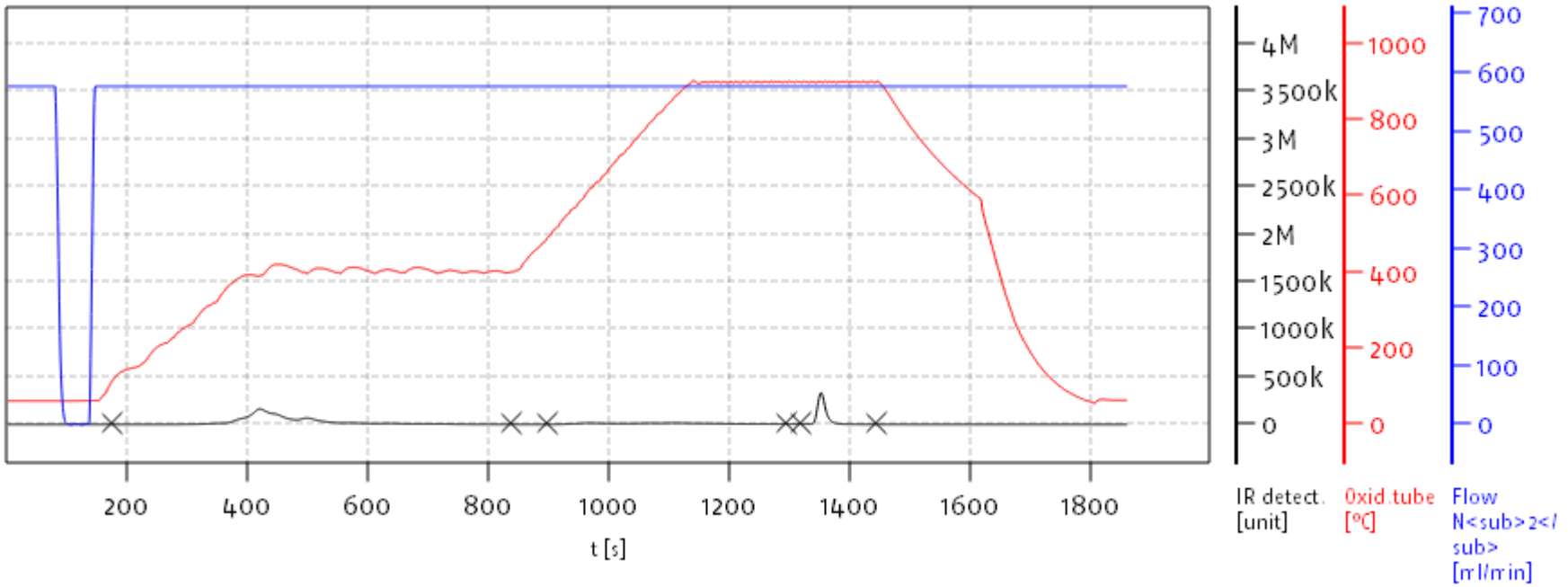
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
71	15	BJH0062-SRM1	46.10		1.00	CARBON	8/8/2021 1:01 AM	2.865	0.500	3.365	bl	577 900	130 481	200 827	1.0676	1.0000



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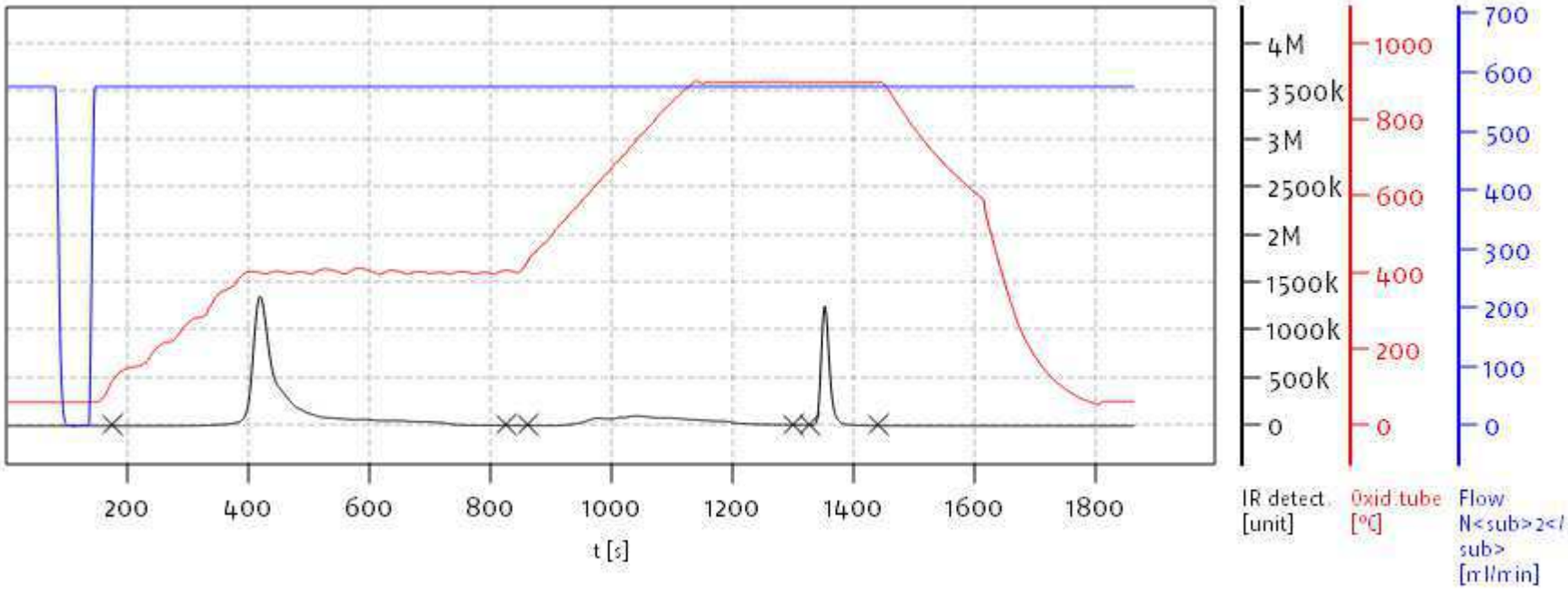
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
72	16	21G0269-01	572.40		1.00	CARBON	8/8/2021 1:33 AM	0.989	0.215	1.204	bl	2 683 980	780 813	770 058	1.0676	1.0000



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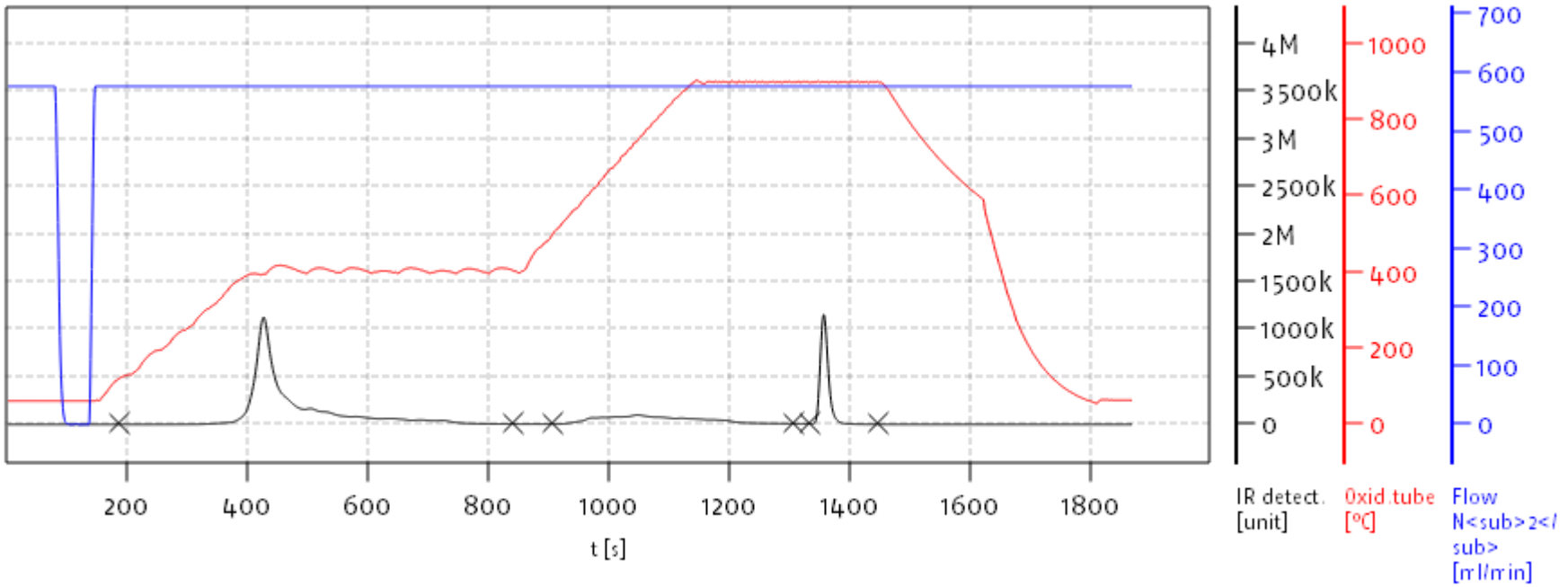
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
73	17	BJH0062-DUP1	553.50		1.00	CARBON	8/8/2021 2:04 AM	0.940	0.202	1.142	bl	2 492 210	707 101	677 323	1.0676	1.0000



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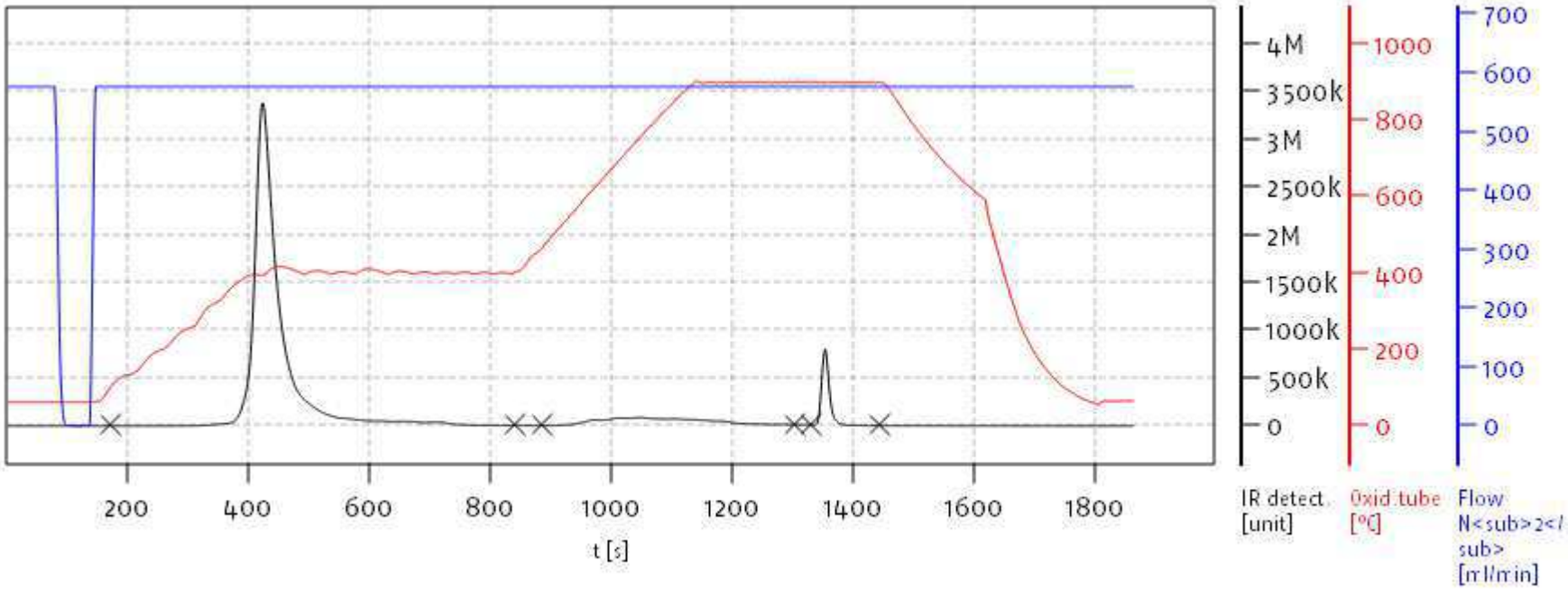
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
74	18	BJH0062-MS1	506.40	0.0132	1.00	CARBON	8/8/2021 2:36 AM	2.090	0.224	2.314	bl	5 971 250	717 088	458 340	1.0676	1.0000



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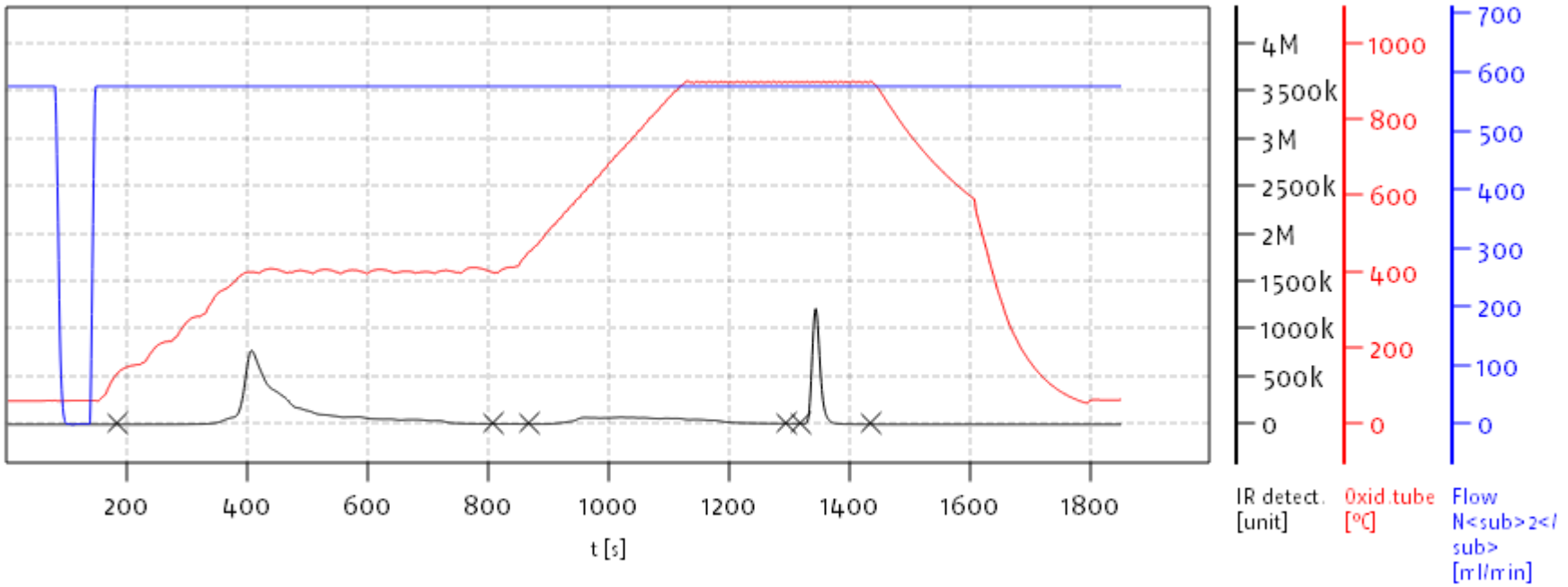
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
75	19	21G0269-02	509.60		1.00	CARBON	8/8/2021 3:07 AM	0.972	0.205	1.177	bl	2 305 690	658 481	714 347	1.0676	1.0000



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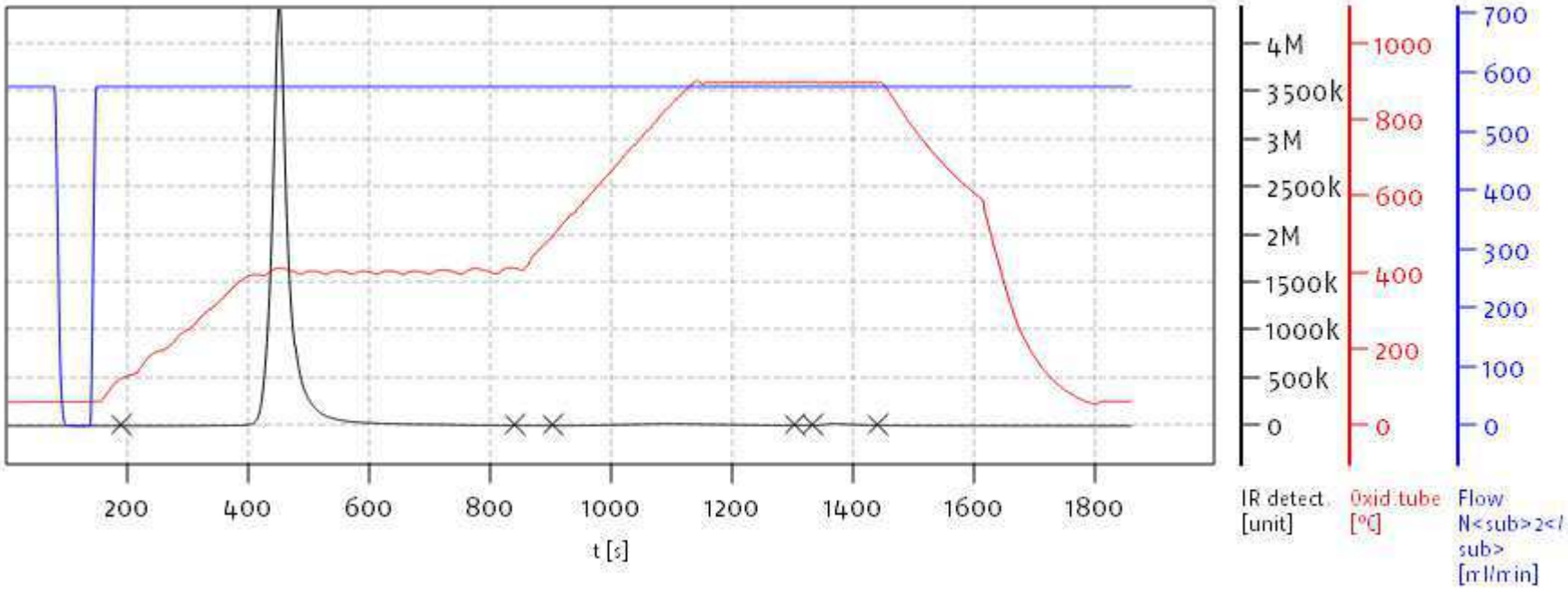
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
76	20	SJH0071-CCV6	20.90		1.00	CARBON	8/8/2021 3:39 AM	43.286	1.379	44.666	bl	5 419 460	167 890	49 505	1.0676	1.0000



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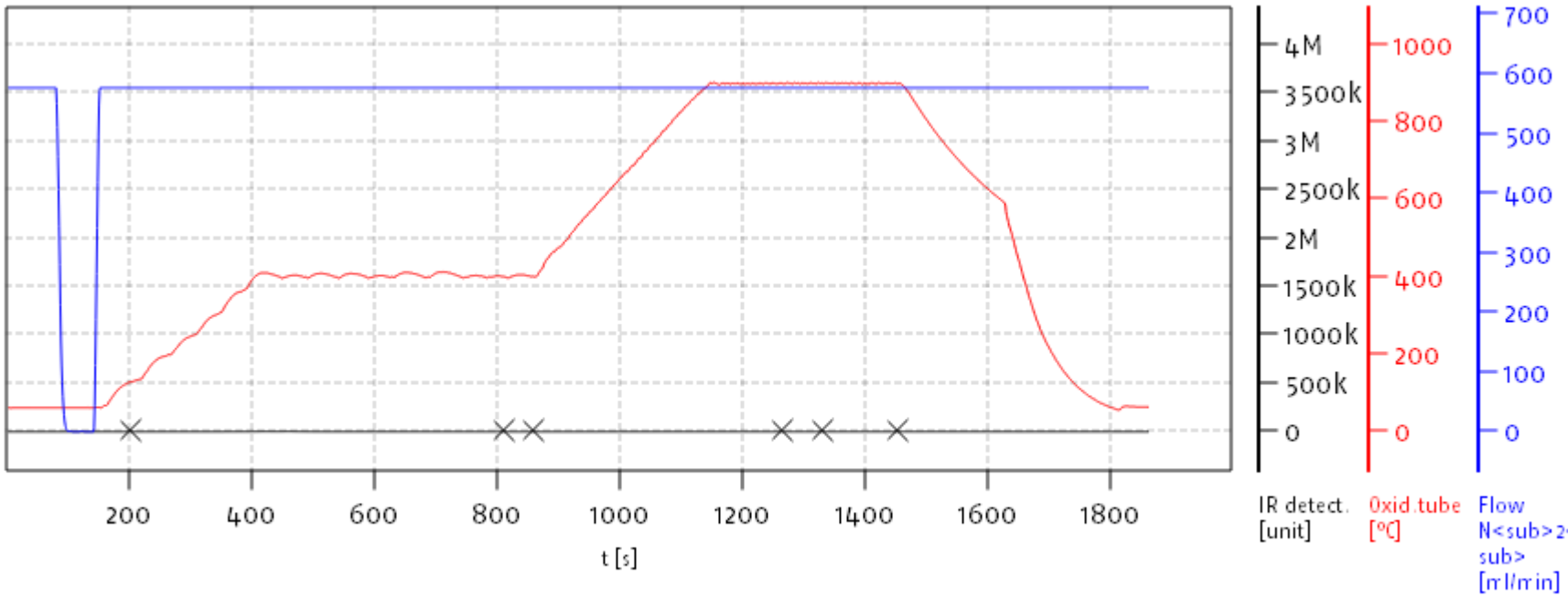
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
77	21	SJH0071-CCB6	522.10		1.00	CARBON	8/8/2021 4:10 AM	0.015	0.006	0.021	bl,C3u,C2u	9 100	904	726	1.0676	1.0000



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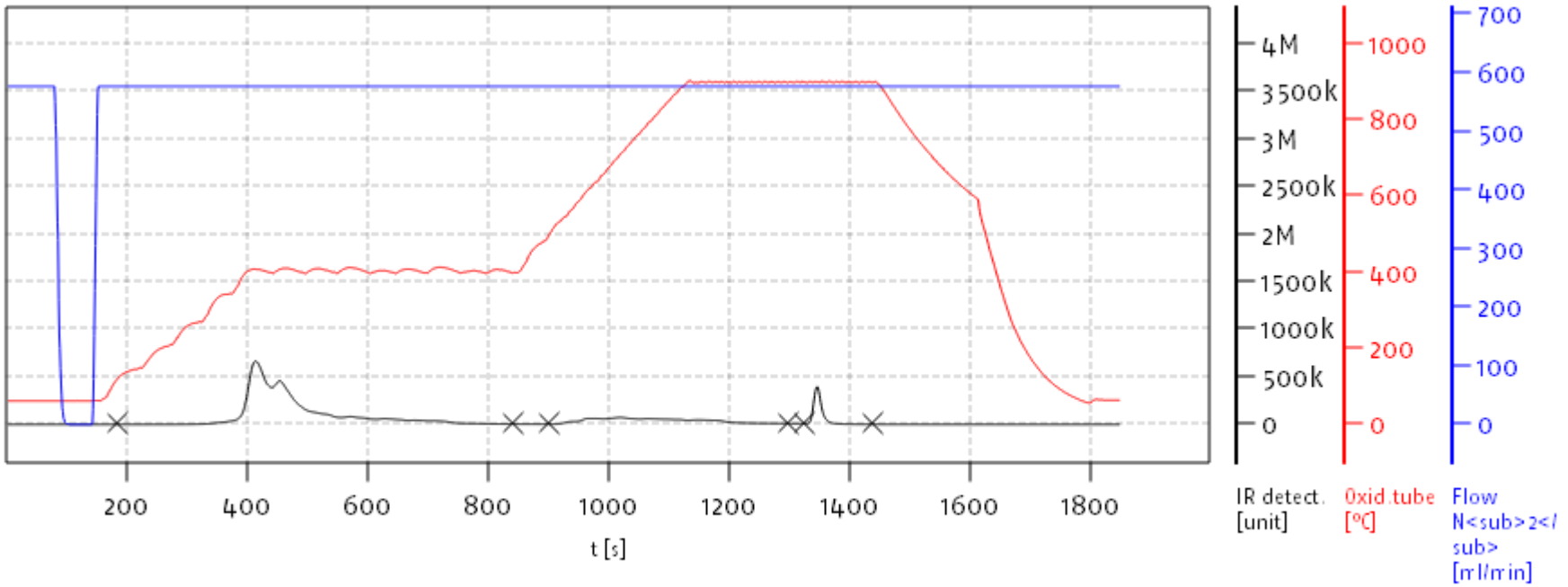
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
78	22	21G0269-03	519.00		1.00	CARBON	8/8/2021 4:41 AM	0.794	0.179	0.973	bl	2 248 010	584 348	236 223	1.0676	1.0000



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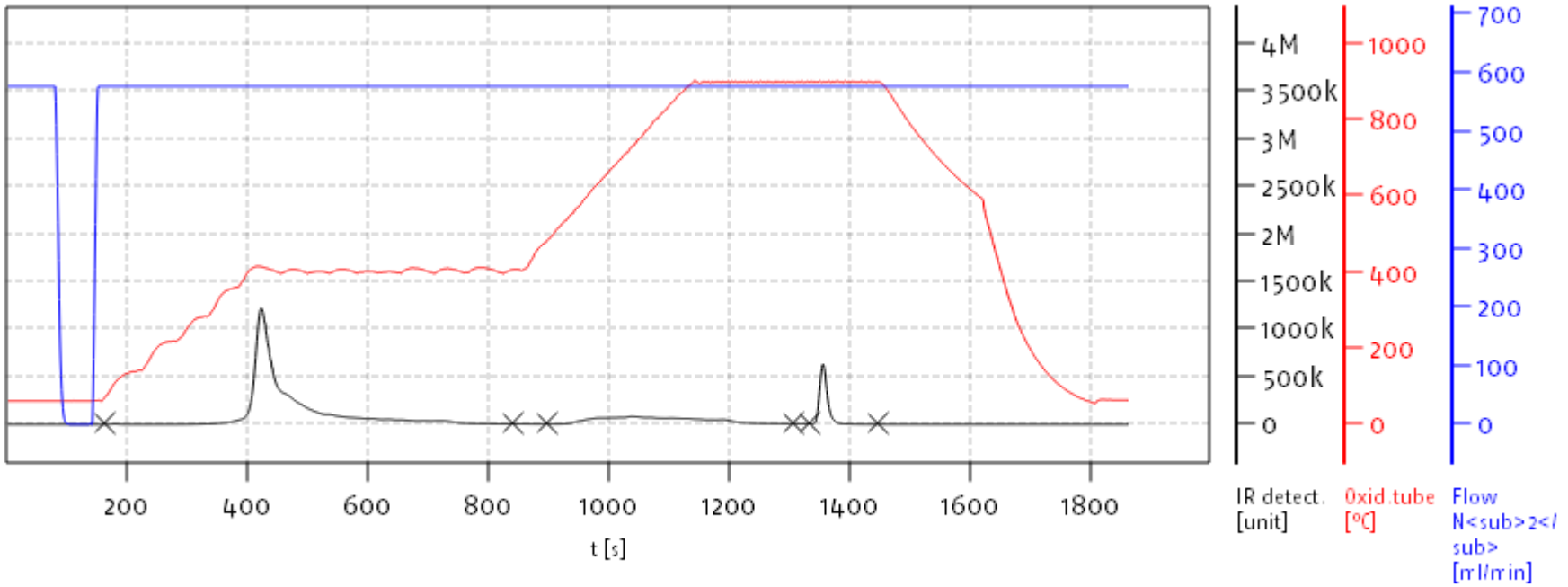
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
79	23	21G0269-04	522.20		1.00	CARBON	8/8/2021 5:13 AM	0.913	0.202	1.114	bl	2 524 490	664 199	360 591	1.0676	1.0000



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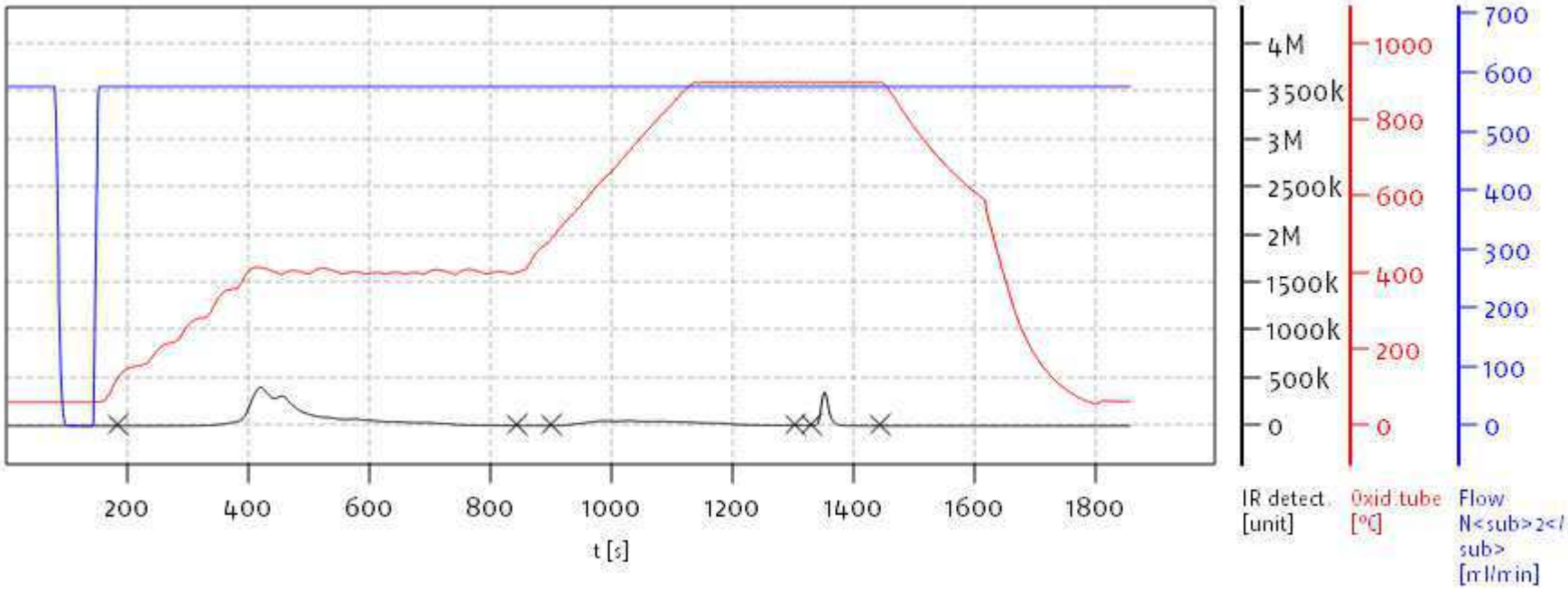
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
80	24	21G0269-05	502.30		1.00	CARBON	8/8/2021 5:44 AM	0.606	0.138	0.744	bl	1 628 120	430 009	199 036	1.0676	1.0000



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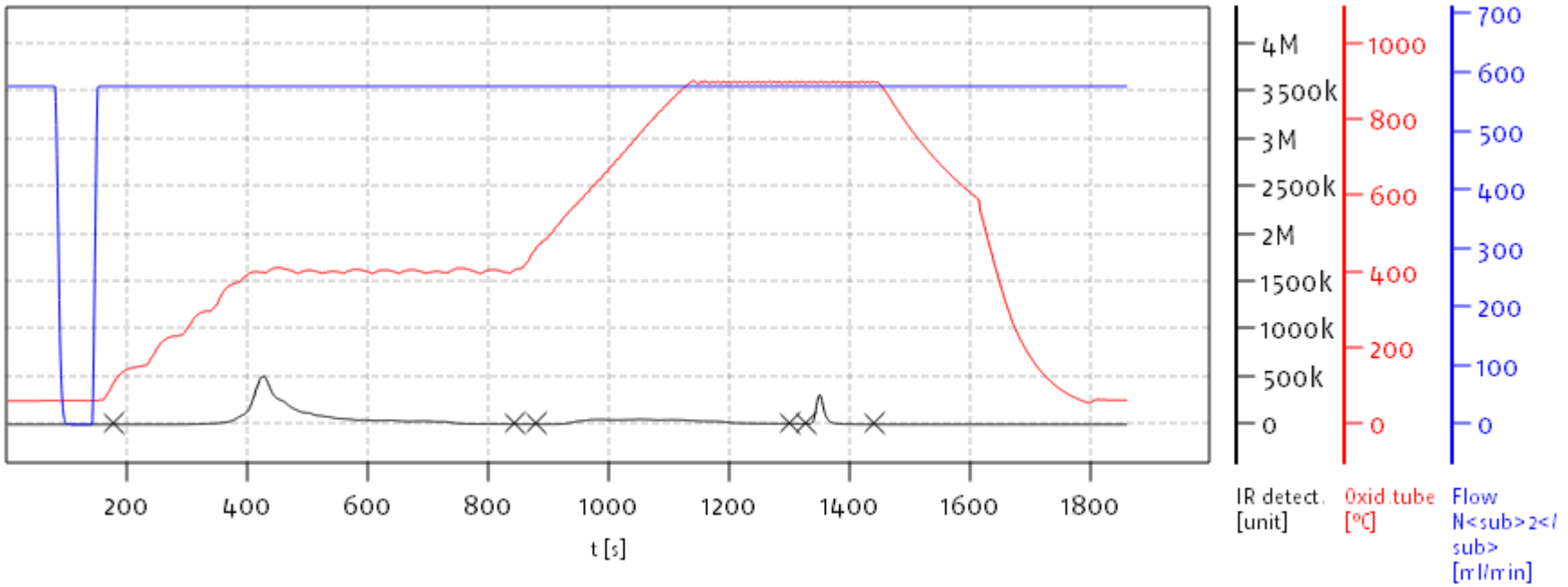
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
81	25	21G0269-06	513.00		1.00	CARBON	8/8/2021 6:15 AM	0.579	0.148	0.727	bl	1 595 650	473 315	184 550	1.0676	1.0000



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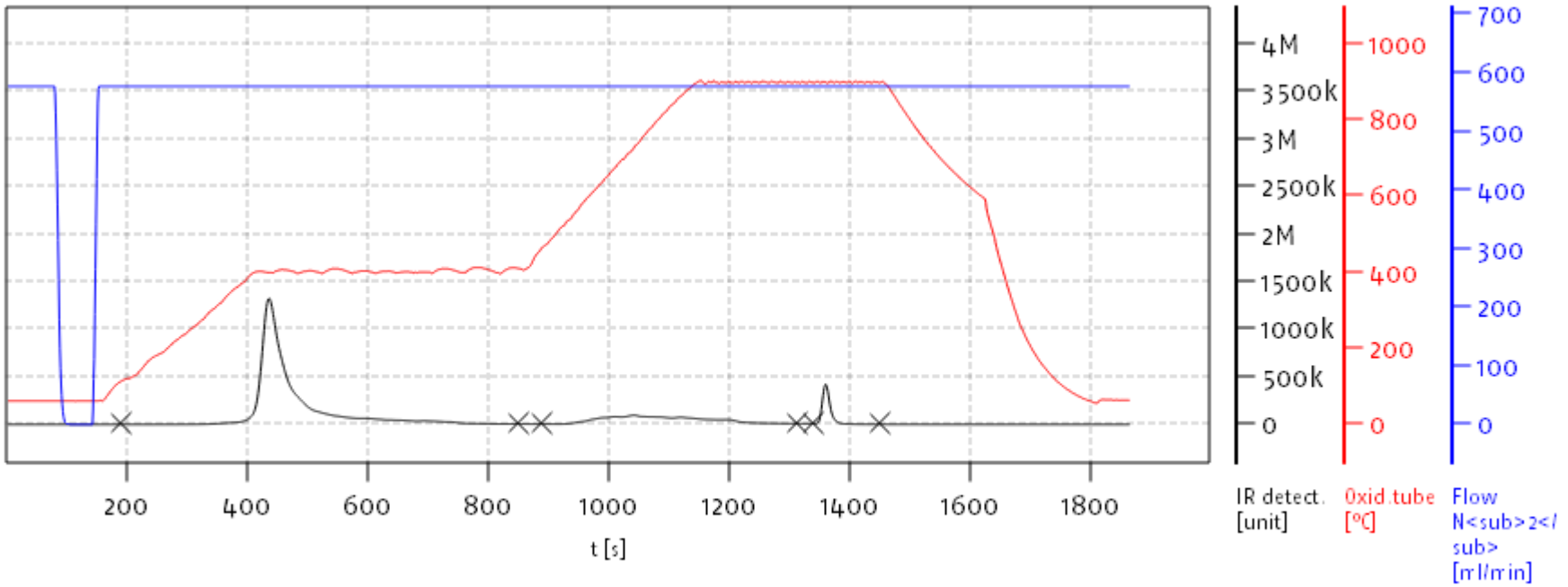
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
82	26	21G0269-07	507.00		1.00	CARBON	8/8/2021 6:47 AM	0.976	0.224	1.200	bl	2 744 450	719 492	242 063	1.0676	1.0000



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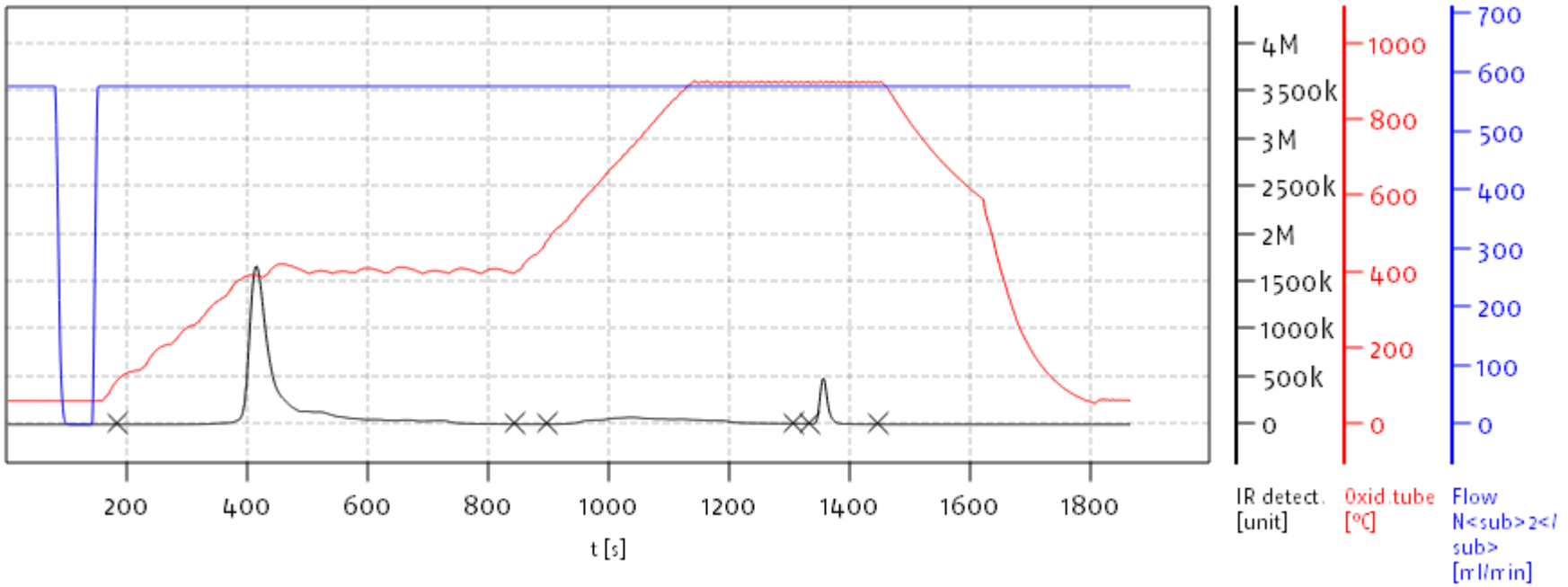
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
83	27	21G0269-08	536.20		1.00	CARBON	8/8/2021 7:18 AM	1.025	0.167	1.192	bl	3 046 880	561 942	277 960	1.0676	1.0000



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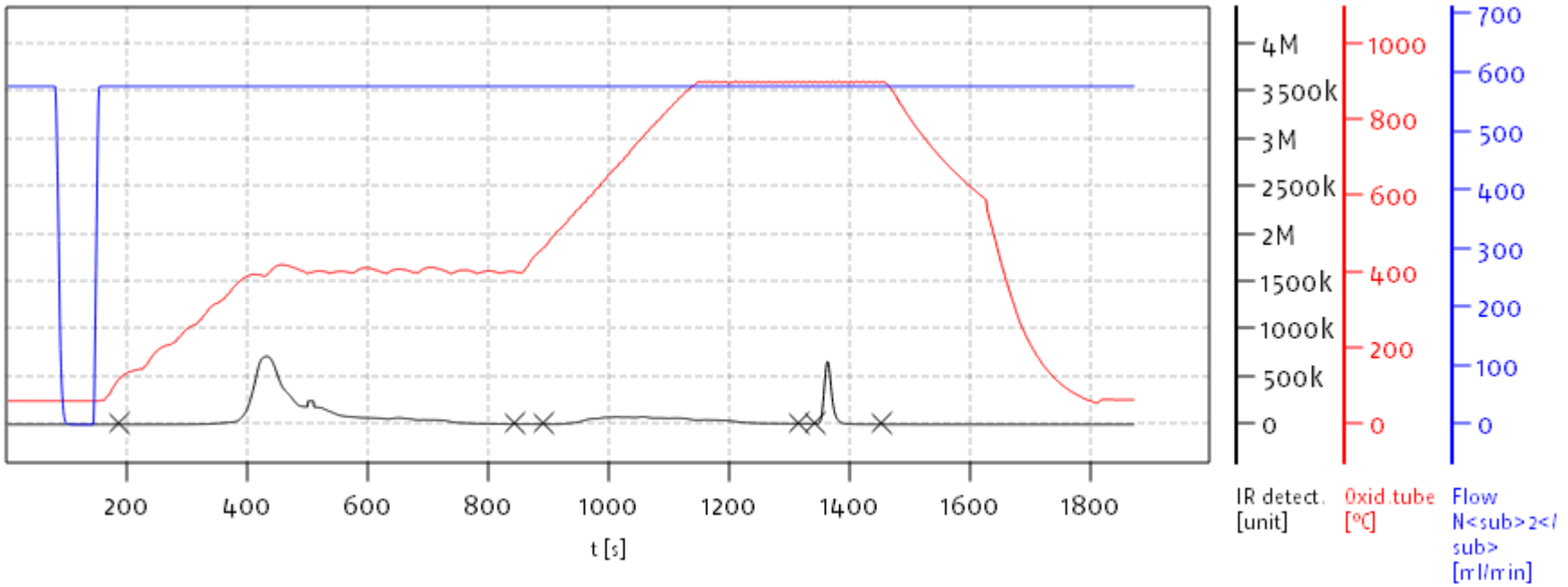
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
84	28	21G0269-10	557.90		1.00	CARBON	8/8/2021 7:50 AM	0.837	0.187	1.023	bl	2 460 470	656 569	364 098	1.0676	1.0000



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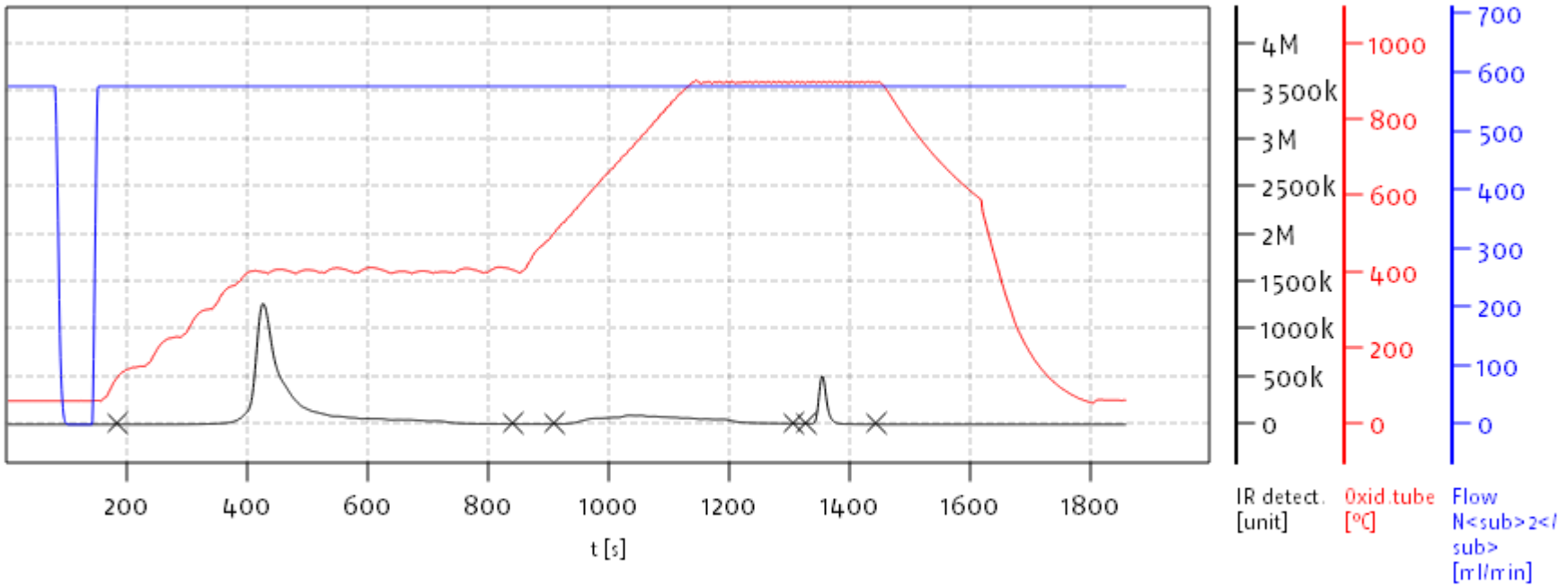
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
85	29	21G0269-11	562.50		1.00	CARBON	8/8/2021 8:21 AM	0.897	0.205	1.102	bl	2 754 810	729 748	294 863	1.0676	1.0000



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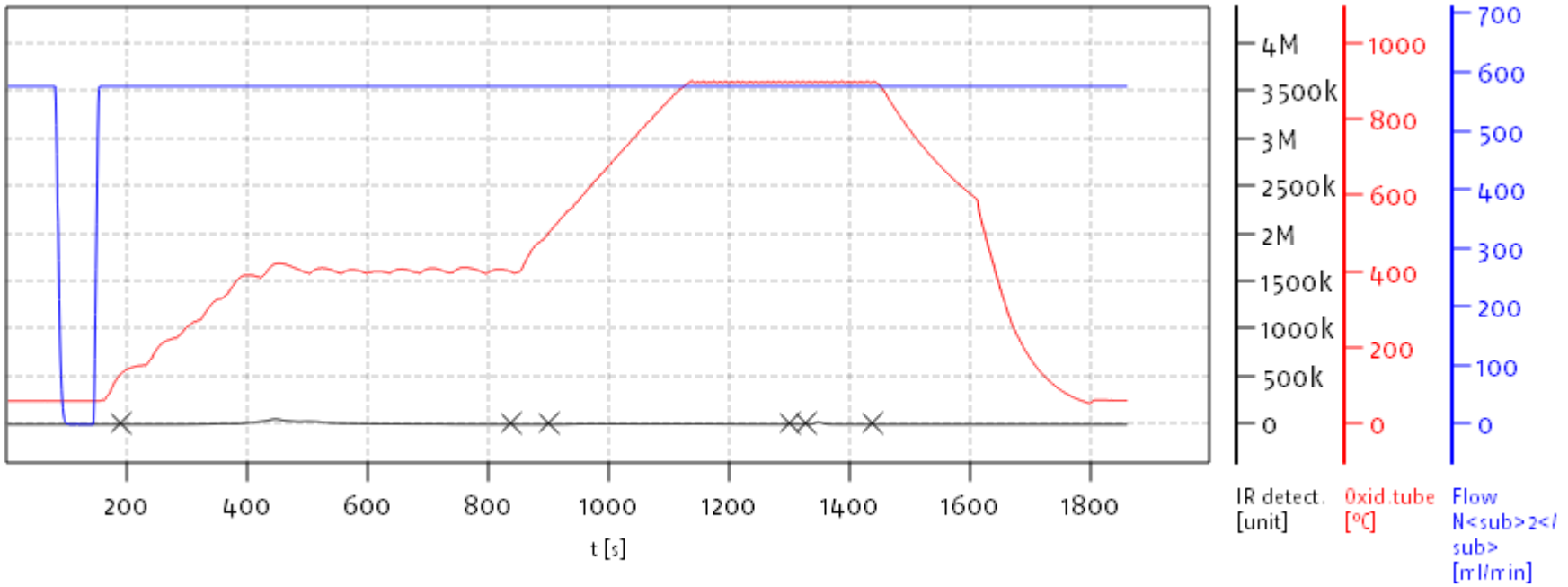
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
86	30	21G0283-15	501.10		1.00	CARBON	8/8/2021 8:53 AM	0.098	0.023	0.120	bl	245 622	54 646	15 766	1.0676	1.0000



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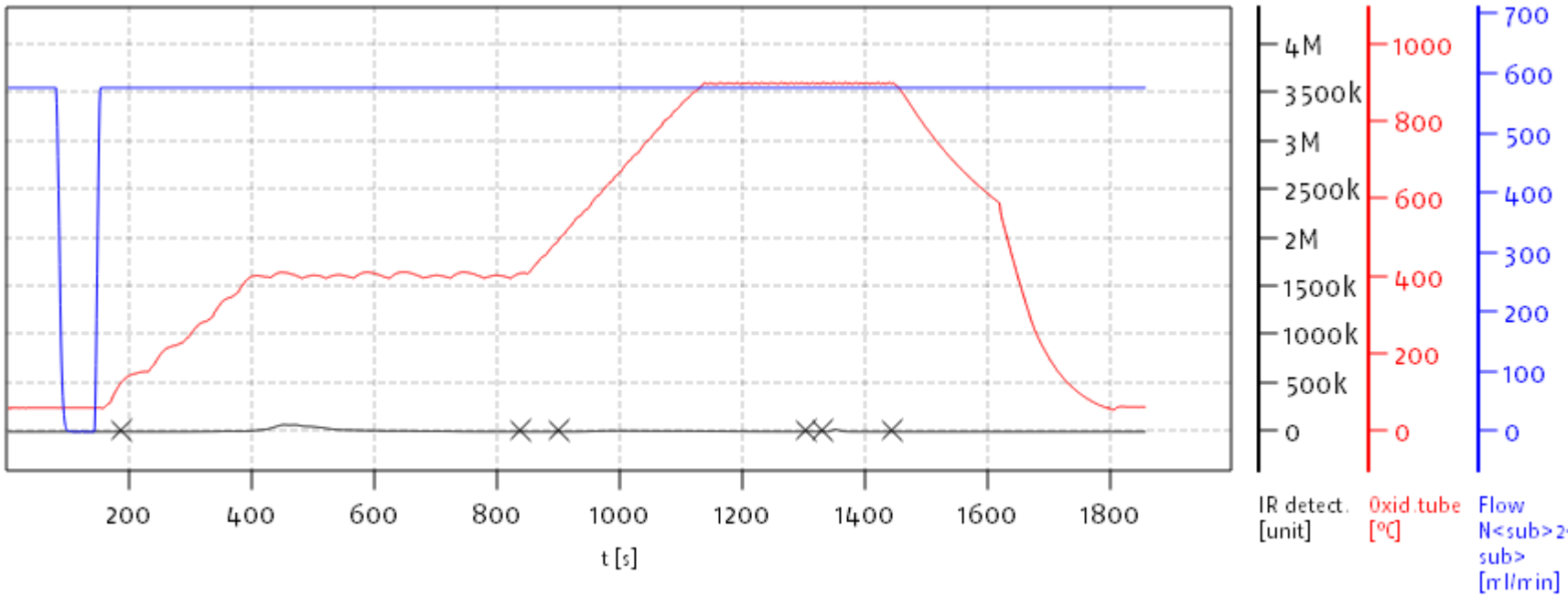
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
87	31	21G0283-16	614.30		1.00	CARBON	8/8/2021 9:24 AM	0.098	0.022	0.120	bl	316 304	68 957	13 110	1.0676	1.0000



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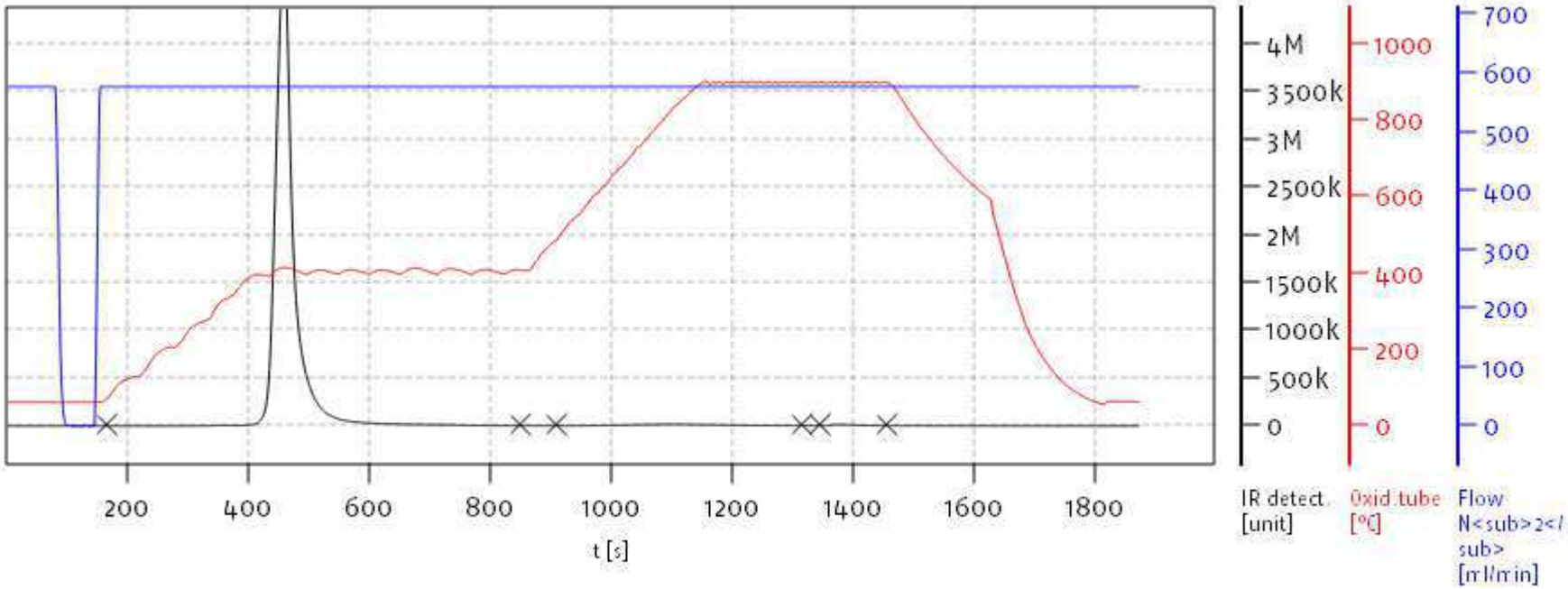
Document: 080621BF from: 8/9/2021 11:02 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
88	32	SJH0071-CCV7	23.60		1.00	CARBON	8/8/2021 9:56 AM	44.404	0.910	45.314	bl	6 310 240	120 190	28 738	1.0676	1.0000



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Access: soliTOC superuser

Date: Mon Aug 9 12:29:09 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

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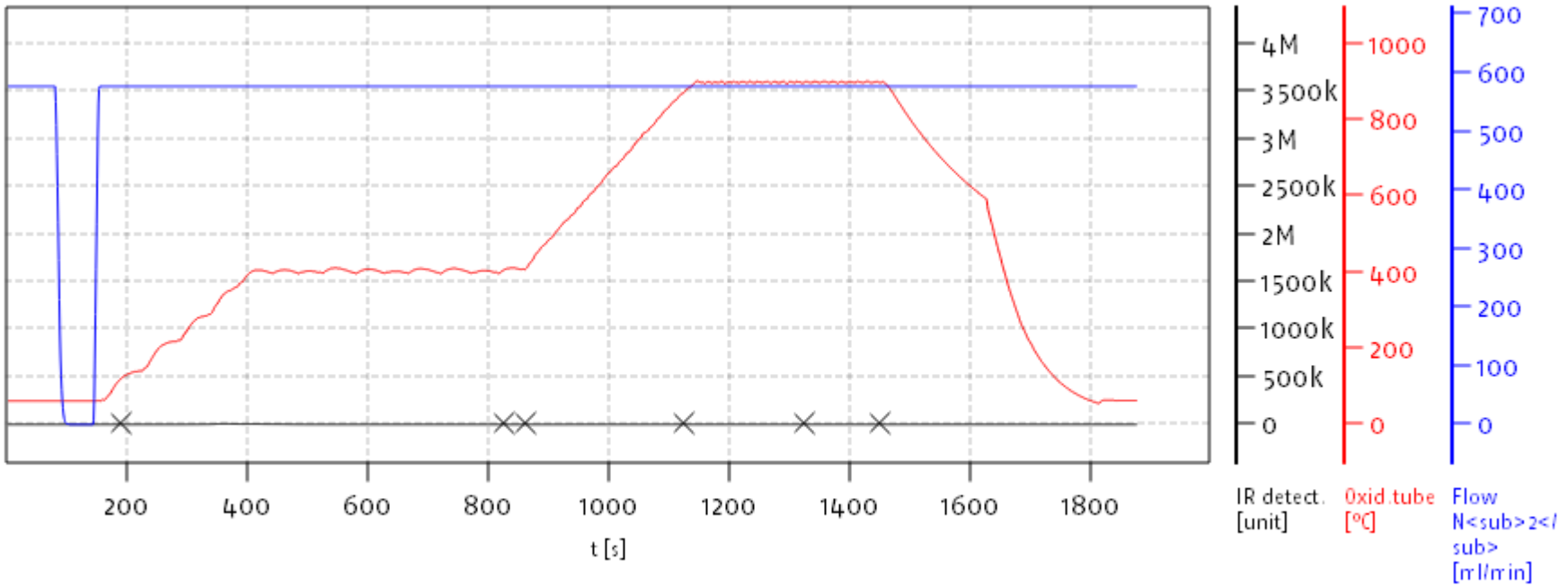
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
89	33	SJH0071-CCB7	558.00		1.00	CARBON	8/8/2021 10:27 AM	0.018	0.005	0.024	bl,C3u,C2u	24 384	608	600	1.0676	1.0000



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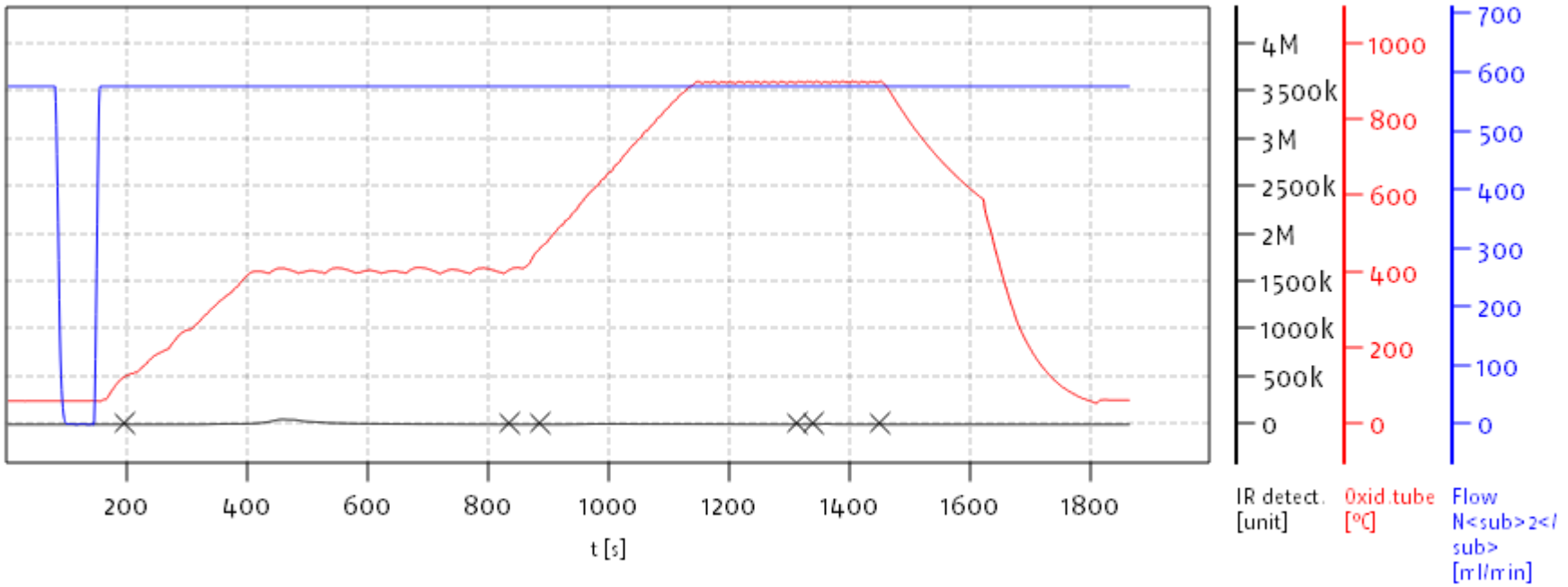
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
90	34	21G0283-17	630.90		1.00	CARBON	8/8/2021 10:59 AM	0.069	0.016	0.084	bl,C2u	221 236	45 177	5 578	1.0676	1.0000



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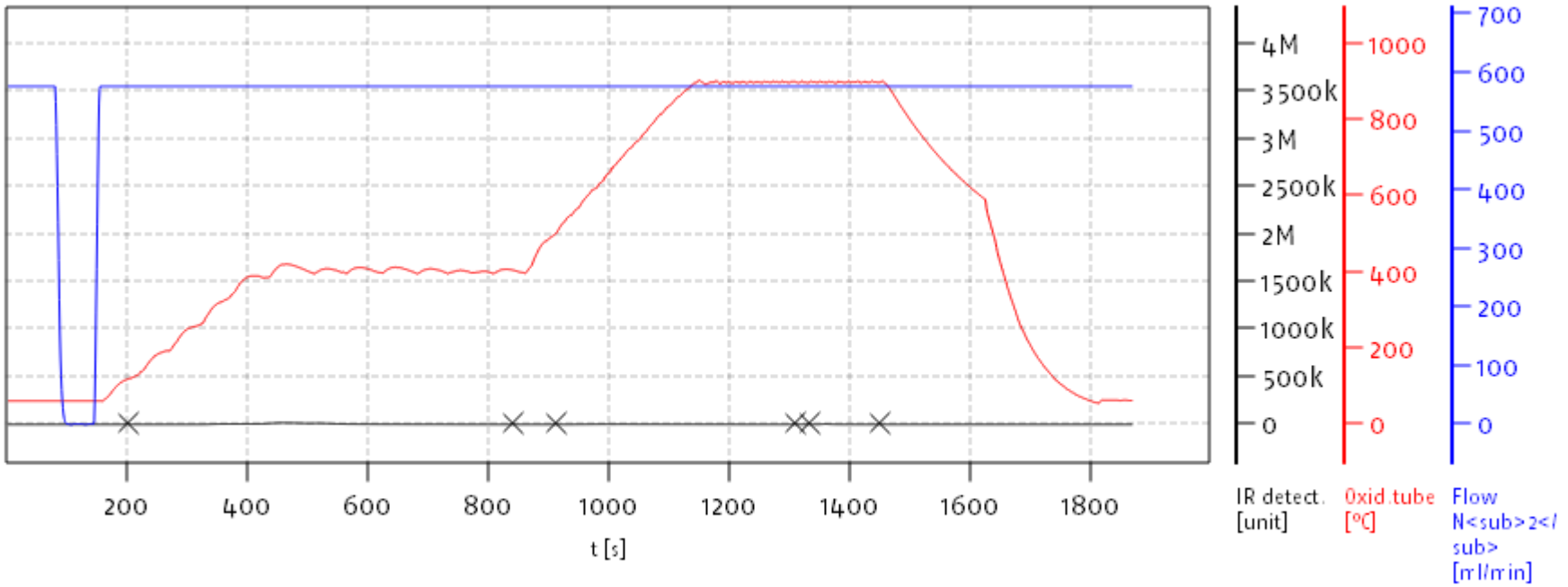
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
91	35	21G0283-18	565.90		1.00	CARBON	8/8/2021 11:30 AM	0.039	0.010	0.049	bl,C2u	92 679	18 307	4 051	1.0676	1.0000



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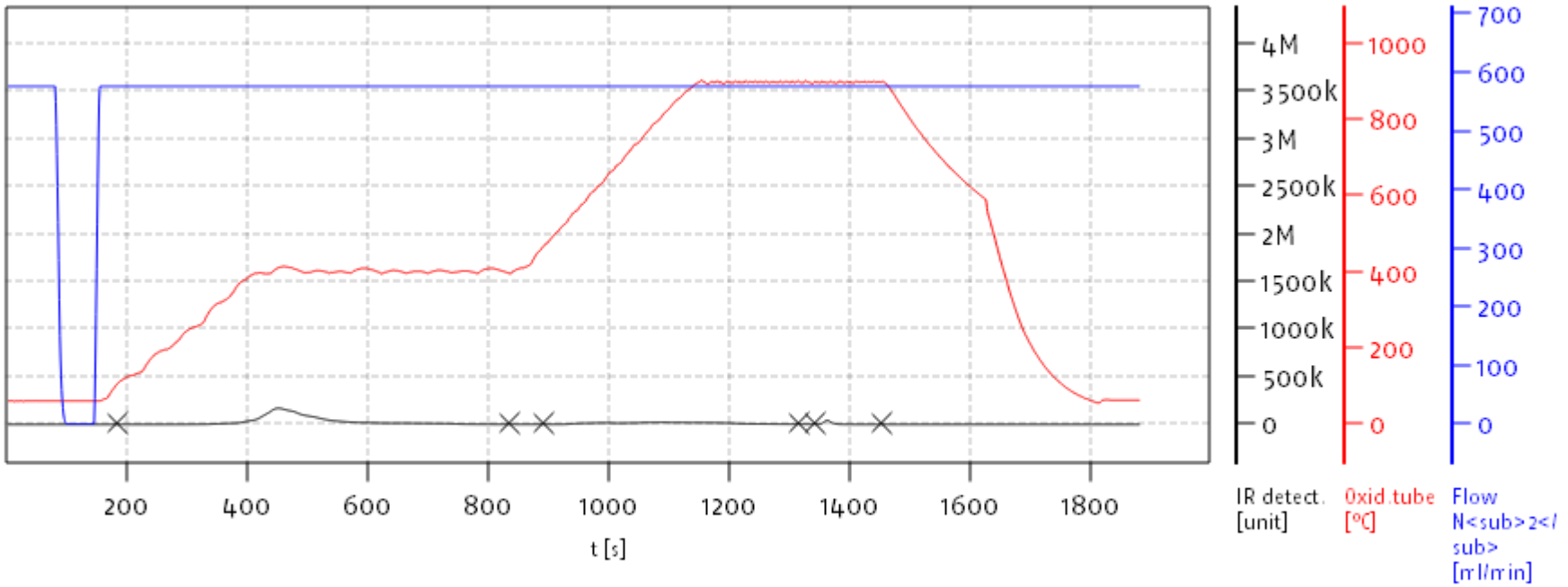
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
92	36	21G0285-08	541.30		1.00	CARBON	8/8/2021 12:02 PM	0.228	0.060	0.288	bl	688 248	192 111	25 078	1.0676	1.0000



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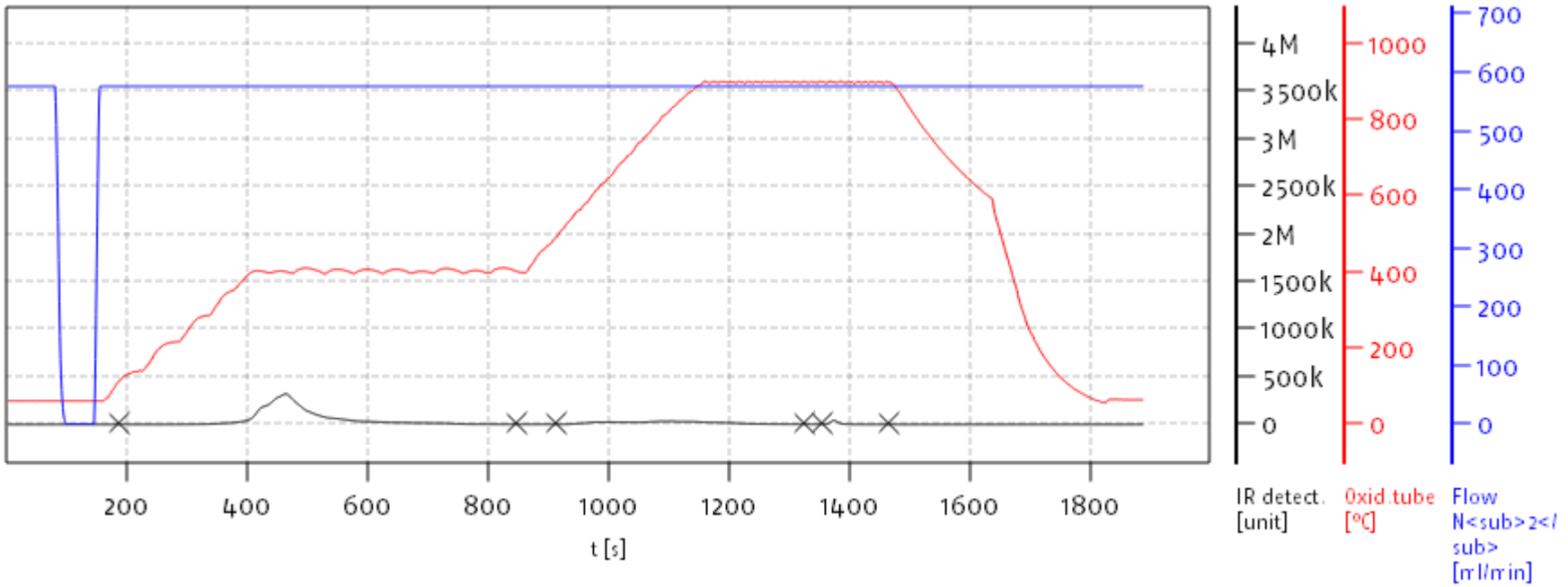
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
93	37	21G0285-09	574.50		1.00	CARBON	8/8/2021 12:34 PM	0.354	0.075	0.429	bl	1 174 630	259 769	25 840	1.0676	1.0000



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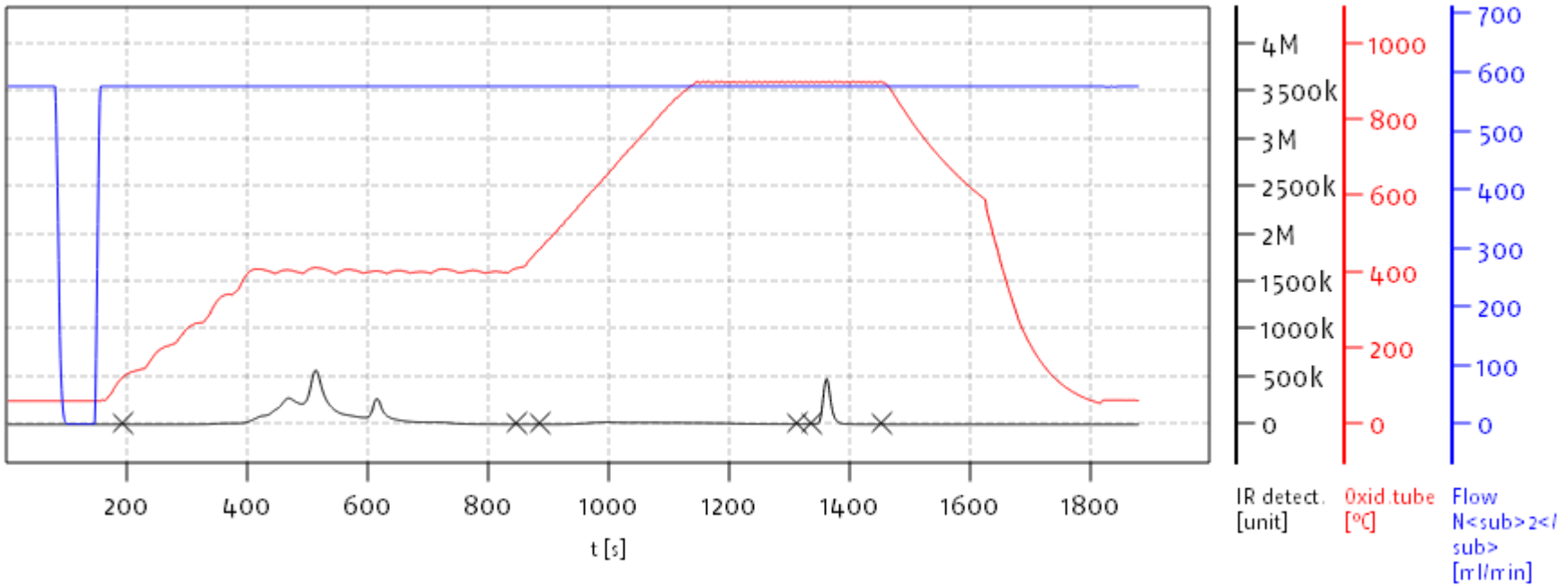
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
94	38	21G0303-01	528.20		1.00	CARBON	8/8/2021 1:06 PM	0.644	0.060	0.704	bl	1 777 570	184 908	272 398	1.0676	1.0000



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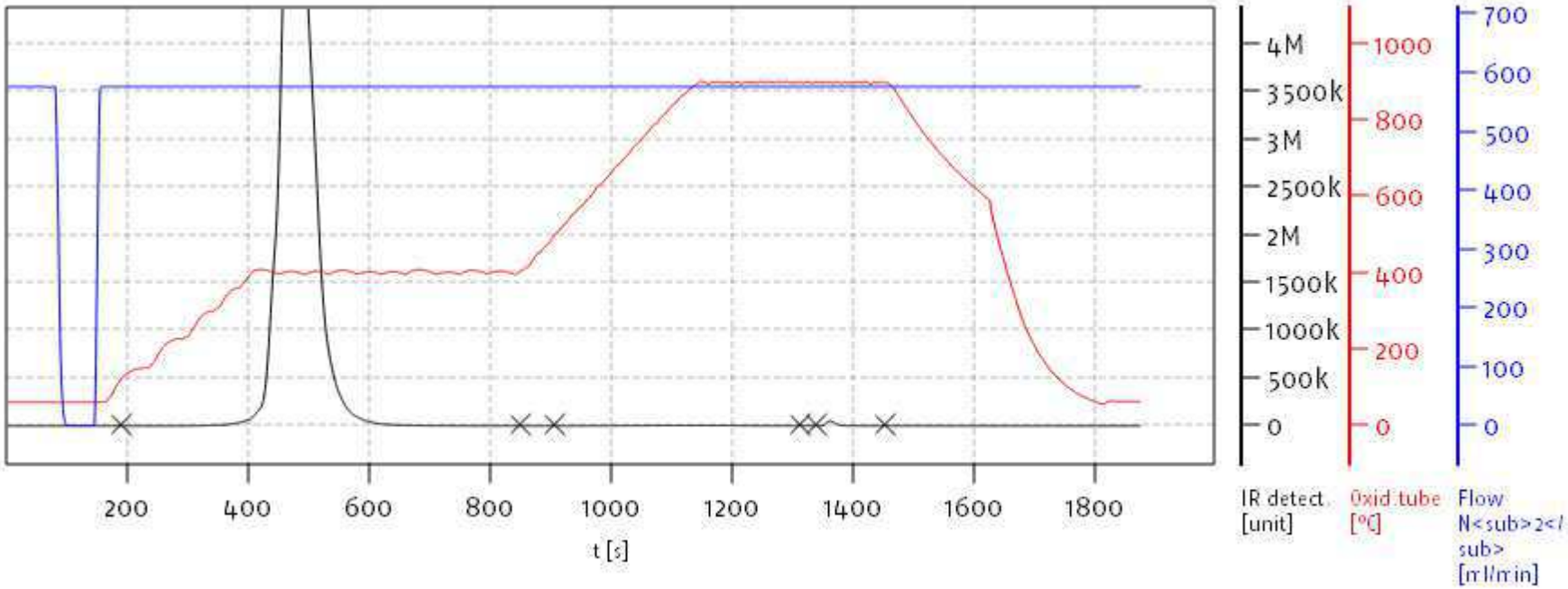
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
95	39	21G0303-02	551.70		1.00	CARBON	8/8/2021 1:37 PM	4.305	0.018	4.323	bl,C1o	14 378 000	44 567	36 197	1.0676	1.0000



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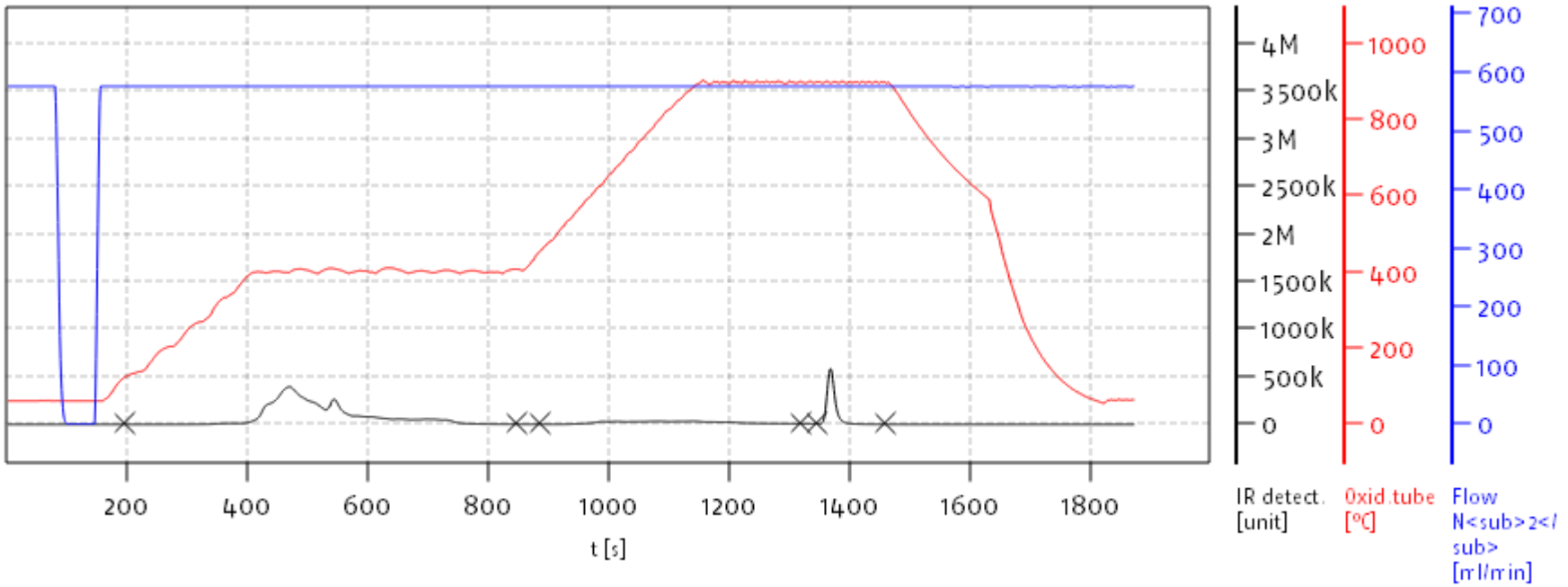
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
96	40	21G0303-03	528.70		1.00	CARBON	8/8/2021 2:09 PM	0.678	0.097	0.775	bl	1 826 300	312 925	337 786	1.0676	1.0000



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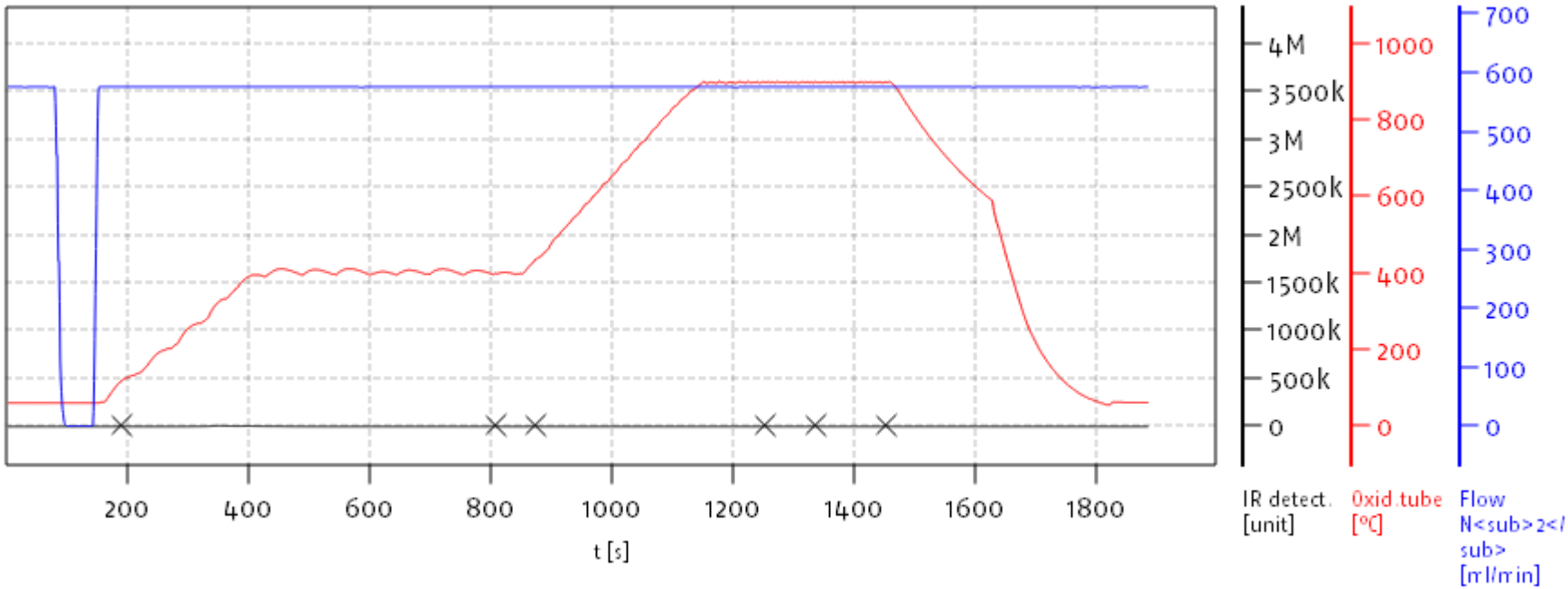
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
97	41	BLANK	1.00		1.00	CARBON	8/8/2021 2:41 PM	0.000	0.000	0.000	bl	26 272	974	317	1.0676	1.0000



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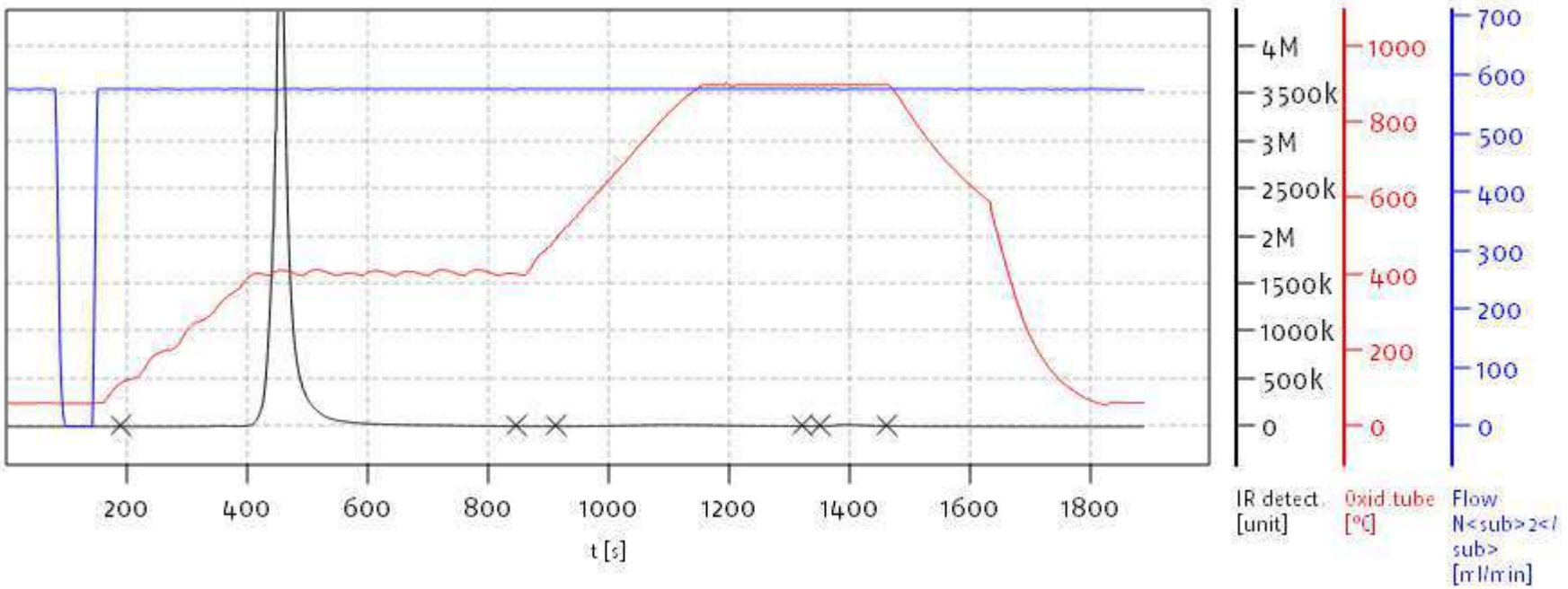
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
98	42	Dfactor	21.70		1.00	CARBON	8/8/2021 3:13 PM	44.906	1.182	46.088	bl	5 680 860	147 246	45 611	1.0988	1.0000



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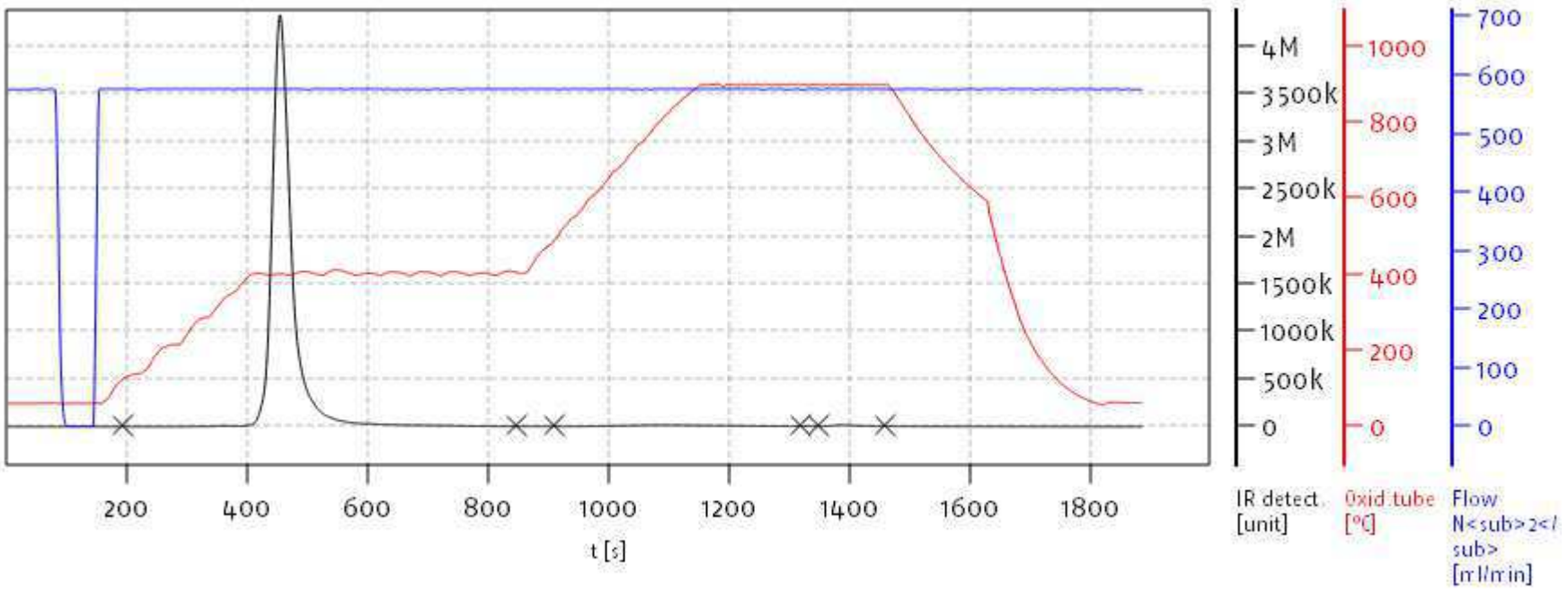
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
99	43	Dfactor	22.60		1.00	CARBON	8/8/2021 3:45 PM	44.814	1.012	45.826	bl	6 101 960	129 234	34 741	1.0657	1.0000



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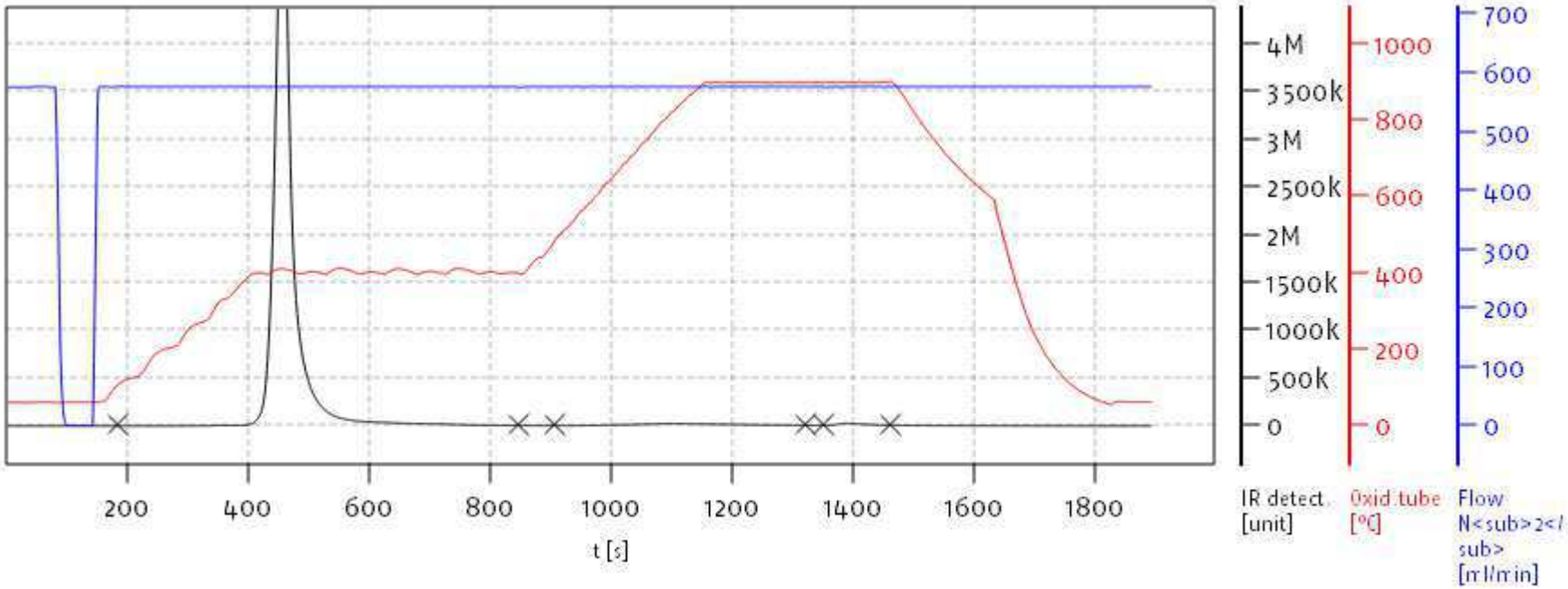
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
100	44	SJH0071-CCV8	27.70		1.00	CARBON	8/8/2021 4:17 PM	44.858	1.184	46.042	bl	7 363 820	193 616	59 856	1.0823	1.0000



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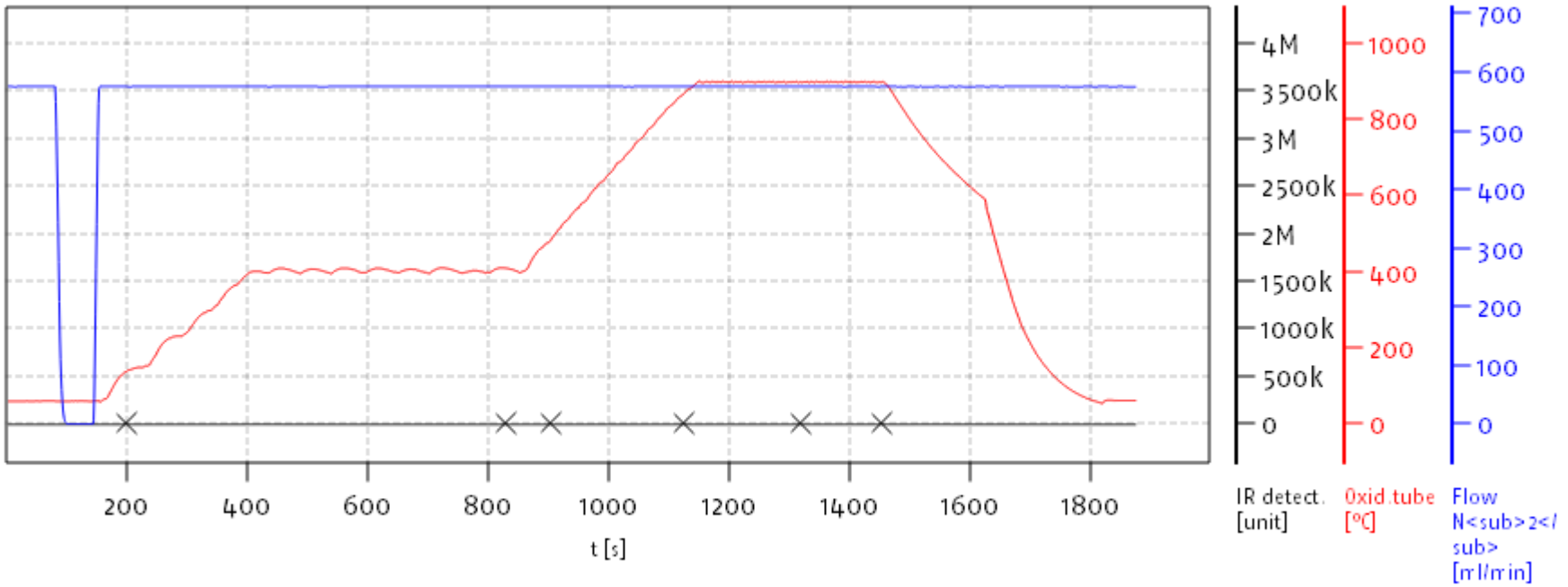
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
101	45	SJH0071-CCB8	612.20		1.00	CARBON	8/8/2021 4:48 PM	0.011	0.005	0.016	bl,C1u,C3u,C2u	3 459	518	1 300	1.0823	1.0000



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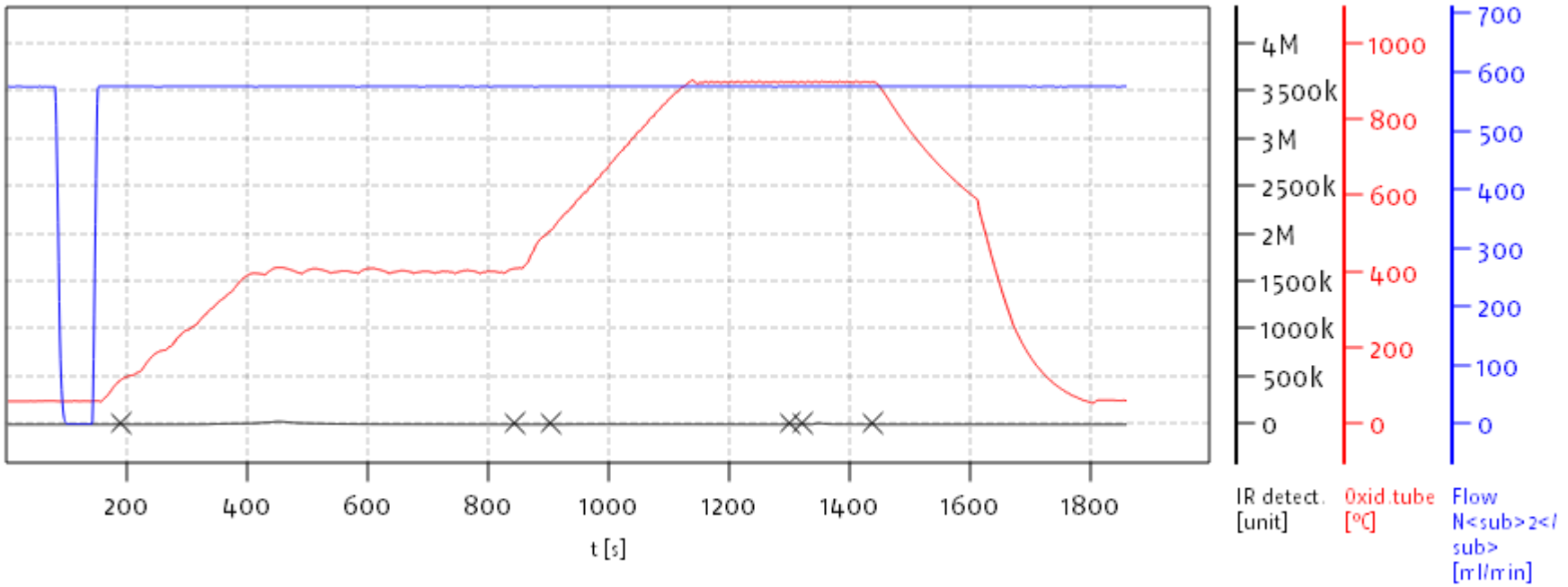
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
102	46	21G0303-04	636.40		1.00	CARBON	8/8/2021 5:20 PM	0.045	0.009	0.054	bl	123 692	16 366	11 348	1.0823	1.0000



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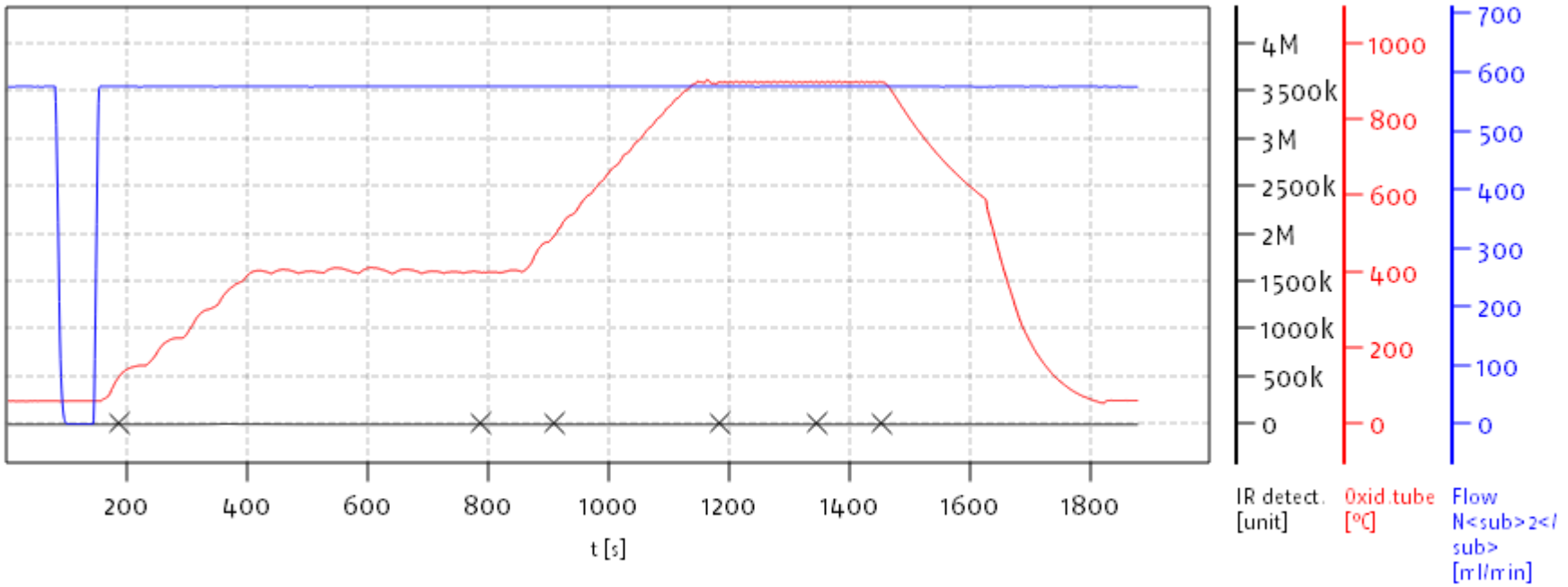
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
103	47	BJH0153-MRL1	580.60		1.00	CARBON	8/8/2021 5:51 PM	0.016	0.005	0.022	bl,C3u,C2u	18 236	1 311	705	1.0823	1.0000



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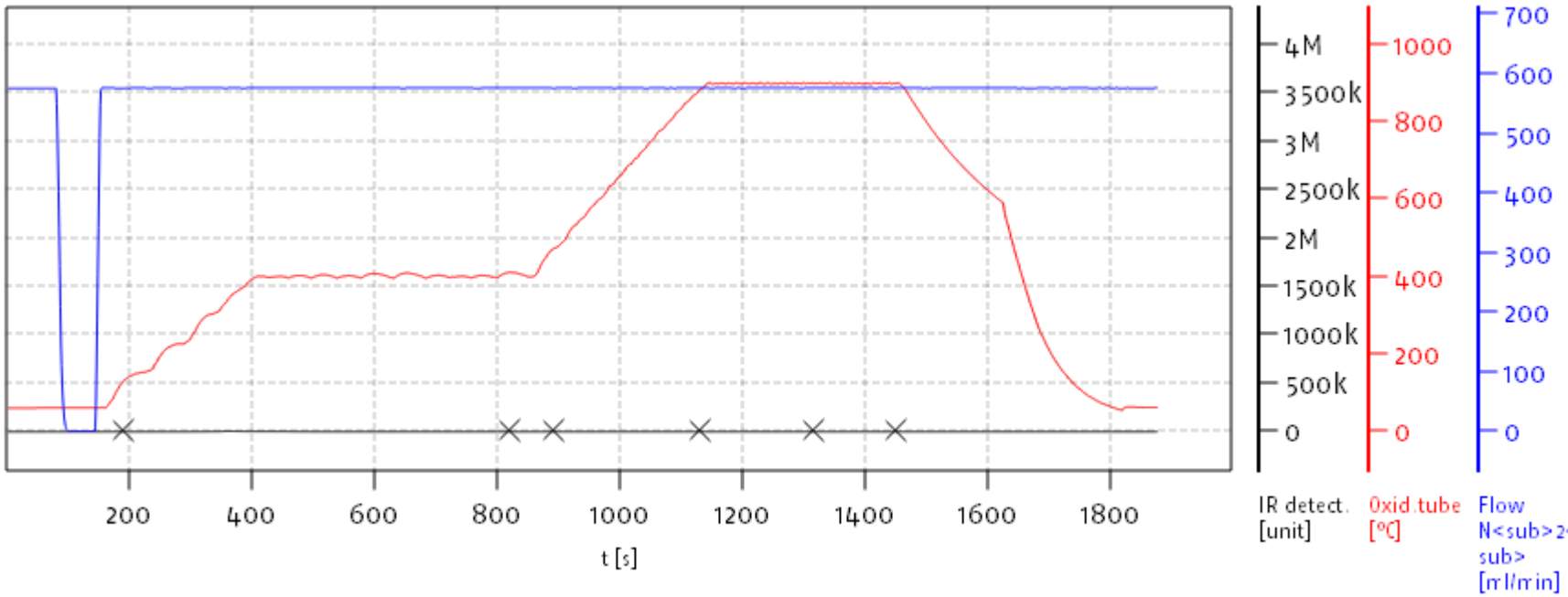
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
104	48	BJH0153-BLK1	607.00		1.00	CARBON	8/8/2021 6:23 PM	0.015	0.005	0.021	bl,C3u,C2u	18 404	830	608	1.0823	1.0000



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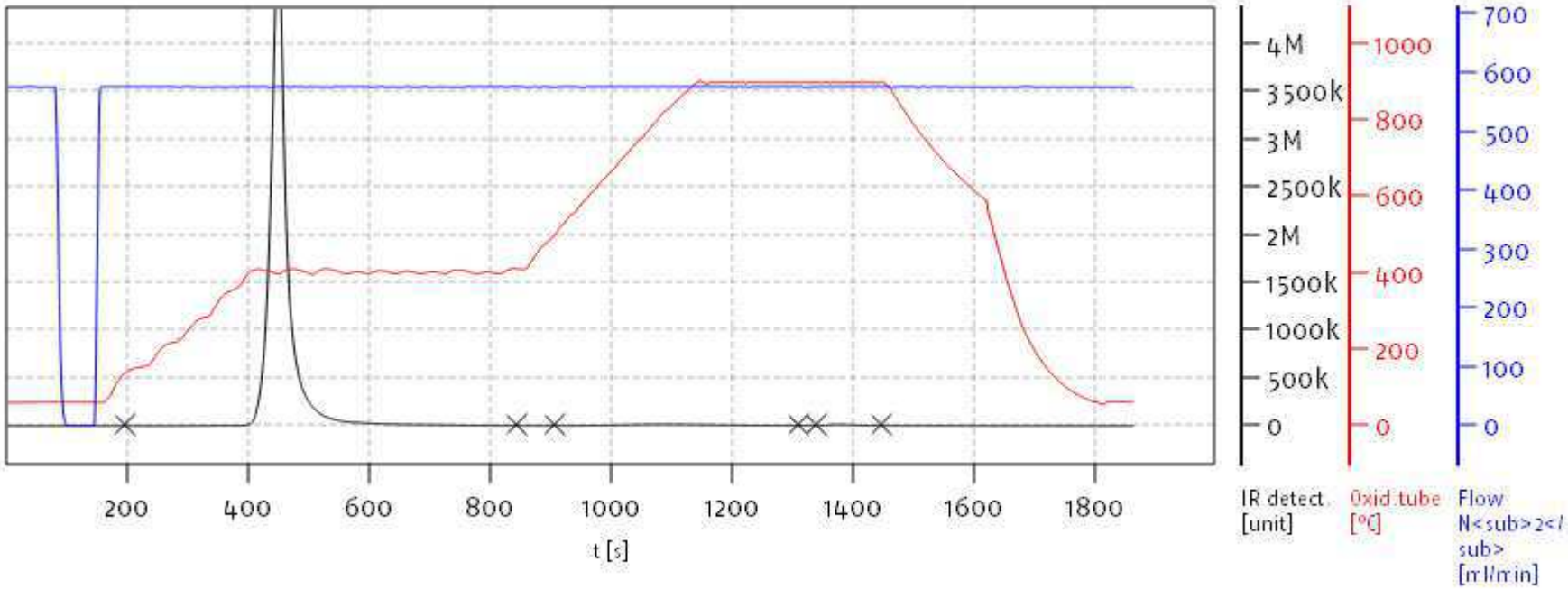
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
105	49	BJH0153-BS1	22.40		1.00	CARBON	8/8/2021 6:55 PM	45.179	0.991	46.170	bl	6 006 730	124 839	31 275	1.0823	1.0000



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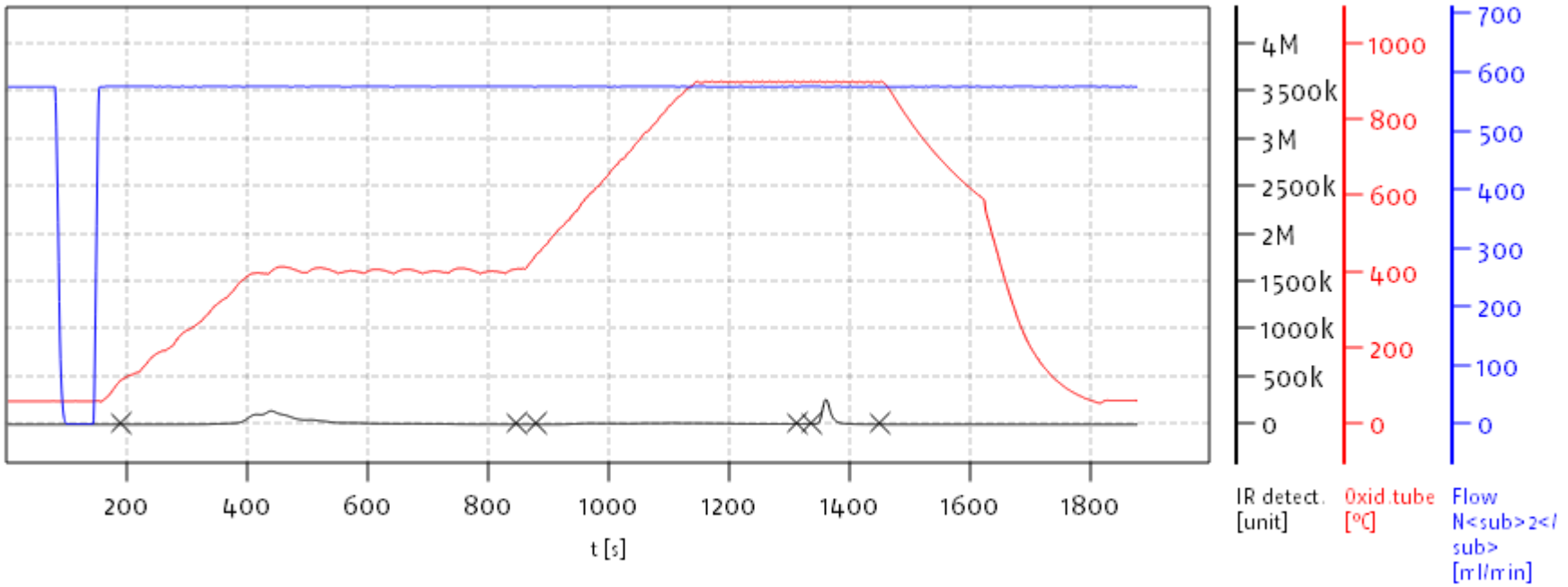
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
106	50	BJH0153-SRM1	42.40		1.00	CARBON	8/8/2021 7:26 PM	2.801	0.548	3.349	bl	521 260	131 563	166 809	1.0823	1.0000



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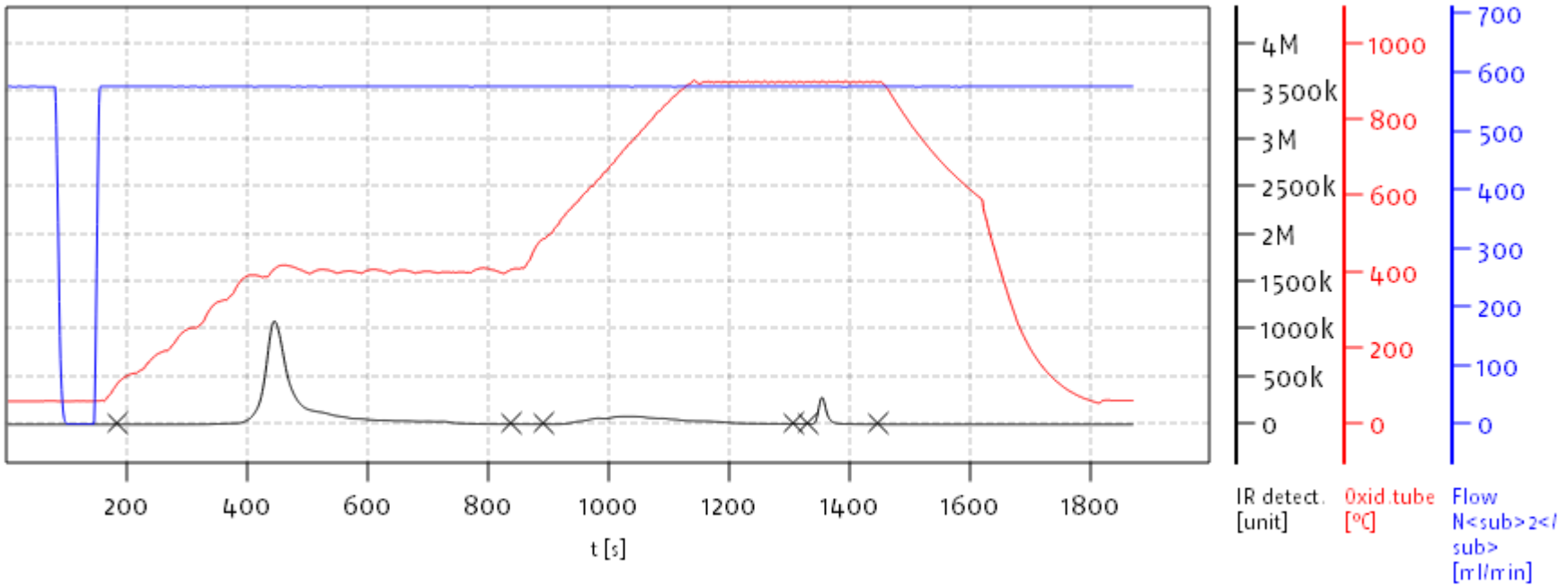
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
107	51	21G0230-01	560.80		1.00	CARBON	8/8/2021 7:58 PM	0.753	0.161	0.914	bl	2 338 670	565 890	170 832	1.0823	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

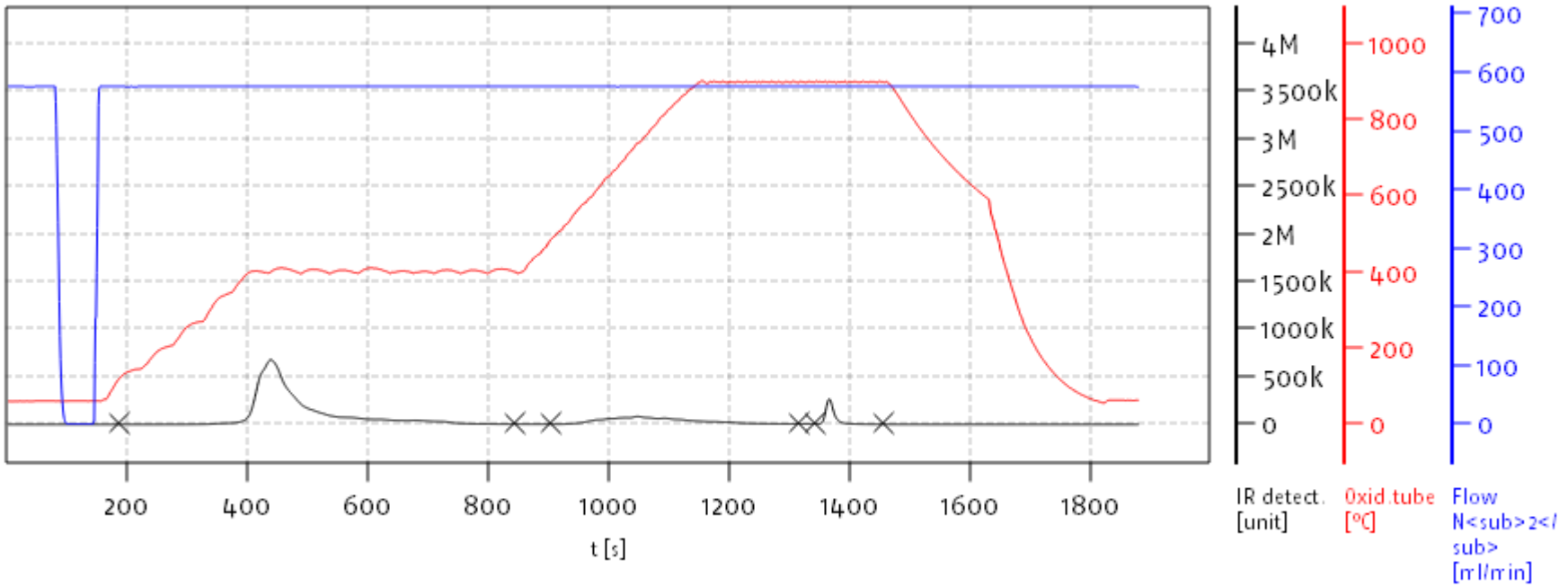
elementar
EXCELLENCE IN ELEMENTS

Document: 080621BF from: 8/9/2021 11:02 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
108	52	BJH0153-DUP1	550.50		1.00	CARBON	8/8/2021 8:30 PM	0.700	0.152	0.852	bl	2 121 540	523 323	166 116	1.0823	1.0000



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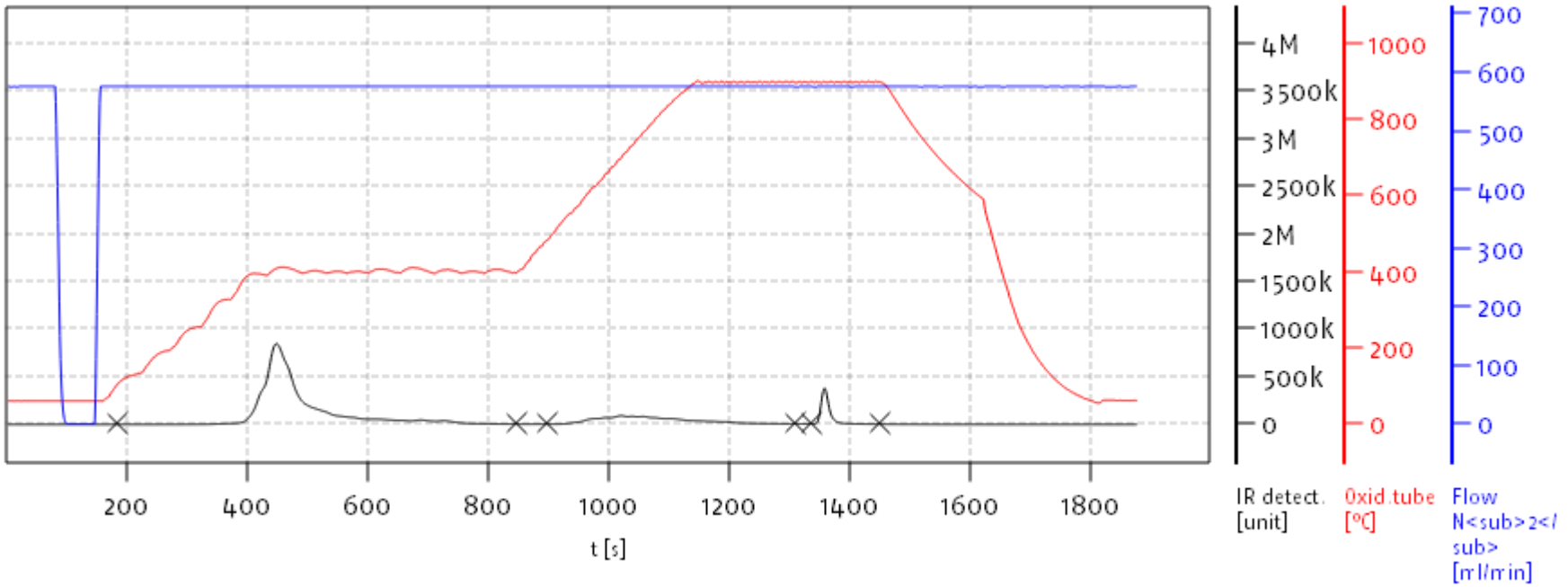
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
109	53	BJH0153-DUP2	598.30		1.00	CARBON	8/8/2021 9:01 PM	0.727	0.159	0.887	bl	2 355 310	600 350	236 097	1.0823	1.0000



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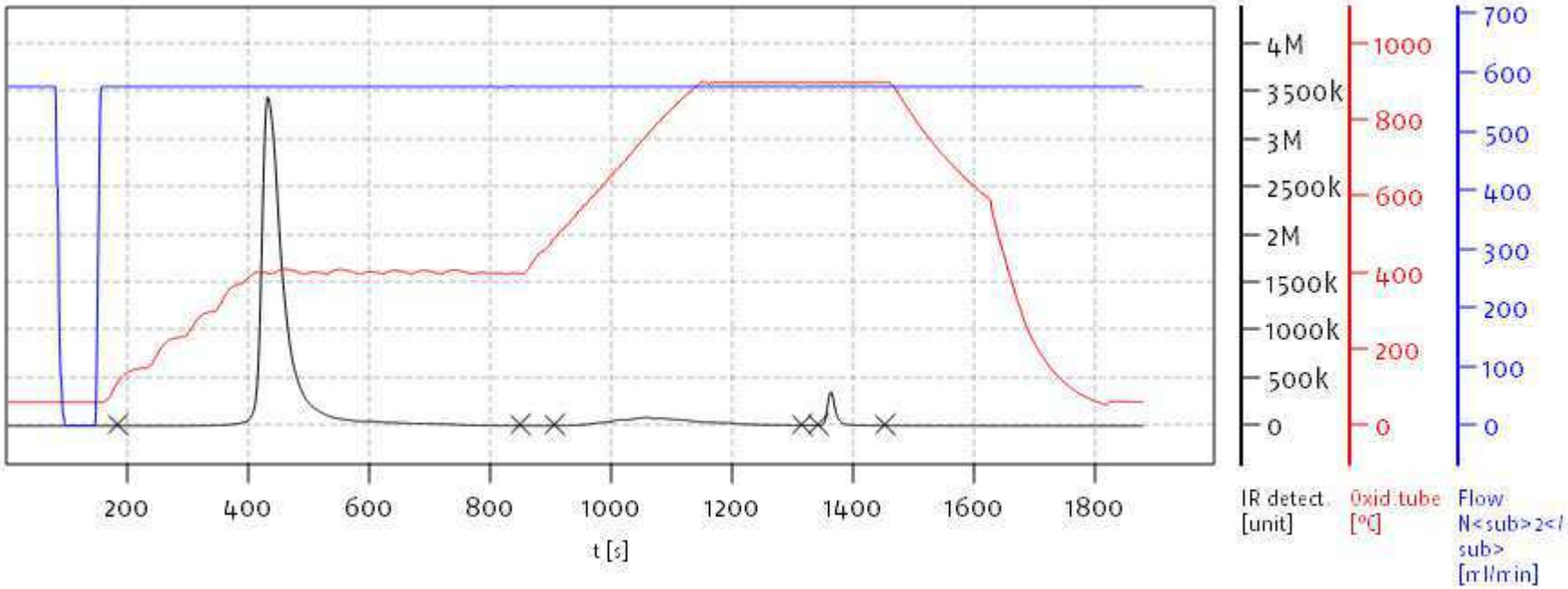
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
110	54	BJH0153-MS1	540.10	0.0123	1.00	CARBON	8/8/2021 9:33 PM	1.788	0.162	1.950	bl	5 556 410	549 431	216 221	1.0823	1.0000



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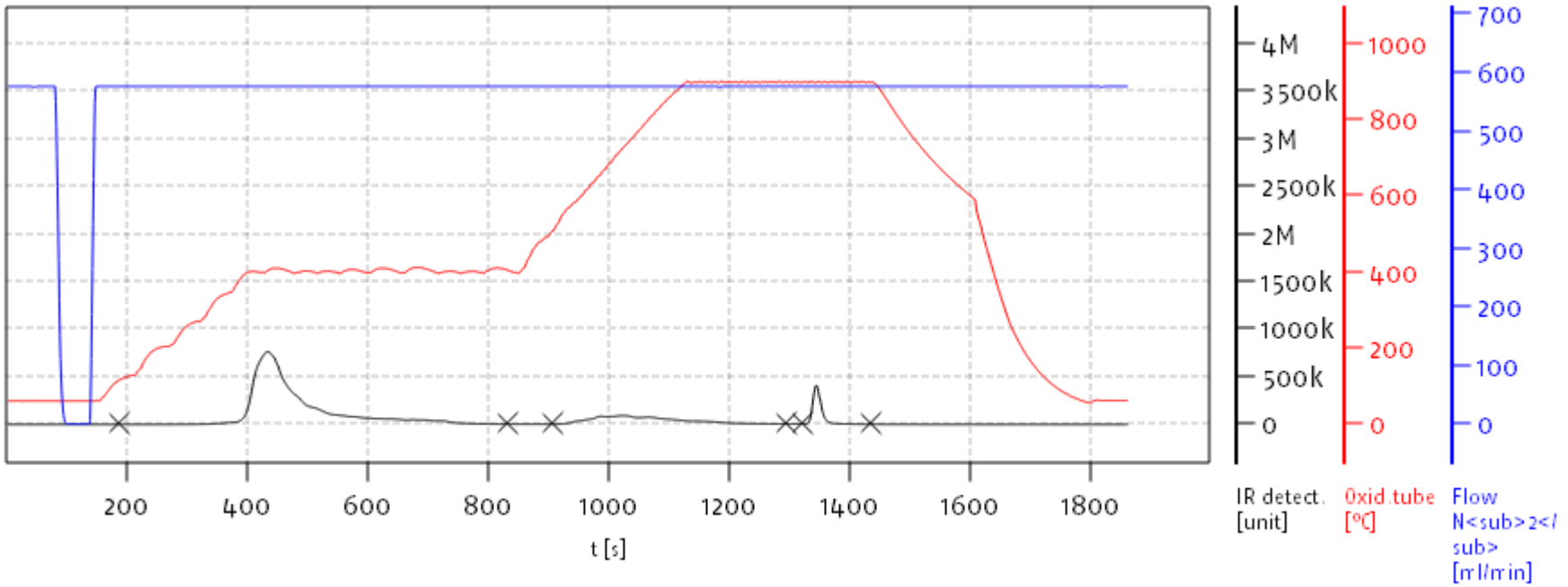
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
111	55	21G0230-02	637.40		1.00	CARBON	8/8/2021 10:04 PM	0.744	0.146	0.889	bl	2 572 110	583 139	255 101	1.0823	1.0000



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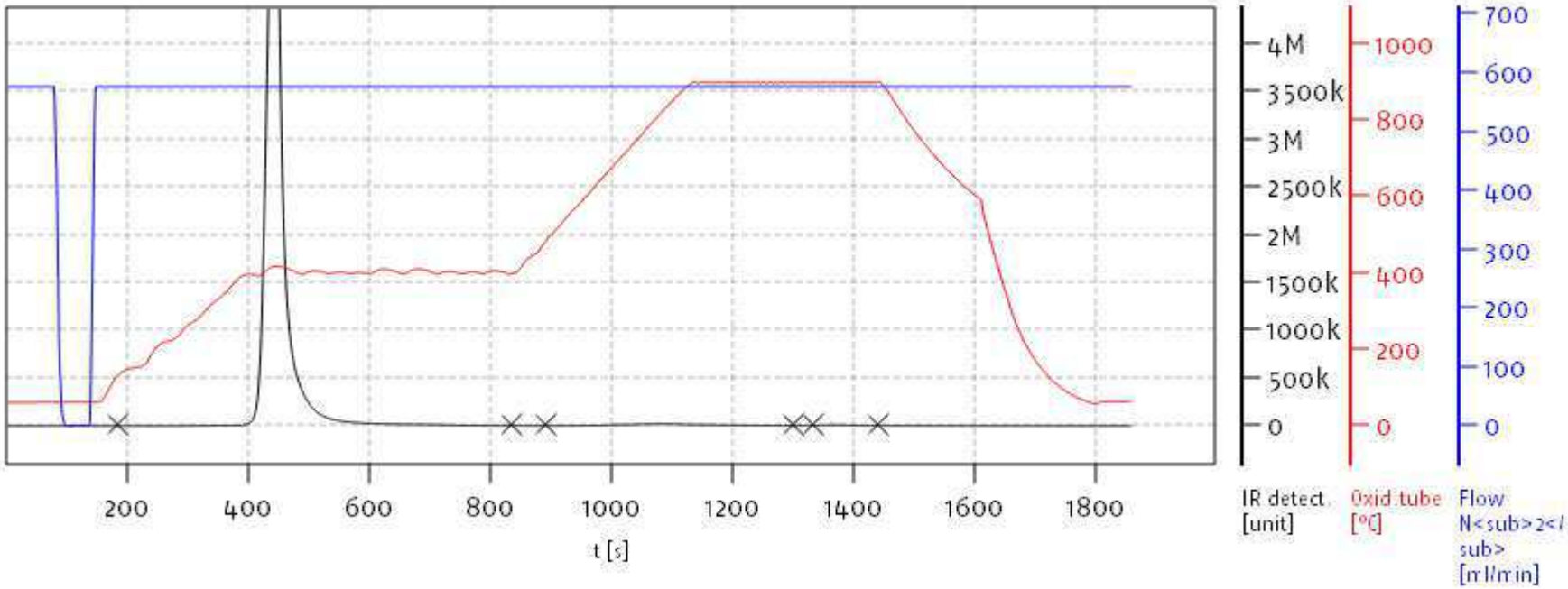
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
112	56	SJH0071-CCV9	28.20		1.00	CARBON	8/8/2021 10:36 PM	45.663	0.894	46.558	bl	7 667 550	144 453	24 274	1.0823	1.0000



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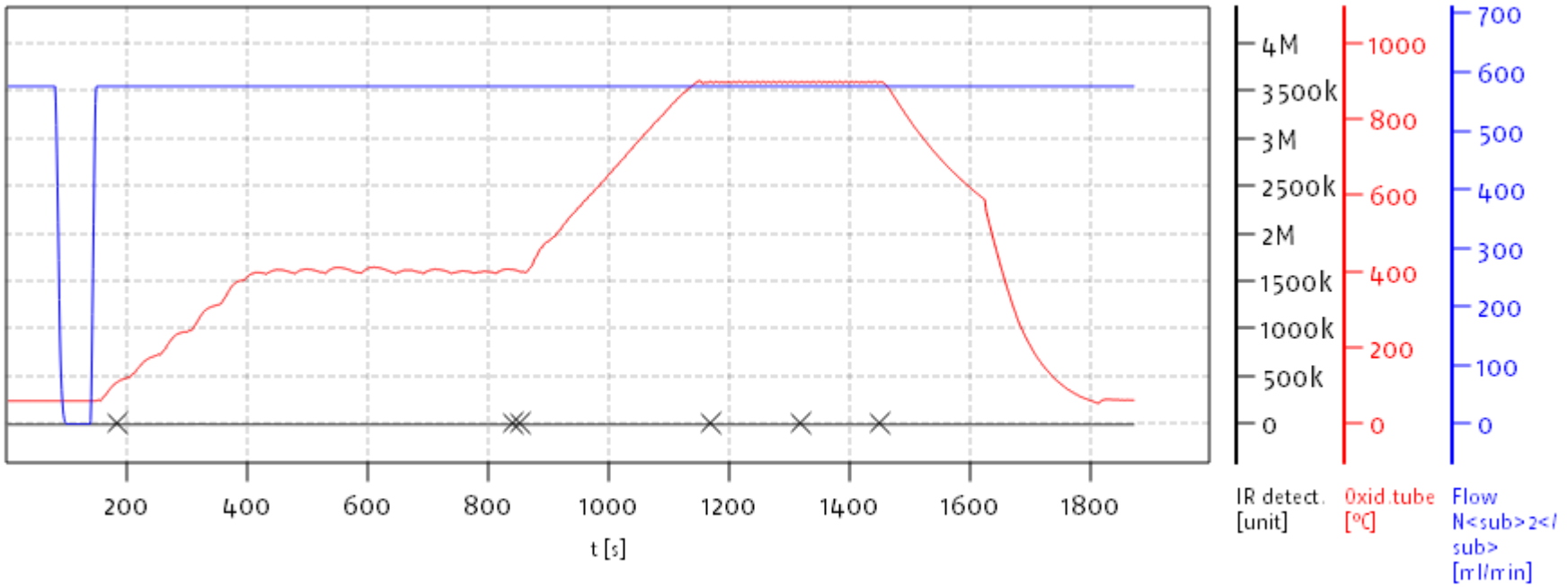
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
113	57	SJH0071-CCB9	670.30		1.00	CARBON	8/8/2021 11:07 PM	0.011	0.005	0.016	bl,C3u,C2u	7 863	548	718	1.0823	1.0000



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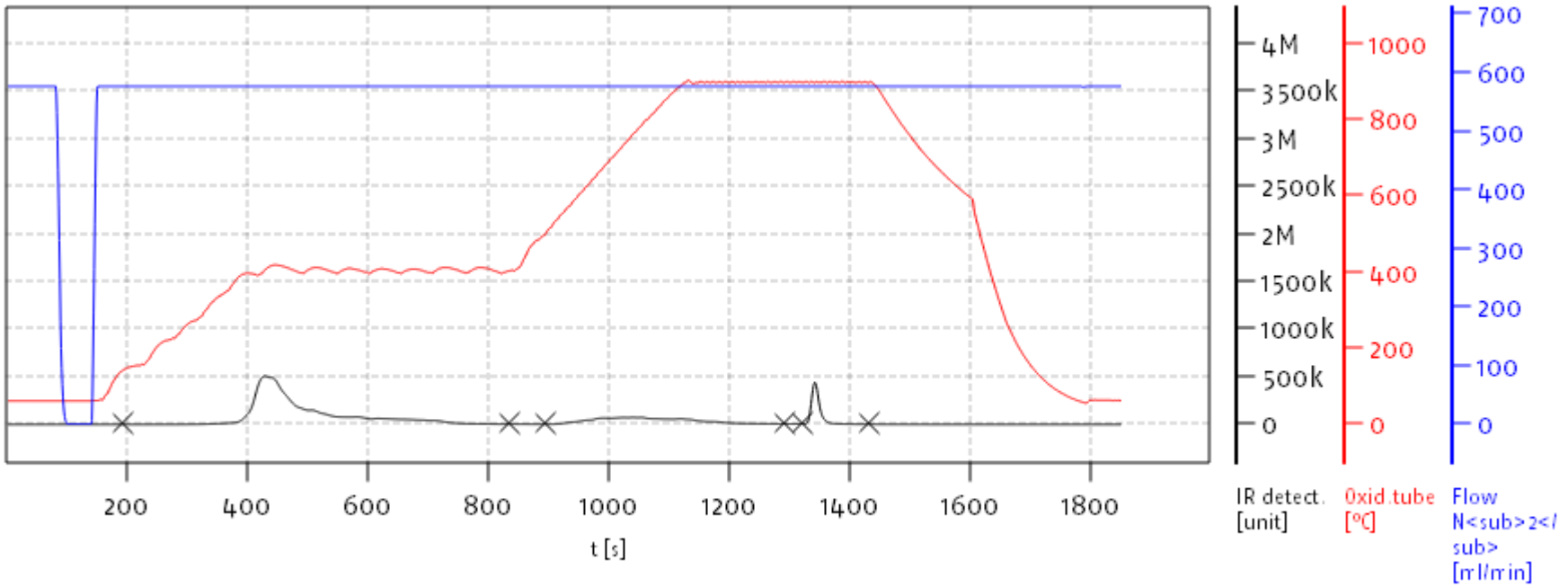
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
114	58	21G0230-03	555.50		1.00	CARBON	8/8/2021 11:39 PM	0.653	0.158	0.811	bl	1 898 170	551 474	261 264	1.0823	1.0000



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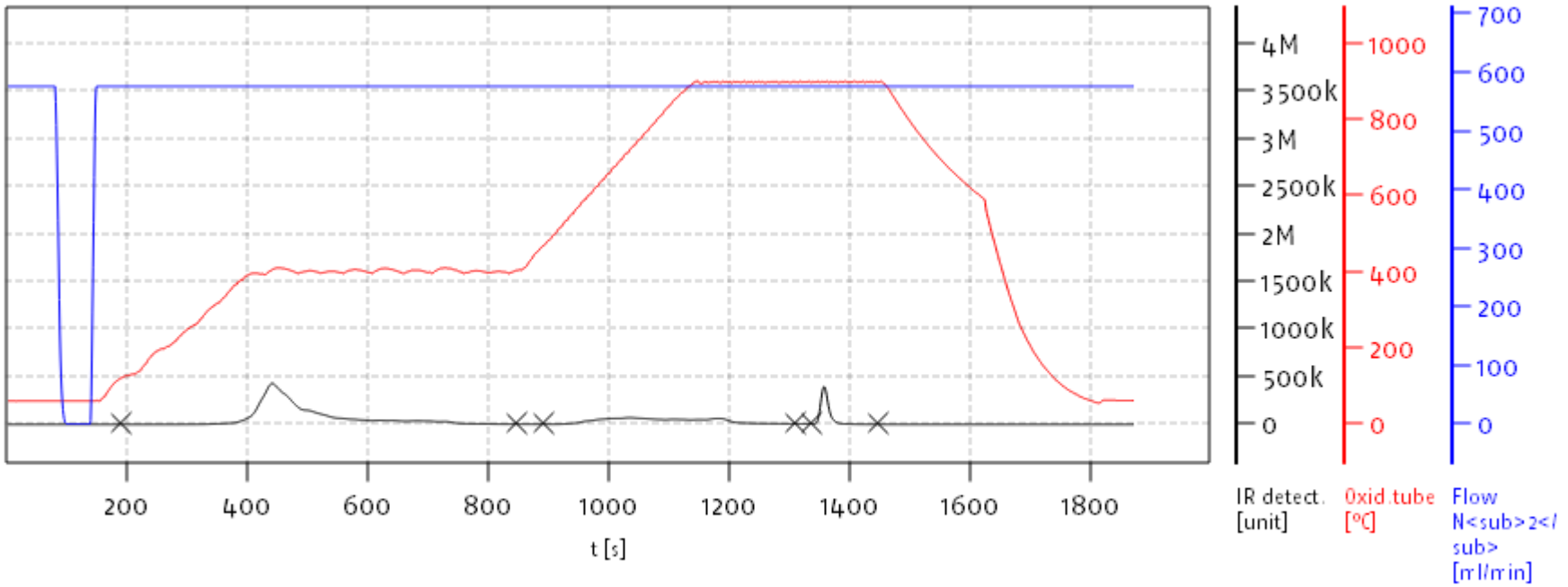
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
115	59	21G0230-04	641.00		1.00	CARBON	8/9/2021 12:10 AM	0.460	0.142	0.602	bl	1 517 060	570 859	232 541	1.0823	1.0000



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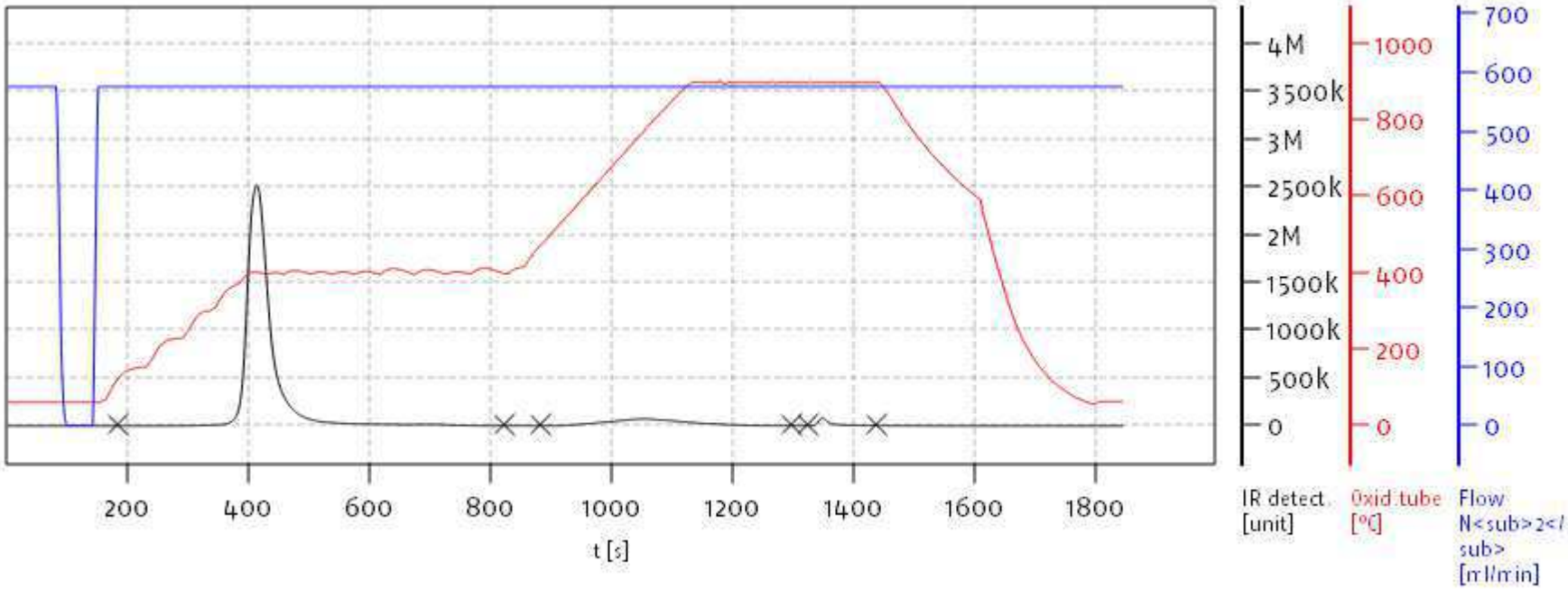
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
116	60	21G0230-05	528.90		1.00	CARBON	8/9/2021 12:41 AM	1.353	0.131	1.484	bl	4 187 860	430 250	74 656	1.0823	1.0000



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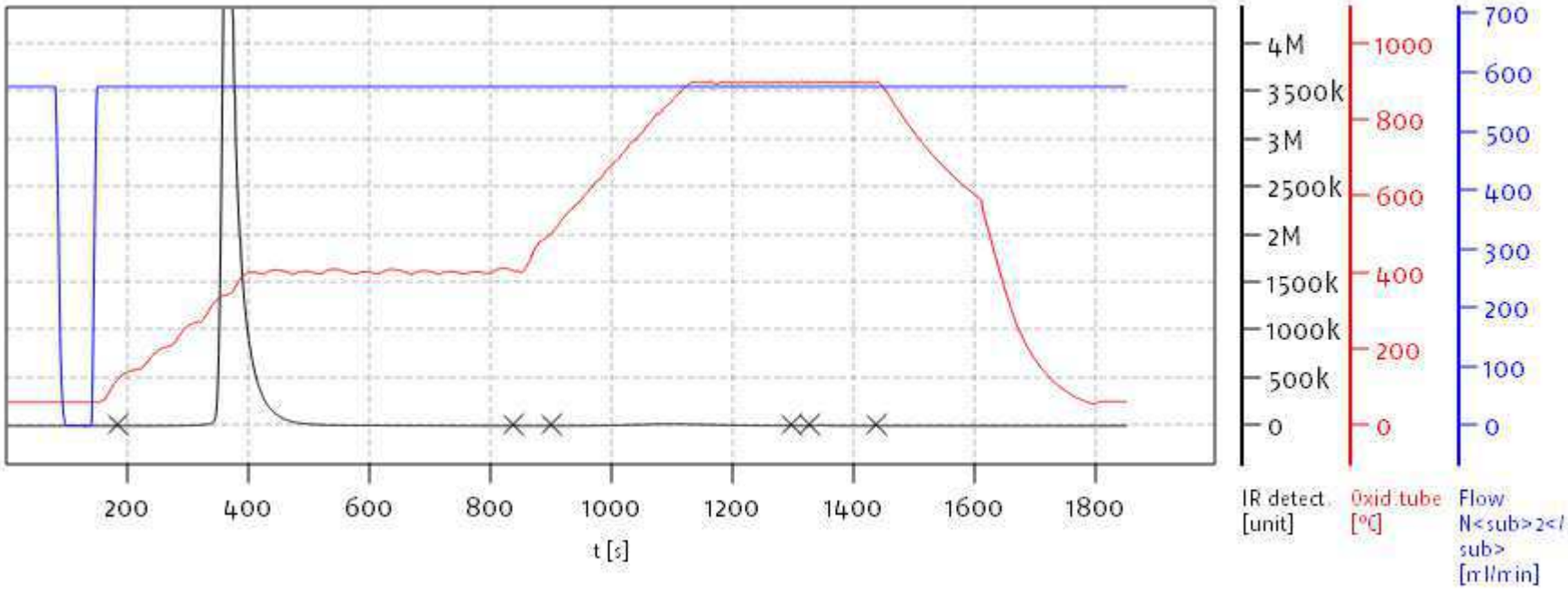
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
117	61	21G0277-02	120.40		1.00	CARBON	8/9/2021 1:13 AM	9.543	0.176	9.719	bl,C2u	6 851 890	118 014	6 277	1.0823	1.0000



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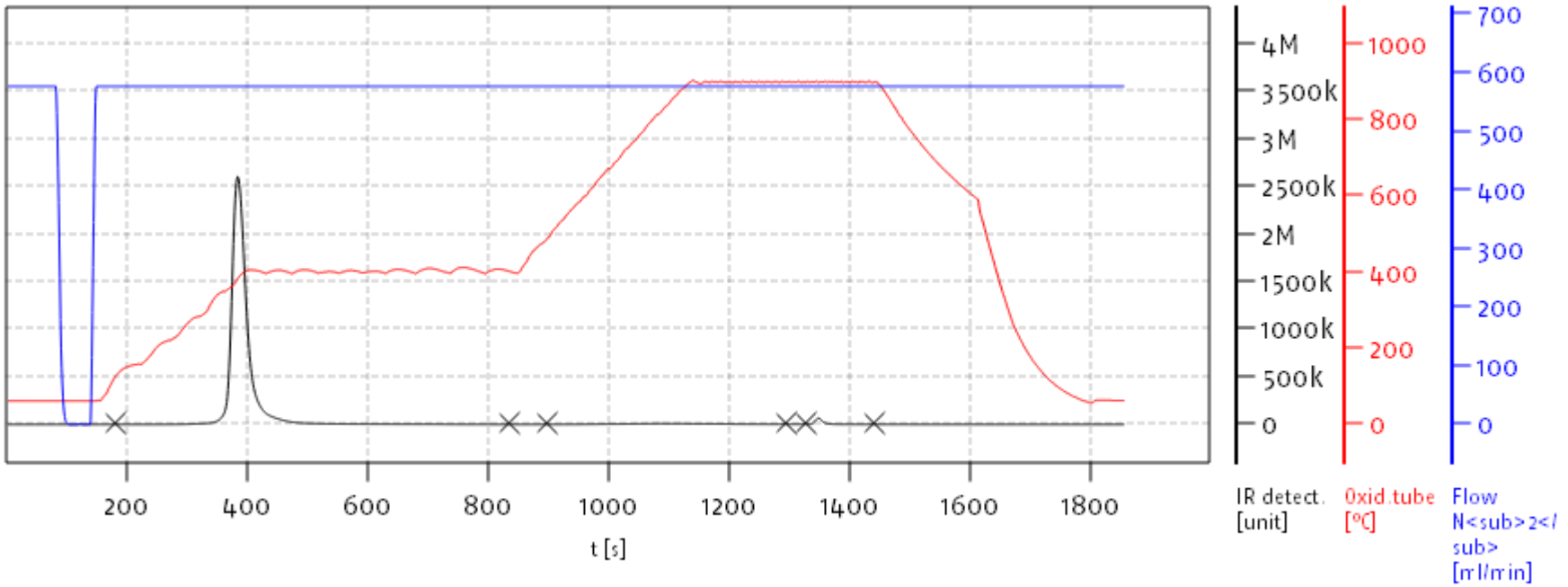
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
118	62	21G0277-03	125.20		1.00	CARBON	8/9/2021 1:44 AM	3.888	0.105	3.993	bl	2 847 010	66 035	39 772	1.0823	1.0000



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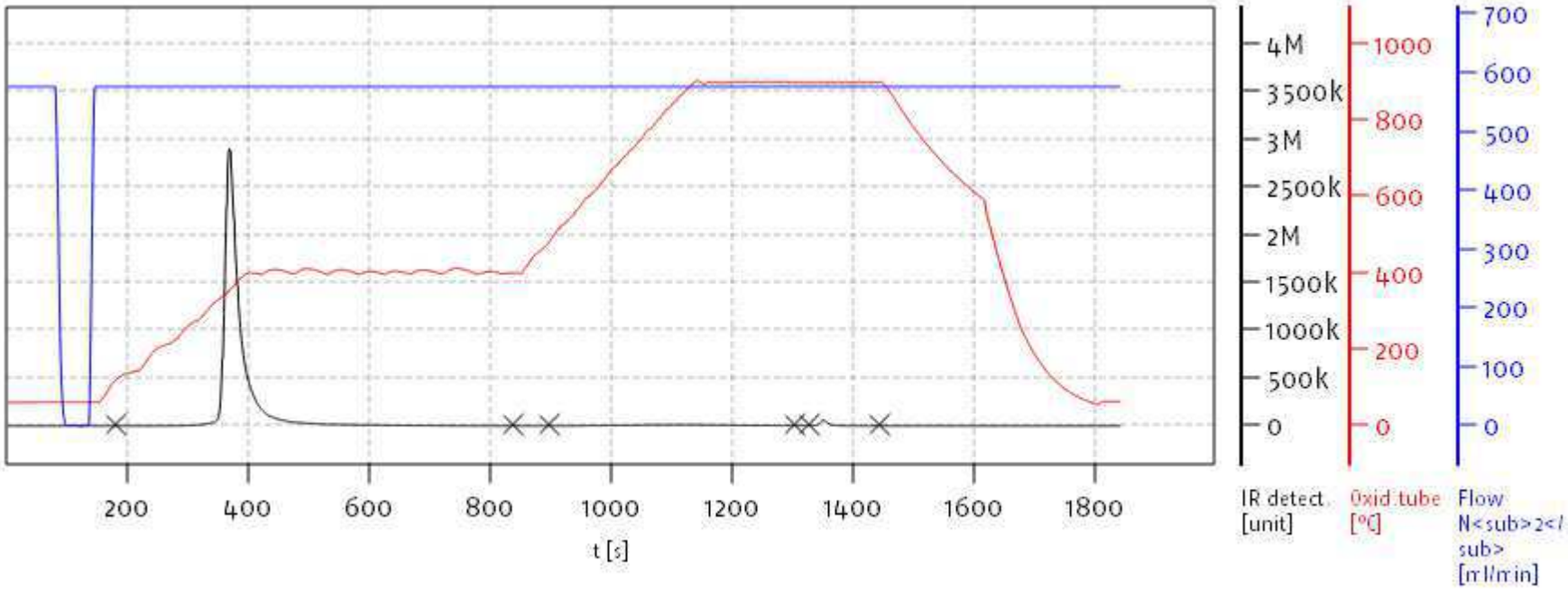
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
119	63	21G0280-01	123.90		1.00	CARBON	8/9/2021 2:15 AM	4.361	0.143	4.504	bl	3 170 170	95 483	38 110	1.0823	1.0000



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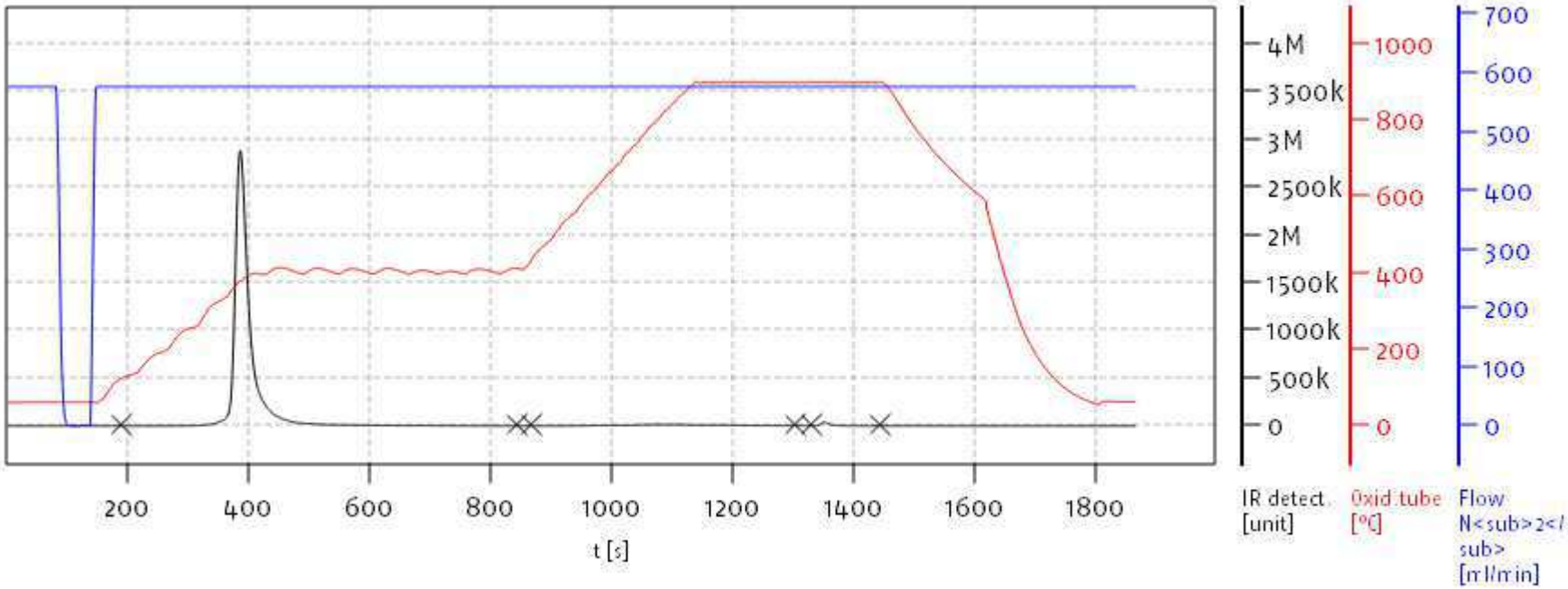
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
120	64	21G0280-02	113.00		1.00	CARBON	8/9/2021 2:47 AM	4.531	0.158	4.689	bl	3 010 710	96 333	26 697	1.0823	1.0000



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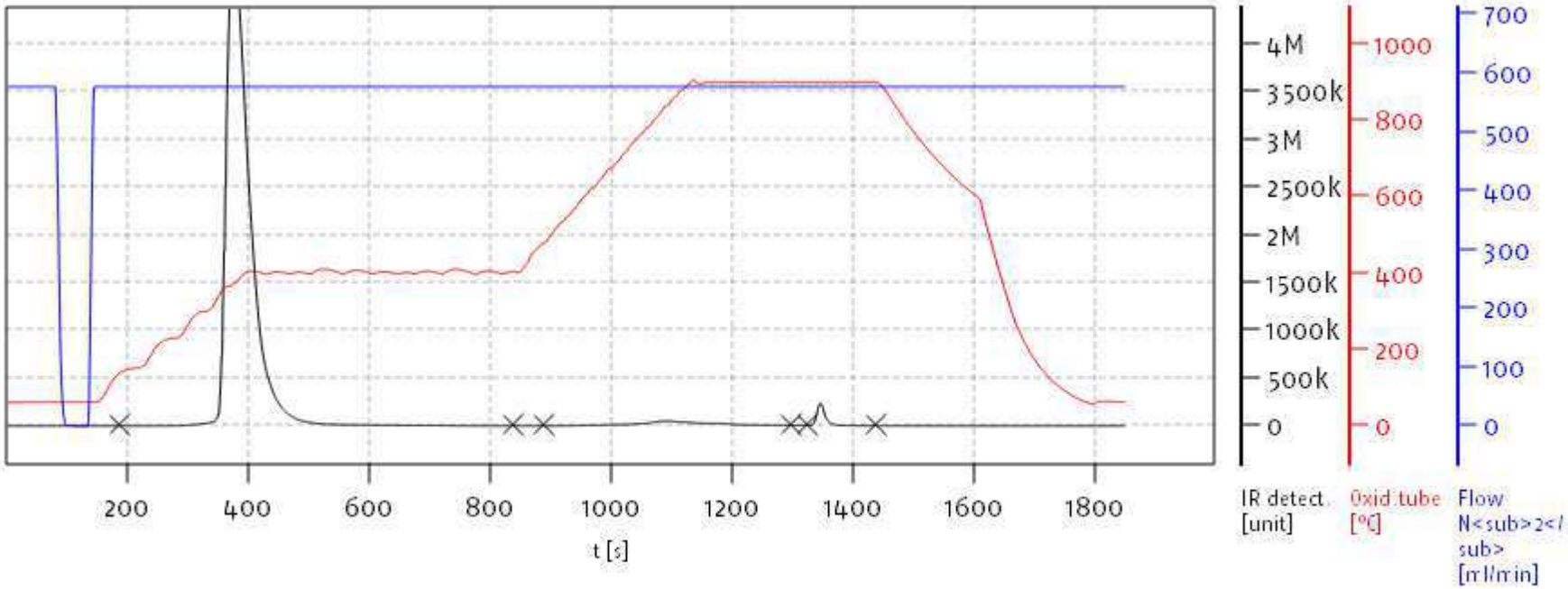
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
121	65	21G0280-03	295.80		1.00	CARBON	8/9/2021 3:18 AM	4.820	0.151	4.971	bl	8 382 890	270 429	147 394	1.0823	1.0000



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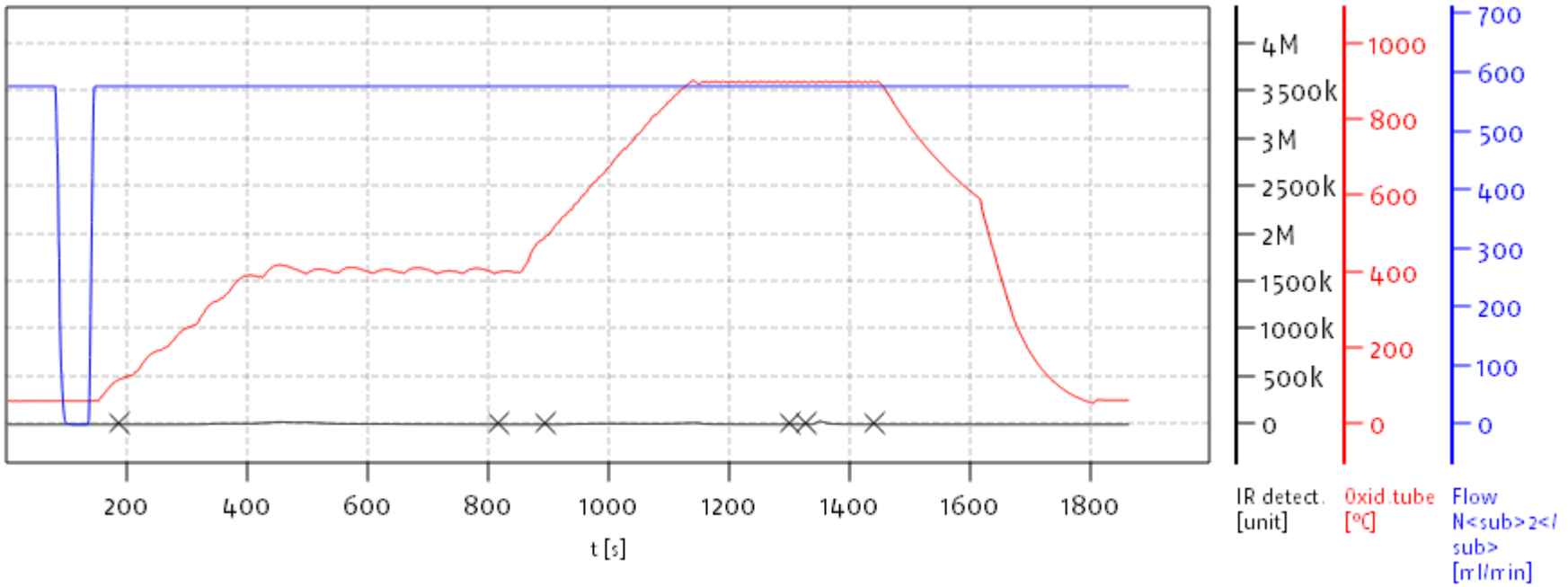
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
122	66	21G0246-02RE1	615.30		1.00	CARBON	8/9/2021 3:50 AM	0.057	0.025	0.081	bl	148 109	78 587	26 900	1.0823	1.0000



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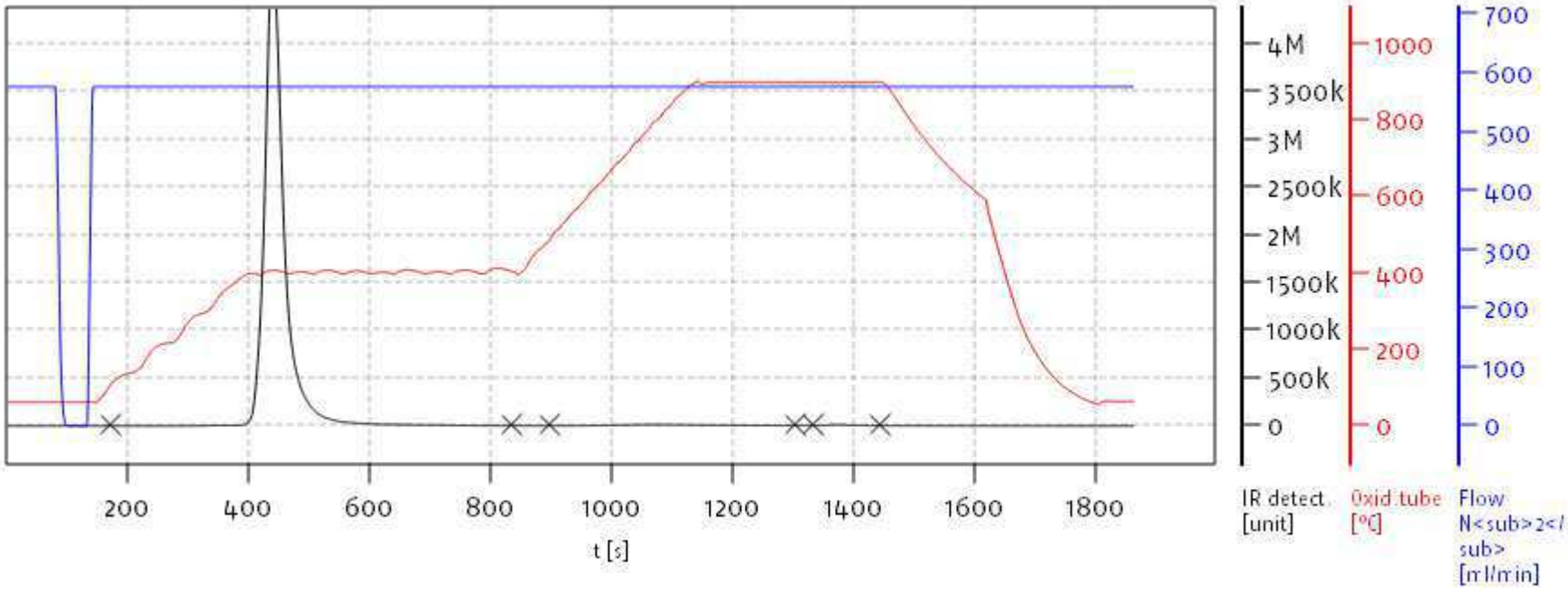
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
123	67	SJH0071-CCVA	25.50		1.00	CARBON	8/9/2021 4:21 AM	44.736	0.729	45.465	bl	6 783 420	101 353	26 900	1.0823	1.0000



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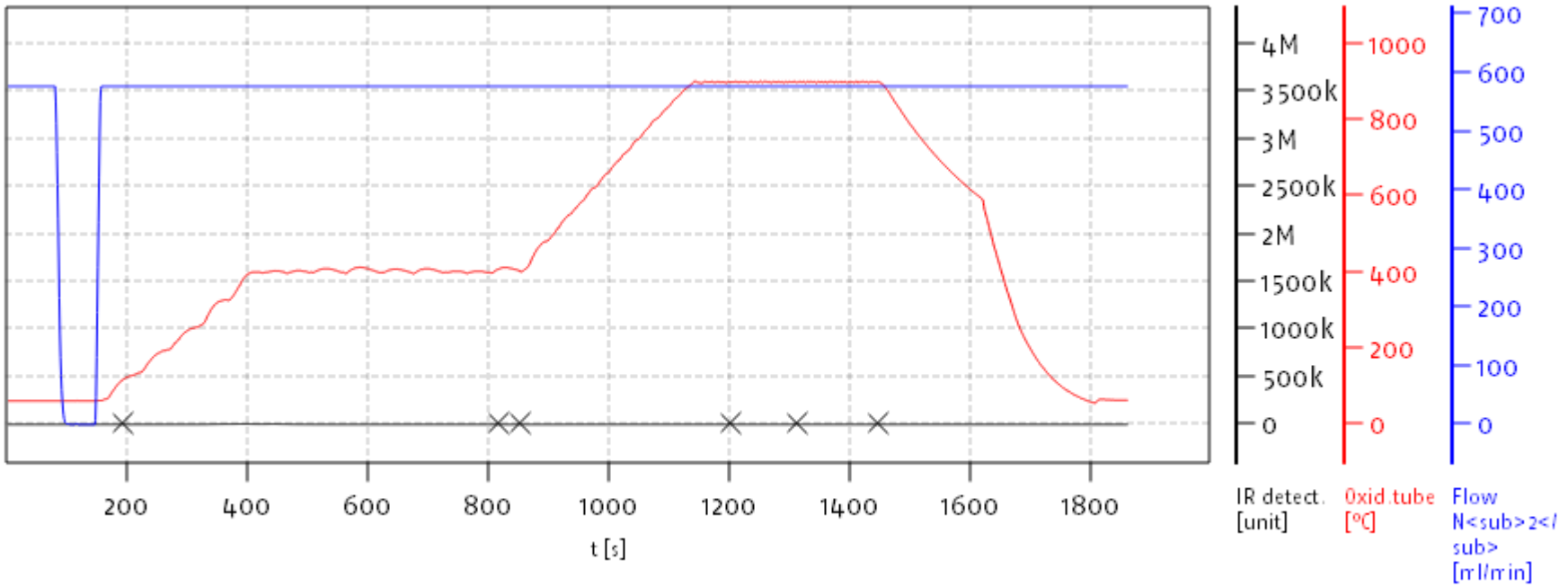
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
124	68	SJH0071-CCBA	685.60		1.00	CARBON	8/9/2021 4:52 AM	0.014	0.005	0.019	bl,C3u,C2u	21 482	1 202	610	1.0823	1.0000



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Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0113	Instrument:	TOC Cube
		Calibration:	EH00021

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Cal Standard	SJH0113-CAL1	peData_08112021@1352-(	NA	08/10/21 14:19
Cal Standard	SJH0113-CAL2	peData_08112021@1352-(	NA	08/10/21 14:51
Cal Standard	SJH0113-CAL3	peData_08112021@1352-(	NA	08/10/21 15:22
Cal Standard	SJH0113-CAL4	peData_08112021@1352-(	NA	08/10/21 15:54
Cal Standard	SJH0113-CAL5	peData_08112021@1352-(	NA	08/10/21 16:25
Cal Standard	SJH0113-CAL6	peData_08112021@1352-(	NA	08/10/21 16:57
Cal Standard	SJH0113-CAL7	peData_08112021@1352-(	NA	08/10/21 17:28
Cal Standard	SJH0113-CAL8	peData_08112021@1352-(	NA	08/10/21 18:00
Cal Standard	SJH0113-CAL9	peData_08112021@1352-(	NA	08/10/21 18:32
Cal Standard	SJH0113-CALA	peData_08112021@1352-(	NA	08/10/21 19:03
Cal Standard	SJH0113-CALB	peData_08112021@1352-(	NA	08/10/21 19:34
Cal Standard	SJH0113-CALC	peData_08112021@1352-(	NA	08/10/21 20:06
Cal Standard	SJH0113-CALD	peData_08112021@1352-(	NA	08/10/21 20:37
Cal Standard	SJH0113-CALE	peData_08112021@1352-(	NA	08/10/21 21:08
Cal Standard	SJH0113-CALF	peData_08112021@1352-(	NA	08/10/21 21:40
Cal Standard	SJH0113-CALG	peData_08112021@1352-(	NA	08/10/21 22:11
Cal Standard	SJH0113-CALH	peData_08112021@1352-(	NA	08/10/21 22:42
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Initial Cal Check	SJH0113-ICV1	peData_08112021@1352-(	NA	08/11/21 04:27
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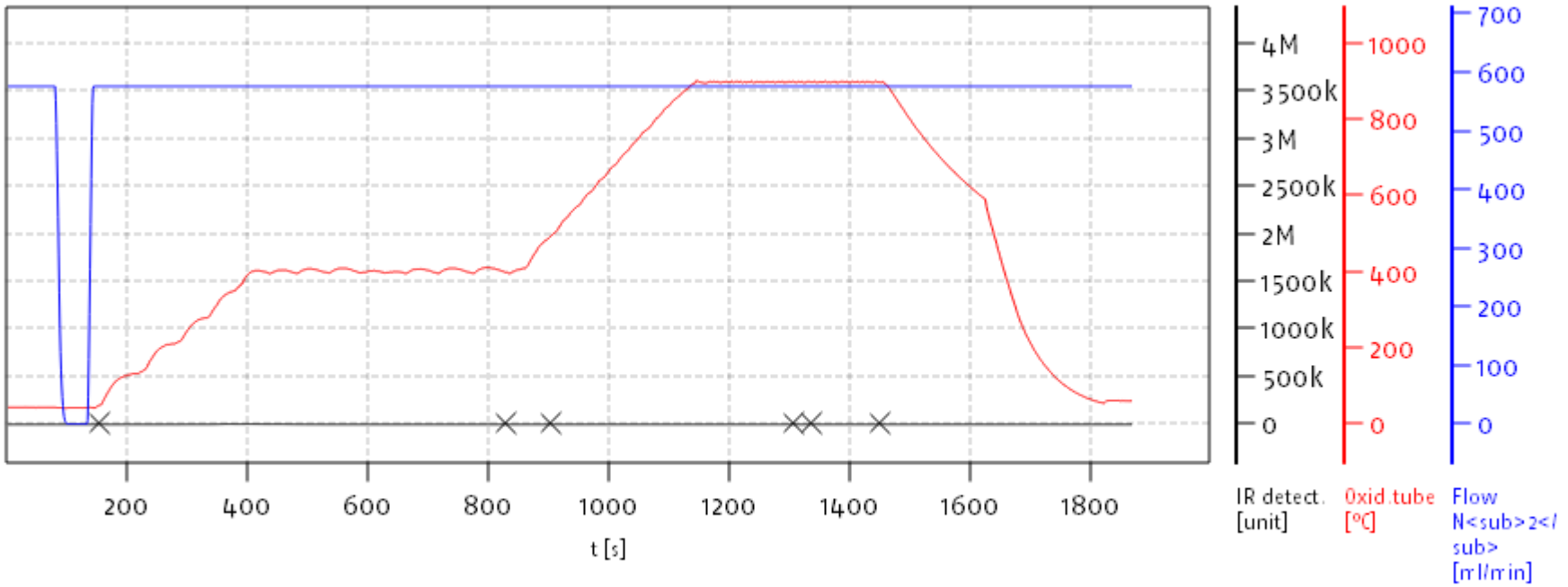
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	1	BLANK	1.00		1.00	CARBON	8/10/2021 1:17 PM	0.000	0.000	0.000	bl	22 805	4 168	1 160	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
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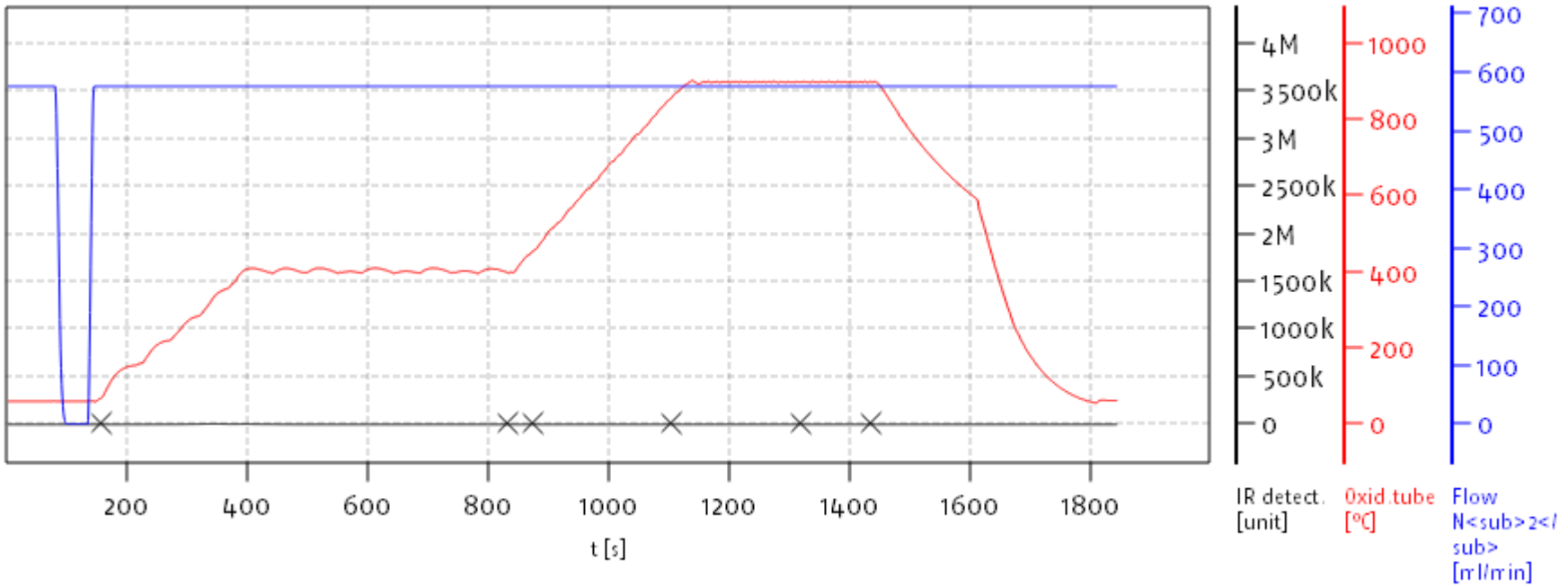
Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	2	BLANK	1.00		1.00	CARBON	8/10/2021 1:48 PM	0.000	0.000	0.000	bl	25 029	584	417	1.0000	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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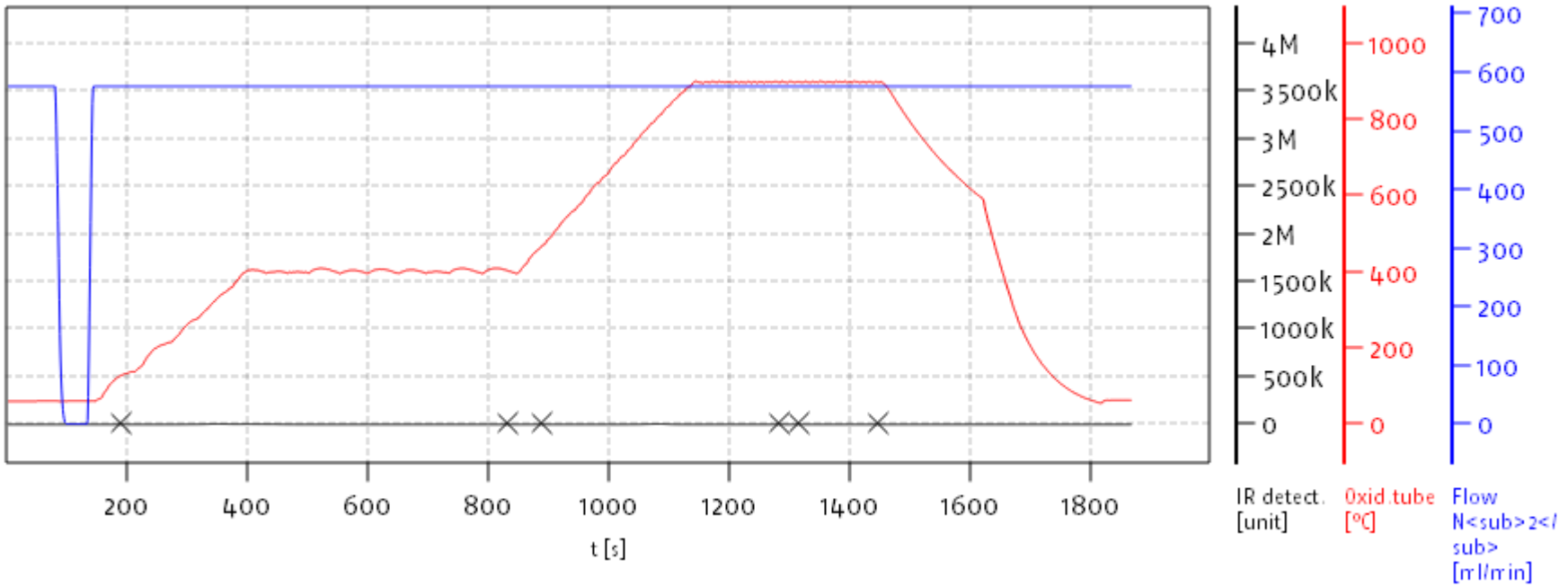
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	3	SJH0113-CAL1	200.00	0.0028	1.00	CARBON	8/10/2021 2:19 PM	0.022	0.010	0.032	bl,C2u	22 693	9 521	406	1.0000	1.0000



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Analyst: BF

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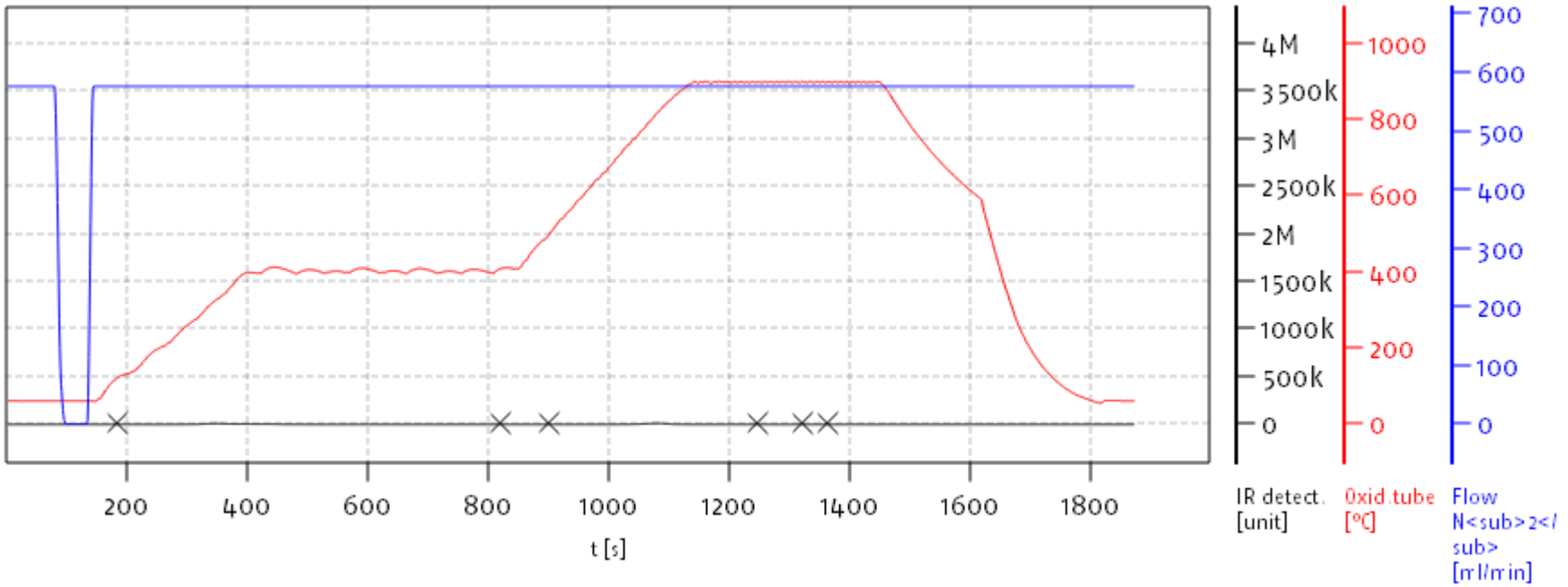
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	4	SJH0113-CAL2	200.00	0.0053	1.00	CARBON	8/10/2021 2:51 PM	0.029	0.018	0.046	bl,C2u	30 832	20 112	139	1.0000	1.0000



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Analyst: BF

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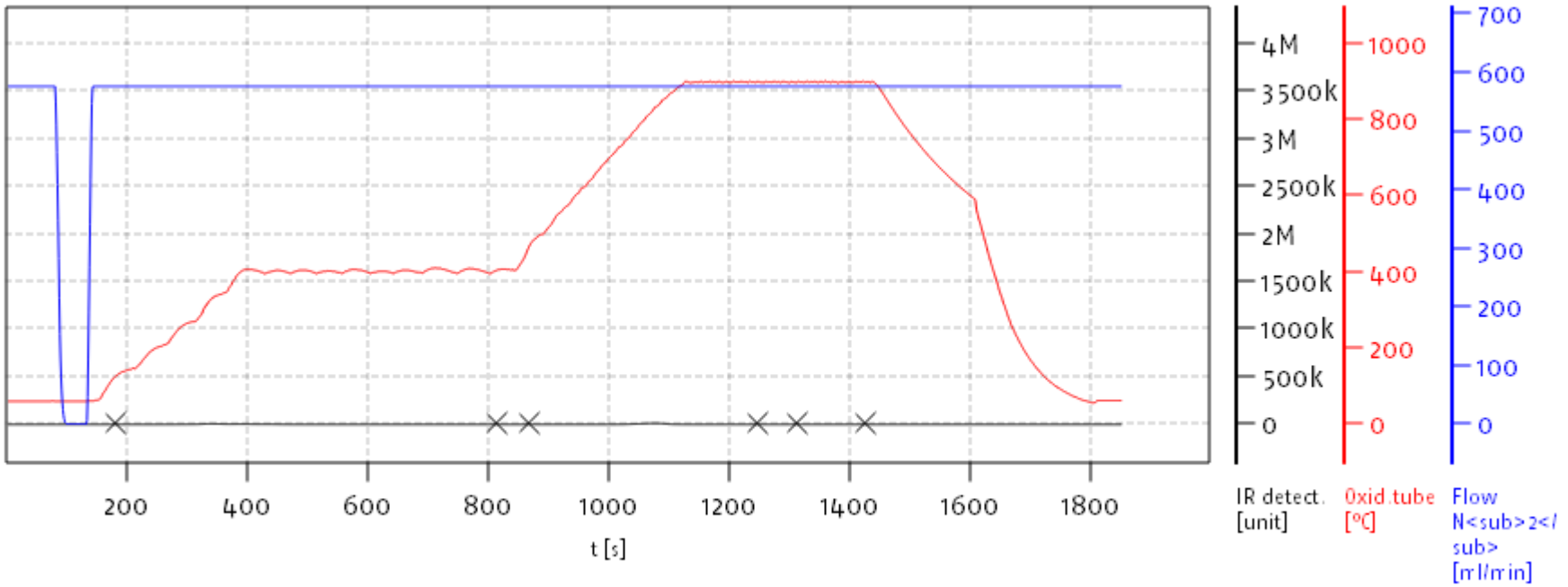
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	5	SJH0113-CAL3	200.00	0.0070	1.00	CARBON	8/10/2021 3:22 PM	0.022	0.021	0.043	bl,C2u	22 146	23 616	314	1.0000	1.0000



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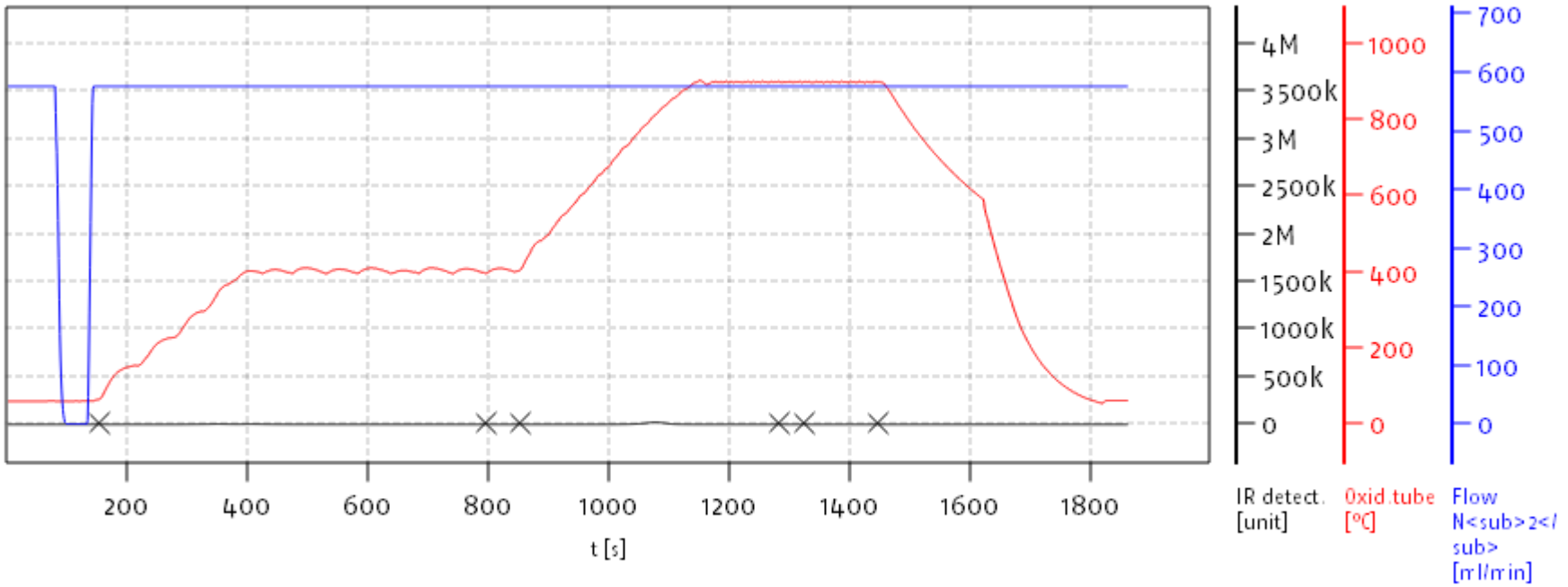
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	6	SJH0113-CAL4	200.00	0.0103	1.00	CARBON	8/10/2021 3:54 PM	0.018	0.032	0.050	bl,C2u	17 342	38 128	280	1.0000	1.0000



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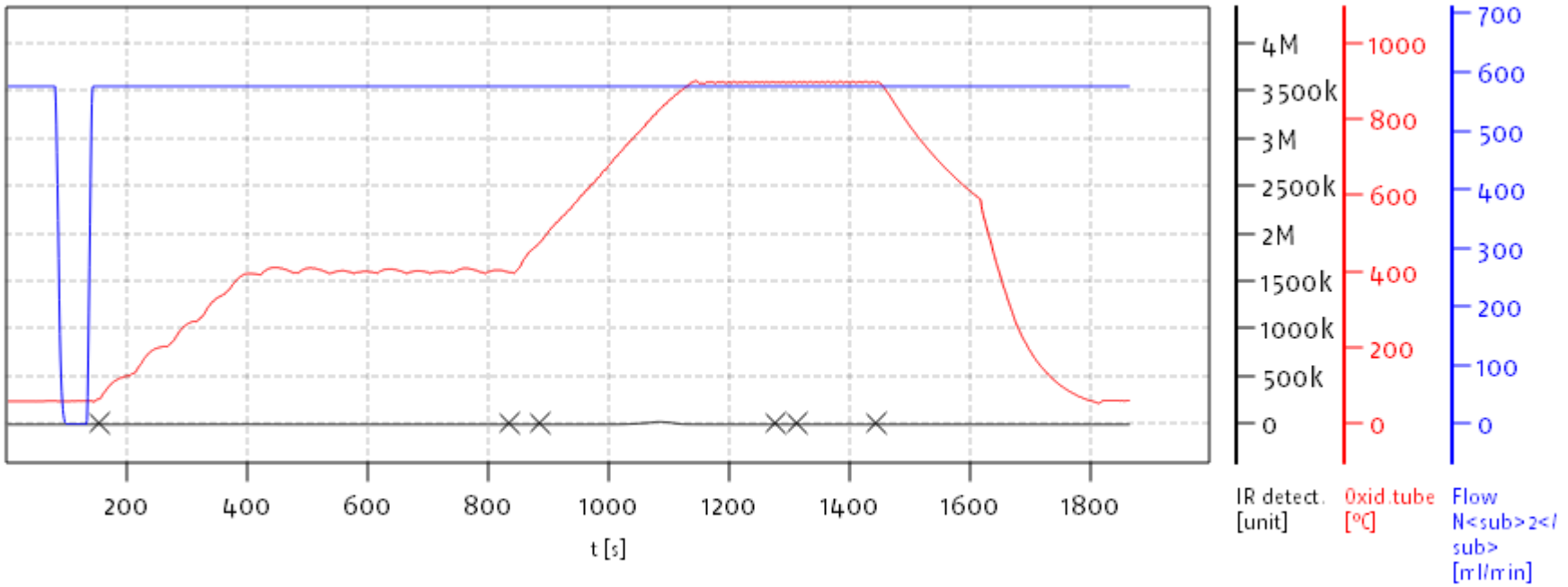
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	7	SJH0113-CAL5	200.00	0.0150	1.00	CARBON	8/10/2021 4:25 PM	0.009	0.046	0.055	bl,C1u,C2u	6 405	55 349	275	1.0000	1.0000



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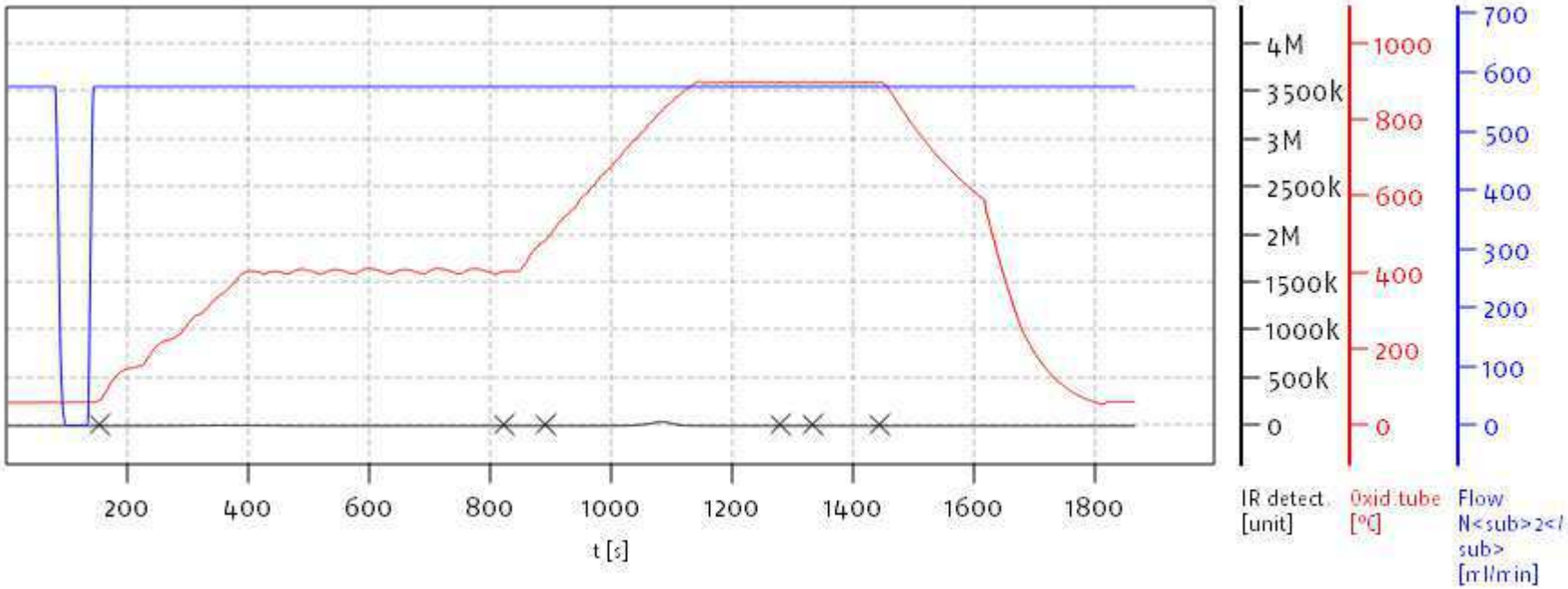
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	8	SJH0113-CAL6	200.00	0.0199	1.00	CARBON	8/10/2021 4:57 PM	0.024	0.063	0.087	bl,C2u	25 078	76 805	308	1.0000	1.0000



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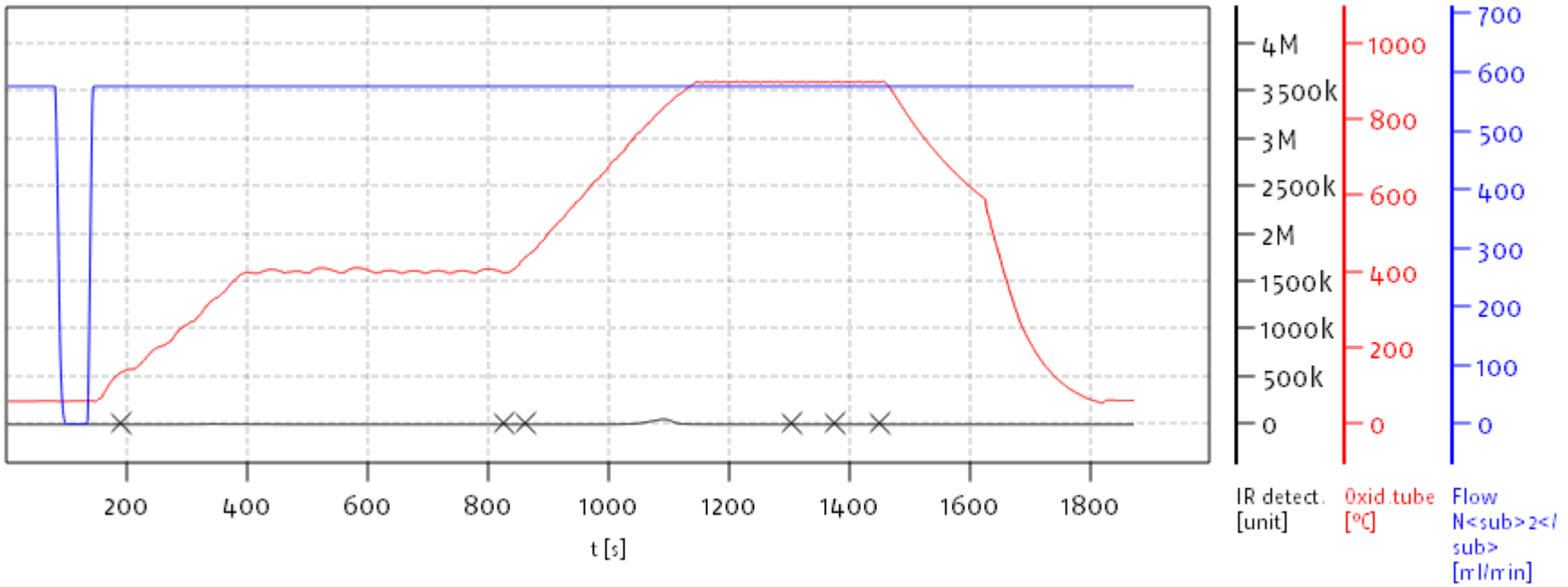
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	9	SJH0113-CAL7	200.00	0.0248	1.00	CARBON	8/10/2021 5:28 PM	0.017	0.079	0.096	bl,C2u	16 608	97 209	190	1.0000	1.0000



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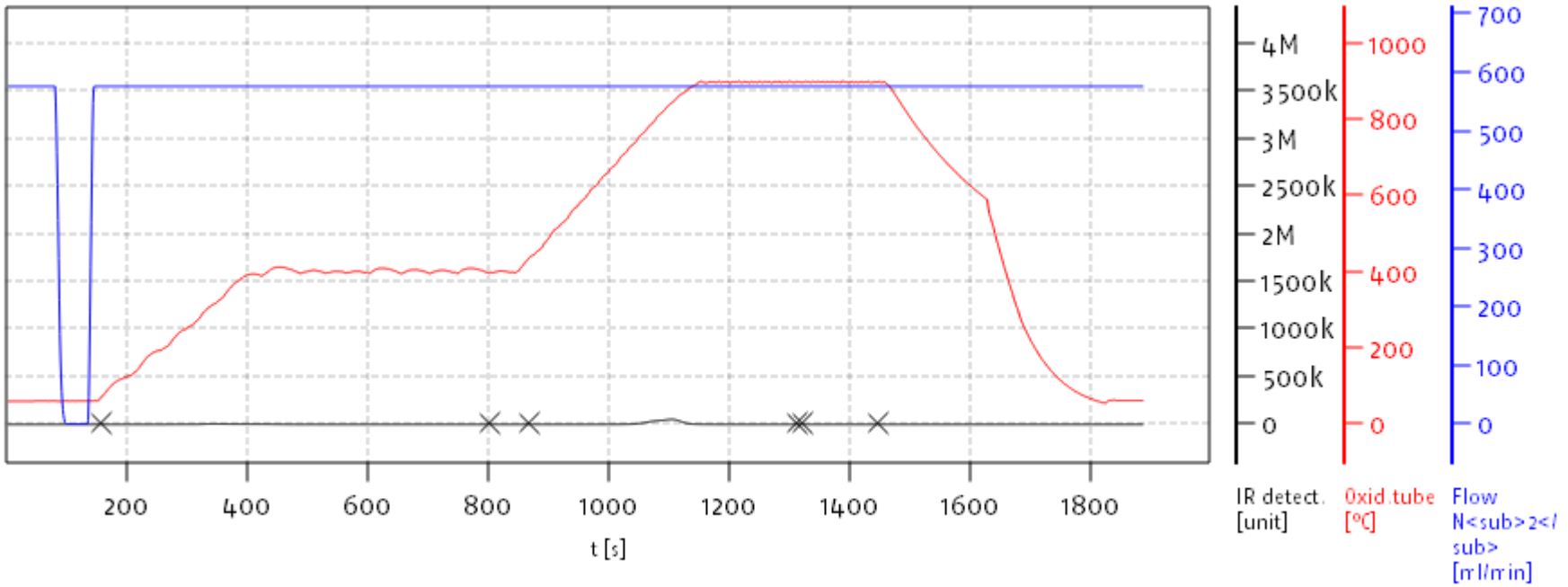
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	10	SJH0113-CAL8	200.00	0.0302	1.00	CARBON	8/10/2021 6:00 PM	0.024	0.092	0.116	bl,C2u	24 582	114 459	270	1.0000	1.0000



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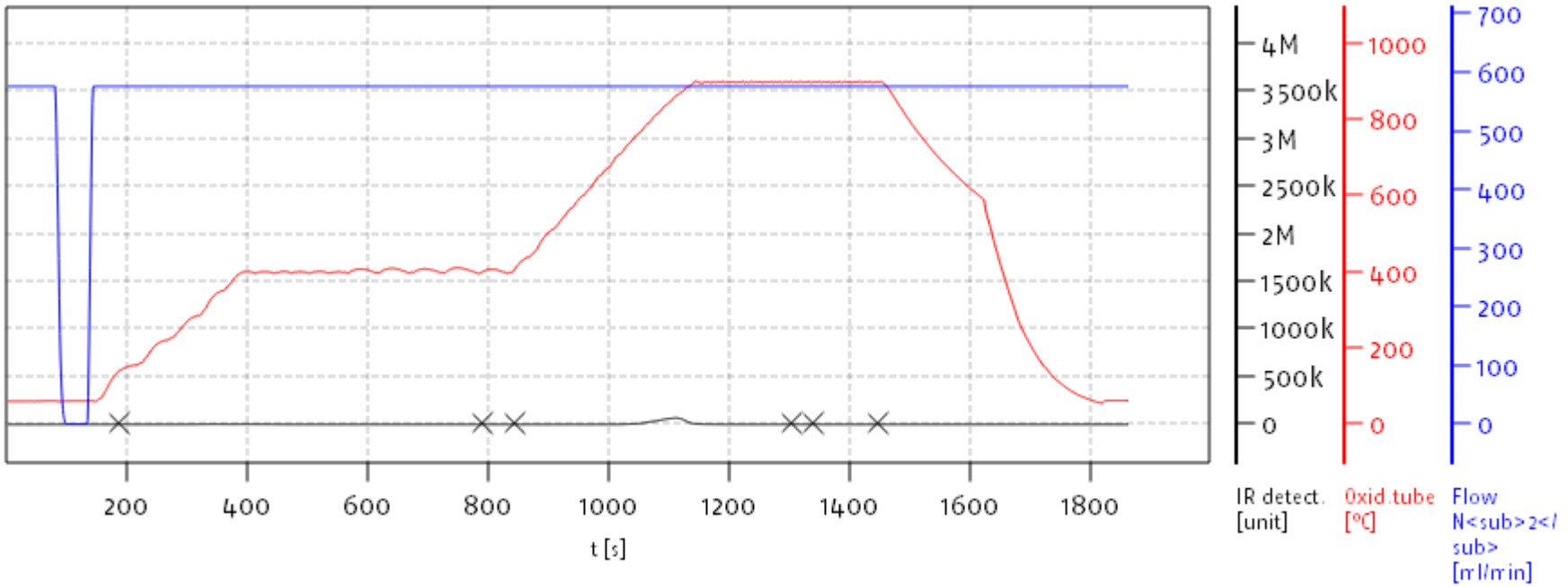
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	11	SJH0113-CAL9	200.00	0.0397	1.00	CARBON	8/10/2021 6:32 PM	0.014	0.118	0.132	bl,C2u	12 556	147 448	246	1.0000	1.0000



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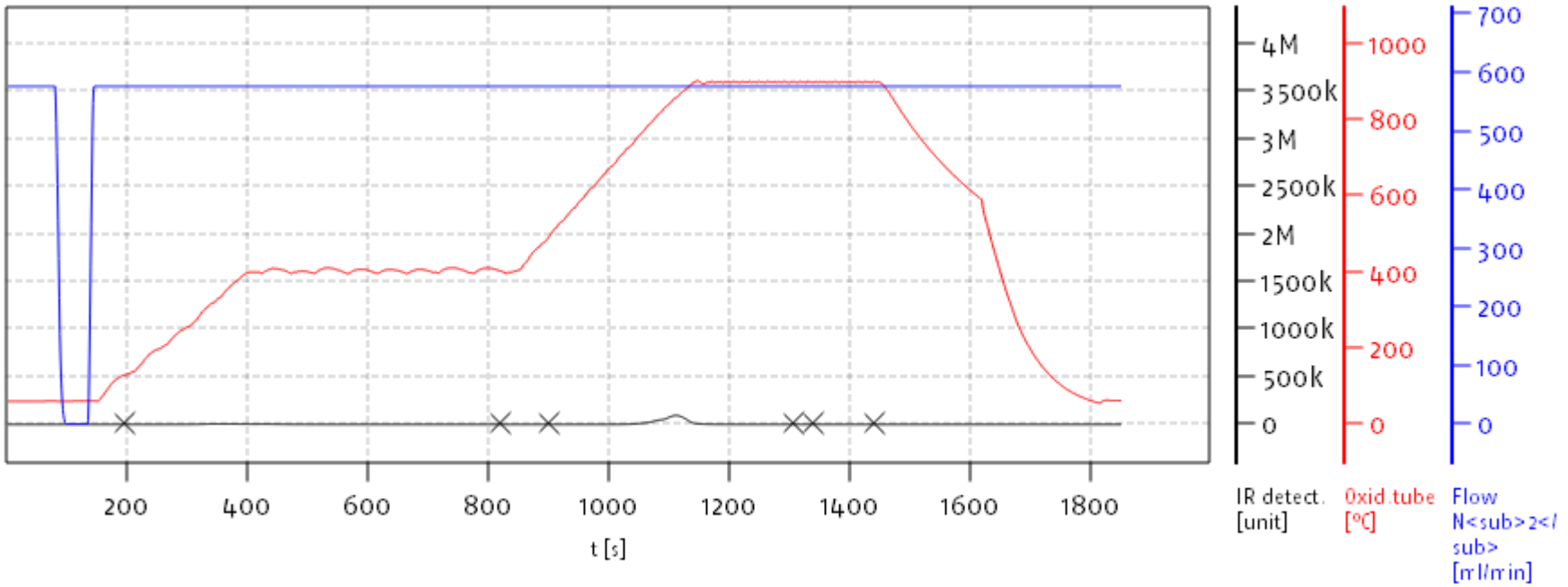
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	12	SJH0113-CALA	200.00	0.0497	1.00	CARBON	8/10/2021 7:03 PM	0.024	0.145	0.168	bl,C2u	24 575	180 758	227	1.0000	1.0000



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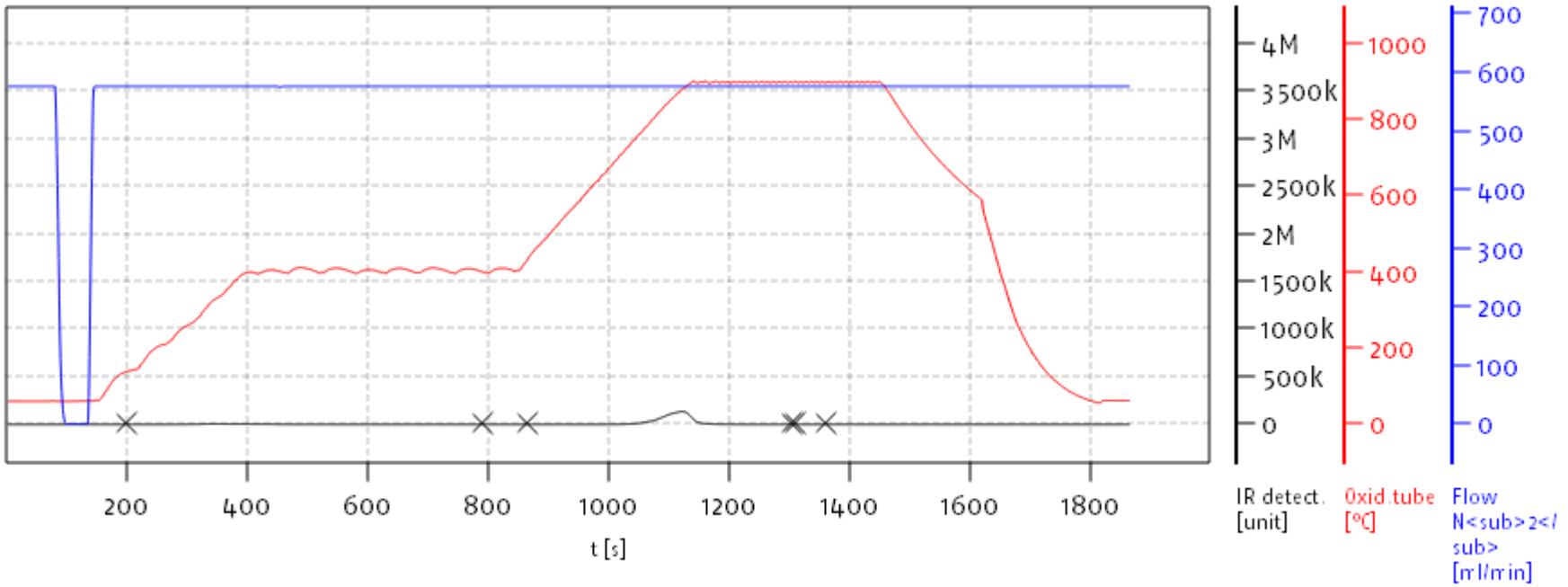
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	13	SJH0113-CALB	200.00	0.0039	1.00	CARBON	8/10/2021 7:34 PM	0.023	0.236	0.260	bl,C2u	24 401	297 056	121	1.0000	1.0000



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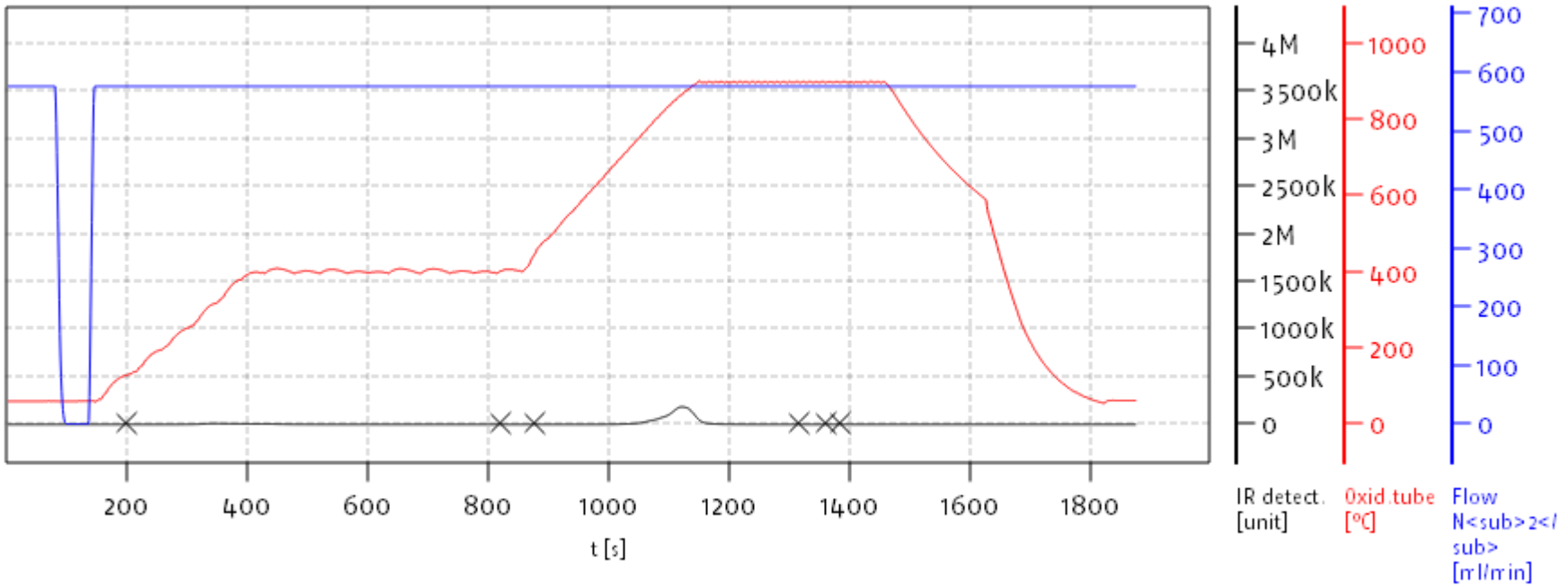
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	14	SJH0113-CALC	200.00	0.0052	1.00	CARBON	8/10/2021 8:06 PM	0.036	0.311	0.347	bl,C2u	40 501	391 829	67	1.0000	1.0000



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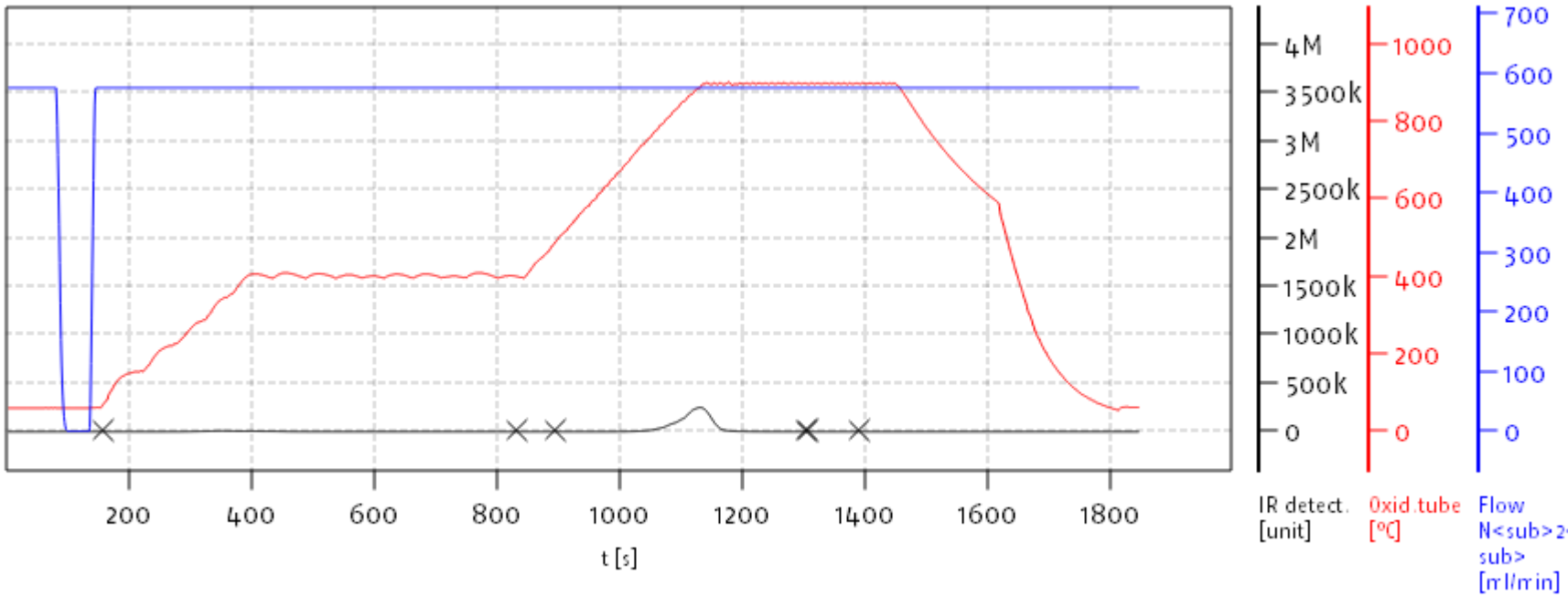
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	15	SJH0113-CALD	200.00	0.0072	1.00	CARBON	8/10/2021 8:37 PM	0.032	0.439	0.470	bl,C2u	34 638	553 926	294	1.0000	1.0000



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Soli TOC Cube, Carbon
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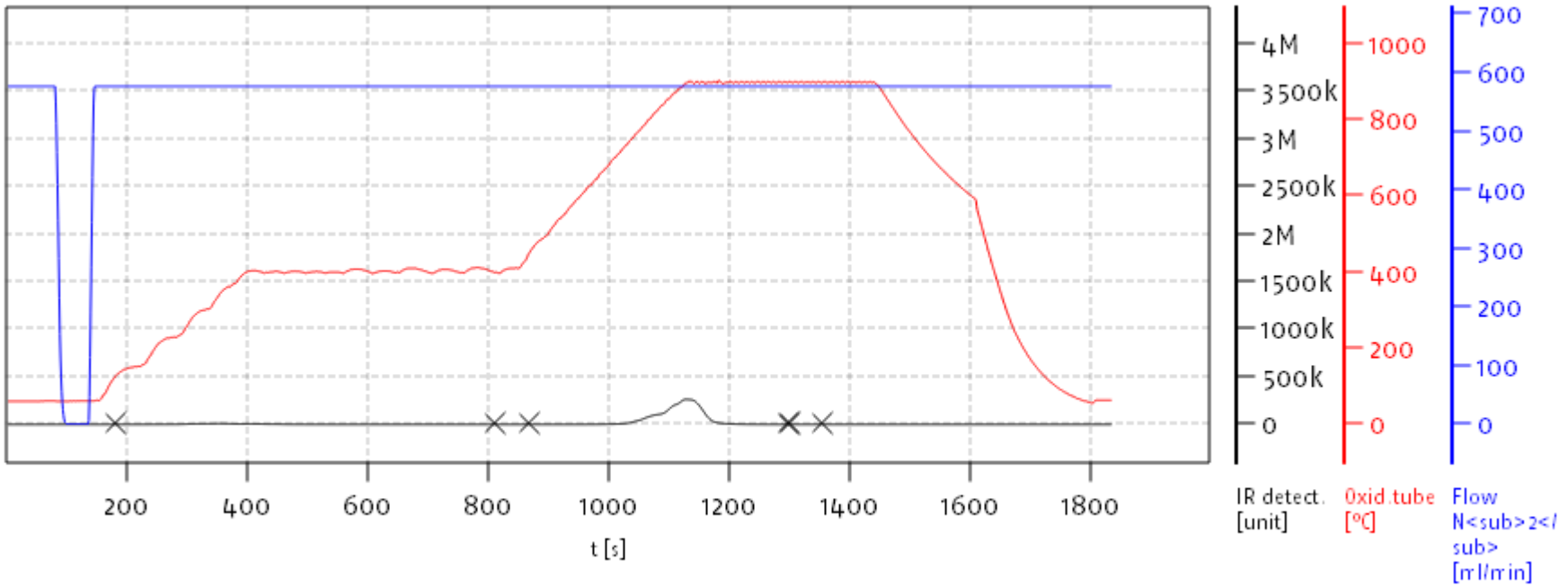
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	16	SJH0113-CALE	200.00	0.0098	1.00	CARBON	8/10/2021 9:08 PM	0.037	0.592	0.630	bl,C2u	42 067	748 510	251	1.0000	1.0000



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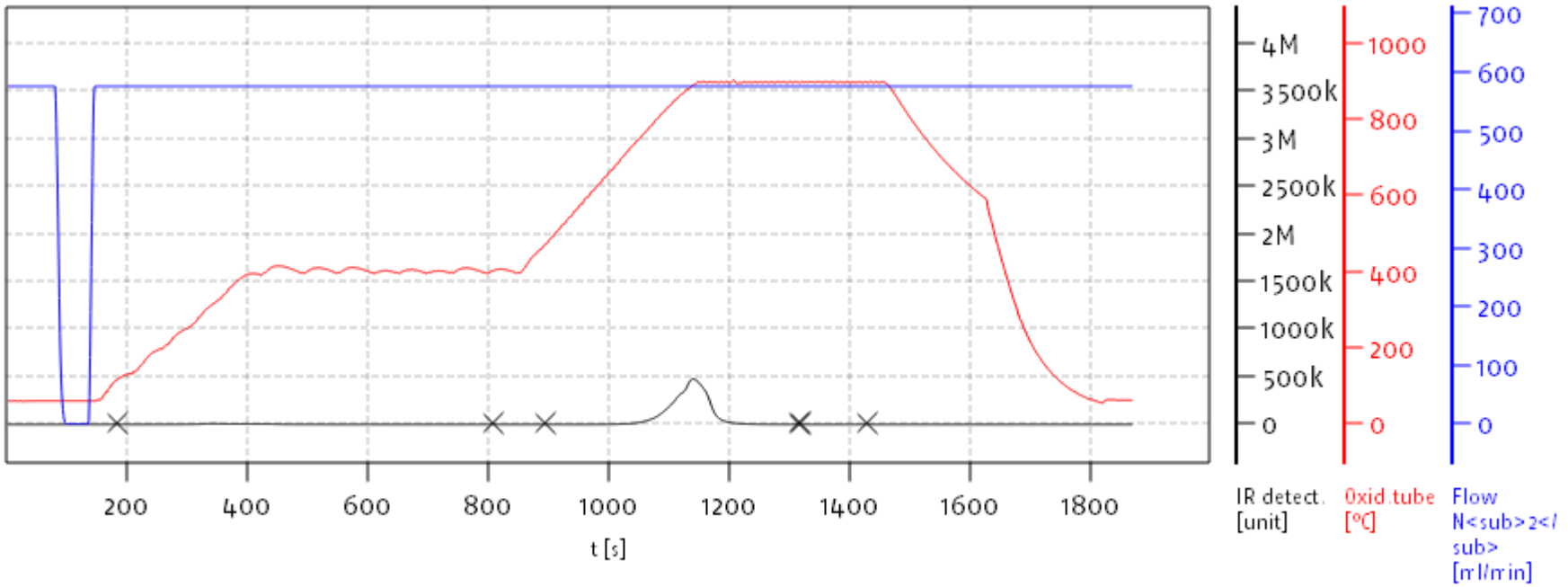
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	17	SJH0113-CALF	200.00	0.0150	1.00	CARBON	8/10/2021 9:40 PM	0.030	0.934	0.964	bl,C2u	32 751	1 182 576	479	1.0000	1.0000



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Soli TOC Cube, Carbon
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Analyst: BF

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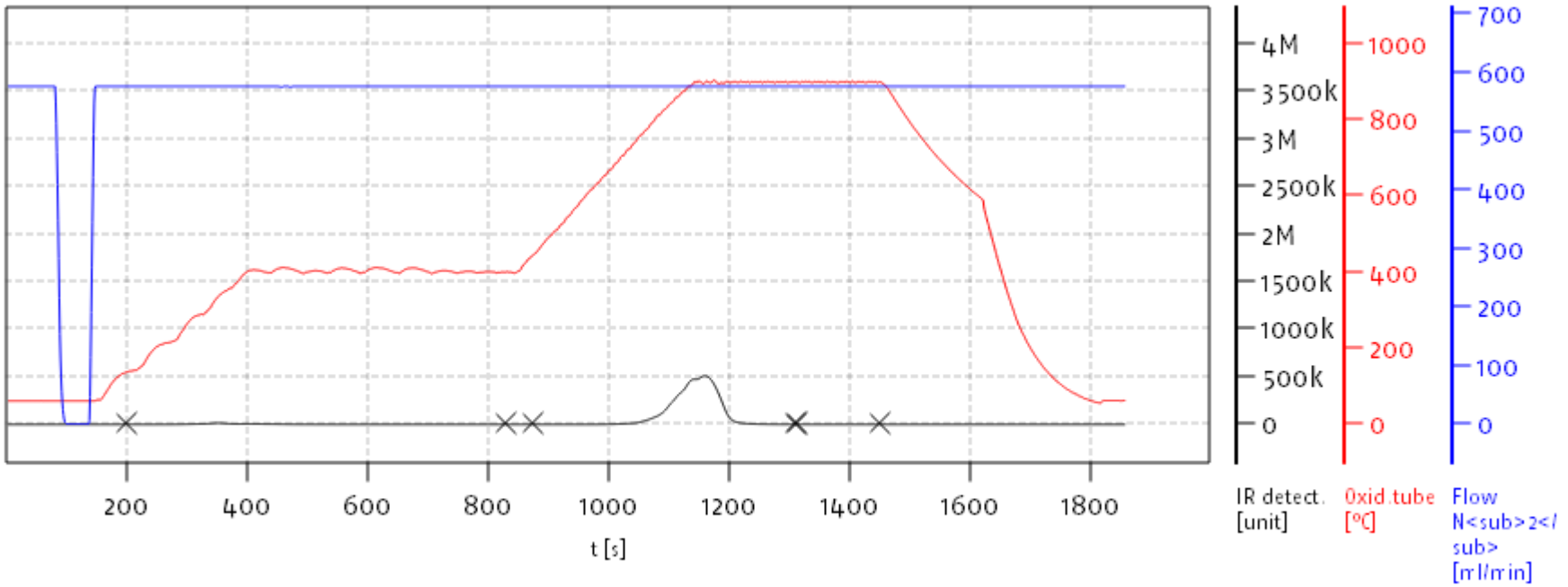
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	18	SJH0113-CALG	200.00	0.0203	1.00	CARBON	8/10/2021 10:11 PM	0.039	1.249	1.287	bl,C2u	42 932	1 581 667	955	1.0000	1.0000



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Soli TOC Cube, Carbon
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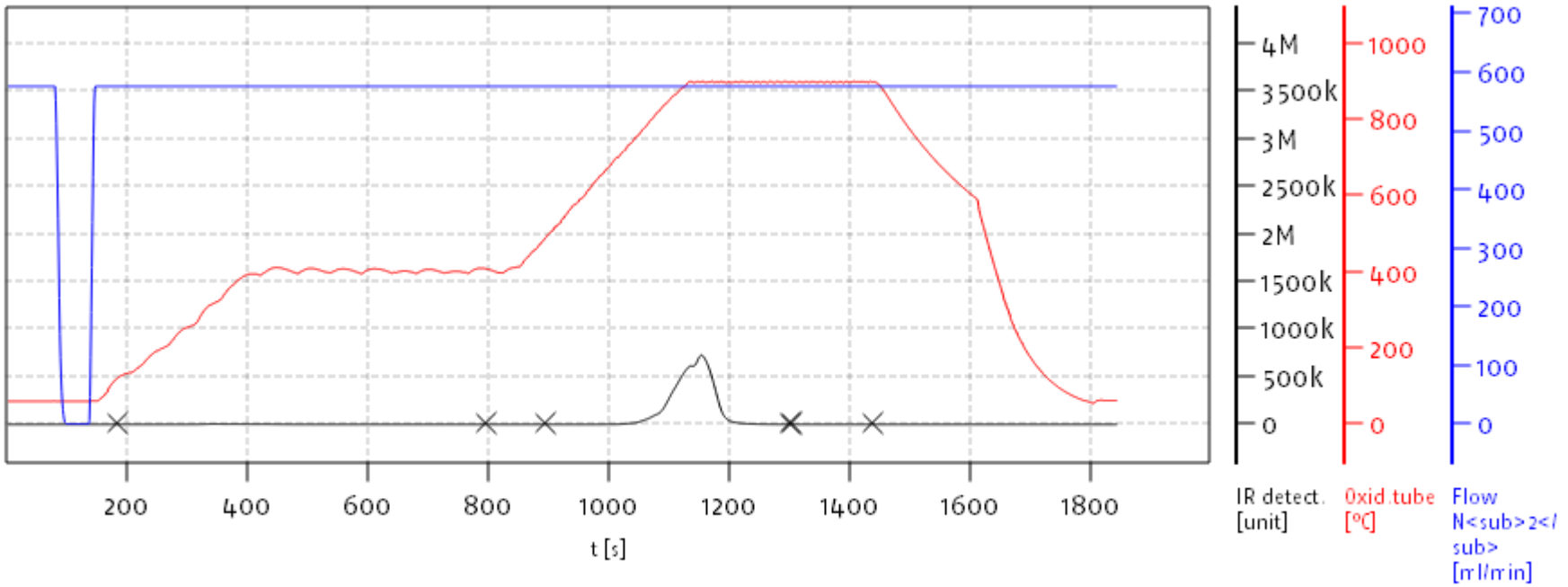
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	19	SJH0113-CALH	200.00	0.0251	1.00	CARBON	8/10/2021 10:42 PM	0.019	1.538	1.557	bl,C2u	17 895	1 948 888	1 191	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

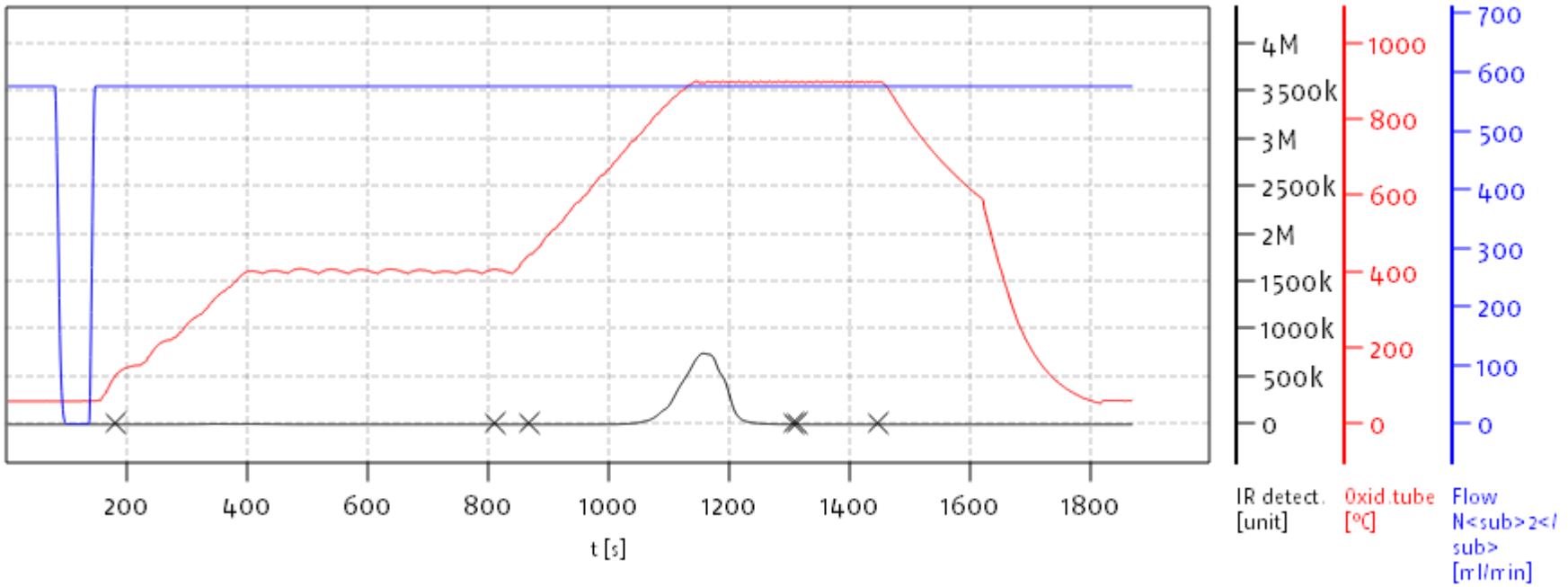
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	20	SJH0113-CALI	200.00	0.0304	1.00	CARBON	8/10/2021 11:14 PM	0.024	1.868	1.892	bl,C2u	23 738	2 367 098	1 836	1.0000	1.0000



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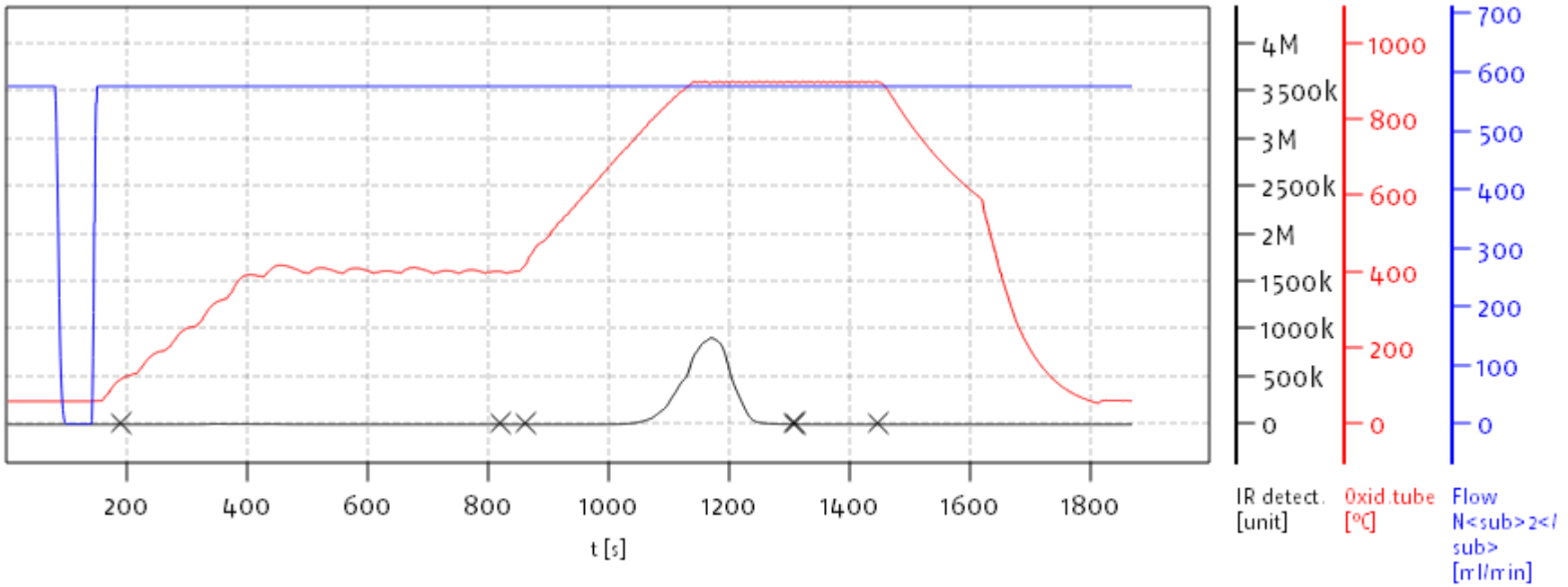
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	21	SJH0113-CALJ	200.00	0.0399	1.00	CARBON	8/10/2021 11:45 PM	0.023	2.454	2.477	bl,C2u	21 349	3 110 916	2 579	1.0000	1.0000



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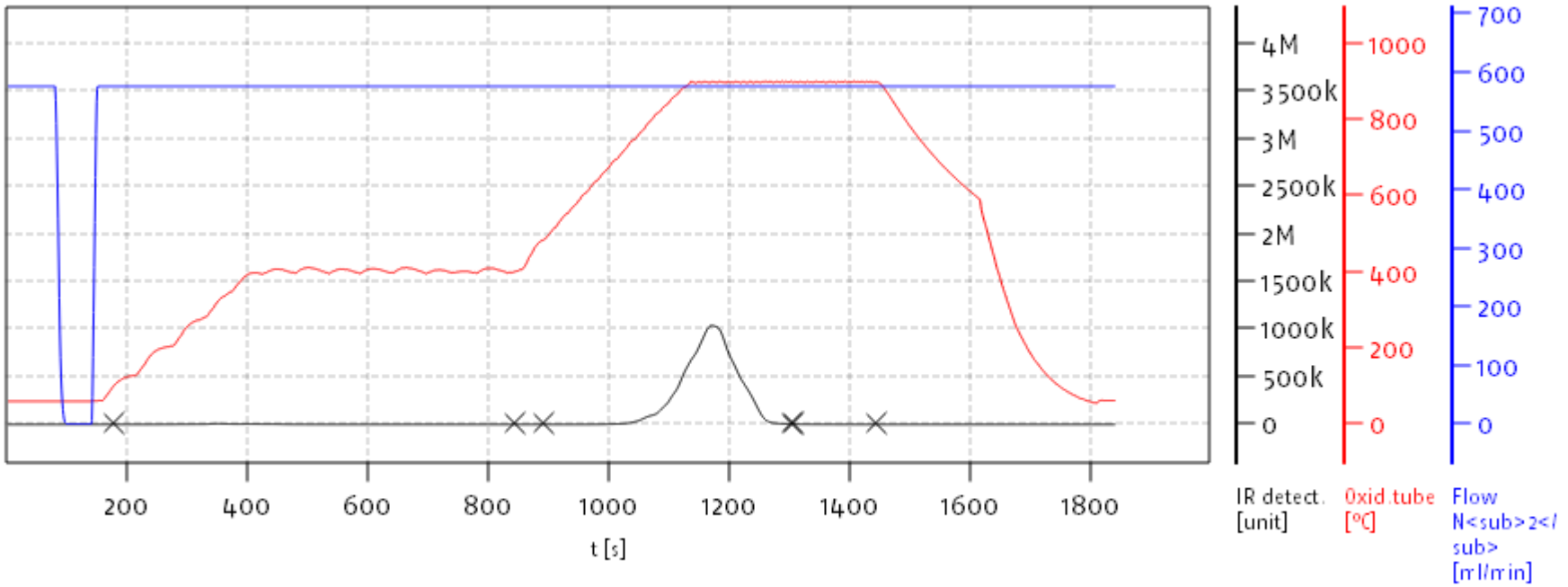
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	22	SJH0113-CALK	200.00	0.0500	1.00	CARBON	8/11/2021 12:16 AM	0.030	3.054	3.084	bl,C2u	29 231	3 872 043	4 133	1.0000	1.0000



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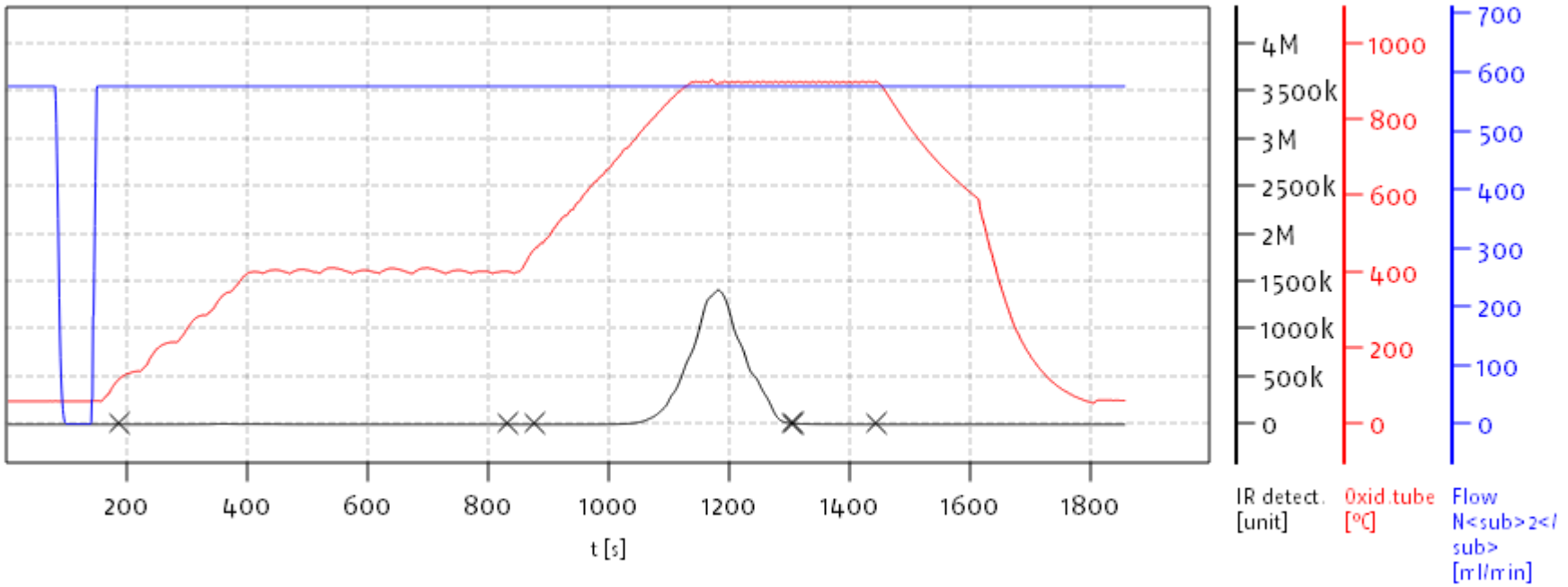
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	23	SJH0113-CALL	200.00	0.0699	1.00	CARBON	8/11/2021 12:48 AM	0.028	4.289	4.317	bl	19 838	5 438 583	10 830	1.0000	1.0000



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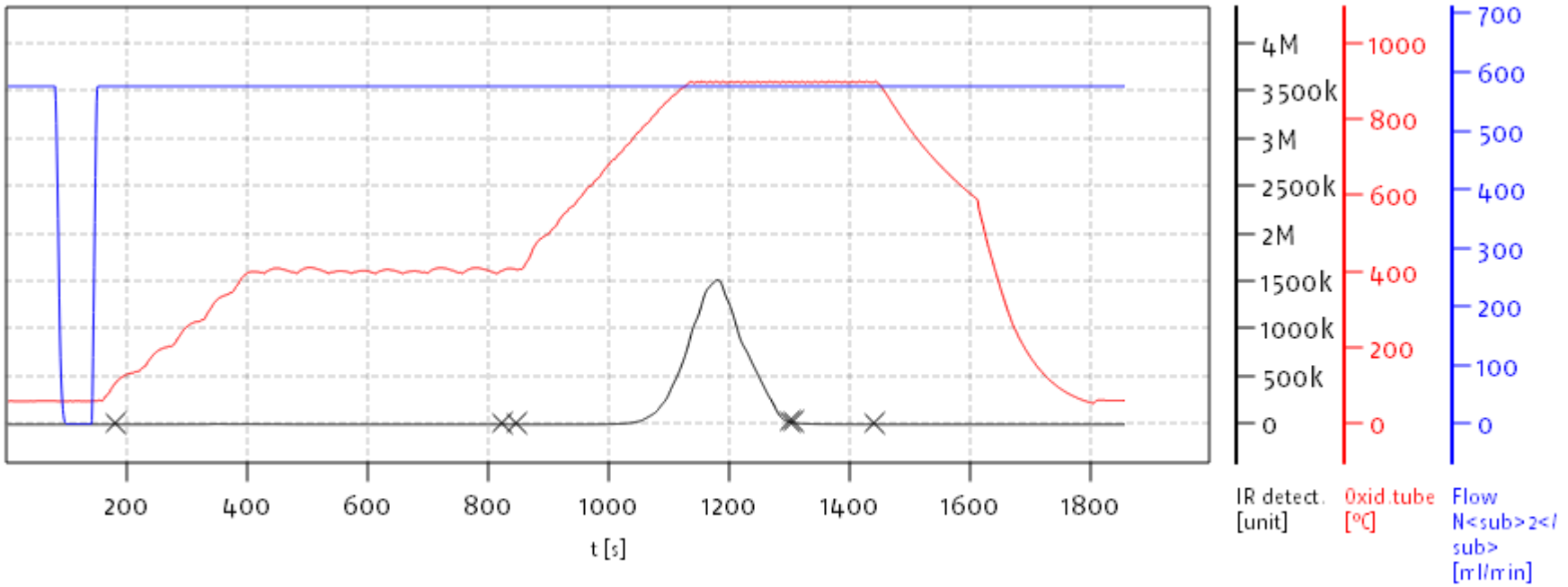
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	24	SJH0113-CALM	200.00	0.0801	1.00	CARBON	8/11/2021 1:19 AM	0.030	4.919	4.949	bl	16 438	6 238 324	16 703	1.0000	1.0000



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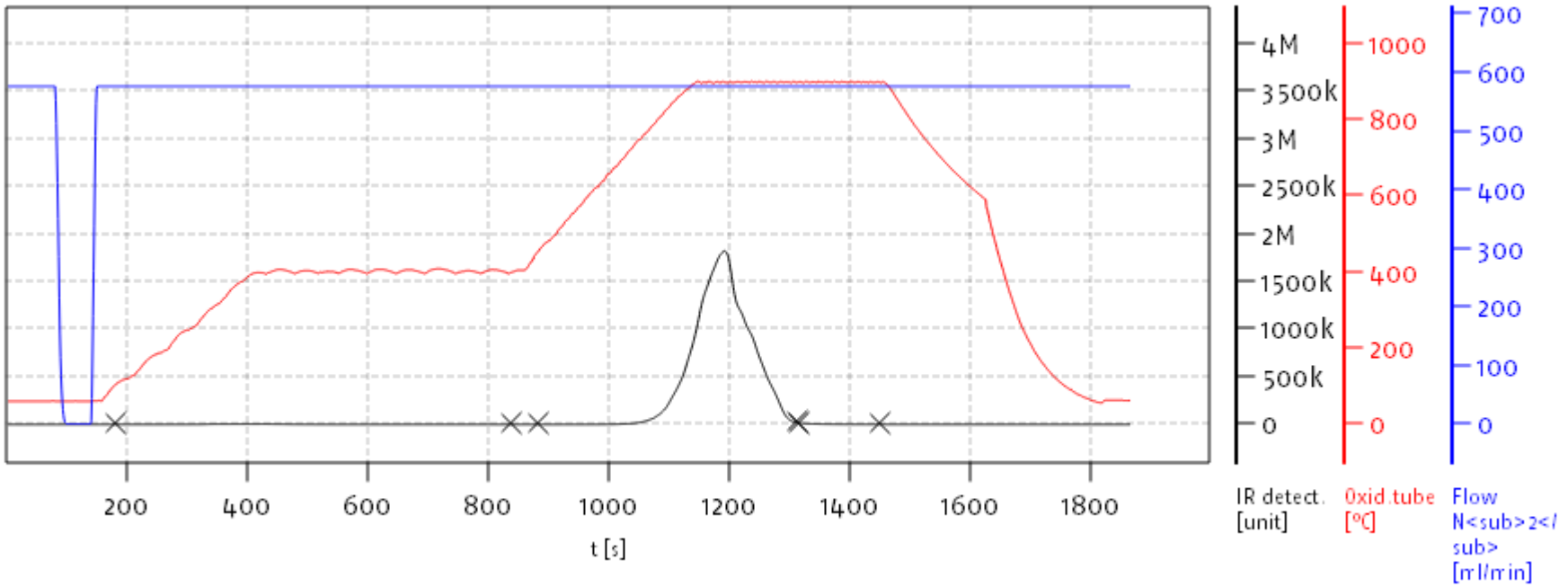
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	25	SJH0113-CALN	200.00	0.0903	1.00	CARBON	8/11/2021 1:50 AM	0.035	5.550	5.585	bl	23 597	7 038 842	15 761	1.0000	1.0000



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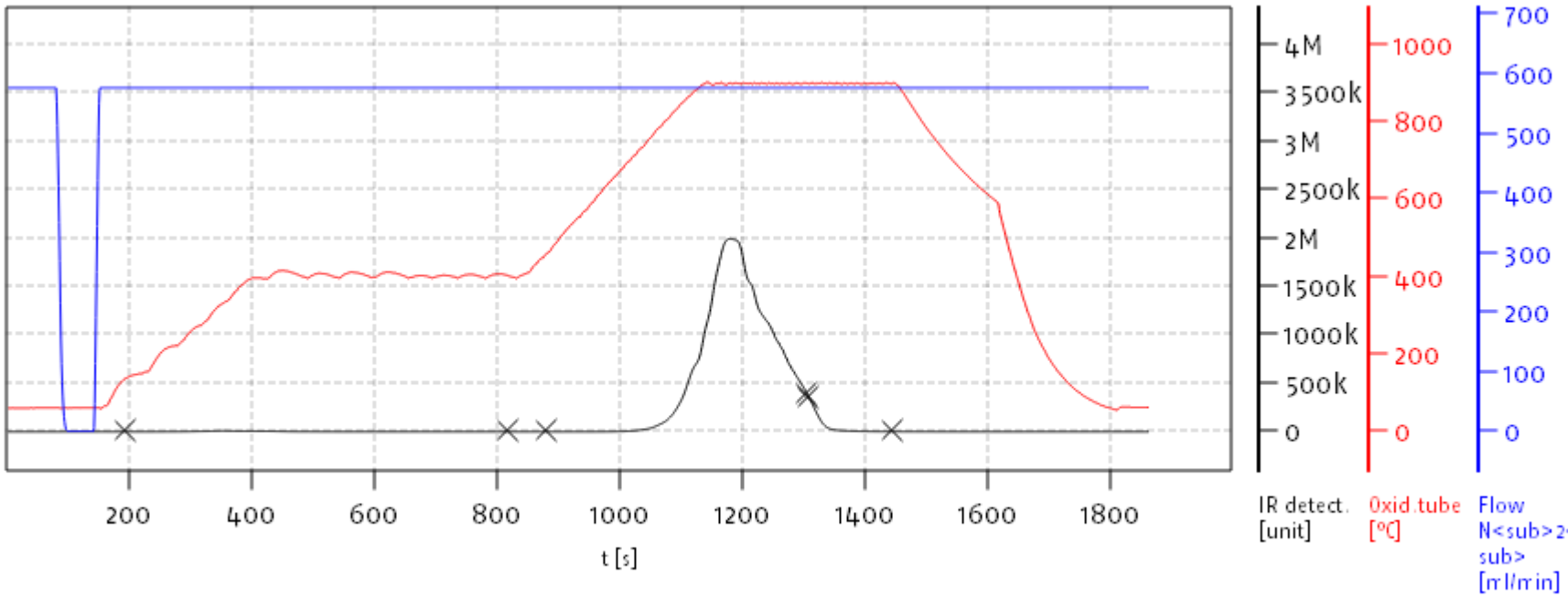
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	26	SJH0113-CALO	200.00	0.1198	1.00	CARBON	8/11/2021 2:22 AM	0.206	7.202	7.408	bl,C3o	38 020	9 134 974	218 134	1.0000	1.0000



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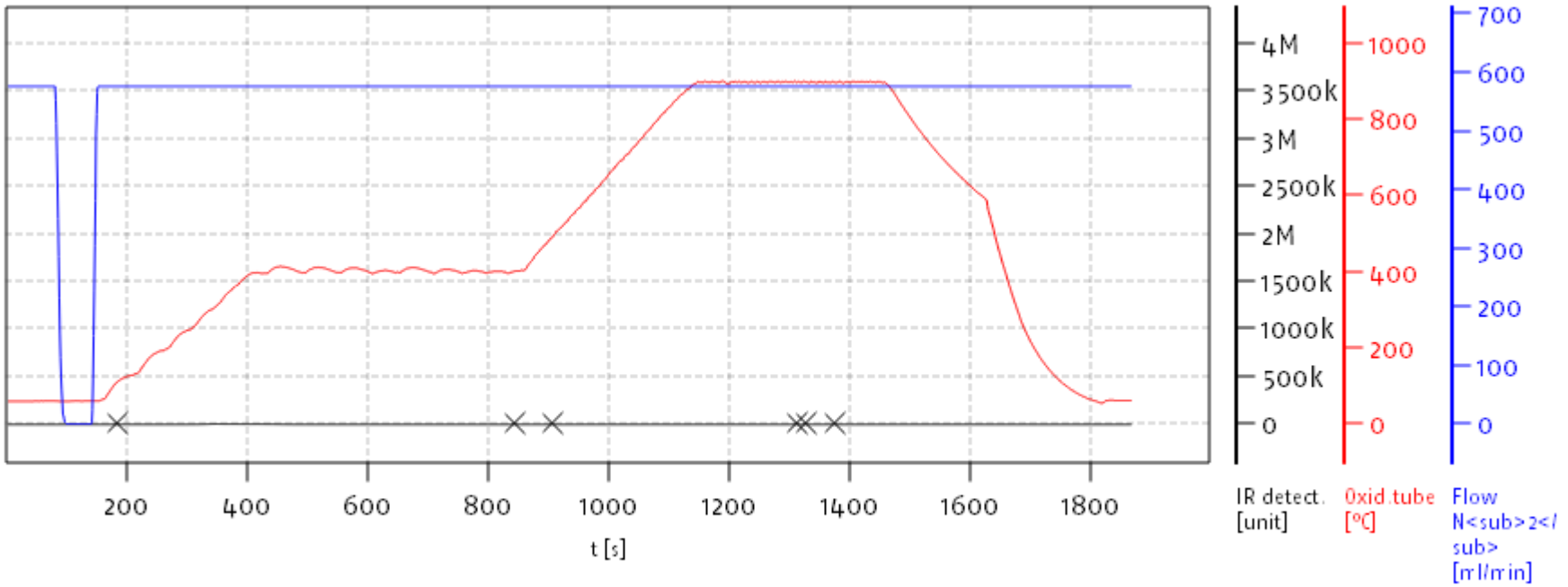
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	27	BLANK	1.00		1.00	CARBON	8/11/2021 2:53 AM	0.000	0.000	0.000	bl	19 335	23	0	1.0000	1.0000



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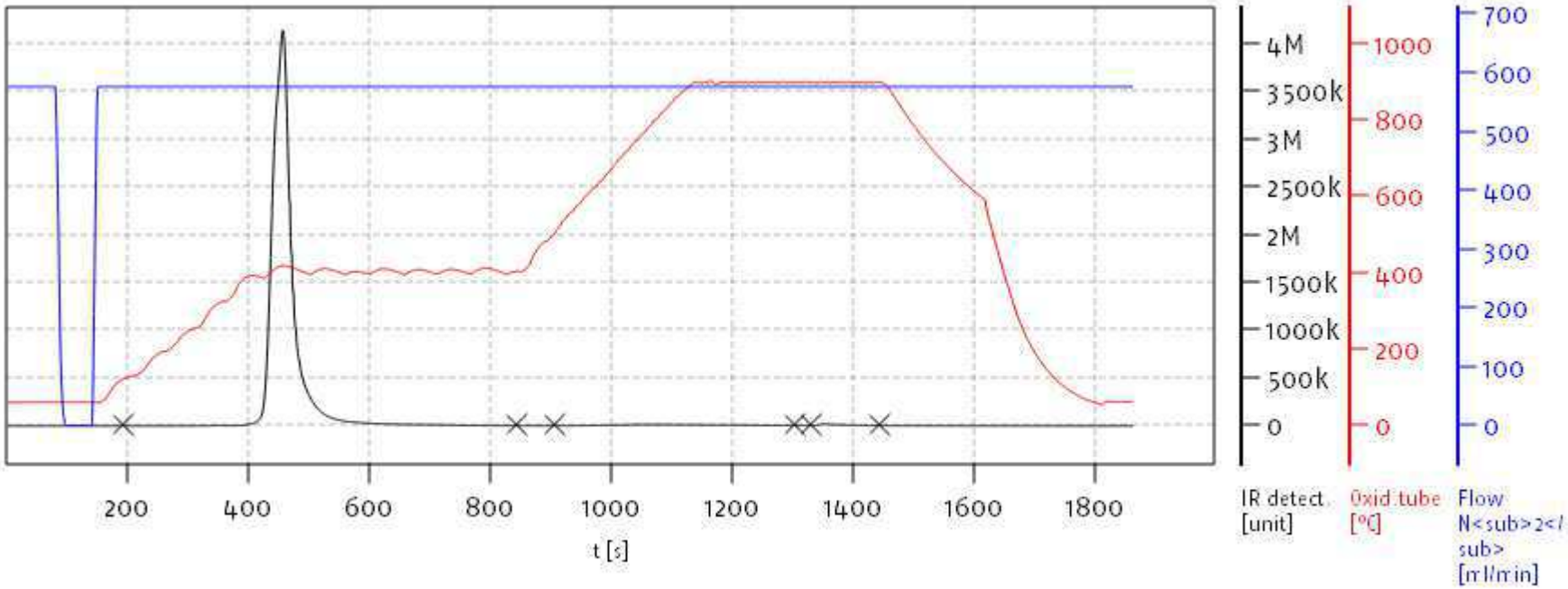
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	28	Dfactor	20.90		1.00	CARBON	8/11/2021 3:25 AM	44.744	0.921	45.666	bl	5 800 620	119 521	37 001	1.0154	1.0000



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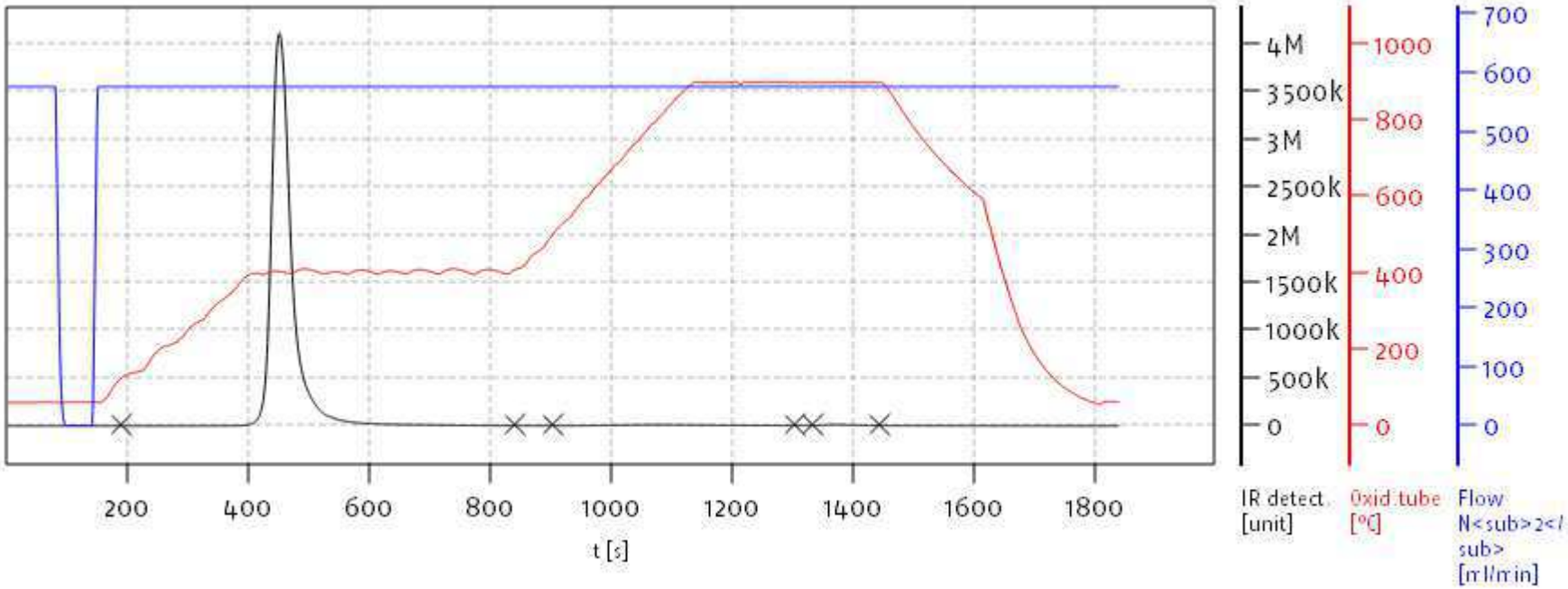
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	29	Dfactor	21.50		1.00	CARBON	8/11/2021 3:56 AM	44.697	0.738	45.435	bl	5 956 386	98 039	31 649	1.0173	1.0000



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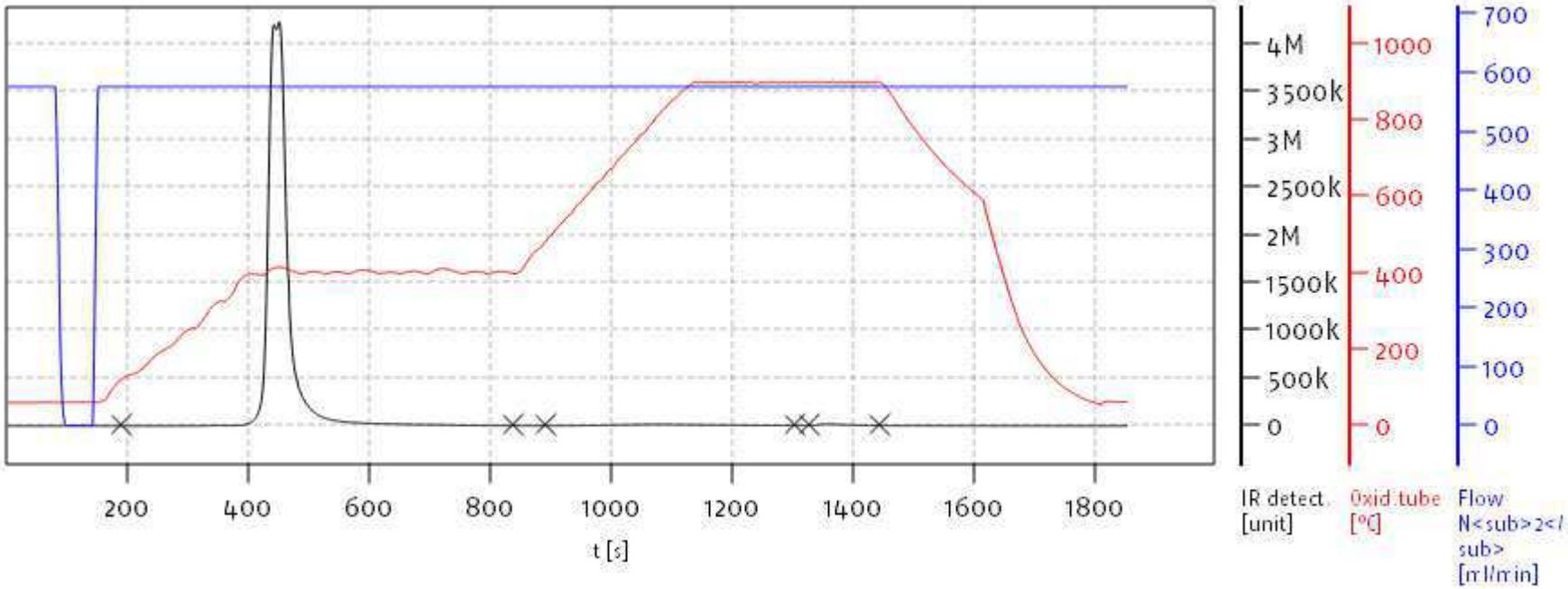
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	30	SJH0113-ICV1	21.40		1.00	CARBON	8/11/2021 4:27 AM	44.407	0.930	45.337	bl	5 886 637	123 684	40 335	1.0163	1.0000



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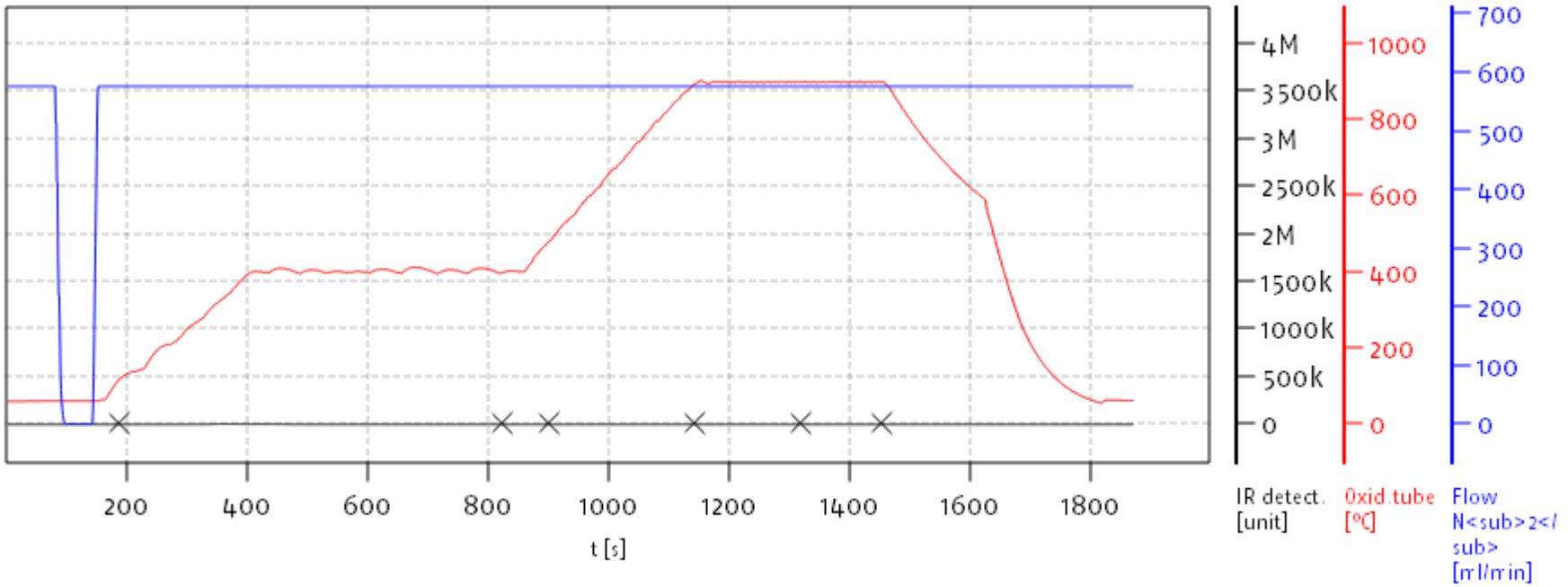
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	31	SJH0113-ICB1	613.30		1.00	CARBON	8/11/2021 4:59 AM	0.007	0.001	0.008	bl,C3u,C2u	20 520	1 826	970	1.0163	1.0000



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Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

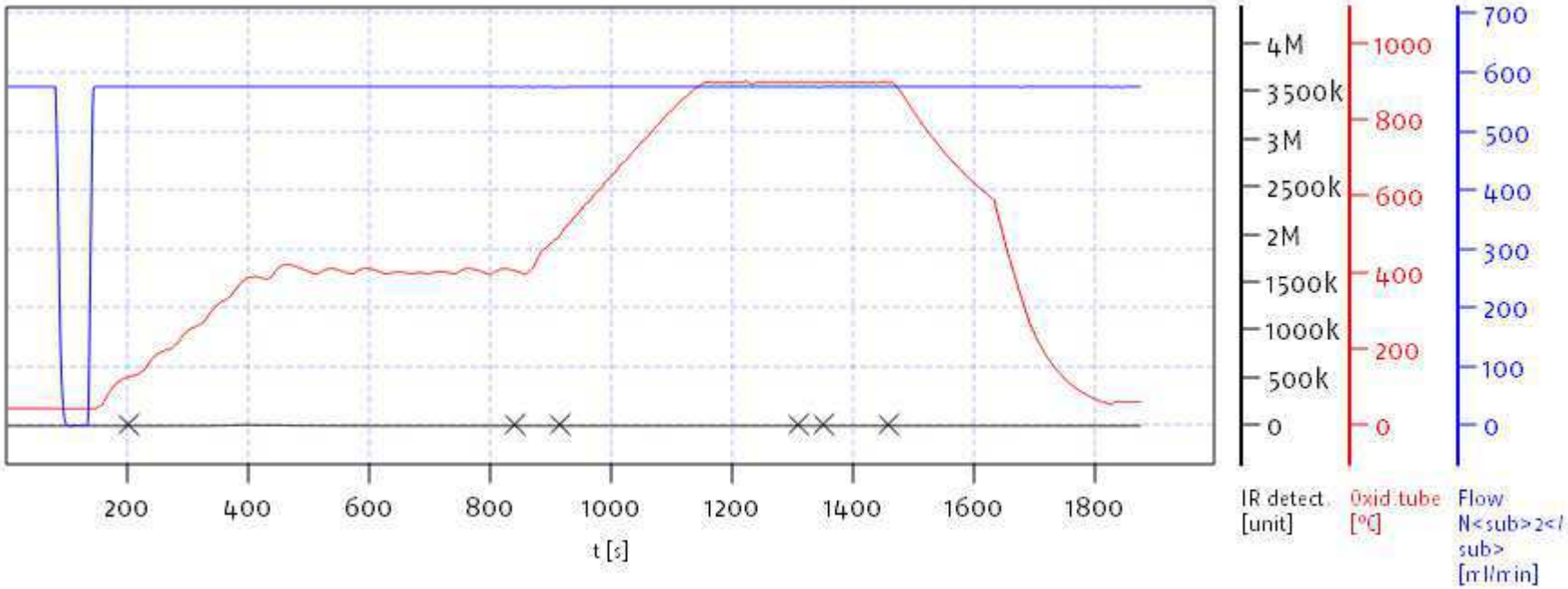
Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0136	Instrument:	TOC Cube
		Calibration:	EH00021

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Initial Cal Check	SJH0136-ICV1	peData_08162021@1103-(	NA	08/12/21 14:07
Initial Cal Blank	SJH0136-ICB1	peData_08162021@1103-(	NA	08/12/21 14:39
Calibration Check	SJH0136-CCV1	peData_08162021@1103-(	NA	08/12/21 20:25
Calibration Blank	SJH0136-CCB1	peData_08162021@1103-(	NA	08/12/21 20:56
Calibration Check	SJH0136-CCV2	peData_08162021@1103-(	NA	08/13/21 02:41
Calibration Blank	SJH0136-CCB2	peData_08162021@1103-(	NA	08/13/21 03:12
Calibration Check	SJH0136-CCV3	peData_08162021@1103-(	NA	08/13/21 08:59
Calibration Blank	SJH0136-CCB3	peData_08162021@1103-(	NA	08/13/21 09:31
Calibration Check	SJH0136-CCV4	peData_08162021@1103-(	NA	08/13/21 15:19
Calibration Blank	SJH0136-CCB4	peData_08162021@1103-(	NA	08/13/21 15:51
Calibration Check	SJH0136-CCV5	peData_08162021@1103-(	NA	08/13/21 21:38
Calibration Blank	SJH0136-CCB5	peData_08162021@1103-(	NA	08/13/21 22:09

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	1	BLANK	1.00		1.00	CARBON	8/12/2021 12:33 PM	0.000	0.000	0.000	bl	41 948	5 336	1 662	1.0000	1.0000



Name:

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Serial No: 0300.181017
Mode CCC

elementar
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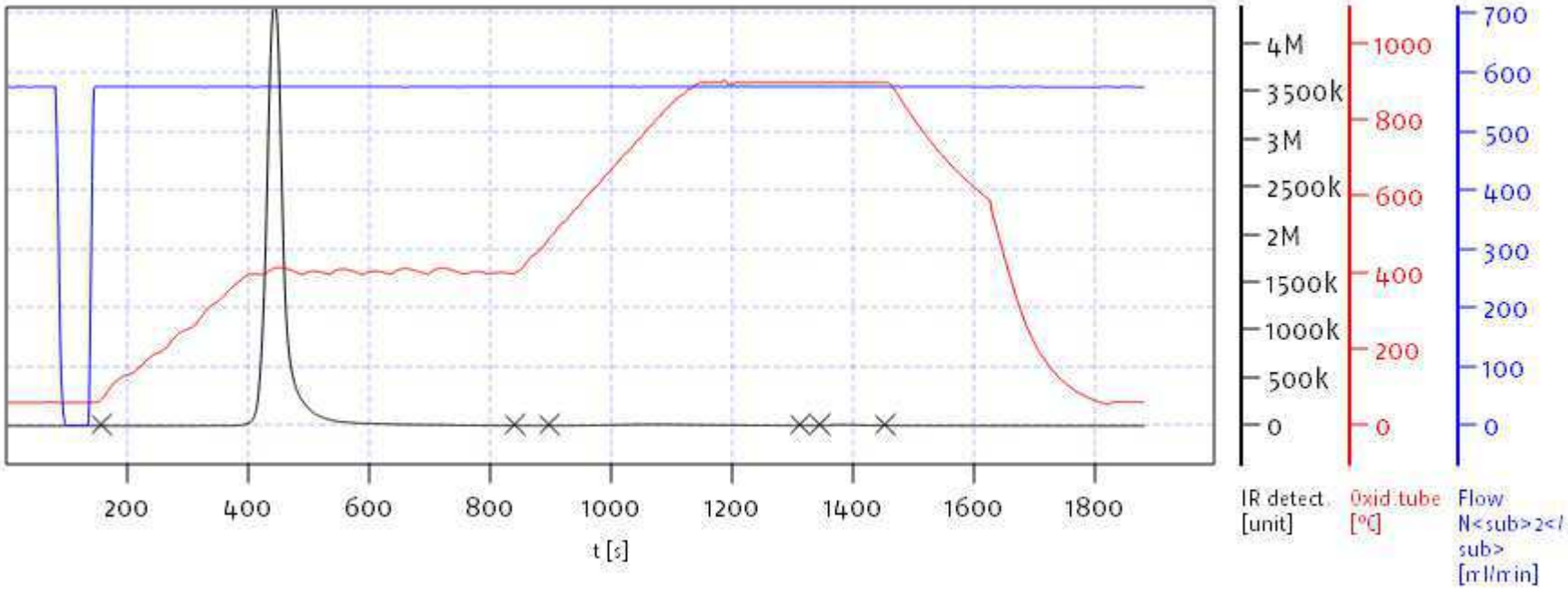
Document: 081321BF from: 8/14/2021 4:11 PM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	2	Dfactor	20.20		1.00	CARBON	8/12/2021 1:04 PM	44.572	0.855	45.427	bl	5 595 942	121 740	27 062	1.0329	1.0000



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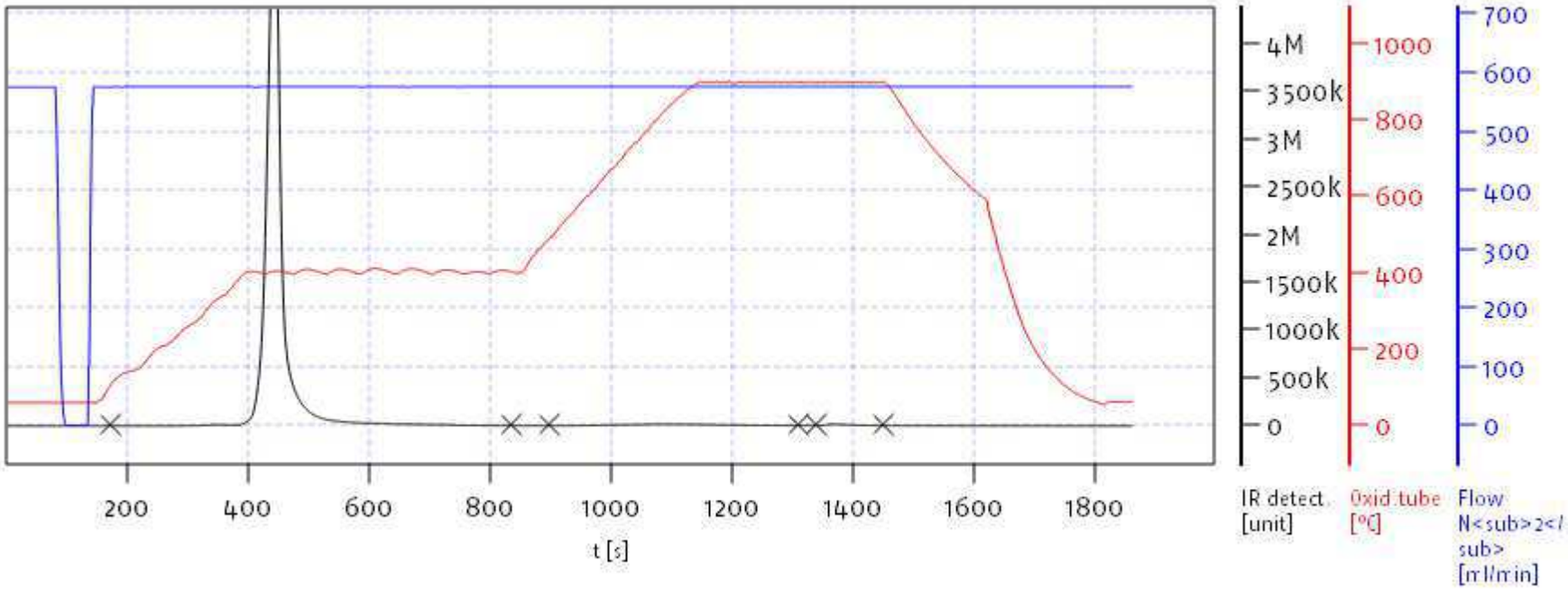
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	3	Dfactor	20.90		1.00	CARBON	8/12/2021 1:36 PM	44.614	0.945	45.560	bl	5 909 514	137 627	33 371	1.0119	1.0000



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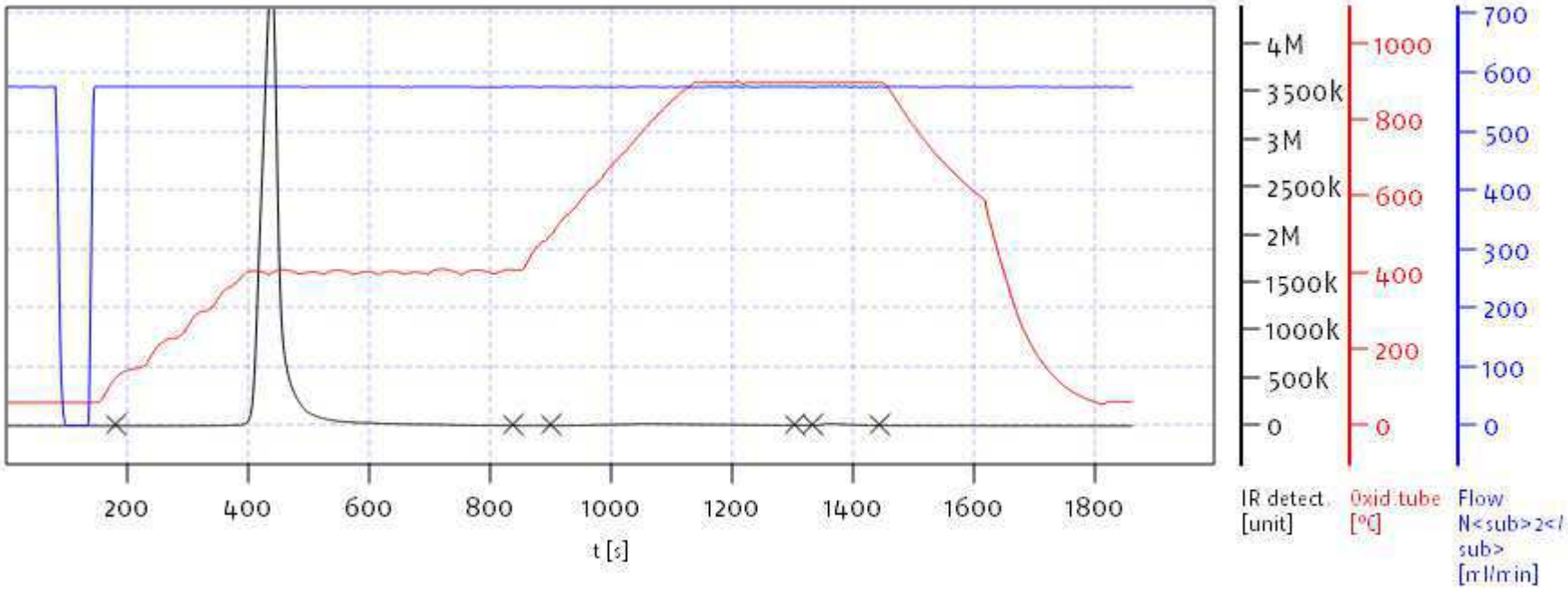
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	4	SJH0136-ICV1	21.90		1.00	CARBON	8/12/2021 2:07 PM	43.713	1.159	44.872	bl	5 993 607	173 728	45 260	1.0224	1.0000



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Balance: BAL3
Analyst: BF

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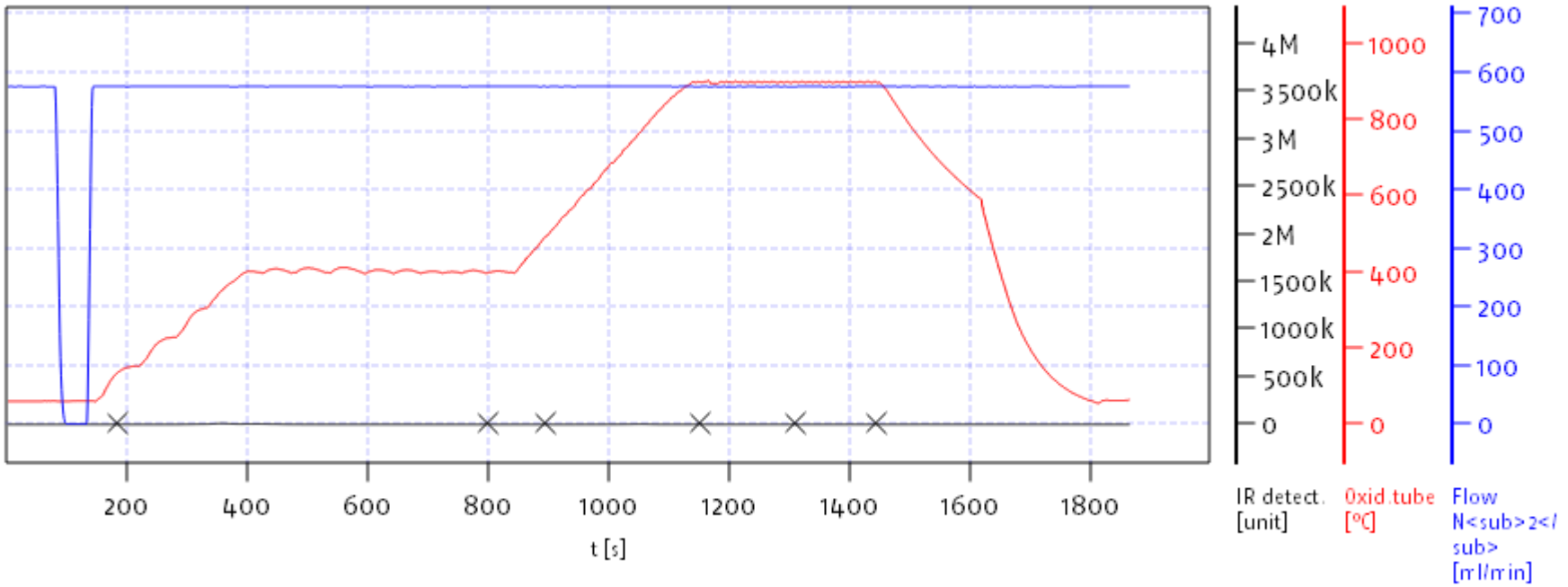
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	5	SJH0136-ICB1	577.90		1.00	CARBON	8/12/2021 2:39 PM	0.005	0.000	0.005	bl,C3u,C2u	29 519	5 556	1 151	1.0224	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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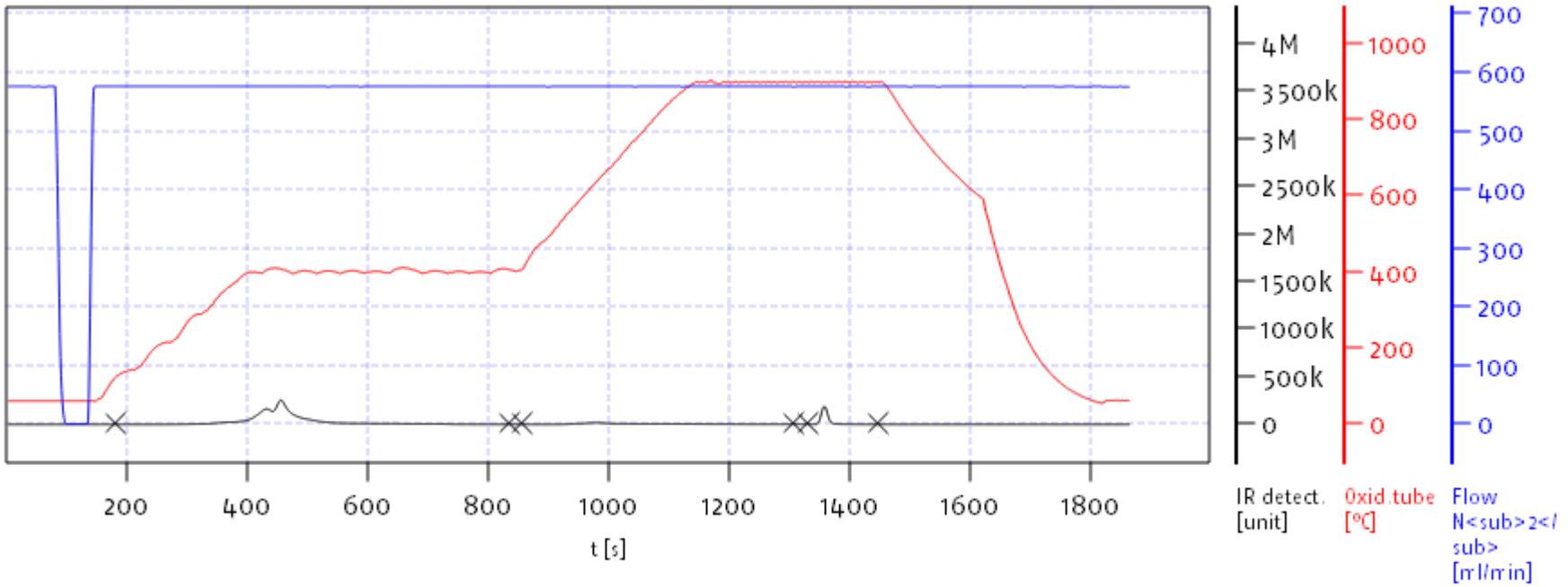
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	6	21G0178-09RE1	591.20		1.00	CARBON	8/12/2021 3:10 PM	0.197	0.019	0.216	bl	658 608	83 826	95 834	1.0224	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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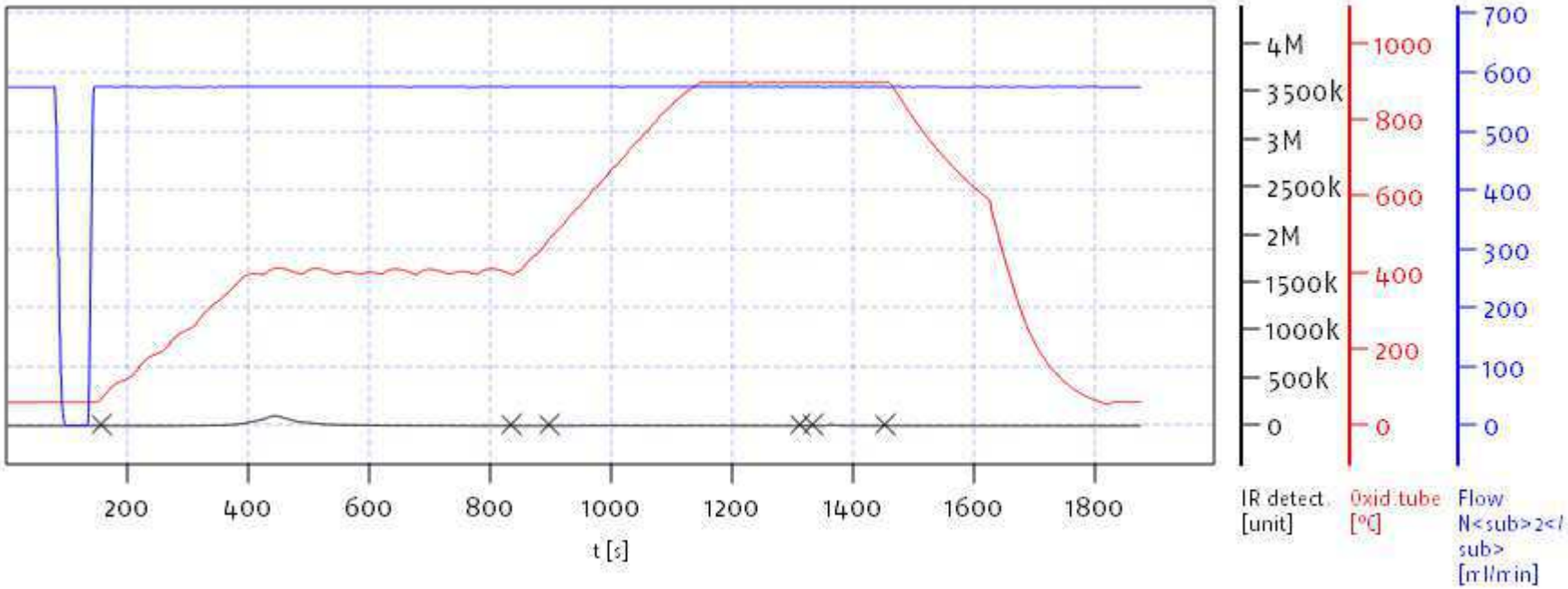
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	7	BJG0675-DUP3	540.50		1.00	CARBON	8/12/2021 3:42 PM	0.100	0.004	0.103	bl	349 752	23 420	9 502	1.0224	1.0000



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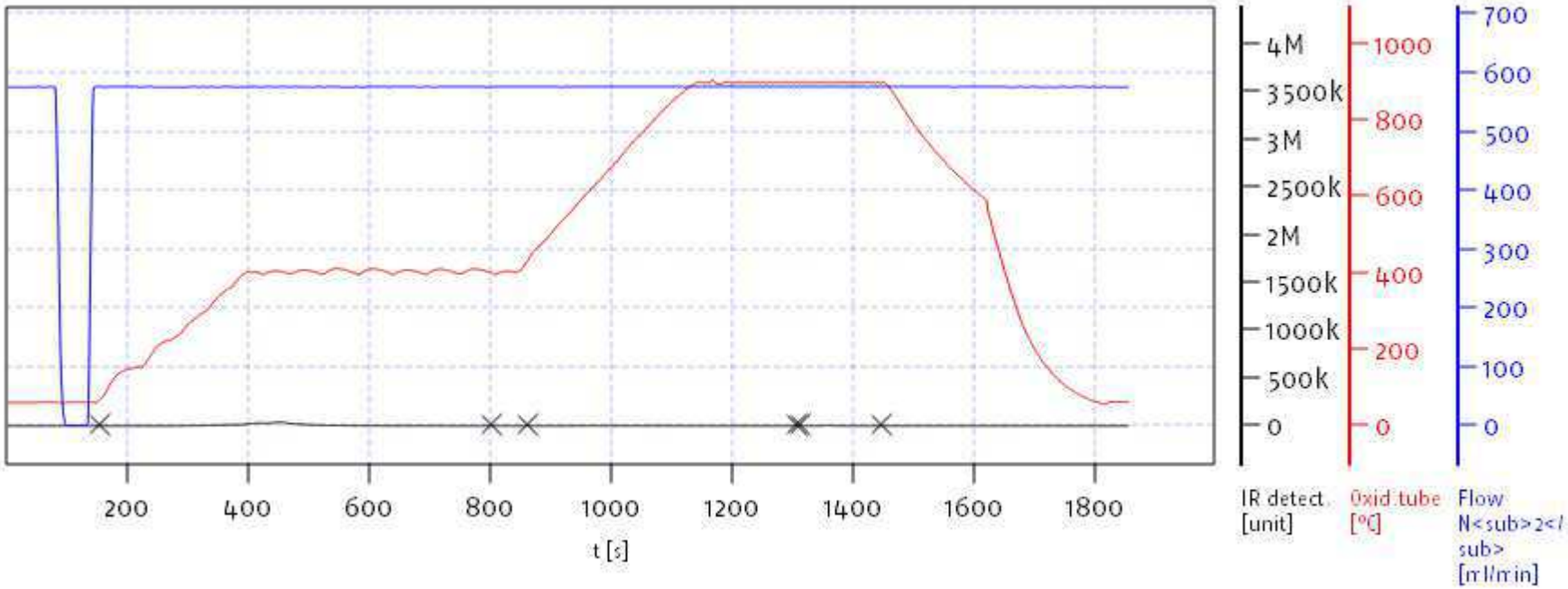
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	8	21G0178-10RE2	523.00		1.00	CARBON	8/12/2021 4:13 PM	0.044	0.000	0.044	bl,C2u	153 726	10 002	4 057	1.0224	1.0000



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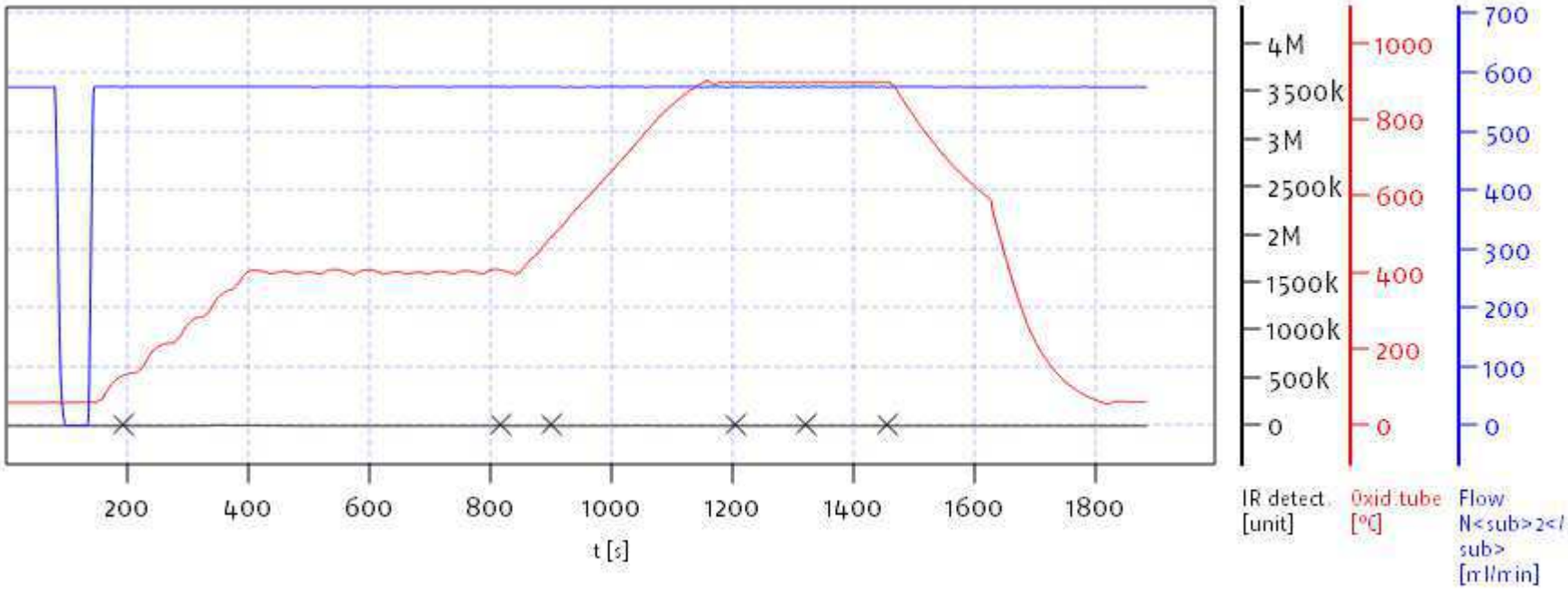
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	9	BJH0016-BLK2	503.10		1.00	CARBON	8/12/2021 4:45 PM	0.004	0.000	0.004	bl,C3u,C2u	23 185	3 811	605	1.0224	1.0000



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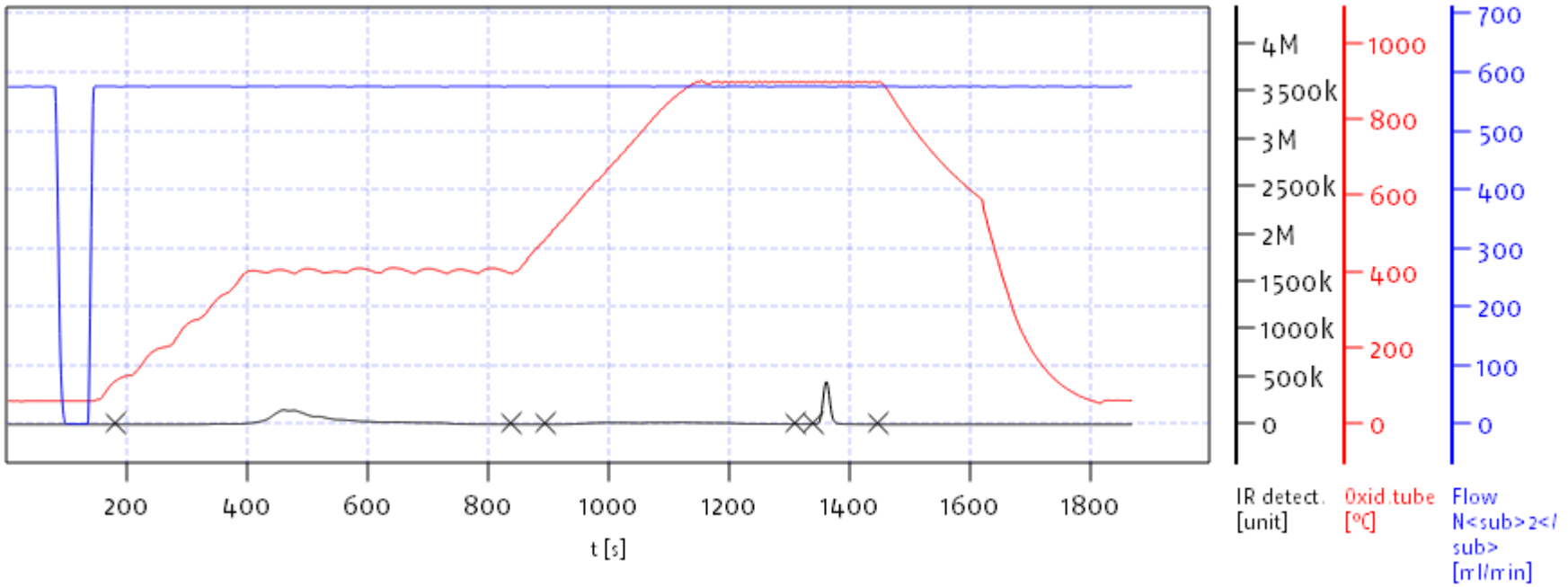
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	10	21G0211-14RE1	693.80		1.00	CARBON	8/12/2021 5:16 PM	0.205	0.039	0.244	bl	689 524	186 465	229 196	1.0224	1.0000



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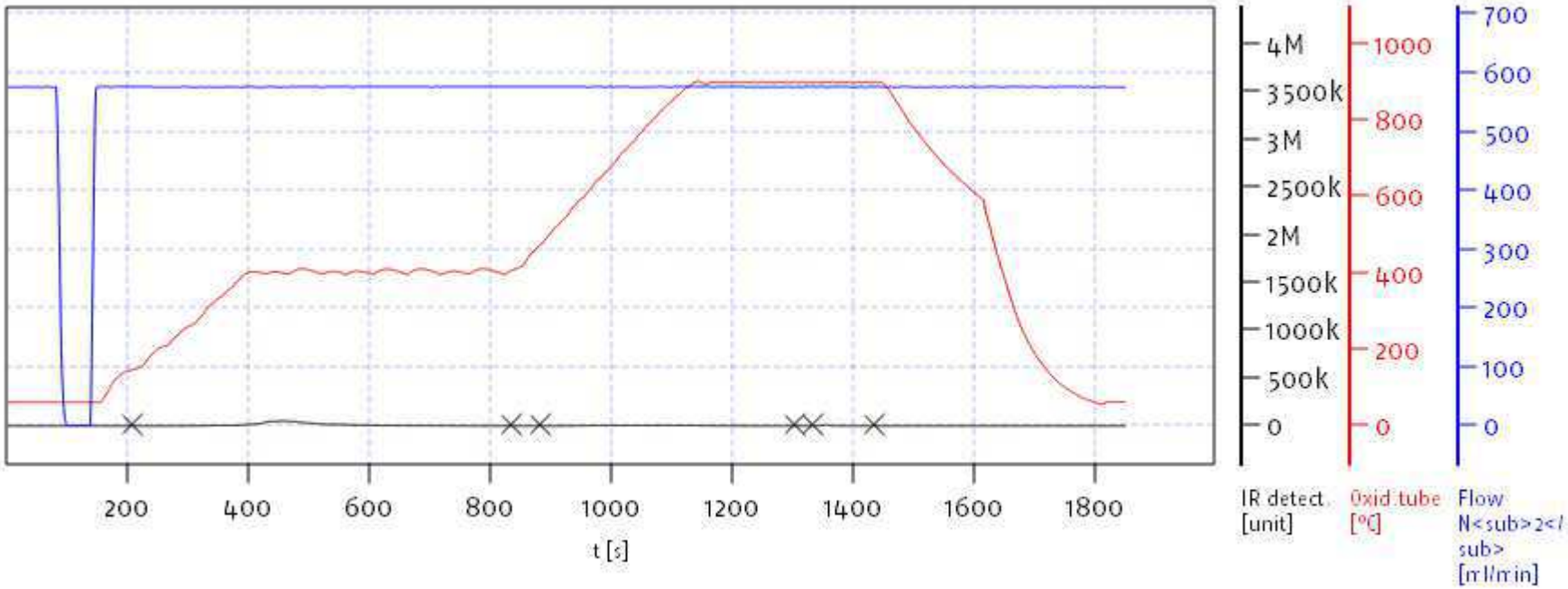
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	11	21G0211-16RE1	539.30		1.00	CARBON	8/12/2021 5:48 PM	0.066	0.009	0.075	bl,C2u	233 609	43 572	5 608	1.0224	1.0000



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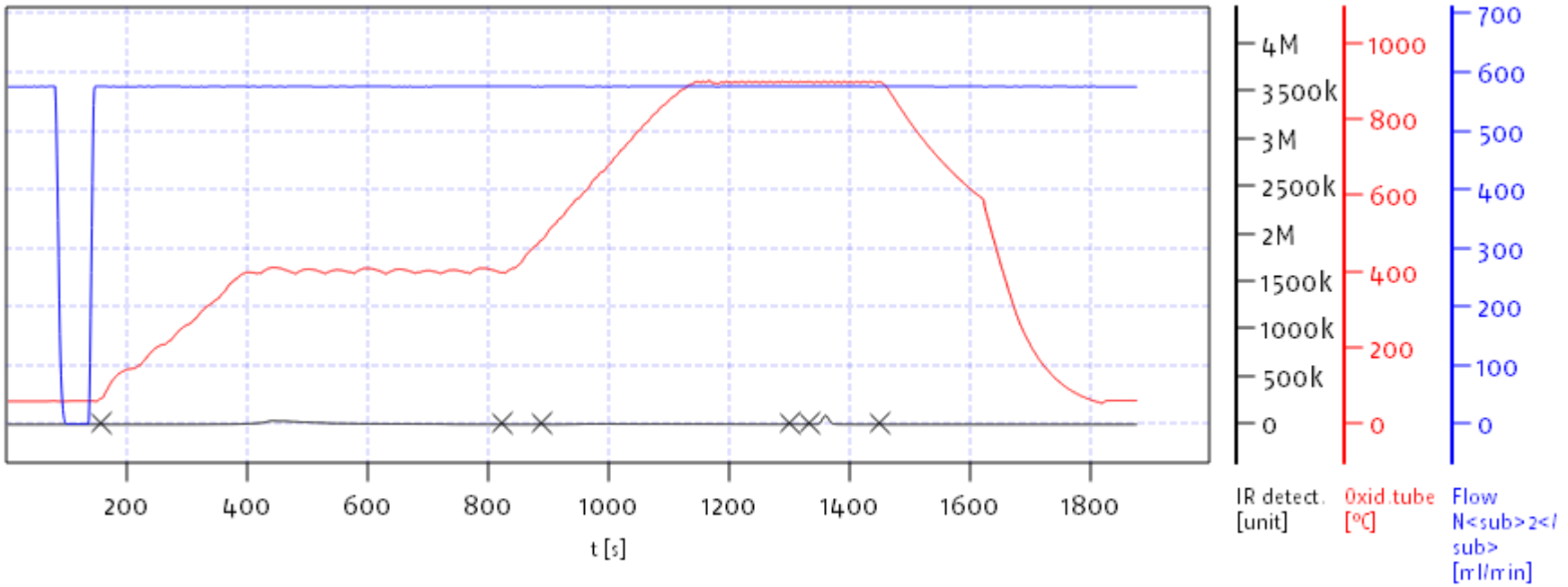
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	12	21G0213-01RE1	501.80		1.00	CARBON	8/12/2021 6:19 PM	0.065	0.012	0.077	bl	178 641	50 040	47 338	1.0224	1.0000



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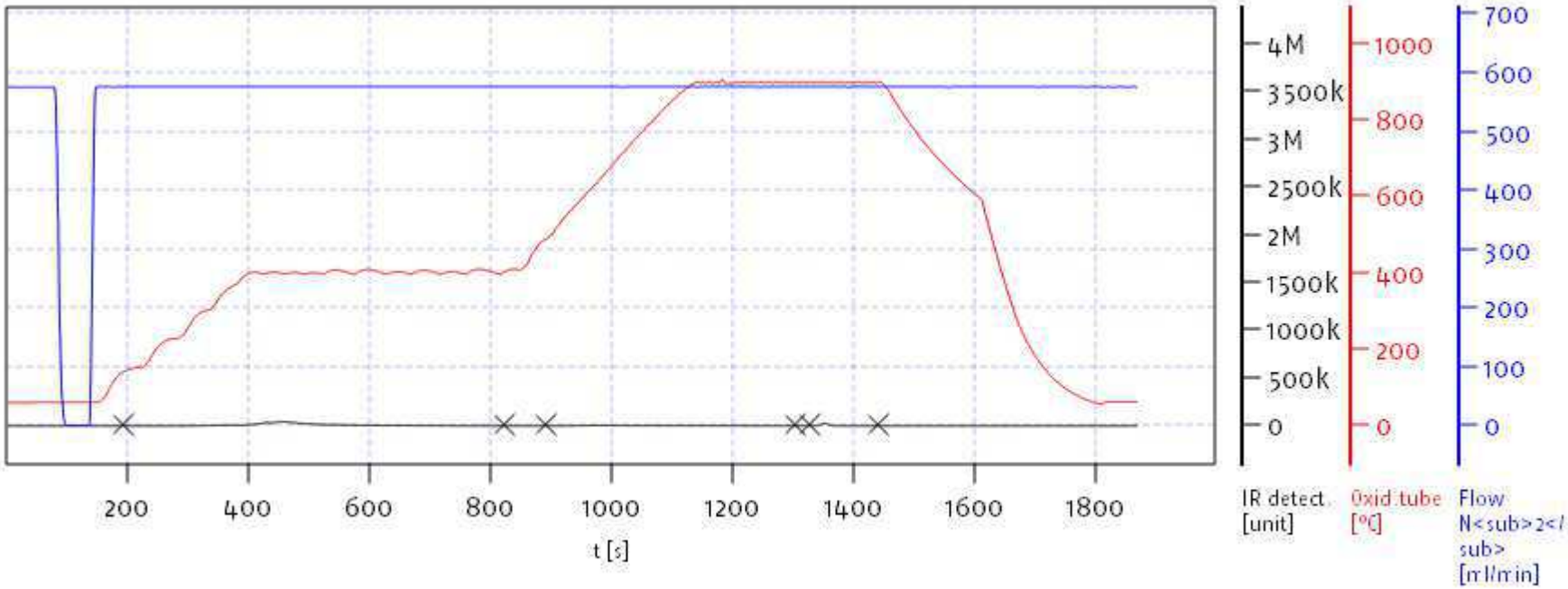
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	13	21G0213-02RE1	601.30		1.00	CARBON	8/12/2021 6:51 PM	0.050	0.007	0.057	bl	195 797	38 562	14 083	1.0224	1.0000



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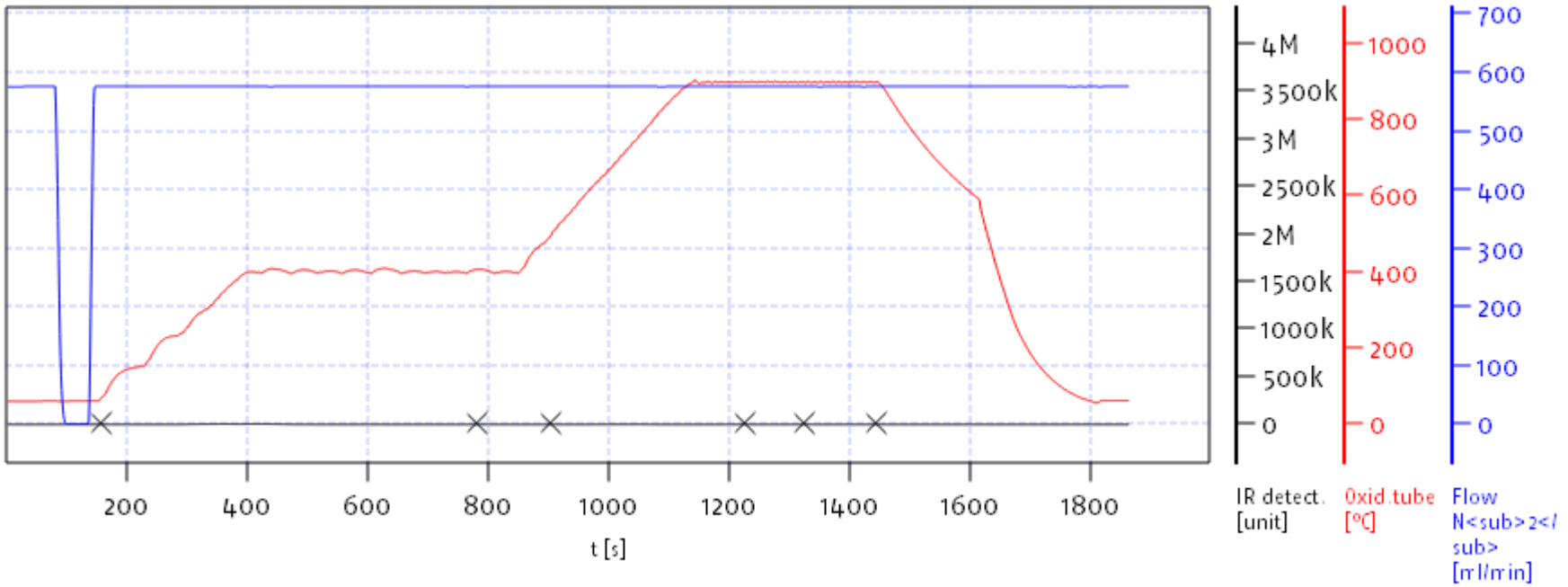
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	14	BJH0022-BLK2	556.20		1.00	CARBON	8/12/2021 7:22 PM	0.006	0.000	0.006	bl,C3u,C2u	30 212	6 574	391	1.0224	1.0000



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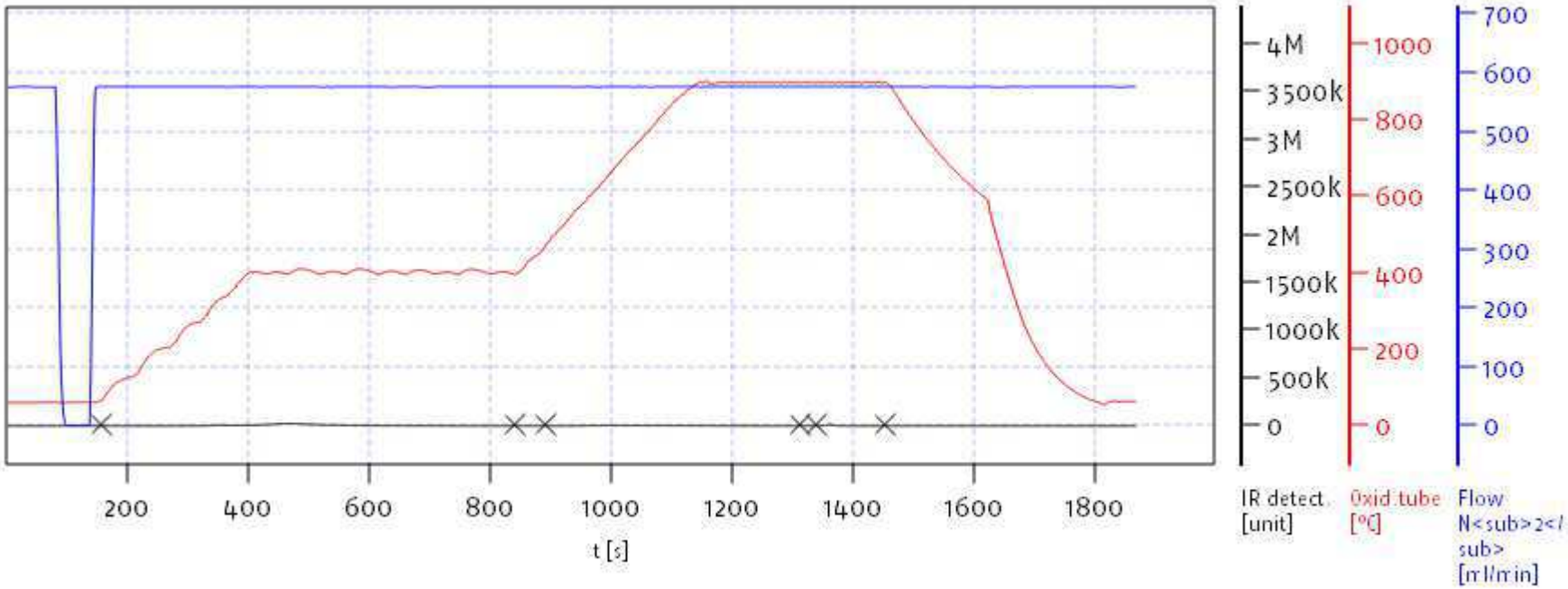
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	15	21G0213-08RE1	579.00		1.00	CARBON	8/12/2021 7:54 PM	0.031	0.006	0.037	bl	123 692	32 071	8 050	1.0224	1.0000



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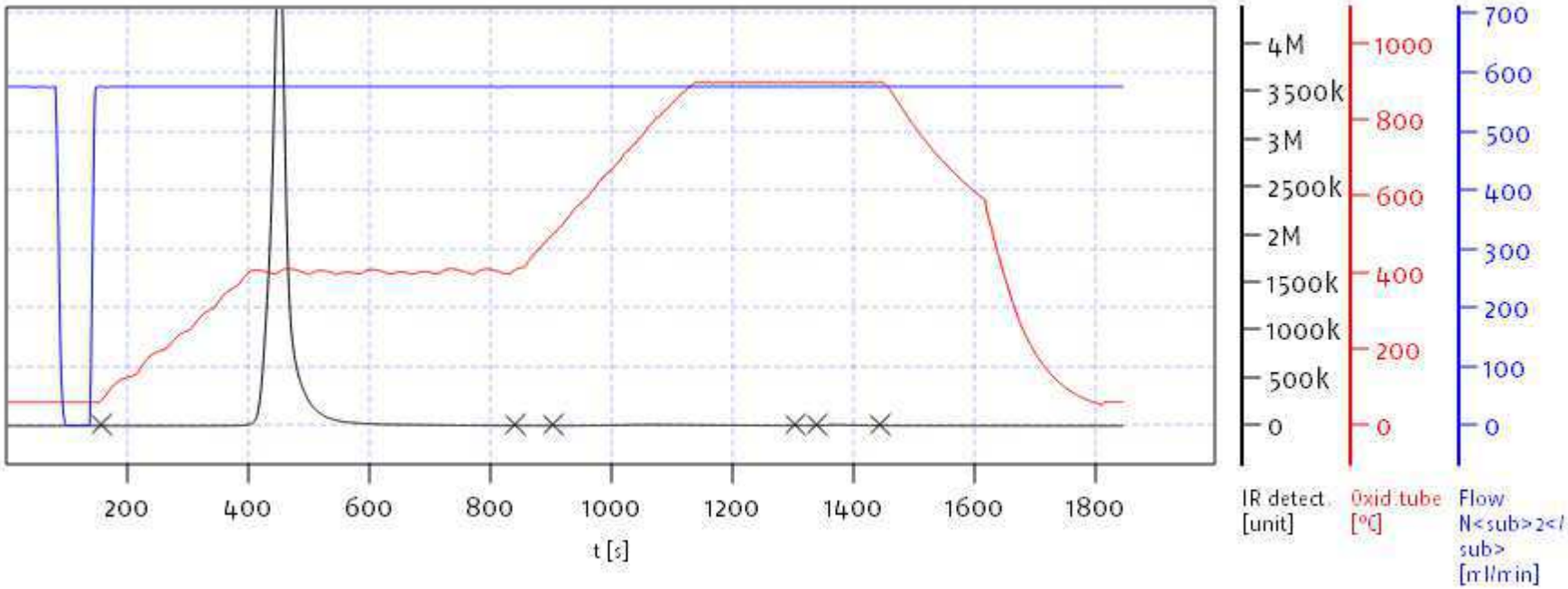
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	16	SJH0136-CCV1	21.20		1.00	CARBON	8/12/2021 8:25 PM	44.537	0.644	45.181	bl	5 931 953	98 361	23 951	1.0224	1.0000



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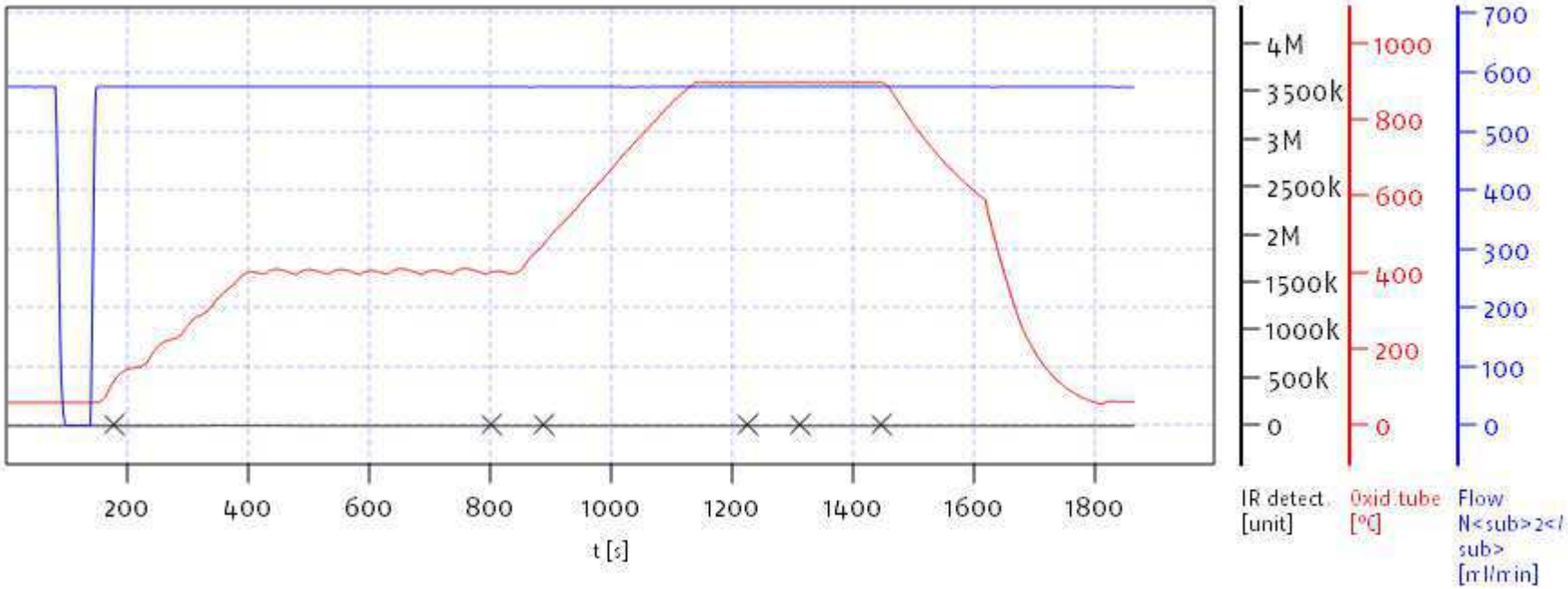
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	17	SJH0136-CCB1	567.30		1.00	CARBON	8/12/2021 8:56 PM	0.001	0.000	0.001	bl,C3u,C2u	15 804	1 054	542	1.0224	1.0000



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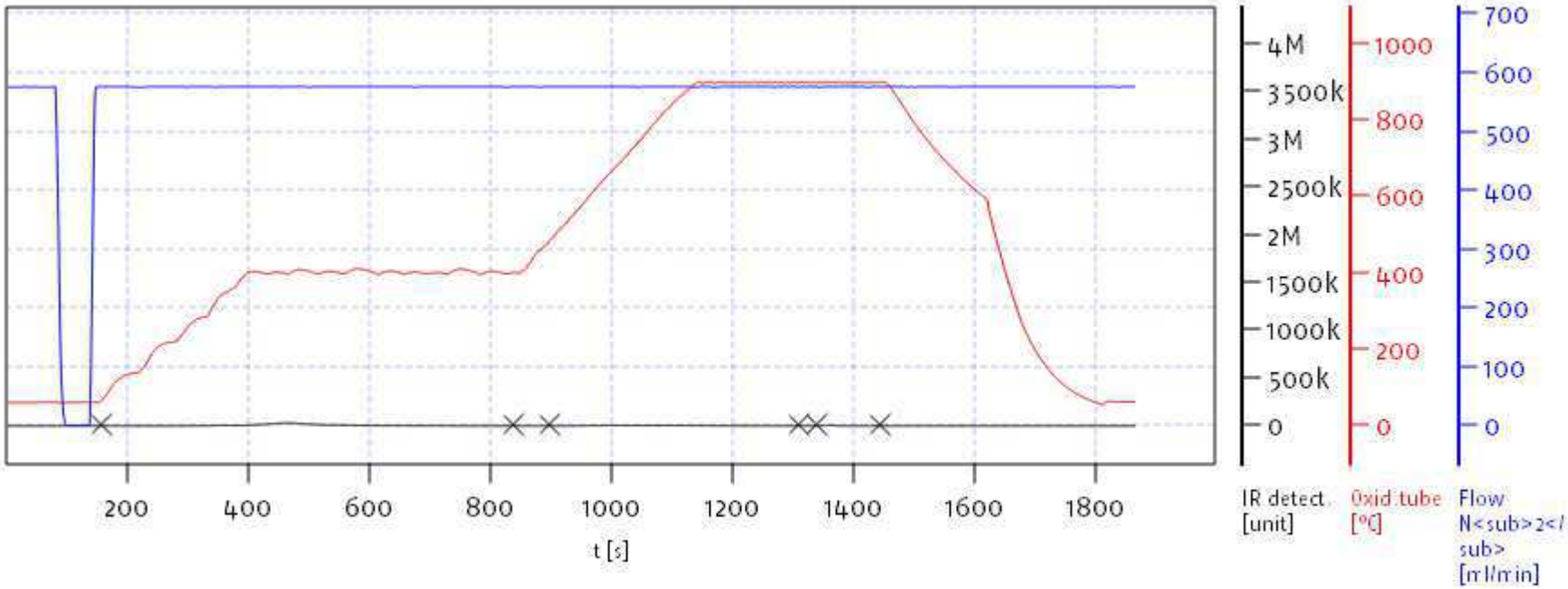
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	18	BJH0022-DUP3	617.70		1.00	CARBON	8/12/2021 9:28 PM	0.034	0.007	0.041	bl,C2u	140 903	38 526	5 357	1.0224	1.0000



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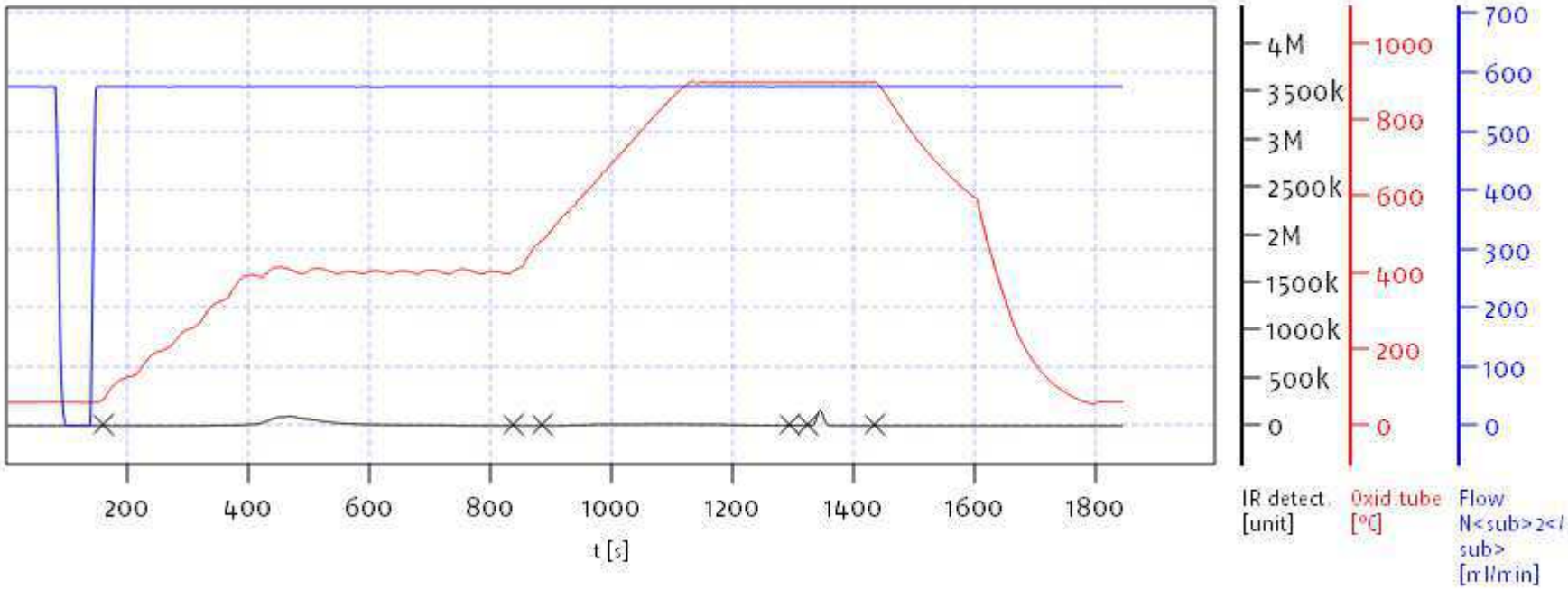
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	19	21G0285-04RE1	545.50		1.00	CARBON	8/12/2021 9:59 PM	0.148	0.044	0.192	bl	450 760	165 757	79 186	1.0224	1.0000



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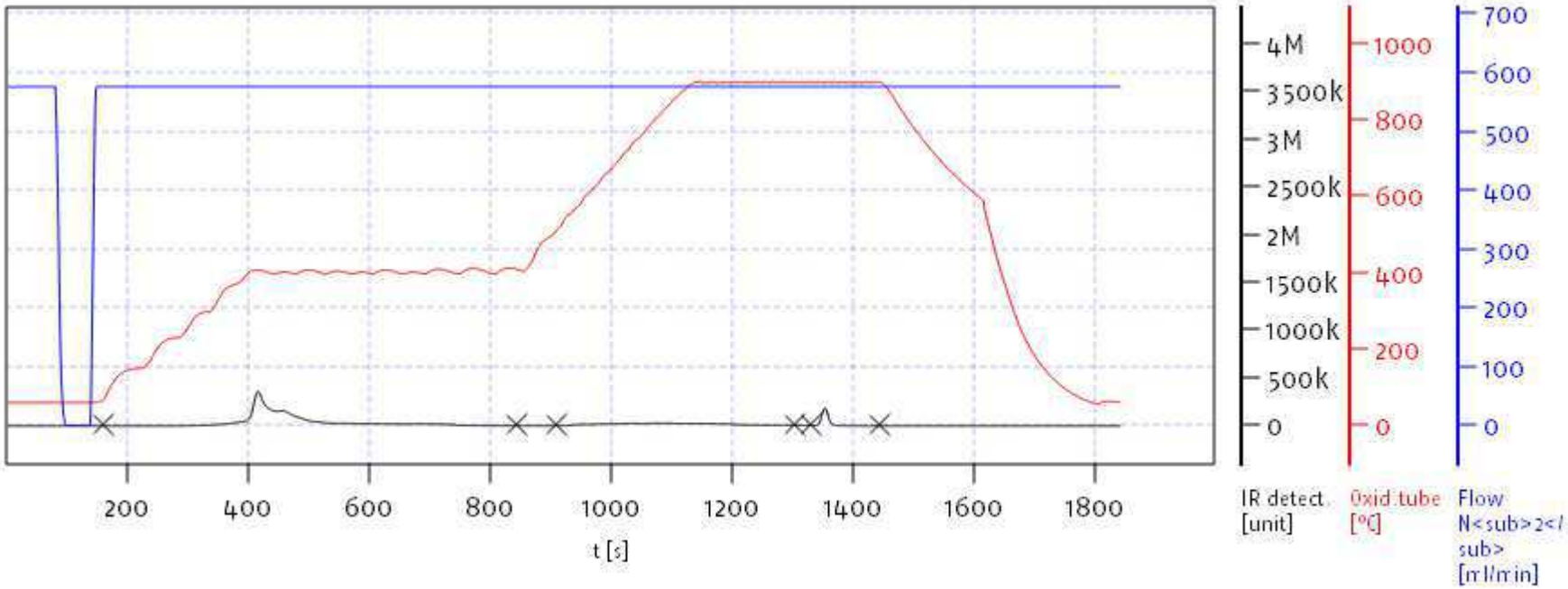
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	20	21G0285-07RE1	543.90		1.00	CARBON	8/12/2021 10:30 PM	0.285	0.071	0.355	bl	901 749	257 671	94 244	1.0224	1.0000



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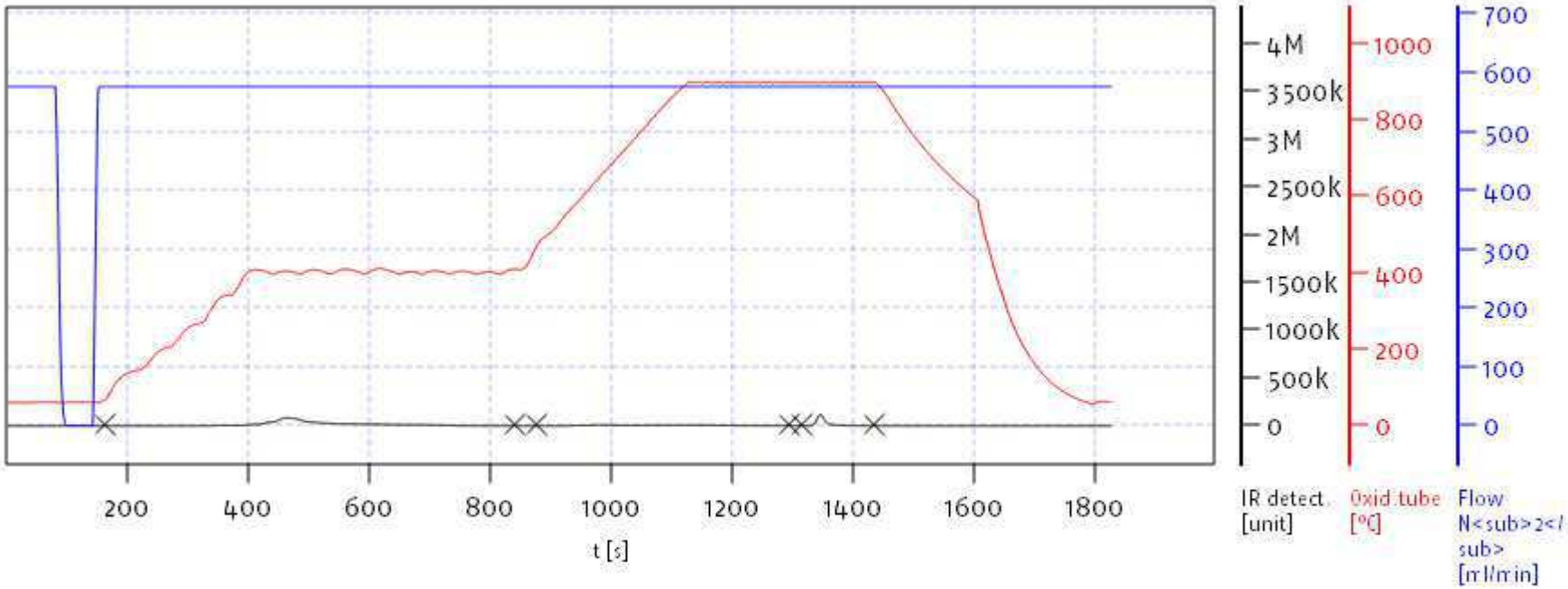
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	21	21G0289-01RE1	612.70		1.00	CARBON	8/12/2021 11:01 PM	0.105	0.017	0.122	bl	350 182	78 169	76 548	1.0224	1.0000



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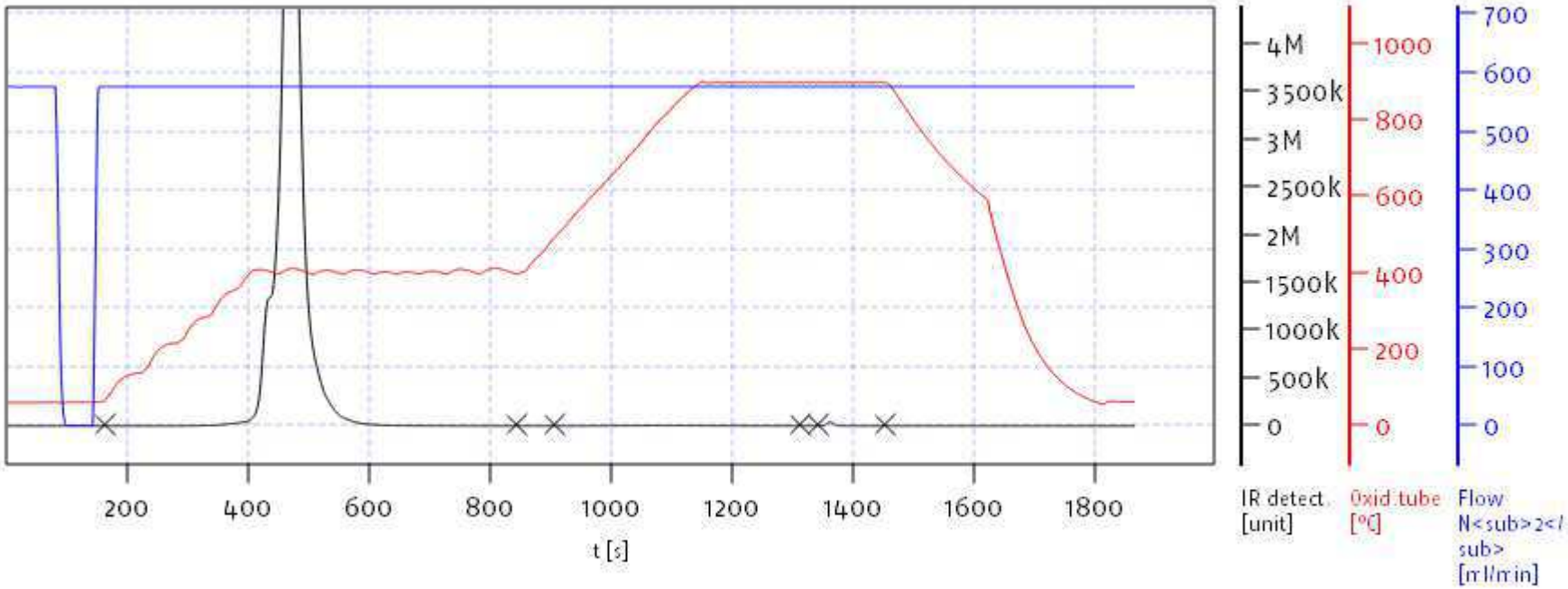
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	22	21G0303-02RE1	328.50		1.00	CARBON	8/12/2021 11:33 PM	5.492	0.010	5.501	bl,Co	11 339 005	31 023	20 693	1.0224	1.0000



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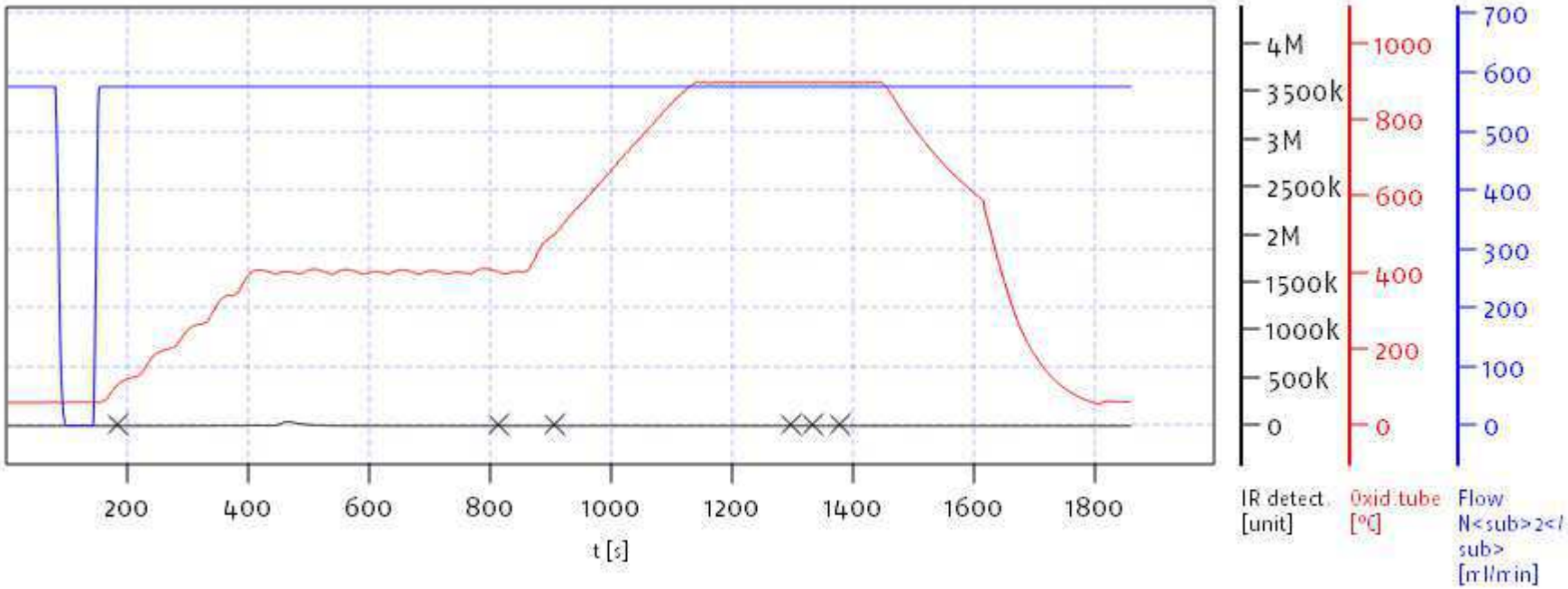
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	23	BJH0300-MRL1	545.90		1.00	CARBON	8/13/2021 12:04 AM	0.022	0.000	0.022	bl,C3u,C2u	85 074	5 823	189	1.0224	1.0000



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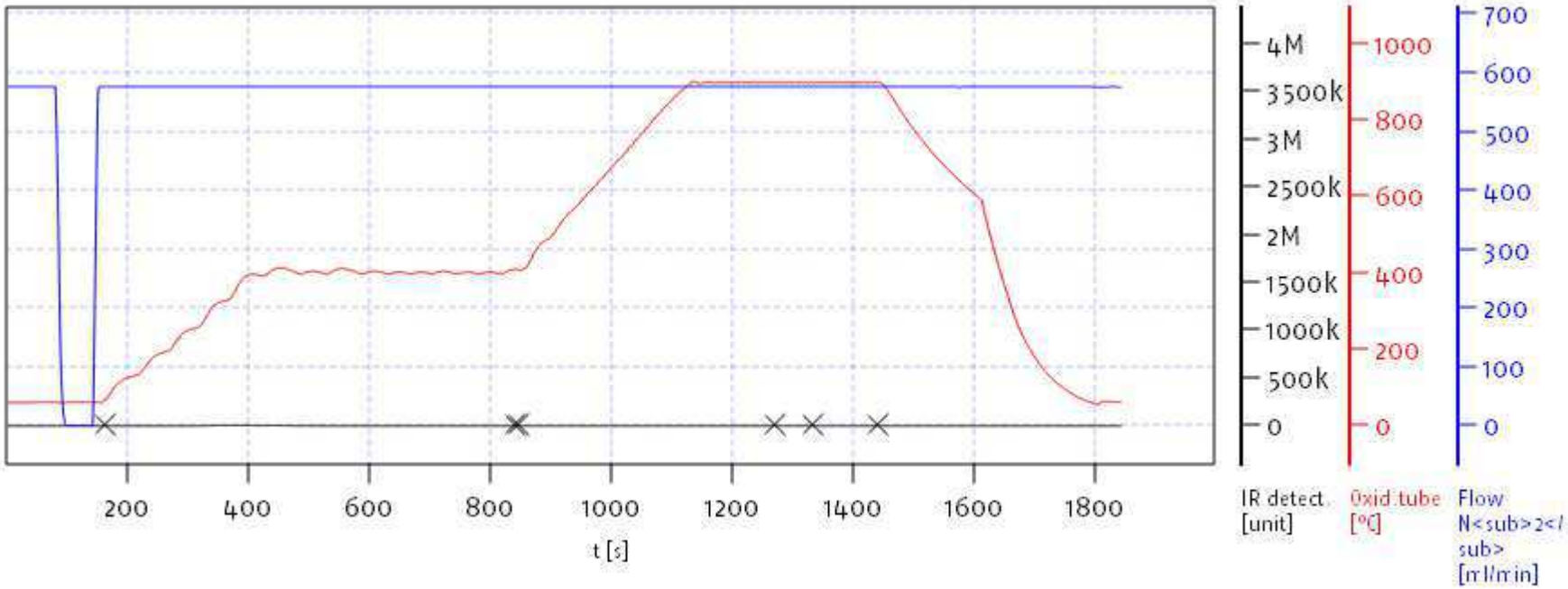
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	24	BJH0300-BLK1	565.10		1.00	CARBON	8/13/2021 12:35 AM	0.006	0.000	0.006	bl,C3u,C2u	30 517	1 924	280	1.0224	1.0000



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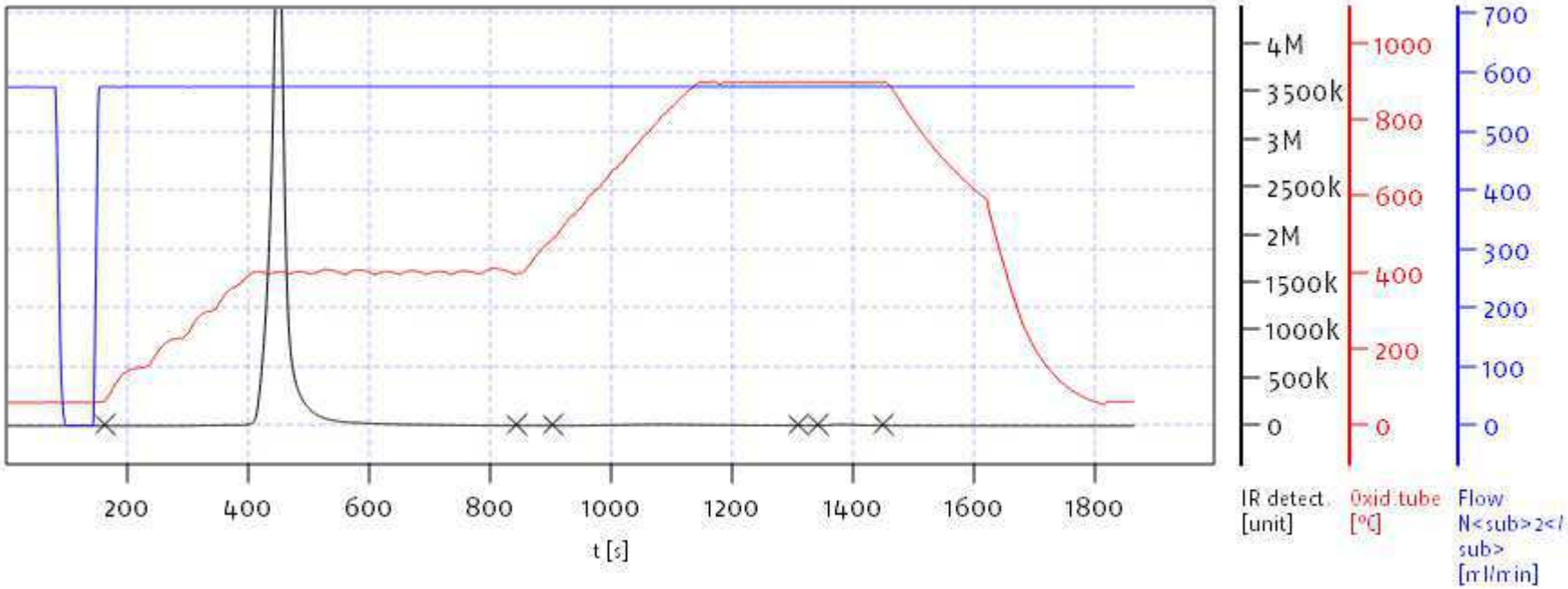
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	25	BJH0300-BS1	20.80		1.00	CARBON	8/13/2021 1:07 AM	44.500	0.813	45.312	bl	5 807 955	119 306	31 228	1.0224	1.0000



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Date: Mon Aug 16 10:56:12 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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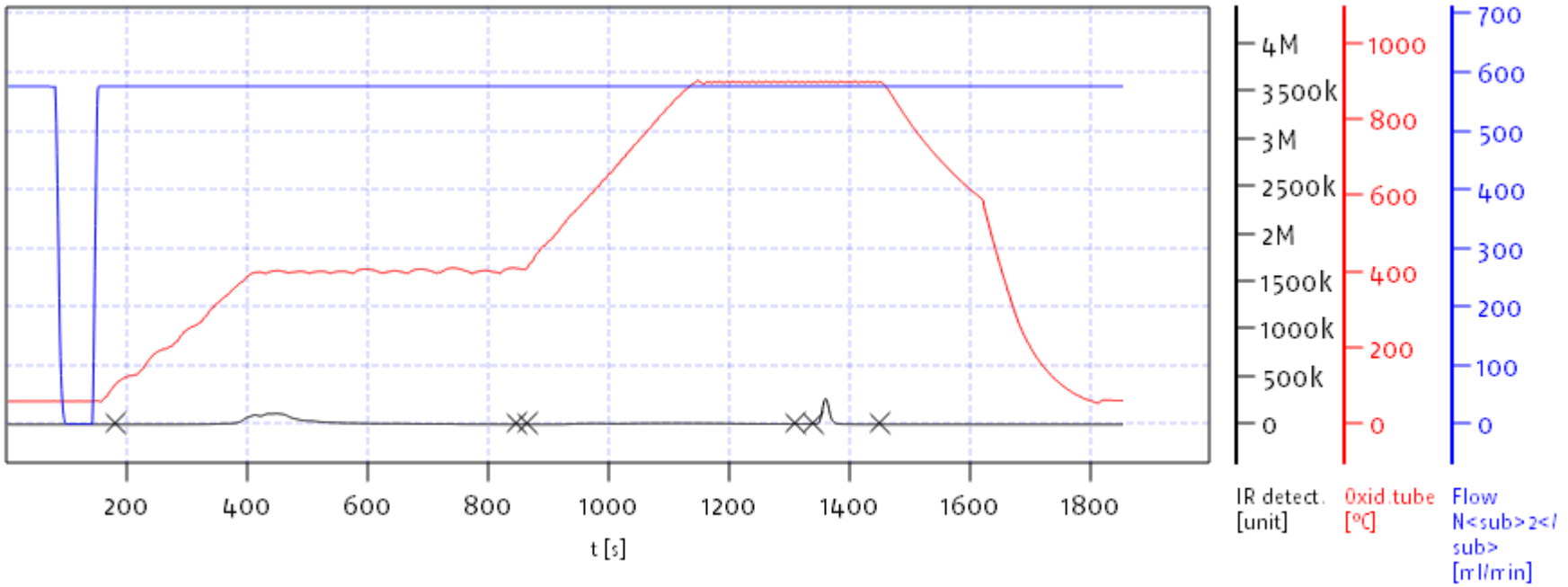
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	26	BJH0300-SRM1	39.50		1.00	CARBON	8/13/2021 1:38 AM	2.422	0.461	2.883	bl	484 152	127 774	141 317	1.0224	1.0000



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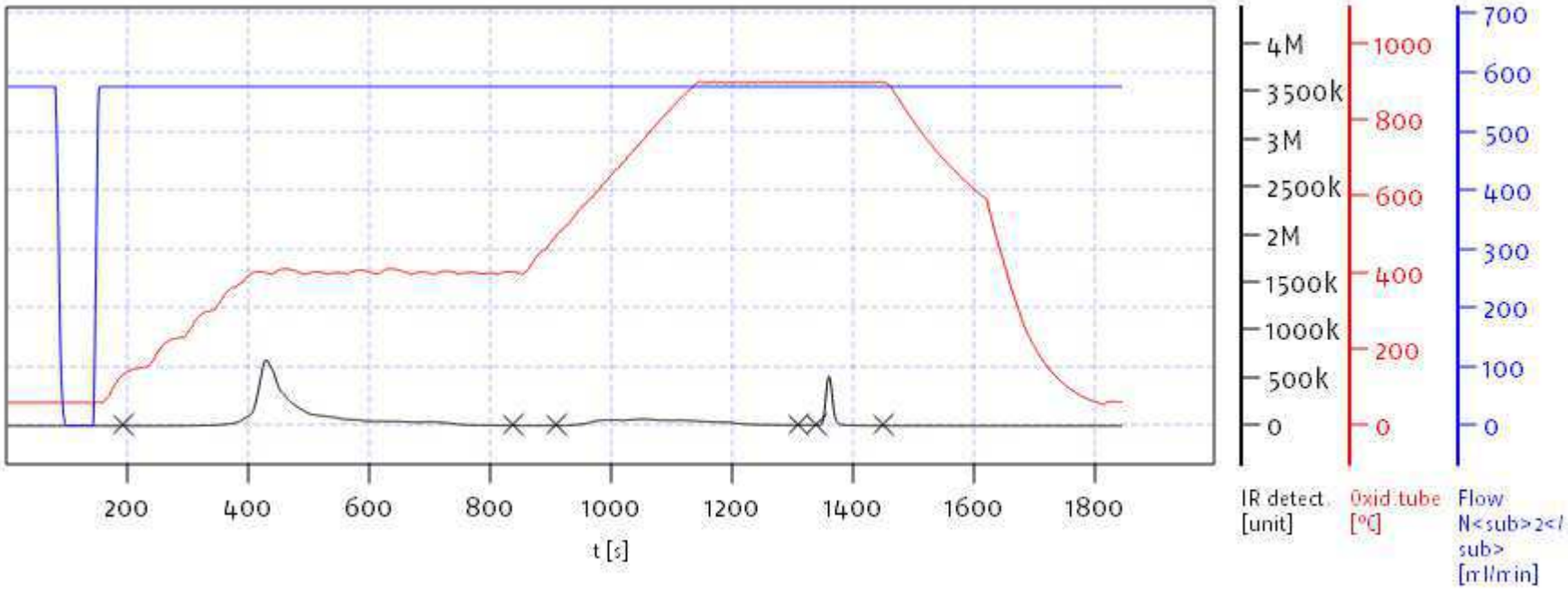
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	27	21G0269-12	555.10		1.00	CARBON	8/13/2021 2:09 AM	0.618	0.156	0.774	bl	1 918 678	567 810	264 618	1.0224	1.0000



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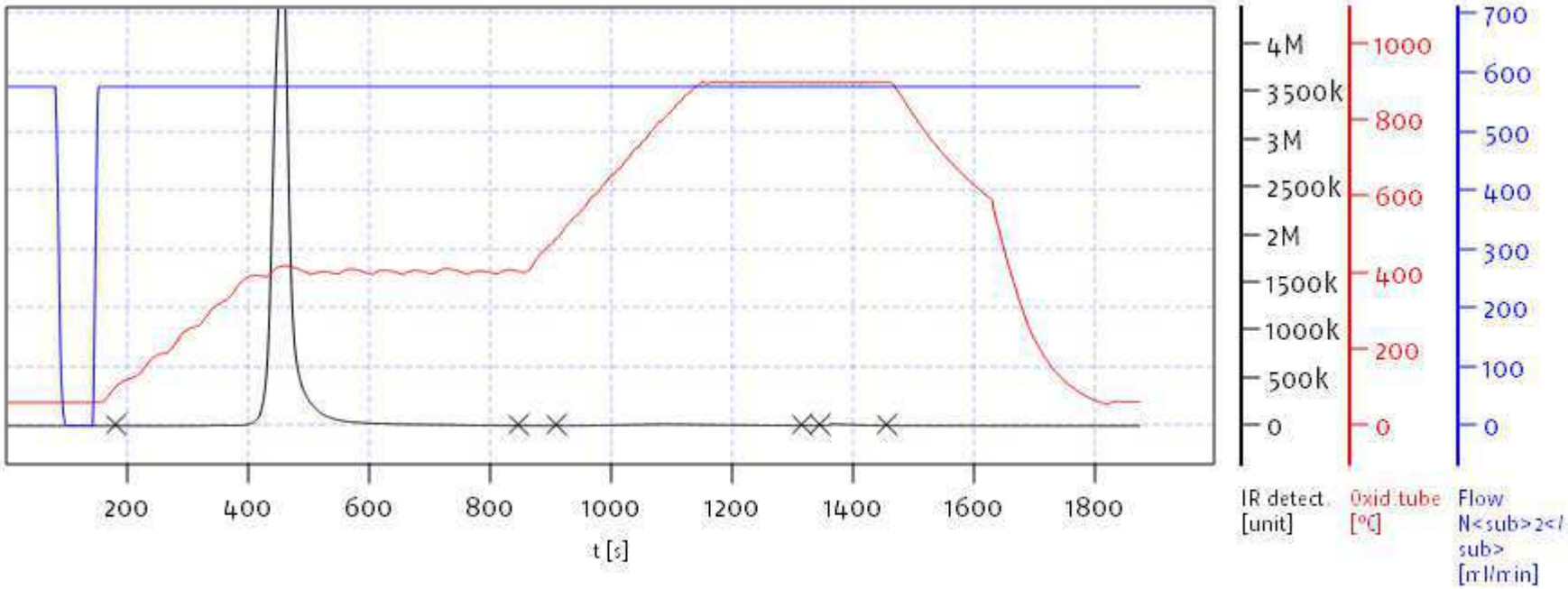
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	28	SJH0136-CCV2	22.10		1.00	CARBON	8/13/2021 2:41 AM	44.604	0.826	45.430	bl	6 181 251	128 062	36 085	1.0224	1.0000



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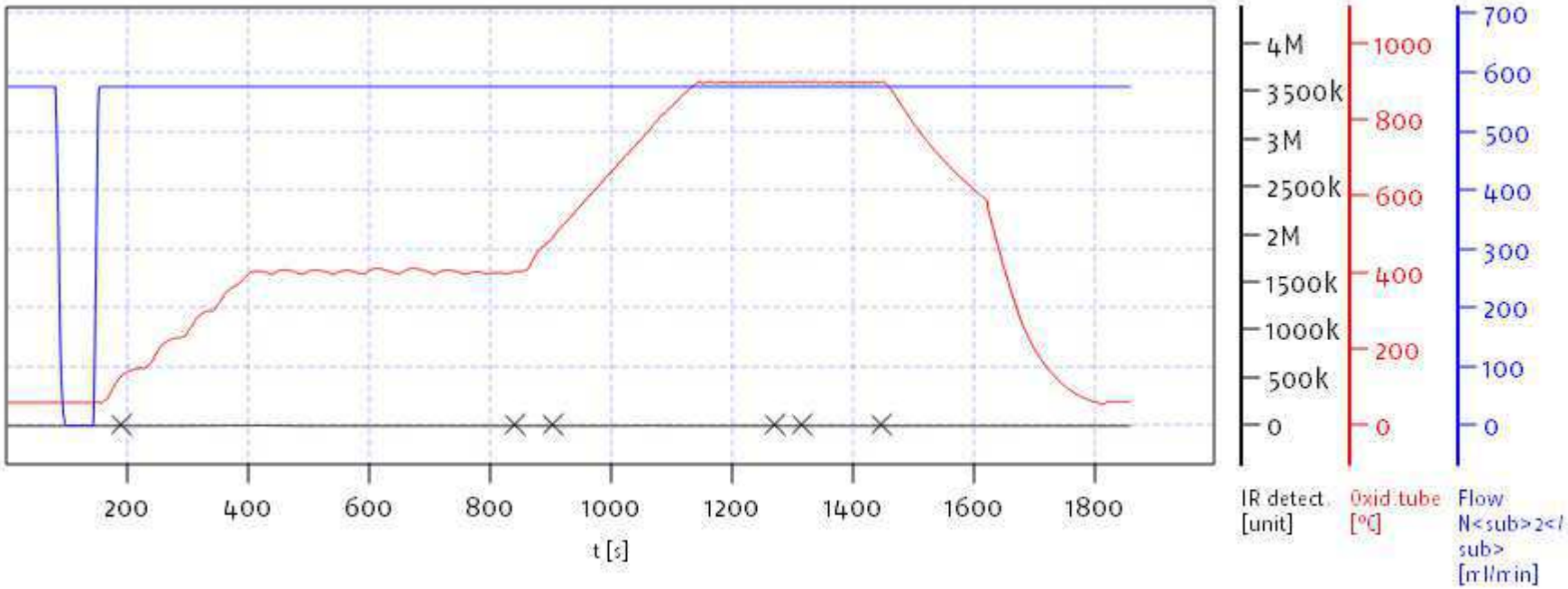
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	29	SJH0136-CCB2	572.00		1.00	CARBON	8/13/2021 3:12 AM	0.003	0.000	0.003	bl,C3u,C2u	21 310	4 531	752	1.0224	1.0000



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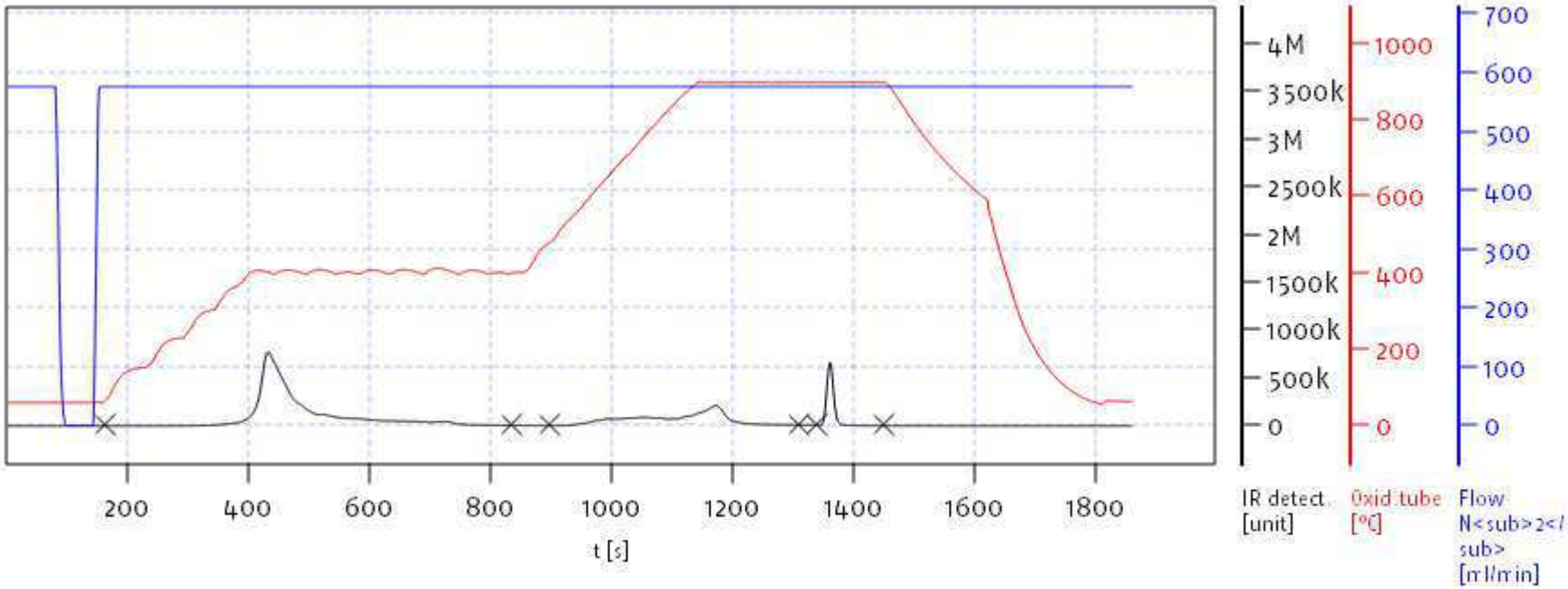
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	30	BJH0300-DUP1	589.00		1.00	CARBON	8/13/2021 3:43 AM	0.672	0.251	0.923	bl	2 179 612	962 224	336 683	1.0224	1.0000



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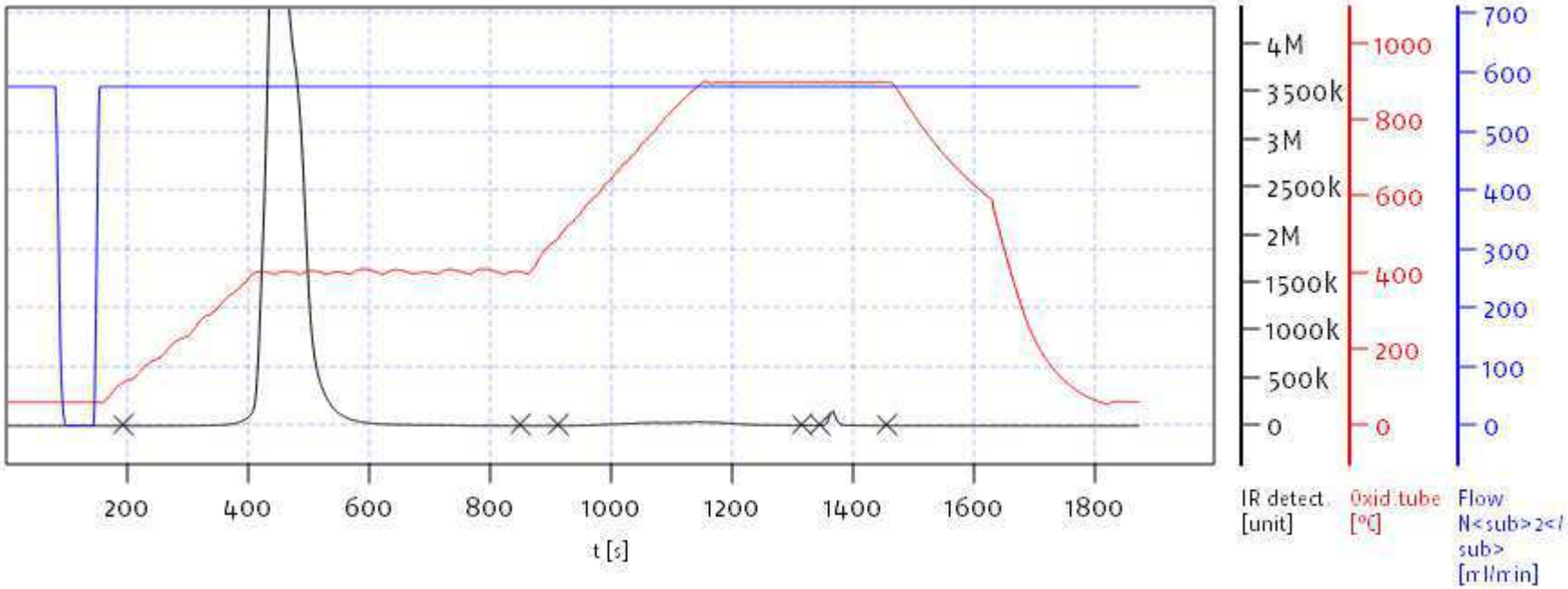
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	31	BJH0300-MS1	535.20	0.0127	1.00	CARBON	8/13/2021 4:15 AM	3.925	0.084	4.009	bl,C1o	13 137386	299 495	88 503	1.0224	1.0000



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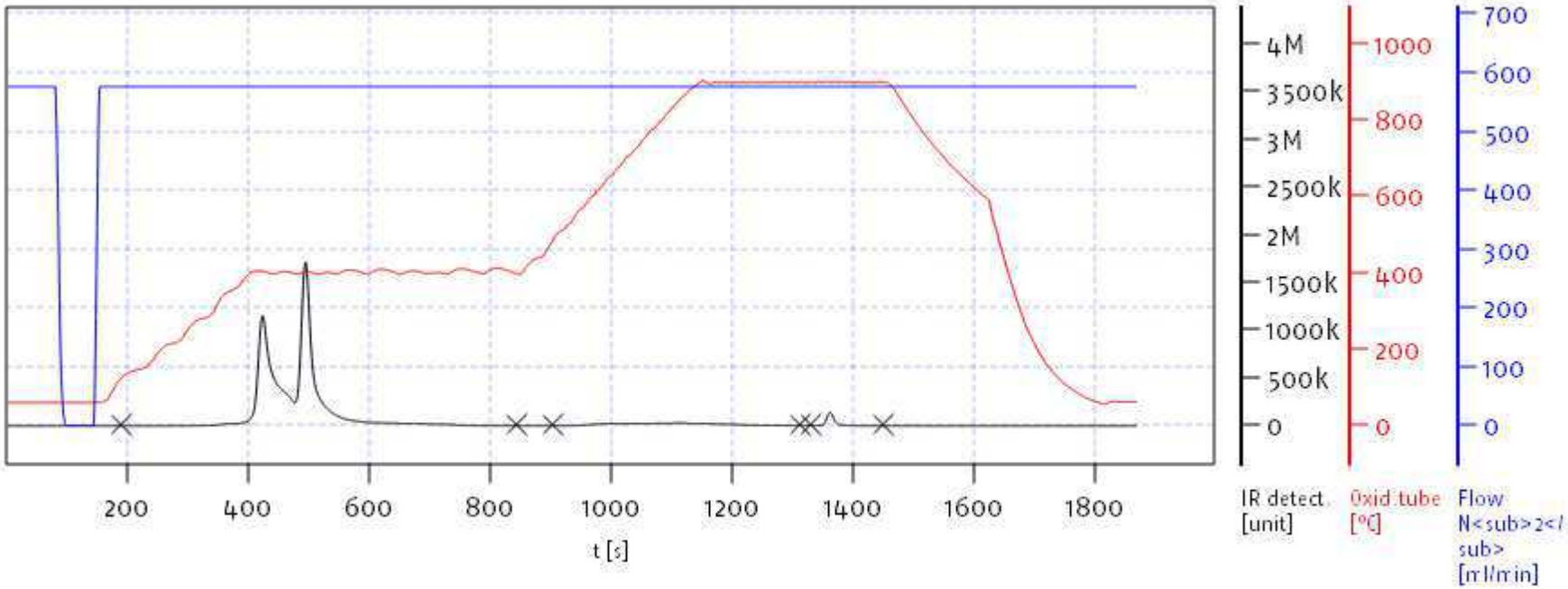
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
32	32	21G0276-01	631.30		1.00	CARBON	8/13/2021 4:47 AM	0.814	0.056	0.871	bl	3 173 044	239 366	80 738	1.0224	1.0000



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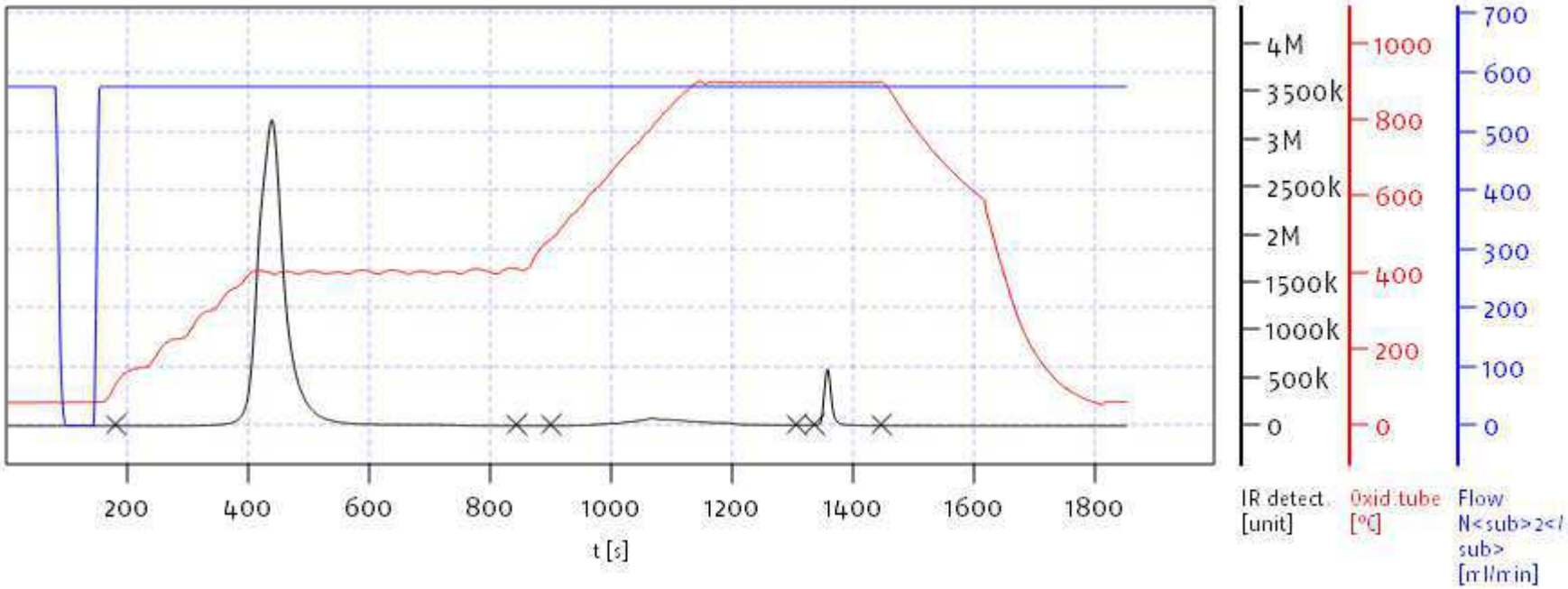
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
33	33	21G0276-02	573.10		1.00	CARBON	8/13/2021 5:18 AM	1.780	0.114	1.893	bl	6 117 406	430 072	320 471	1.0224	1.0000



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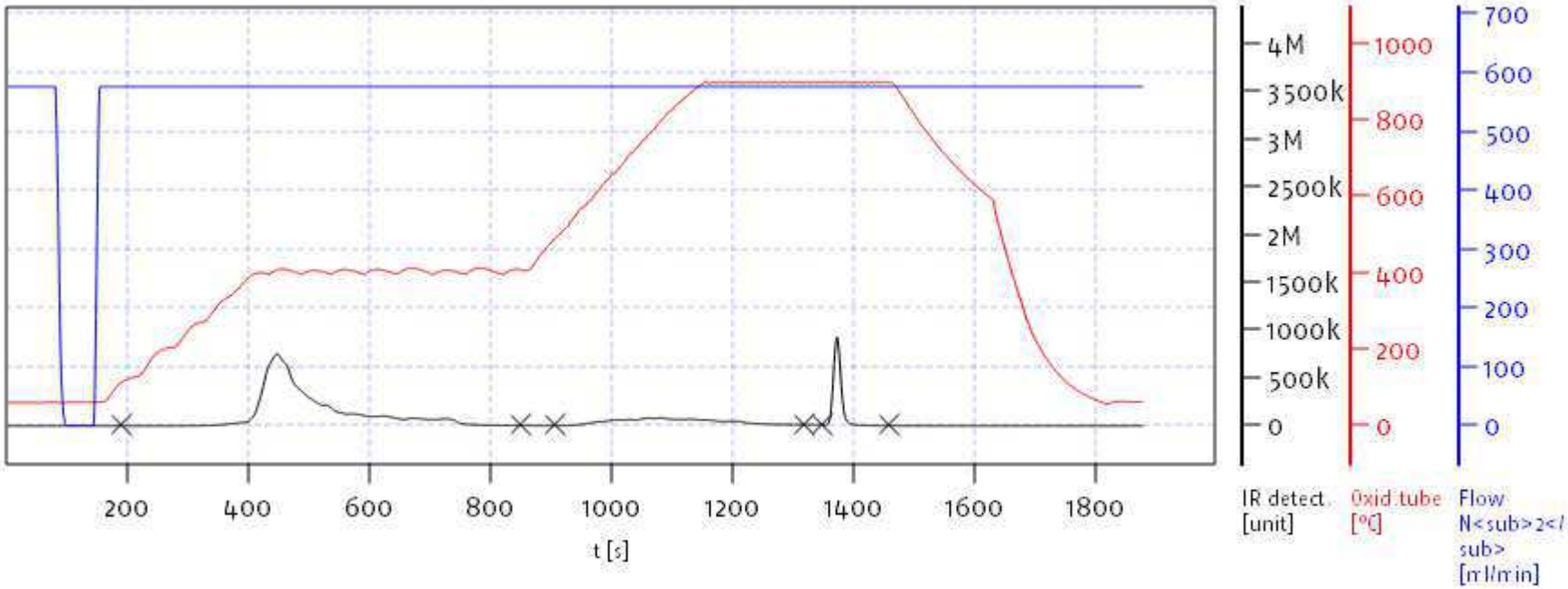
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
34	34	21G0276-03	597.40		1.00	CARBON	8/13/2021 5:50 AM	0.888	0.173	1.061	bl	2 850 374	674 045	515 168	1.0224	1.0000



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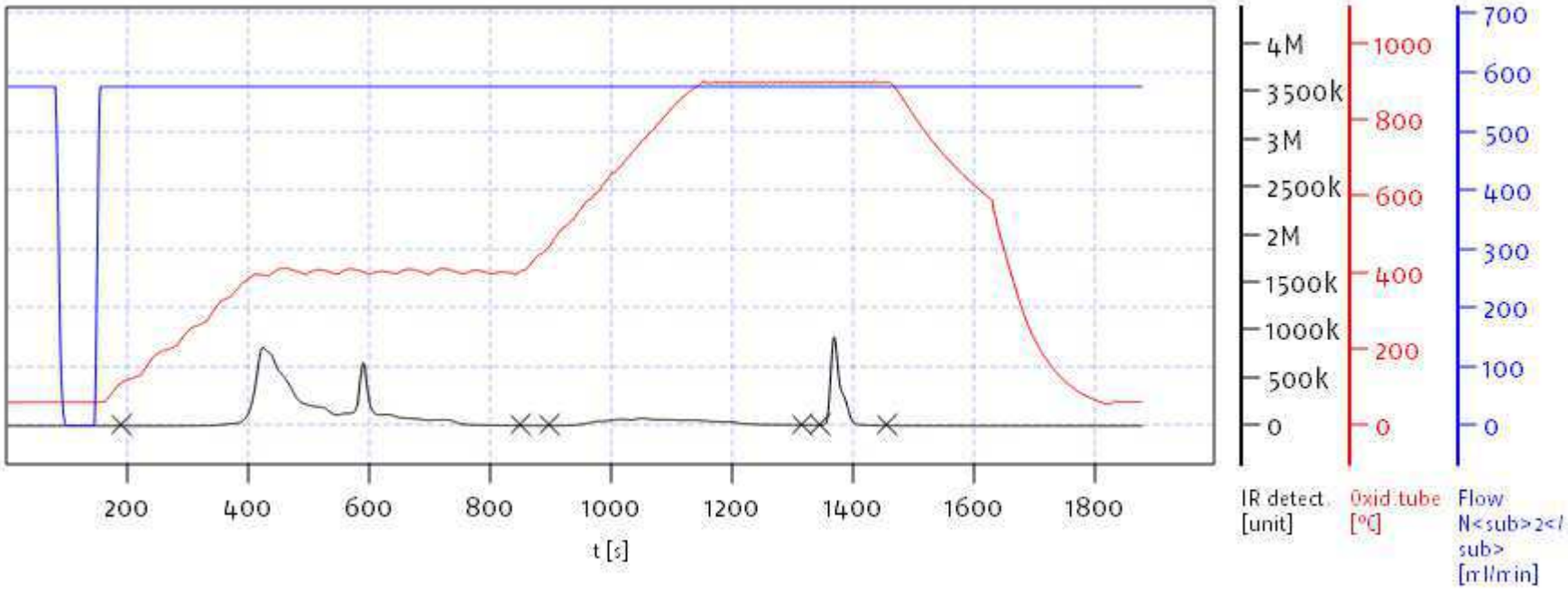
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
35	35	21G0276-04	558.60		1.00	CARBON	8/13/2021 6:21 AM	1.102	0.166	1.268	bl	3 221 716	606 516	683 587	1.0224	1.0000



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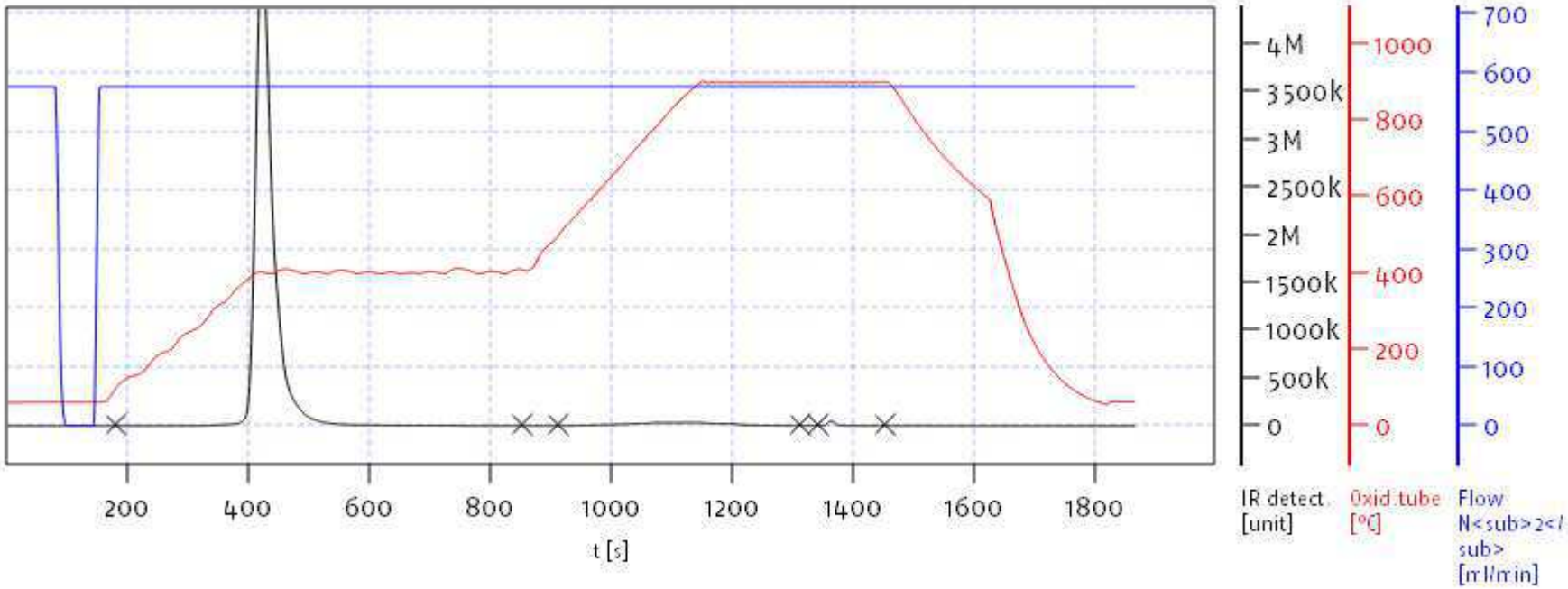
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
36	36	21G0284-01	523.50		1.00	CARBON	8/13/2021 6:53 AM	1.911	0.071	1.982	bl	6 277 909	249 006	31 980	1.0224	1.0000



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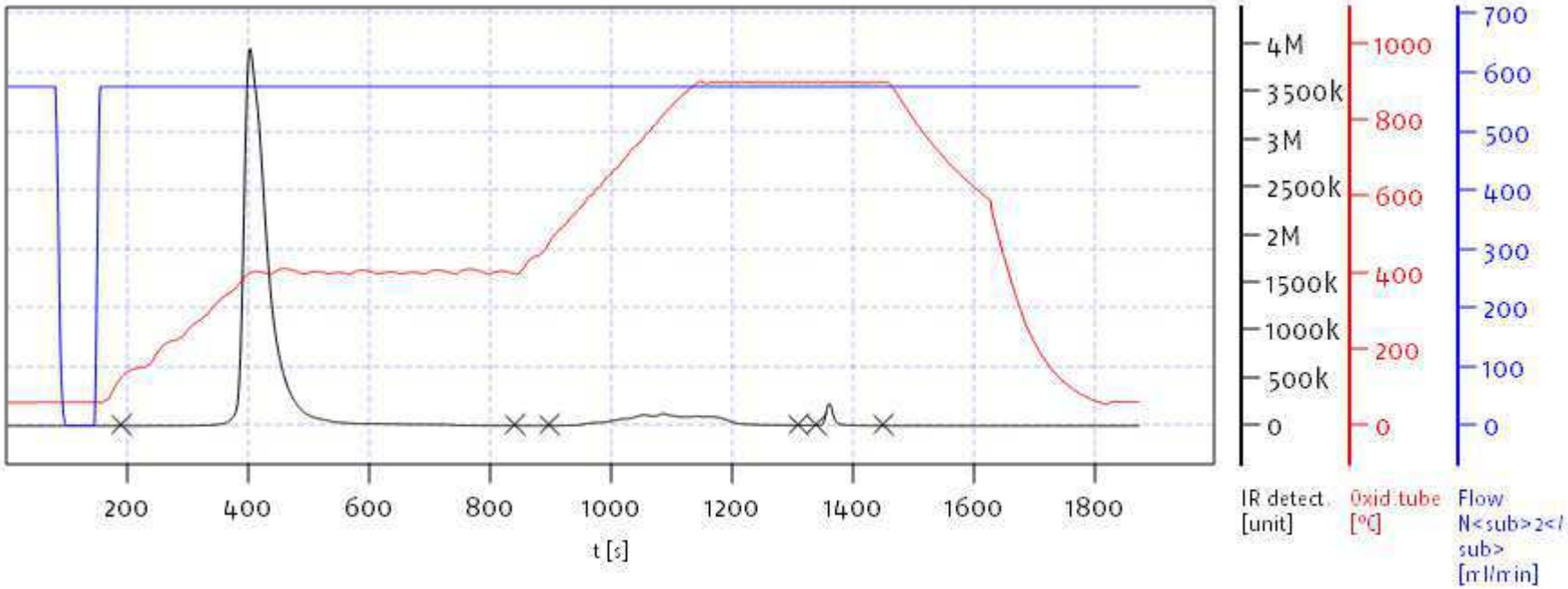
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
37	37	BJH0300-DUP2	626.80		1.00	CARBON	8/13/2021 7:24 AM	1.747	0.200	1.947	bl	6 769 883	816 521	135 391	1.0224	1.0000



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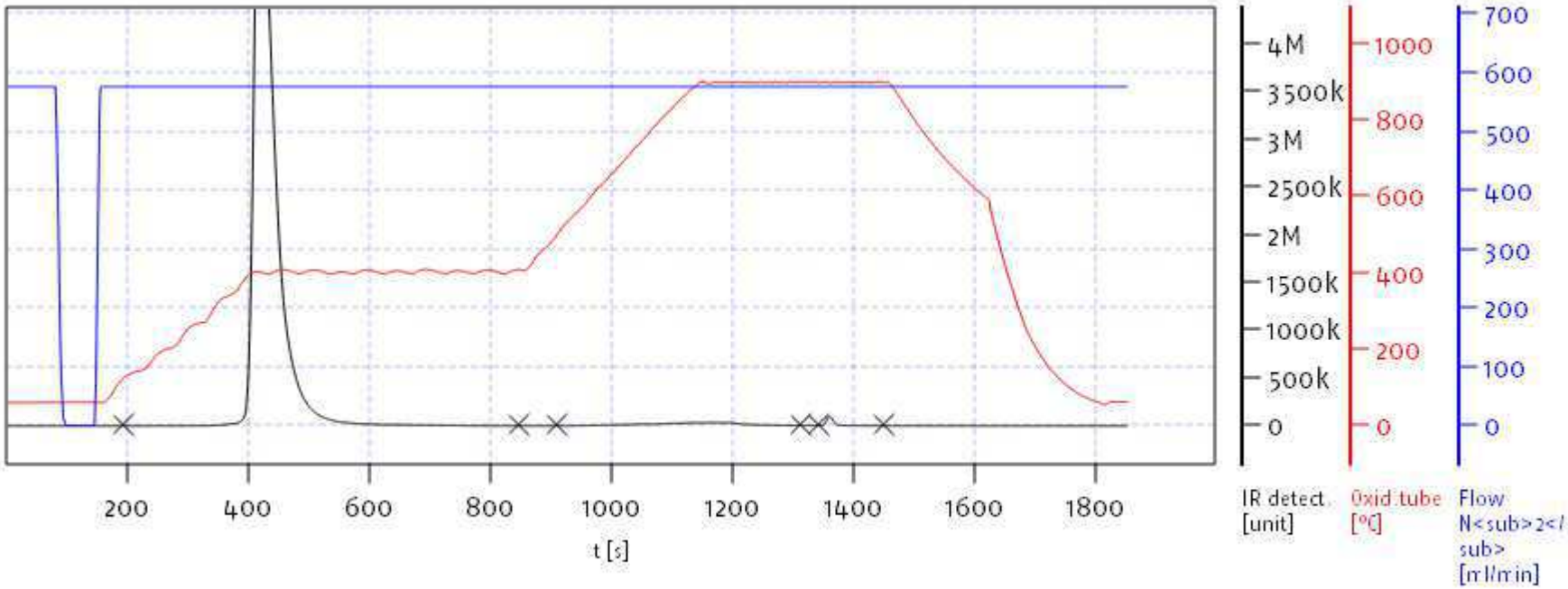
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
38	38	BJH0300-MS2	524.80	0.0130	1.00	CARBON	8/13/2021 7:56 AM	2.925	0.068	2.993	bl,C1o	9 613 544	241 346	55 455	1.0224	1.0000



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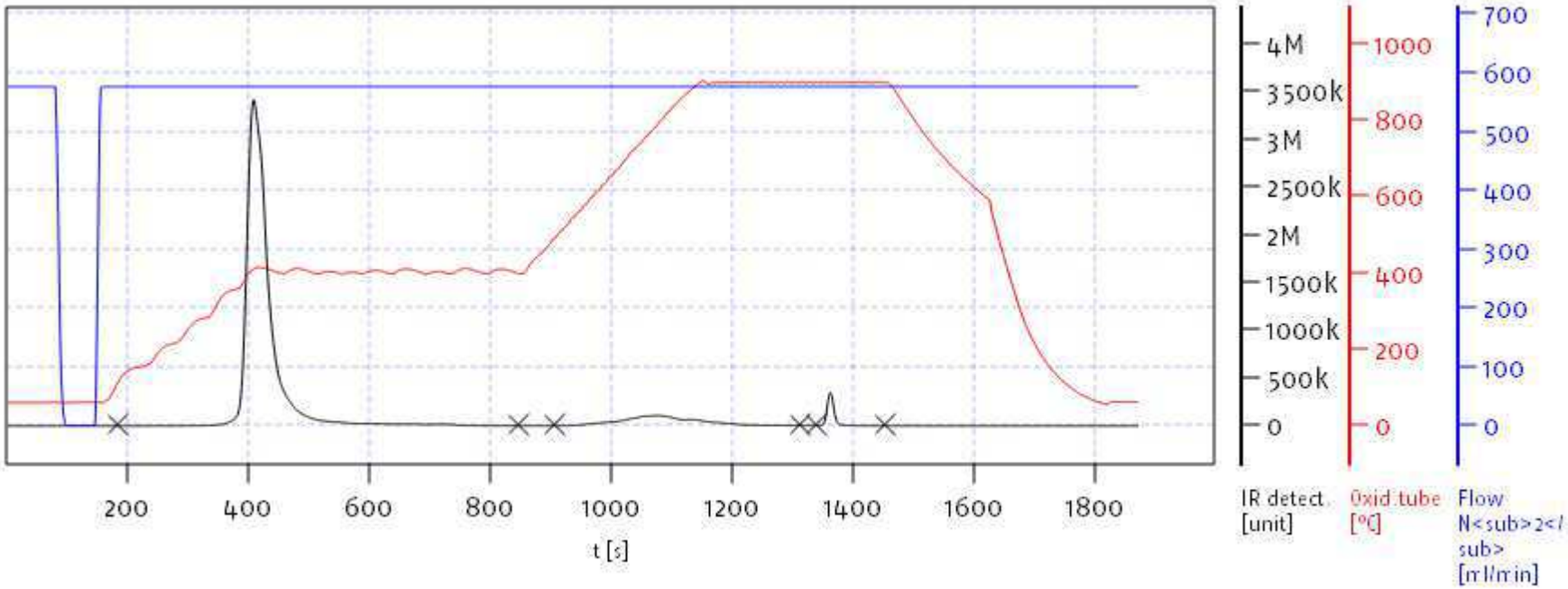
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
39	39	21G0284-02	510.20		1.00	CARBON	8/13/2021 8:27 AM	1.721	0.177	1.898	bl	5 370 681	592 151	172 971	1.0224	1.0000



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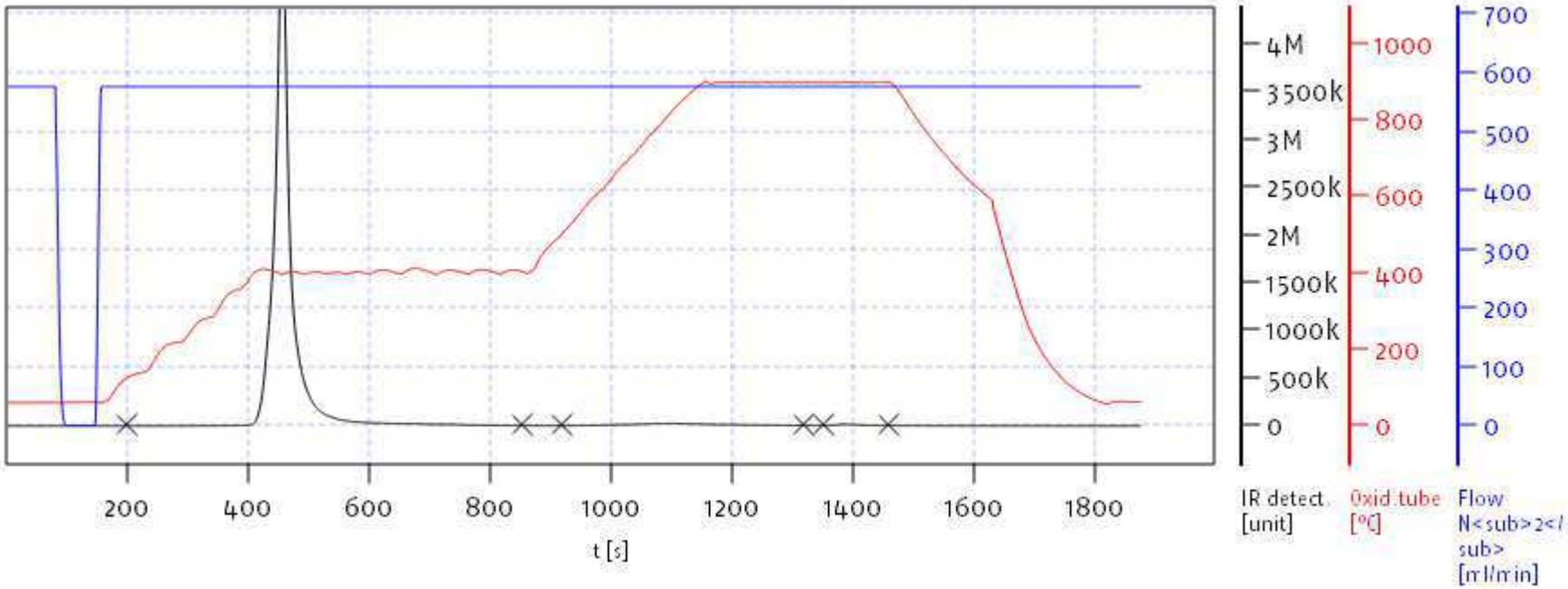
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
40	40	SJH0136-CCV3	21.60		1.00	CARBON	8/13/2021 8:59 AM	43.660	1.255	44.916	bl	5 917 170	184 920	31 809	1.0224	1.0000



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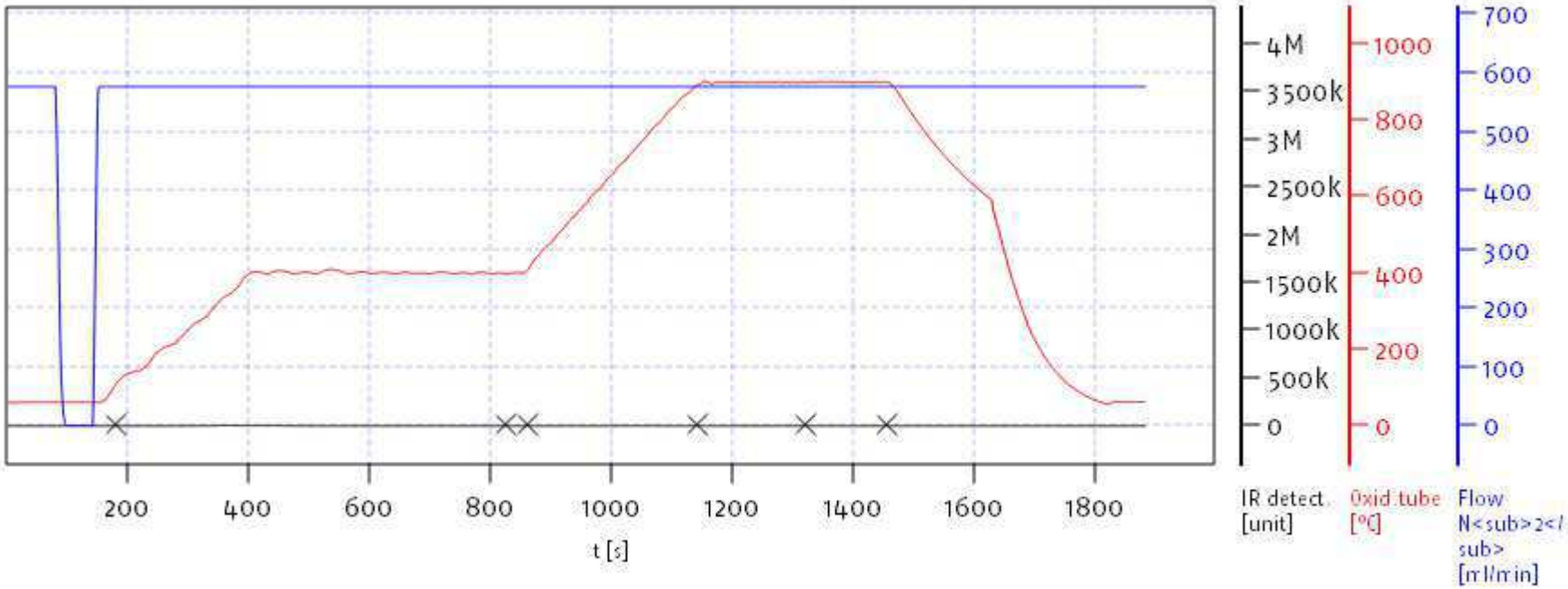
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
41	41	SJH0136-CCB3	591.00		1.00	CARBON	8/13/2021 9:31 AM	0.003	0.000	0.003	bl,C3u,C2u	21 119	3 240	816	1.0224	1.0000



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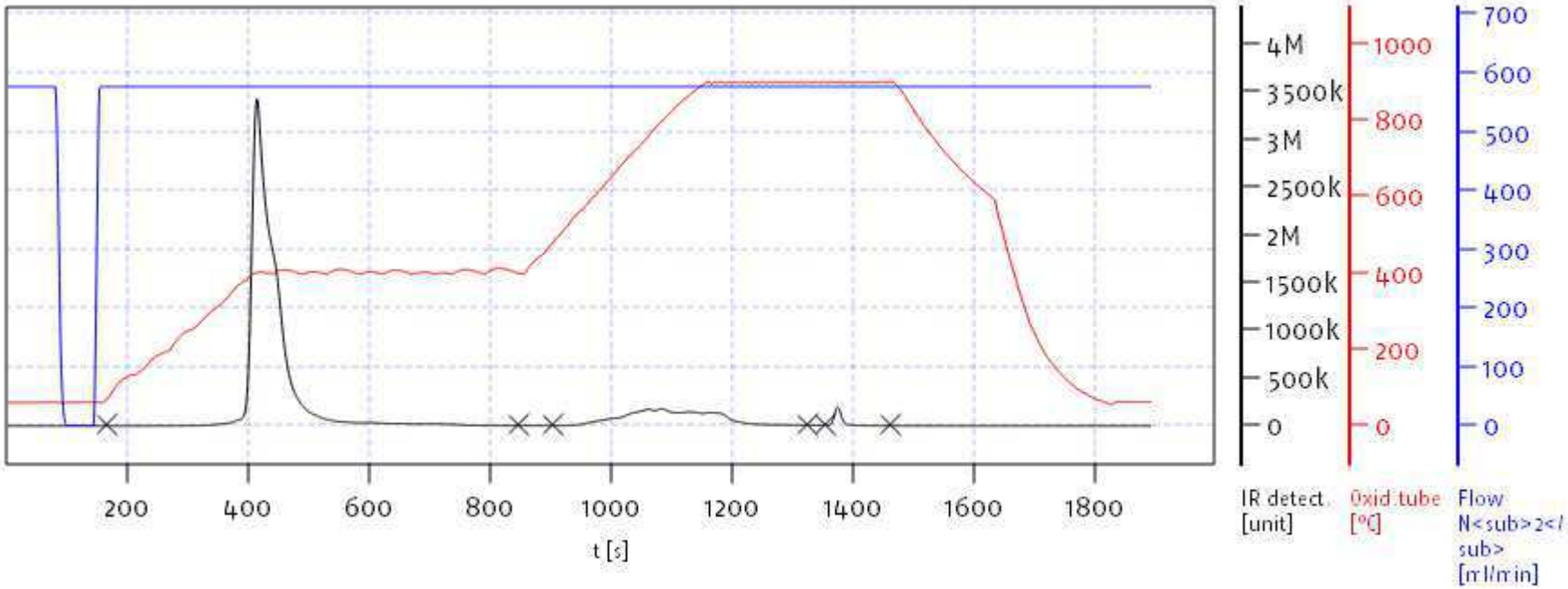
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
42	42	21G0284-03	671.80		1.00	CARBON	8/13/2021 10:03 AM	1.366	0.273	1.639	bl	5 679 800	1 190 746	111 502	1.0224	1.0000



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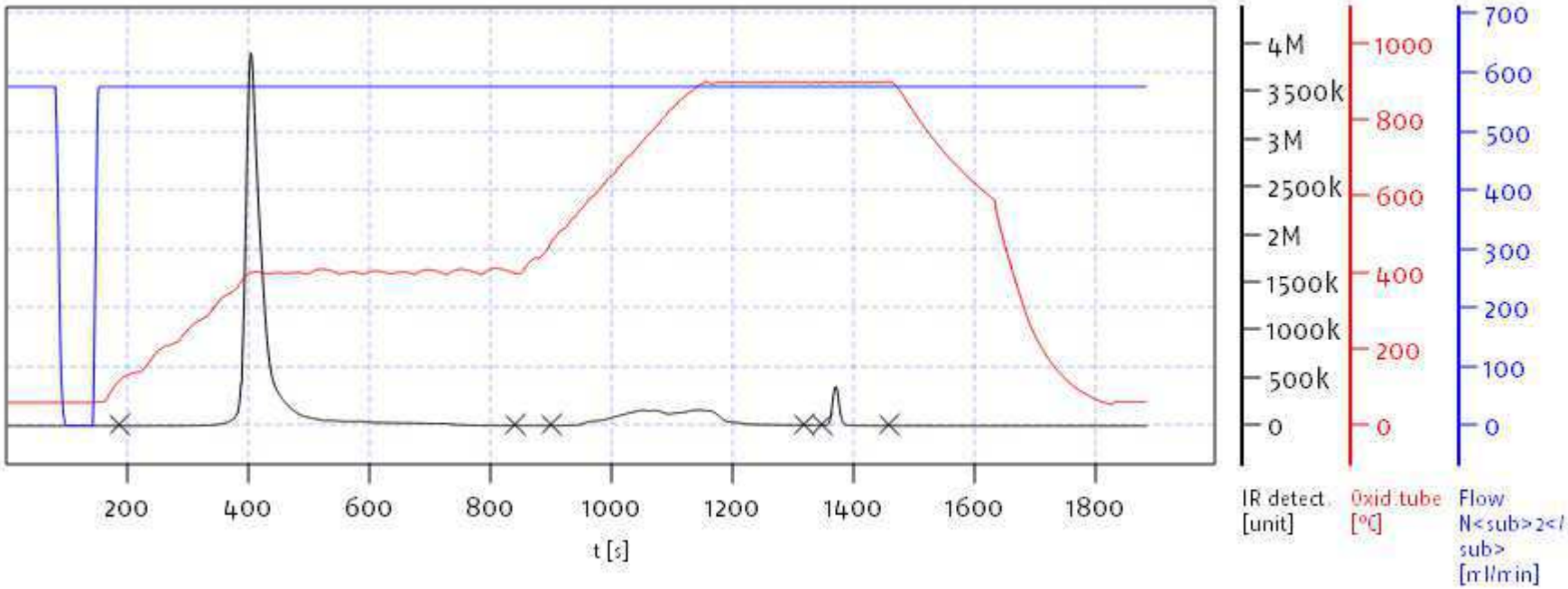
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
43	43	21G0284-04	511.90		1.00	CARBON	8/13/2021 10:34 AM	1.583	0.353	1.937	bl	4 911 346	1 172 729	208 620	1.0224	1.0000



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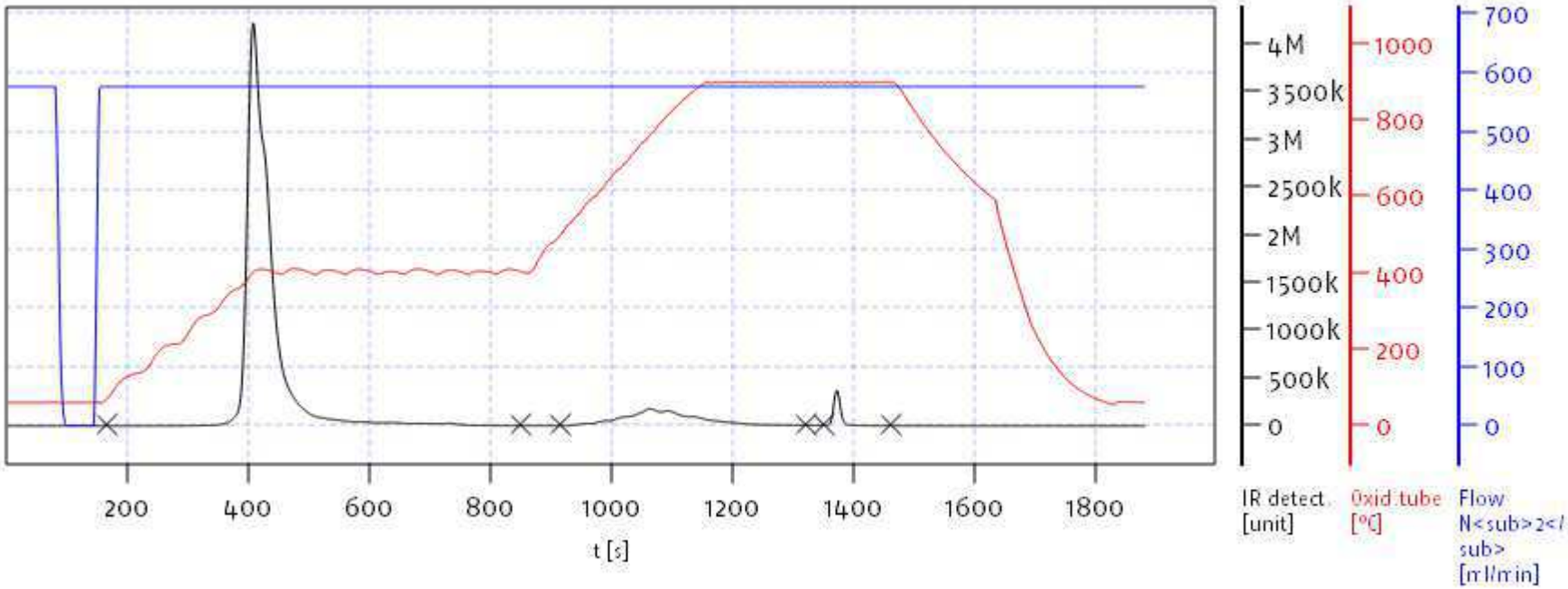
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
44	44	21G0284-06	631.10		1.00	CARBON	8/13/2021 11:06 AM	1.783	0.222	2.005	bl	6 907 258	909 006	191 734	1.0224	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
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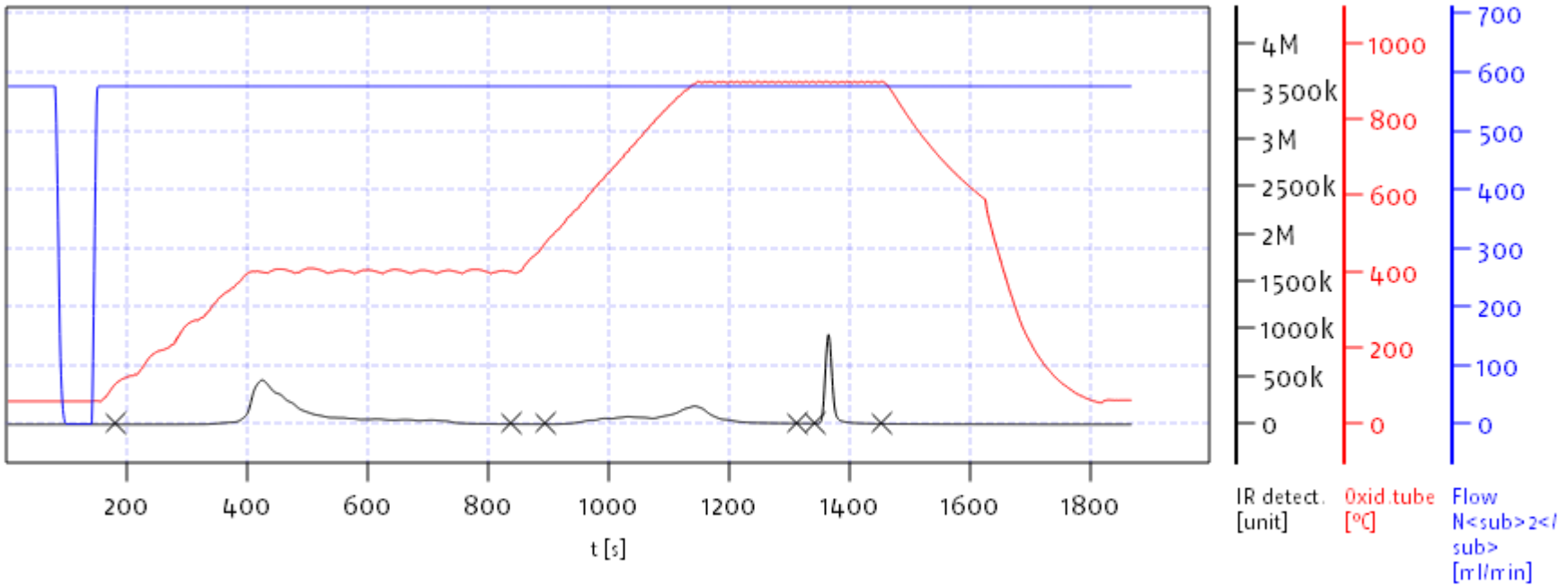
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
45	45	21G0284-07	593.00		1.00	CARBON	8/13/2021 11:38 AM	0.590	0.240	0.830	bl	1 719 178	926 990	510 550	1.0224	1.0000



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Balance: BAL3
Analyst: BF

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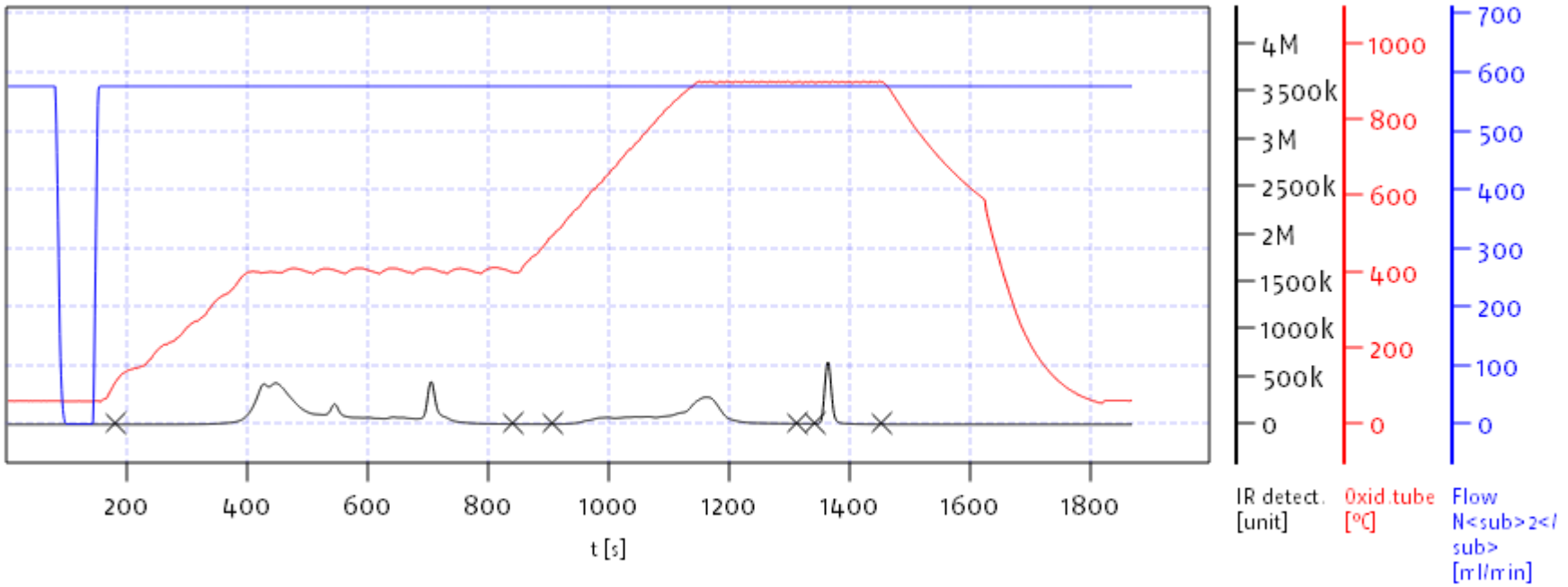
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
46	46	21G0284-08	561.90		1.00	CARBON	8/13/2021 12:09 PM	0.706	0.314	1.020	bl	2 185 124	1 143 800	336 948	1.0224	1.0000



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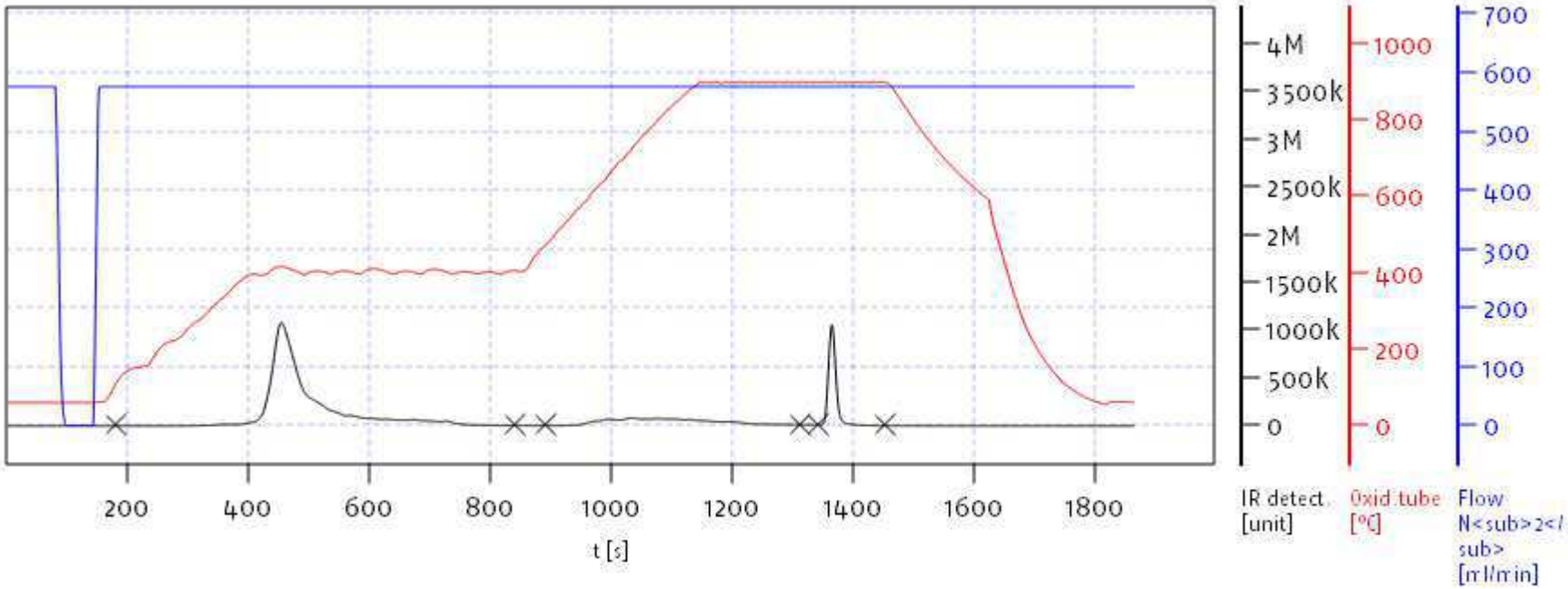
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
47	47	21G0286-01	567.10		1.00	CARBON	8/13/2021 12:41 PM	0.944	0.178	1.122	bl	2 817 518	658 656	581 586	1.0224	1.0000



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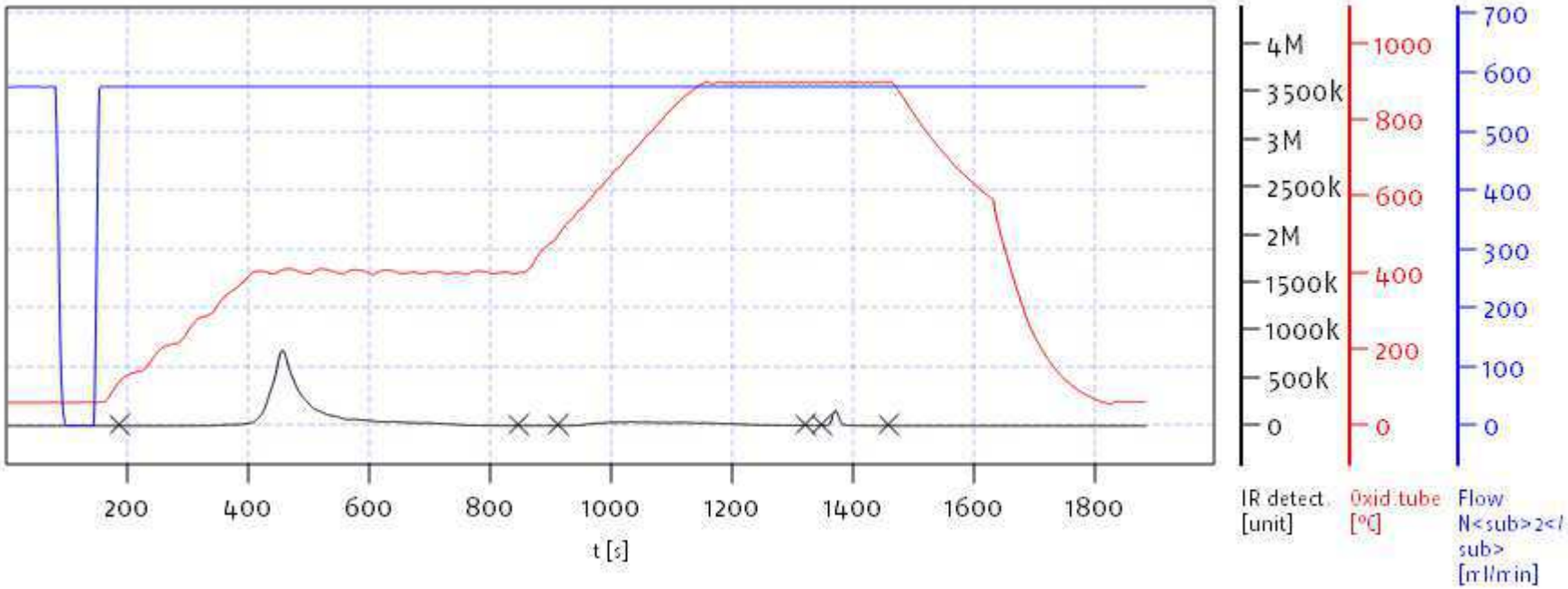
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
48	48	21G0286-02	736.90		1.00	CARBON	8/13/2021 1:13 PM	0.443	0.069	0.512	bl	1 991 731	337 588	83 734	1.0224	1.0000



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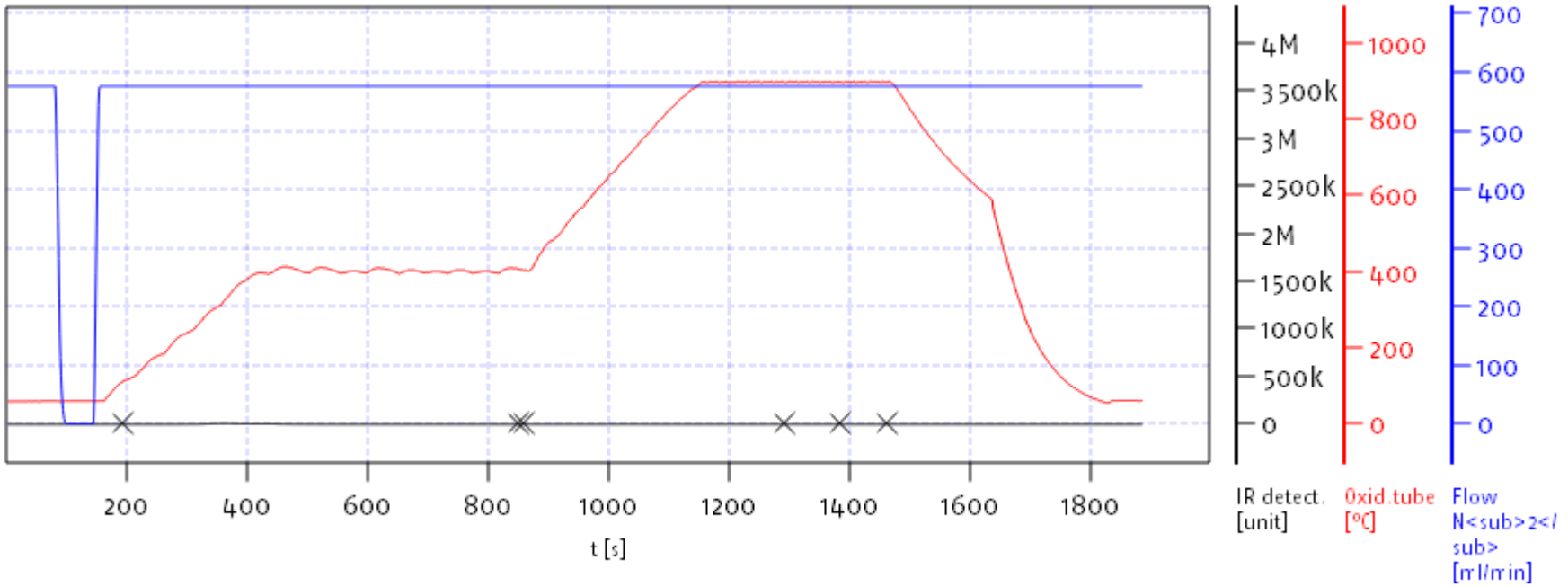
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
49	49	BLANK	1.00		1.00	CARBON	8/13/2021 1:44 PM	0.000	0.000	0.000	bl	38 490	3 016	262	1.0224	1.0000



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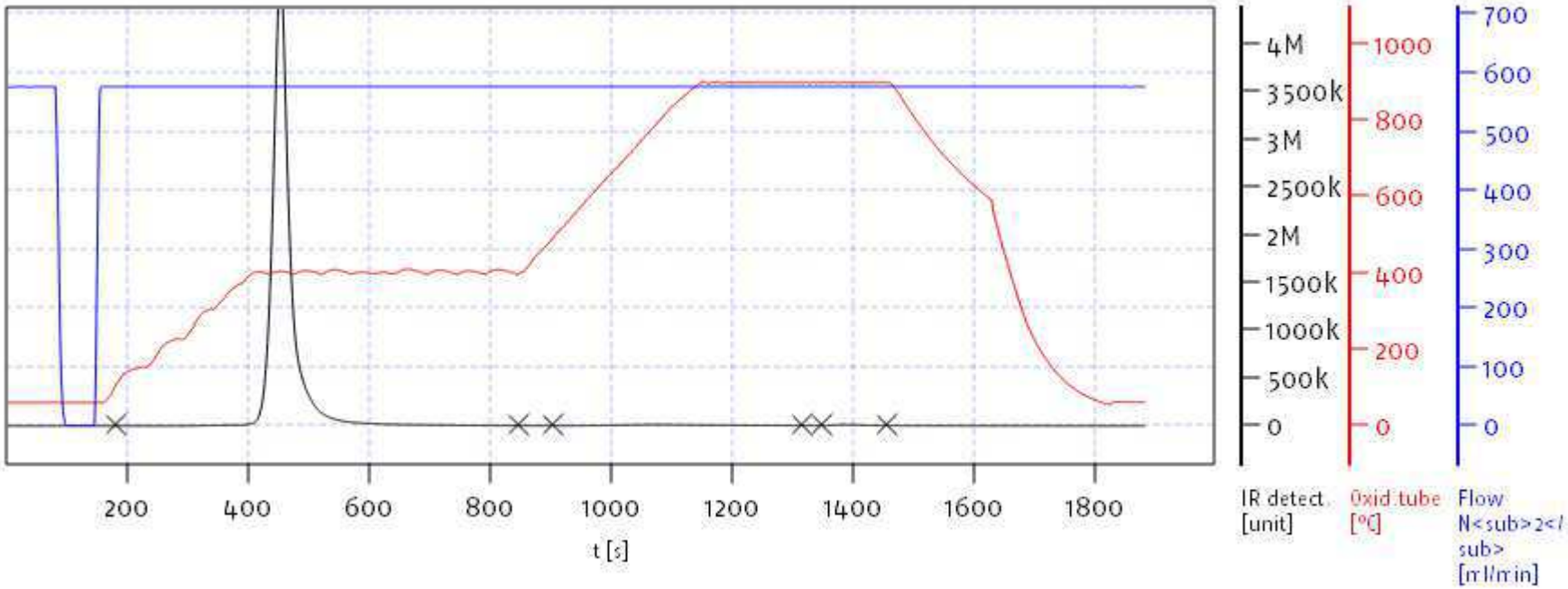
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
50	50	Dfactor	21.10		1.00	CARBON	8/13/2021 2:16 PM	44.580	0.683	45.263	bl	5 889 374	103 326	28 903	1.0251	1.0000



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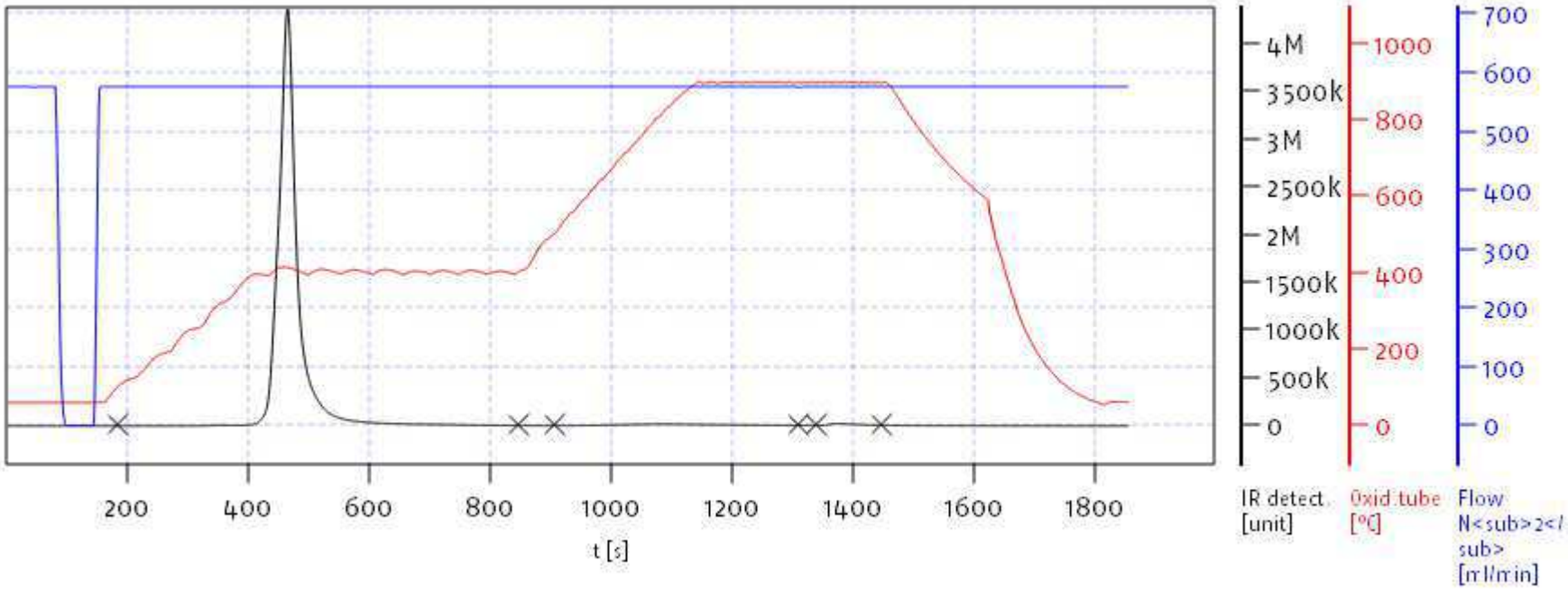
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
51	51	Dfactor	21.40		1.00	CARBON	8/13/2021 2:47 PM	44.746	1.021	45.767	bl	5 848 510	151 033	52 061	1.0469	1.0000



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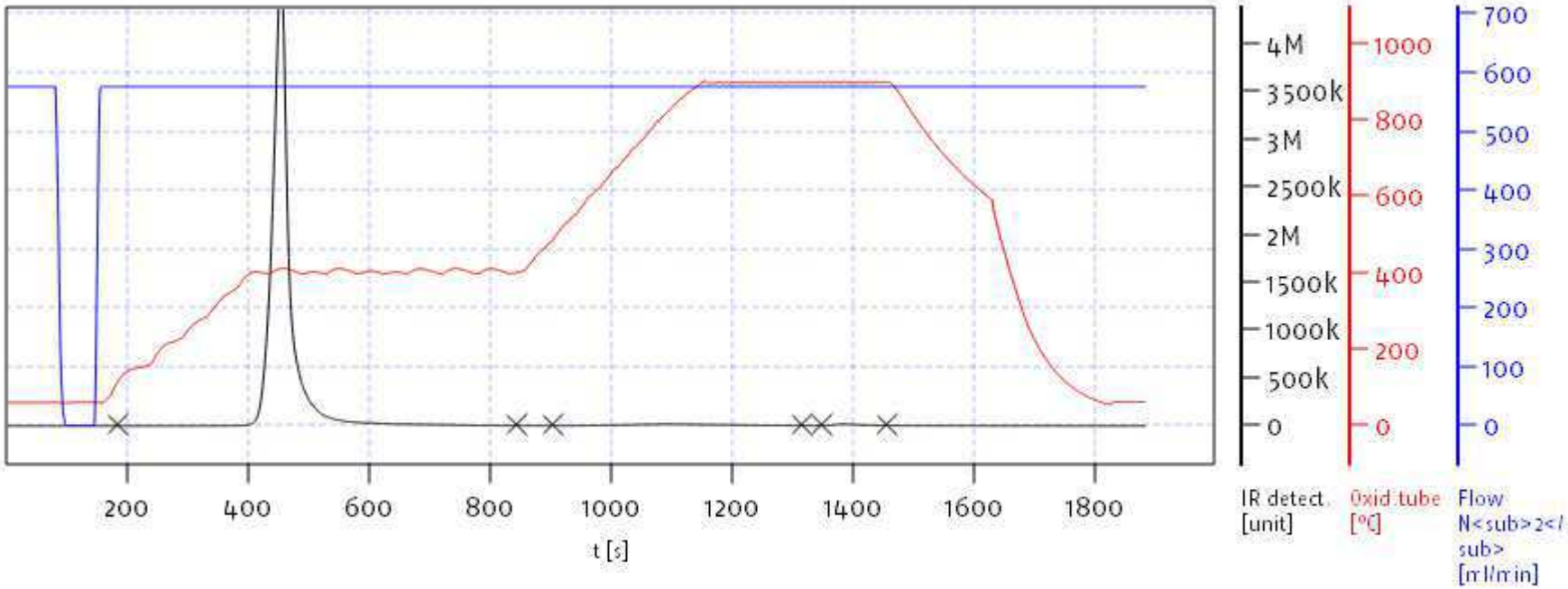
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
52	52	SJH0136-CCV4	20.70		1.00	CARBON	8/13/2021 3:19 PM	44.592	0.977	45.569	bl	5 709 297	140 650	38 200	1.0360	1.0000



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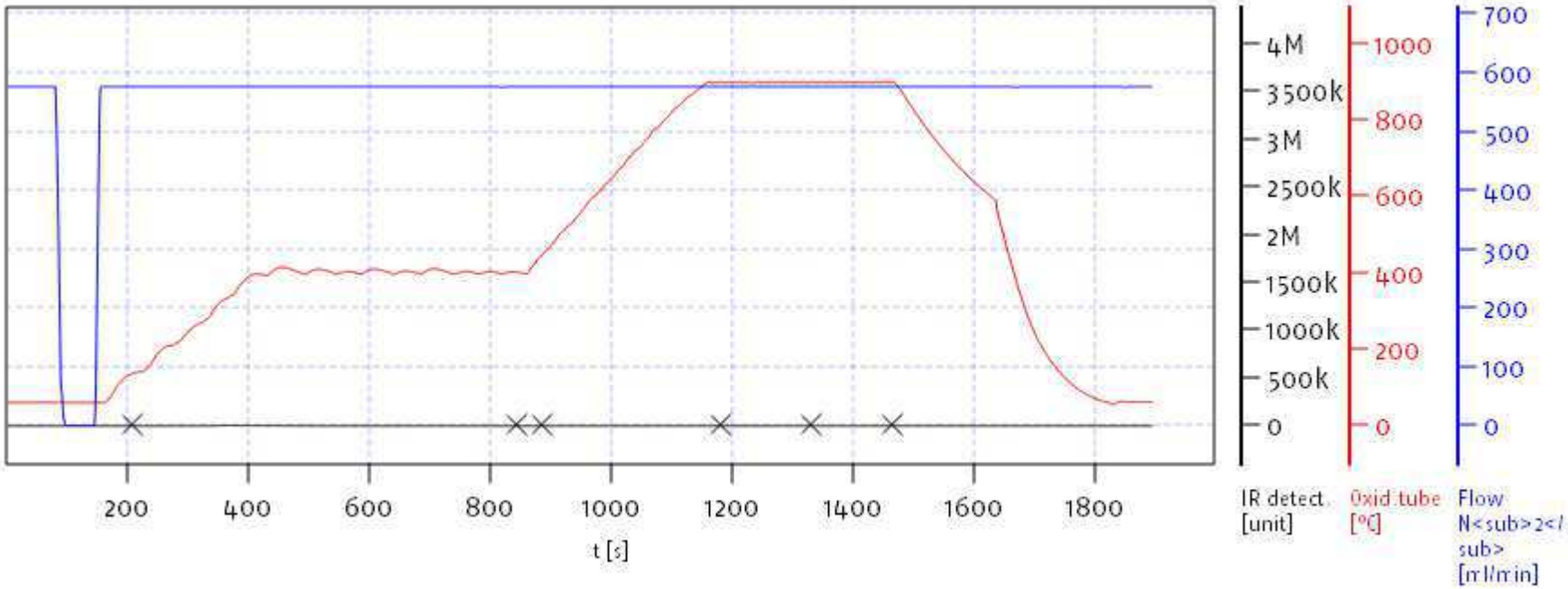
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
53	53	SJH0136-CCB4	554.30		1.00	CARBON	8/13/2021 3:51 PM	0.002	0.000	0.002	bl,C3u,C2u	18 340	856	1 281	1.0360	1.0000



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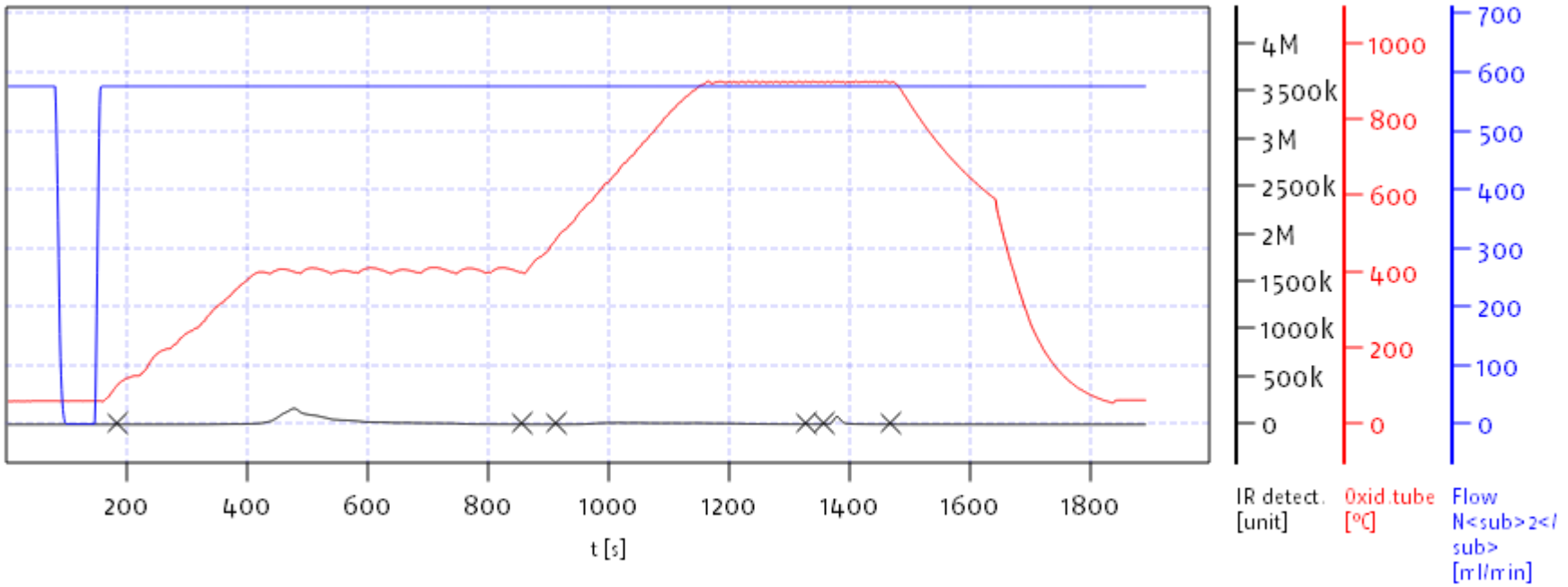
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
54	54	21G0286-03	522.10		1.00	CARBON	8/13/2021 4:23 PM	0.198	0.040	0.238	bl	609 620	145 032	53 040	1.0360	1.0000



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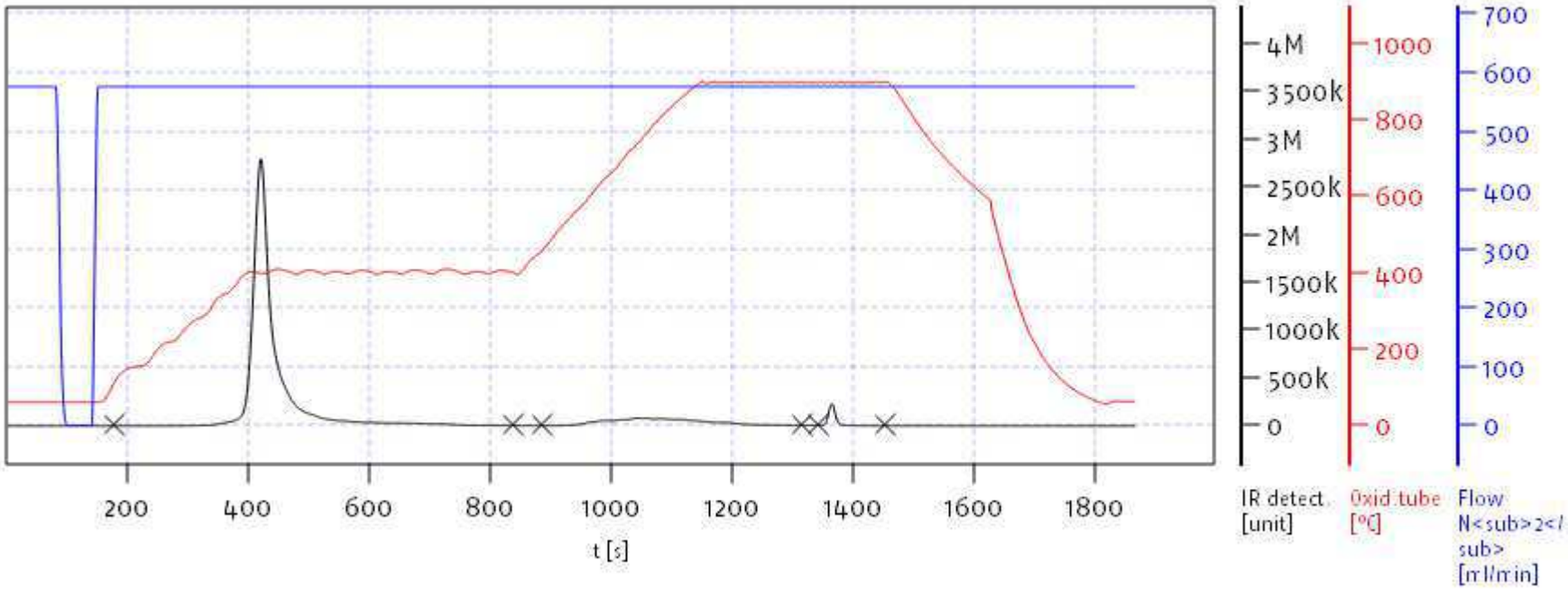
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
55	55	21G0286-04	595.30		1.00	CARBON	8/13/2021 4:55 PM	1.130	0.151	1.281	bl	4 076 907	588 870	118 856	1.0360	1.0000



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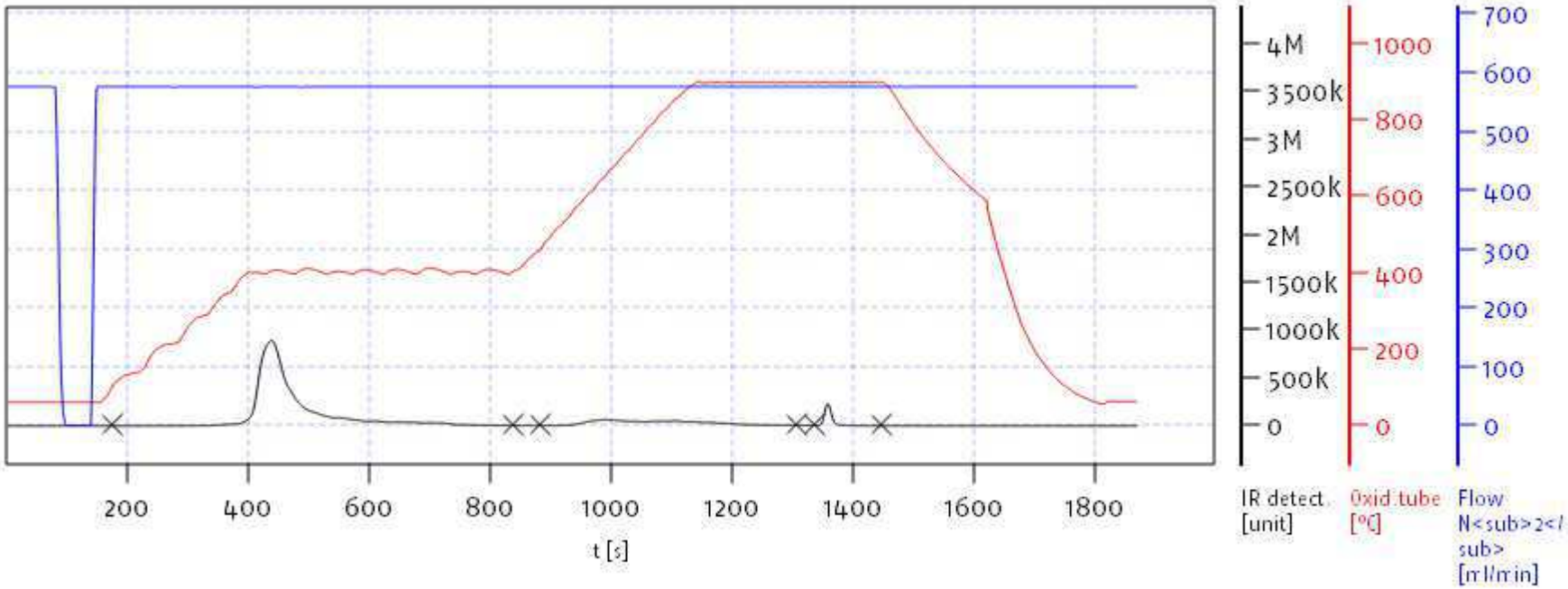
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
56	56	21G0286-05	564.20		1.00	CARBON	8/13/2021 5:26 PM	0.705	0.131	0.836	bl	2 366 436	485 502	124 893	1.0360	1.0000



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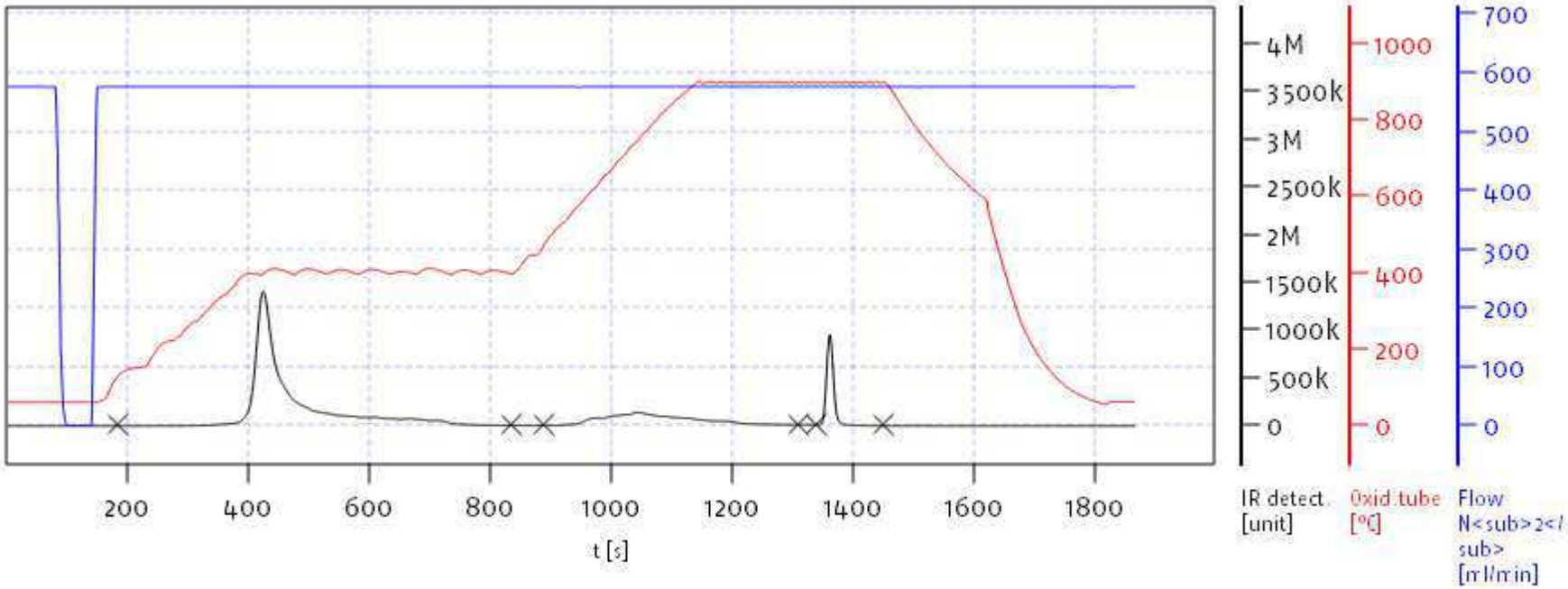
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
57	57	21G0305-01	596.10		1.00	CARBON	8/13/2021 5:58 PM	0.955	0.236	1.191	bl	3 079 026	914 557	491 759	1.0360	1.0000



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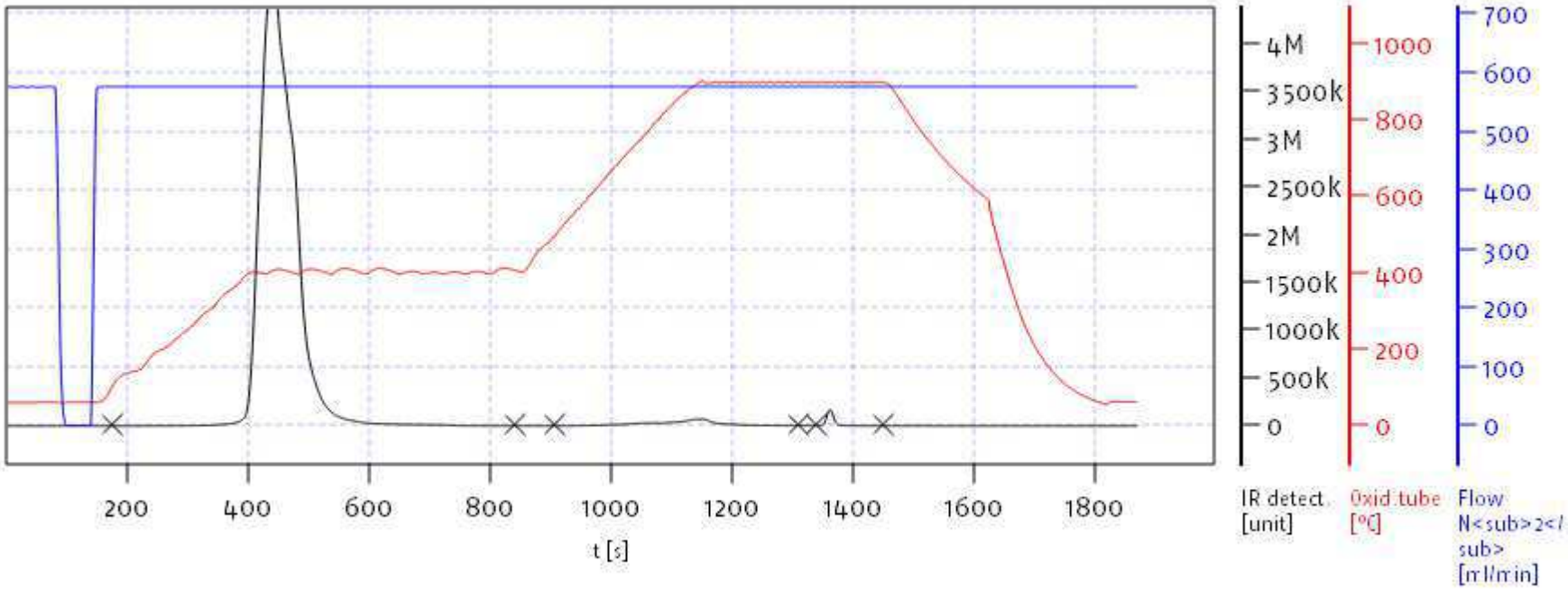
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
58	58	21G0305-02	577.10		1.00	CARBON	8/13/2021 6:29 PM	3.223	0.077	3.300	bl,C1o	11 470300	297 189	89 388	1.0360	1.0000



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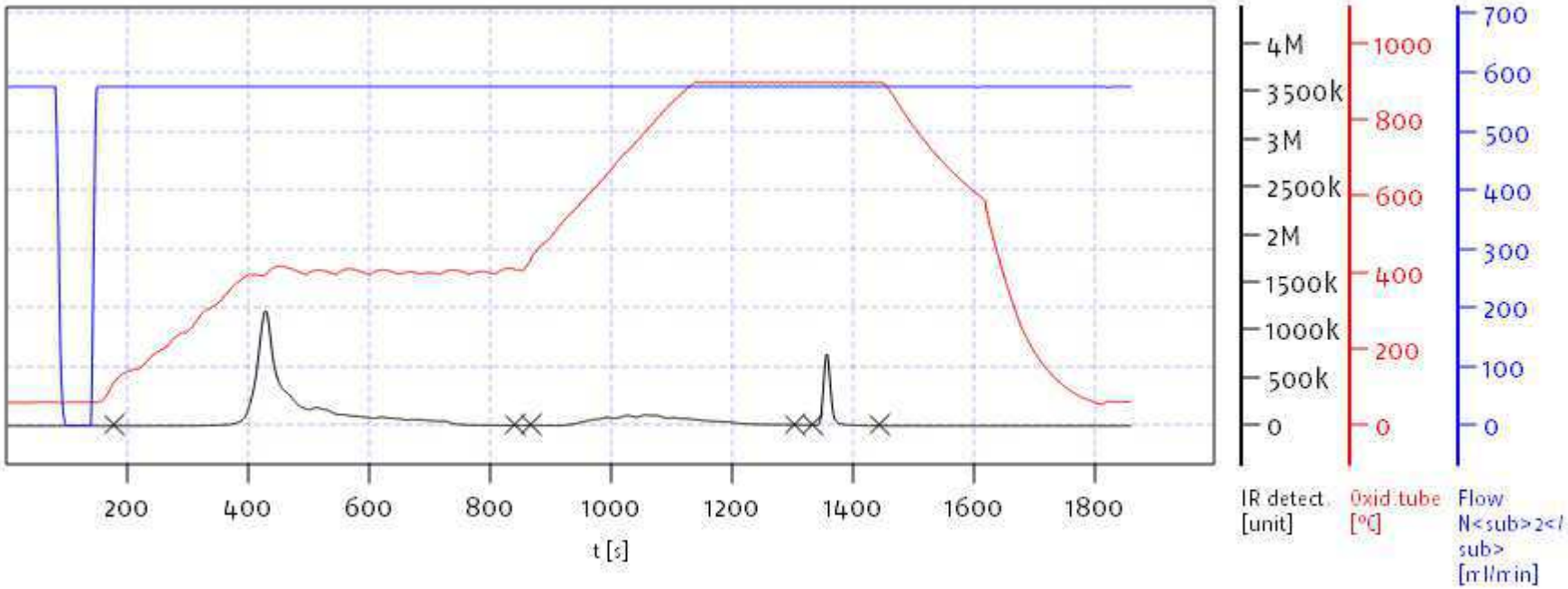
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
59	59	21G0305-03	550.90		1.00	CARBON	8/13/2021 7:01 PM	0.938	0.228	1.166	bl	2 838 498	816 801	402 021	1.0360	1.0000



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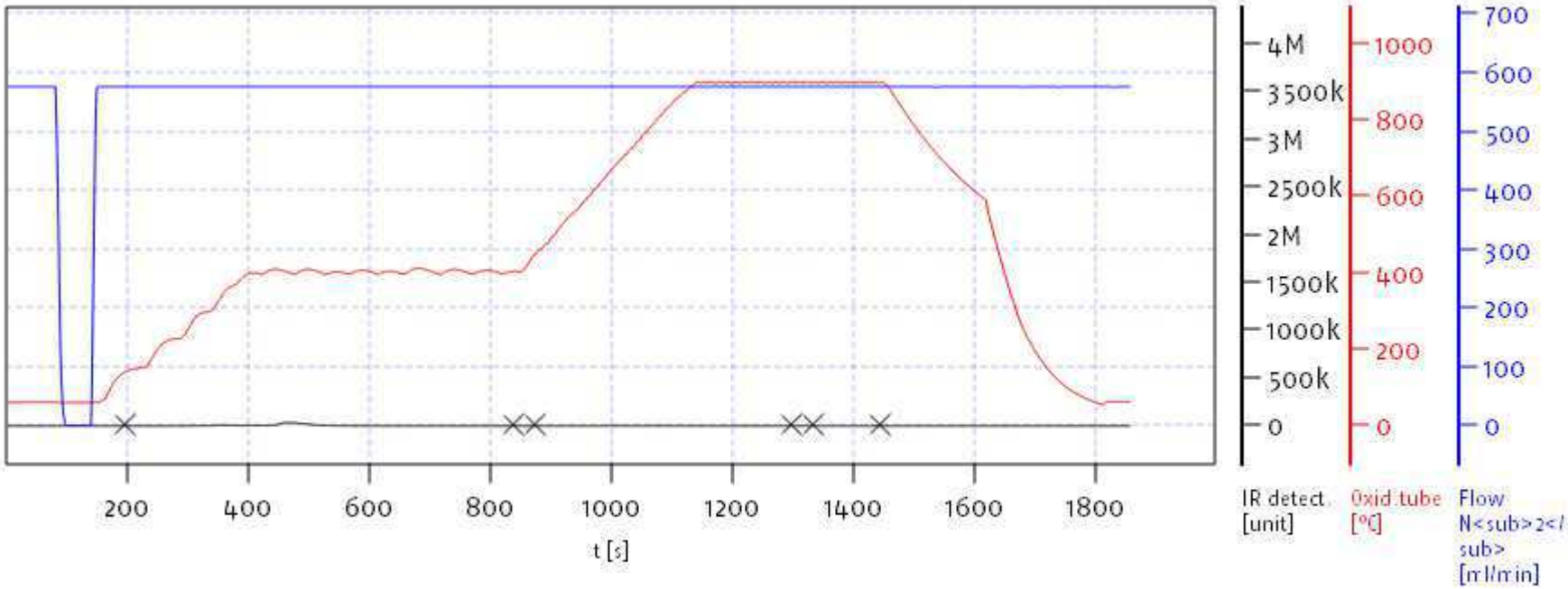
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
60	60	BJH0301-MRL1	606.60		1.00	CARBON	8/13/2021 7:32 PM	0.023	0.000	0.023	bl,C3u,C2u	95 952	6 374	368	1.0360	1.0000



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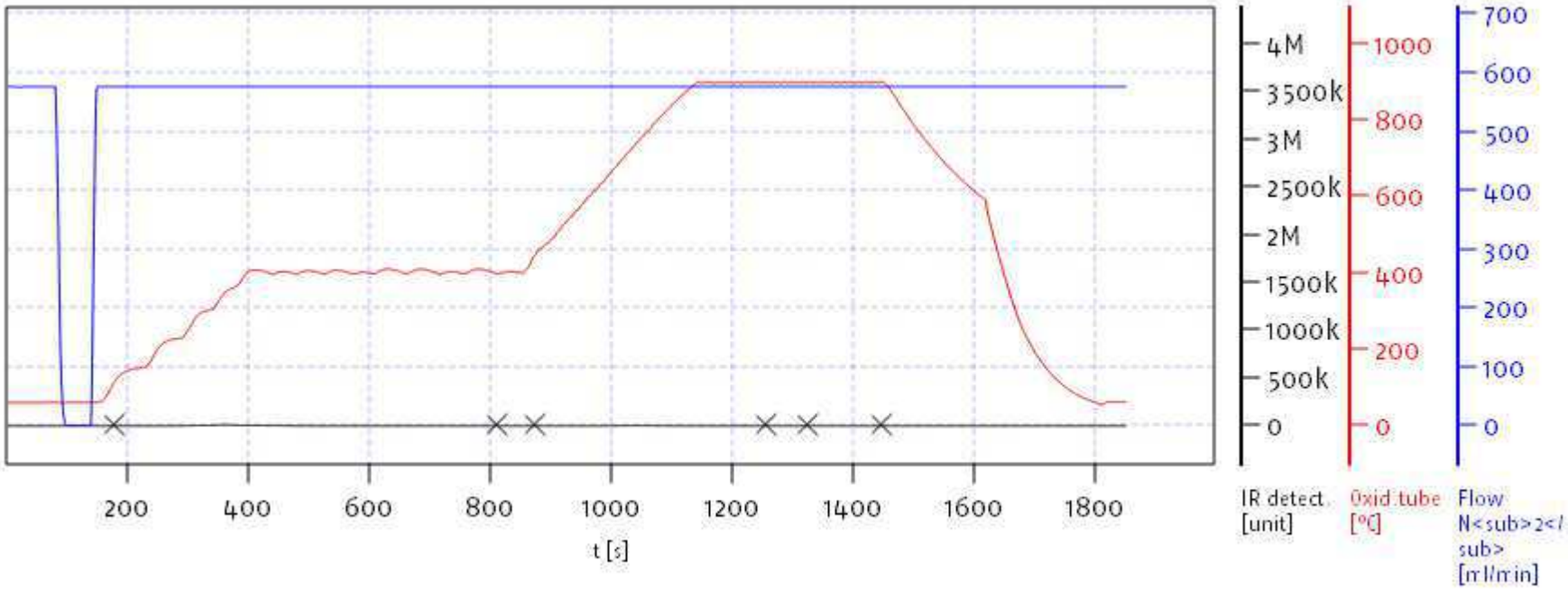
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
61	61	BJH0301-BLK1	638.60		1.00	CARBON	8/13/2021 8:03 PM	0.008	0.000	0.008	bl,C2u	40 664	11 009	424	1.0360	1.0000



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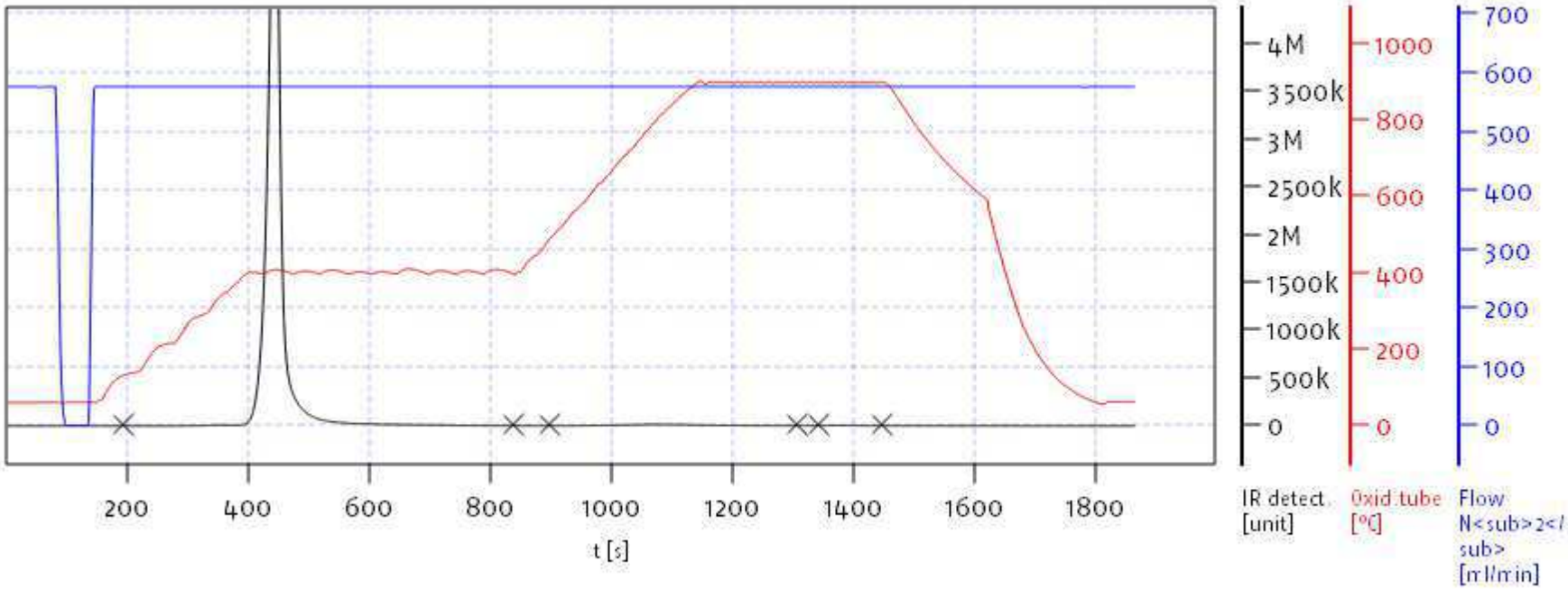
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
62	62	BJH0301-BS1	21.50		1.00	CARBON	8/13/2021 8:35 PM	46.107	0.647	46.753	bl	6 156 006	100 042	13 965	1.0360	1.0000



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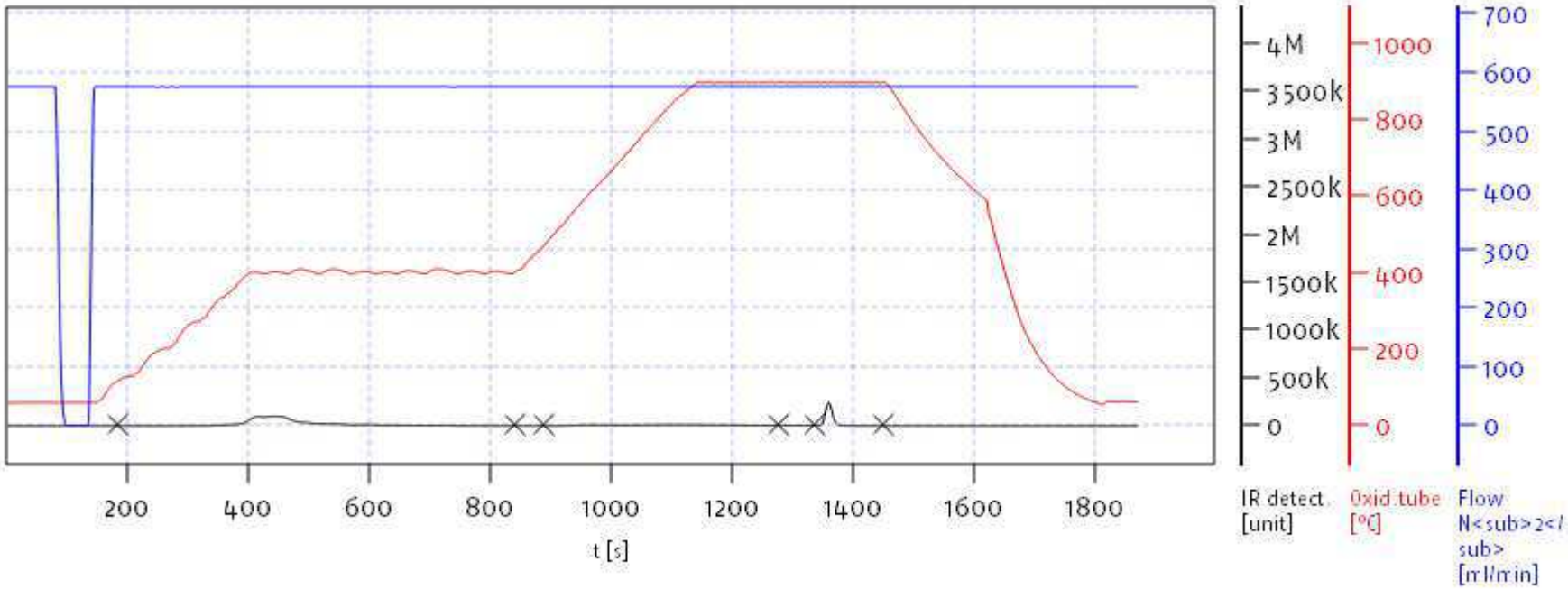
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
63	63	BJH0301-SRM1	35.10		1.00	CARBON	8/13/2021 9:06 PM	2.438	0.439	2.877	bl	426 524	109 654	129 876	1.0360	1.0000



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Access: soliTOC superuser

Date: Mon Aug 16 10:56:12 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

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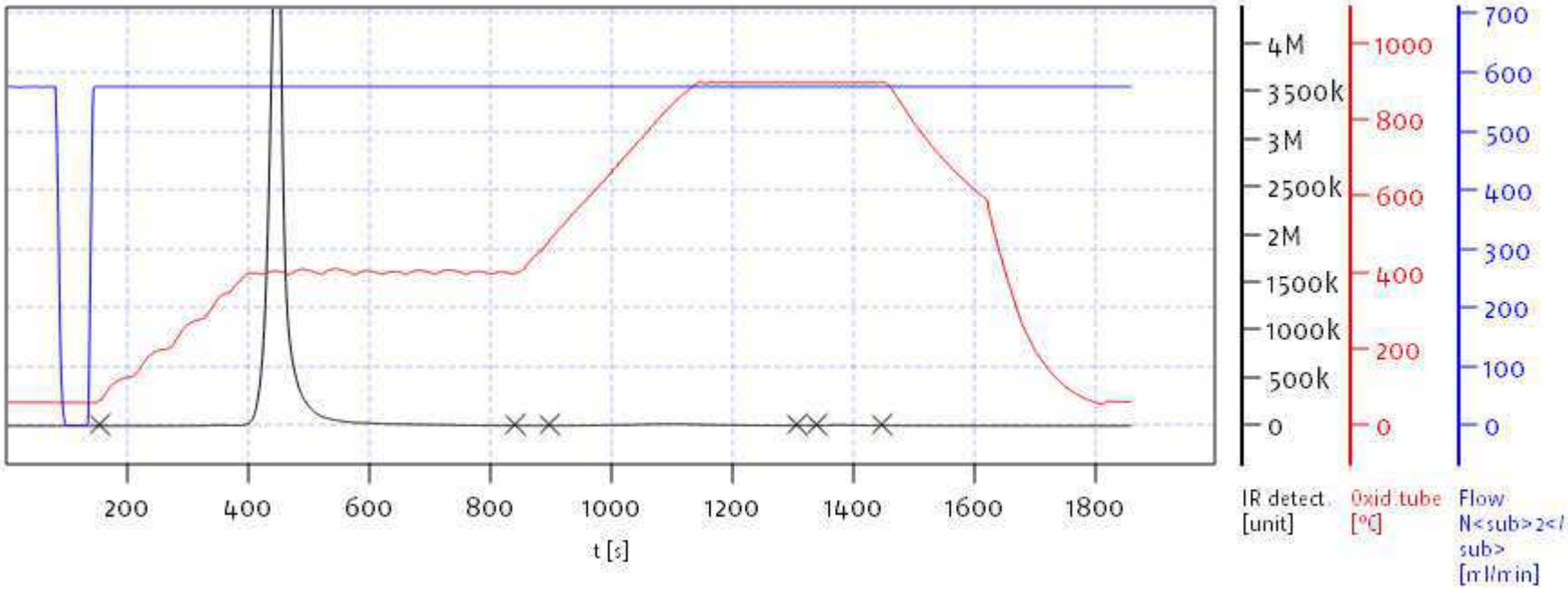
Document: 081321BF from: 8/14/2021 4:11 PM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
64	64	SJH0136-CCV5	22.60		1.00	CARBON	8/13/2021 9:38 PM	45.156	0.873	46.030	bl	6 328 328	137 522	23 307	1.0360	1.0000



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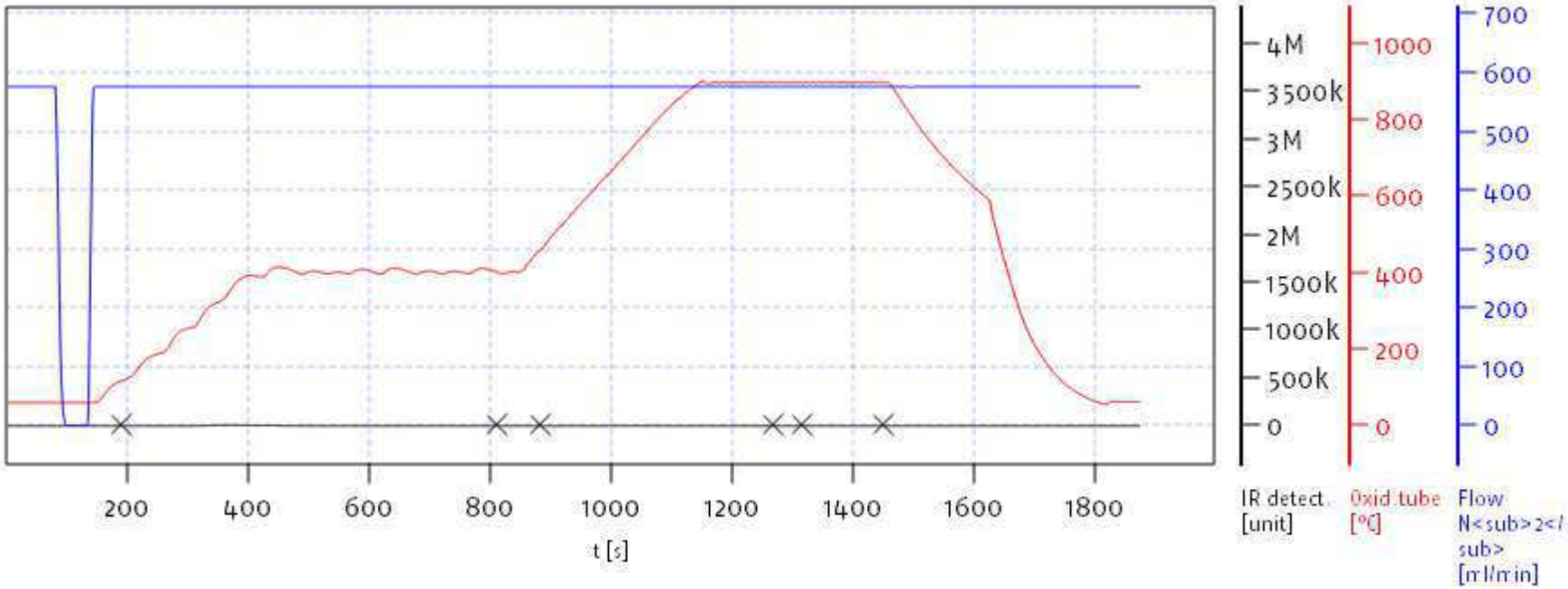
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
65	65	SJH0136-CCB5	502.20		1.00	CARBON	8/13/2021 10:09 PM	0.007	0.000	0.007	bl,C3u,C2u	33 223	3 760	847	1.0360	1.0000



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ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0323	Instrument:	TOC Cube
		Calibration:	EH00065

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Cal Standard	SJH0323-CAL1	peData_08252021@1209-(	NA	08/24/21 19:03
Cal Standard	SJH0323-CAL2	peData_08252021@1209-(	NA	08/24/21 19:34
Cal Standard	SJH0323-CAL3	peData_08252021@1209-(	NA	08/24/21 20:06
Cal Standard	SJH0323-CAL4	peData_08252021@1209-(	NA	08/24/21 20:38
Cal Standard	SJH0323-CAL5	peData_08252021@1209-(	NA	08/24/21 21:10
Cal Standard	SJH0323-CAL6	peData_08252021@1209-(	NA	08/24/21 21:41
Cal Standard	SJH0323-CAL7	peData_08252021@1209-(	NA	08/24/21 22:13
Cal Standard	SJH0323-CAL8	peData_08252021@1209-(	NA	08/24/21 22:44
Cal Standard	SJH0323-CAL9	peData_08252021@1209-(	NA	08/24/21 23:16
Cal Standard	SJH0323-CALA	peData_08252021@1209-(	NA	08/24/21 23:48
Cal Standard	SJH0323-CALB	peData_08252021@1209-(	NA	08/25/21 00:19
Cal Standard	SJH0323-CALC	peData_08252021@1209-(	NA	08/25/21 00:51
Cal Standard	SJH0323-CALD	peData_08252021@1209-(	NA	08/25/21 01:22
Cal Standard	SJH0323-CALE	peData_08252021@1209-(	NA	08/25/21 01:54
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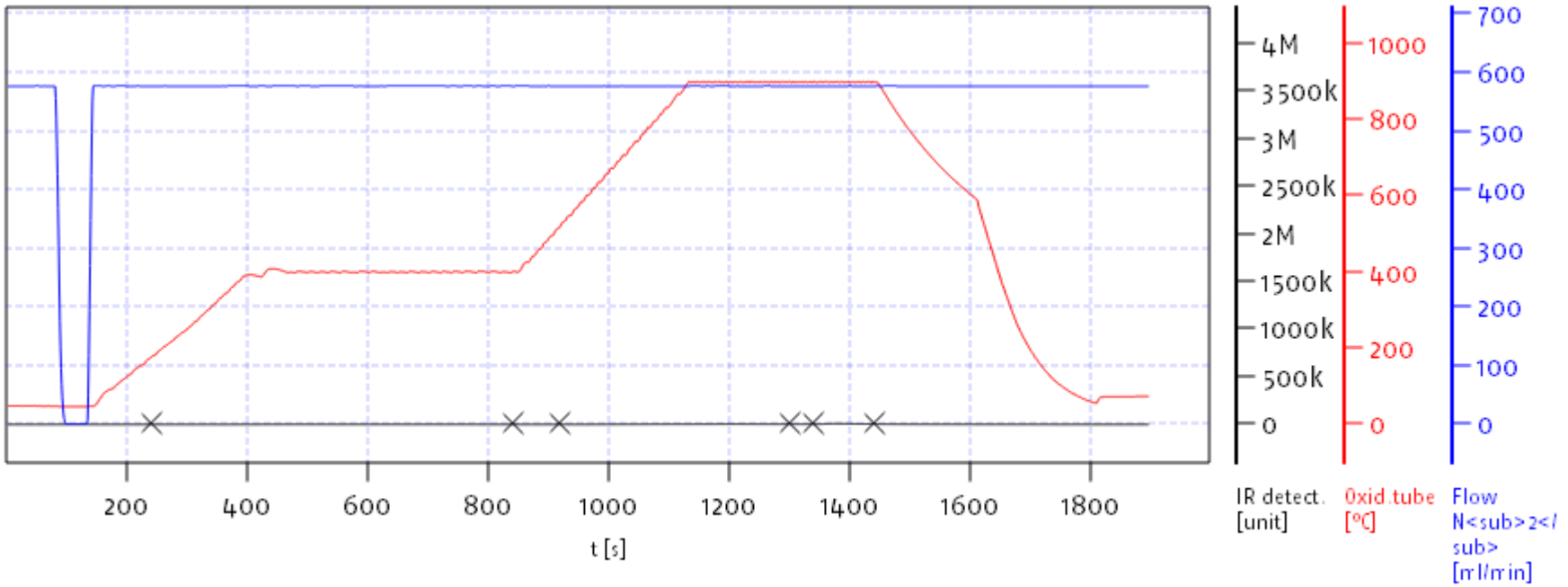
Cal Standard	SJH0323-CALG	peData_08252021@1209-(	NA	08/25/21 02:58
Cal Standard	SJH0323-CALH	peData_08252021@1209-(	NA	08/25/21 03:29
Cal Standard	SJH0323-CALI	peData_08252021@1209-(	NA	08/25/21 04:01
Cal Standard	SJH0323-CALJ	peData_08252021@1209-(	NA	08/25/21 04:33
Initial Cal Check	SJH0323-ICV1	peData_08252021@1209-(	NA	08/25/21 09:19
Initial Cal Blank	SJH0323-ICB1	peData_08252021@1209-(	NA	08/25/21 09:51
Cal Standard	SJH0323-CALK	peData_08252021@1209-(	NA	08/25/21 11:41
Cal Standard	SJH0323-CALL	peData_08252021@1209-(	NA	08/25/21 11:42
Cal Standard	SJH0323-CALM	peData_08252021@1209-(	NA	08/25/21 11:43
Cal Standard	SJH0323-CALN	peData_08252021@1209-(	NA	08/25/21 11:45
Cal Standard	SJH0323-CALO	peData_08252021@1209-(	NA	08/25/21 11:46

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	9	BLANK	1.00		1.00	CARBON	8/24/2021 6:00 PM	0.000	0.000	0.000	bl	13 861	33 454	21 567	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Aug 25 11:48:01 2021

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Serial No: 0300.181017
Mode CCC

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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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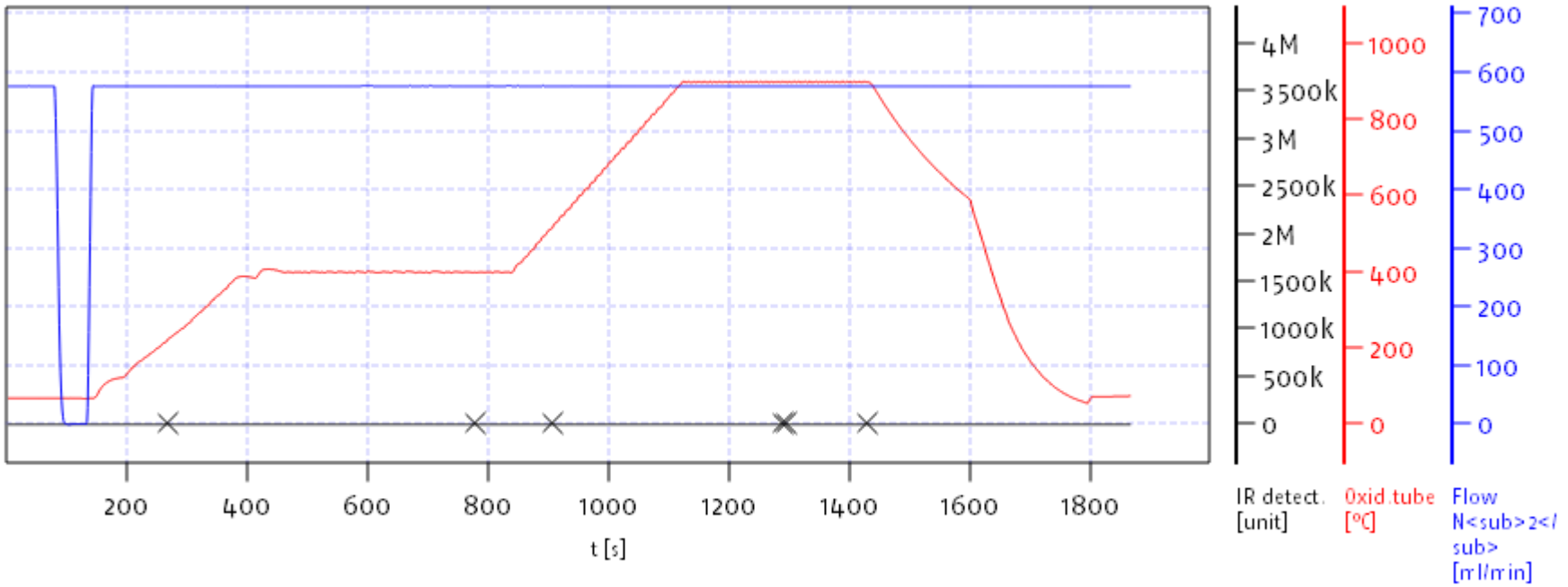
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	10	BLANK	1.00		1.00	CARBON	8/24/2021 6:31 PM	0.000	0.000	0.000	bl	1 643	8	245	1.0000	1.0000



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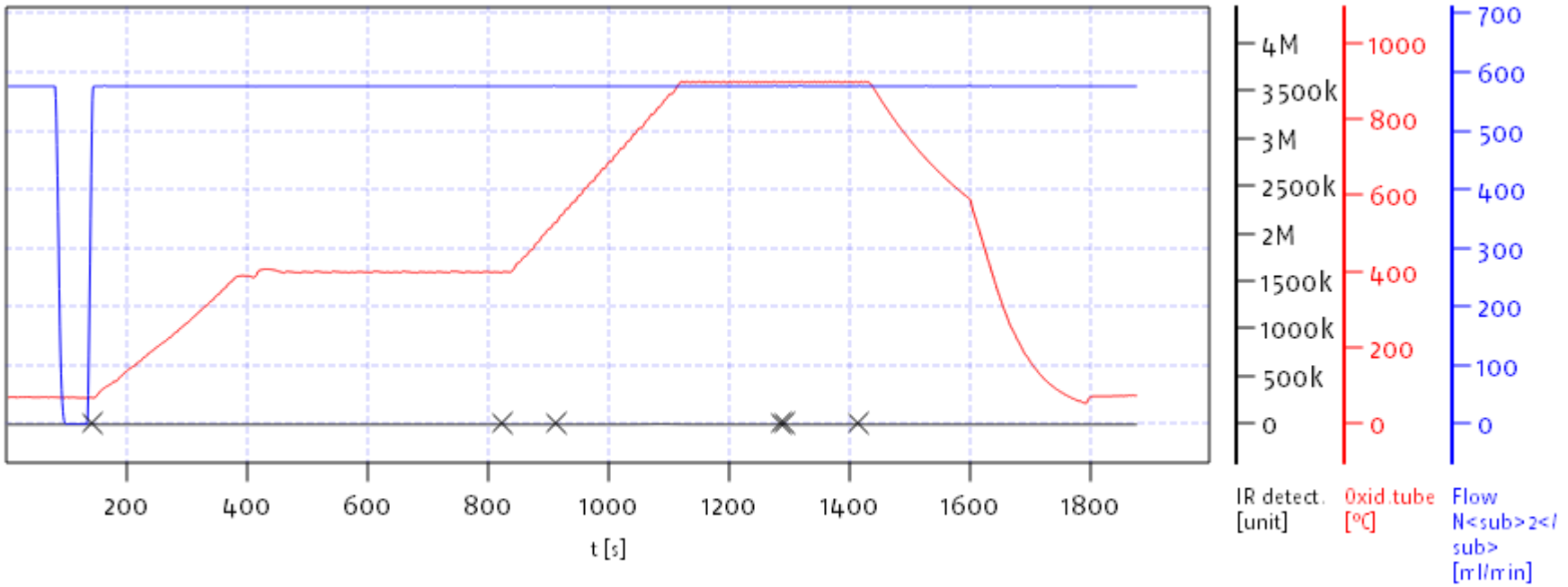
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	11	SEQ-CAL1	200.00	0.0017	1.00	CARBON	8/24/2021 7:03 PM	0.000	0.008	0.008	bl,C1u,C3u,C2u	1 070	6 478	141	1.0000	1.1719



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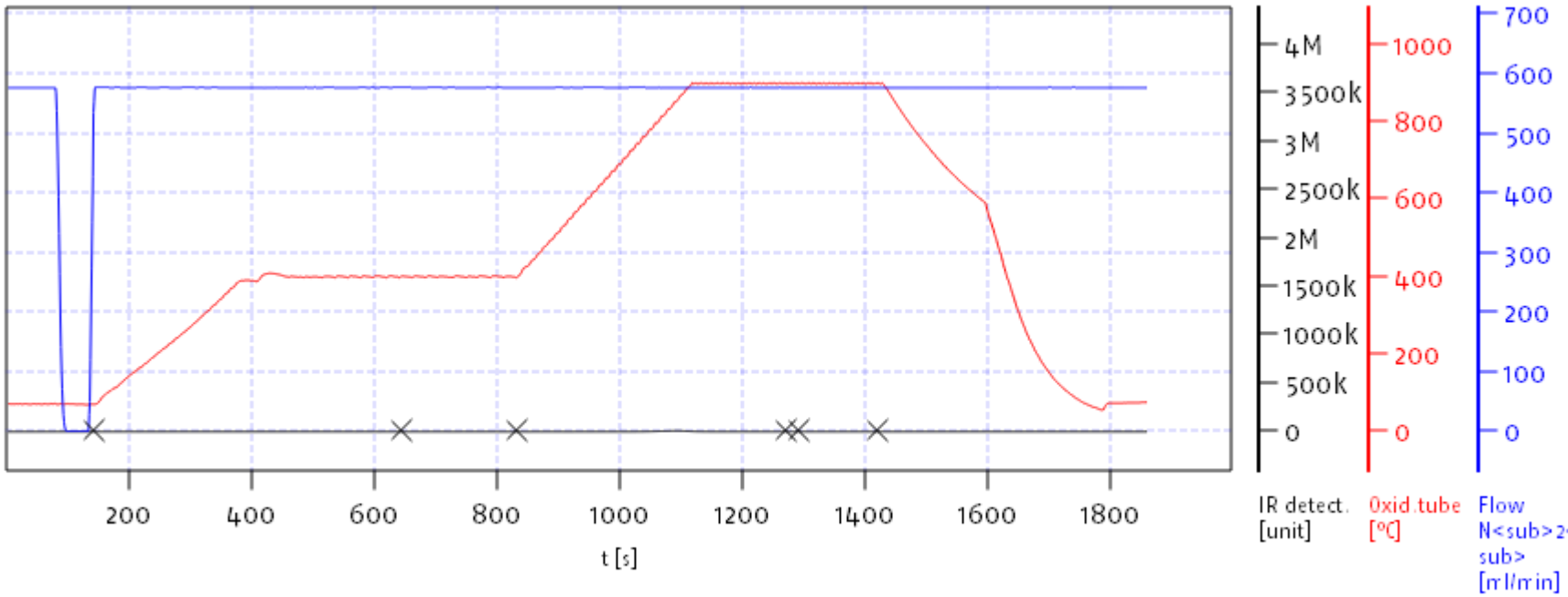
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	12	SEQ-CAL2	200.00	0.0054	1.00	CARBON	8/24/2021 7:34 PM	0.000	0.015	0.015	bl,C1u,C2u	660	18 783	85	1.0000	0.9072



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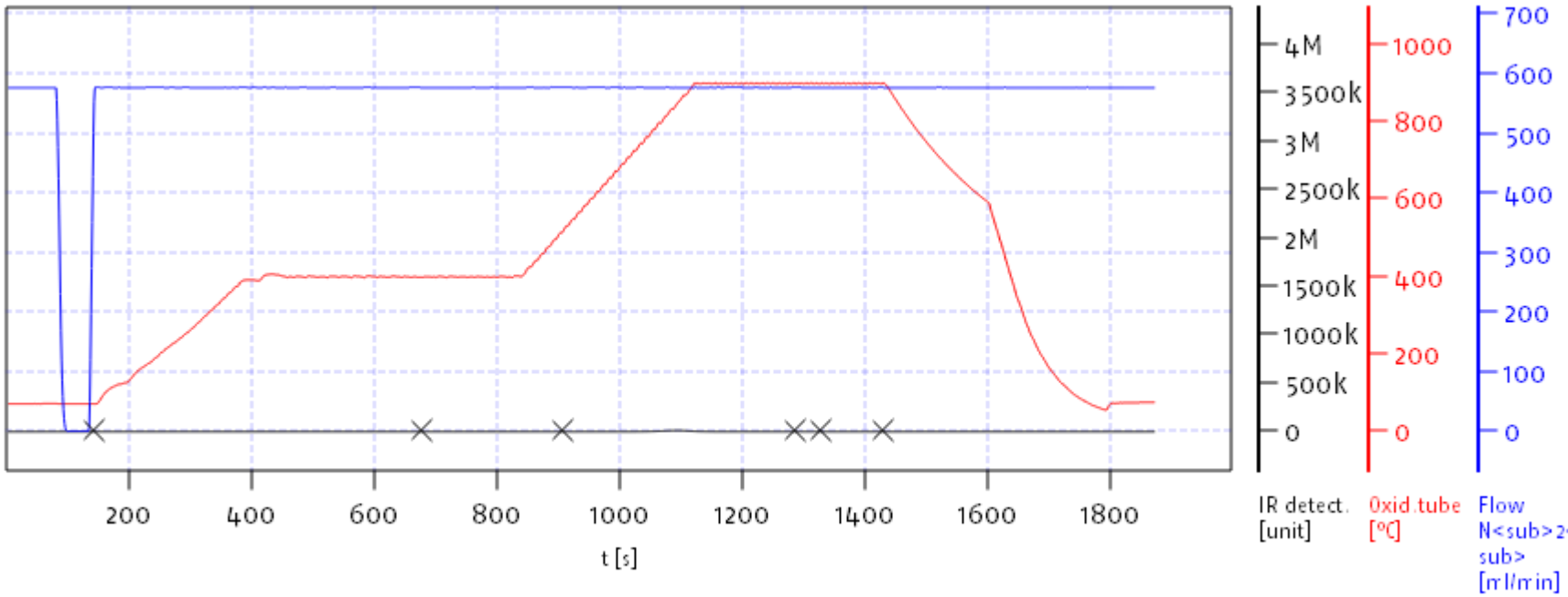
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	13	SEQ-CAL3	200.00	0.0068	1.00	CARBON	8/24/2021 8:06 PM	0.000	0.022	0.022	bl,C1u,C2u	889	24 712	60	1.0000	1.0307



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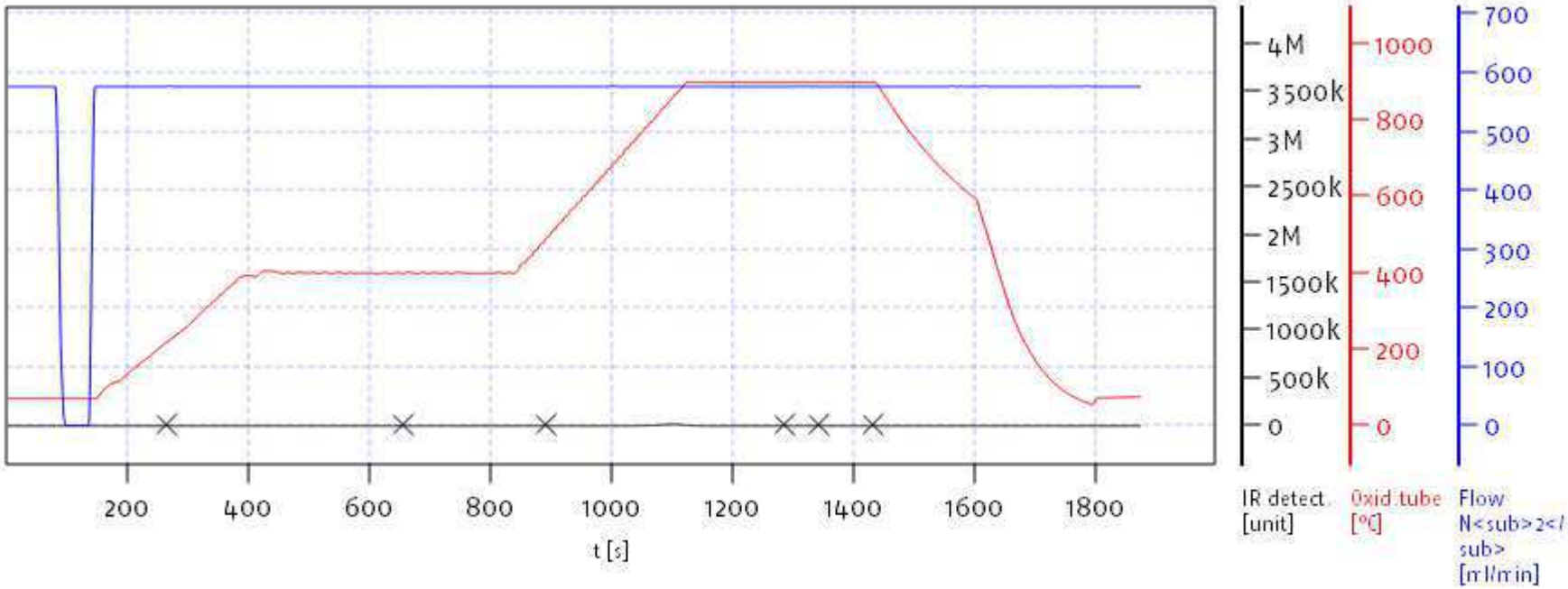
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	14	SEQ-CAL4	200.00	0.0101	1.00	CARBON	8/24/2021 8:38 PM	0.000	0.030	0.030	bl,C1u,C2u	1 503	31 221	84	1.0000	1.1361



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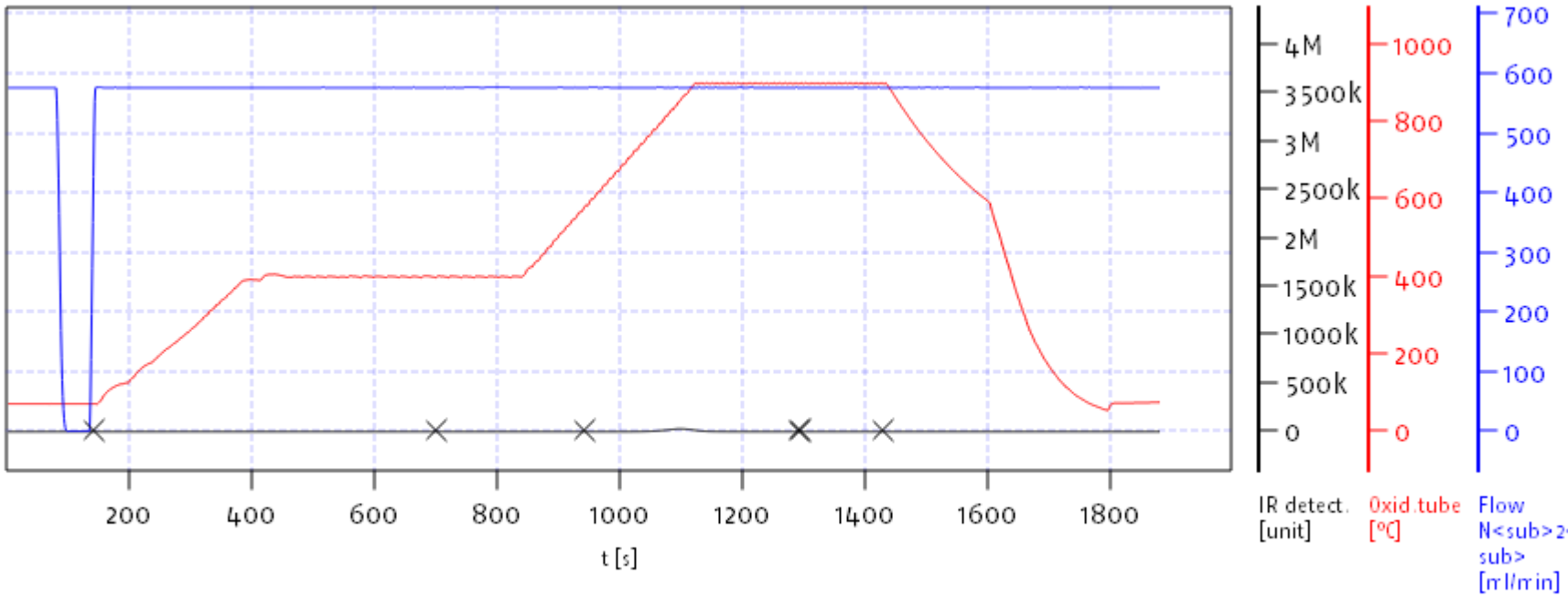
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	15	SEQ-CAL5	200.00	0.0151	1.00	CARBON	8/24/2021 9:10 PM	0.000	0.045	0.045	bl,C1u,C2u	776	61 535	62	1.0000	0.8900



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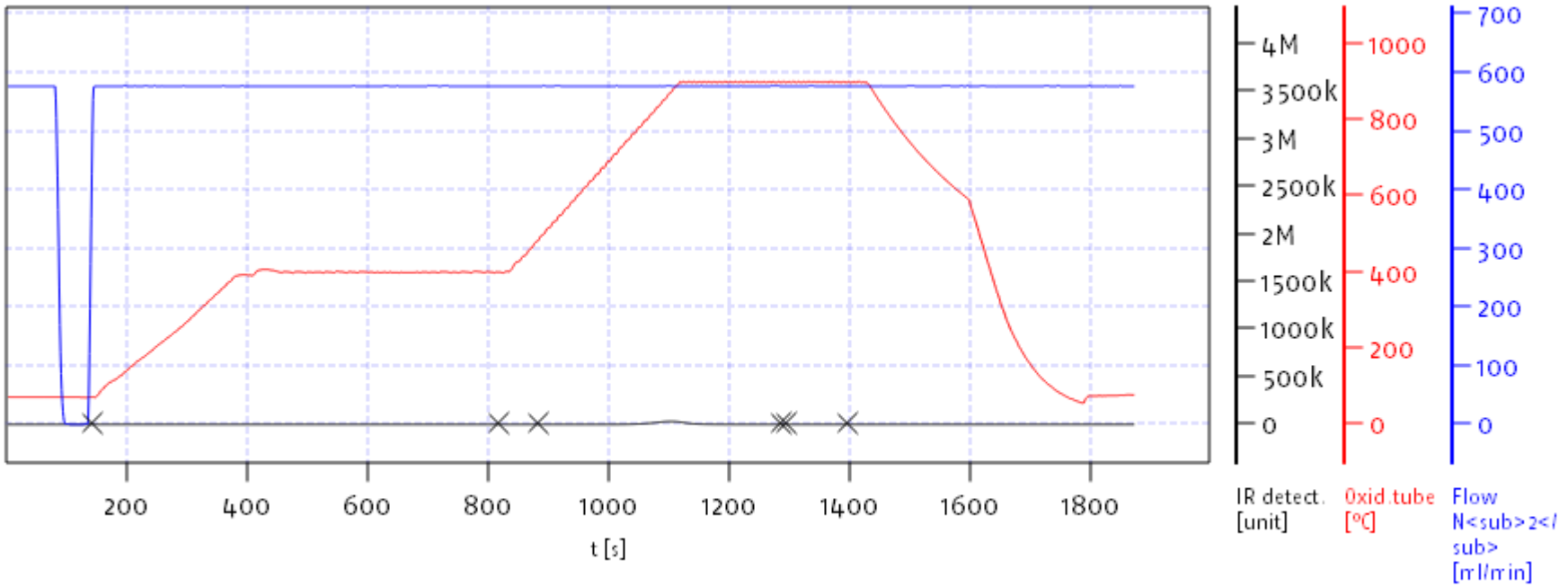
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	16	SEQ-CAL6	200.00	0.0200	1.00	CARBON	8/24/2021 9:41 PM	0.000	0.061	0.061	bl,C1u,C2u	1 086	73 745	55	1.0000	1.0168



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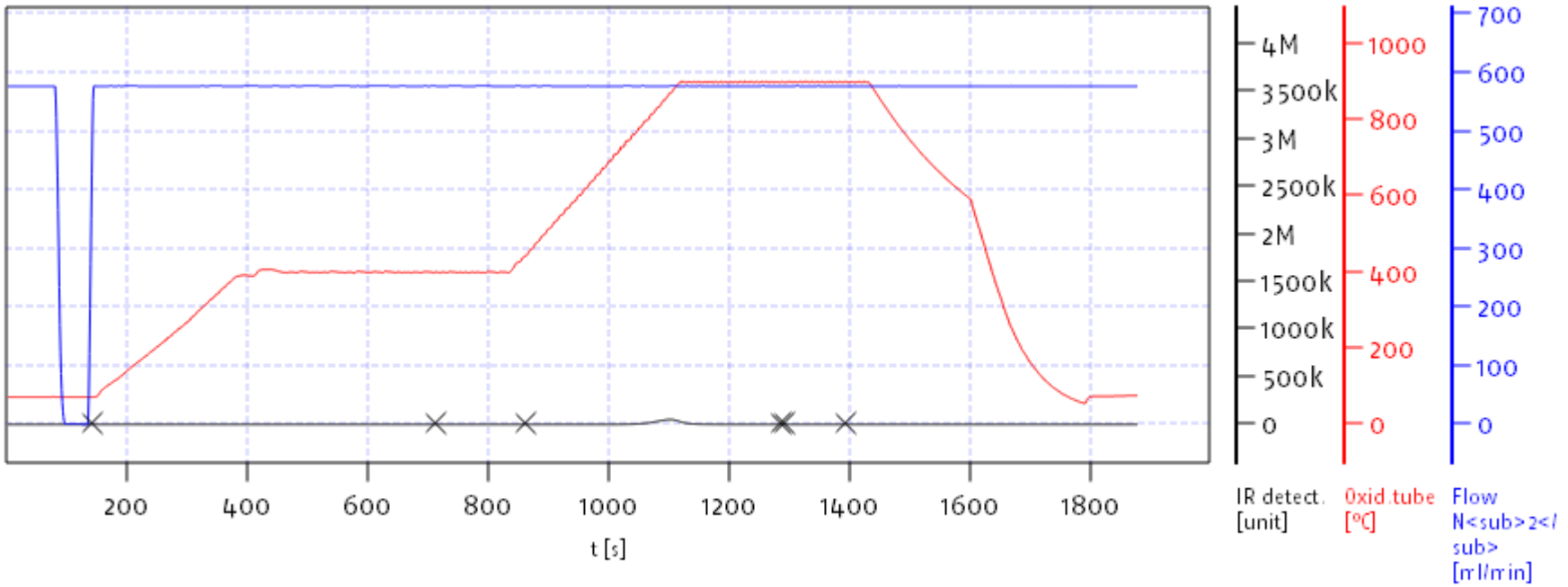
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	17	SEQ-CAL7	200.00	0.0256	1.00	CARBON	8/24/2021 10:13 PM	0.000	0.075	0.075	bl,C1u,C2u	1 149	100 193	99	1.0000	0.9293



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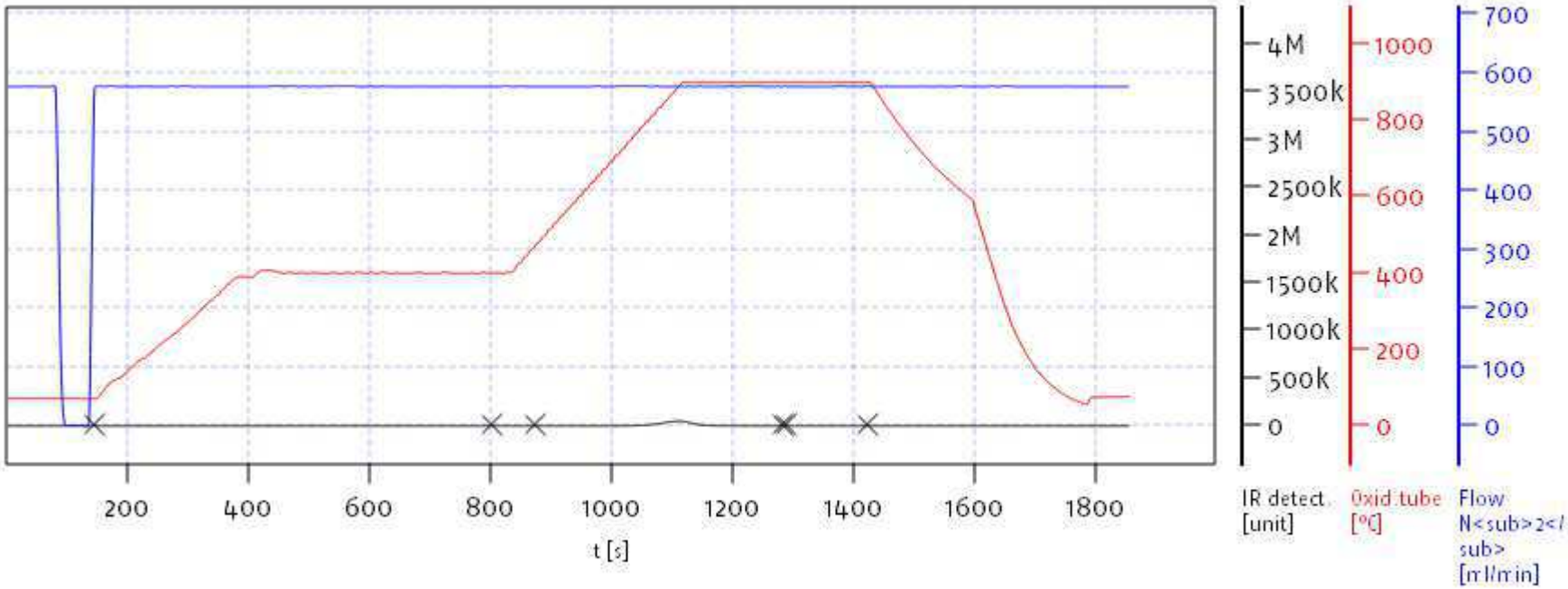
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	18	SEQ-CAL8	200.00	0.0303	1.00	CARBON	8/24/2021 10:44 PM	0.000	0.091	0.091	bl,C1u,C2u	779	118 482	109	1.0000	0.9492



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Analyst: BF

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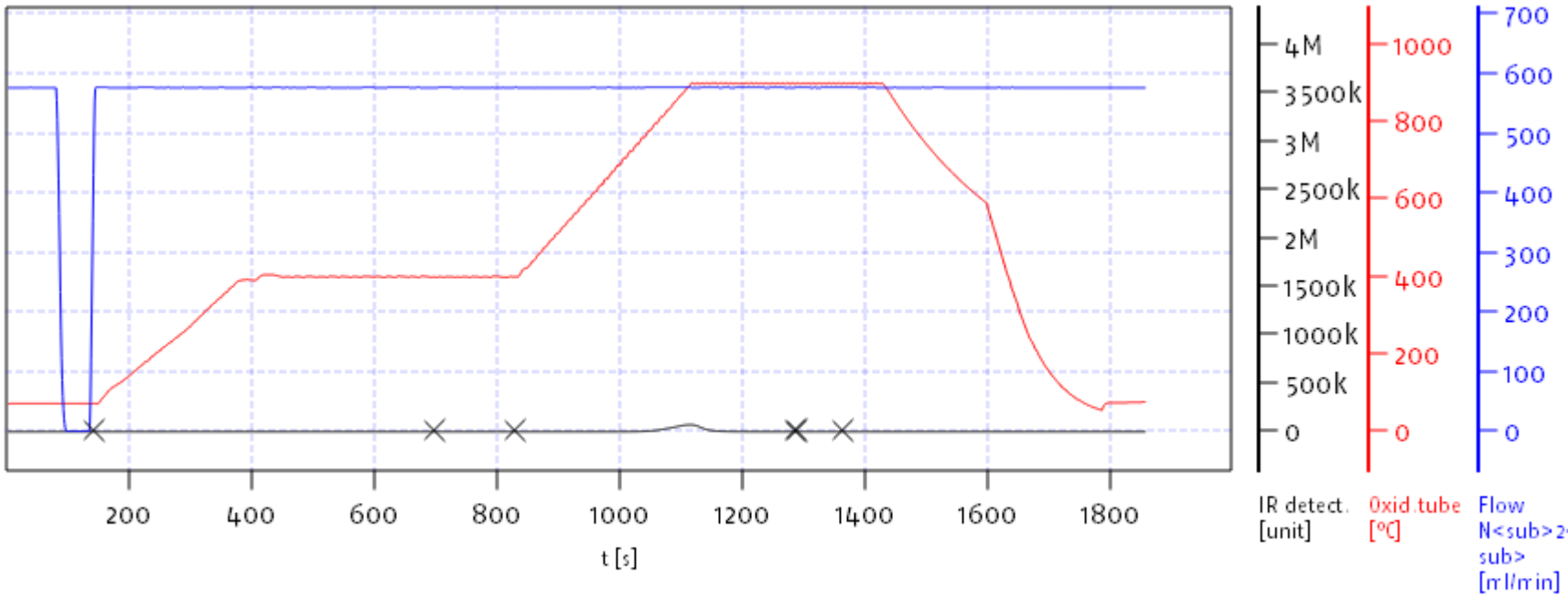
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	19	SEQ-CAL9	200.00	0.0396	1.00	CARBON	8/24/2021 11:16 PM	0.000	0.120	0.120	bl,C1u,C2u	848	163 267	93	1.0000	0.9178



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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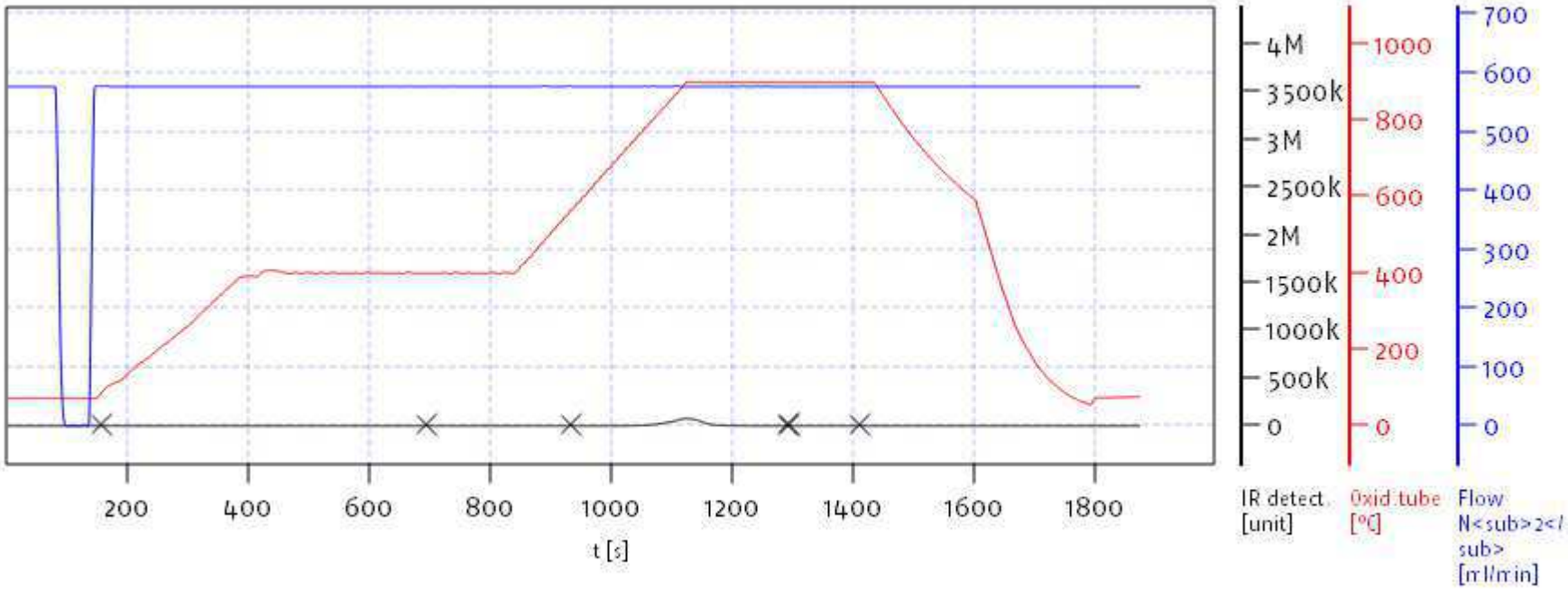
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	20	SEQ-CALA	200.00	0.0498	1.00	CARBON	8/24/2021 11:48 PM	0.000	0.151	0.151	bl,C1u,C2u	1 818	184 410	146	1.0000	1.0237



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Balance: BAL3
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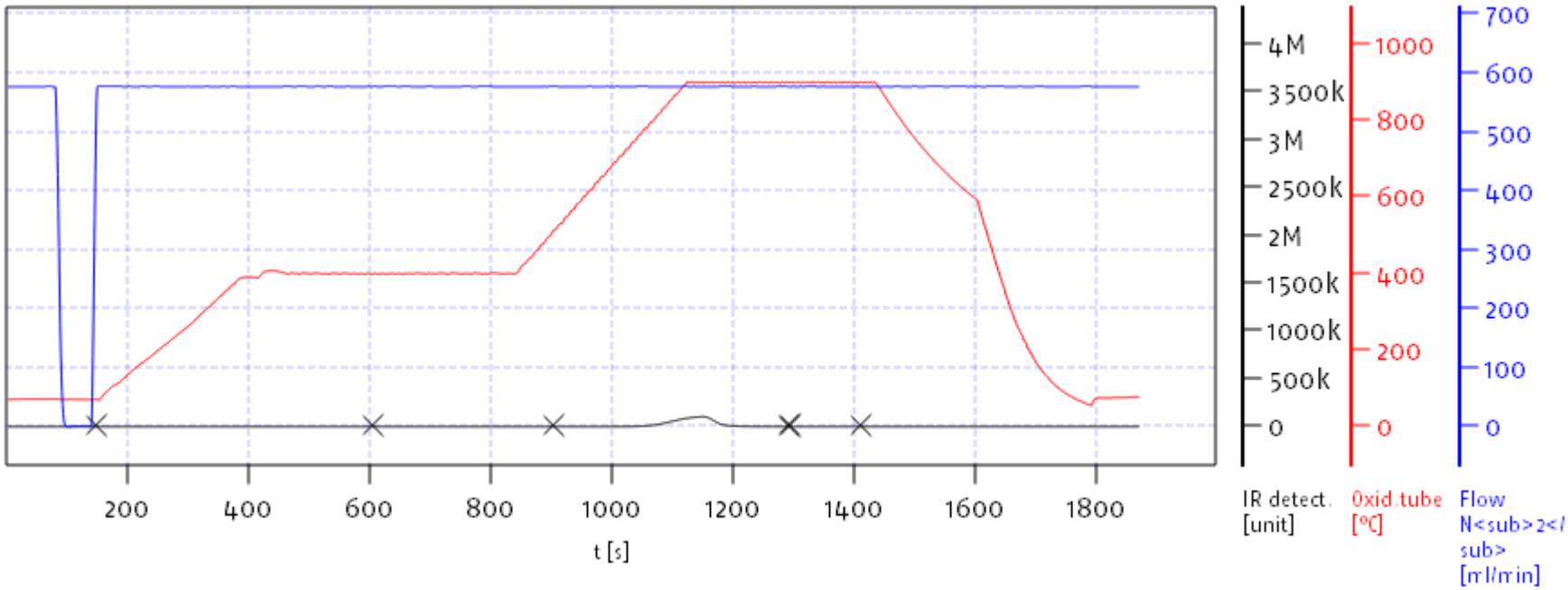
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	21	SEQ-CALB	200.00	0.0042	1.00	CARBON	8/25/2021 12:19 AM	0.000	0.258	0.258	bl,C1u,C2u	972	305 136	284	1.0000	1.0636



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Balance: BAL3
Analyst: BF

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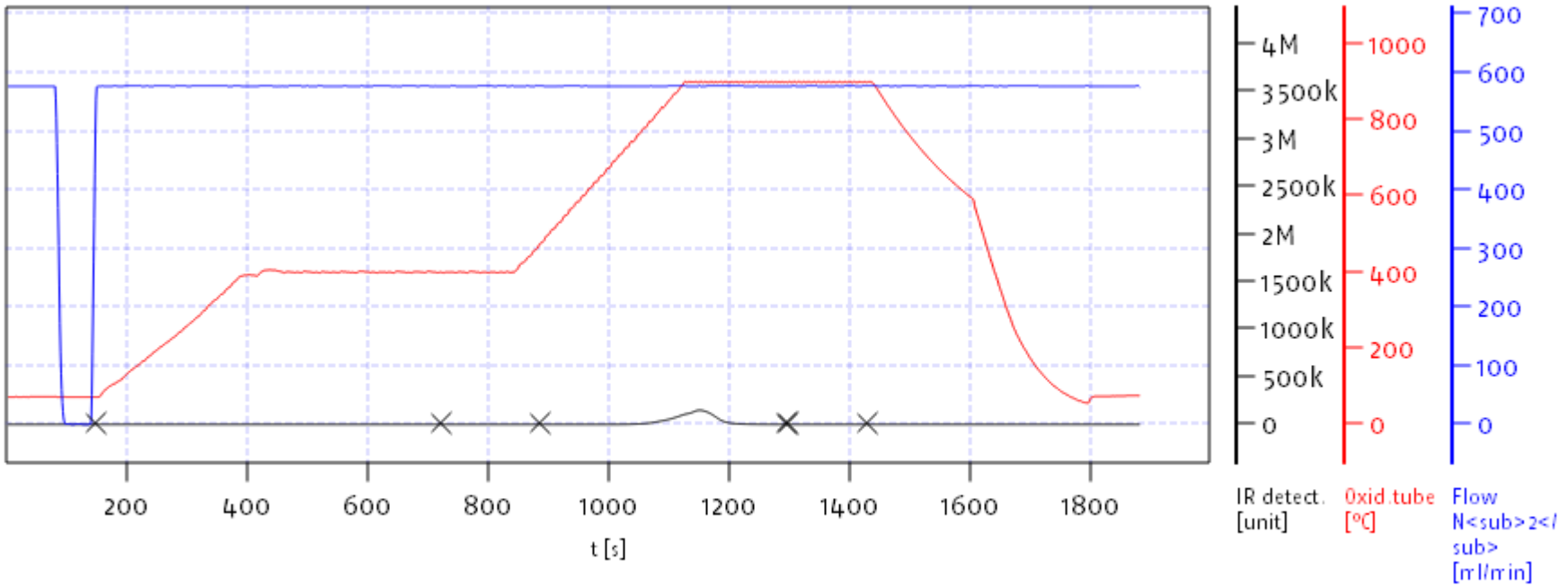
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	22	SEQ-CALC	200.00	0.0056	1.00	CARBON	8/25/2021 12:51 AM	0.000	0.324	0.324	bl,C1u,C2u	925	413 926	393	1.0000	0.9869



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Access: soliTOC superuser

Date: Wed Aug 25 11:48:01 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

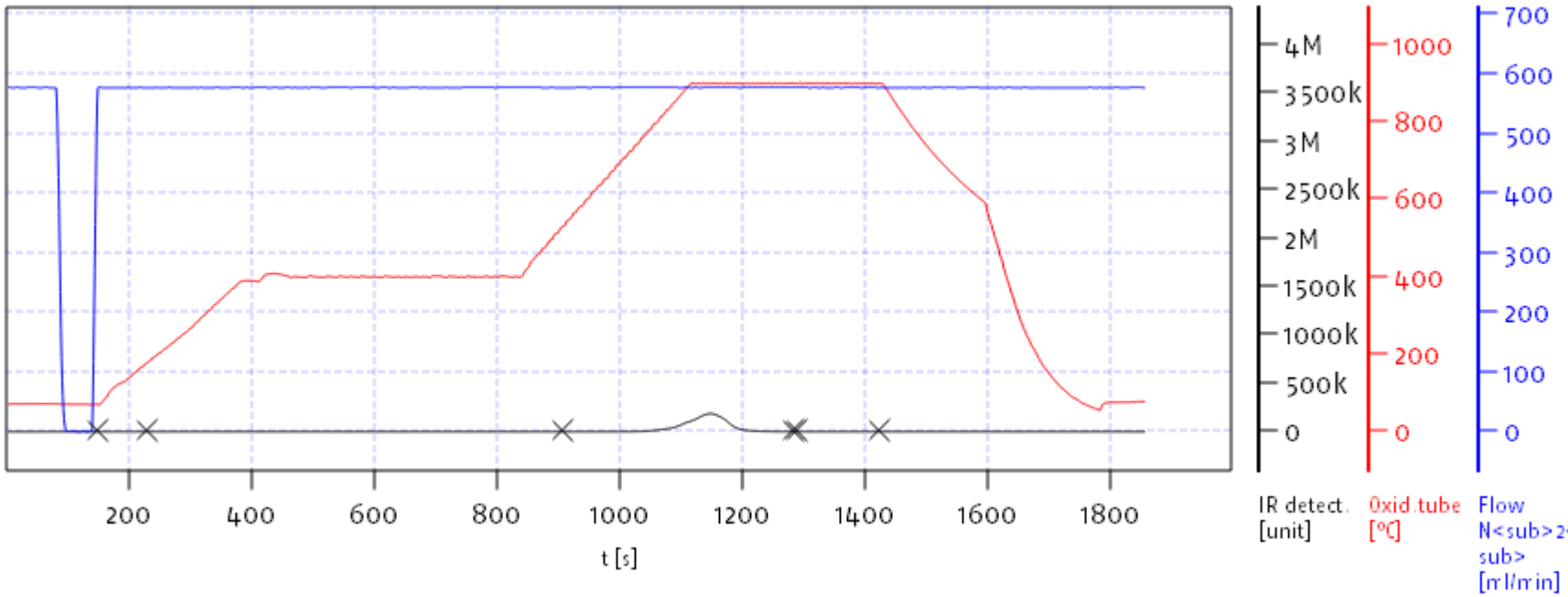
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00065 082421BFb from: 8/25/2021 11:47 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	23	SEQ-CALD	200.00	0.0069	1.00	CARBON	8/25/2021 1:22 AM	0.000	0.444	0.444	bl,C1u,C2u	172	525 080	677	1.0000	1.0675



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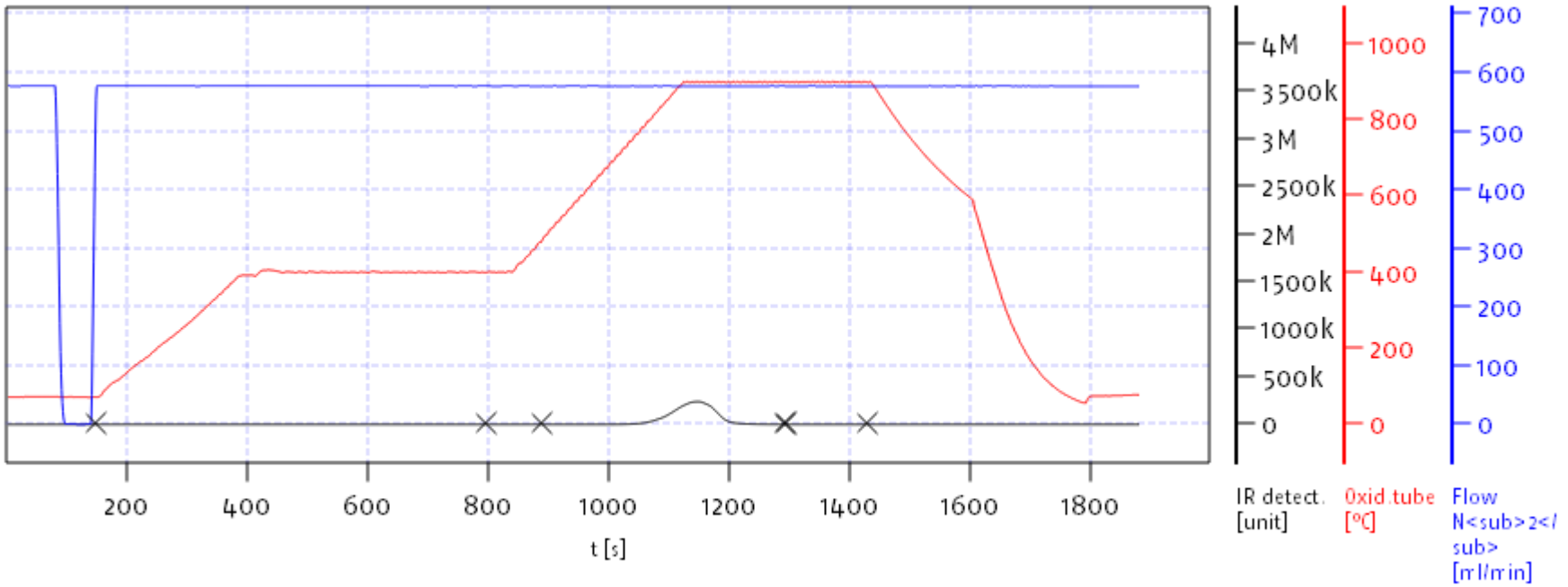
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	24	SEQ-CALE	200.00	0.0097	1.00	CARBON	8/25/2021 1:54 AM	0.000	0.600	0.600	bl,C1u,C2u	989	743 966	687	1.0000	1.0196



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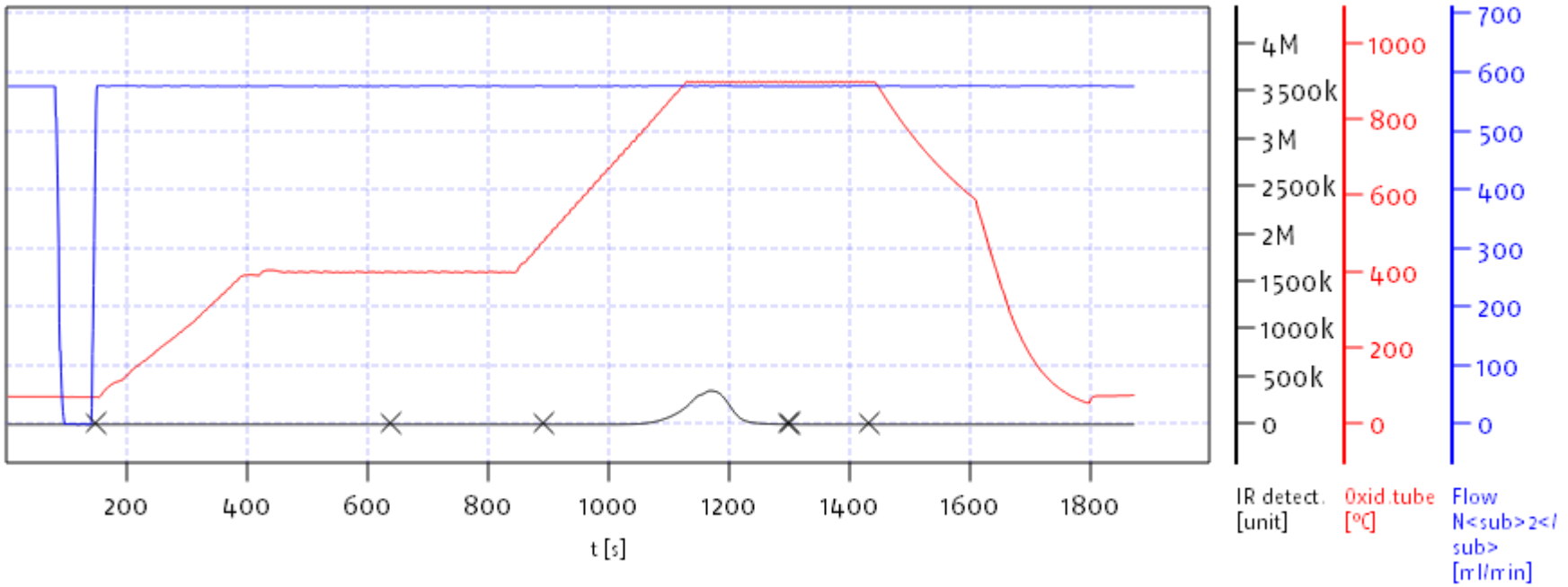
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	25	SEQ-CALF	200.00	0.0147	1.00	CARBON	8/25/2021 2:26 AM	0.000	0.906	0.906	bl,C1u,C2u	925	1 115 840	1 898	1.0000	1.0277



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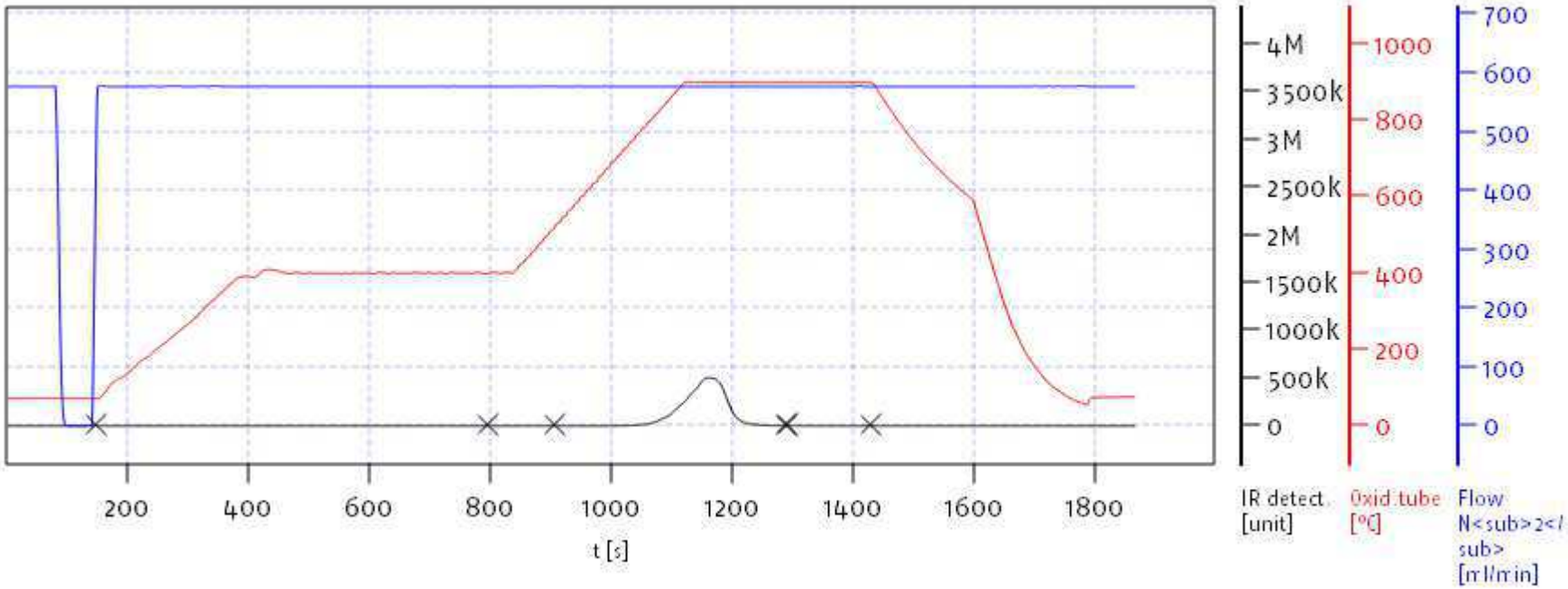
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	26	SEQ-CALG	200.00	0.0199	1.00	CARBON	8/25/2021 2:58 AM	0.000	1.206	1.206	bl,C1u,C2u	1 253	1 509 240	2 258	1.0000	1.0121



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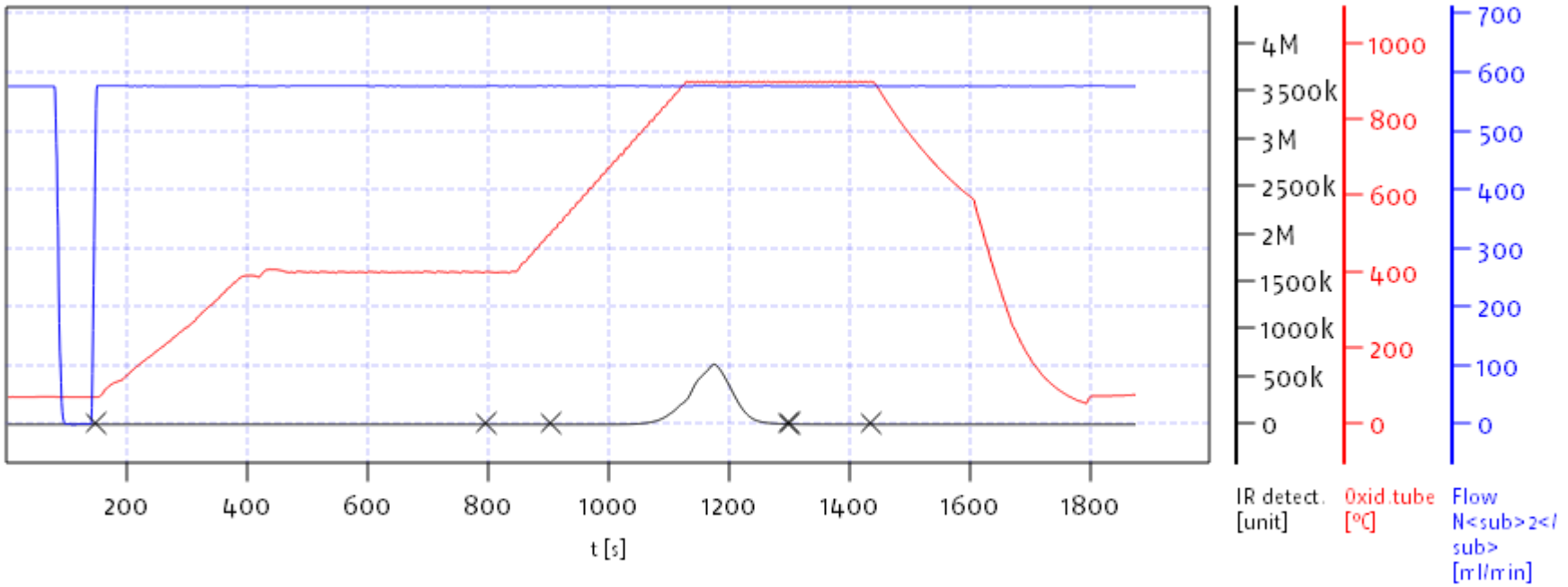
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	27	SEQ-CALH	200.00	0.0253	1.00	CARBON	8/25/2021 3:29 AM	0.000	1.524	1.524	bl,C1u,C2u	1 233	1 930 390	4 311	1.0000	1.0003



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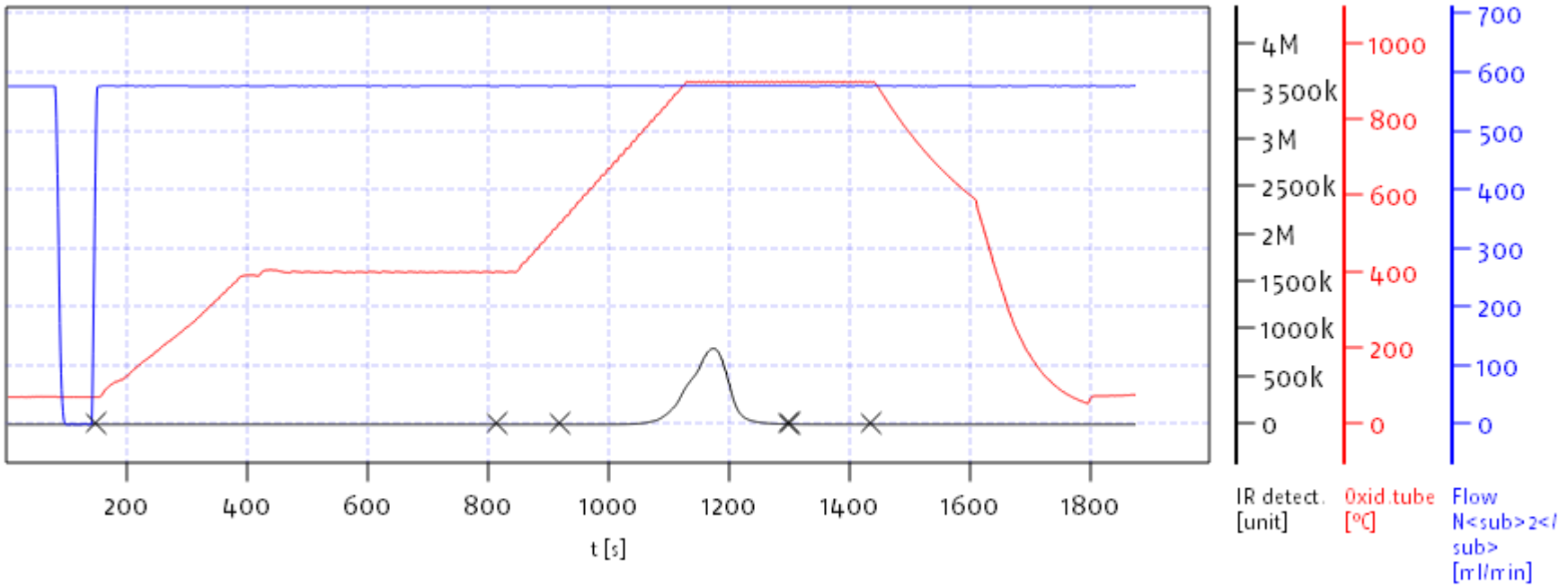
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	28	SEQ-CALI	200.00	0.0302	1.00	CARBON	8/25/2021 4:01 AM	0.000	1.800	1.800	bl,C1u,C2u	1 600	2 286 540	3 907	1.0000	0.9976



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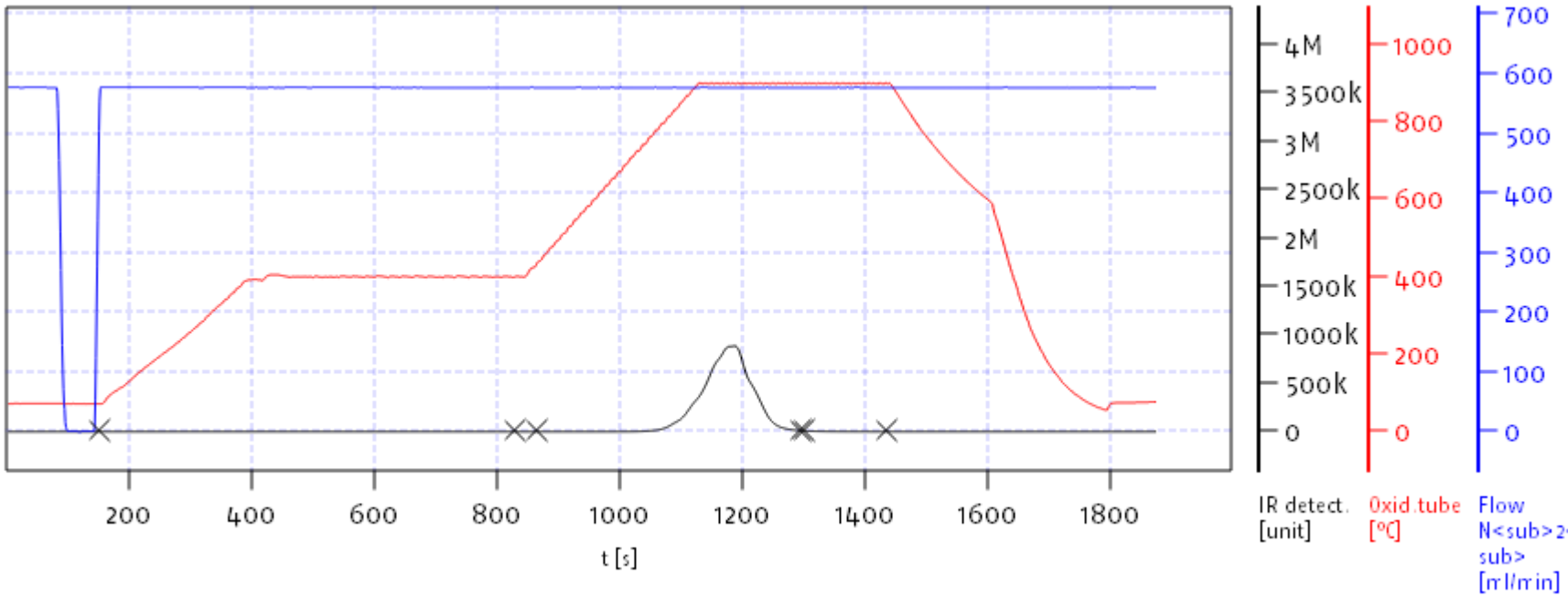
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	29	SEQ-CALJ	200.00	0.0400	1.00	CARBON	8/25/2021 4:33 AM	0.000	2.400	2.400	bl,C1u	1 589	**3 013 270**	**9 826**	1.0000	1.0096



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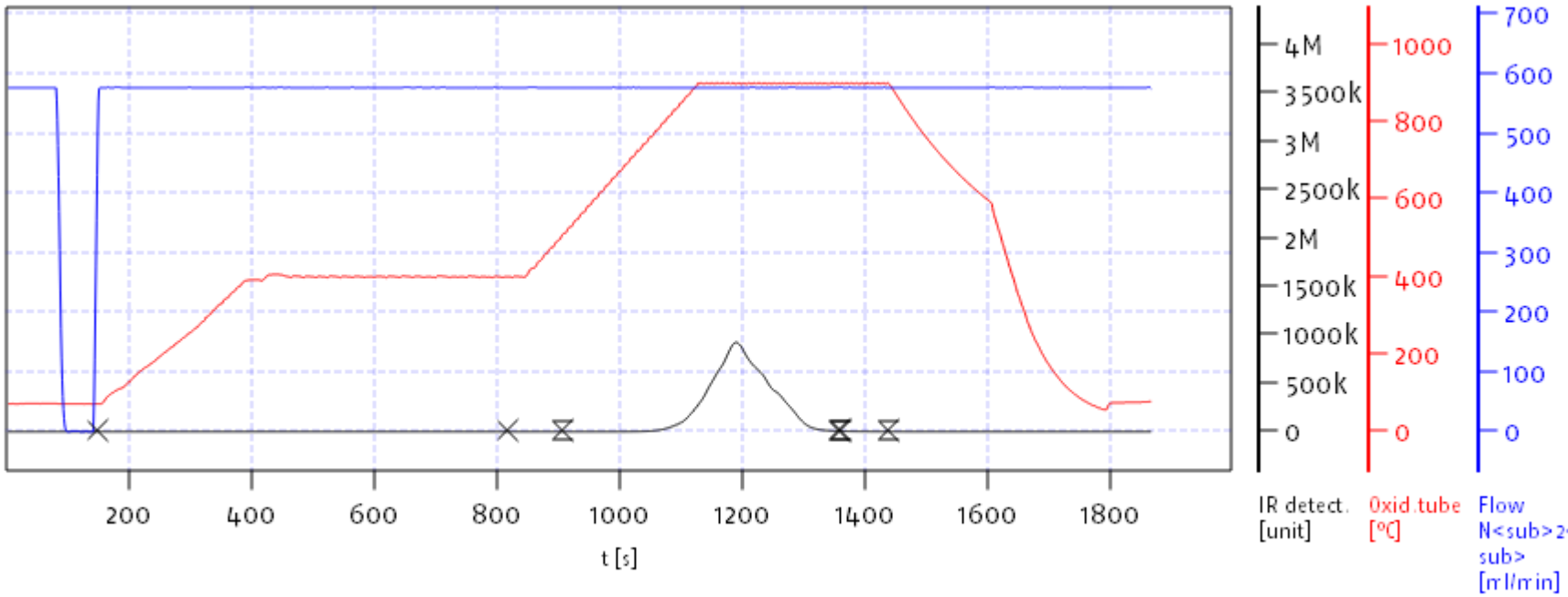
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	30	SEQ-CALK	200.00	0.0498	1.00	CARBON	8/25/2021 11:41 AM	0.000	3.012	3.012	bl,C1u	2 117	**3 411 713**	**0**	1.0000	1.0310



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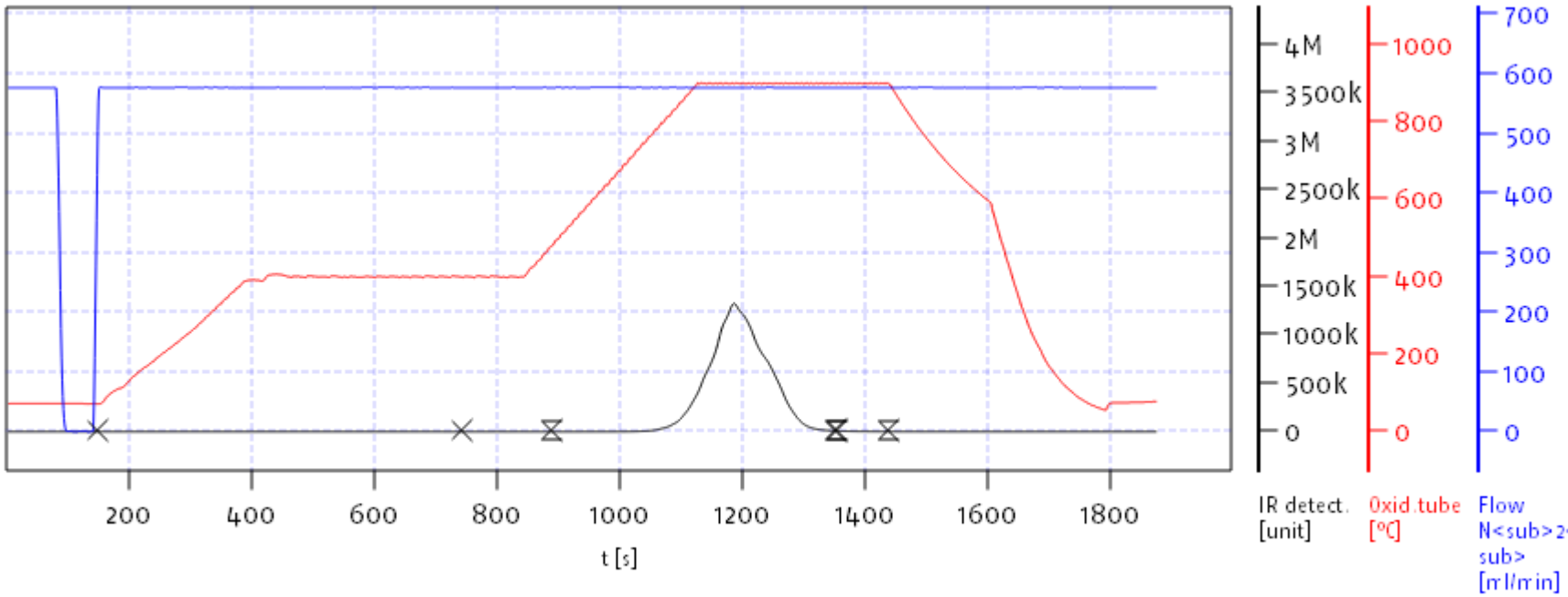
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	31	SEQ-CALL	200.00	0.0699	1.00	CARBON	8/25/2021 11:42 AM	0.000	4.206	4.206	bl,C1u	1 285	**4 920 073**	**0**	1.0000	1.0206



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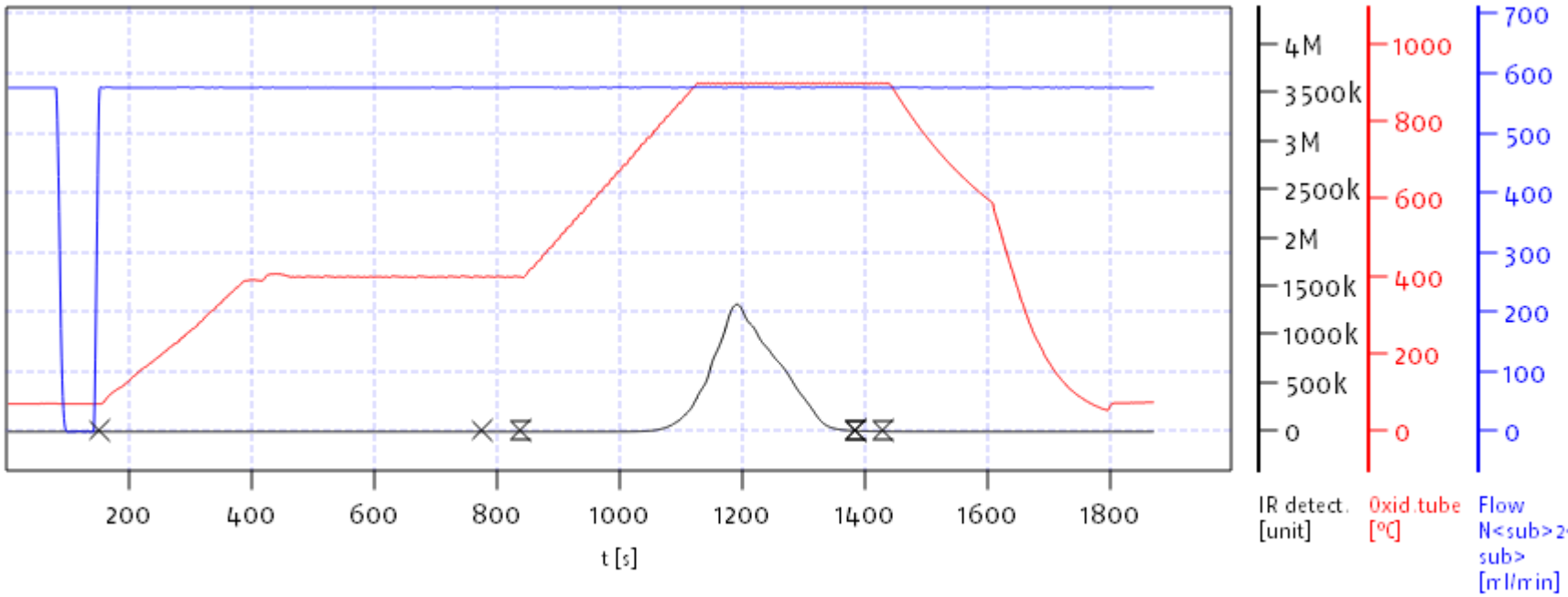
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	32	SEQ-CALM	200.00	0.0803	1.00	CARBON	8/25/2021 11:43 AM	0.000	4.812	4.812	bl,C1u	1 537	**5 655 573**	**0**	1.0000	1.0683



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Analyst: BF

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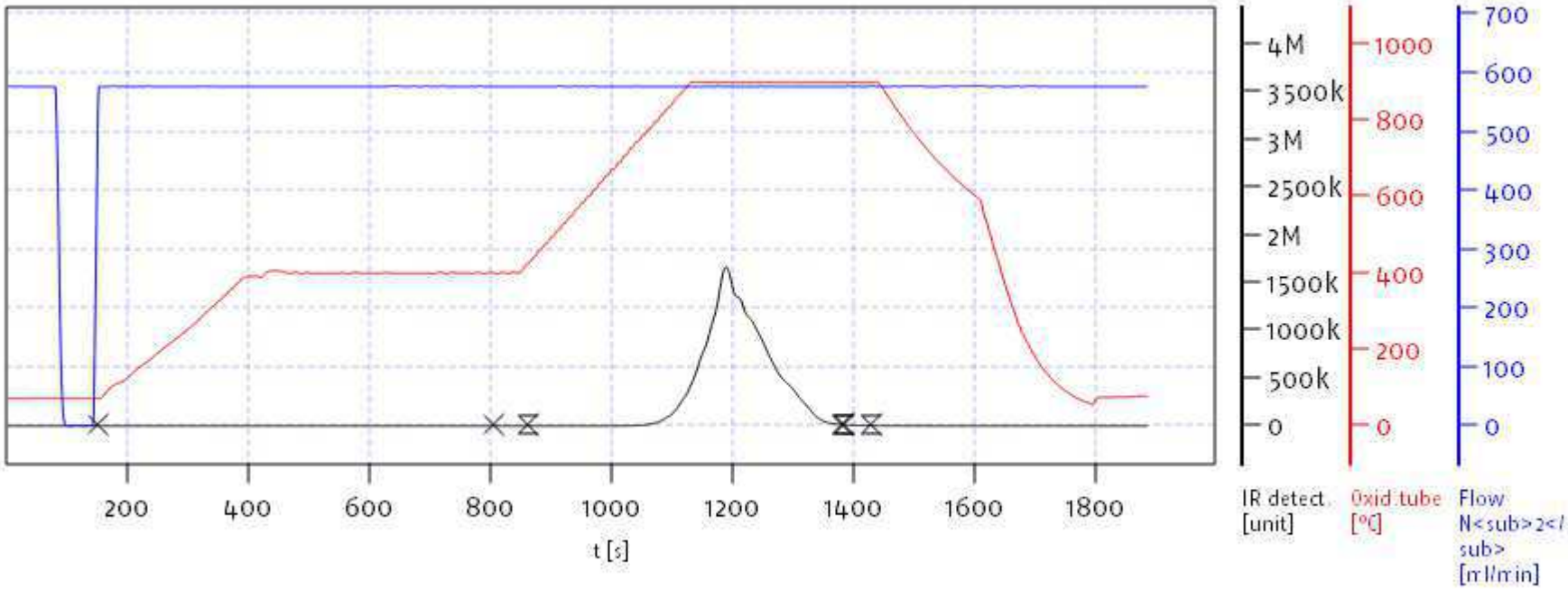
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	33	SEQ-CALN	200.00	0.0902	1.00	CARBON	8/25/2021 11:45 AM	0.000	5.406	5.406	bl,C1u	1 694	**6 449 031**	**0**	1.0000	1.0610



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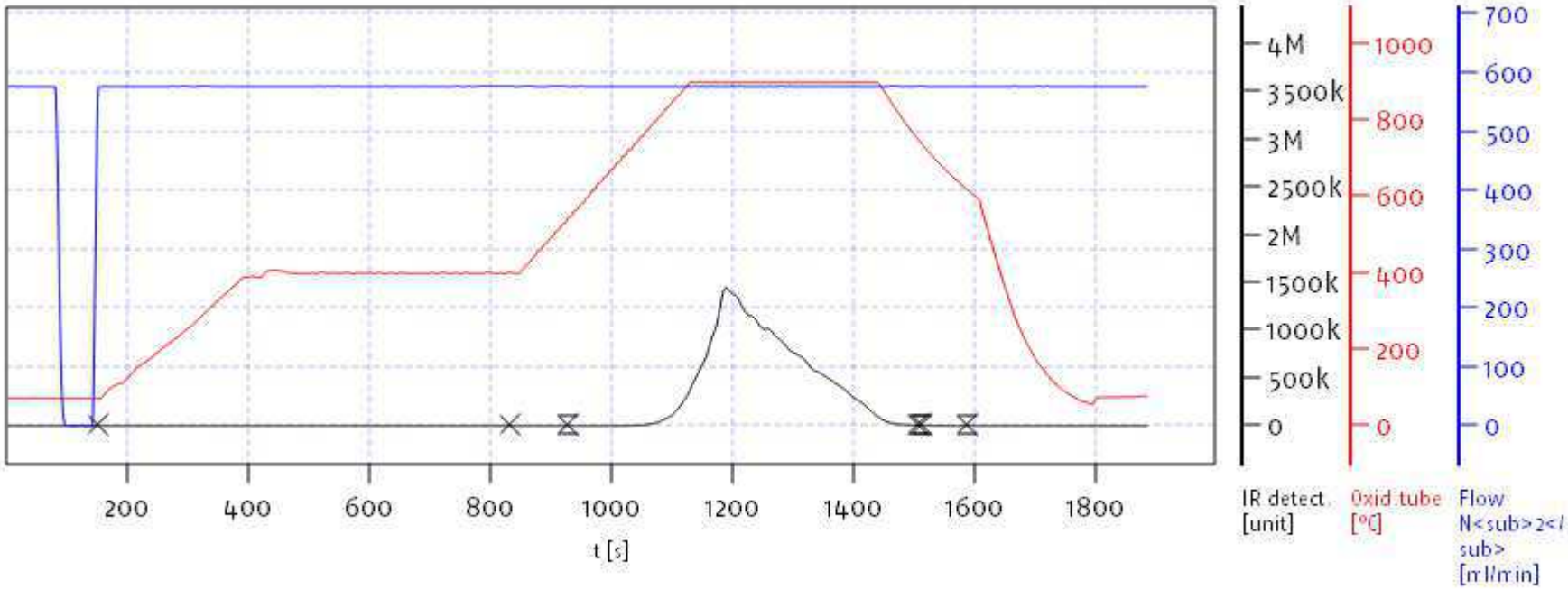
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	34	SEQ-CALO	200.00	0.1204	1.00	CARBON	8/25/2021 11:46 AM	0.000	7.218	7.218	bl,C1u,C3o	1 658	8 593 324	0	1.0000	1.3657



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	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
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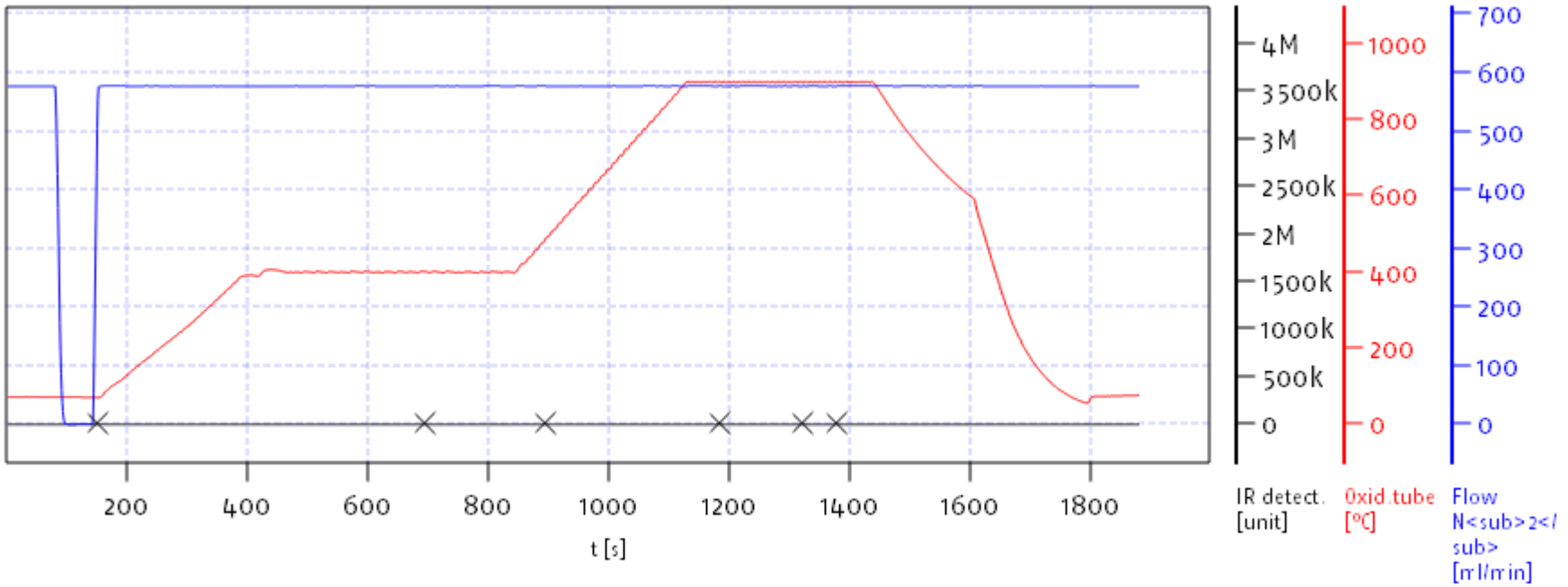

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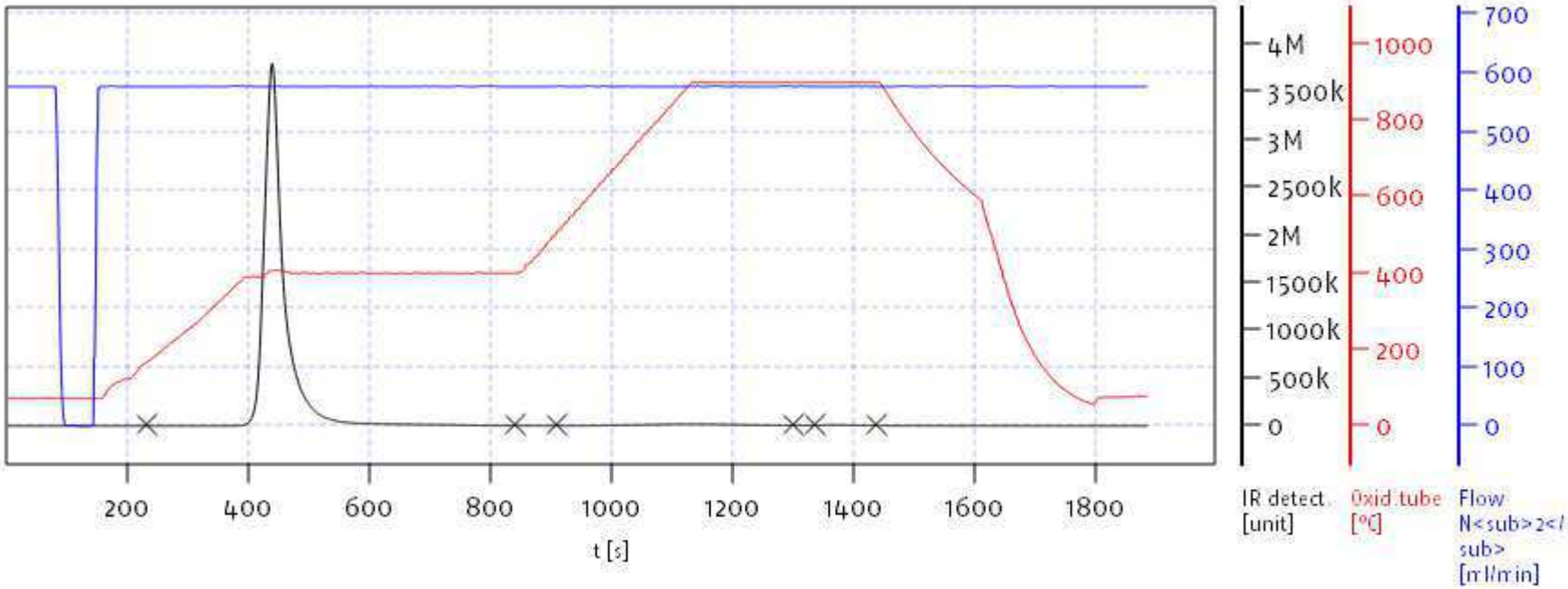
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	36	Dfactor	20.30		1.00	CARBON	8/25/2021 8:15 AM	44.446	0.000	44.446	bl	5 319 150	136 410	24 452	1.0755	1.0000



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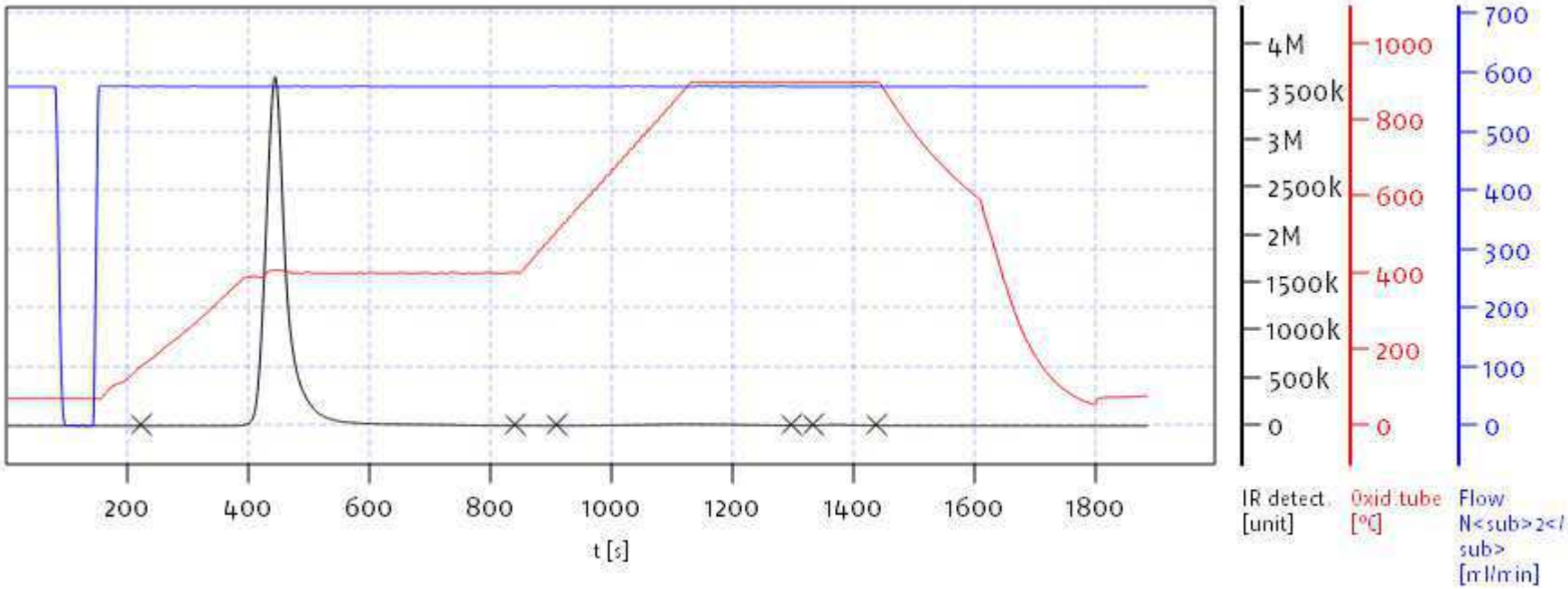
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	37	Dfactor	21.00		1.00	CARBON	8/25/2021 8:47 AM	44.446	0.000	44.446	bl	5 524 800	134 598	27 280	1.0712	1.0000



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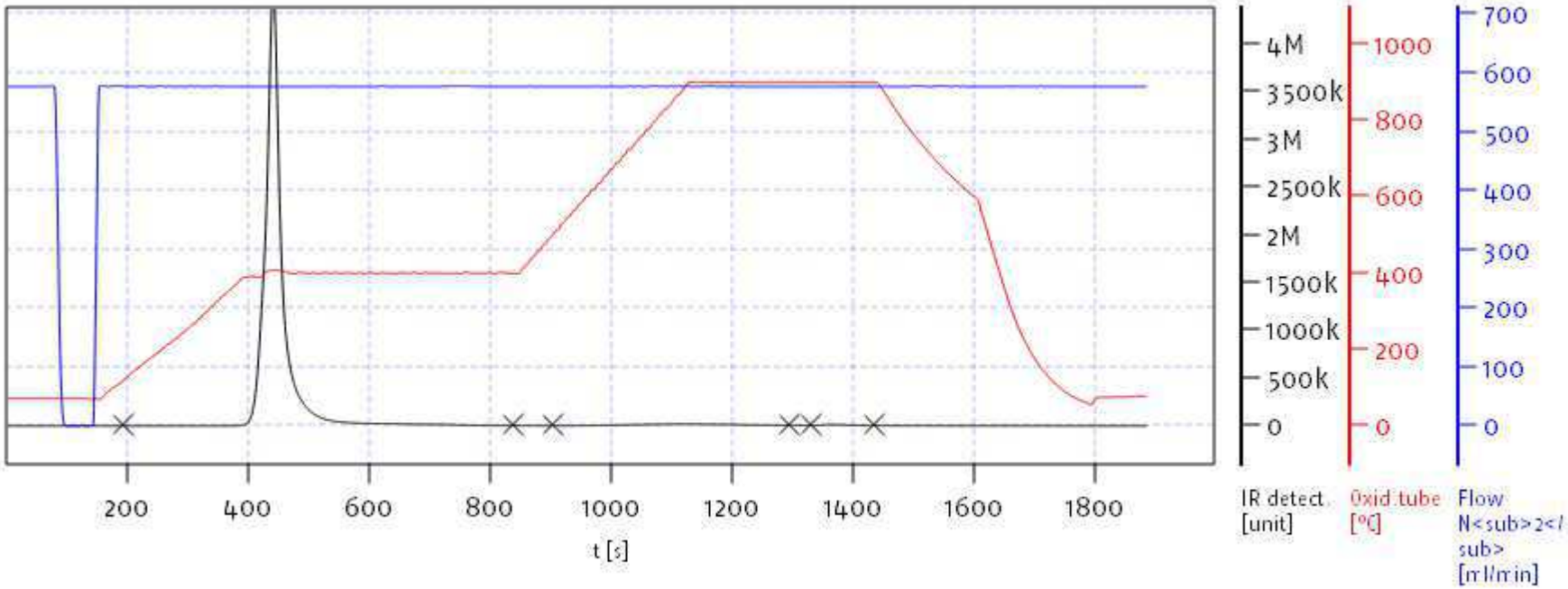
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	38	SEQ-ICV1	20.50		1.00	CARBON	8/25/2021 9:19 AM	47.154	1.091	48.245	bl	5 328 380	151 538	28 760	1.0733	1.0293



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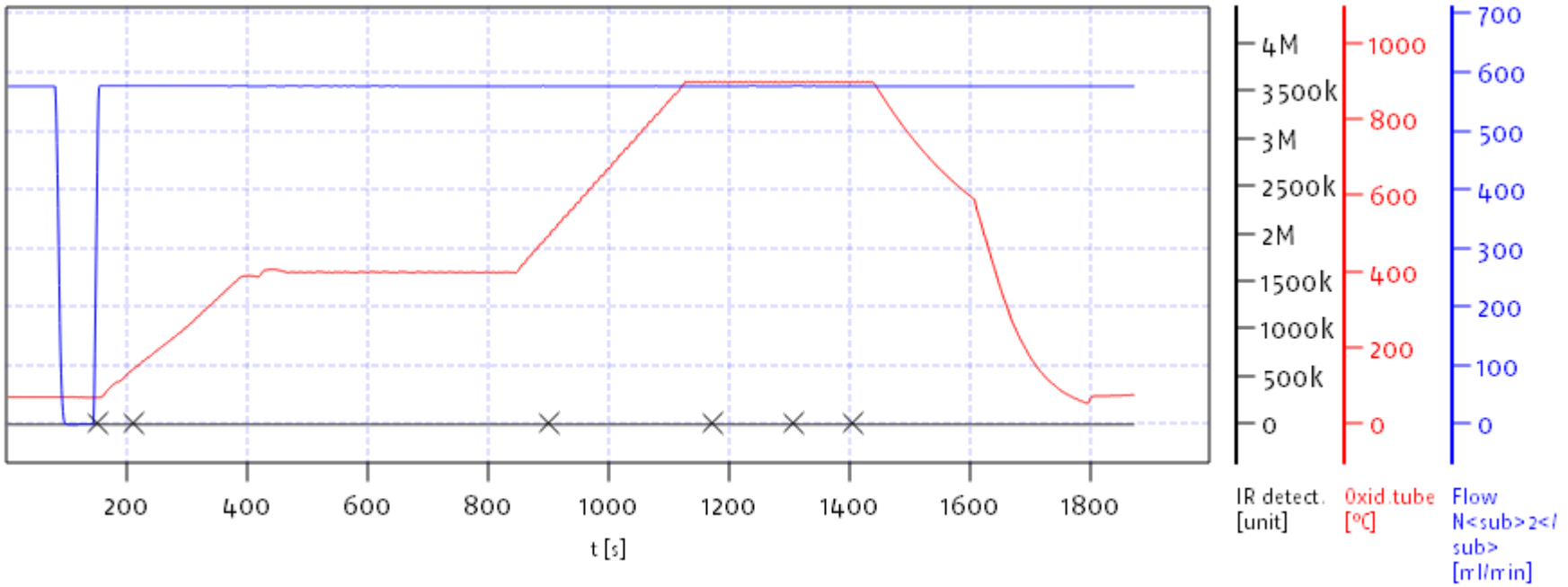
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	39	SEQ-ICB1	599.20		1.00	CARBON	8/25/2021 9:51 AM	0.000	0.000	0.000	bl,C1u,C3u,C2u	172	1 307	338	1.0733	1.0293



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ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0331	Instrument:	TOC Cube
		Calibration:	EH00065

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Initial Cal Check	SJH0331-ICV1	peData_08312021@1034-2	NA	08/25/21 16:08
Initial Cal Blank	SJH0331-ICB1	peData_08312021@1034-3	NA	08/25/21 16:40
Calibration Check	SJH0331-CCV1	peData_08312021@1034-4	NA	08/25/21 22:29
Calibration Blank	SJH0331-CCB1	peData_08312021@1034-4	NA	08/25/21 23:01
Calibration Check	SJH0331-CCV2	peData_08312021@1034-5	NA	08/26/21 04:48
Calibration Blank	SJH0331-CCB2	peData_08312021@1034-5	NA	08/26/21 05:20
Calibration Check	SJH0331-CCV3	peData_08312021@1034-6	NA	08/26/21 11:09
Calibration Blank	SJH0331-CCB3	peData_08312021@1034-7	NA	08/26/21 11:41
Calibration Check	SJH0331-CCV4	peData_08312021@1034-6	NA	08/26/21 17:29
Calibration Blank	SJH0331-CCB4	peData_08312021@1034-6	NA	08/26/21 18:01
Calibration Check	SJH0331-CCV5	peData_08312021@1034-1	NA	08/26/21 23:59
Calibration Blank	SJH0331-CCB5	peData_08312021@1034-1	NA	08/27/21 00:30
Calibration Check	SJH0331-CCV6	peData_08312021@1034-1	NA	08/27/21 06:16
Calibration Blank	SJH0331-CCB6	peData_08312021@1034-1	NA	08/27/21 06:47
Calibration Check	SJH0331-CCV7	peData_08312021@1034-2	NA	08/27/21 12:34
Calibration Blank	SJH0331-CCB7	peData_08312021@1034-2	NA	08/27/21 13:06
Calibration Check	SJH0331-CCV8	peData_08312021@1034-3	NA	08/27/21 18:53
Calibration Blank	SJH0331-CCB8	peData_08312021@1034-3	NA	08/27/21 19:24
Calibration Check	SJH0331-CCV9	peData_08312021@1034-5	NA	08/28/21 01:09
Calibration Blank	SJH0331-CCB9	peData_08312021@1034-5	NA	08/28/21 01:40
Calibration Check	SJH0331-CCVA	peData_08312021@1034-6	NA	08/28/21 07:24
Calibration Blank	SJH0331-CCBA	peData_08312021@1034-6	NA	08/28/21 07:56
Calibration Check	SJH0331-CCVB	peData_08312021@1034-7	NA	08/28/21 13:42
Calibration Blank	SJH0331-CCBB	peData_08312021@1034-7	NA	08/28/21 14:13
Calibration Check	SJH0331-CCVC	peData_08312021@1034-6	NA	08/28/21 19:57
Calibration Blank	SJH0331-CCBC	peData_08312021@1034-6	NA	08/28/21 20:28
Calibration Check	SJH0331-CCVD	peData_08312021@1034-1	NA	08/29/21 02:10
Calibration Blank	SJH0331-CCBD	peData_08312021@1034-1	NA	08/29/21 02:41
Calibration Check	SJH0331-CCVE	peData_08312021@1034-2	NA	08/29/21 08:25
Calibration Blank	SJH0331-CCBE	peData_08312021@1034-2	NA	08/29/21 08:56

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

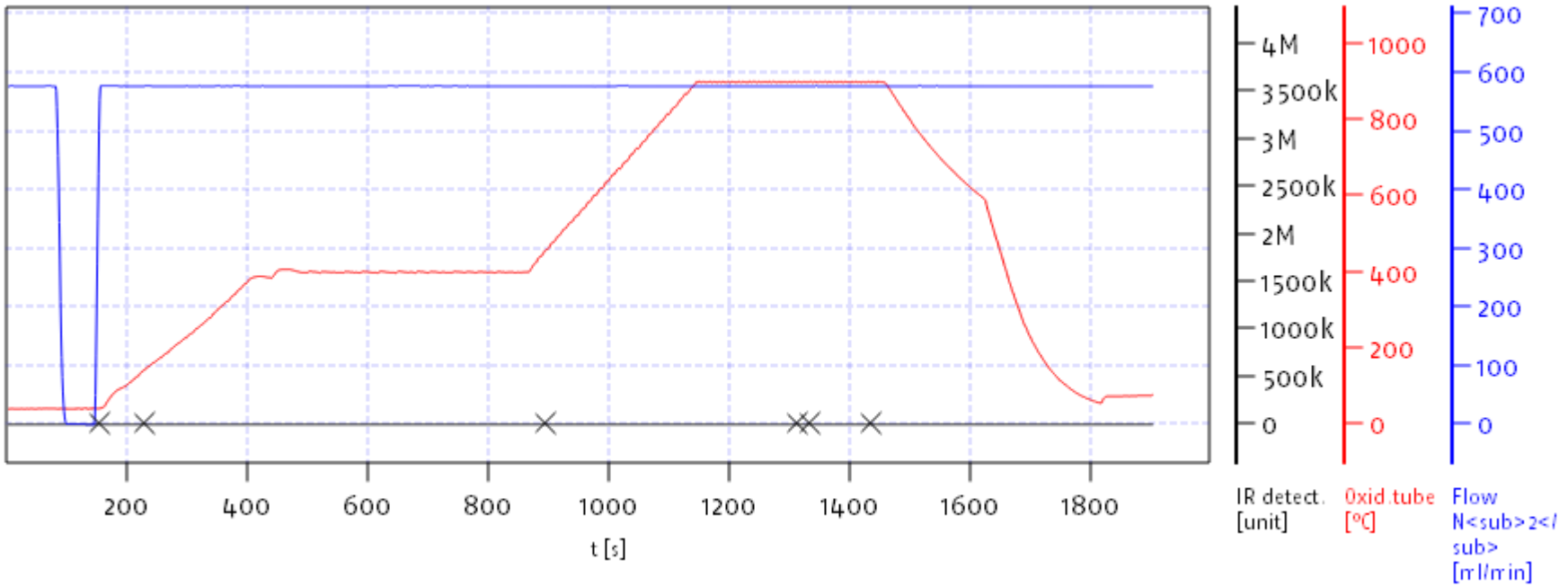
Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0331	Instrument:	TOC Cube
		Calibration:	EH00065

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Calibration Check	SJH0331-CCVF	peData_08312021@1034-3	NA	08/29/21 14:41
Calibration Blank	SJH0331-CCBF	peData_08312021@1034-3	NA	08/29/21 15:13
Calibration Check	SJH0331-CCVG	peData_08312021@1034-4	NA	08/29/21 20:58
Calibration Blank	SJH0331-CCBG	peData_08312021@1034-4	NA	08/29/21 21:29
Calibration Check	SJH0331-CCVH	peData_08312021@1034-5	NA	08/30/21 03:12
Calibration Blank	SJH0331-CCBH	peData_08312021@1034-5	NA	08/30/21 03:43
Calibration Check	SJH0331-CCVI	peData_08312021@1034-7	NA	08/30/21 09:27
Calibration Blank	SJH0331-CCBI	peData_08312021@1034-7	NA	08/30/21 09:59
LDW21-IT694B	21G0303-02RE2	peData_08312021@1034-7	Solid	08/30/21 13:41
Calibration Check	SJH0331-CCVJ	peData_08312021@1034-(	NA	08/30/21 15:45
Calibration Blank	SJH0331-CCBJ	peData_08312021@1034-(	NA	08/30/21 16:16

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	39	BLANK	1.00		1.00	CARBON	8/25/2021 2:33 PM	0.000	0.000	0.000	bl	269	2 397	1 039	1.0000	1.0000



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Access: soliTOC superuser

Date: Tue Aug 31 14:32:59 2021

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Serial No: 0300.181017
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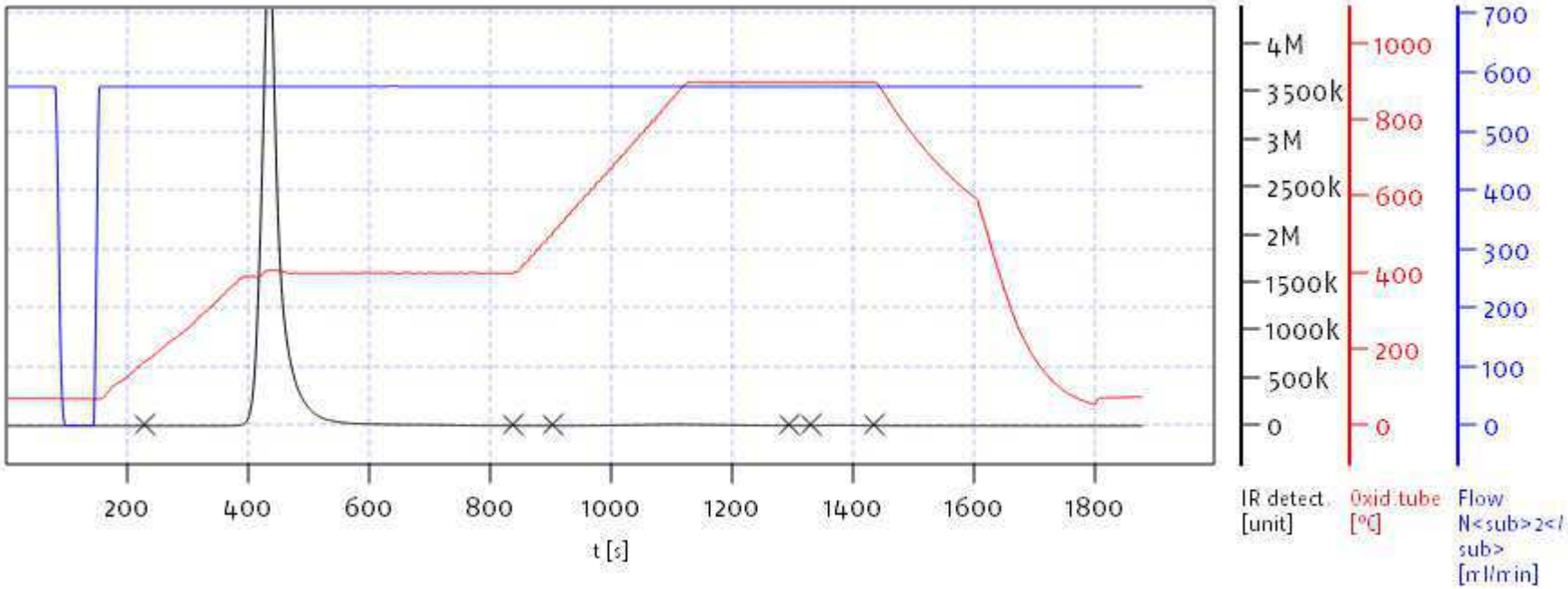
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	40	Dfactor	23.10		1.00	CARBON	8/25/2021 3:05 PM	44.489	0.729	45.218	bl	6 305 580	111 318	17 655	0.9659	1.0000



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Analyst: BF

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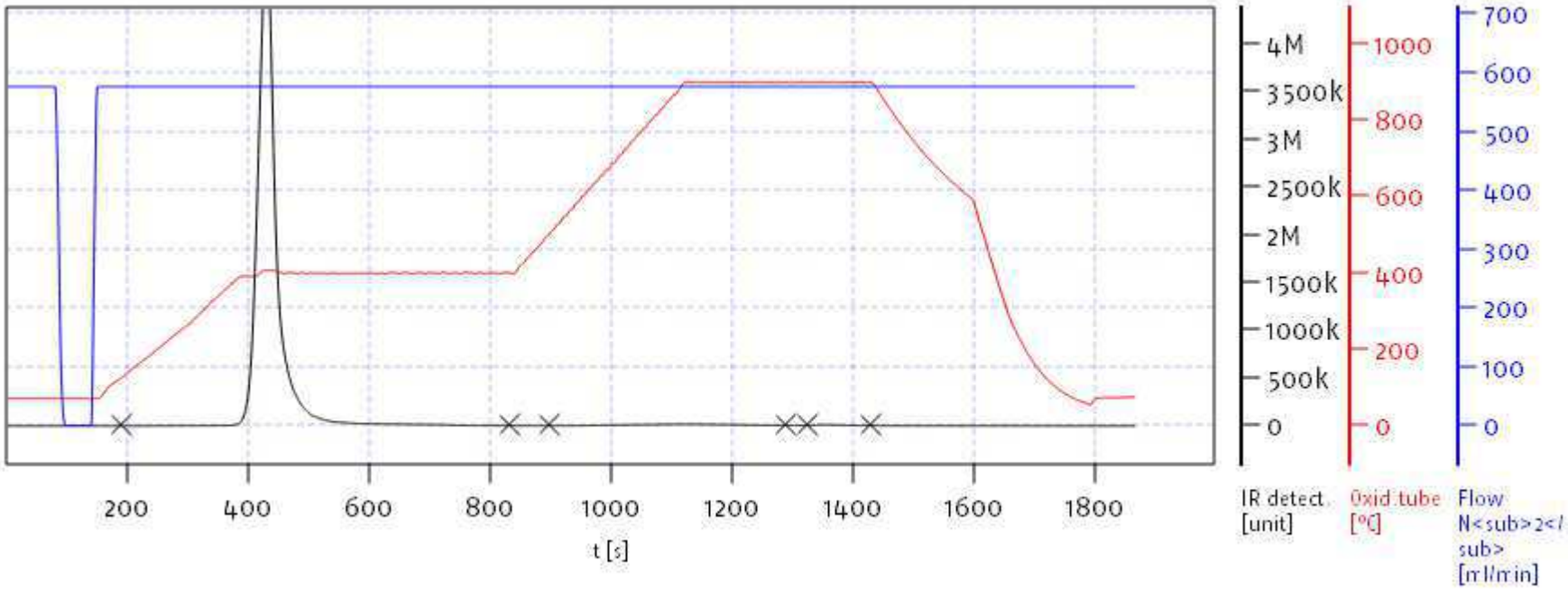
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	41	Dfactor	24.40		1.00	CARBON	8/25/2021 3:36 PM	44.543	0.898	45.441	bl	6 680 720	141 475	25 730	0.9629	1.0000



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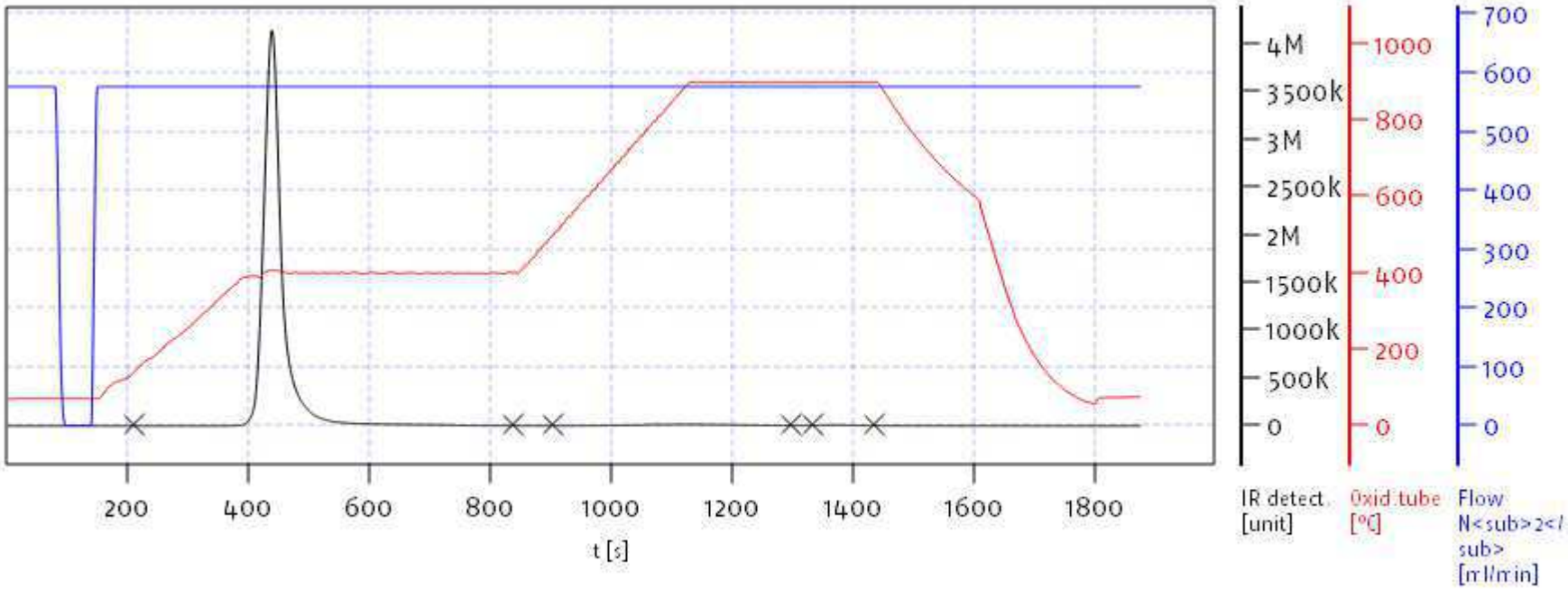
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	42	SJH0331-ICV1	20.10		1.00	CARBON	8/25/2021 4:08 PM	43.884	0.897	44.781	bl	5 416 100	118 414	22 631	0.9644	1.0000



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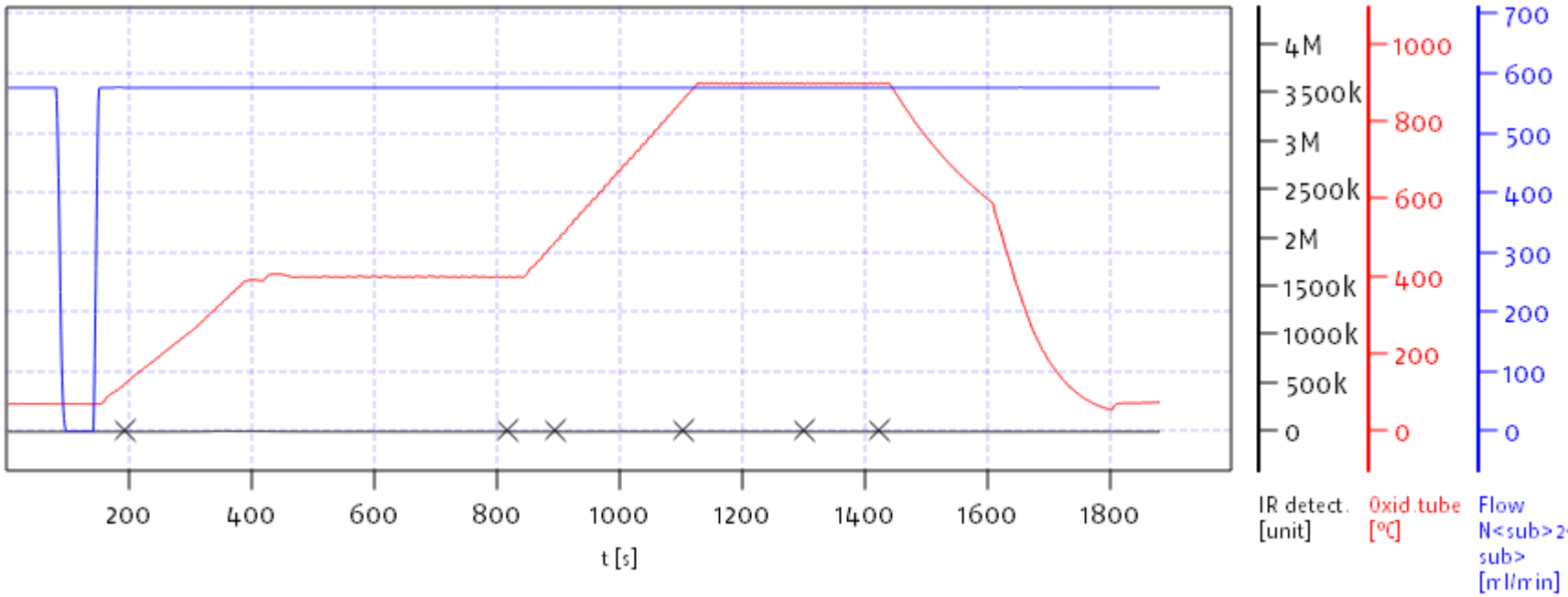
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	43	SJH0331-ICB1	554.10		1.00	CARBON	8/25/2021 4:40 PM	0.003	0.000	0.003	bl,C3u,C2u	23 343	1 885	805	0.9644	1.0000



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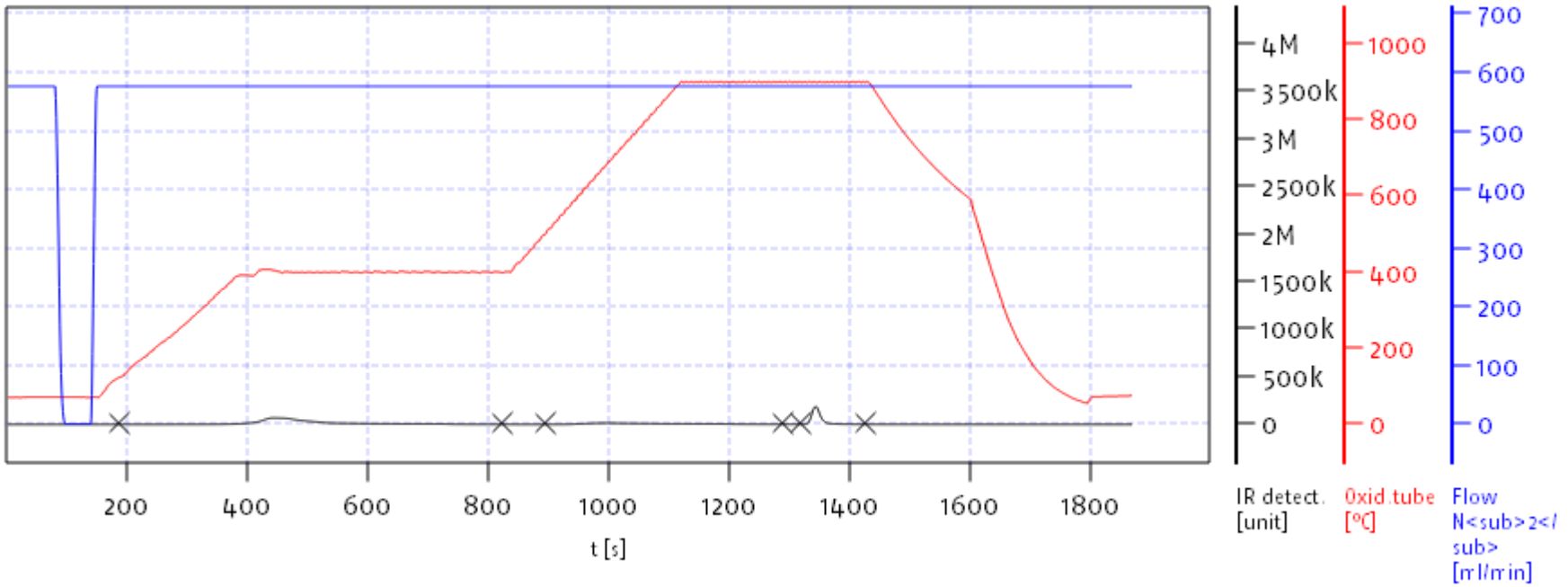
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	44	21G0313-17	621.60		1.00	CARBON	8/25/2021 5:12 PM	0.103	0.022	0.125	bl	287 974	92 124	123 678	0.9644	1.0000



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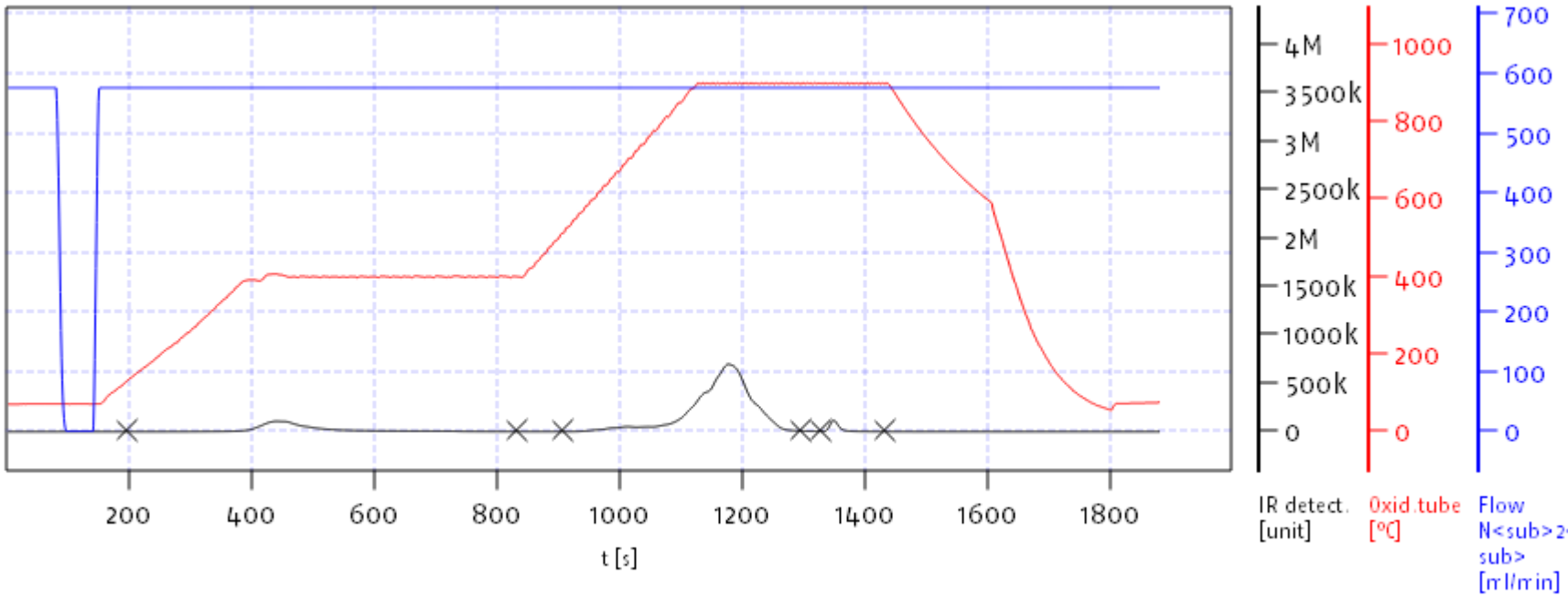
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	45	21G0313-18	364.50		1.00	CARBON	8/25/2021 5:43 PM	0.210	1.195	1.405	bl	412 259	2 590 880	78 972	0.9644	1.0000



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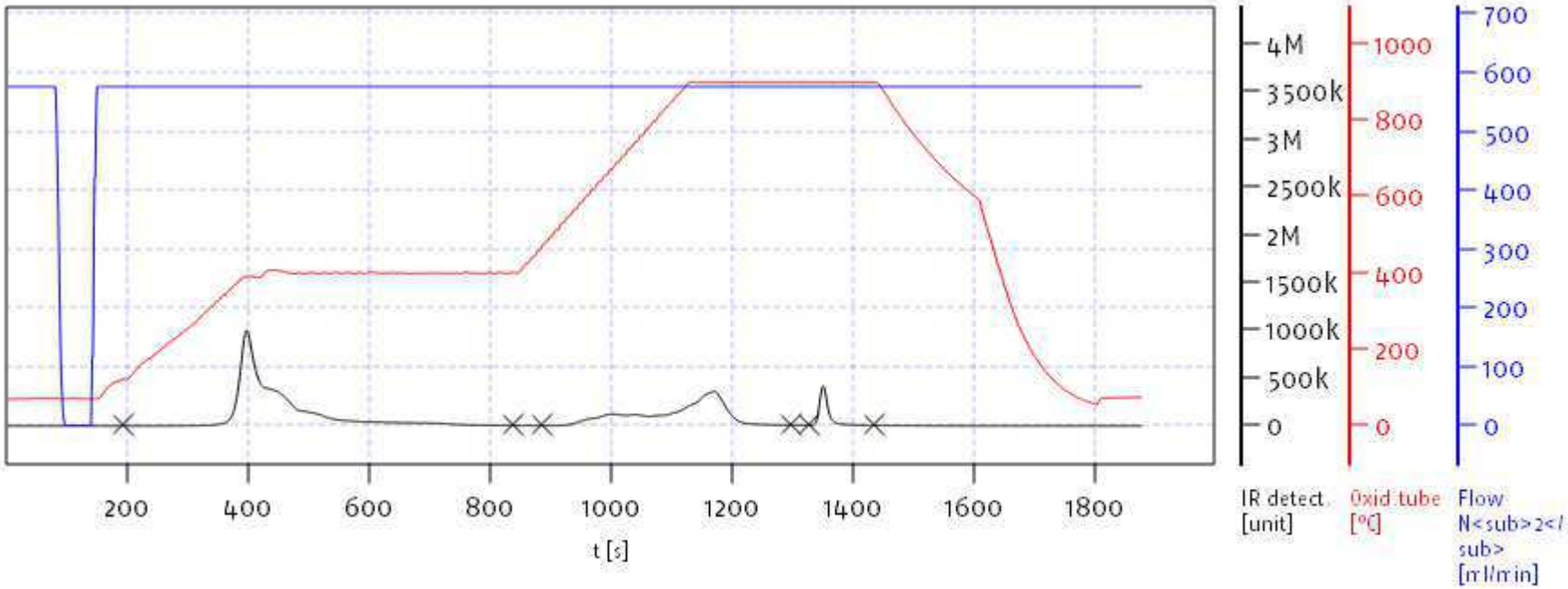
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	46	21G0322-05	555.60		1.00	CARBON	8/25/2021 6:15 PM	0.794	0.479	1.274	bl	2 451 470	1 589 110	272 309	0.9644	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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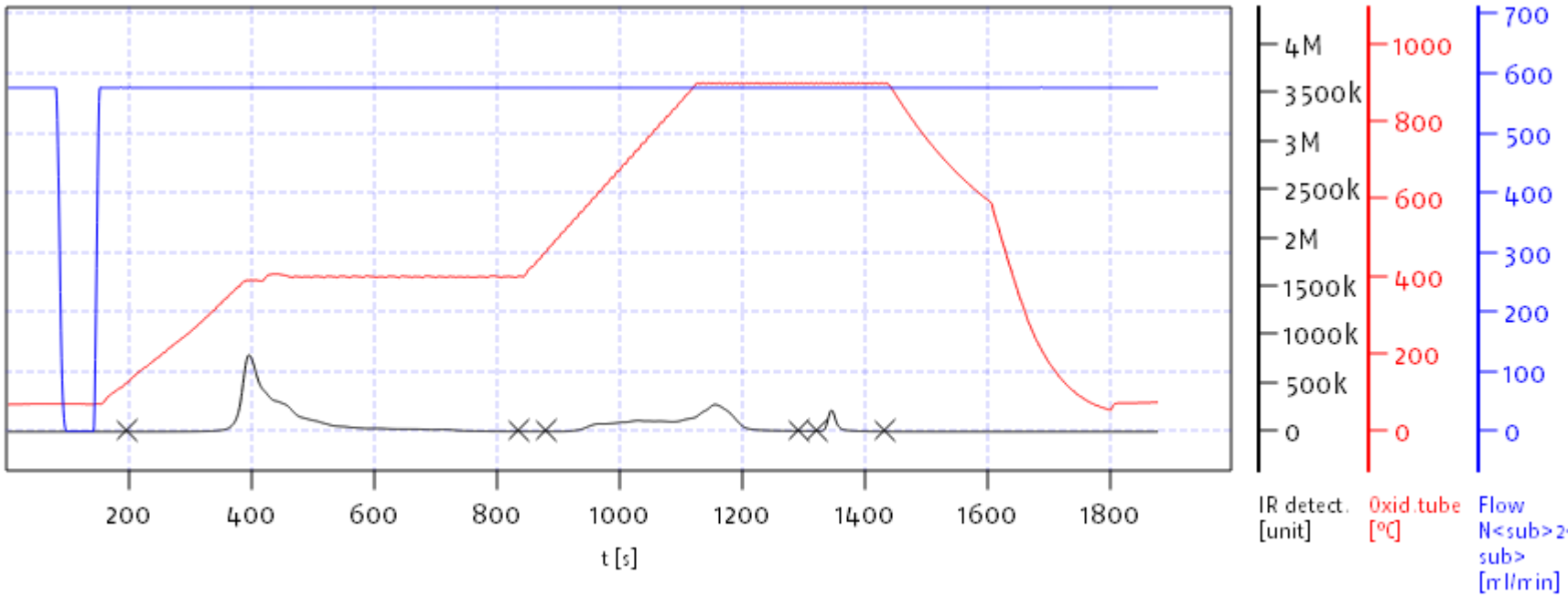
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	47	BJH0434-DUP3	525.50		1.00	CARBON	8/25/2021 6:47 PM	0.682	0.425	1.107	bl	2 074 920	1 332 920	144 038	0.9644	1.0000



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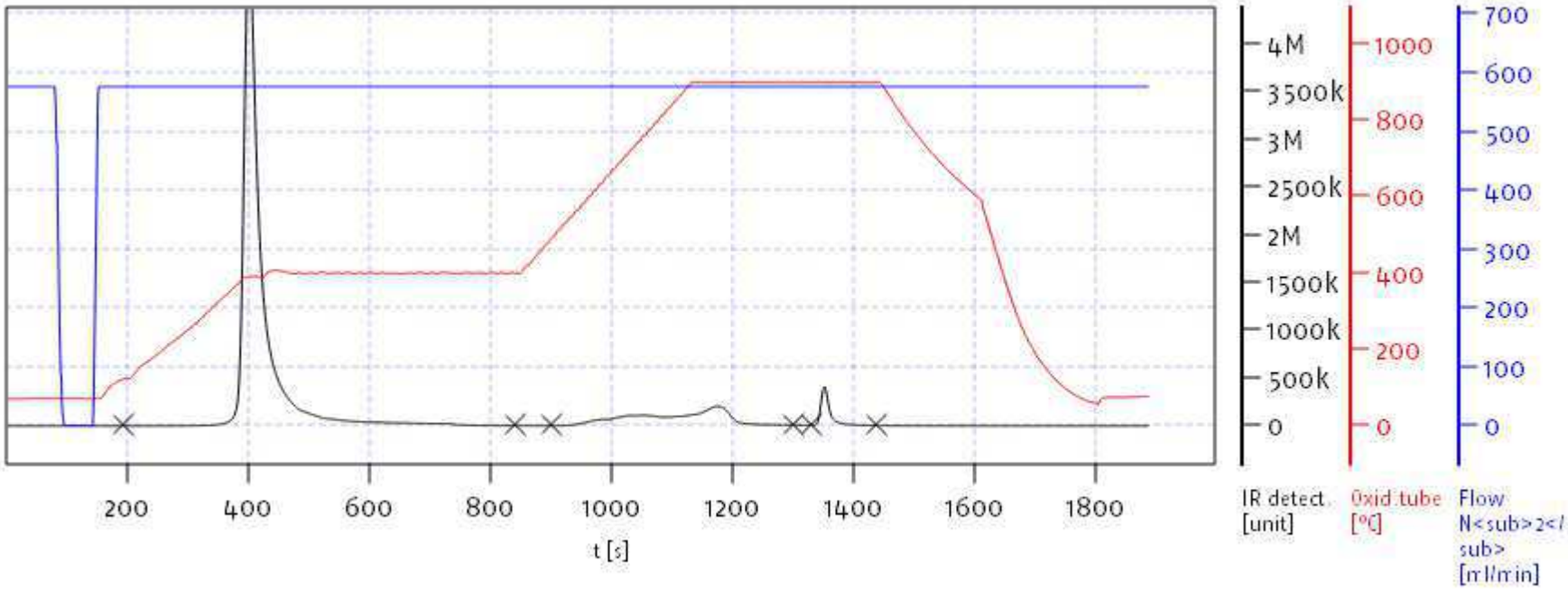
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	48	BJH0434-MS3	537.50	0.0145	1.00	CARBON	8/25/2021 7:19 PM	1.970	0.338	2.309	bl	6 246 020	1 088 690	269 680	0.9644	1.0000



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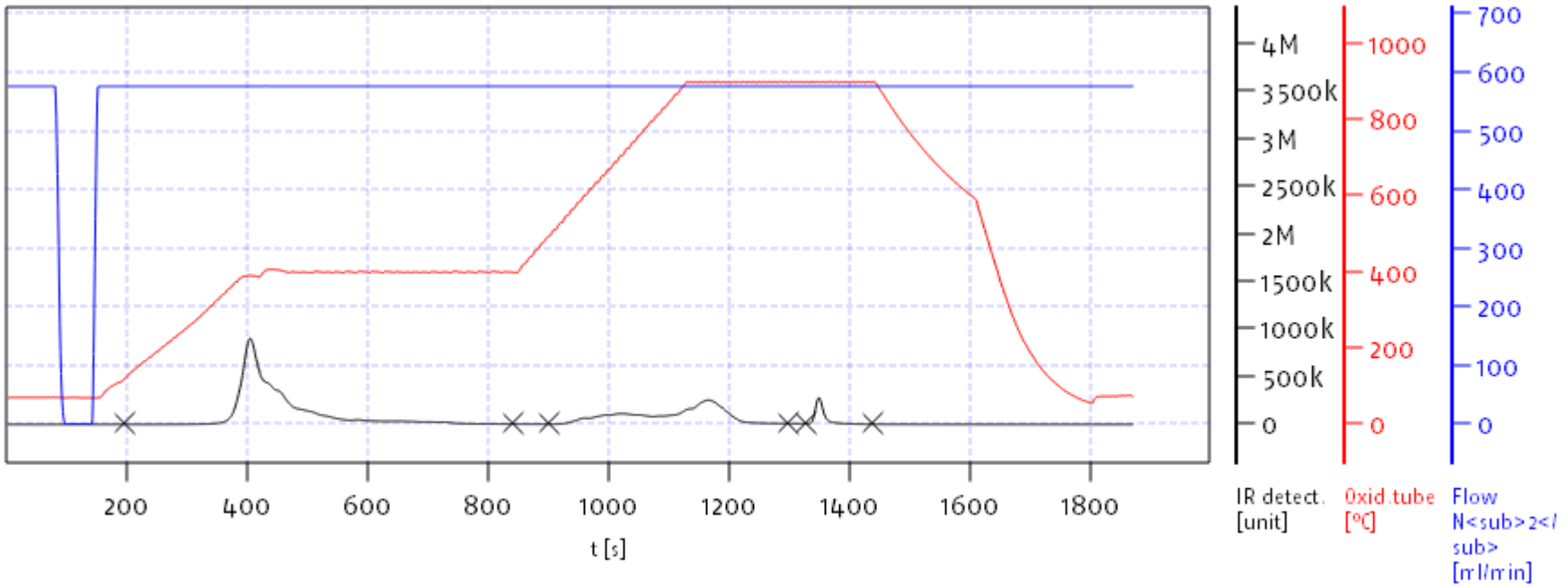
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	49	21G0322-06	586.50		1.00	CARBON	8/25/2021 7:51 PM	0.703	0.368	1.071	bl	2 364 740	1 288 930	184 548	0.9644	1.0000



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Balance: BAL3
Analyst: BF

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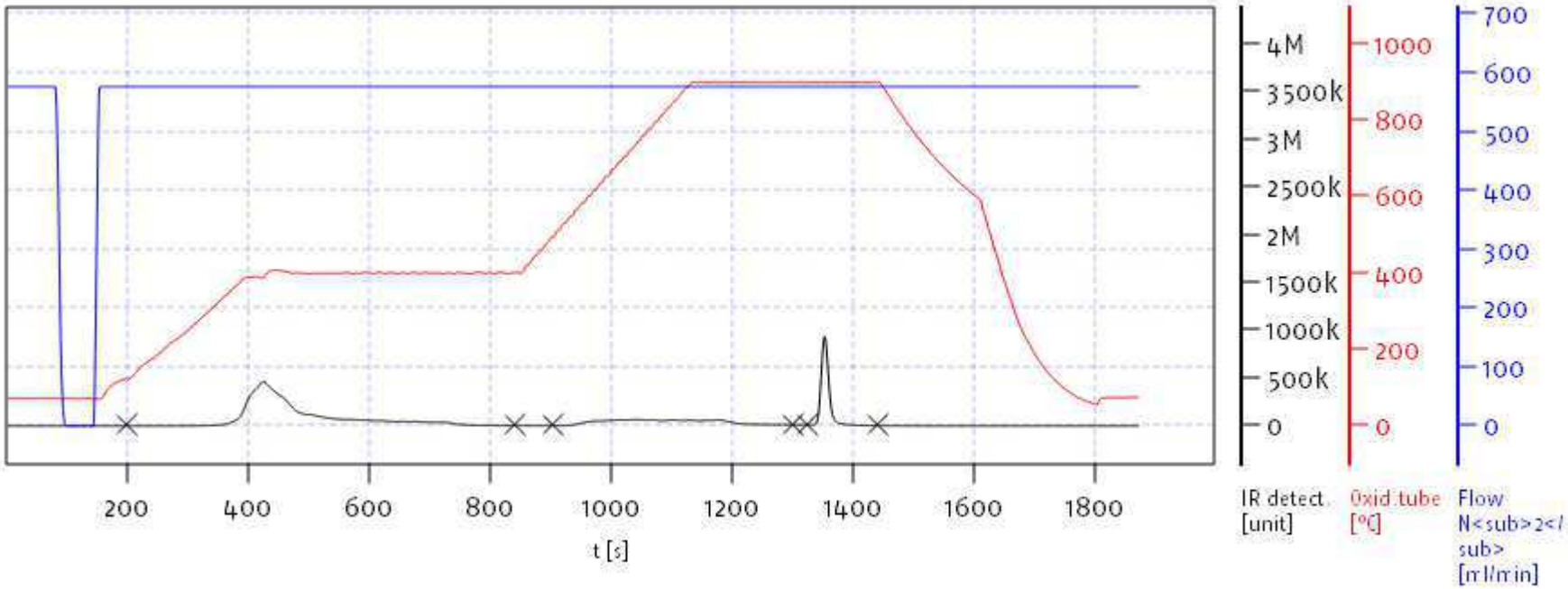
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	50	21G0322-07	645.40		1.00	CARBON	8/25/2021 8:22 PM	0.587	0.155	0.742	bl	1 802 760	603 747	527 933	0.9644	1.0000



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Analyst: BF

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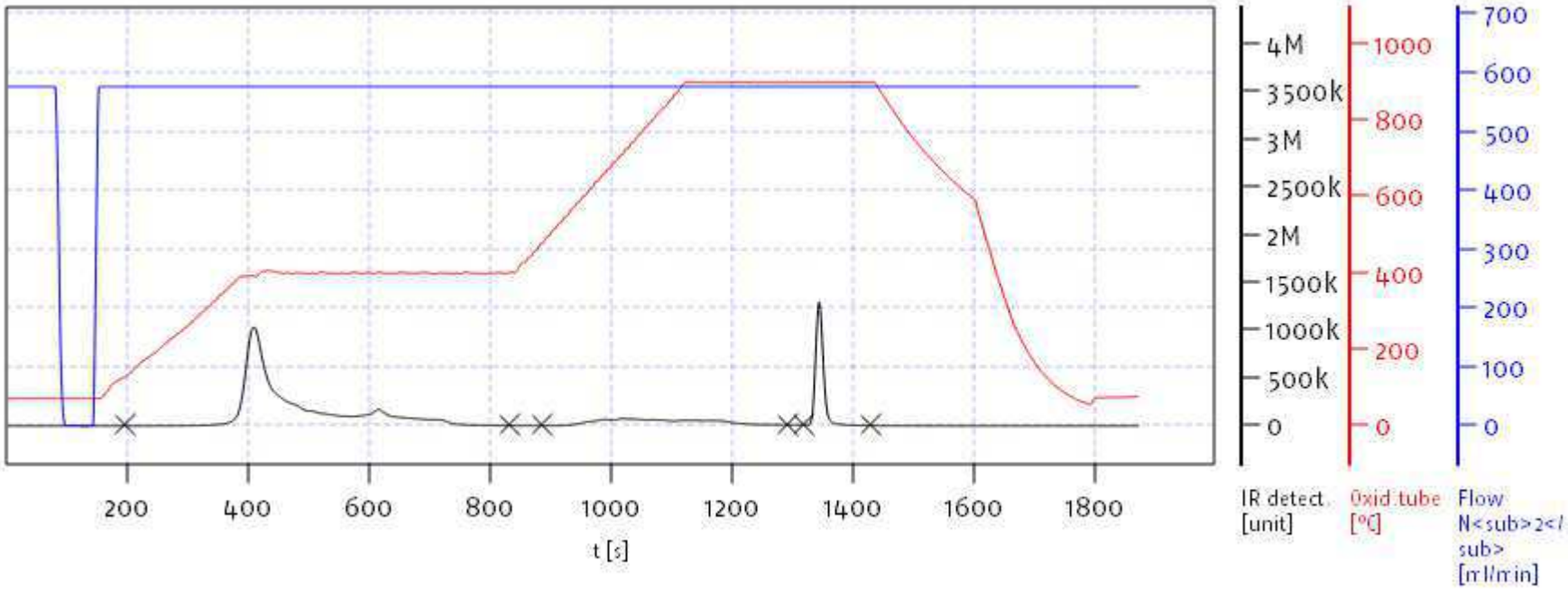
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	51	21G0322-08	526.80		1.00	CARBON	8/25/2021 8:54 PM	1.132	0.194	1.327	bl	2 929 100	618 360	729 749	0.9644	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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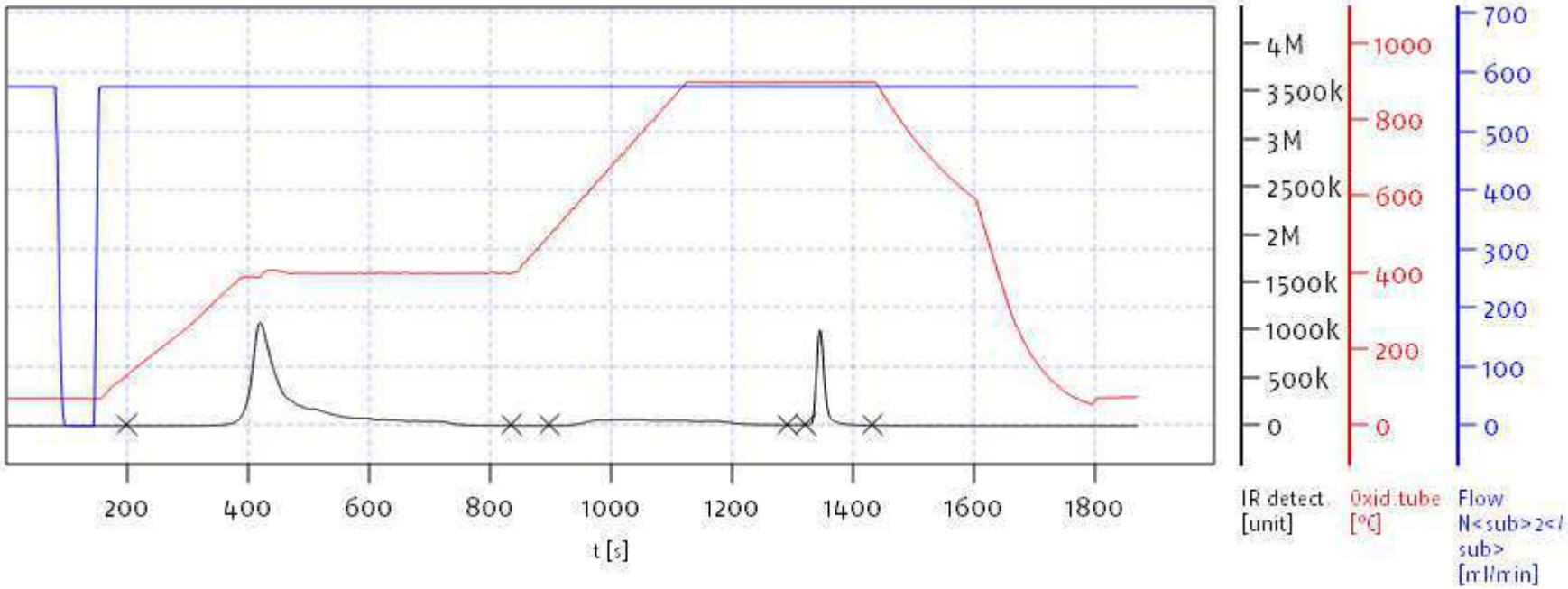
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	52	21G0322-09	525.60		1.00	CARBON	8/25/2021 9:26 PM	1.042	0.183	1.225	bl	2 762 510	580 911	600 994	0.9644	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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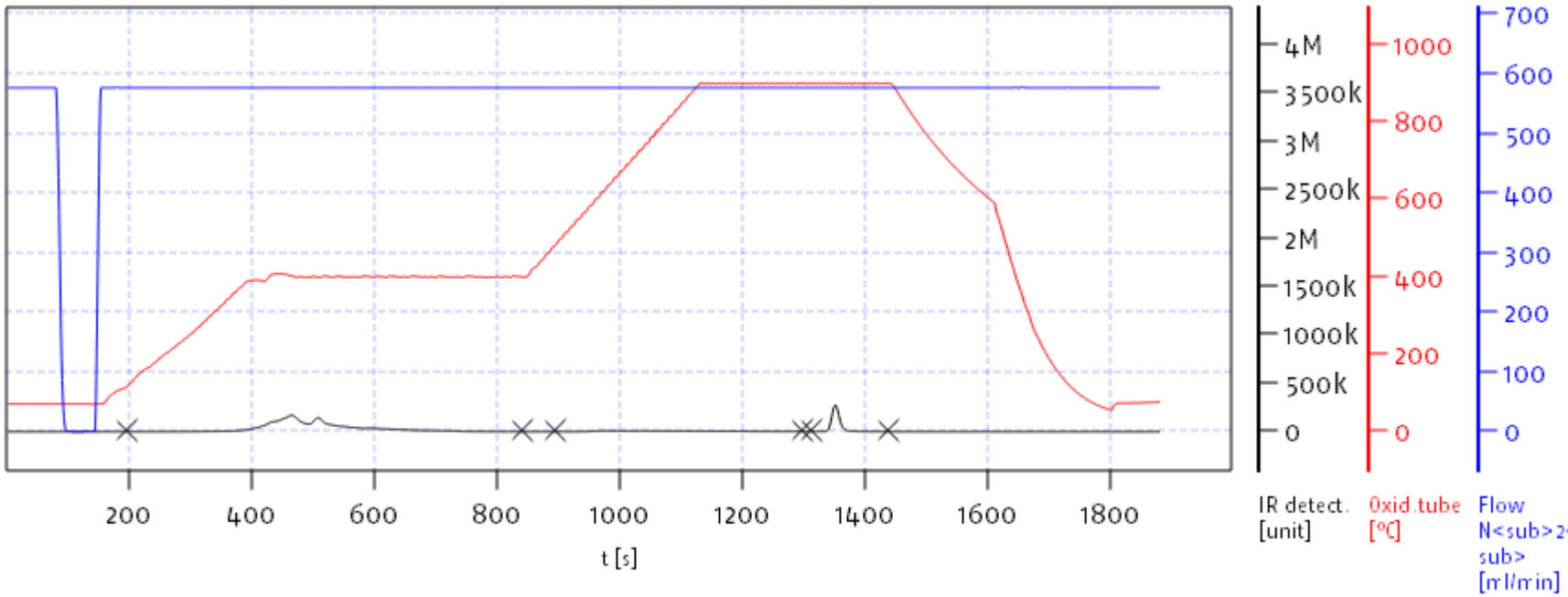
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	53	21G0330-01	587.30		1.00	CARBON	8/25/2021 9:57 PM	0.242	0.018	0.260	bl	734 950	73 410	156 753	0.9644	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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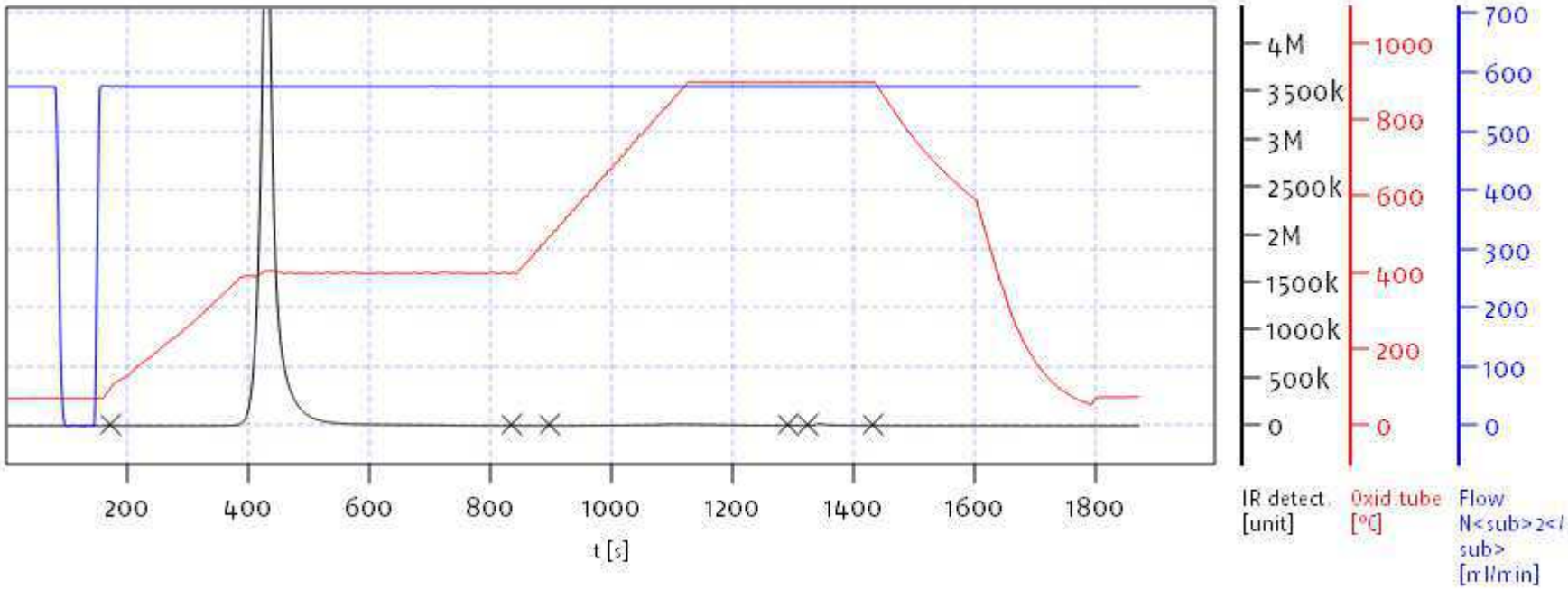
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	54	SJH0331-CCV1	20.90		1.00	CARBON	8/25/2021 10:29 PM	43.755	0.830	44.585	bl	5 610 790	114 398	26 780	0.9644	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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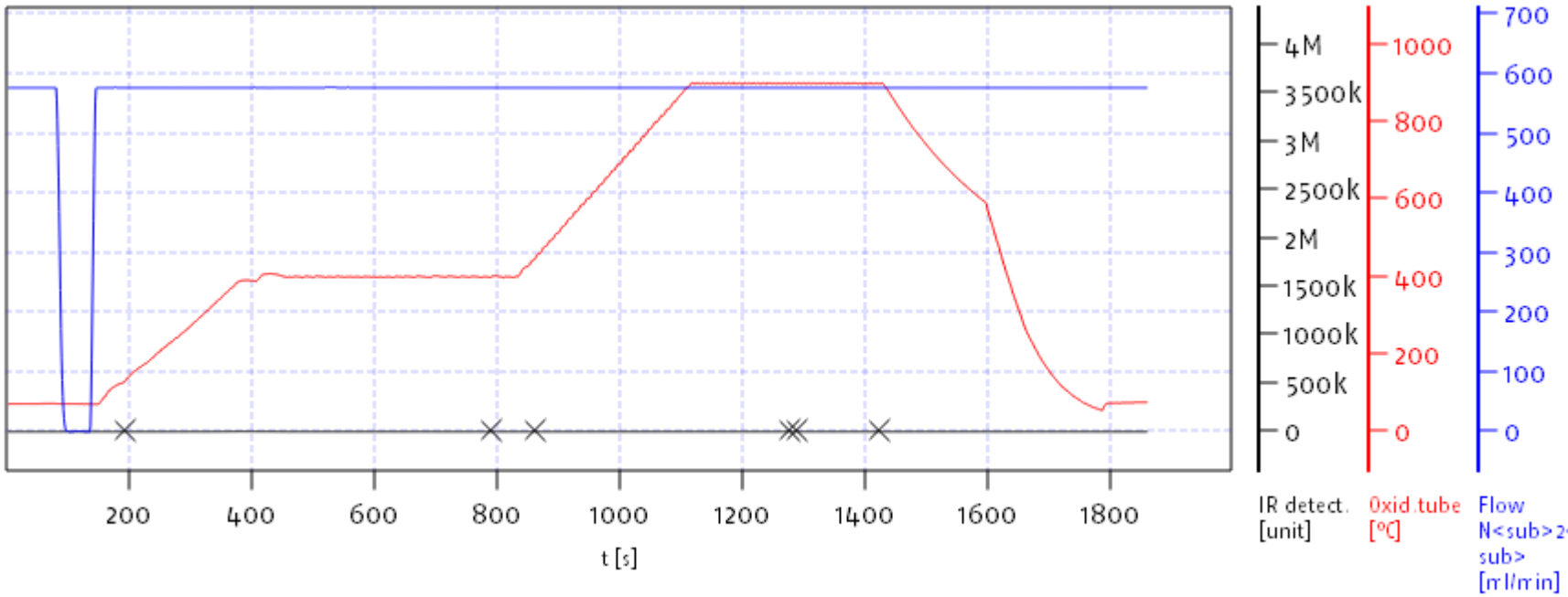
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	55	SJH0331-CCB1	539.70		1.00	CARBON	8/25/2021 11:01 PM	0.000	0.000	0.000	bl,C3u,C2u	8 568	654	96	0.9644	1.0000



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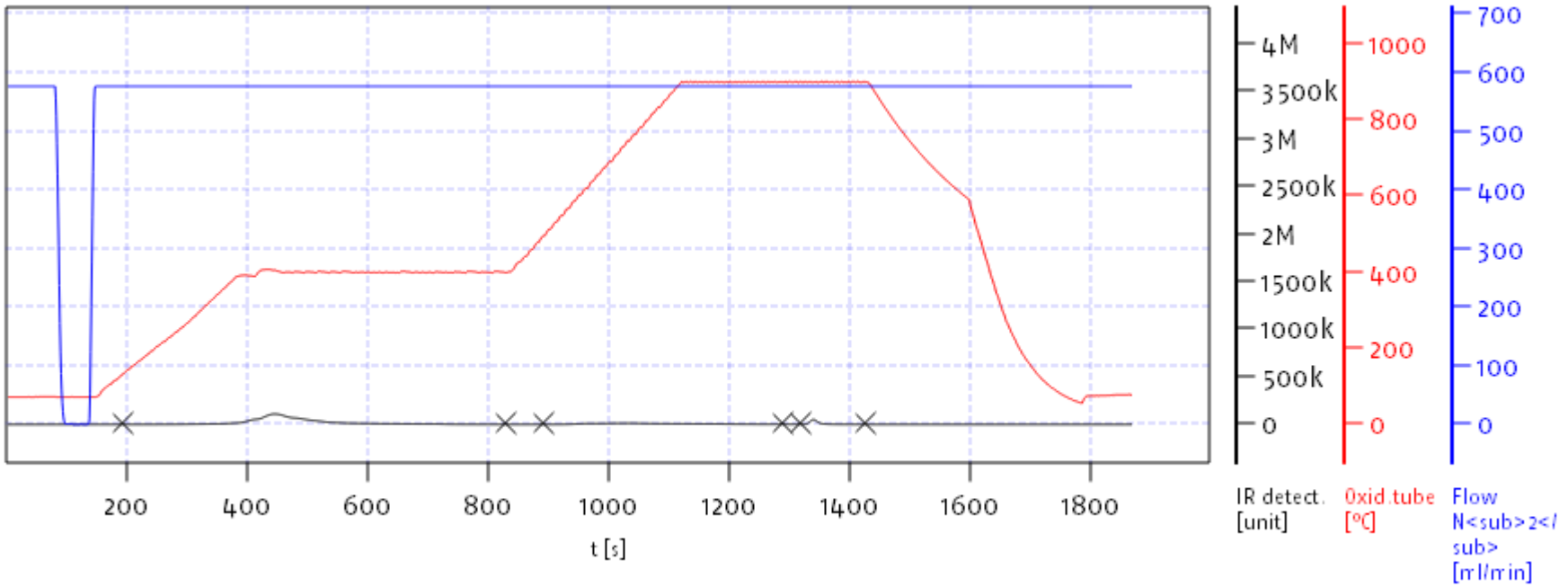
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	56	BJH0434-DUP4	597.30		1.00	CARBON	8/25/2021 11:32 PM	0.120	0.021	0.141	bl	430 799	87 095	32 284	0.9644	1.0000



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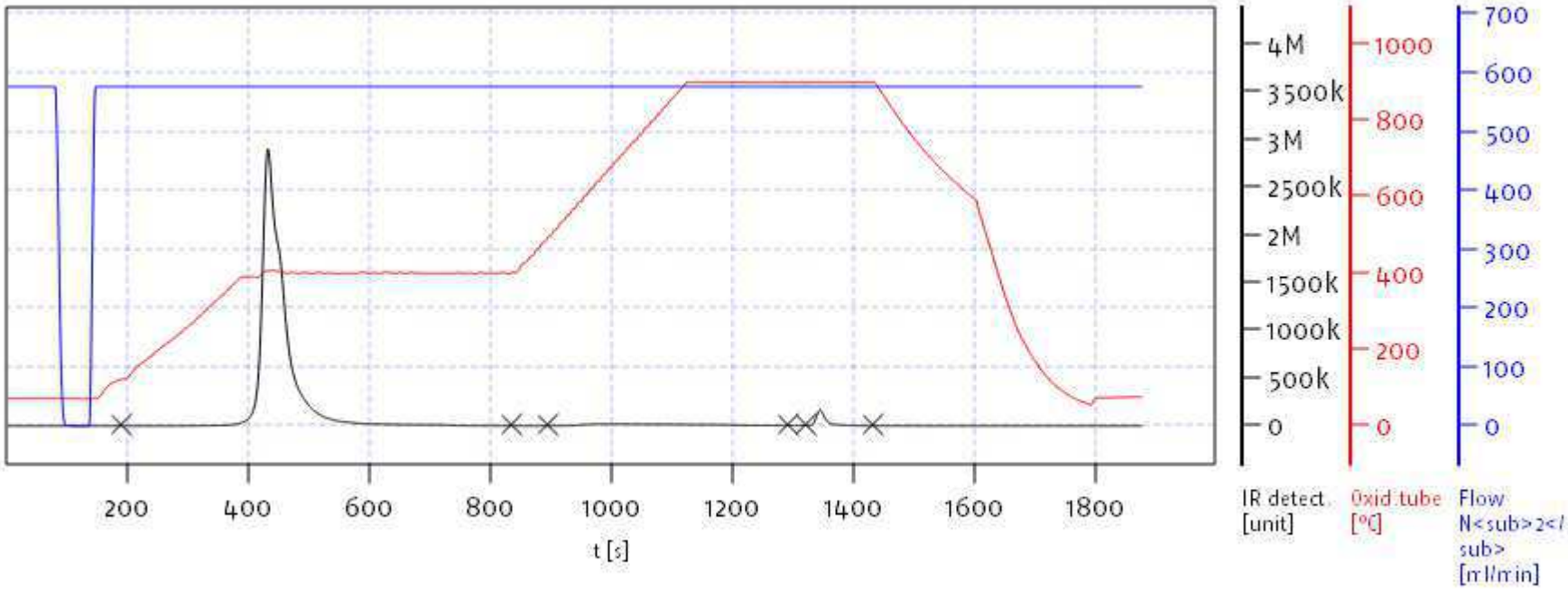
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	57	BJH0434-MS4	640.80	0.0128	1.00	CARBON	8/26/2021 12:04 AM	1.164	0.041	1.205	bl	4 483 710	165 615	115 595	0.9644	1.0000



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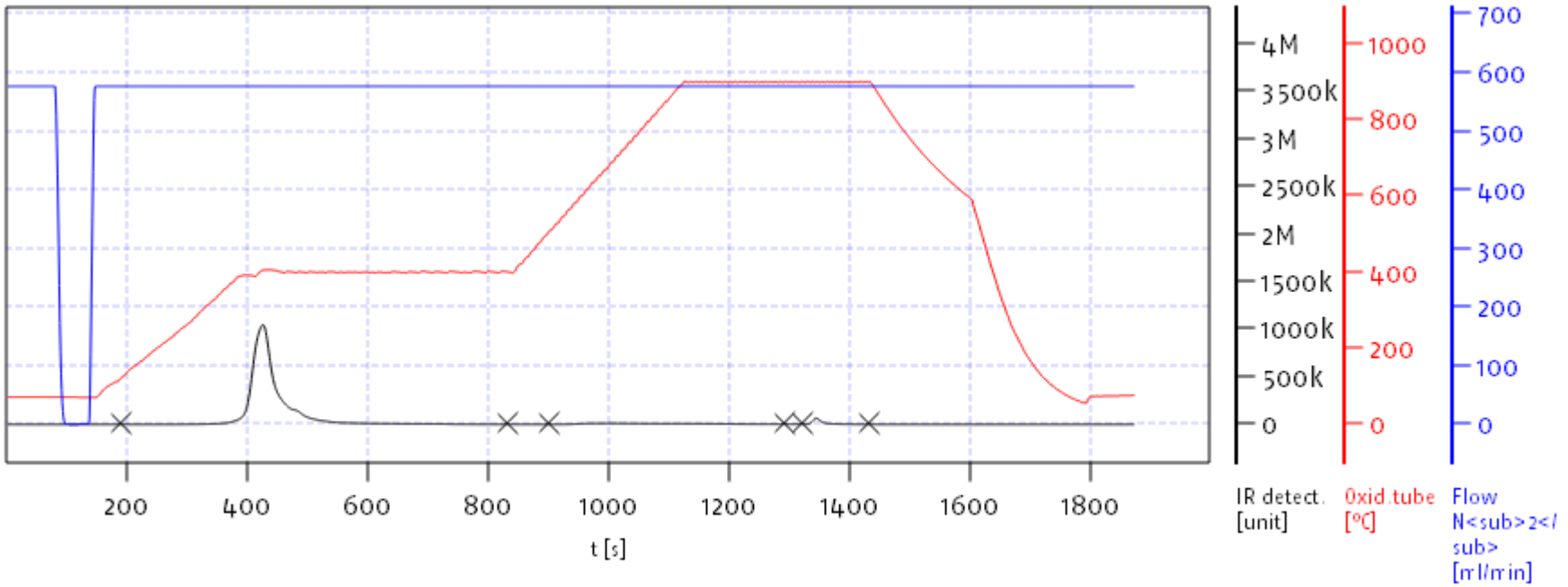
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	58	21G0330-02	694.00		1.00	CARBON	8/26/2021 12:36 AM	0.444	0.021	0.465	bl	1 867 910	96 006	47 239	0.9644	1.0000



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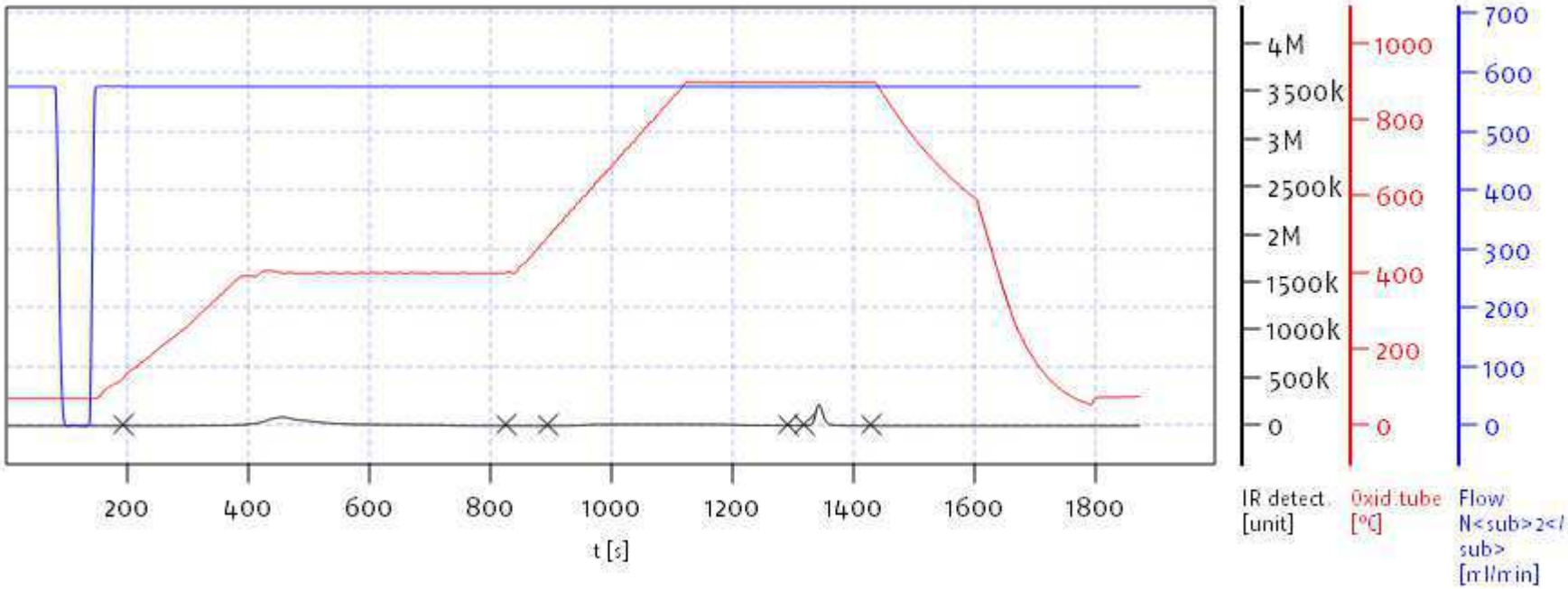
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	59	21G0330-03	566.50		1.00	CARBON	8/26/2021 1:07 AM	0.147	0.042	0.189	bl	400 378	151 075	129 909	0.9644	1.0000



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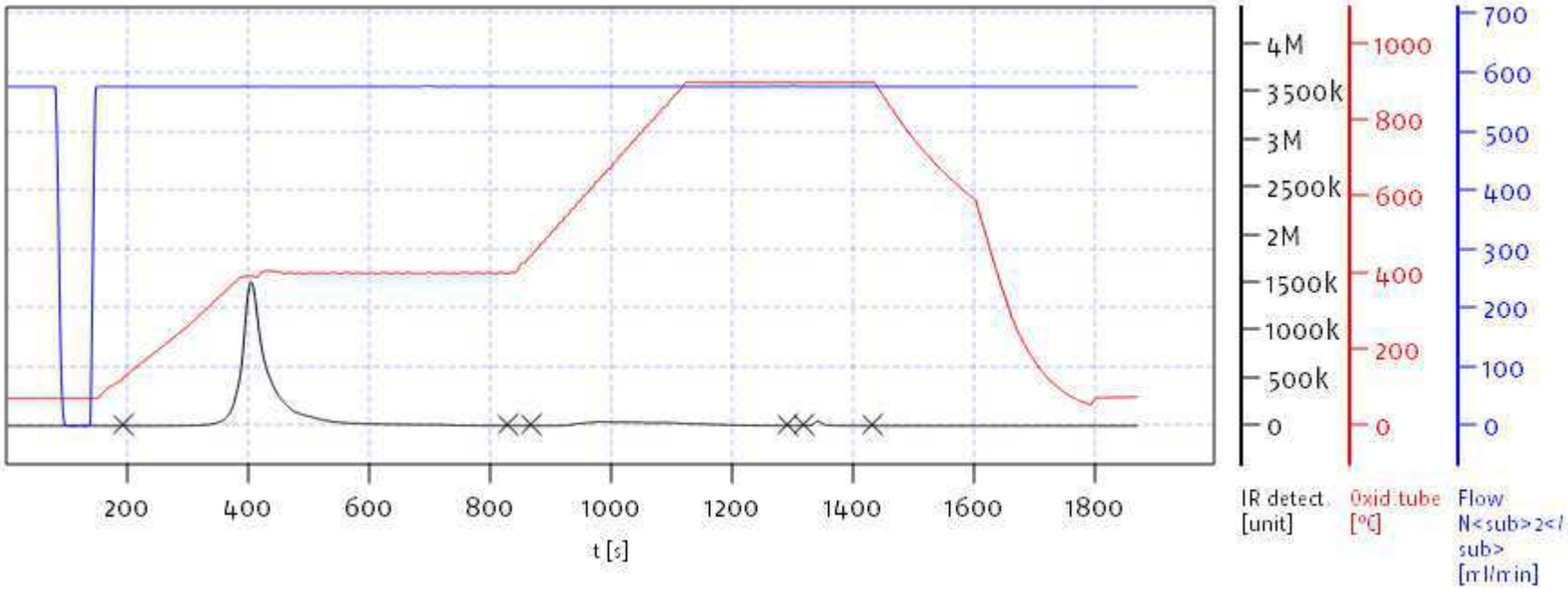
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	60	21H0072-13	522.70		1.00	CARBON	8/26/2021 1:39 AM	0.911	0.094	1.005	bl	2 912 900	303 233	33 518	0.9644	1.0000



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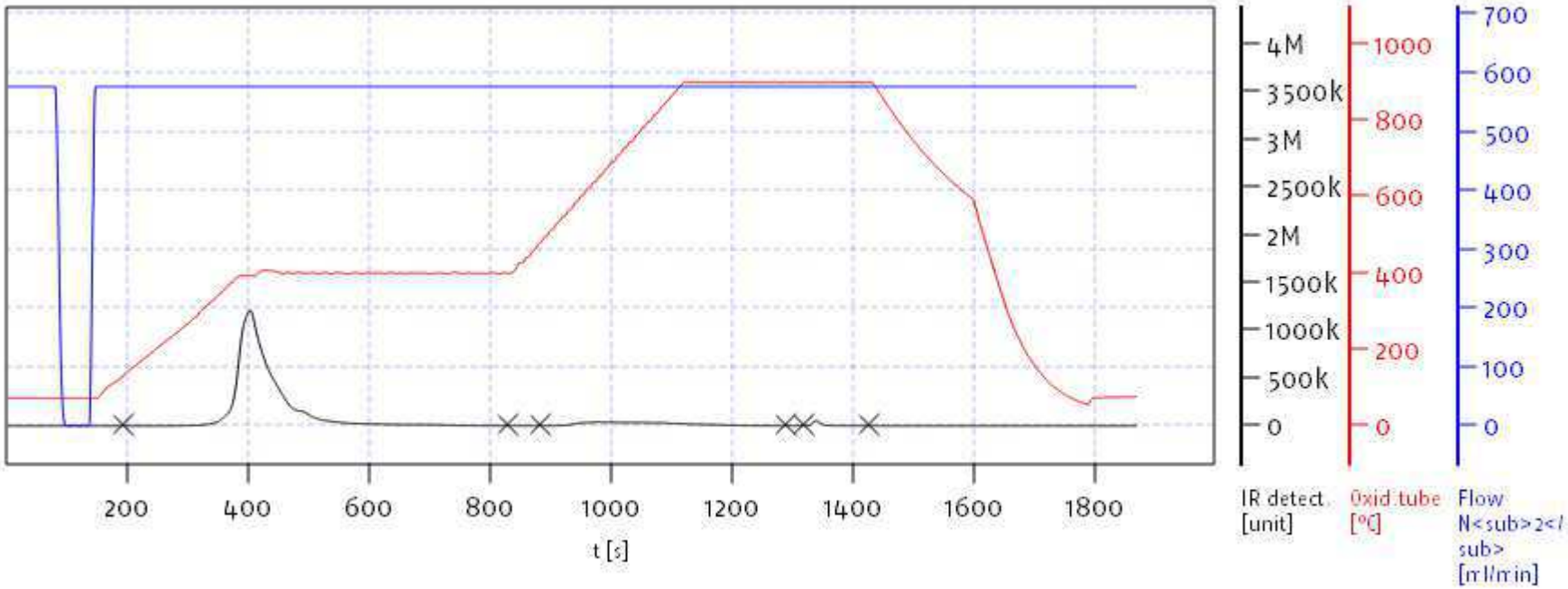
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	61	BJH0434-DUP1	541.00		1.00	CARBON	8/26/2021 2:11 AM	0.899	0.085	0.984	bl	2 974 090	282 649	34 924	0.9644	1.0000



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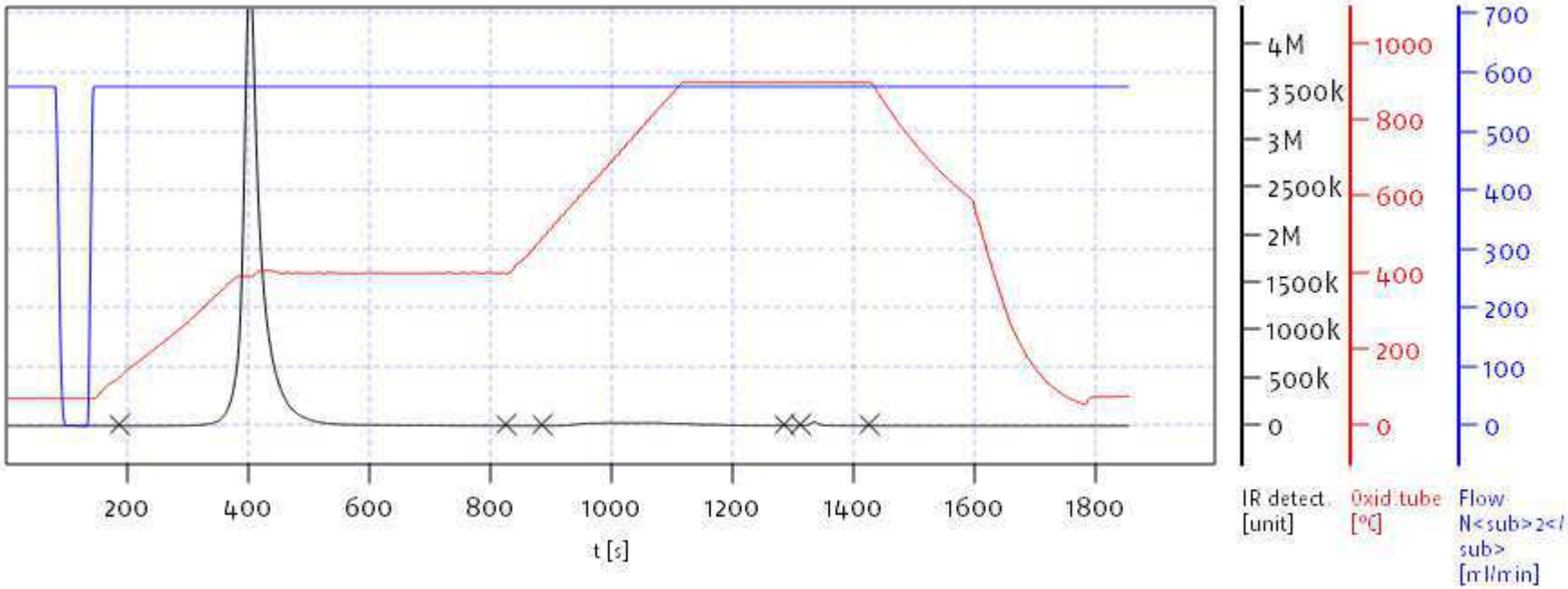
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	62	BJH0434-MS1	522.80	0.0110	1.00	CARBON	8/26/2021 2:42 AM	1.895	0.075	1.970	bl	6 077 010	242 912	29 009	0.9644	1.0000



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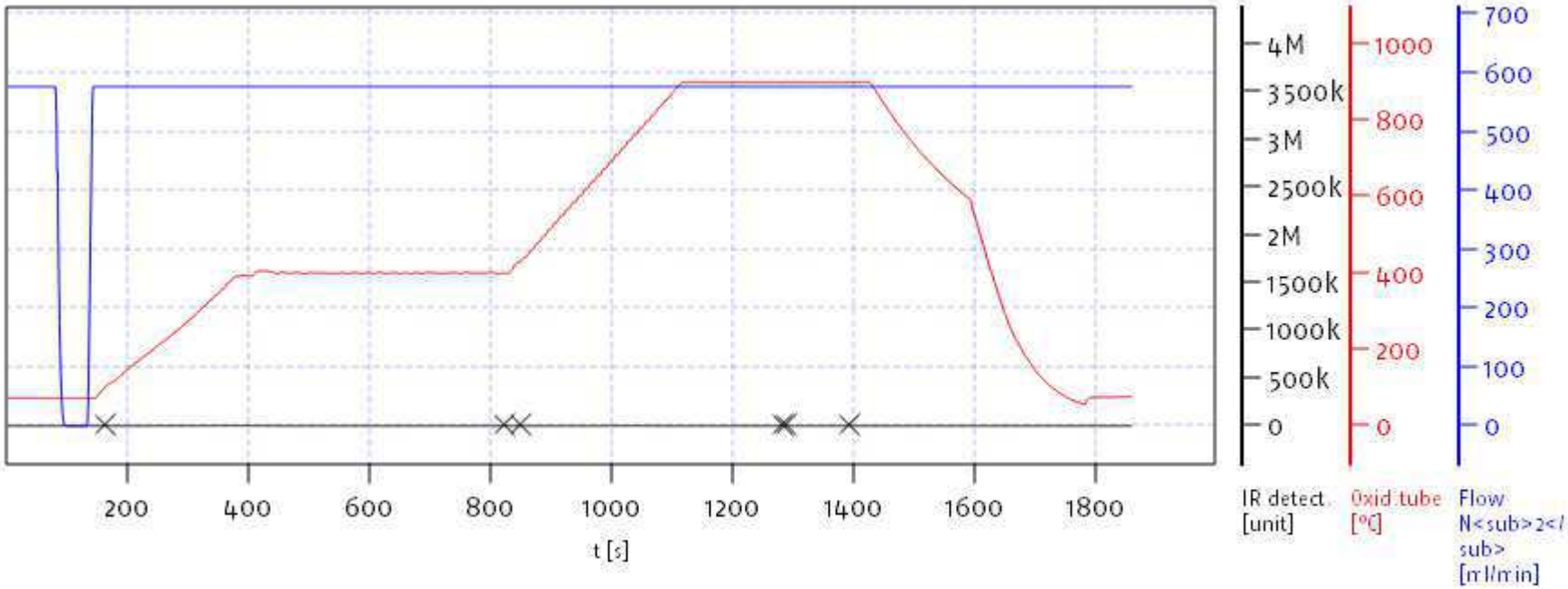
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	63	BLANK	1.00		1.00	CARBON	8/26/2021 3:13 AM	0.000	0.000	0.000	bl	13 366	5 962	130	0.9644	1.0000



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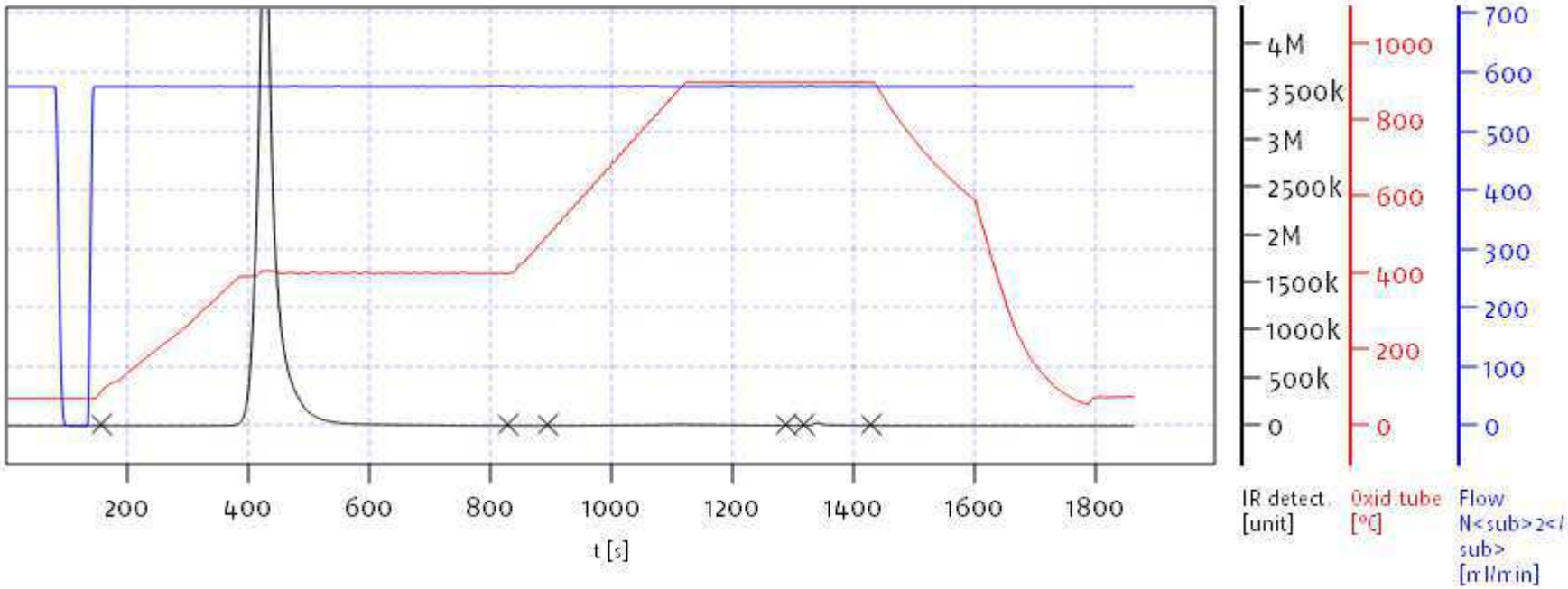
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	64	Dfactor	24.70		1.00	CARBON	8/26/2021 3:45 AM	44.611	0.662	45.273	bl	6 594 660	108 528	35 848	0.9874	1.0000



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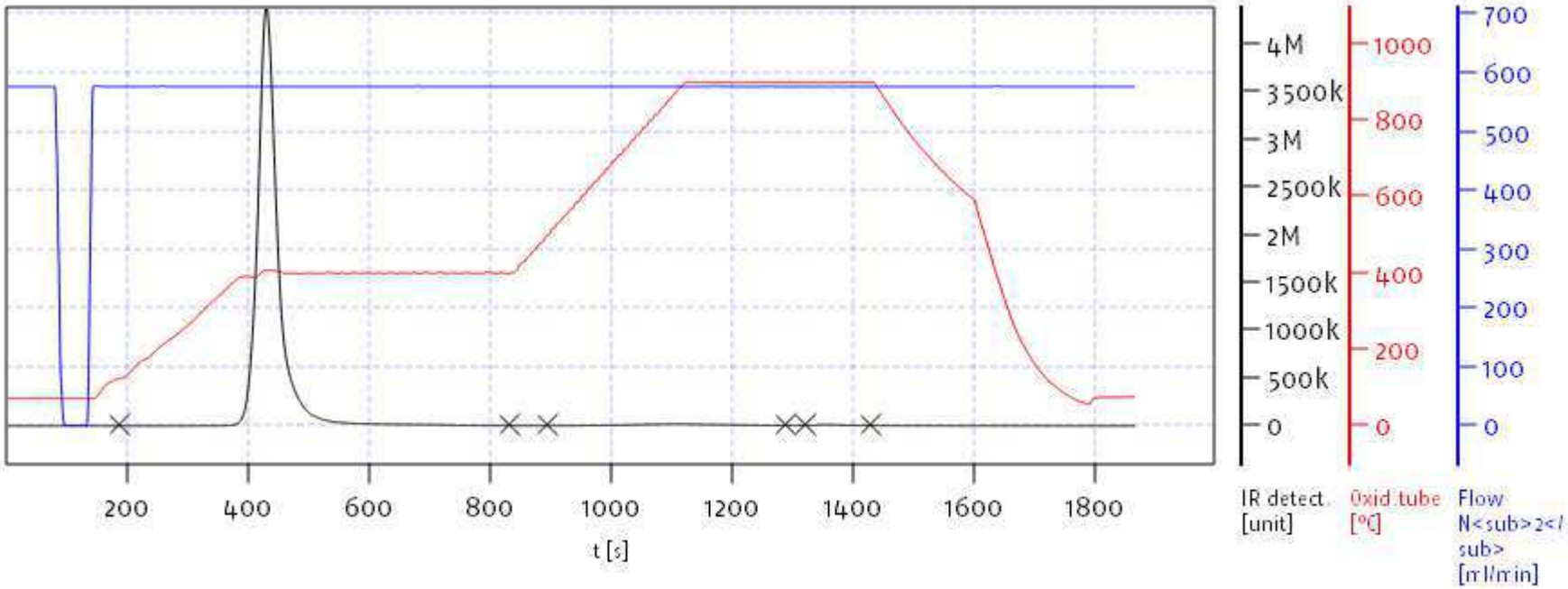
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	65	Dfactor	23.90		1.00	CARBON	8/26/2021 4:16 AM	44.558	0.869	45.427	bl	6 381 320	134 583	27 642	0.9875	1.0000



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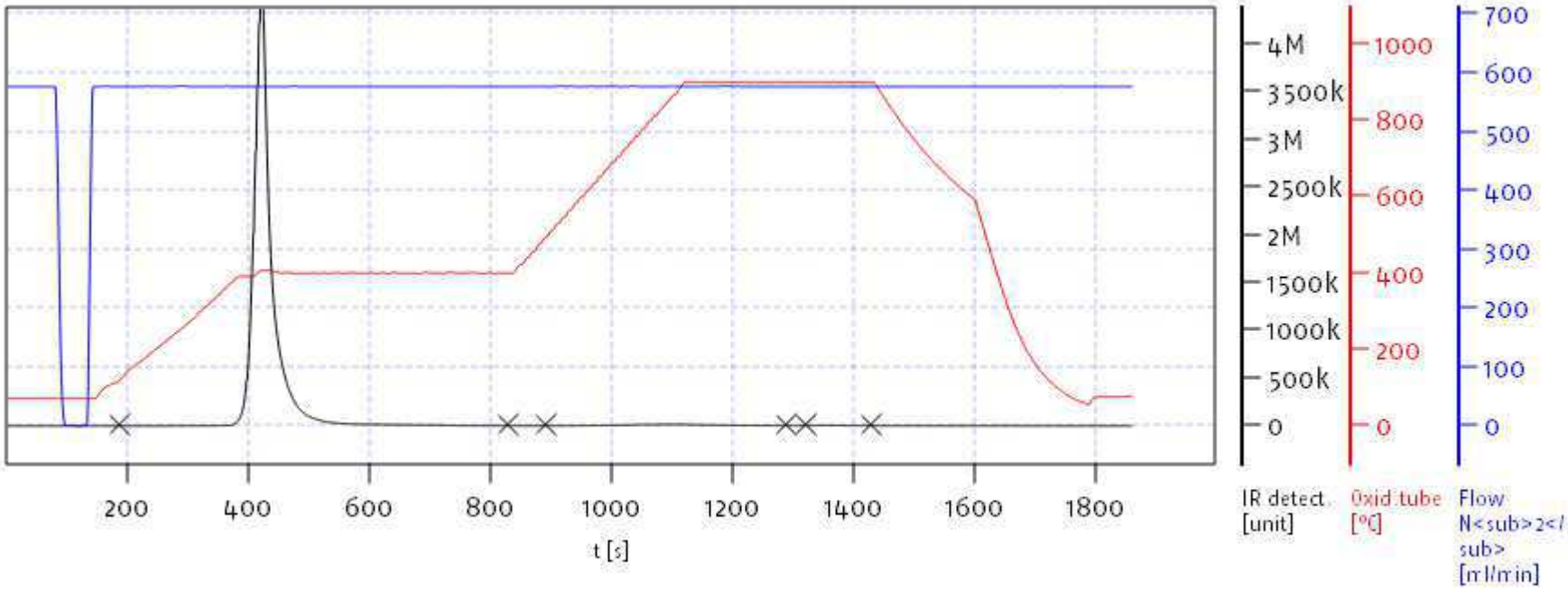
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	66	SJH0331-CCV2	21.00		1.00	CARBON	8/26/2021 4:48 AM	44.434	0.764	45.198	bl	5 602 300	106 661	16 290	0.9874	1.0000



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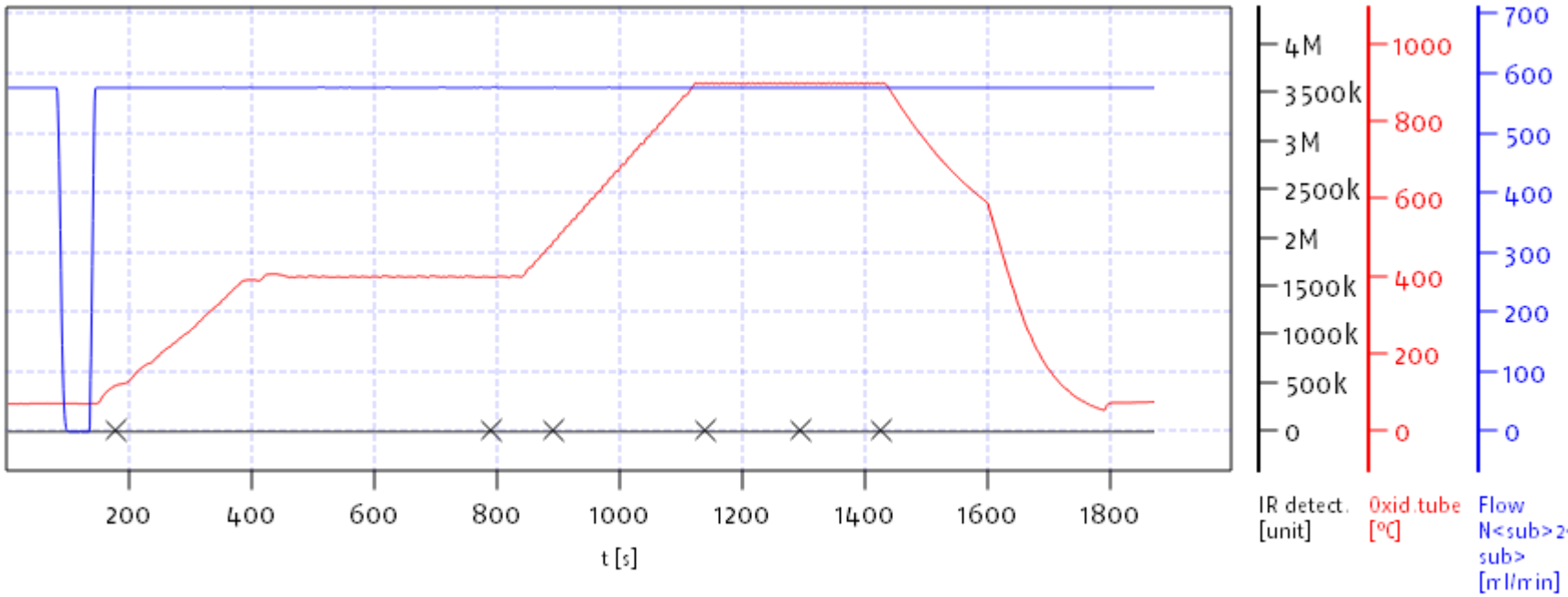
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	67	SJH0331-CCB2	533.80		1.00	CARBON	8/26/2021 5:20 AM	0.000	0.000	0.000	bl,C1u,C3u,C2u	6 424	425	331	0.9874	1.0000



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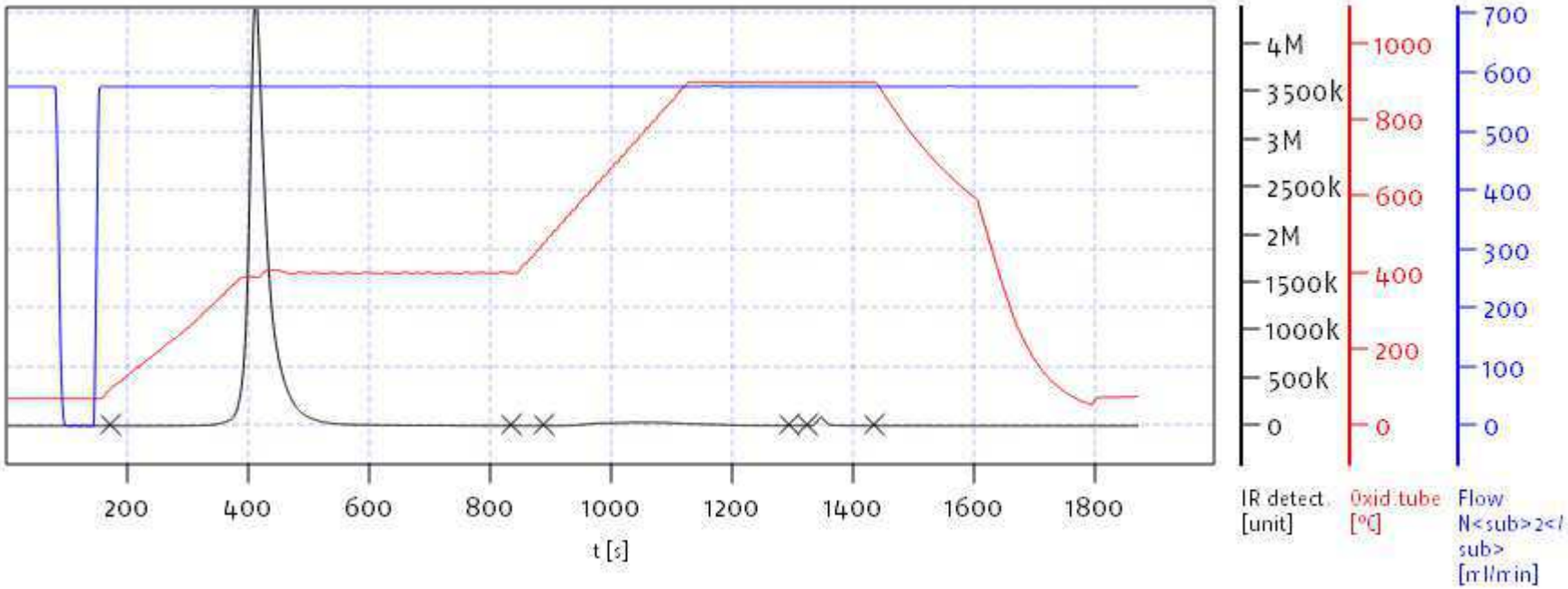
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	68	BJH0434-MSD1	528.30	0.0106	1.00	CARBON	8/26/2021 5:51 AM	1.899	0.078	1.977	bl	5 979 850	256 903	58 386	0.9874	1.0000



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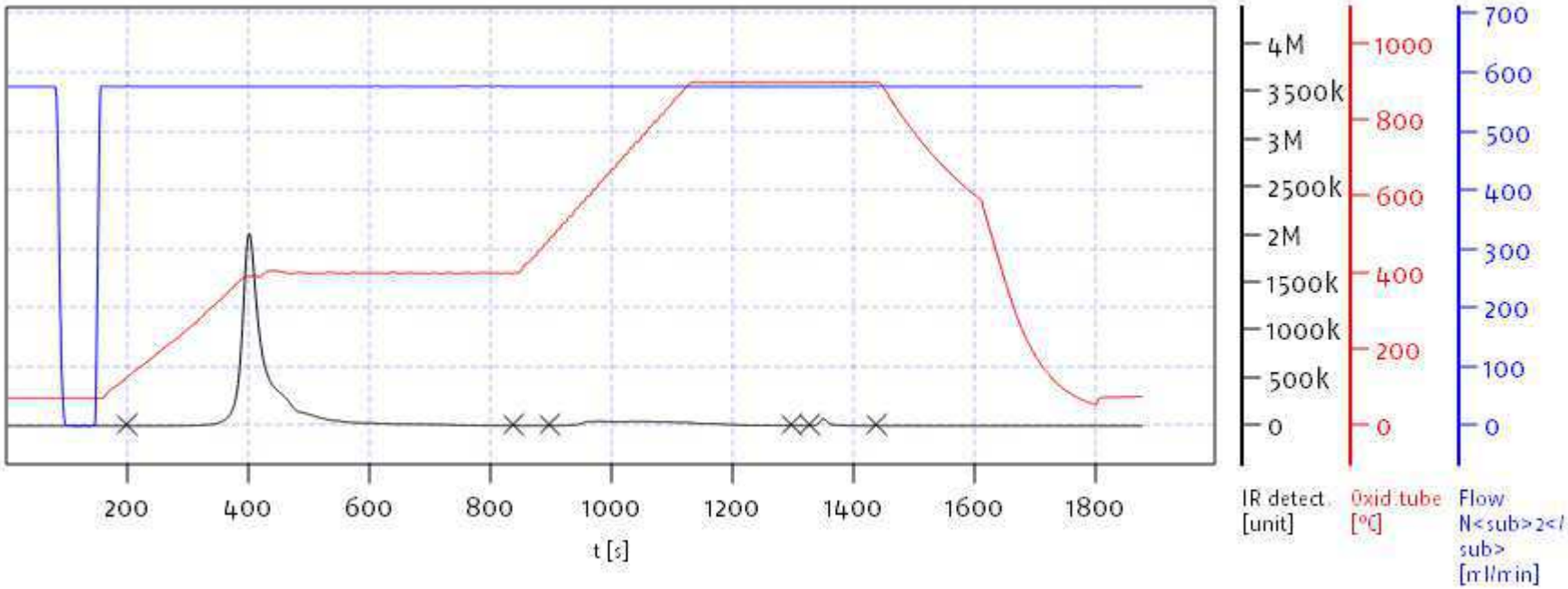
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	69	21H0072-21	518.60		1.00	CARBON	8/26/2021 6:23 AM	1.107	0.118	1.225	bl	3 412 750	373 576	53 031	0.9874	1.0000



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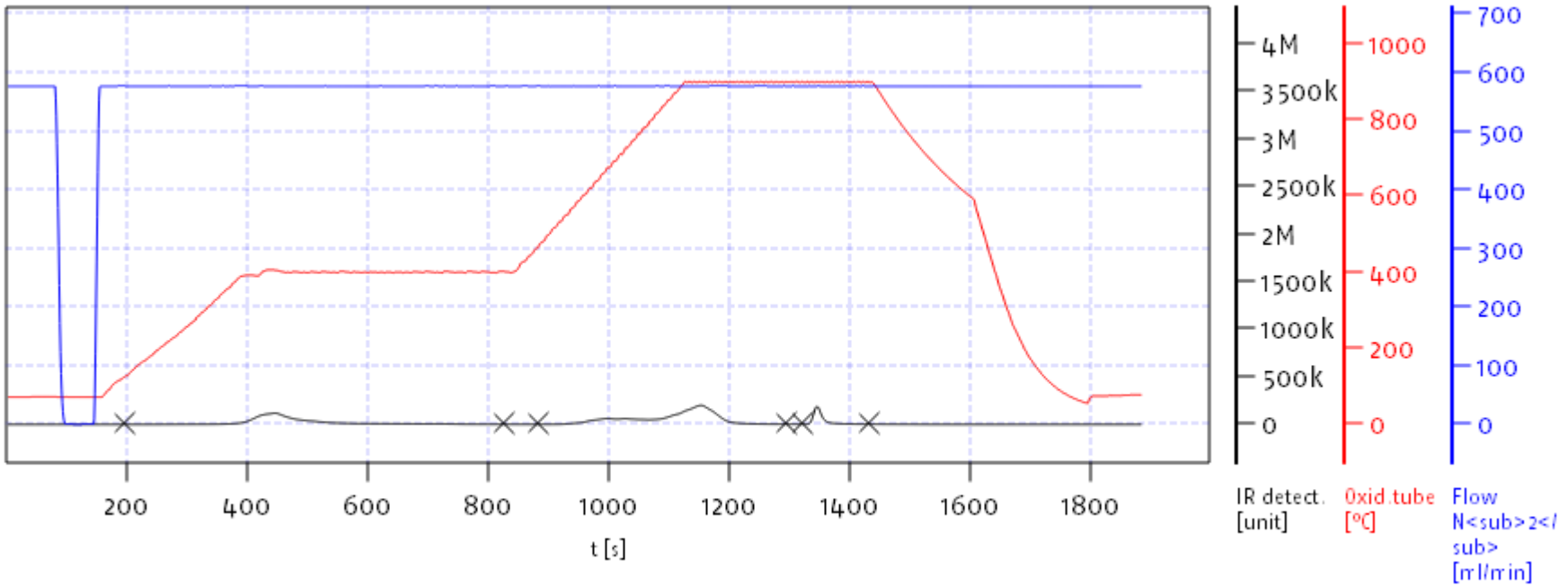
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
32	70	21H0187-07	530.70		1.00	CARBON	8/26/2021 6:55 AM	0.169	0.256	0.425	bl	429 842	816 538	128 915	0.9874	1.0000



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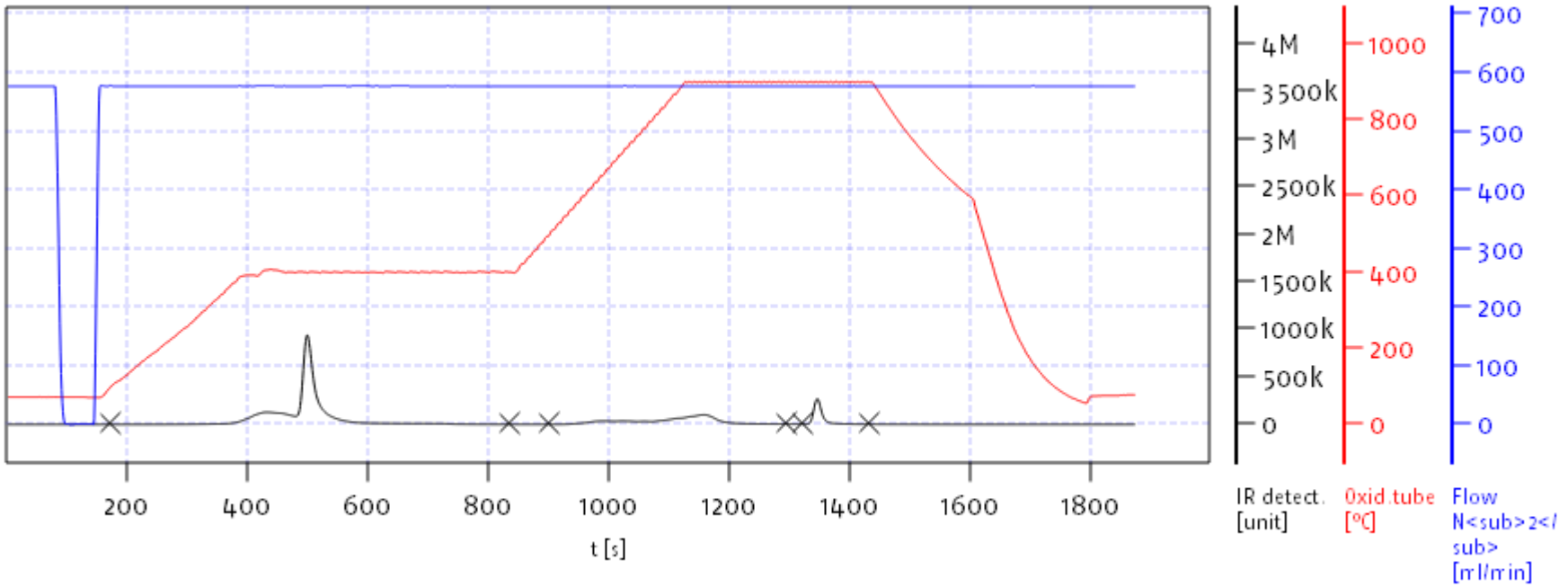
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
33	71	21H0187-08	554.70		1.00	CARBON	8/26/2021 7:27 AM	0.438	0.138	0.576	bl	1 311 880	465 029	167 039	0.9874	1.0000



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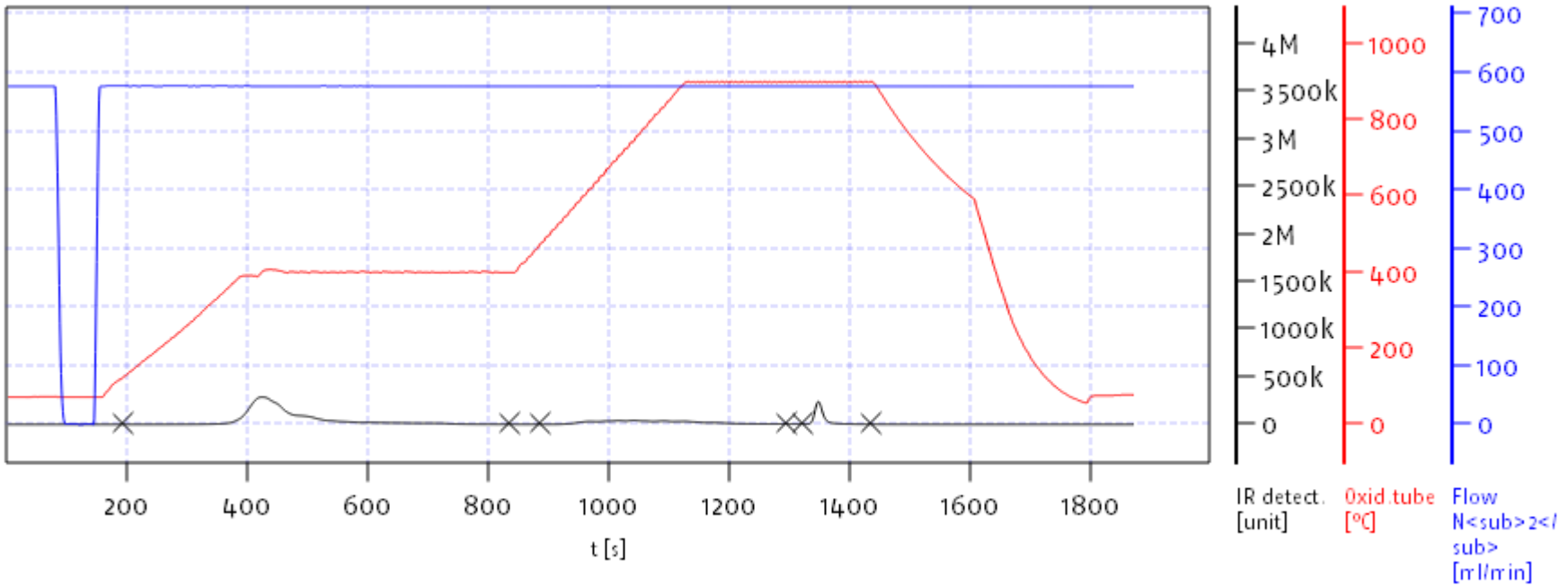
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
34	72	21H0187-09	521.80		1.00	CARBON	8/26/2021 7:58 AM	0.363	0.099	0.462	bl	1 003 630	317 868	152 982	0.9874	1.0000



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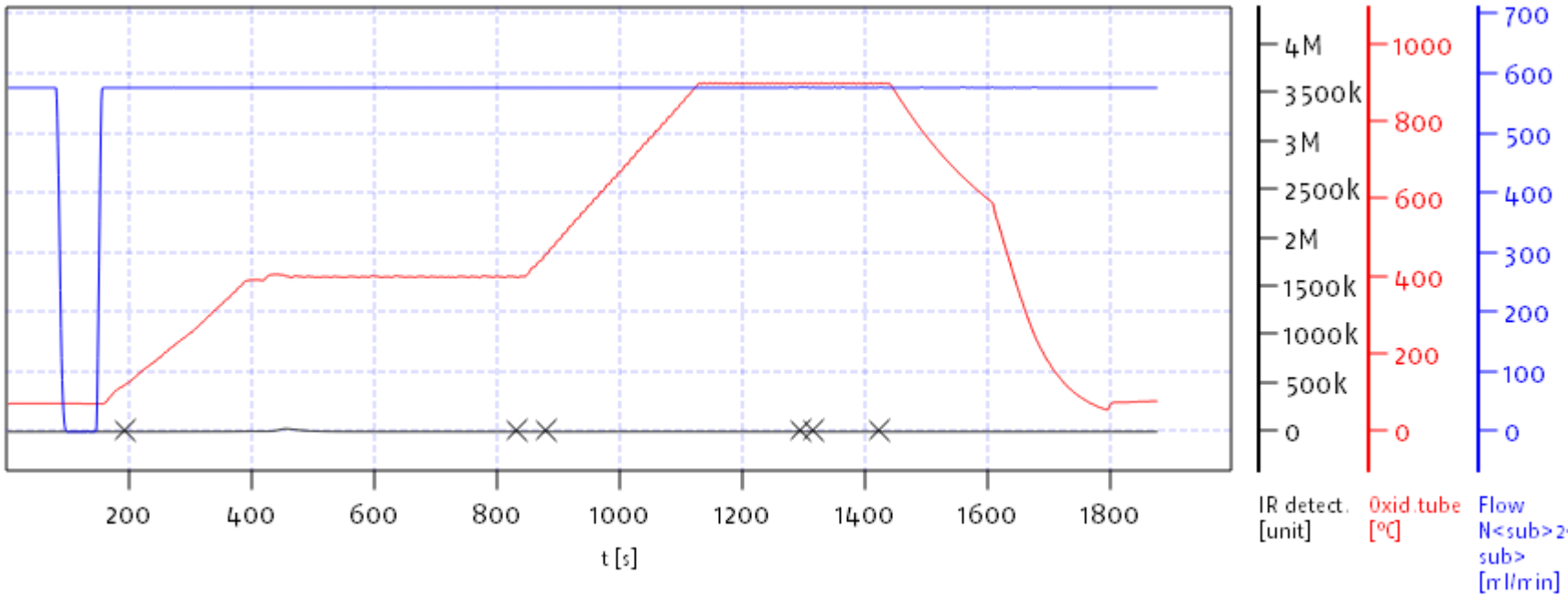
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
35	73	BJH0435-MRL1	524.20		1.00	CARBON	8/26/2021 8:30 AM	0.017	0.000	0.017	bl,C3u,C2u	66 010	6 866	196	0.9874	1.0000



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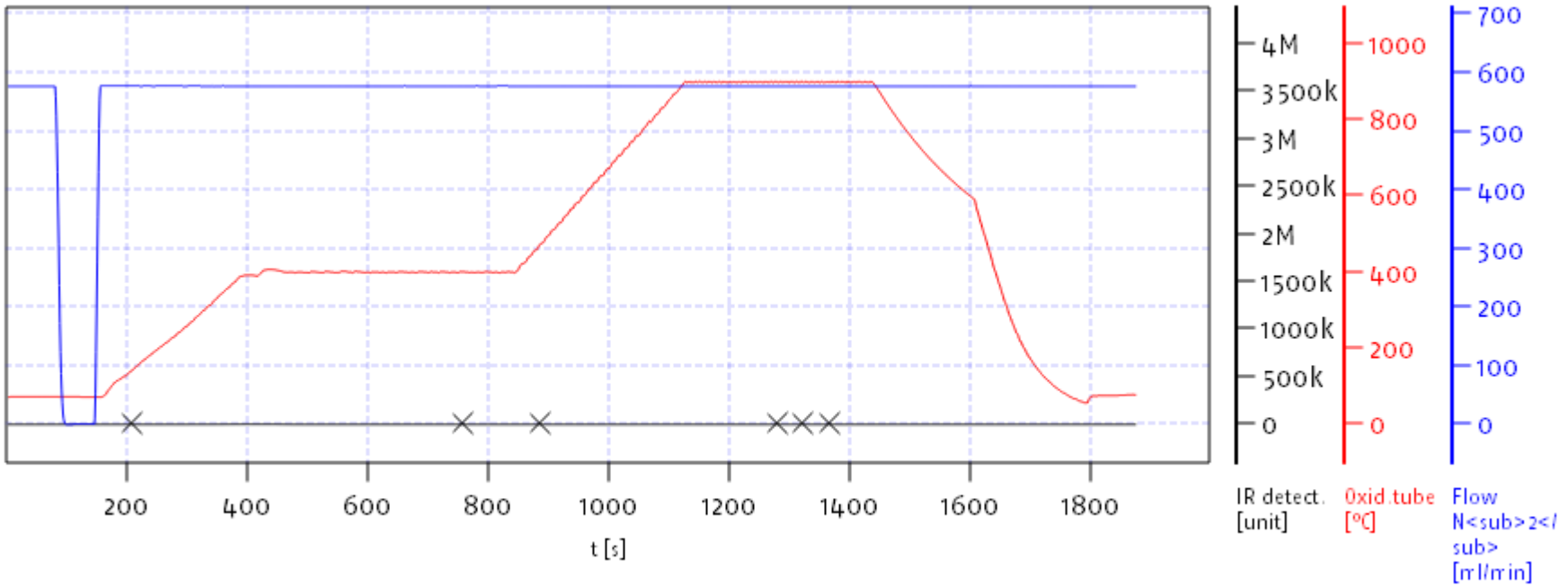
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
36	74	BJH0435-BLK1	502.50		1.00	CARBON	8/26/2021 9:02 AM	0.000	0.000	0.000	bl,C3u,C2u	10 640	1 609	83	0.9874	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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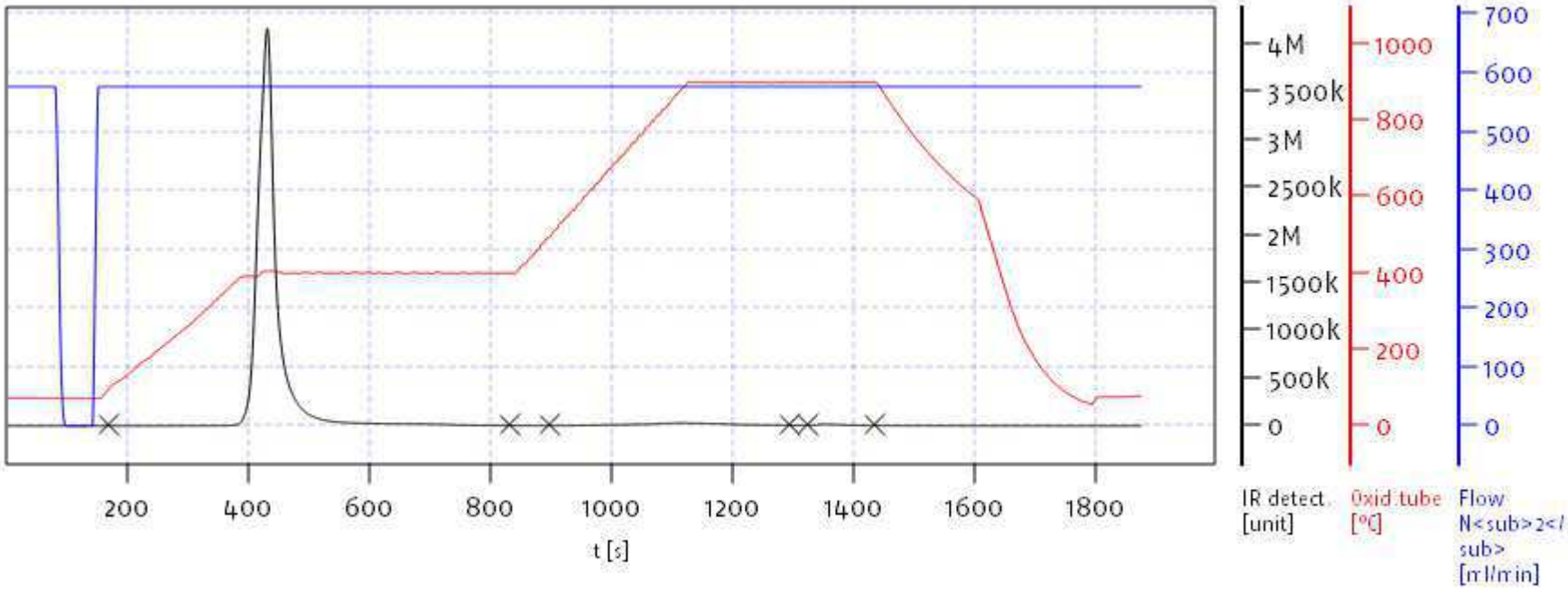
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
37	75	BJH0435-BS1	21.00		1.00	CARBON	8/26/2021 9:33 AM	43.894	1.611	45.505	bl	5 514 320	211 943	36 116	0.9874	1.0000



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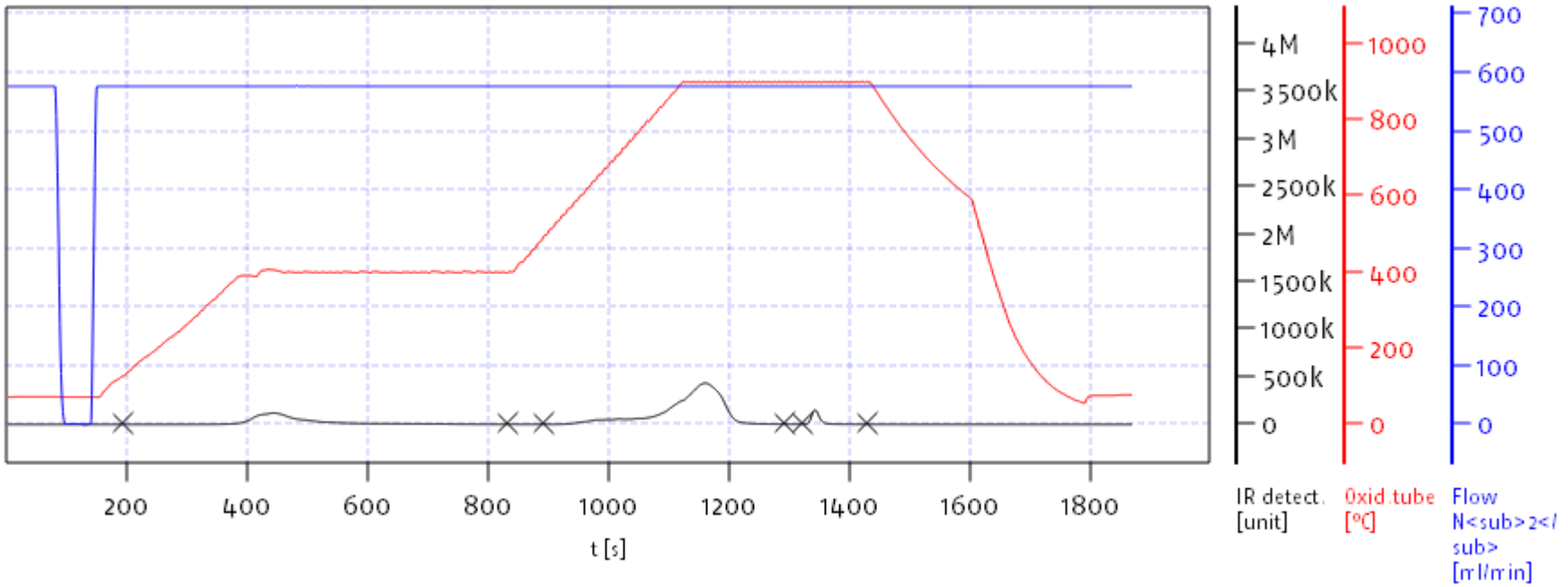
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
38	76	21H0089-01	581.50		1.00	CARBON	8/26/2021 10:05 AM	0.150	0.456	0.605	bl	451 971	1 580 450	91 893	0.9874	1.0000



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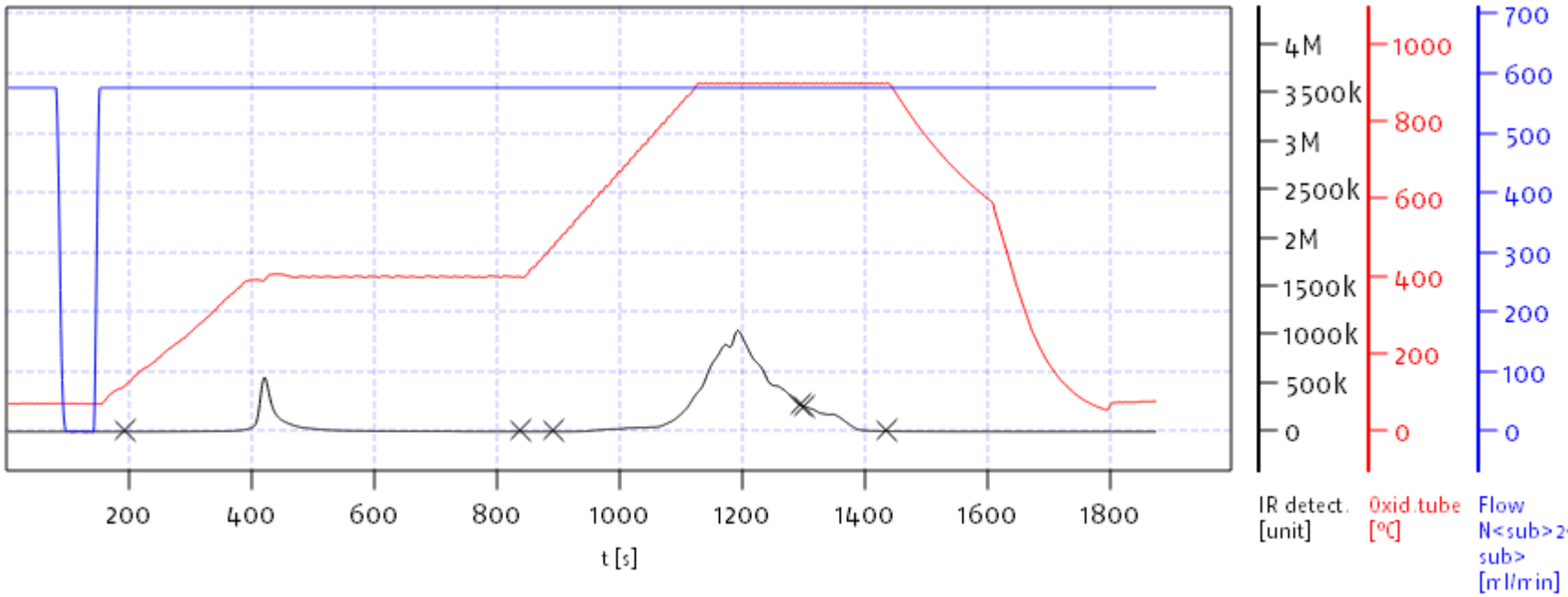
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
39	77	21H0089-02	385.10		1.00	CARBON	8/26/2021 10:37 AM	0.538	2.055	2.593	bl	724 446	4 697 810	535 223	0.9874	1.0000



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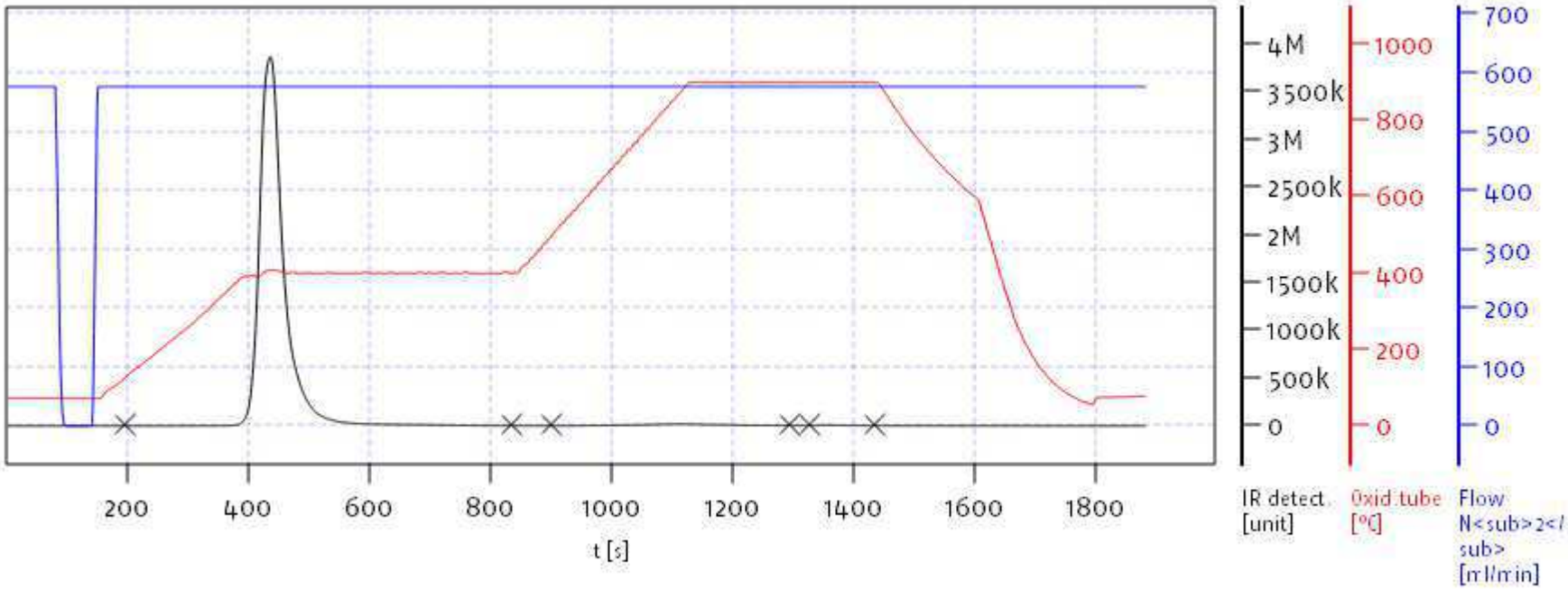
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
40	78	SJH0331-CCV3	25.10		1.00	CARBON	8/26/2021 11:09 AM	44.440	0.785	45.225	bl	6 692 970	128 338	18 911	0.9874	1.0000



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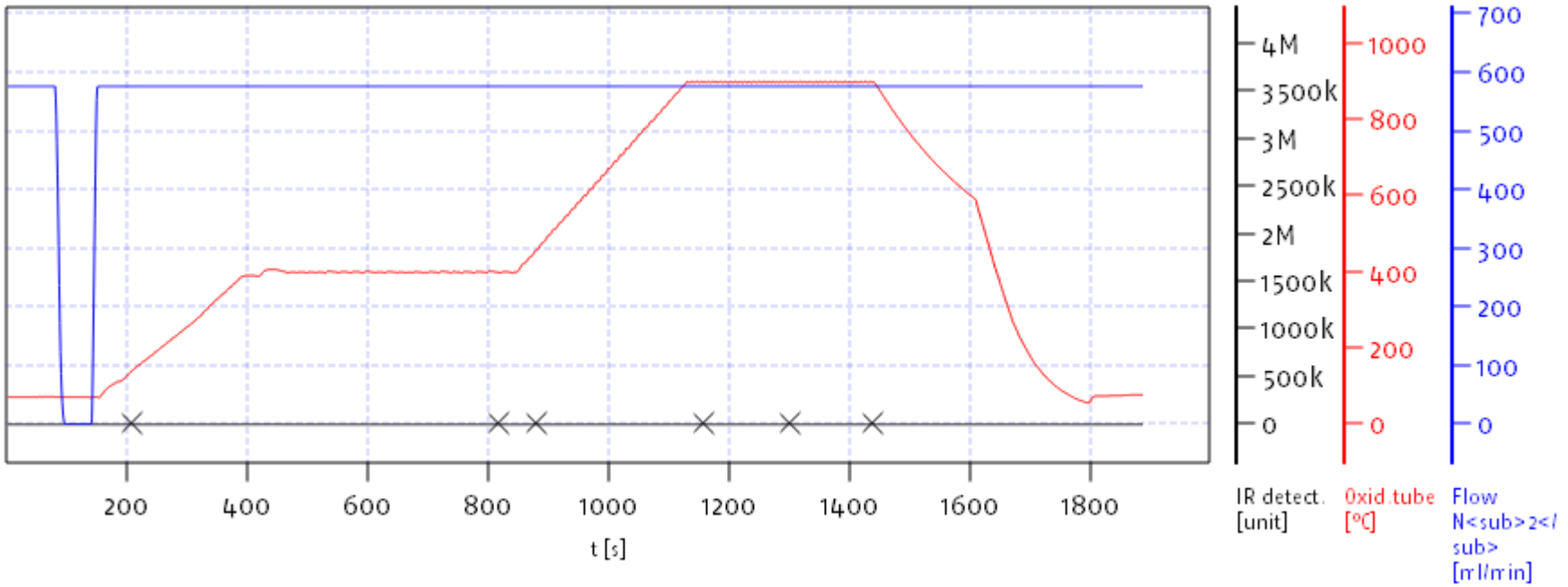
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
41	79	SJH0331-CCB3	569.10		1.00	CARBON	8/26/2021 11:41 AM	0.000	0.000	0.000	bl,C1u,C3u,C2u	2 768	263	150	0.9874	1.0000



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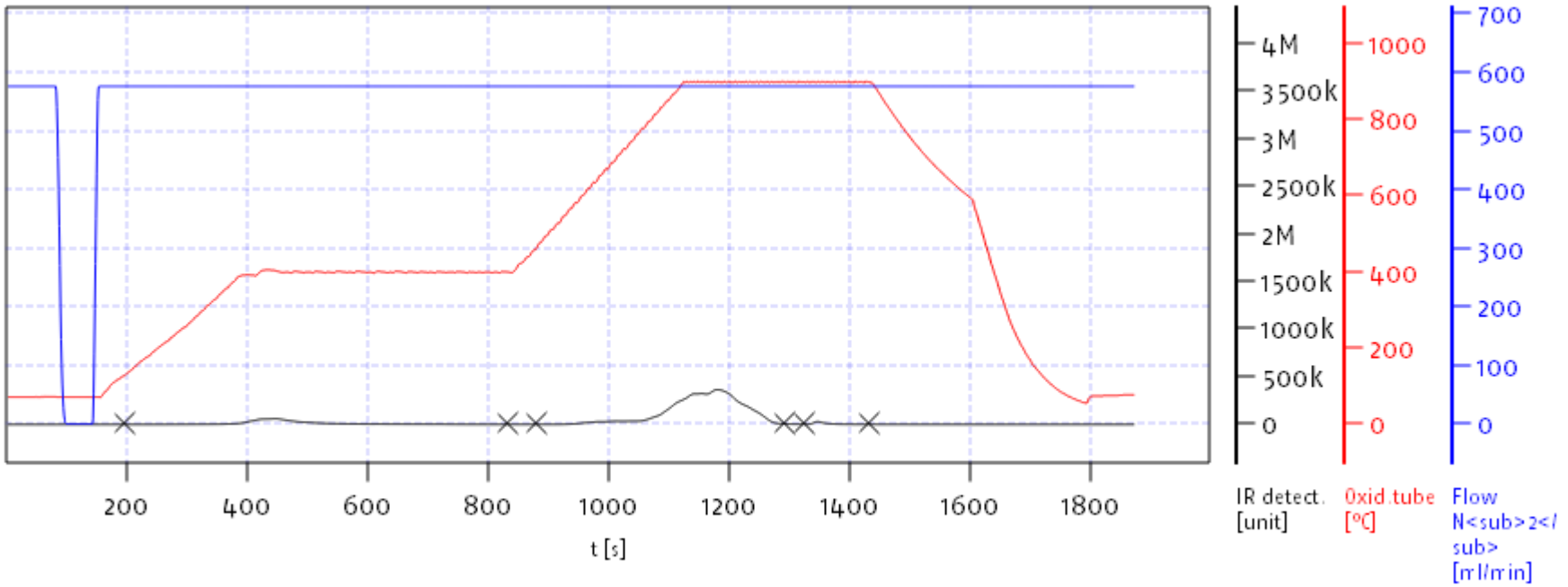
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
42	80	21H0089-03	516.00		1.00	CARBON	8/26/2021 12:12 PM	0.080	0.604	0.684	bl	242 131	1 857 580	27 577	0.9874	1.0000



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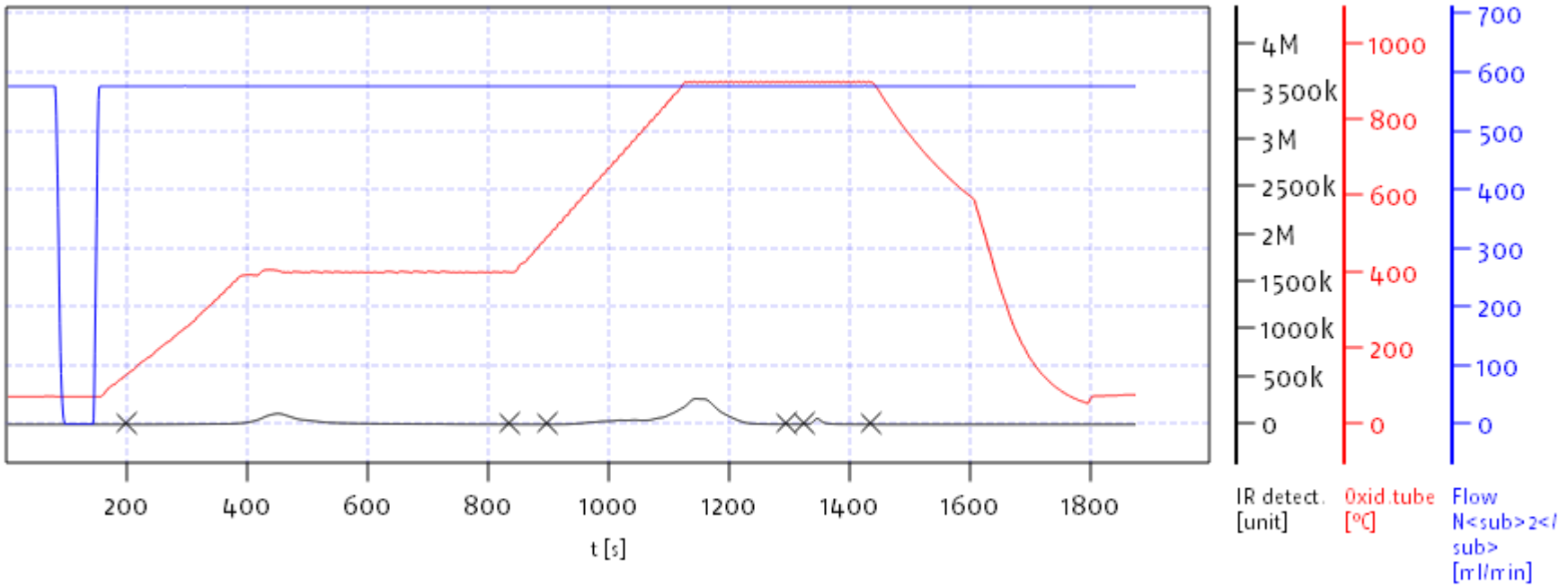
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
43	81	21H0089-04	552.80		1.00	CARBON	8/26/2021 12:44 PM	0.126	0.306	0.432	bl	397 649	1 014 540	42 472	0.9874	1.0000



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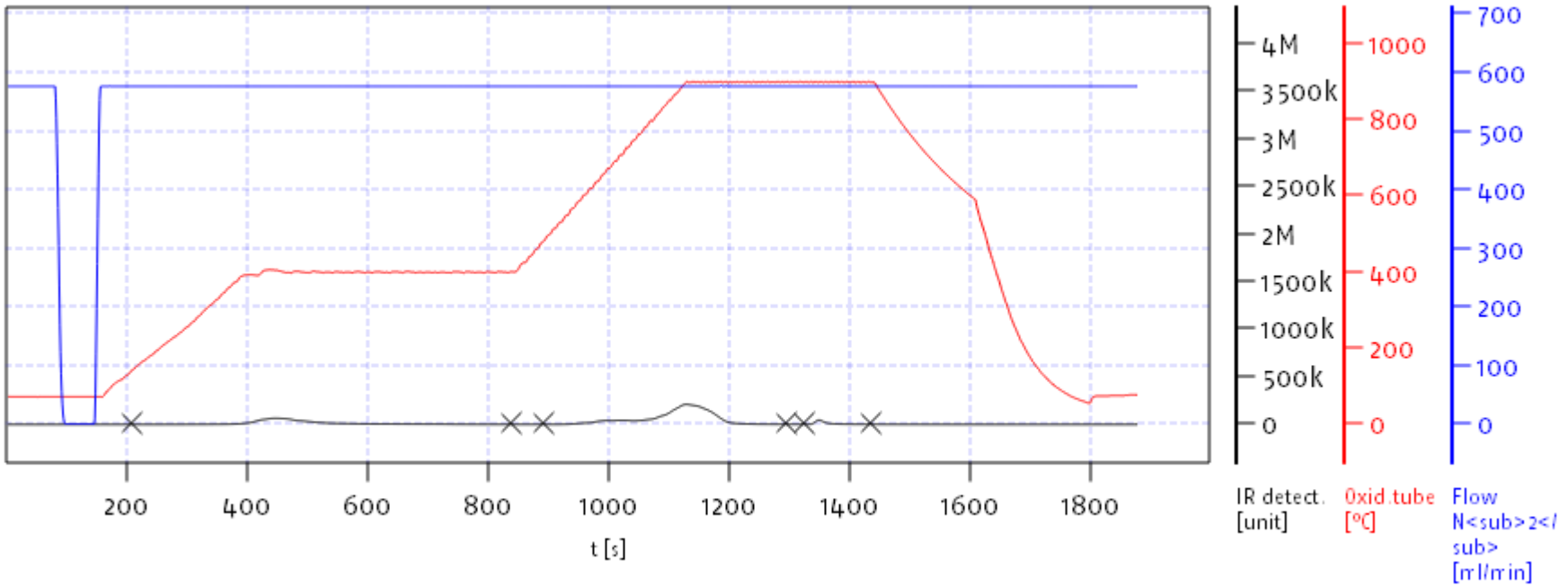
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
44	82	21H0089-05	564.10		1.00	CARBON	8/26/2021 1:16 PM	0.084	0.244	0.327	bl	266 687	825 800	39 239	0.9874	1.0000



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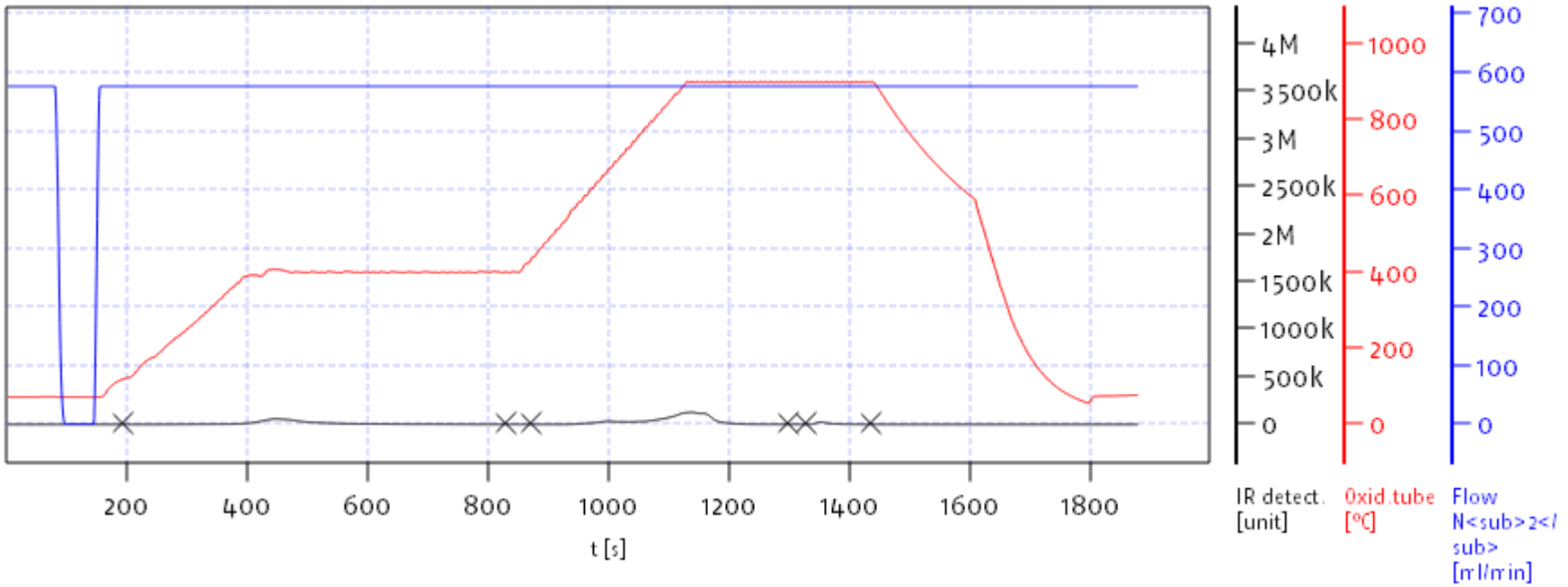
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
45	83	21H0089-06	588.50		1.00	CARBON	8/26/2021 1:48 PM	0.067	0.144	0.210	bl	233 472	511 885	24 682	0.9874	1.0000



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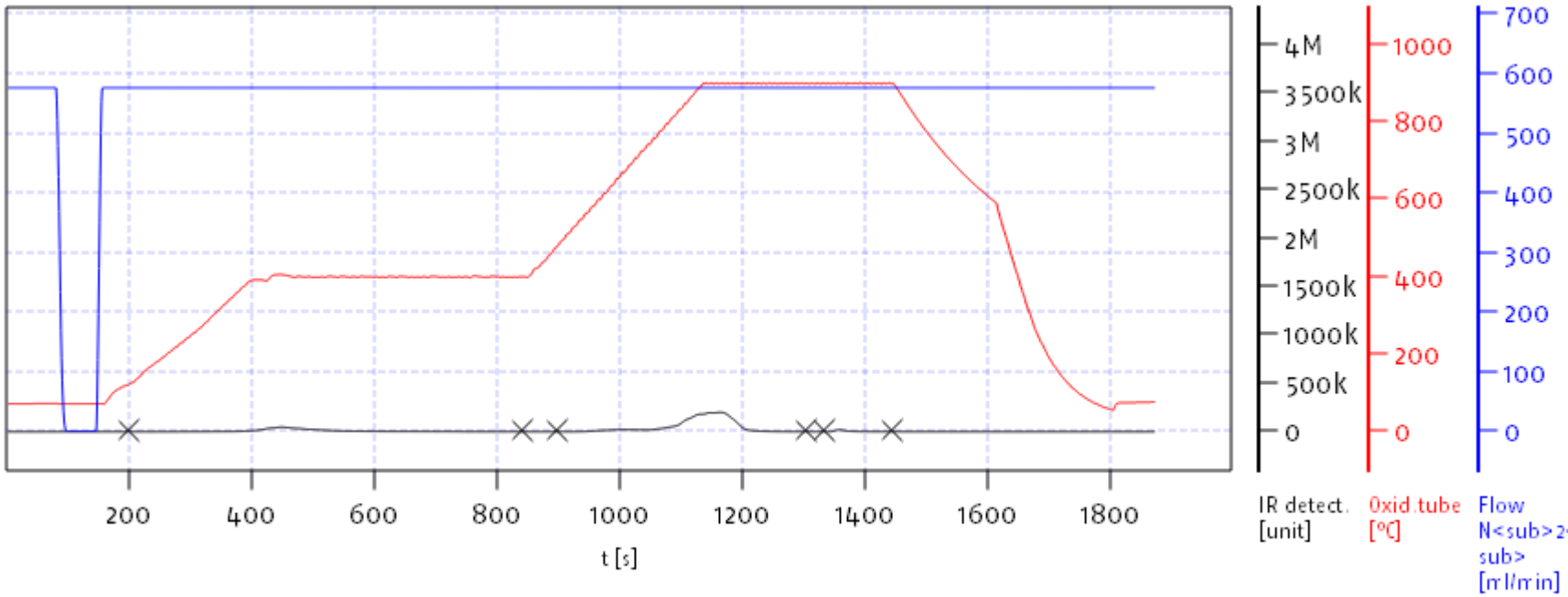
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
46	84	21H0089-07	361.00		1.00	CARBON	8/26/2021 2:19 PM	0.082	0.347	0.429	bl	182 745	753 491	17 851	0.9874	1.0000



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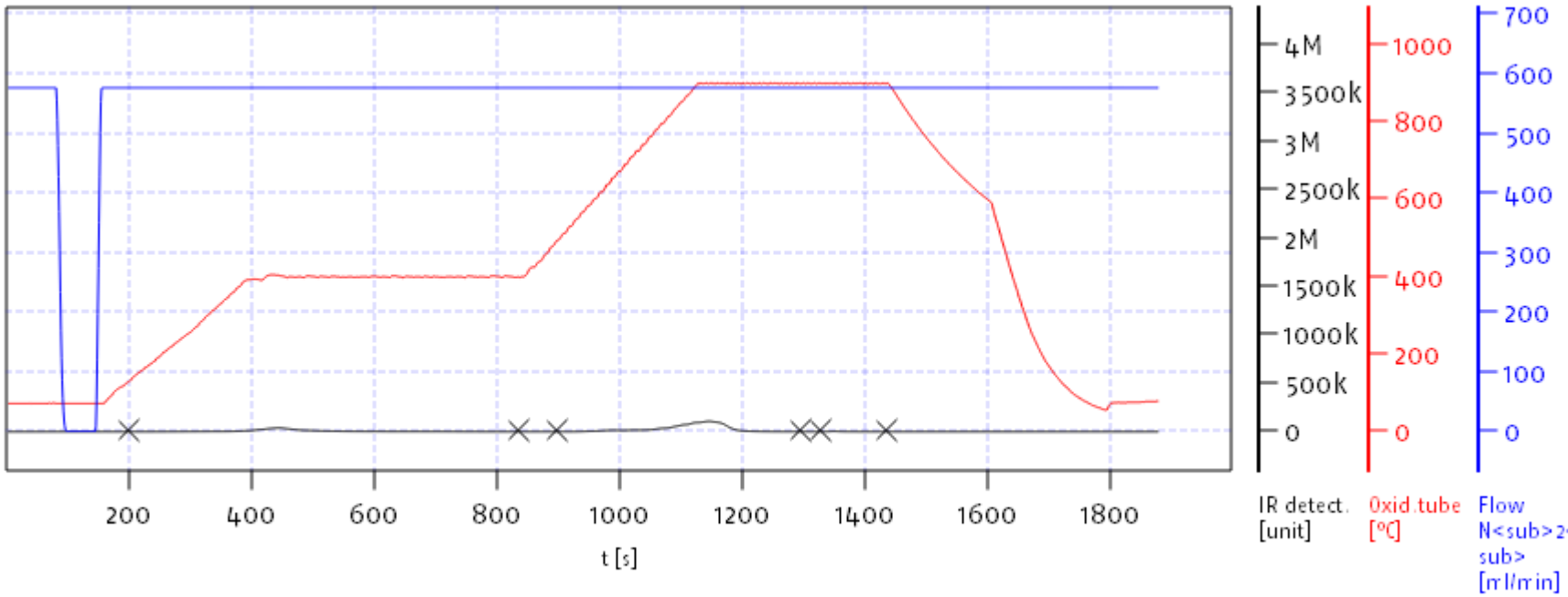
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
47	85	21H0089-08	317.80		1.00	CARBON	8/26/2021 2:51 PM	0.067	0.212	0.279	bl,C2u	138 785	410 820	4 329	0.9874	1.0000



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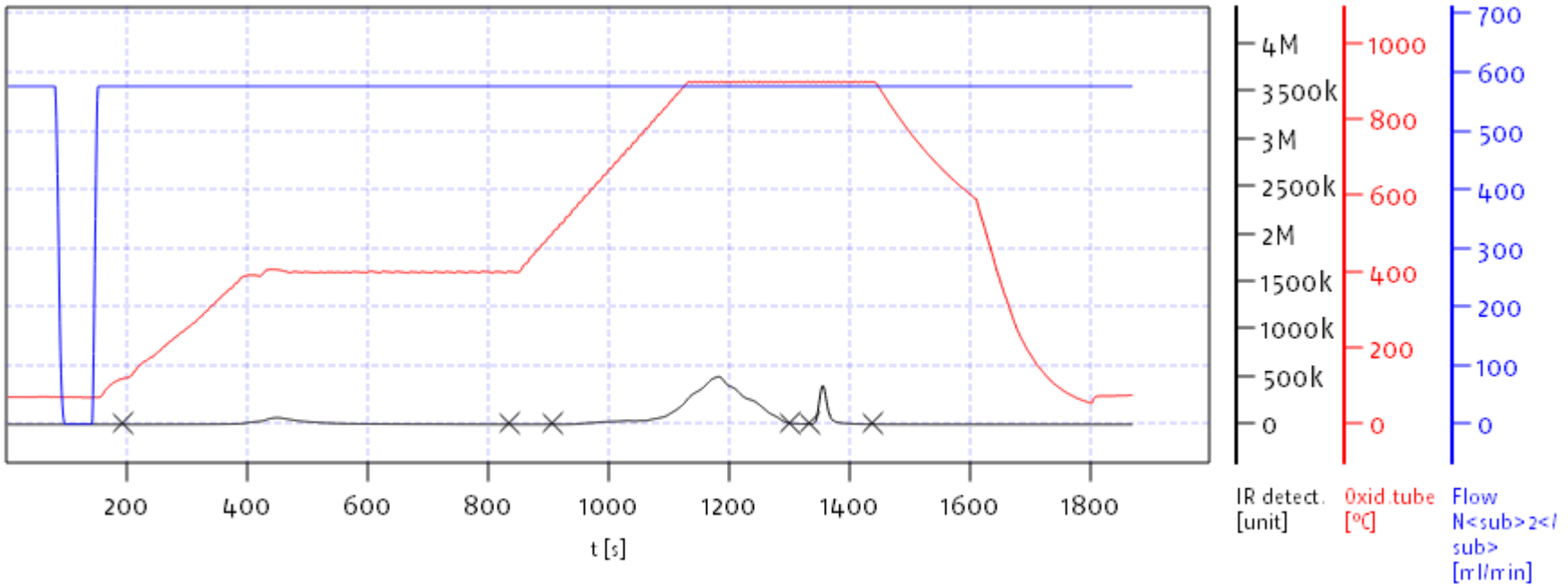
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
48	86	21H0089-09	632.60		1.00	CARBON	8/26/2021 3:23 PM	0.131	0.591	0.722	bl	257 988	2 225 310	257 517	0.9874	1.0000



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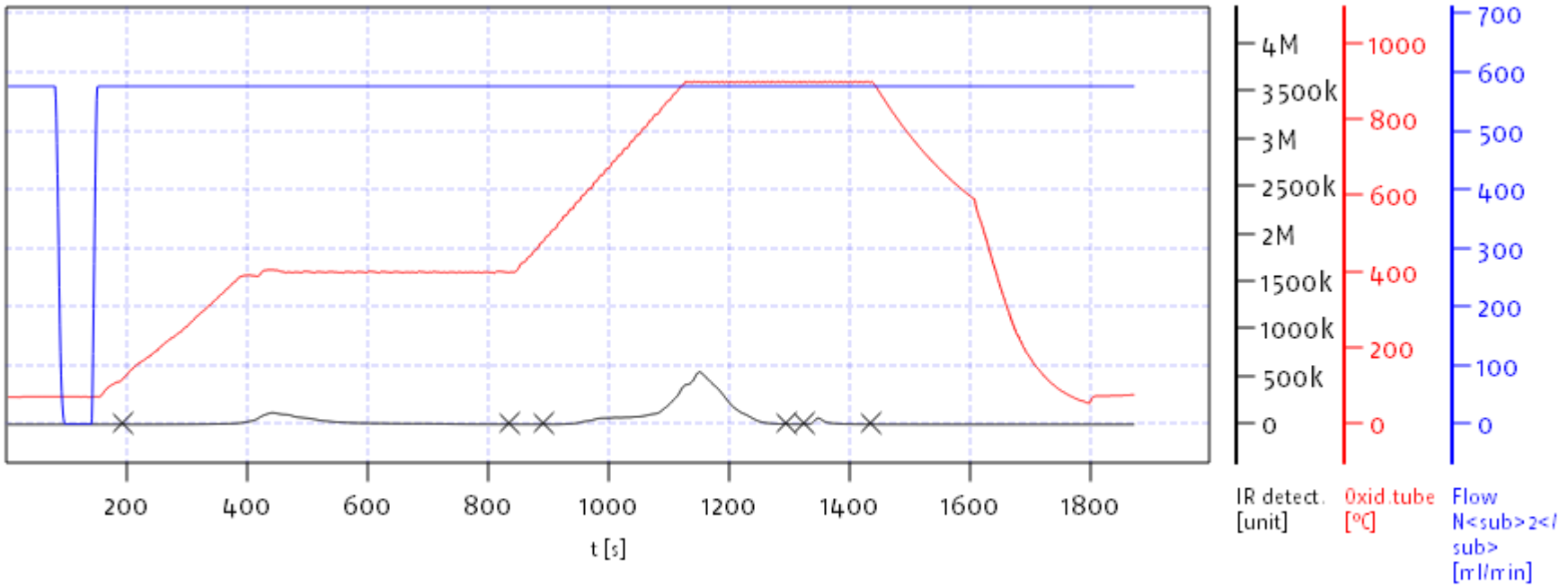
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
49	87	21H0089-10	546.30		1.00	CARBON	8/26/2021 3:54 PM	0.167	0.670	0.837	bl	513 495	2 178 030	57 477	0.9874	1.0000



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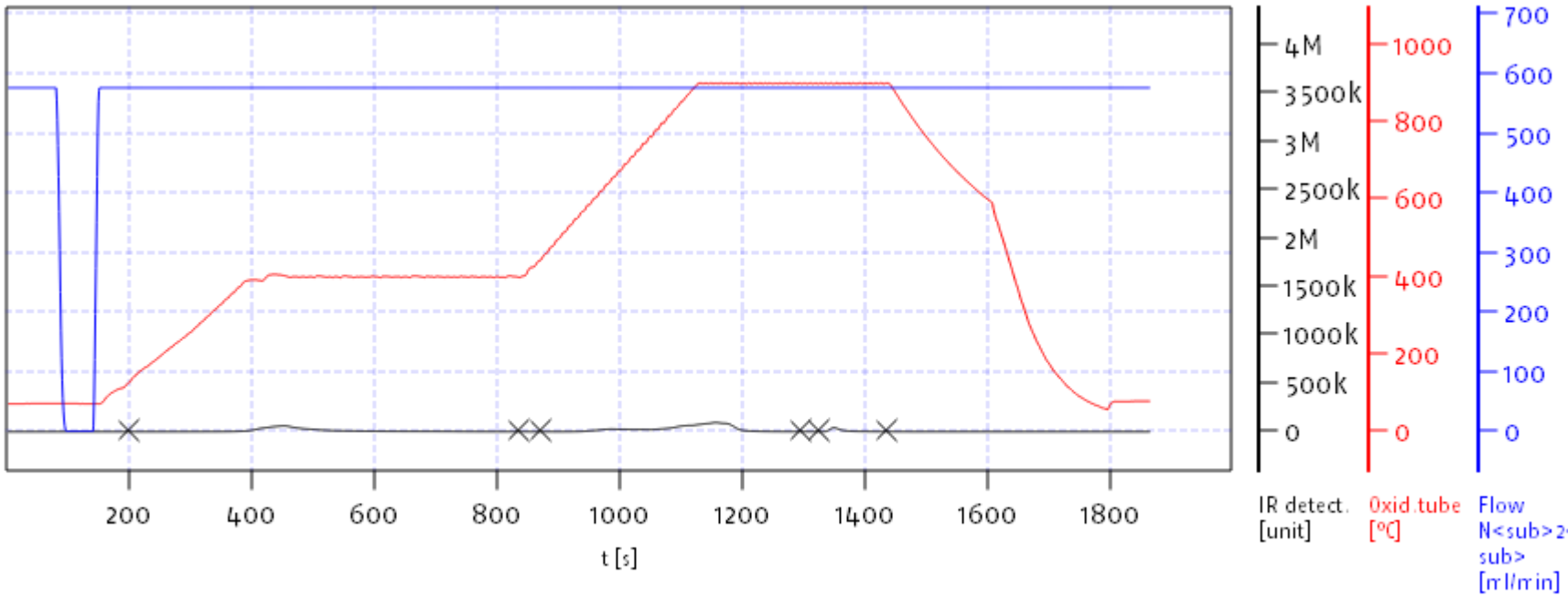
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
50	88	BJH0435-DUP1	576.50		1.00	CARBON	8/26/2021 4:26 PM	0.068	0.121	0.189	bl	221 089	424 708	36 187	0.9874	1.0000



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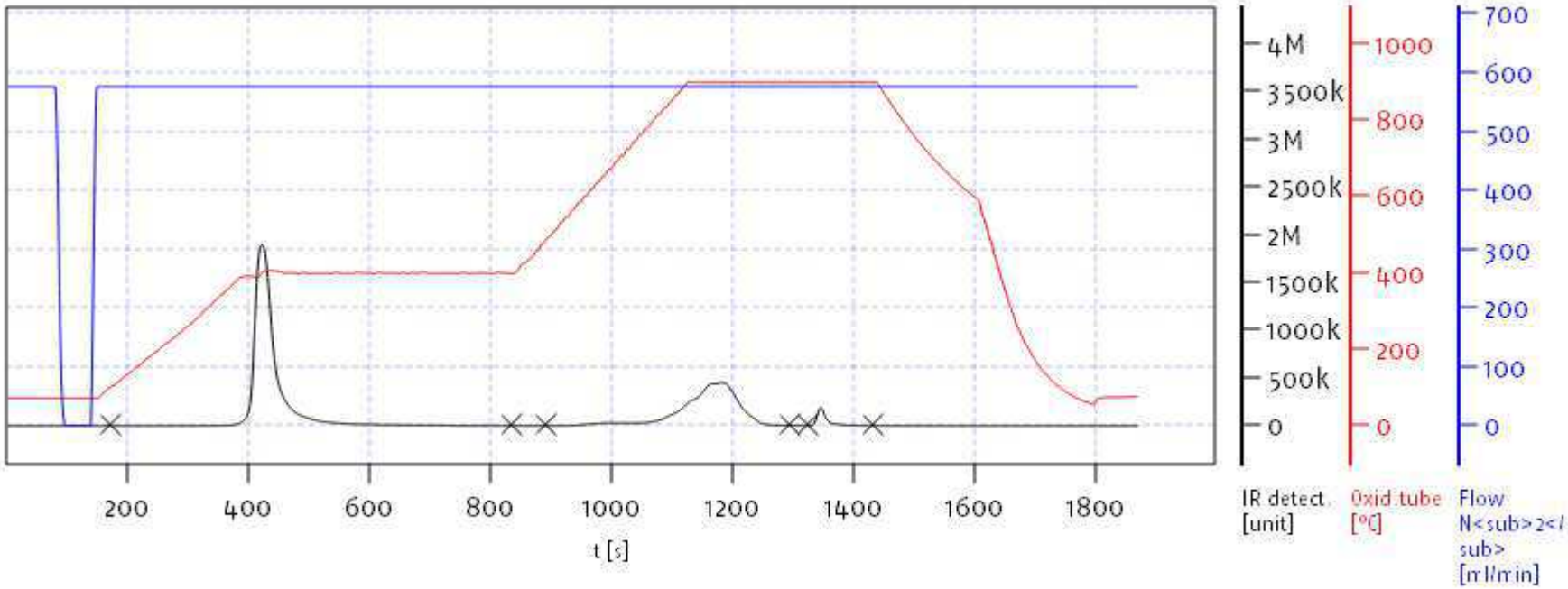
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
51	89	BJH0435-MS1	537.40	0.0097	1.00	CARBON	8/26/2021 4:58 PM	0.883	0.541	1.424	bl	2 731 800	1 732 510	134 777	0.9874	1.0000



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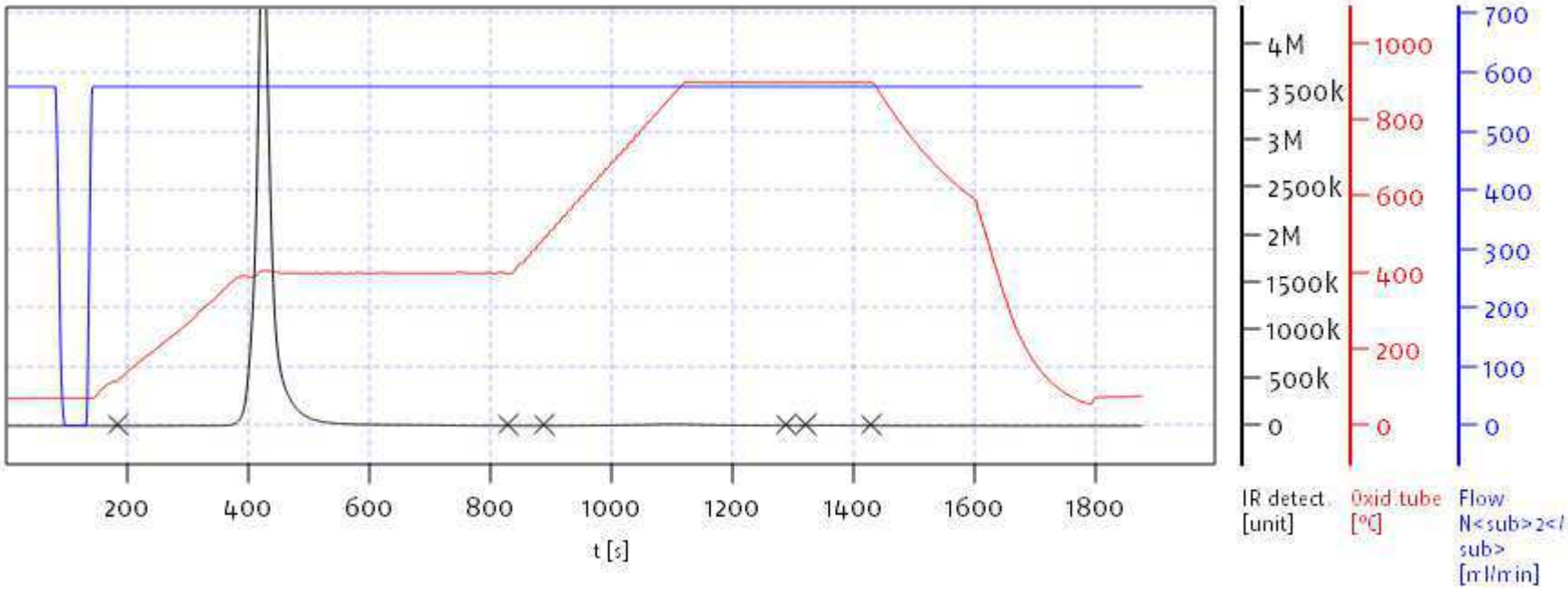
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
52	1	SJH0331-CCV4	20.80		1.00	CARBON	8/26/2021 5:29 PM	45.104	0.777	45.882	bl	5 633 340	107 423	15 635	0.9874	1.0000



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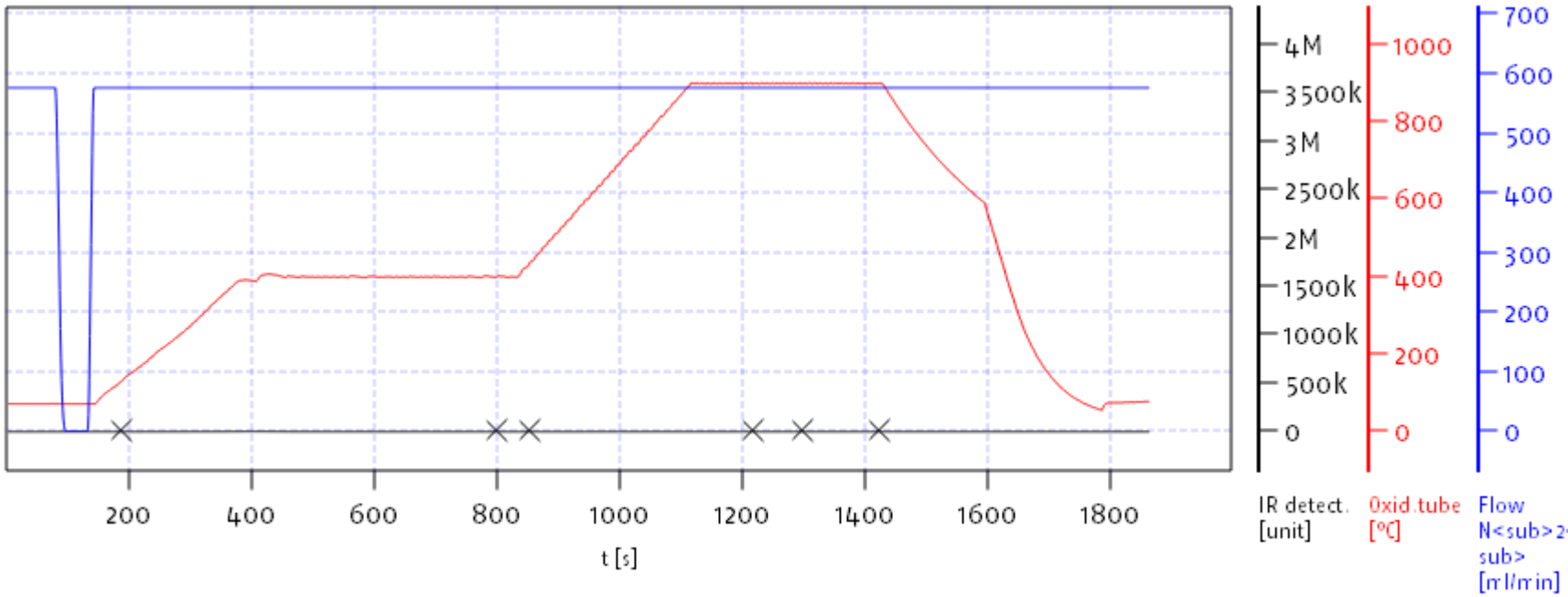
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
53	2	SJH0331-CCB4	501.80		1.00	CARBON	8/26/2021 6:01 PM	0.000	0.000	0.000	bl,C3u,C2u	9 295	757	141	0.9874	1.0000



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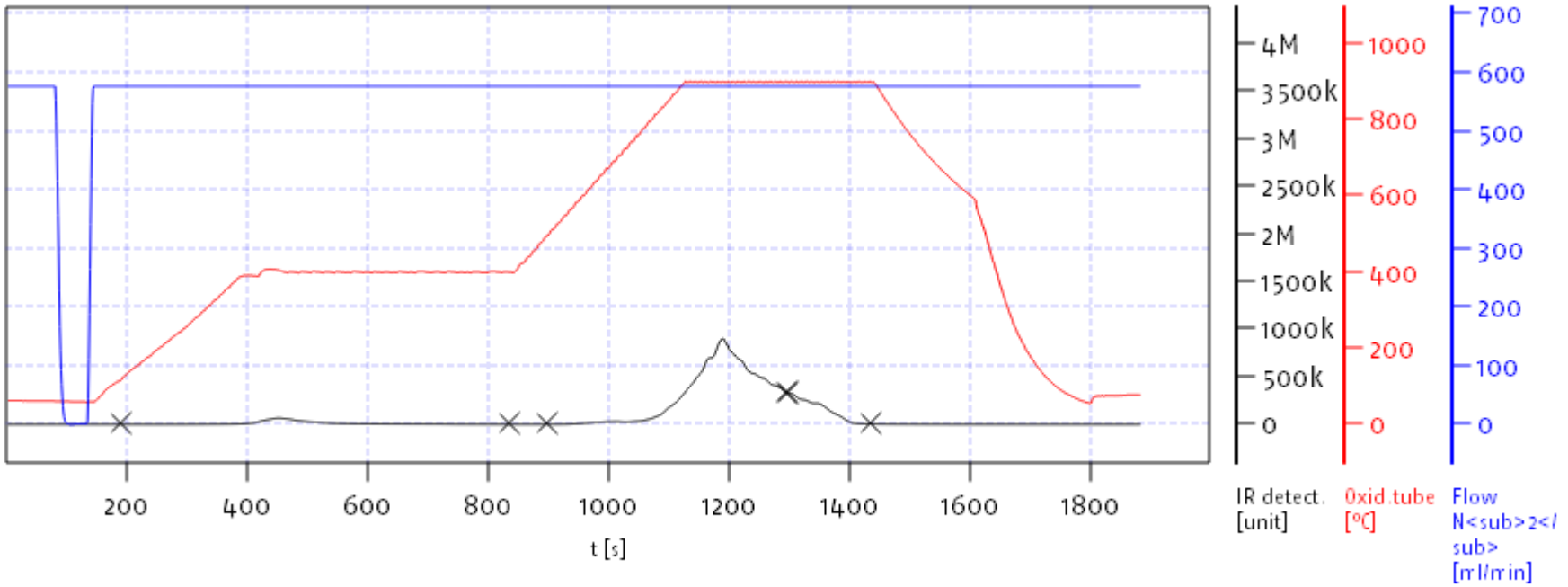
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
54	3	21H0089-11	509.70		1.00	CARBON	8/26/2021 6:45 PM	0.313	1.378	1.691	bl	249 160	4 170 120	721 848	0.9874	1.0000



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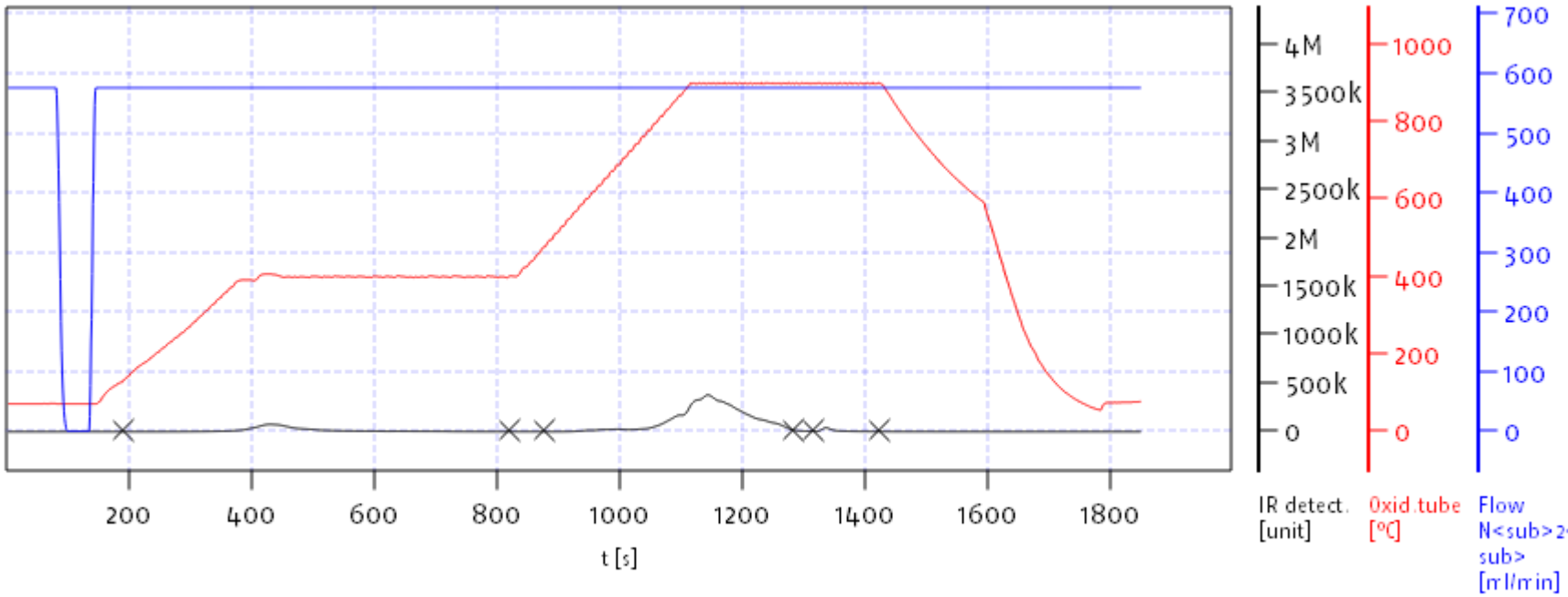
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
55	4	21H0089-12	594.10		1.00	CARBON	8/26/2021 7:17 PM	0.084	0.483	0.567	bl	282 821	1 711 920	37 656	0.9874	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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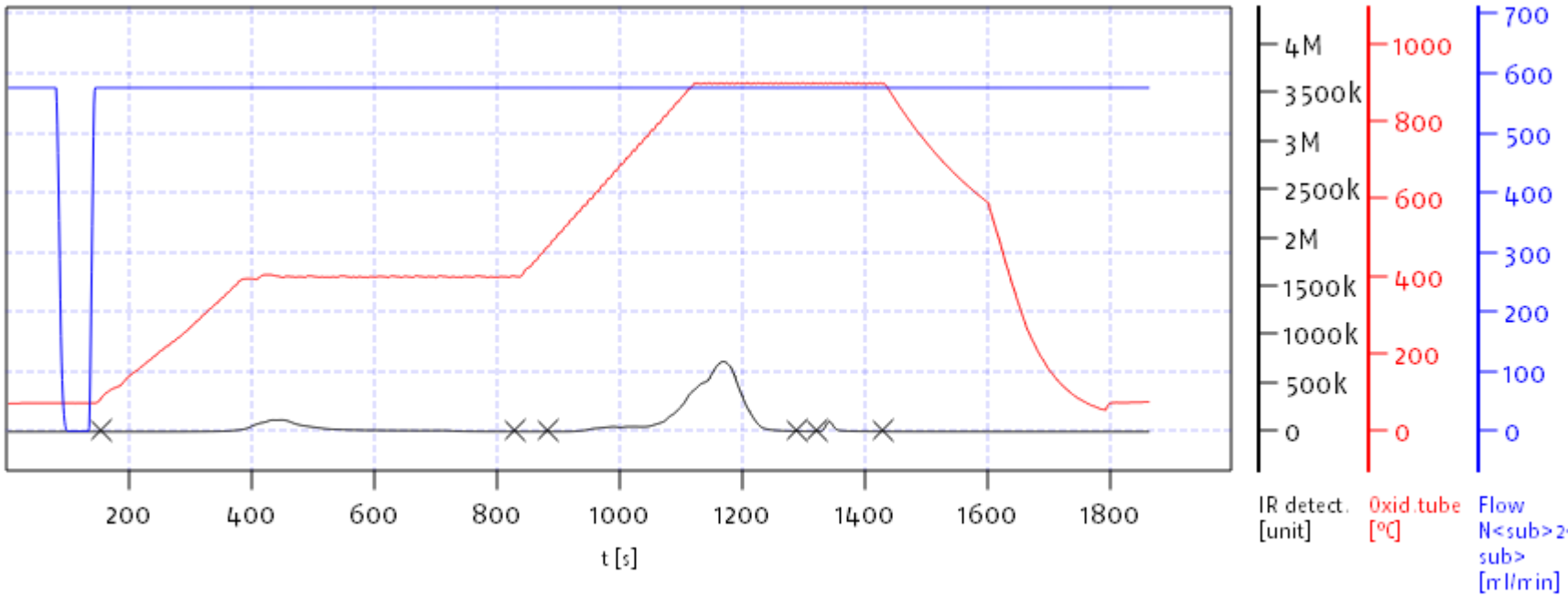
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
56	5	21H0089-13	519.30		1.00	CARBON	8/26/2021 7:48 PM	0.187	0.863	1.050	bl	532 313	2 666 160	71 419	0.9874	1.0000



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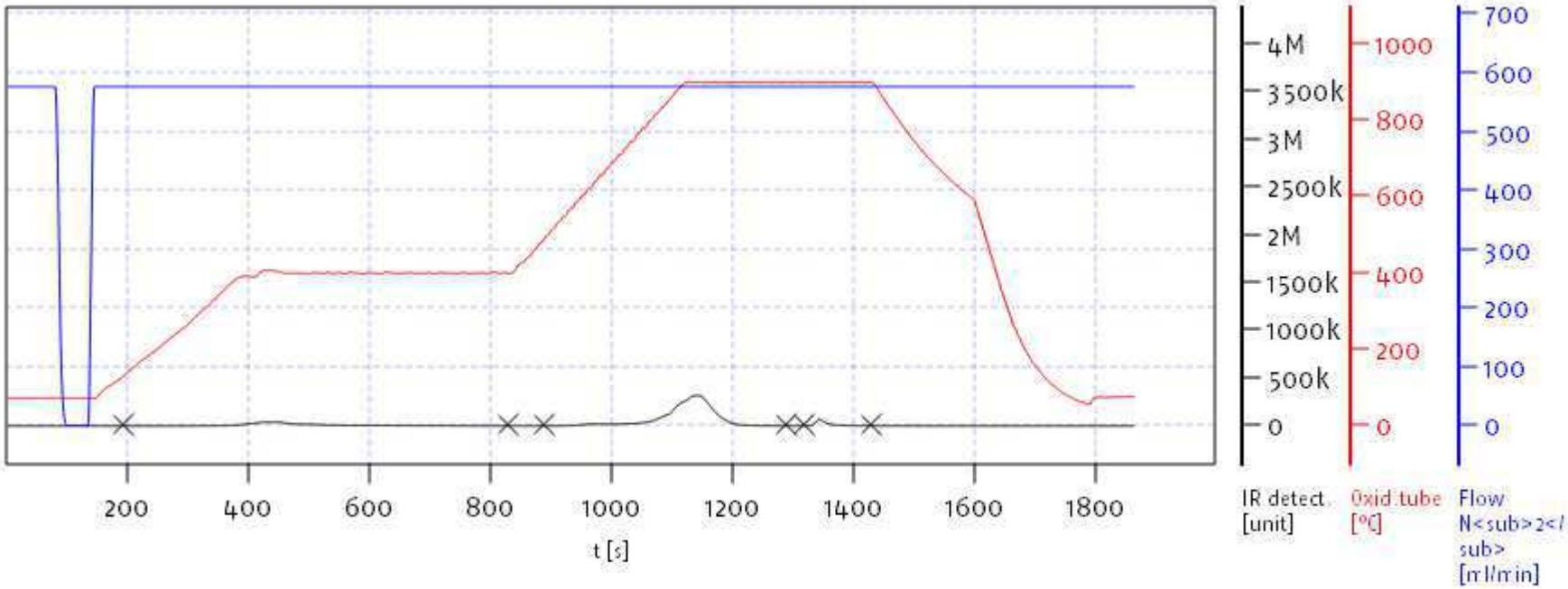
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
57	6	21H0089-14	585.70		1.00	CARBON	8/26/2021 8:20 PM	0.061	0.285	0.345	bl	178 011	998 528	57 679	0.9874	1.0000



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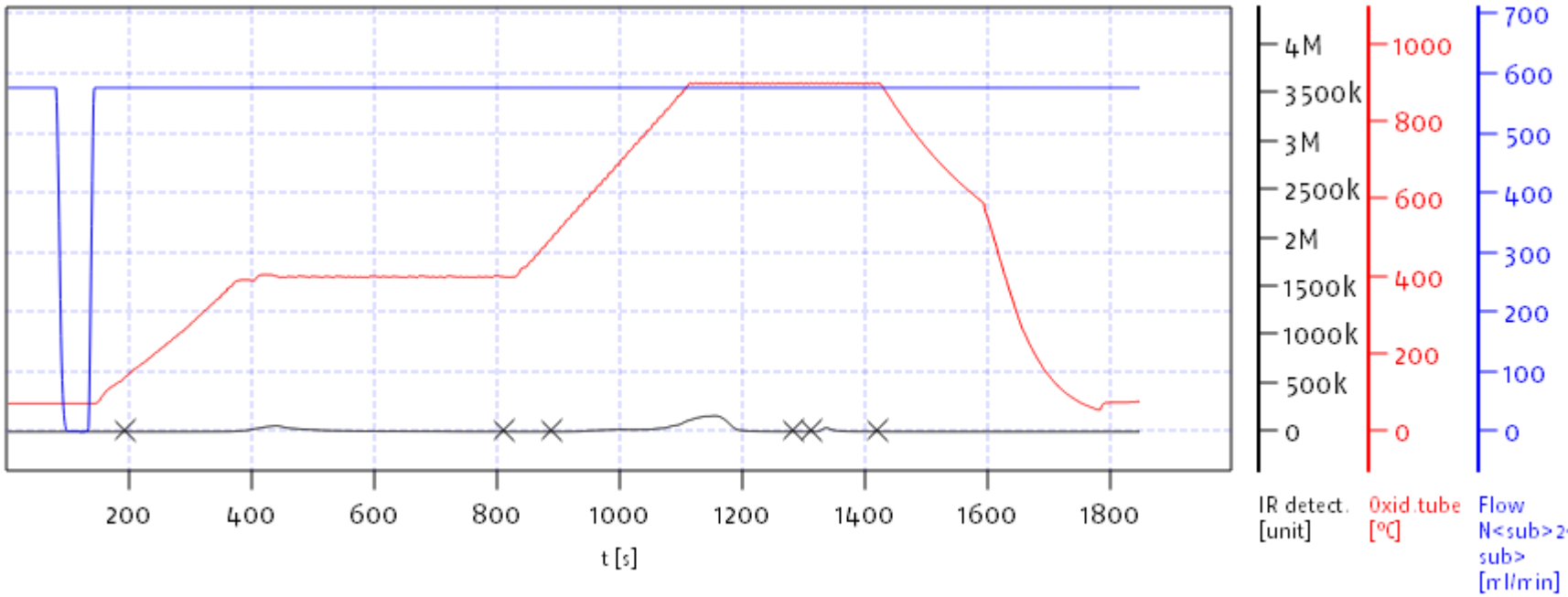
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
58	7	21H0089-15	556.20		1.00	CARBON	8/26/2021 8:51 PM	0.067	0.179	0.246	bl	213 437	600 872	33 727	0.9874	1.0000



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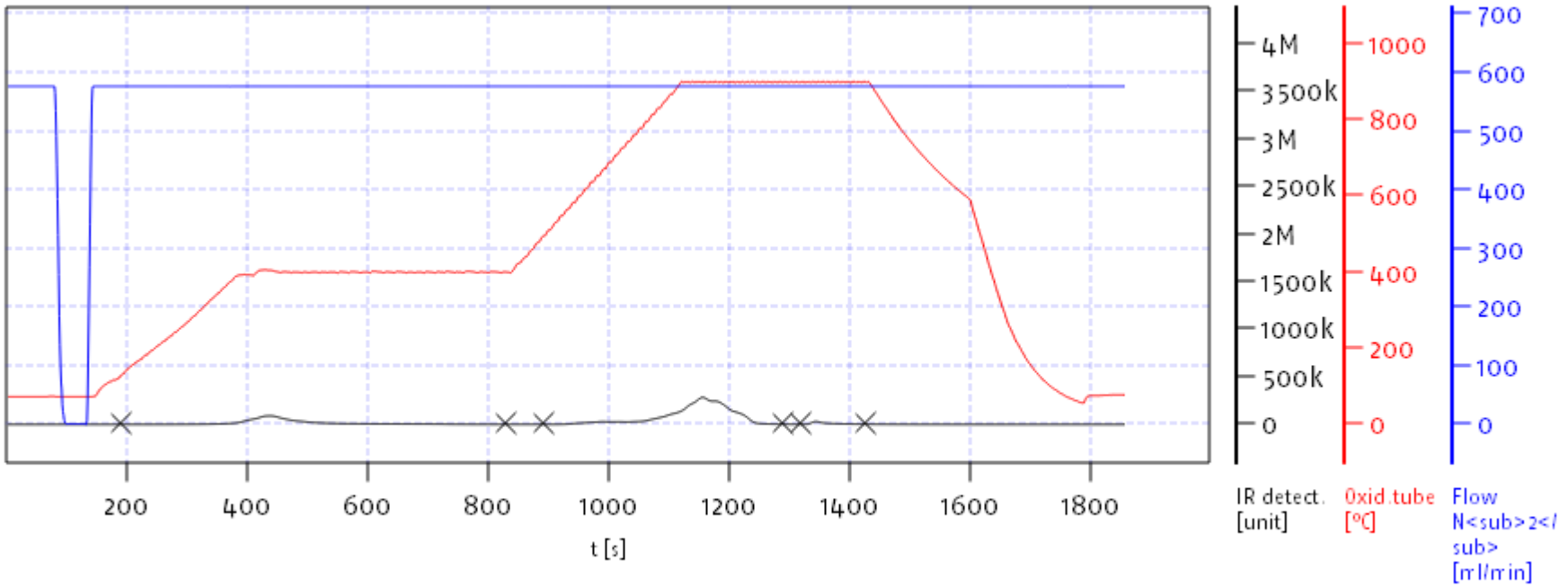
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
59	8	21H0089-16	505.30		1.00	CARBON	8/26/2021 9:22 PM	0.114	0.378	0.492	bl	331 092	1 143 220	37 581	0.9874	1.0000



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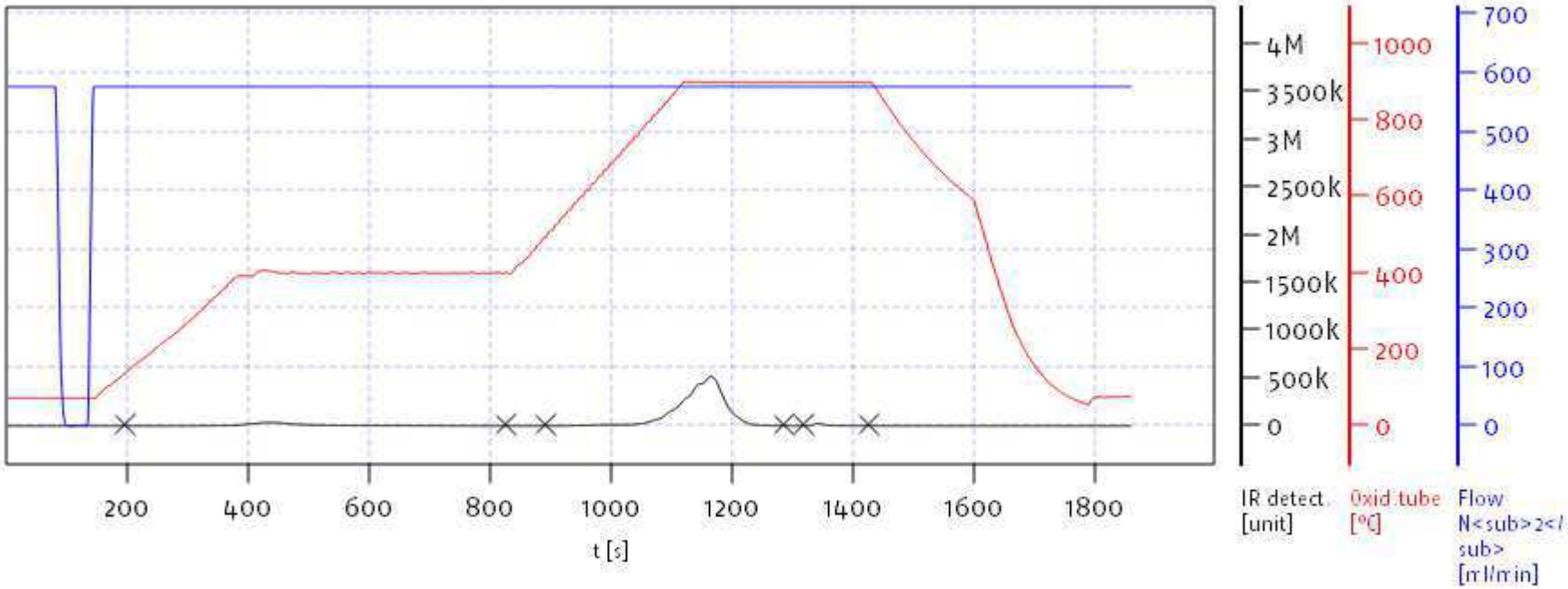
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
60	9	21H0089-17	586.90		1.00	CARBON	8/26/2021 9:54 PM	0.042	0.443	0.486	bl	149 159	1 552 010	23 359	0.9874	1.0000



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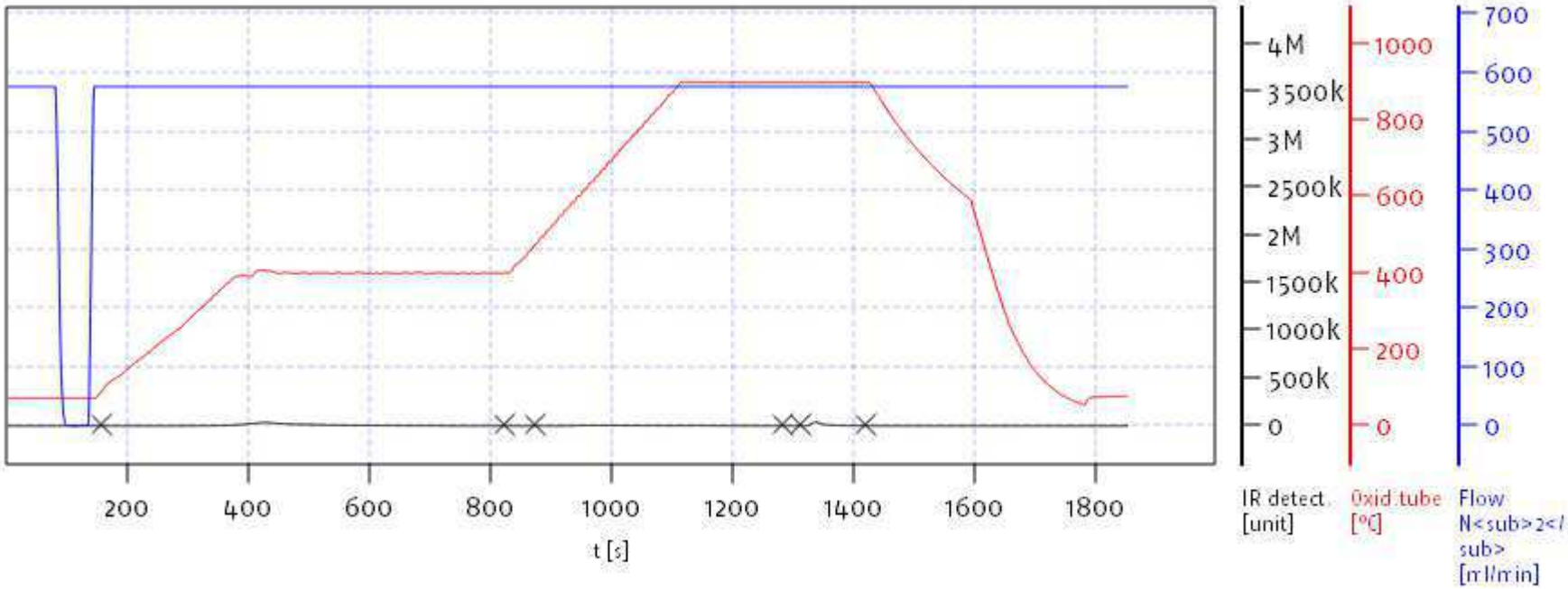
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
61	10	21H0089-18	534.50		1.00	CARBON	8/26/2021 10:25 PM	0.053	0.009	0.061	bl	154 711	38 983	37 170	0.9874	1.0000



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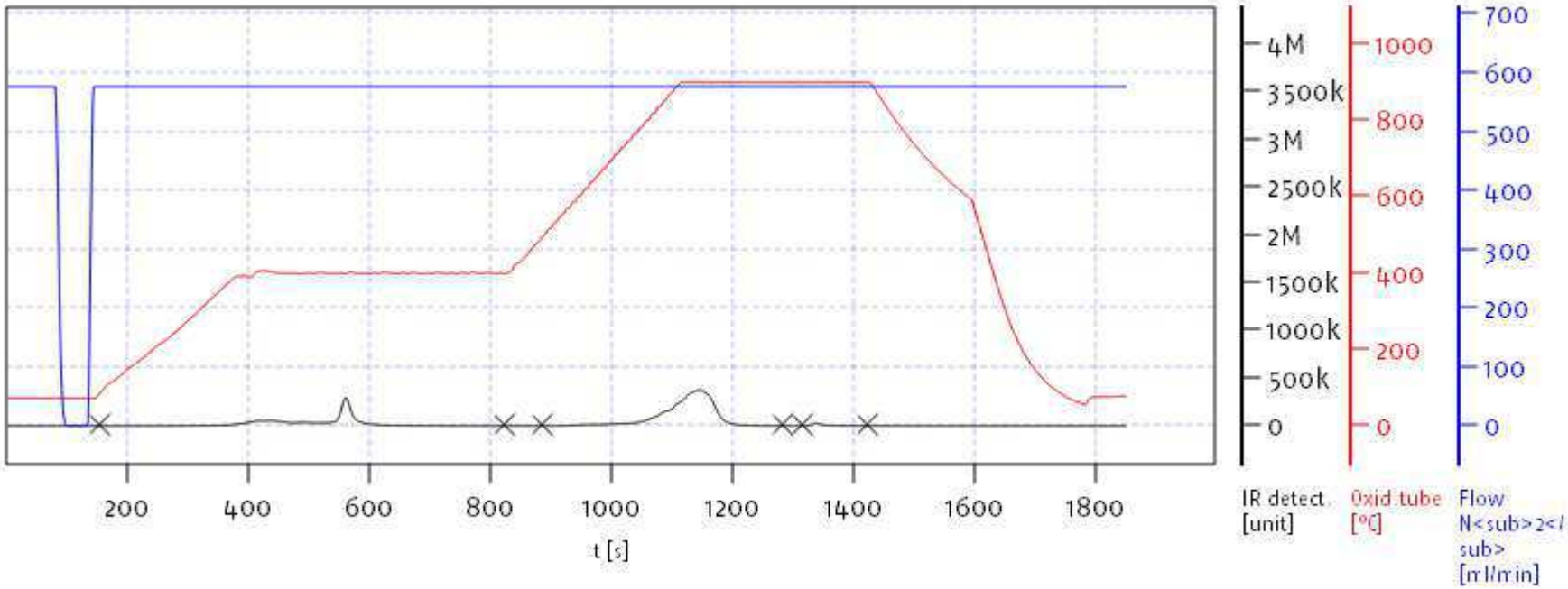
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
62	11	21H0089-19	509.70		1.00	CARBON	8/26/2021 10:56 PM	0.173	0.392	0.565	bl	528 317	1 193 990	24 687	0.9874	1.0000



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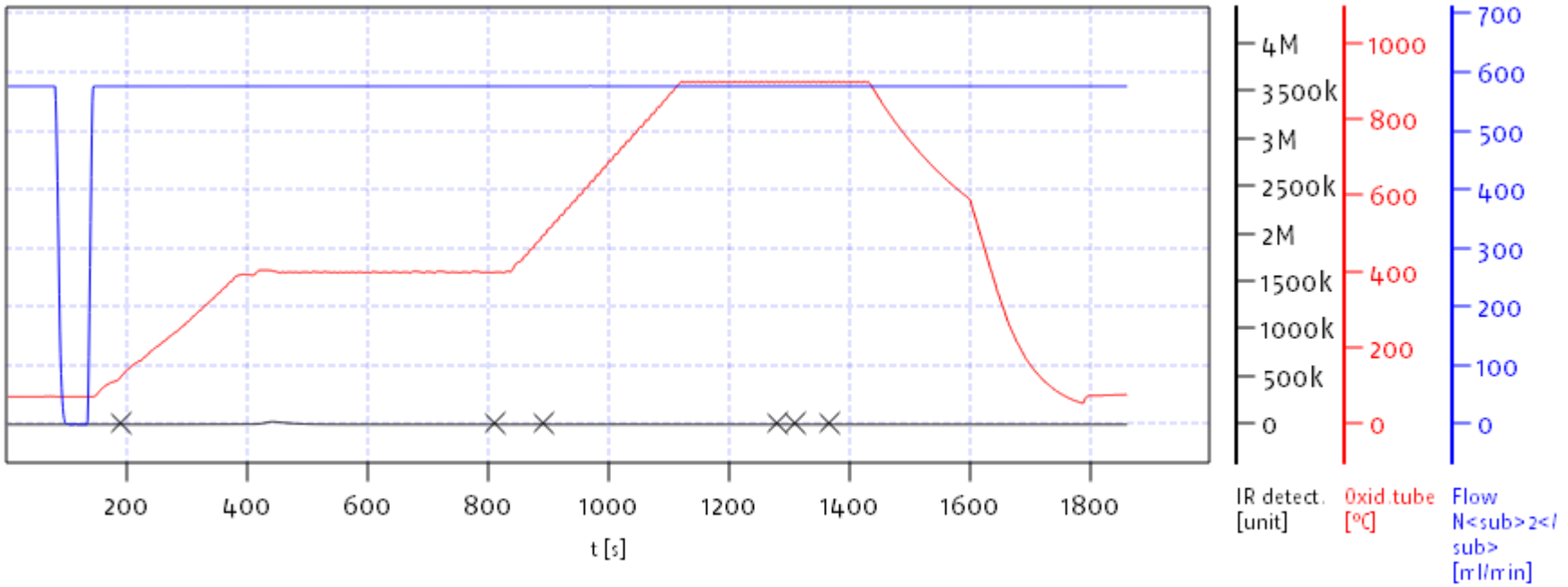
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
63	12	BJH0512-MRL1	505.70		1.00	CARBON	8/26/2021 11:28 PM	0.016	0.000	0.016	bl,C3u,C2u	61 318	4 395	68	0.9874	1.0000



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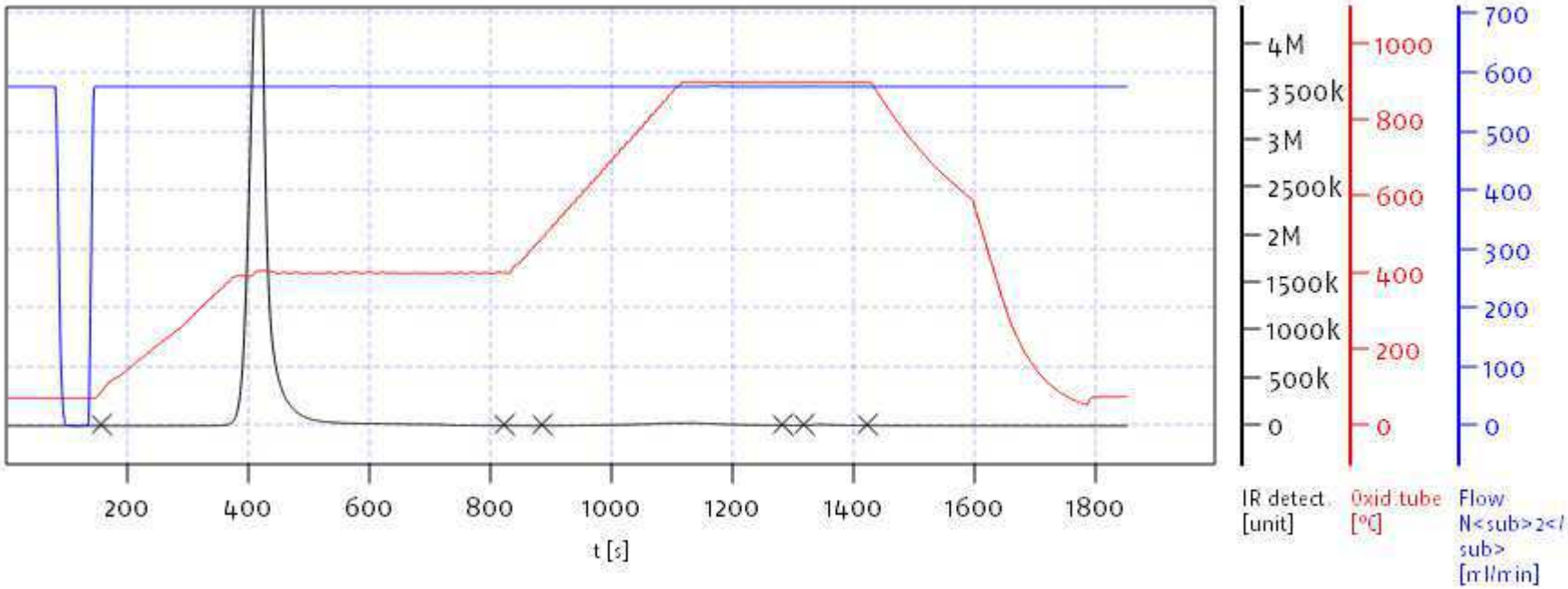
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
64	13	SJH0331-CCV5	25.20		1.00	CARBON	8/26/2021 11:59 PM	44.658	1.274	45.931	bl	6 741 860	201 751	29 459	0.9874	1.0000



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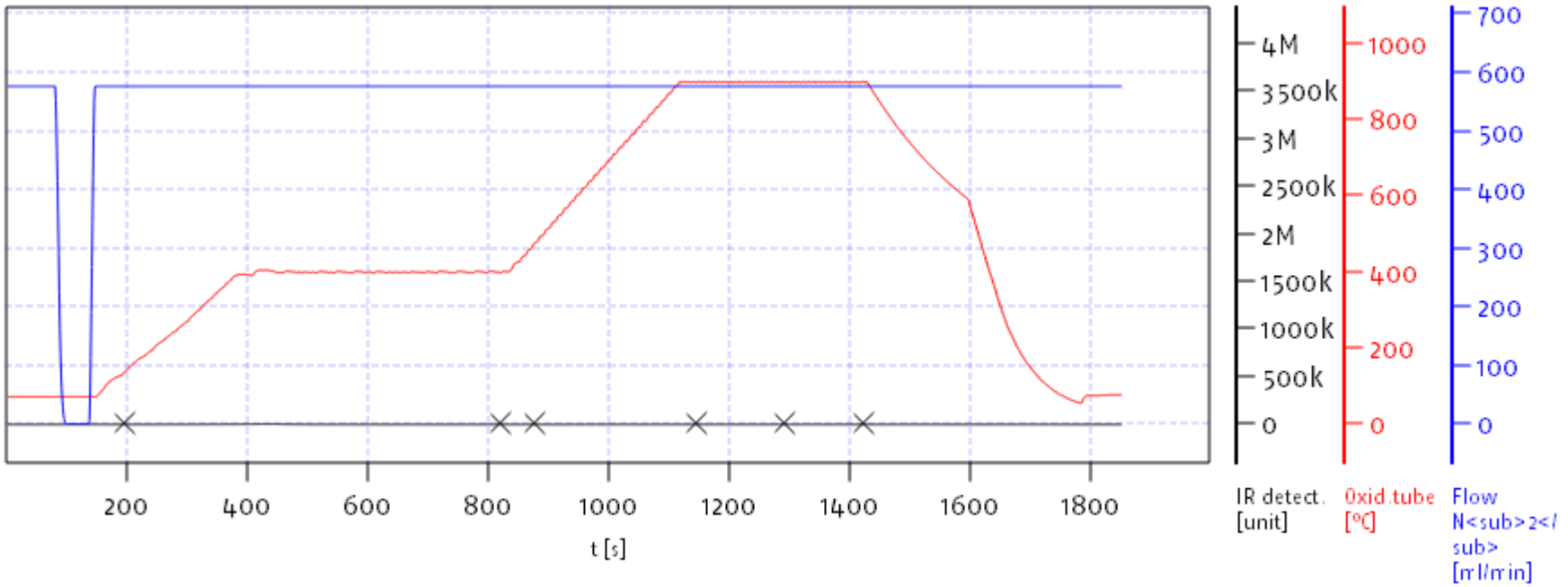
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
65	14	SJH0331-CCB5	635.00		1.00	CARBON	8/27/2021 12:30 AM	0.001	0.000	0.001	bl,C2u	15 694	0	30	0.9874	1.0000



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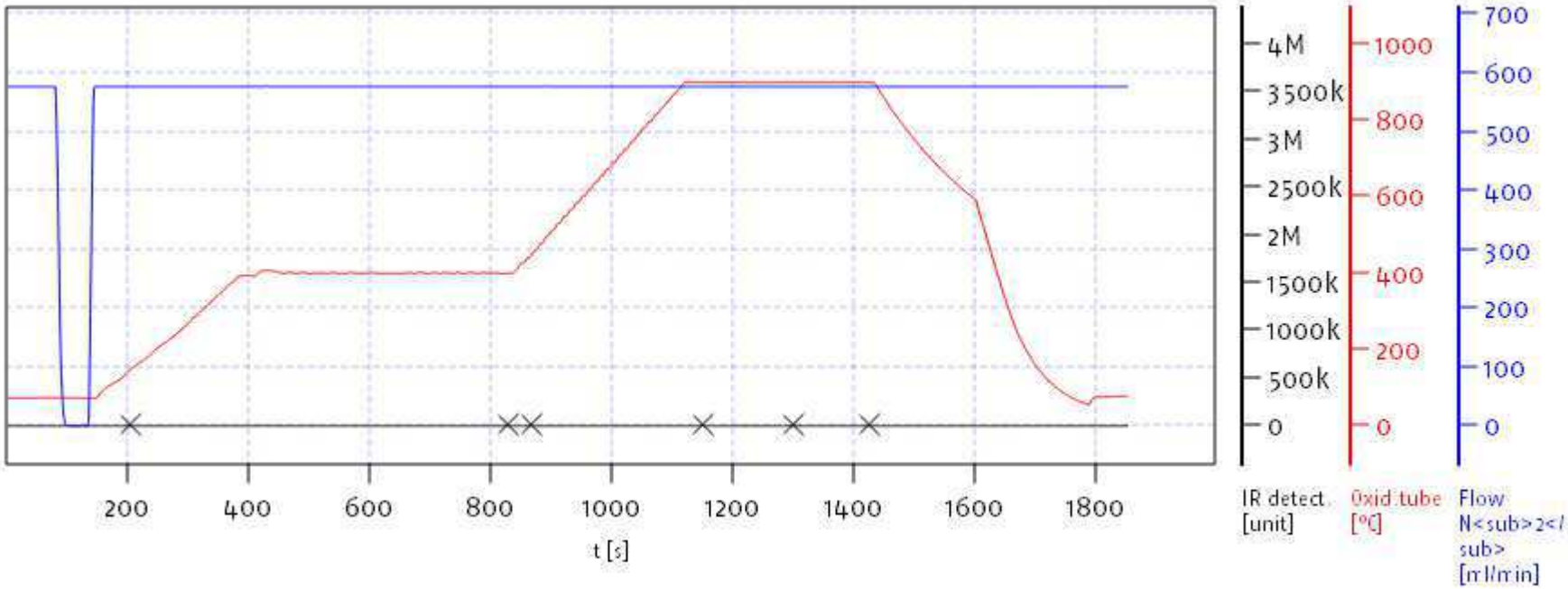
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
66	15	BJH0512-BLK1	632.60		1.00	CARBON	8/27/2021 1:02 AM	0.000	0.000	0.000	bl,C1u,C3u,C2u	3 308	920	473	0.9874	1.0000



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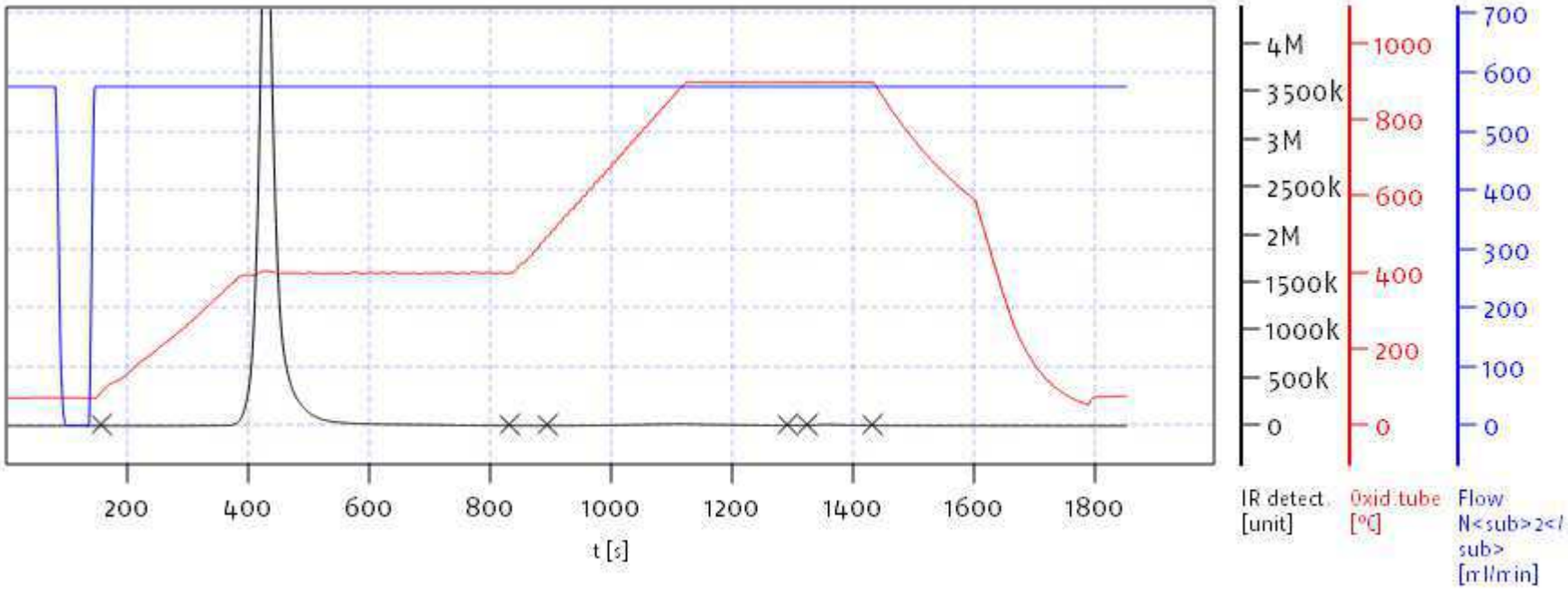
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
67	16	BJH0512-BS1	25.40		1.00	CARBON	8/27/2021 1:33 AM	45.782	0.838	46.620	bl	6 966 500	137 684	29 632	0.9874	1.0000



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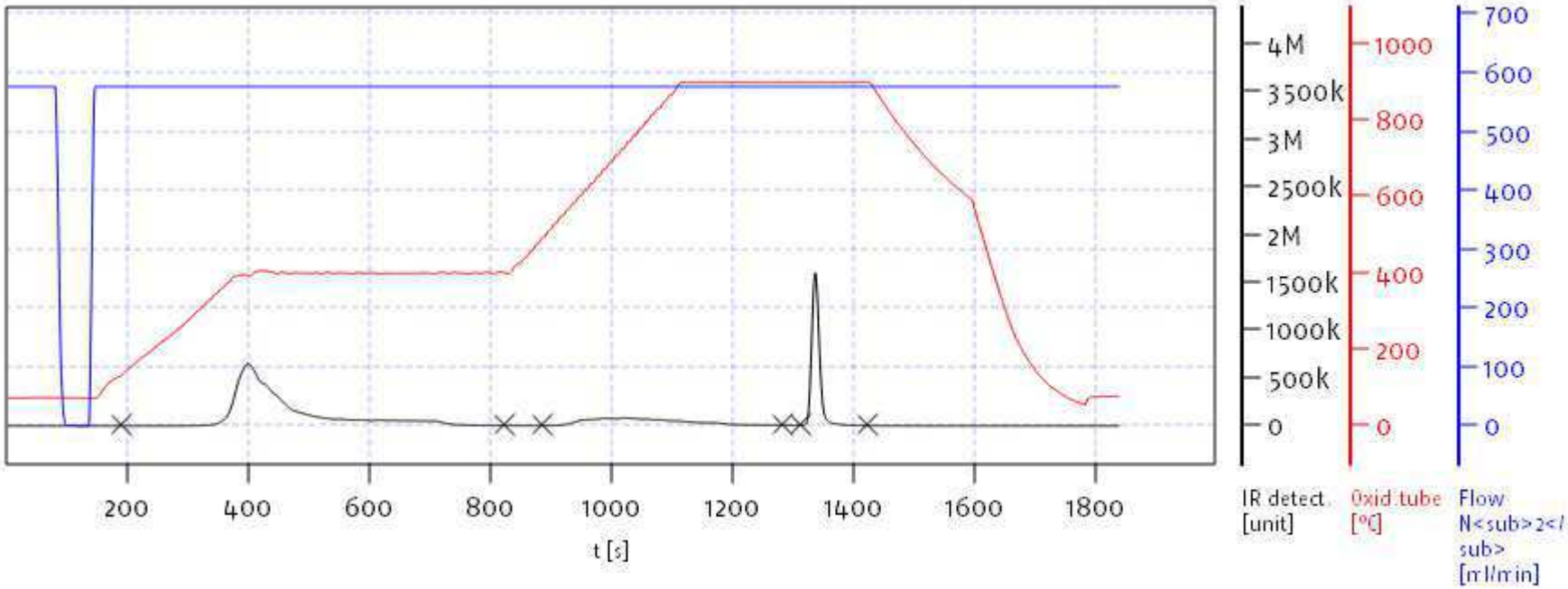
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
68	17	21H0140-01	515.40		1.00	CARBON	8/27/2021 2:04 AM	1.042	0.192	1.235	bl	2 331 590	599 122	901 849	0.9874	1.0000



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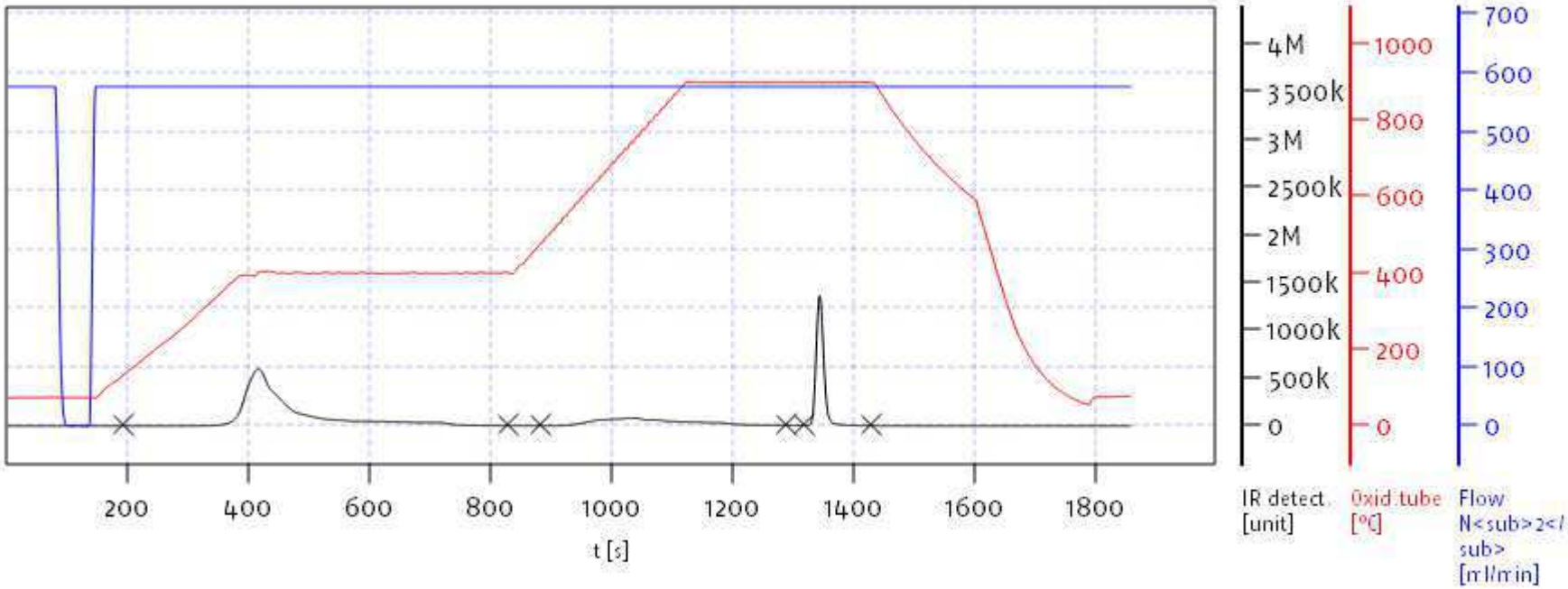
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
69	18	BJH0512-DUP1	505.50		1.00	CARBON	8/27/2021 2:36 AM	0.859	0.174	1.033	bl	1 863 800	533 584	753 606	0.9874	1.0000



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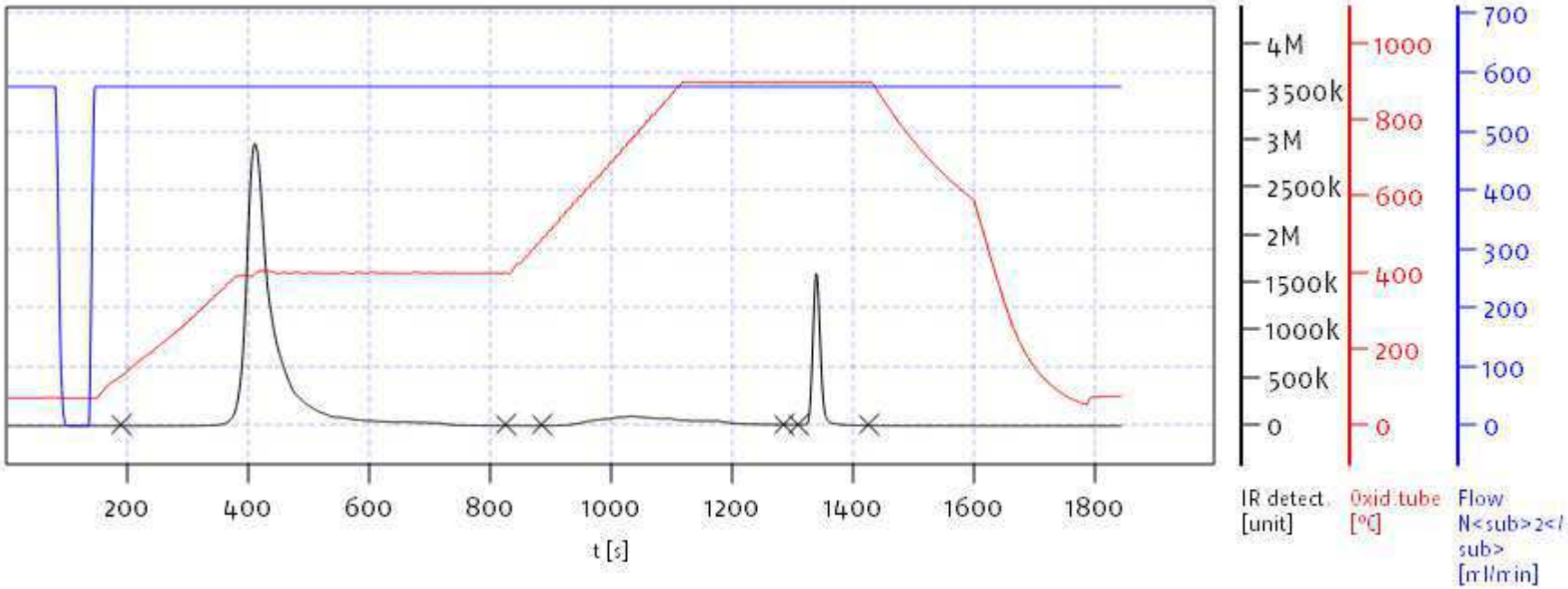
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
70	19	BJH0512-MS1	555.00	0.0119	1.00	CARBON	8/27/2021 3:07 AM	1.974	0.213	2.187	bl	5 694 500	710 678	888 309	0.9874	1.0000



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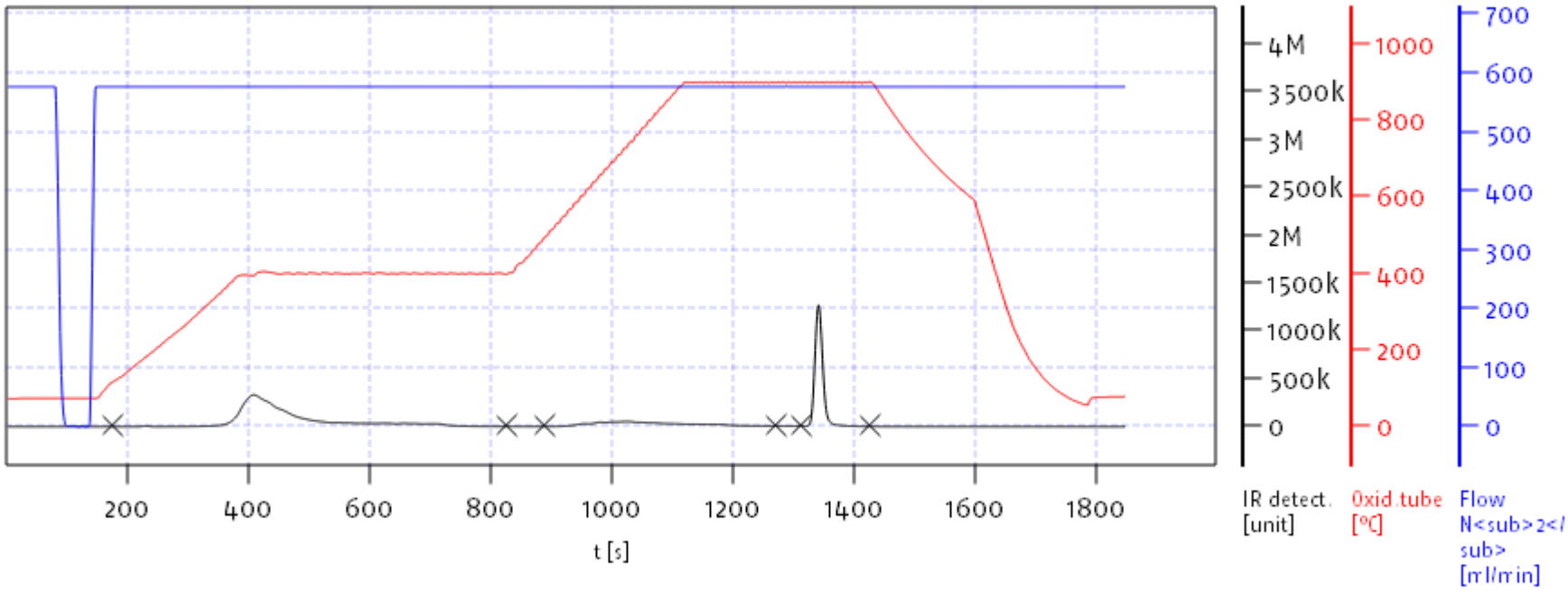
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
71	20	21H0140-02	358.70		1.00	CARBON	8/27/2021 3:38 AM	0.926	0.164	1.090	bl	1 281 940	359 426	725 012	0.9874	1.0000



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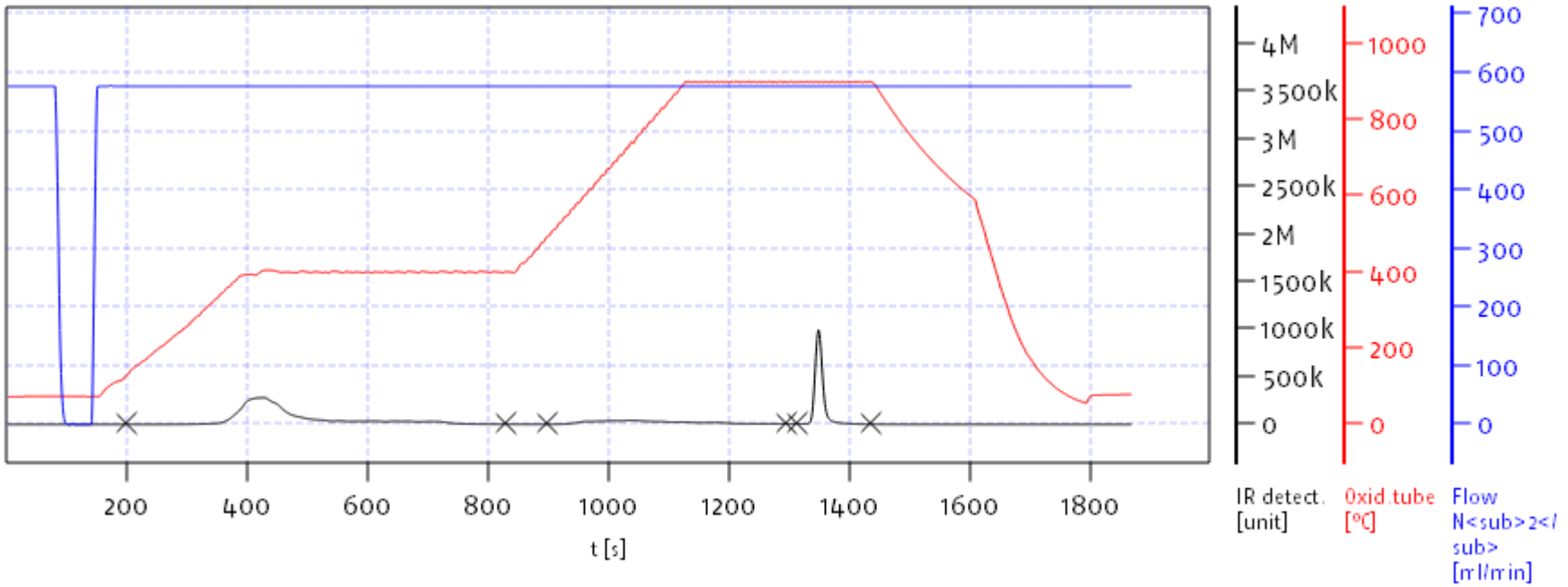
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
72	21	21H0140-03	294.80		1.00	CARBON	8/27/2021 4:10 AM	0.993	0.171	1.164	bl	1 209 590	309 979	562 495	0.9874	1.0000



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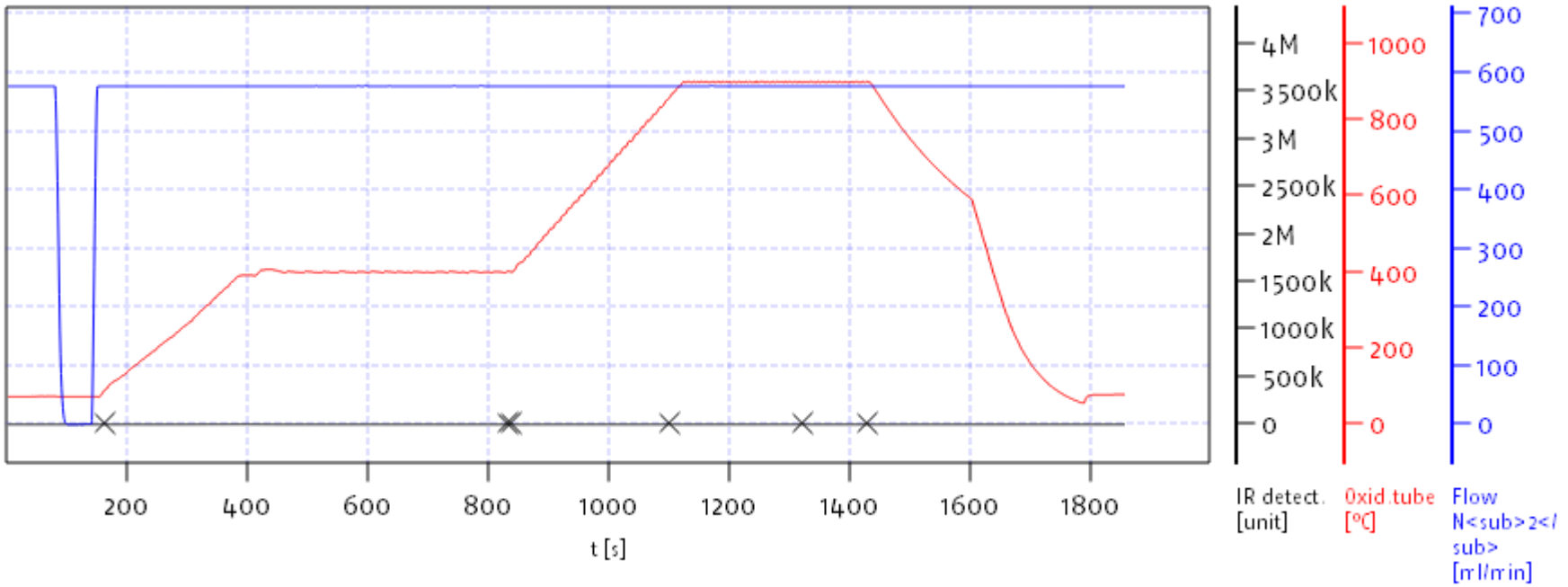
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
73	22	BLANK	1.00		1.00	CARBON	8/27/2021 4:41 AM	0.000	0.000	0.000	bl	7 936	478	259	0.9874	1.0000



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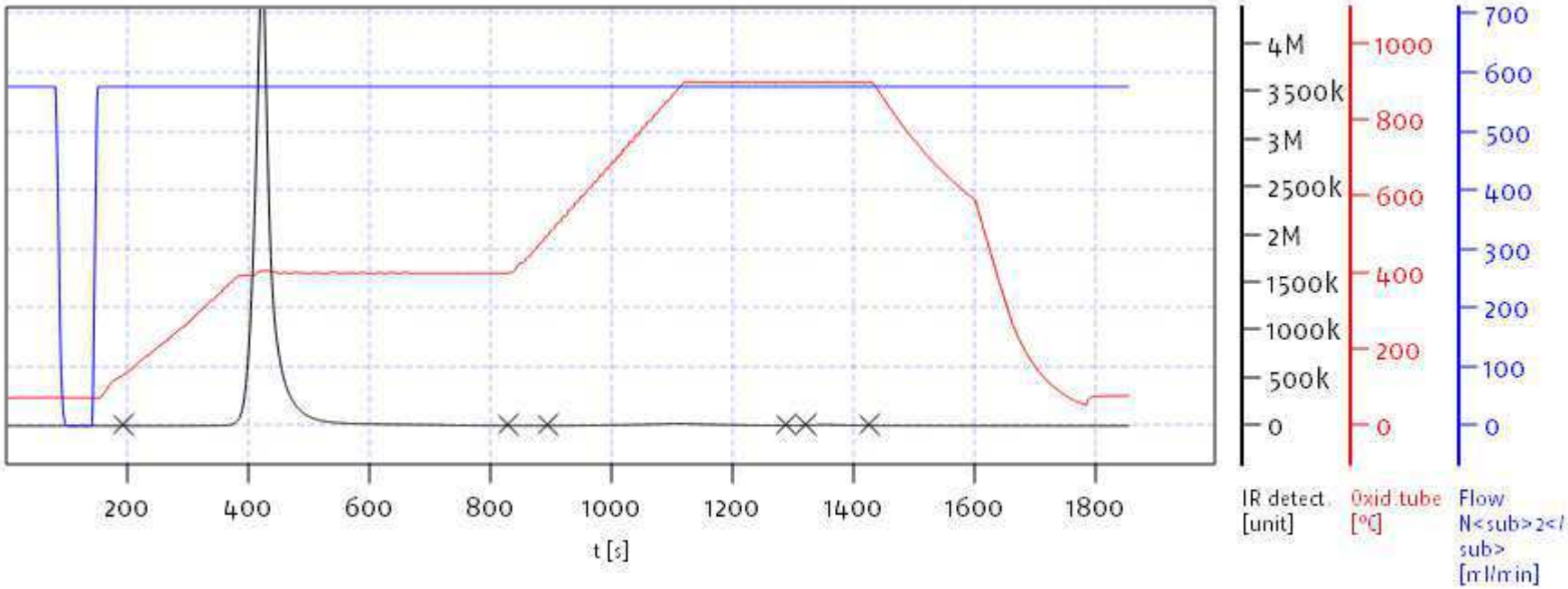
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
74	23	Dfactor	21.10		1.00	CARBON	8/27/2021 5:13 AM	44.565	1.103	45.668	bl	5 624 490	149 430	26 588	0.9893	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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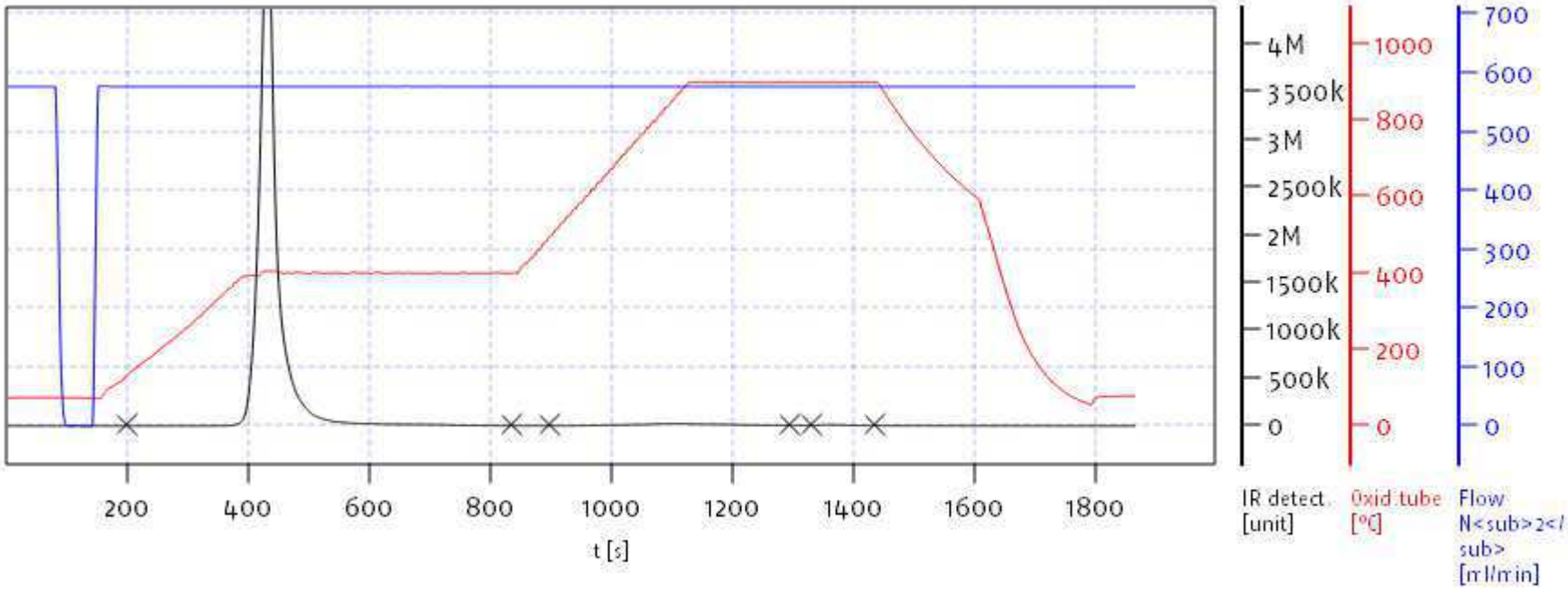
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
75	24	Dfactor	24.80		1.00	CARBON	8/27/2021 5:44 AM	44.537	1.026	45.563	bl	6 724 490	162 352	25 078	0.9723	1.0000



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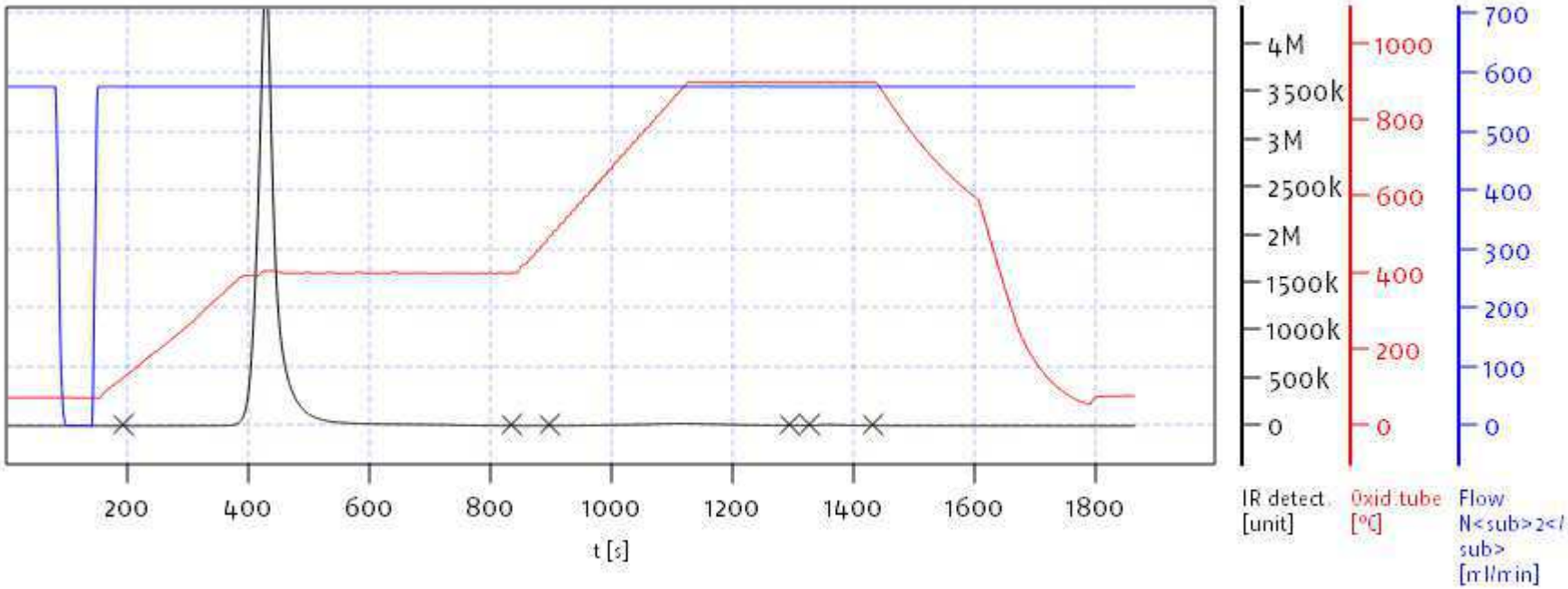
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
76	25	SJH0331-CCV6	22.00		1.00	CARBON	8/27/2021 6:16 AM	44.038	1.236	45.274	bl	5 845 220	172 698	26 767	0.9808	1.0000



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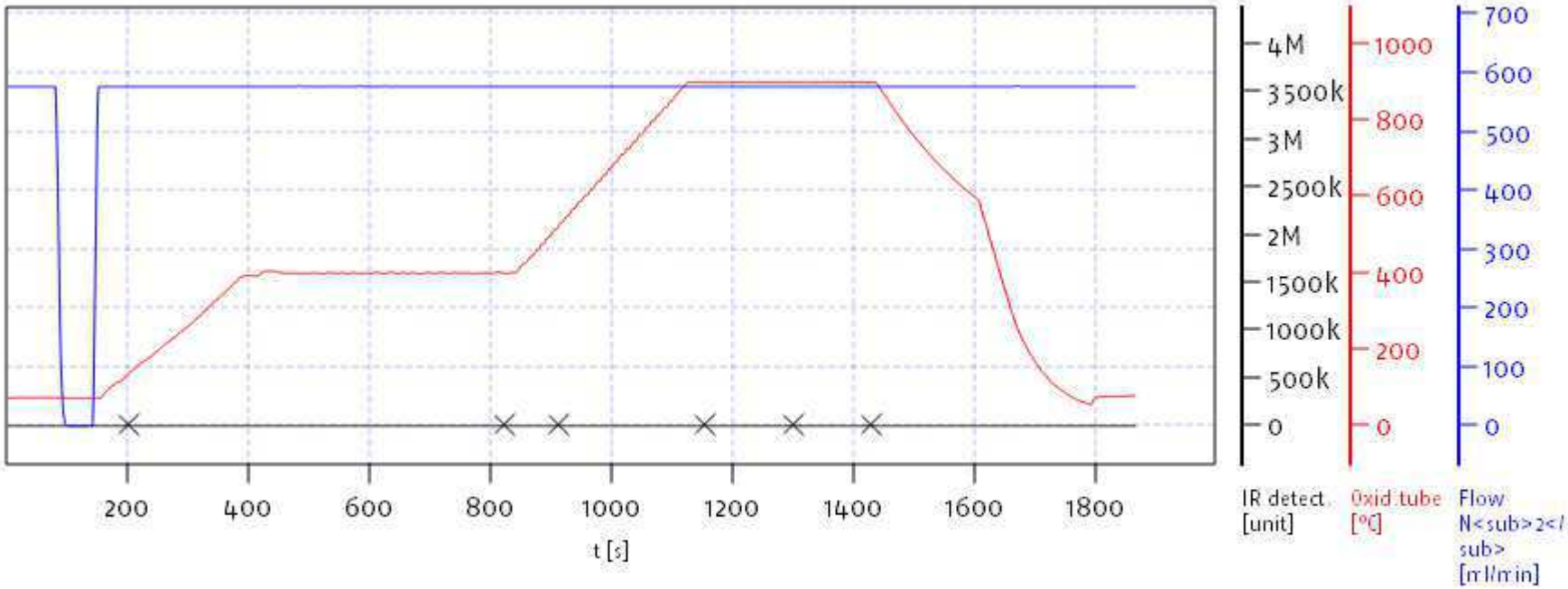
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
77	26	SJH0331-CCB6	548.30		1.00	CARBON	8/27/2021 6:47 AM	0.000	0.000	0.000	bl,C1u,C3u,C2u	1 753	1 180	250	0.9808	1.0000



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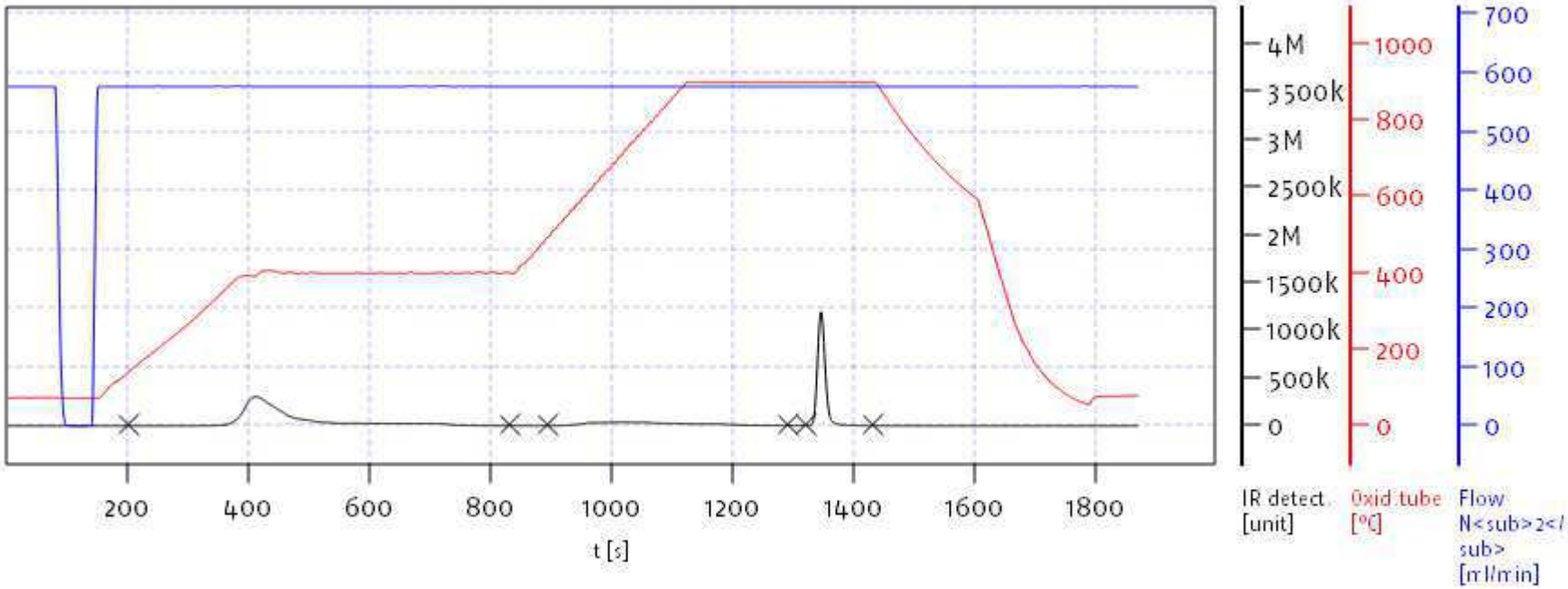
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
78	27	21H0140-04	303.90		1.00	CARBON	8/27/2021 7:19 AM	0.932	0.155	1.086	bl	1 049 770	290 373	669 853	0.9808	1.0000



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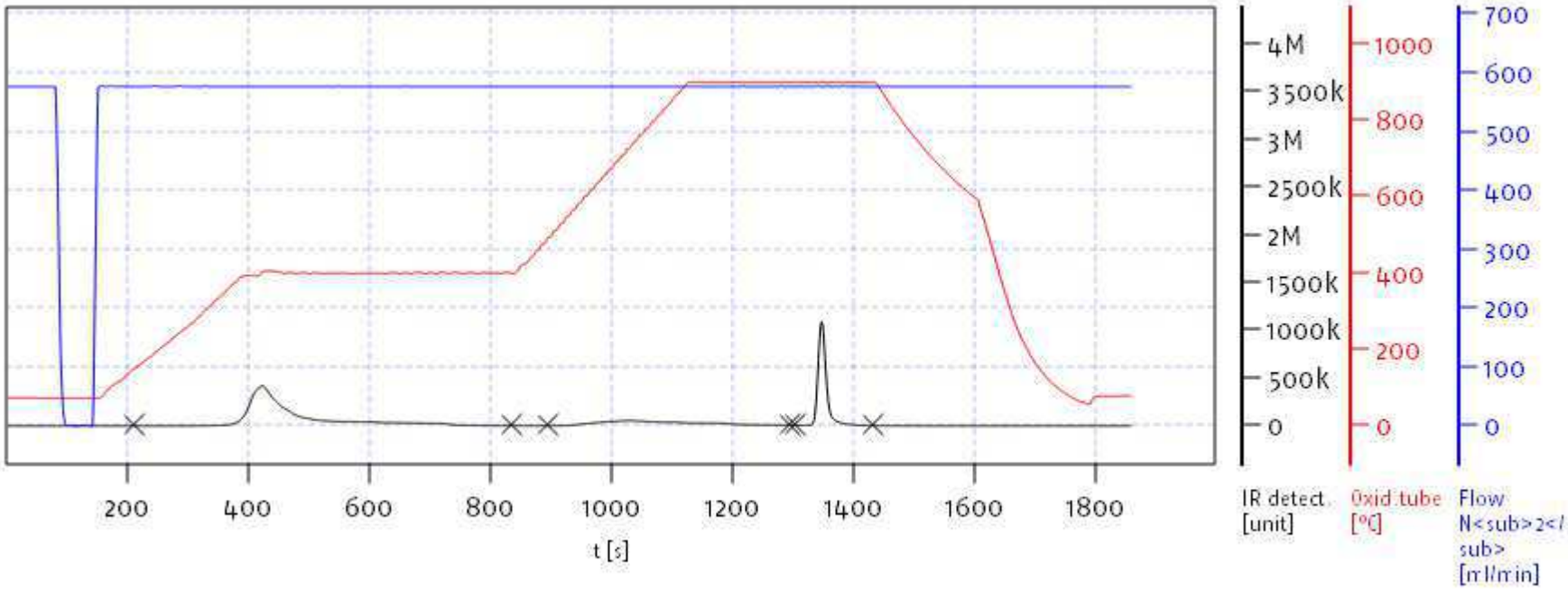
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
79	28	21H0140-05	398.10		1.00	CARBON	8/27/2021 7:50 AM	0.819	0.162	0.981	bl	1 317 800	393 649	661 266	0.9808	1.0000



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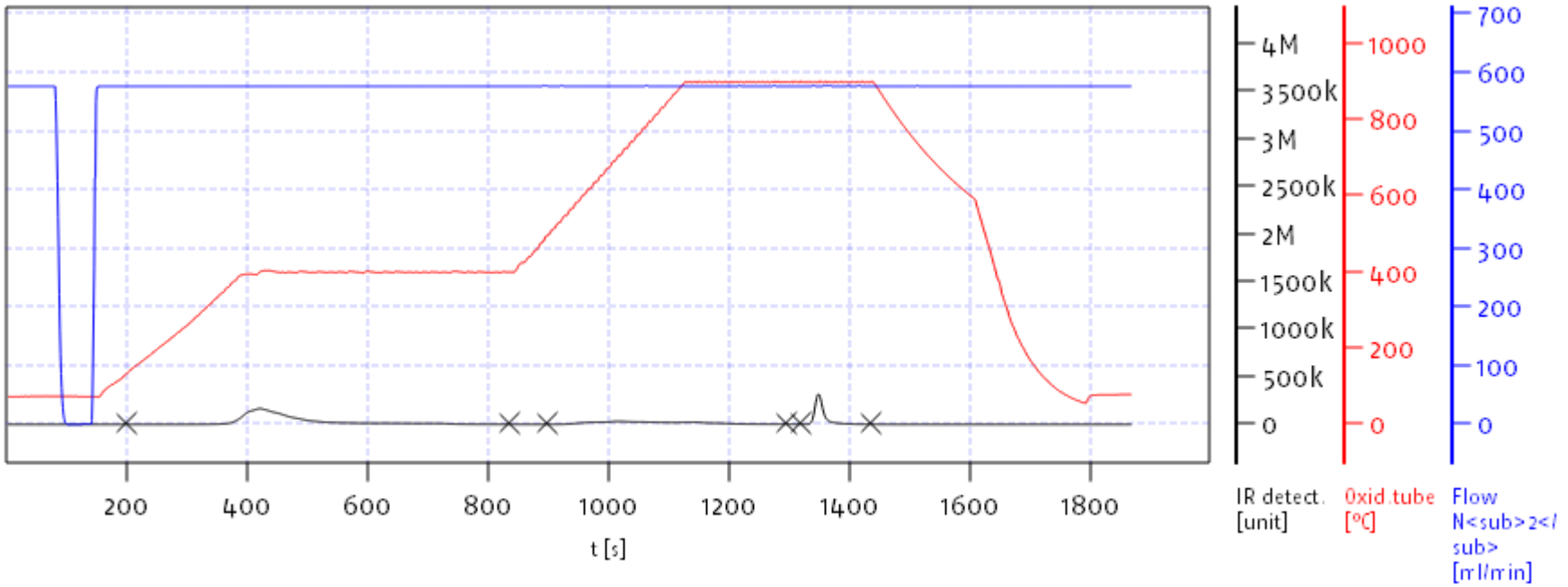
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
80	29	21H0140-06	334.50		1.00	CARBON	8/27/2021 8:22 AM	0.404	0.109	0.514	bl	634 956	228 189	201 330	0.9808	1.0000



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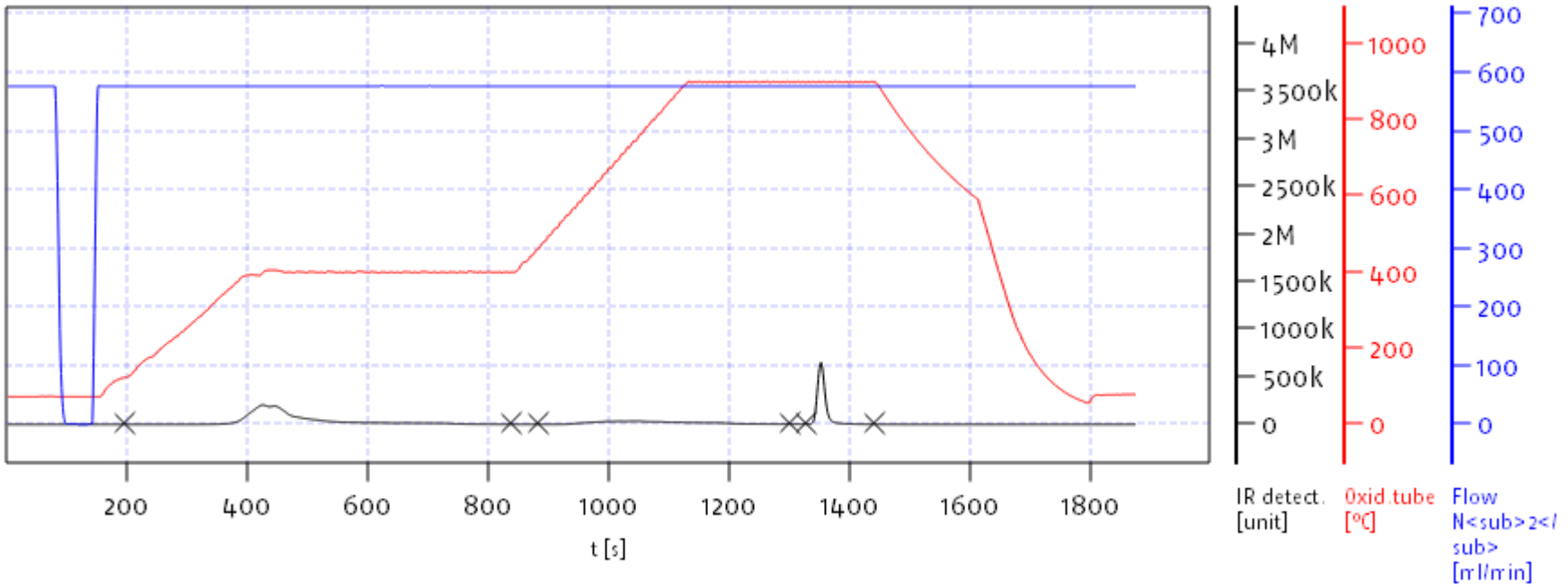
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
81	30	21H0140-07	323.10		1.00	CARBON	8/27/2021 8:54 AM	0.579	0.126	0.705	bl	777 363	252 881	367 554	0.9808	1.0000



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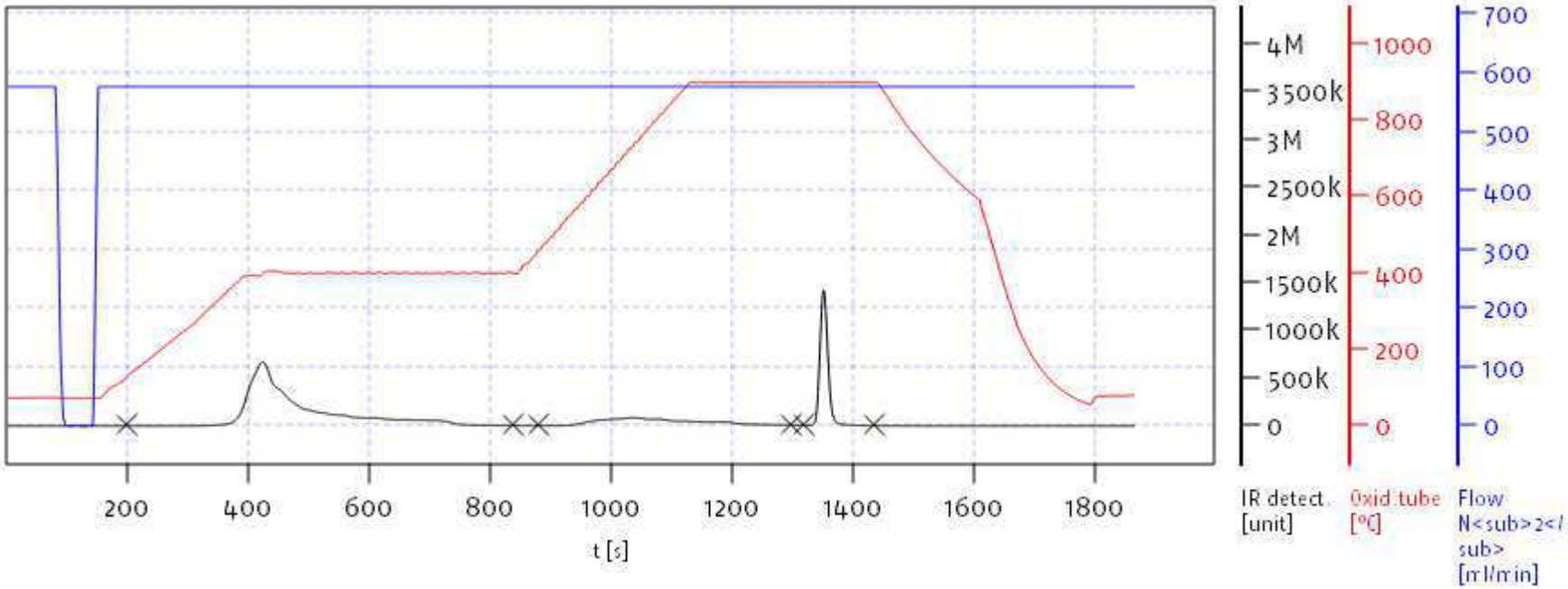
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
82	31	21H0140-08	608.70		1.00	CARBON	8/27/2021 9:25 AM	0.884	0.165	1.050	bl	2 427 370	607 996	828 909	0.9808	1.0000



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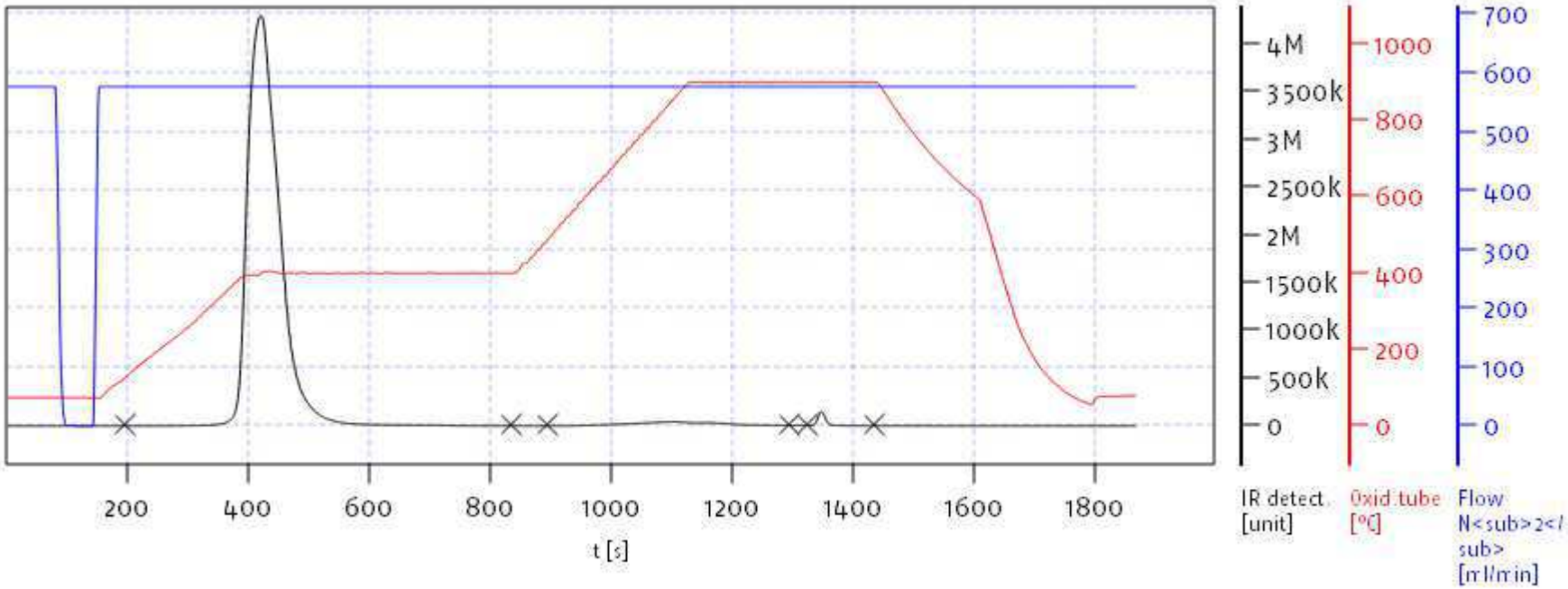
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
83	32	21H0140-09	579.90		1.00	CARBON	8/27/2021 9:57 AM	2.798	0.076	2.875	bl,Cl o	9 729 350	274 246	89 035	0.9808	1.0000



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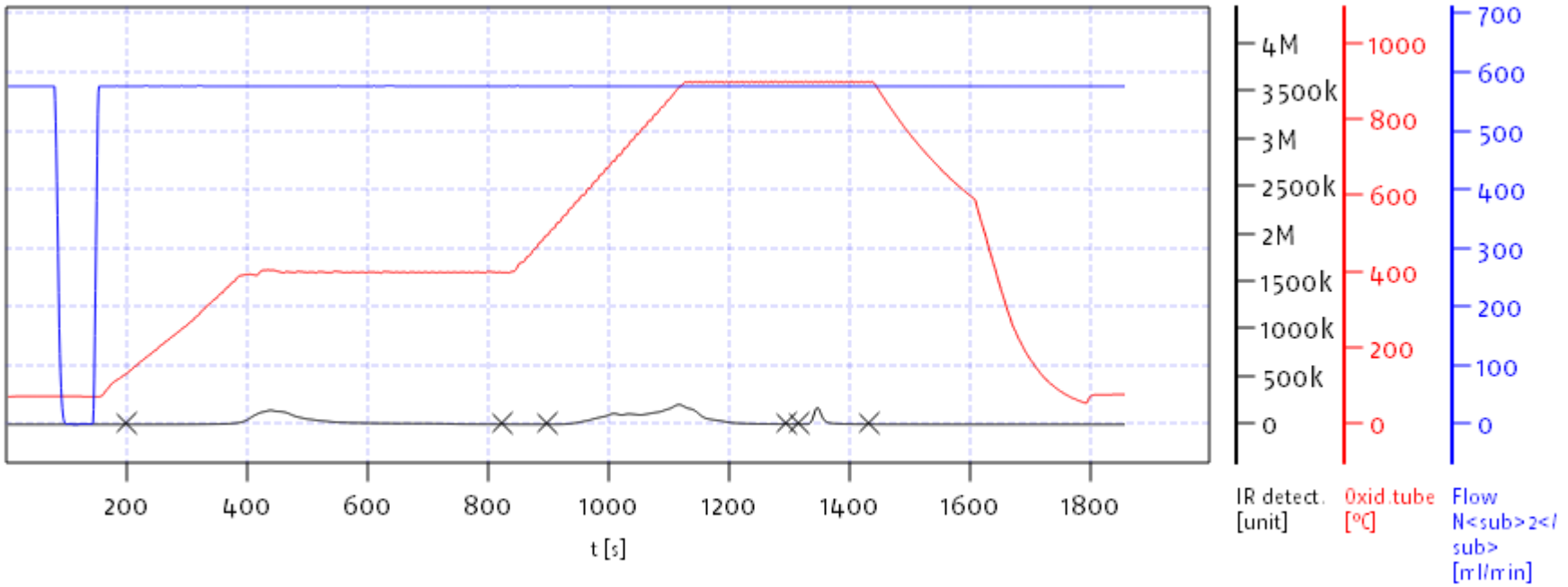
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
84	33	21H0140-10	723.80		1.00	CARBON	8/27/2021 10:28 AM	0.160	0.231	0.391	bl	601 404	1 003 240	117 021	0.9808	1.0000



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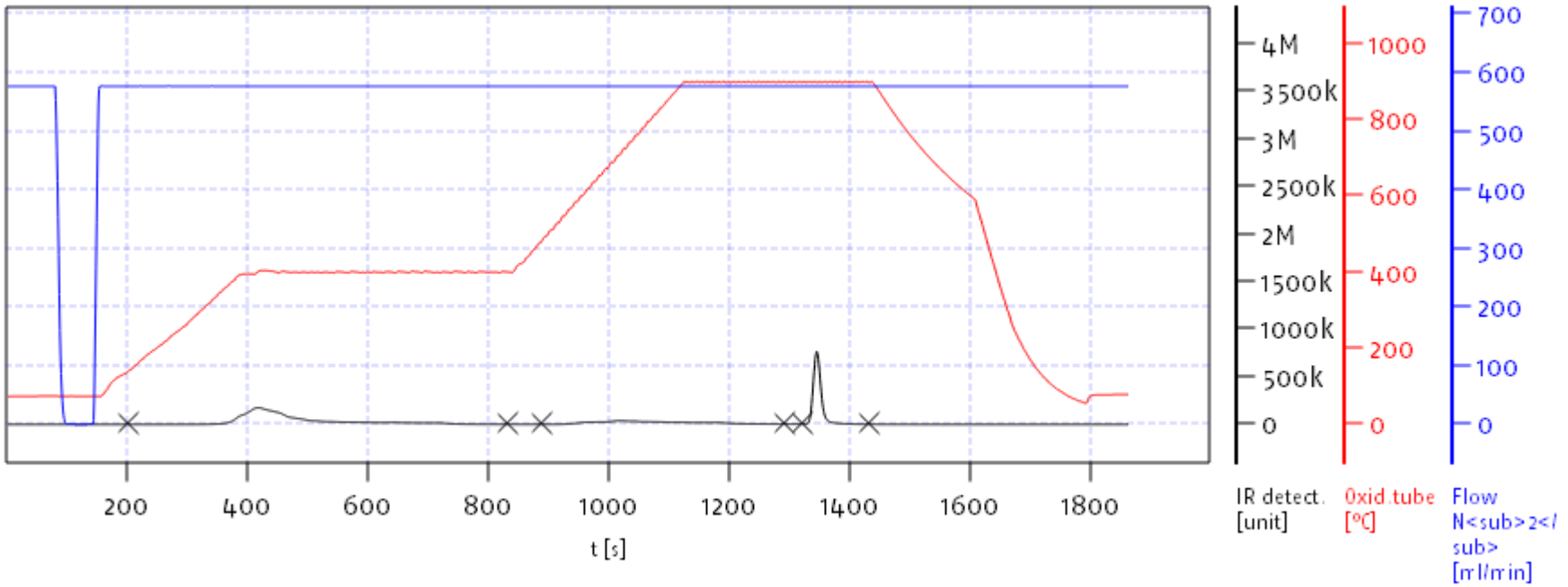
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
85	34	21H0184-01	375.90		1.00	CARBON	8/27/2021 11:00 AM	0.506	0.113	0.620	bl	728 873	263 986	434 915	0.9808	1.0000



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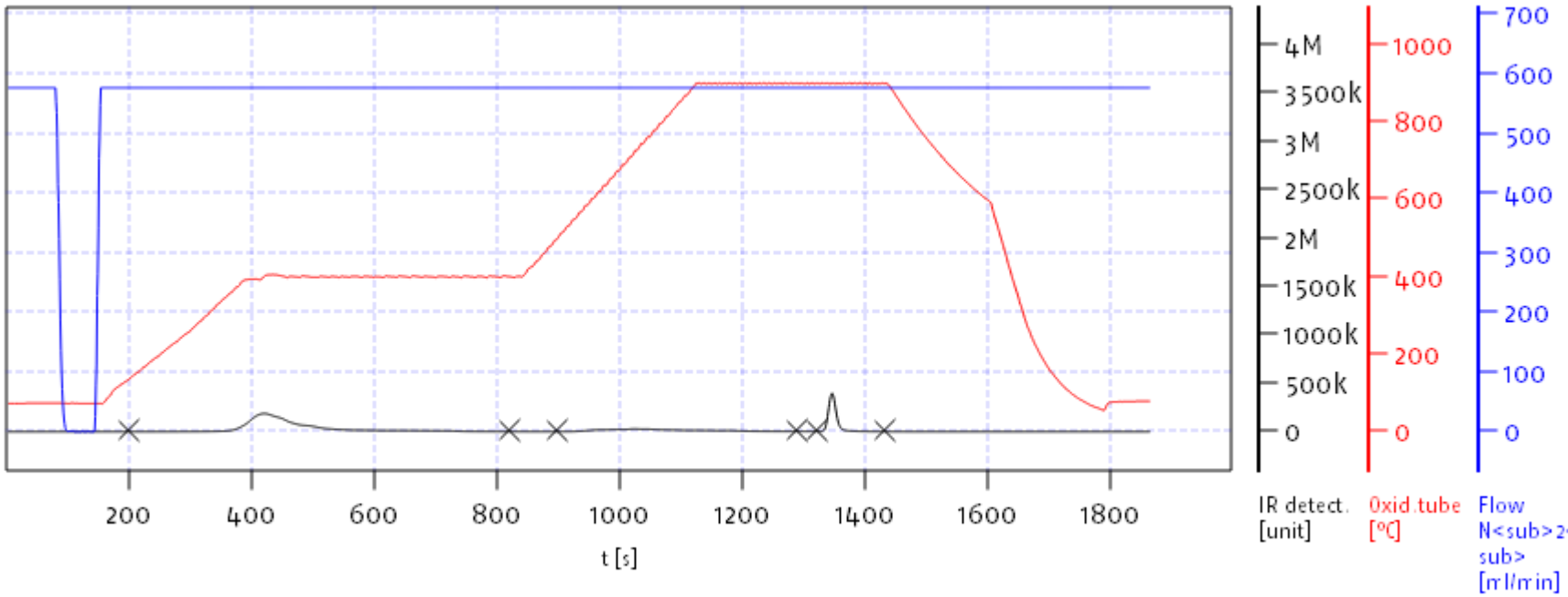
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
86	35	21H0184-02	319.90		1.00	CARBON	8/27/2021 11:31 AM	0.466	0.091	0.557	bl	693 735	184 376	224 532	0.9808	1.0000



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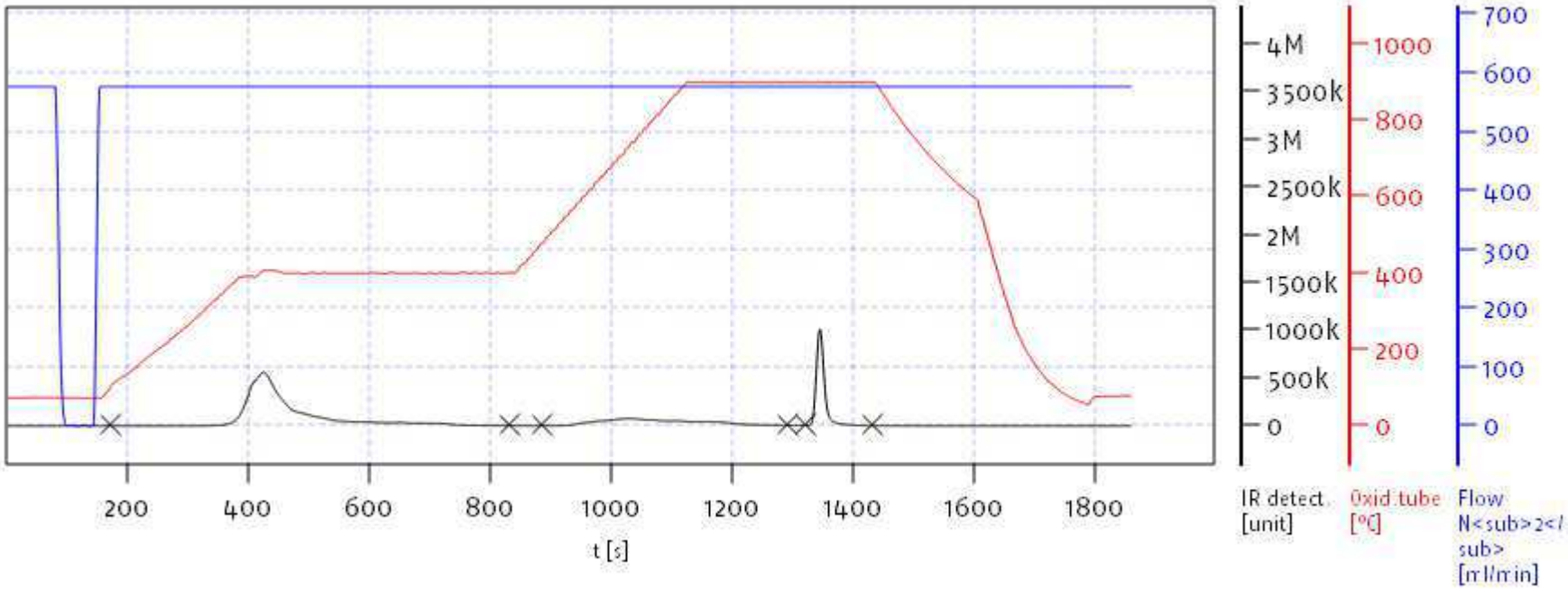
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
87	36	21H0184-03	526.60		1.00	CARBON	8/27/2021 12:03 PM	0.741	0.172	0.912	bl	1 774 540	546 694	592 063	0.9808	1.0000



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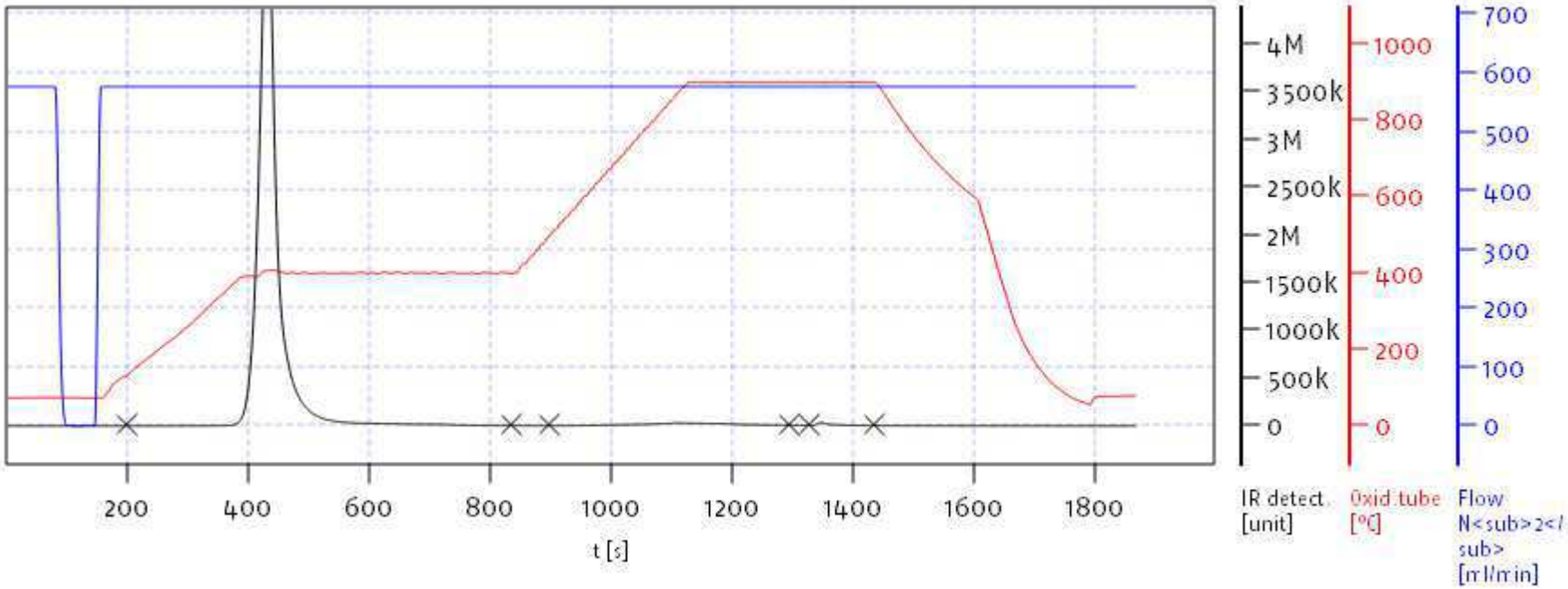
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
88	37	SJH0331-CCV7	27.10		1.00	CARBON	8/27/2021 12:34 PM	44.781	1.263	46.044	bl	7 306 970	214 316	42 302	0.9808	1.0000



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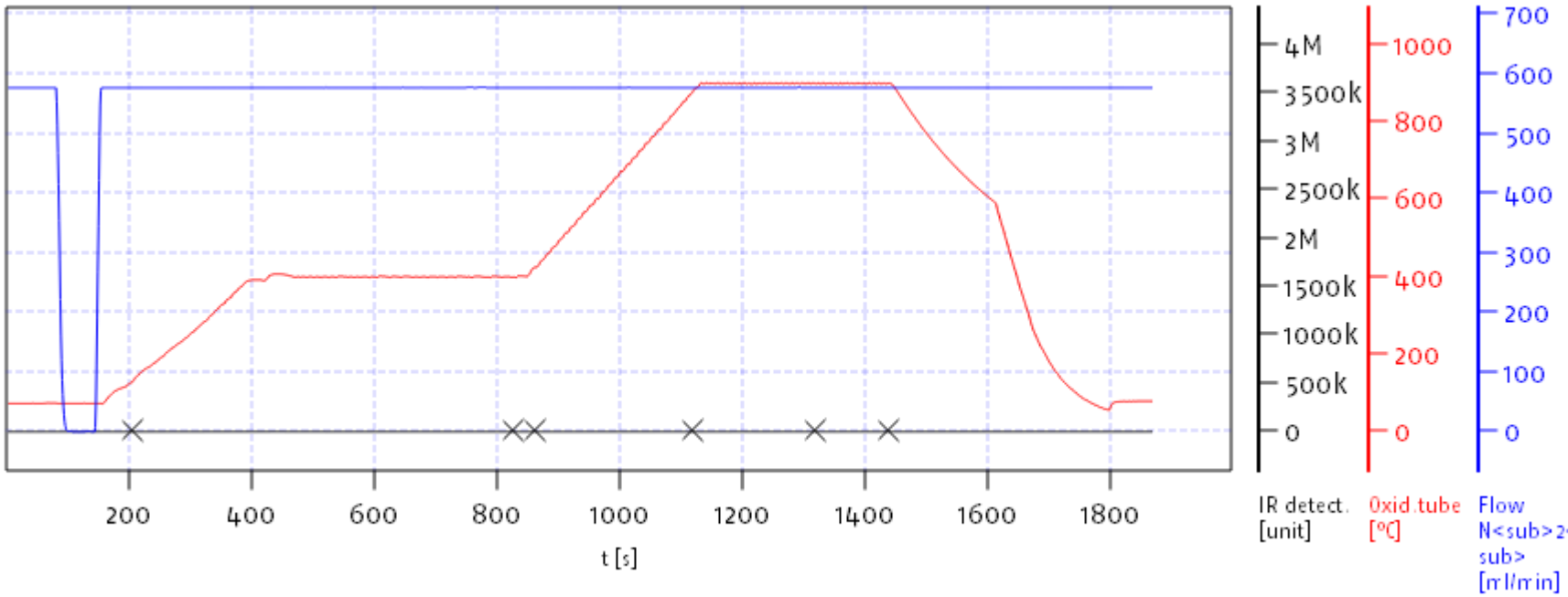
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
89	38	SJH0331-CCB7	695.50		1.00	CARBON	8/27/2021 1:06 PM	0.000	0.000	0.000	bl,C1u,C3u,C2u	1 587	48	62	0.9808	1.0000



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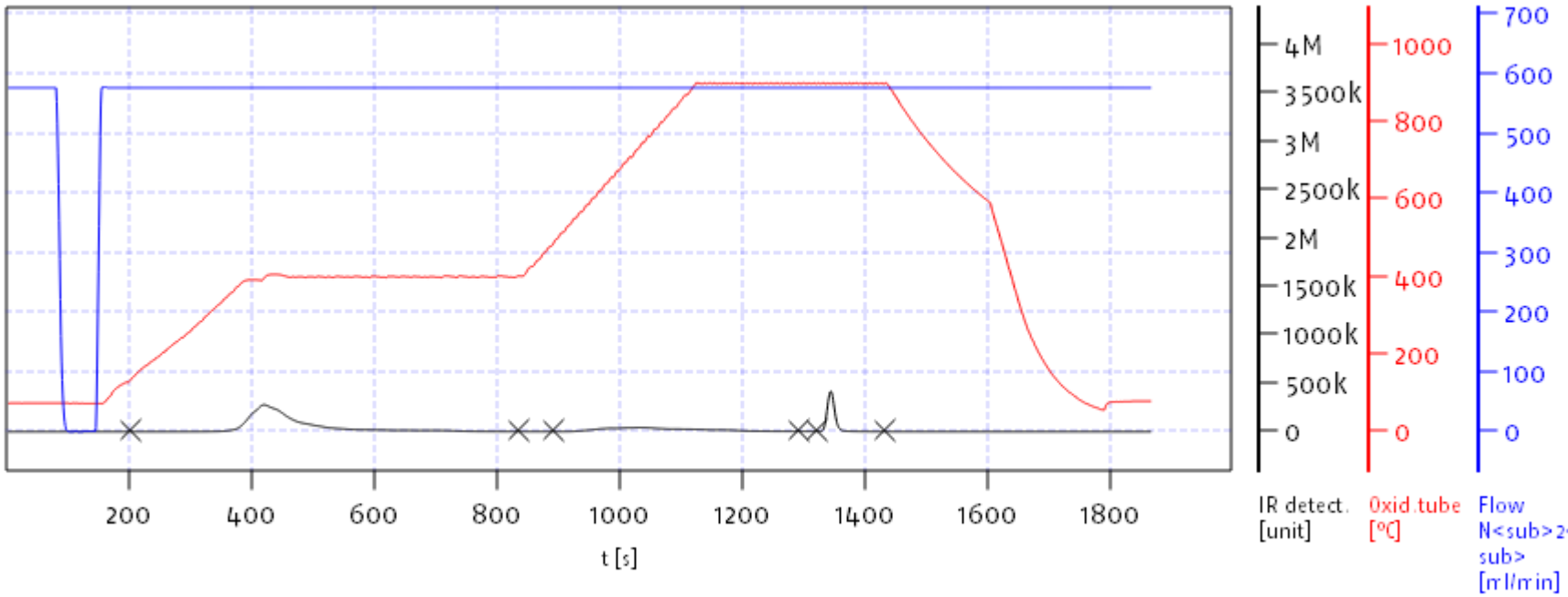
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
90	39	21H0184-04	393.70		1.00	CARBON	8/27/2021 1:38 PM	0.492	0.119	0.611	bl	963 846	288 789	225 300	0.9808	1.0000



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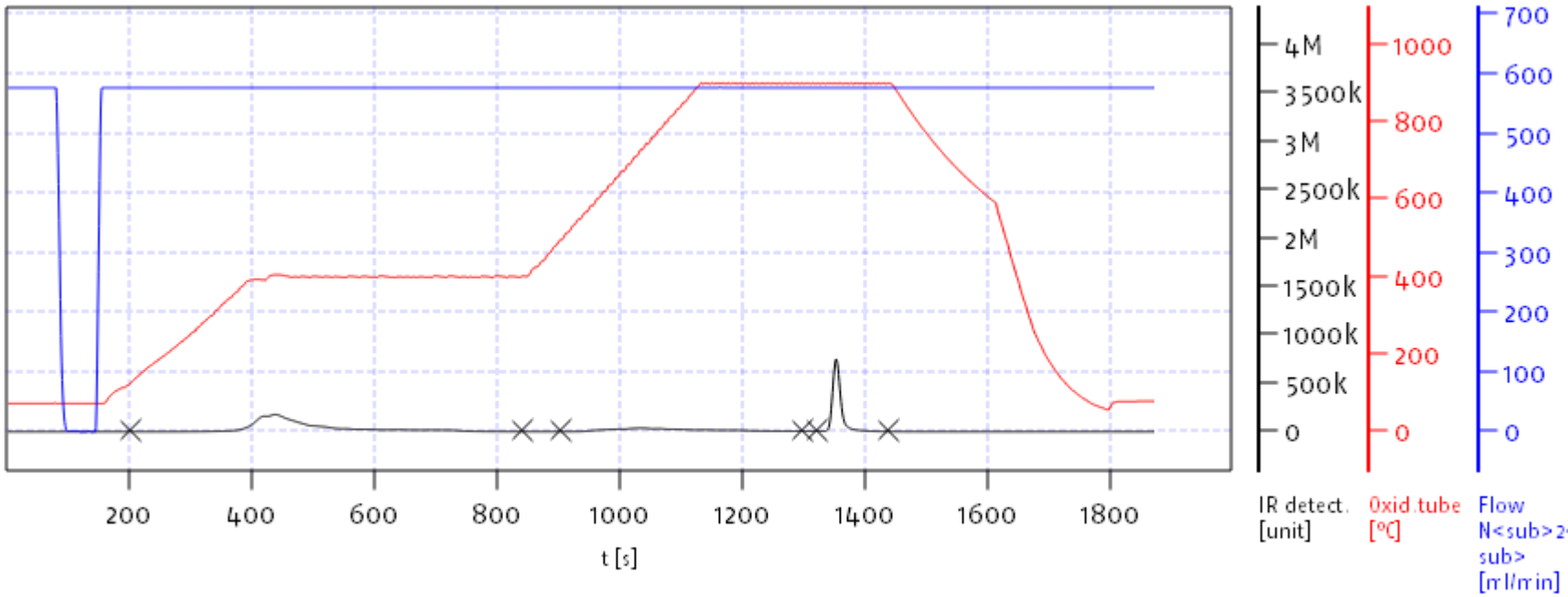
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
91	40	21H0184-05	349.50		1.00	CARBON	8/27/2021 2:09 PM	0.553	0.110	0.663	bl	744 608	240 260	437 124	0.9808	1.0000



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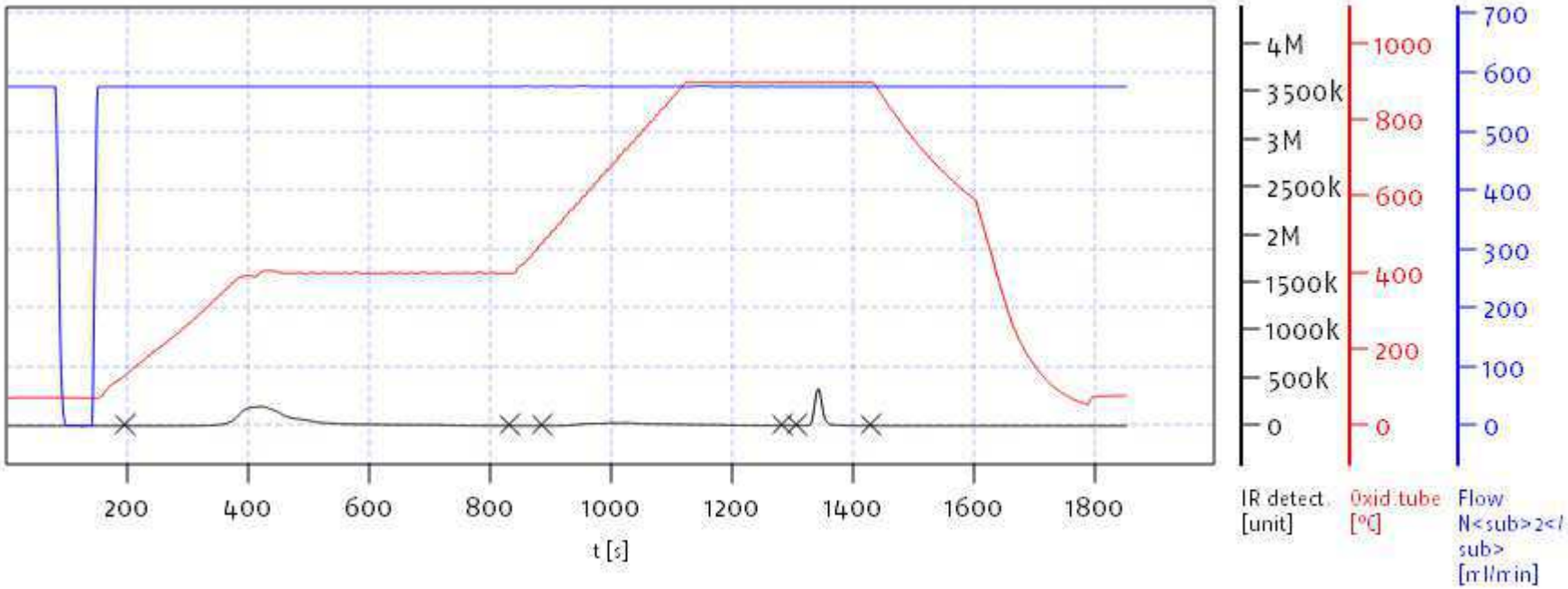
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
92	41	21H0184-06	341.10		1.00	CARBON	8/27/2021 2:41 PM	0.500	0.097	0.596	bl	825 519	206 956	222 455	0.9808	1.0000



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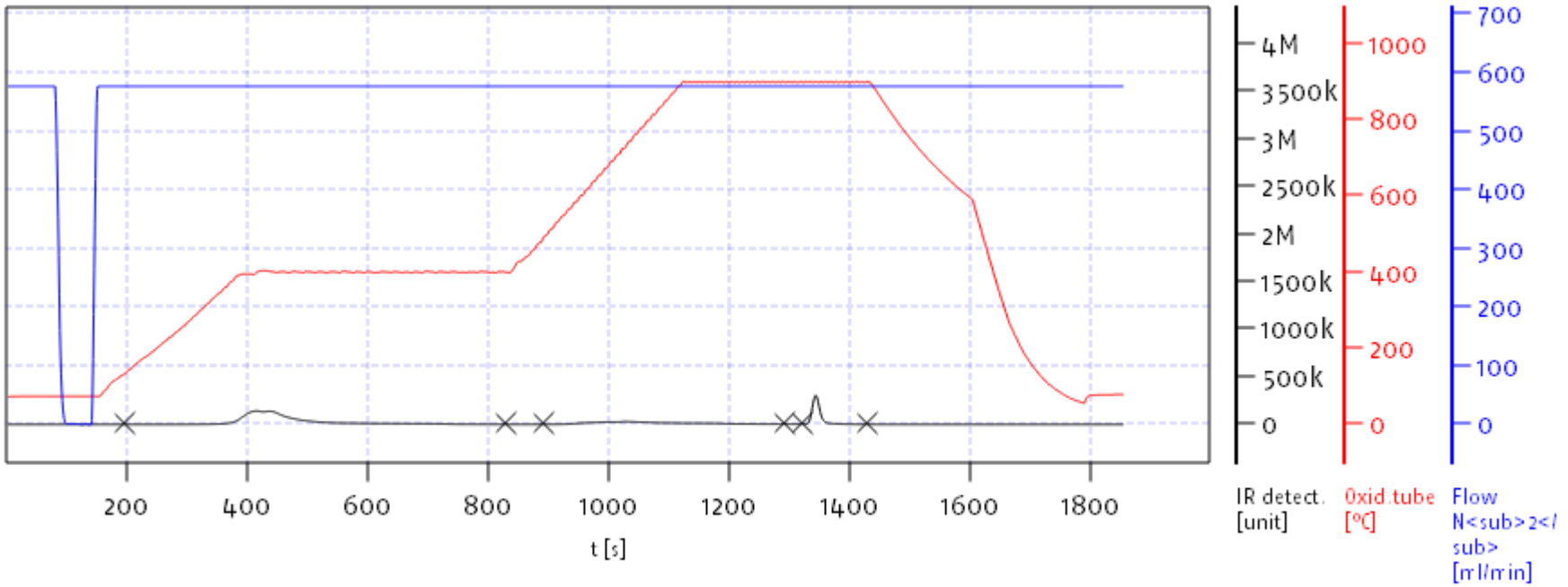
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
93	42	21H0184-07	370.40		1.00	CARBON	8/27/2021 3:12 PM	0.322	0.082	0.404	bl	564 895	191 885	174 826	0.9808	1.0000



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Analyst: BF

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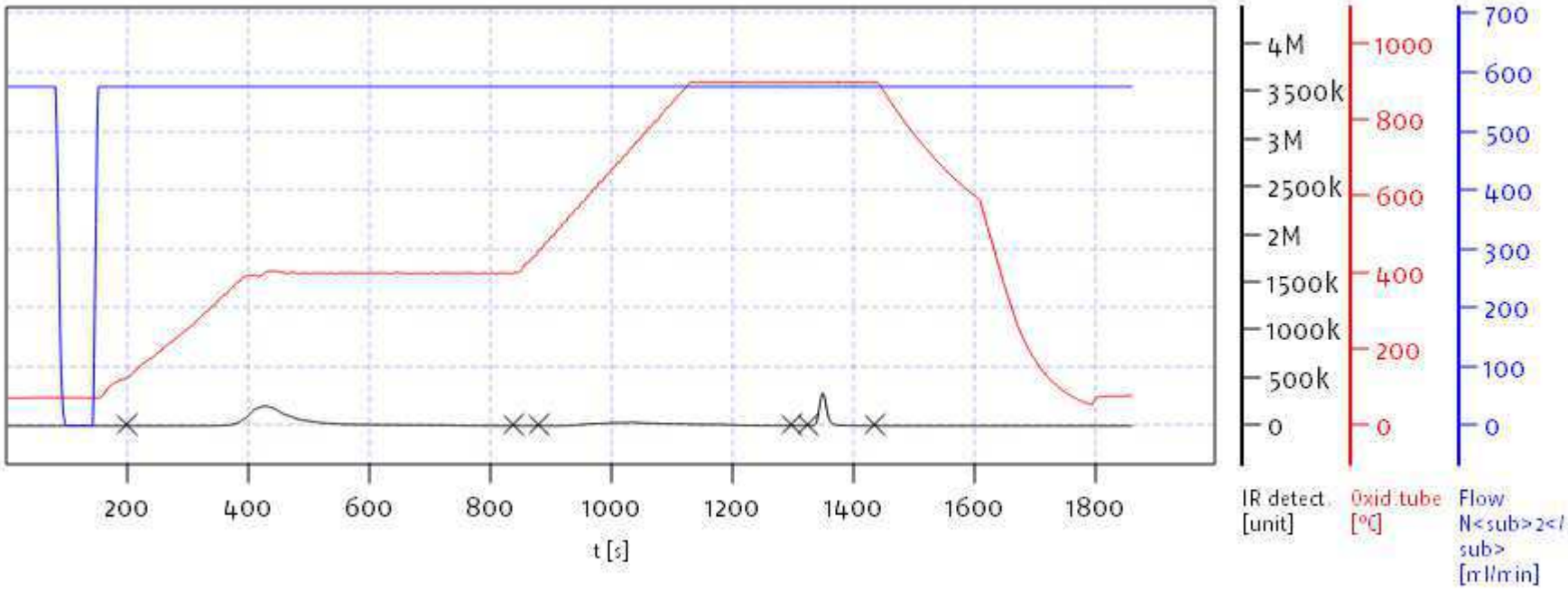
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
94	43	21H0184-08	373.40		1.00	CARBON	8/27/2021 3:44 PM	0.392	0.102	0.494	bl	713 486	236 589	189 620	0.9808	1.0000



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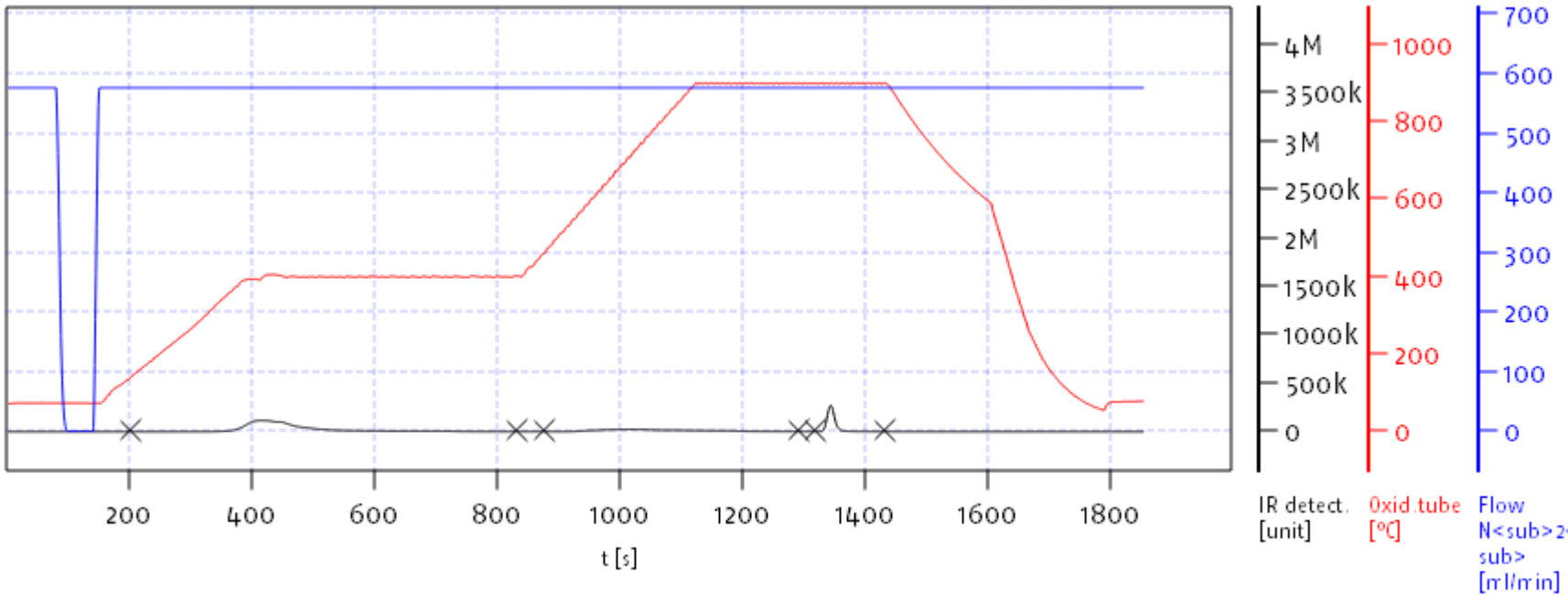
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
95	44	21H0184-09	358.60		1.00	CARBON	8/27/2021 4:15 PM	0.276	0.069	0.345	bl	469 728	158 825	148 800	0.9808	1.0000



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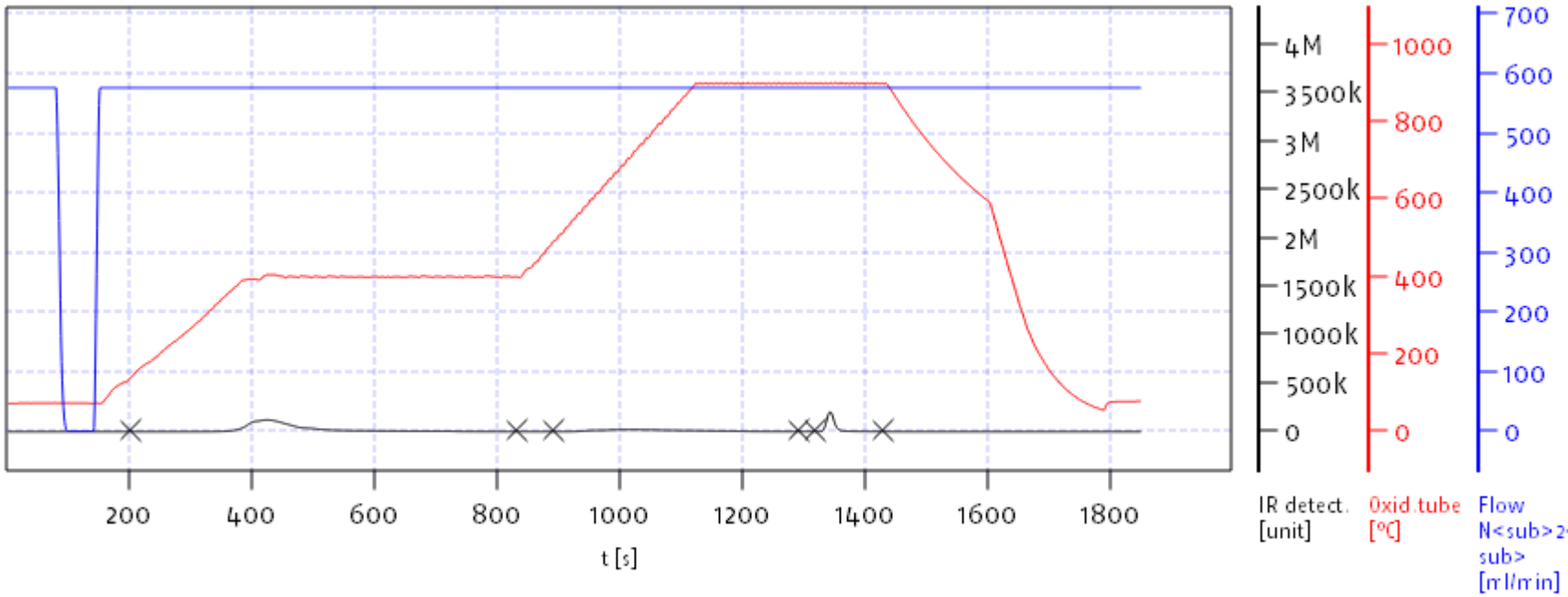
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
96	45	21H0184-10	306.60		1.00	CARBON	8/27/2021 4:46 PM	0.298	0.071	0.369	bl	455 082	139 894	117 552	0.9808	1.0000



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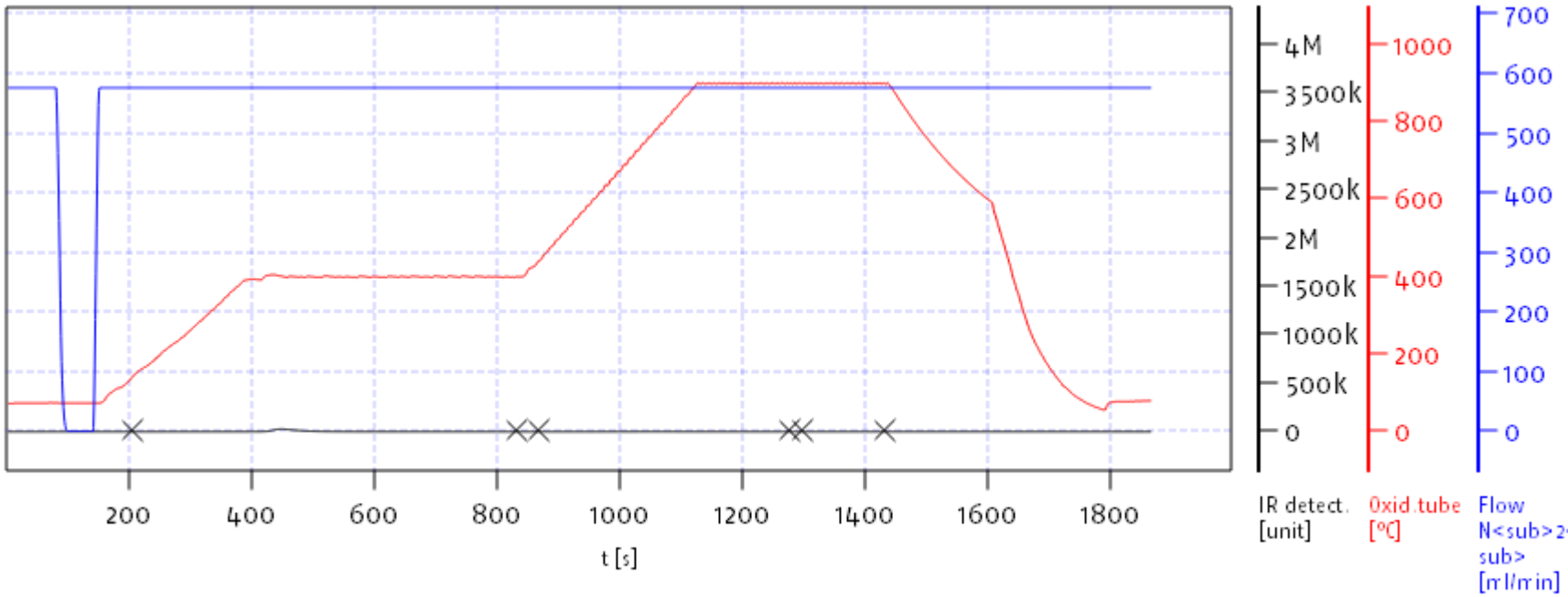
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
97	46	BJH0513-MRL1	500.20		1.00	CARBON	8/27/2021 5:18 PM	0.013	0.000	0.013	bl,C3u,C2u	51 185	4 331	286	0.9808	1.0000



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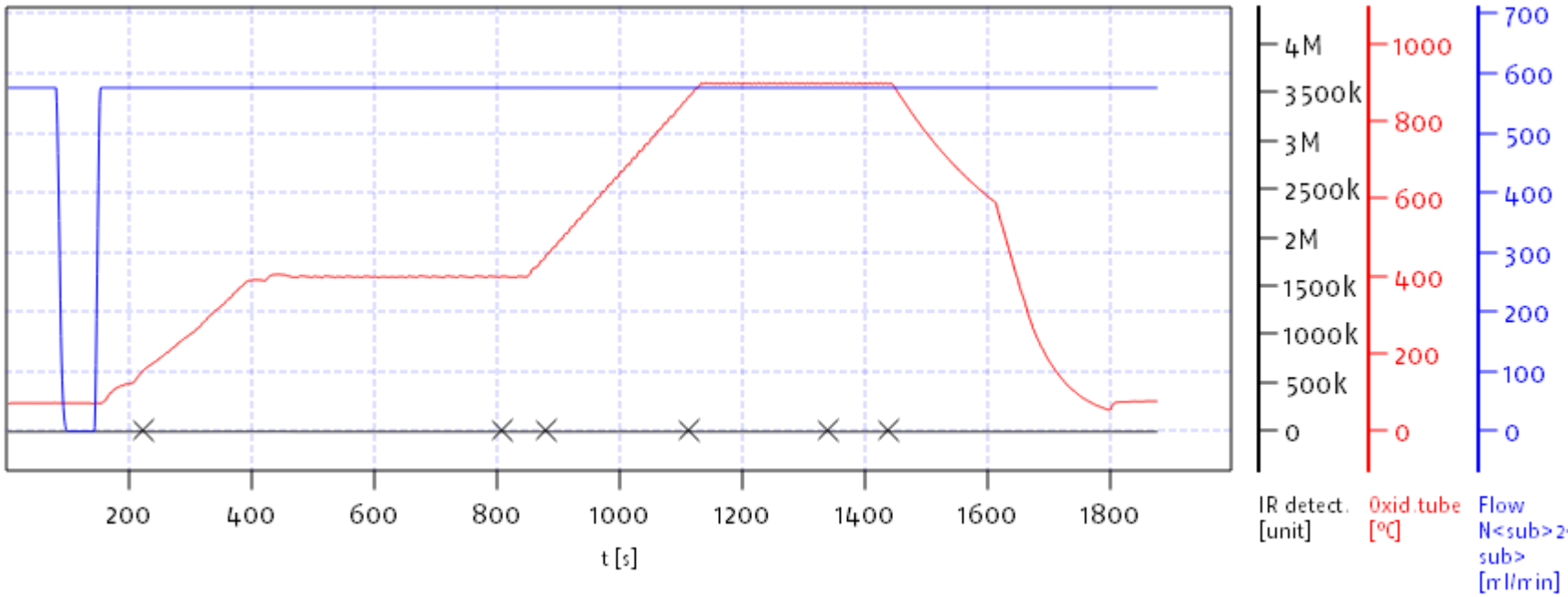
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
98	47	BJH0513-BLK1	571.50		1.00	CARBON	8/27/2021 5:50 PM	0.000	0.000	0.000	bl,C1u,C3u,C2u	7 247	601	259	0.9808	1.0000



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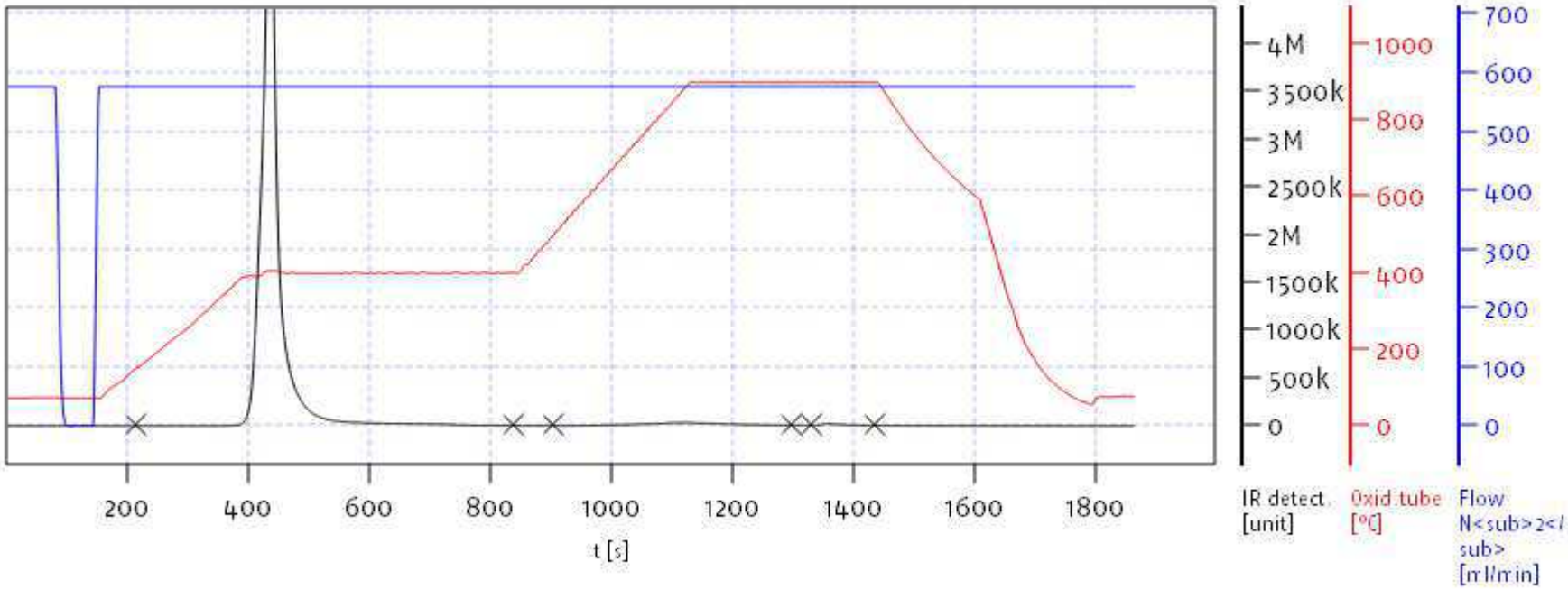
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
99	48	BJH0513-BS1	25.20		1.00	CARBON	8/27/2021 6:21 PM	44.727	1.438	46.165	bl	6 784 580	226 203	42 714	0.9808	1.0000



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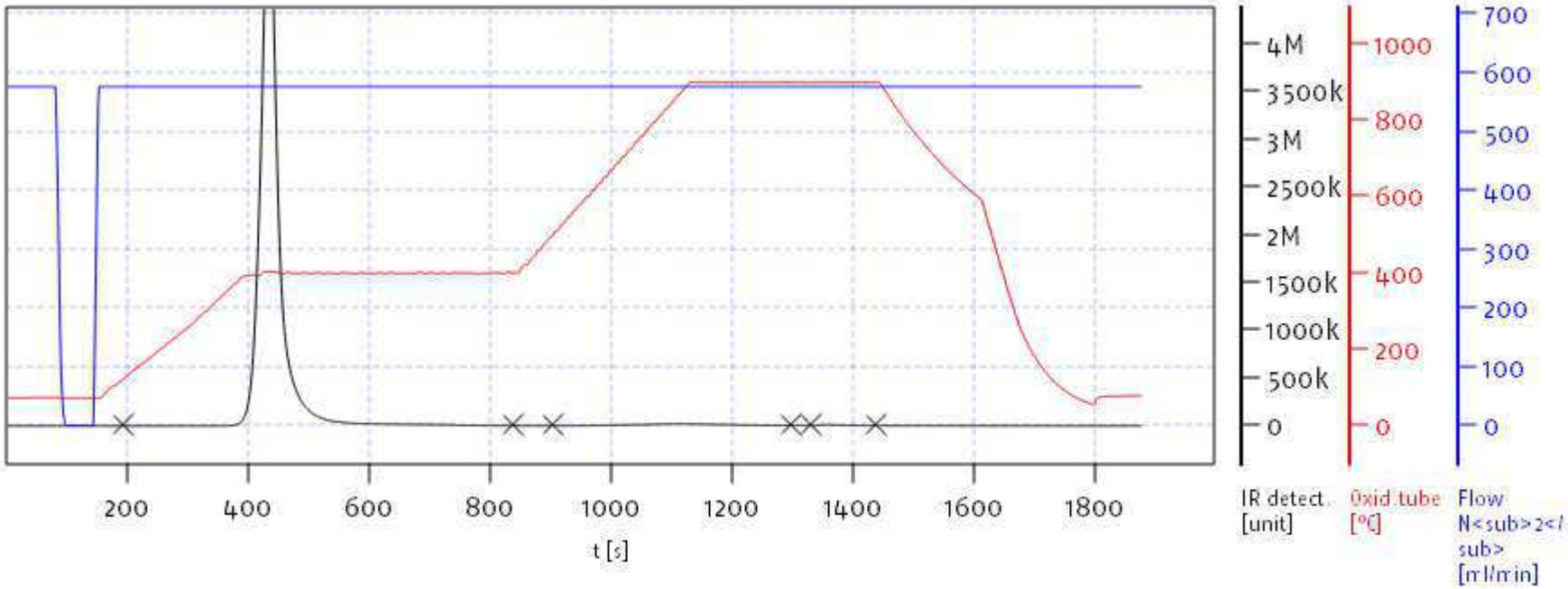
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
100	49	SJH0331-CCV8	26.70		1.00	CARBON	8/27/2021 6:53 PM	45.580	0.857	46.437	bl	7 346 060	147 195	24 181	0.9808	1.0000



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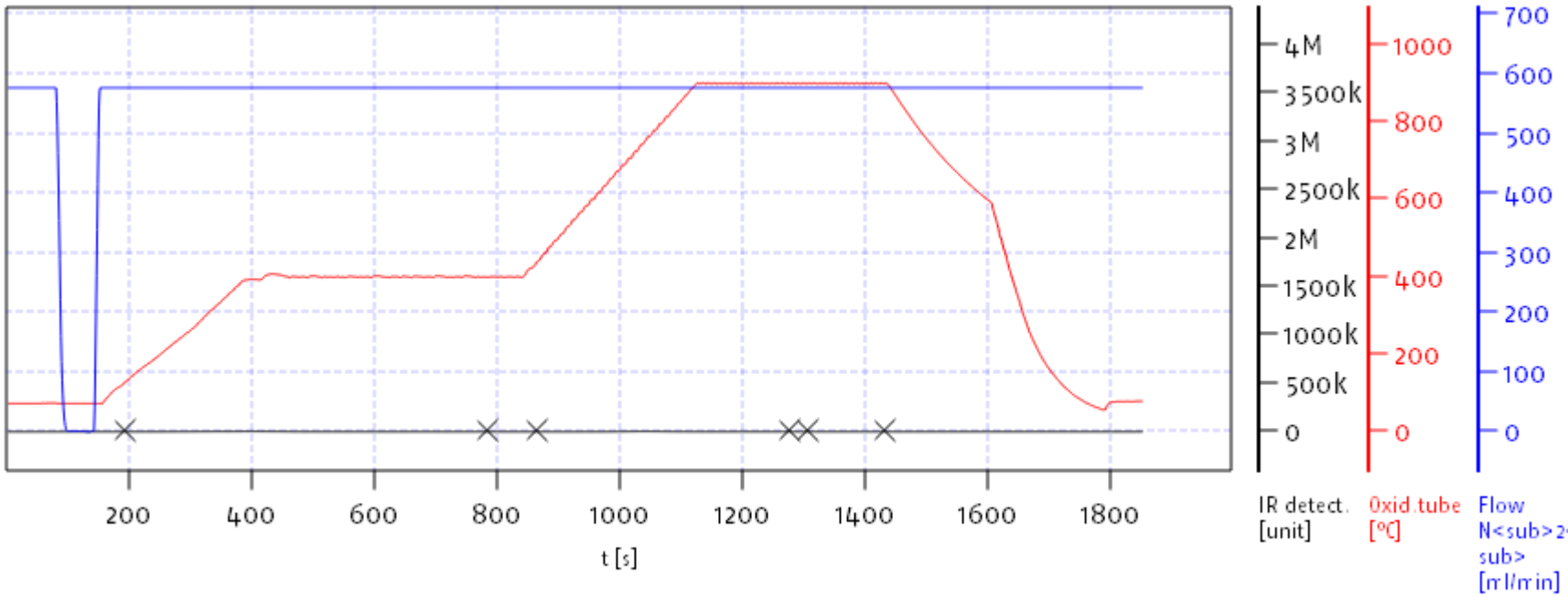
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
101	50	SJH0331-CCB8	587.00		1.00	CARBON	8/27/2021 7:24 PM	0.001	0.000	0.001	bl,C2u	16 174	10 034	388	0.9808	1.0000



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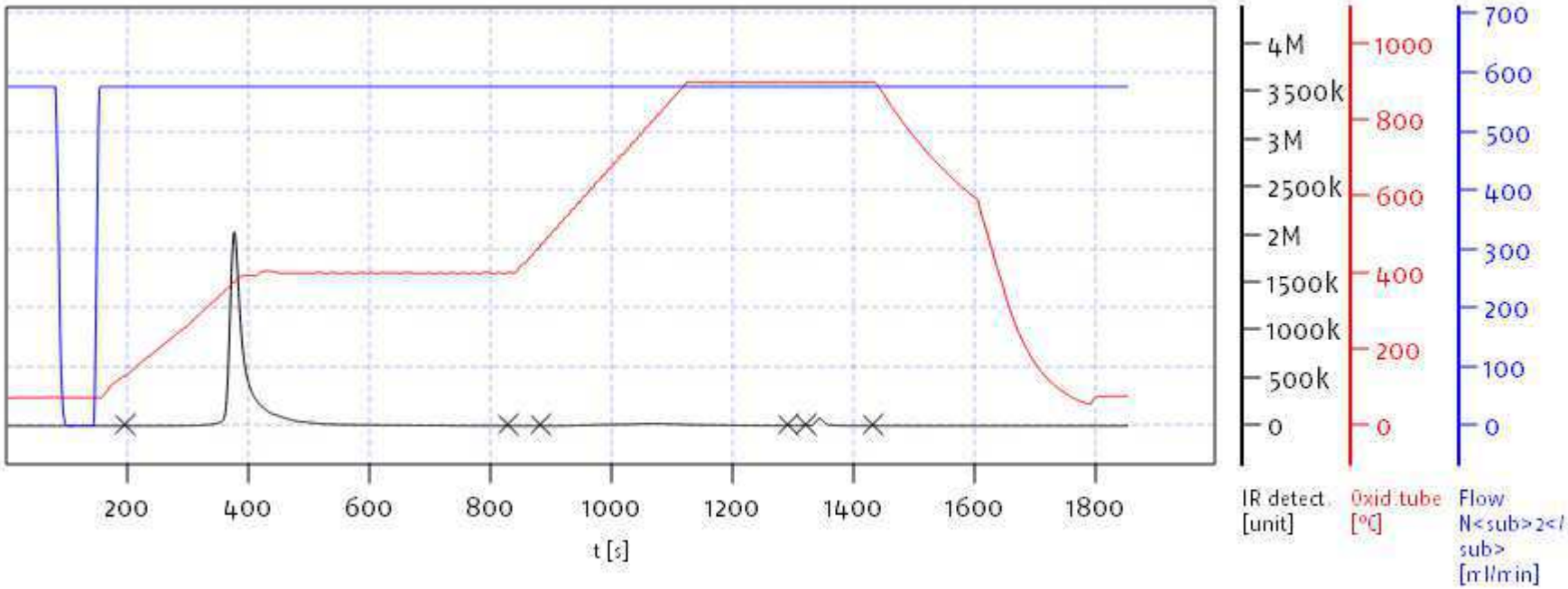
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
102	51	21H0103-01	107.50		1.00	CARBON	8/27/2021 7:56 PM	3.481	0.212	3.693	bl	2 231 660	146 521	50 144	0.9808	1.0000



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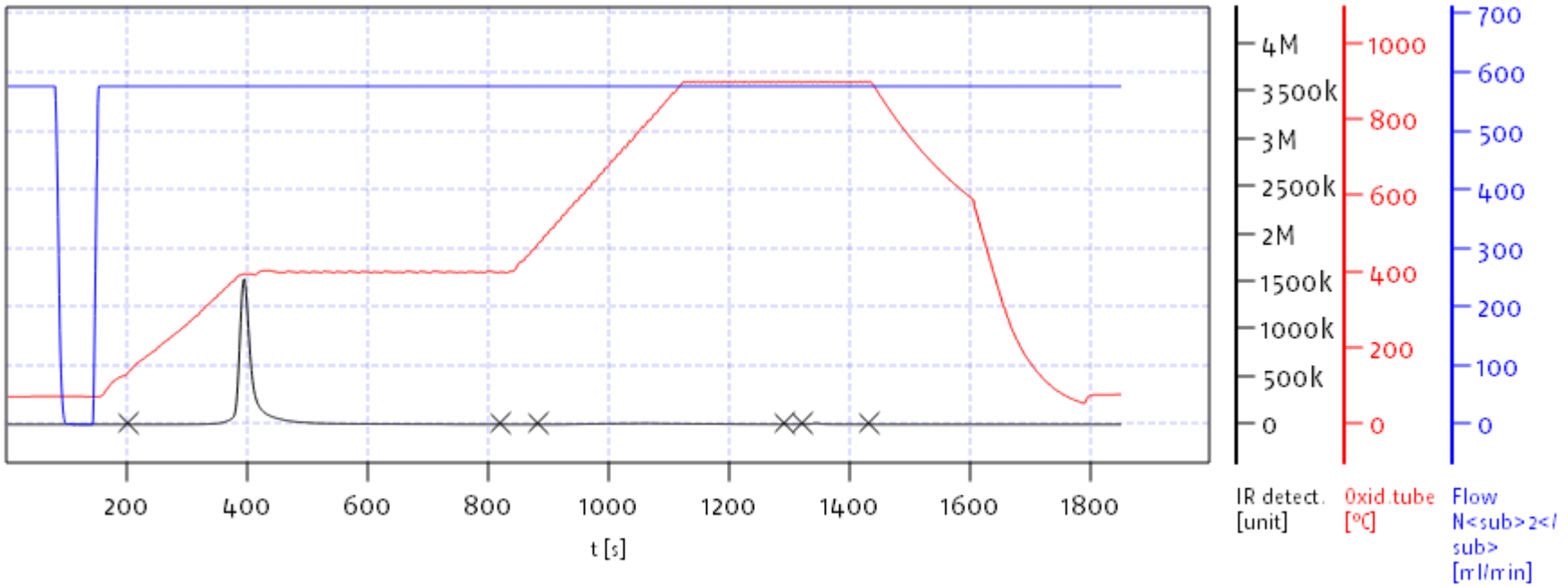
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
103	52	21H0103-02	115.30		1.00	CARBON	8/27/2021 8:27 PM	2.022	0.095	2.118	bl	1 419 470	76 665	11 001	0.9808	1.0000



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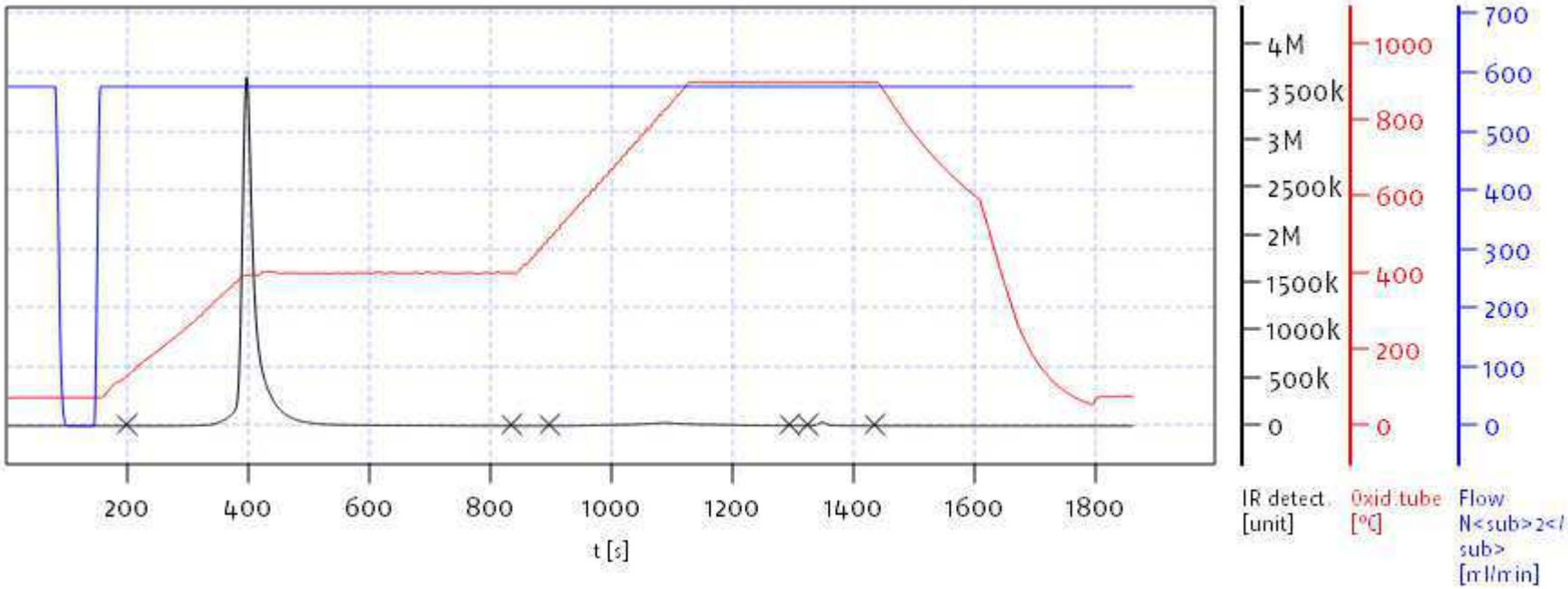
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
104	53	21H0103-03	107.10		1.00	CARBON	8/27/2021 8:59 PM	5.418	0.247	5.665	bl	3 497 970	168 576	28 083	0.9808	1.0000



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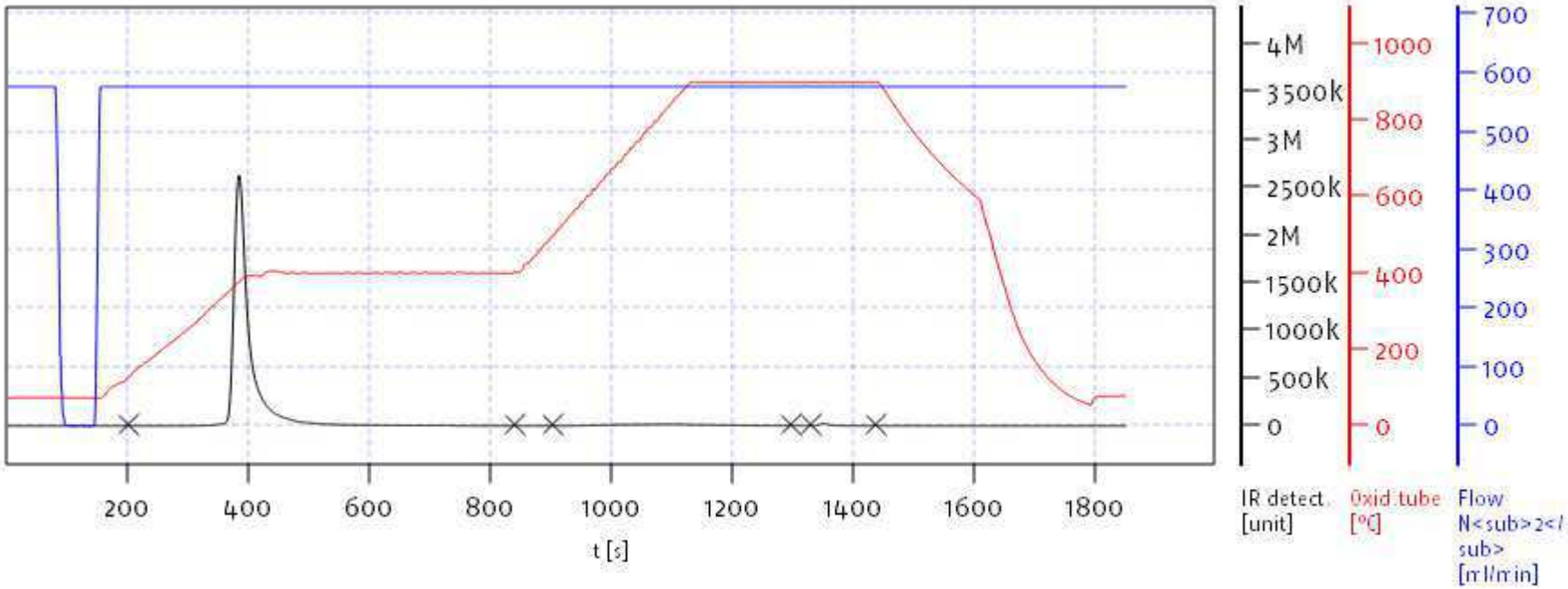
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
105	54	21H0103-04	149.90		1.00	CARBON	8/27/2021 9:30 PM	3.161	0.124	3.285	bl	2 864 670	121 706	19 422	0.9808	1.0000



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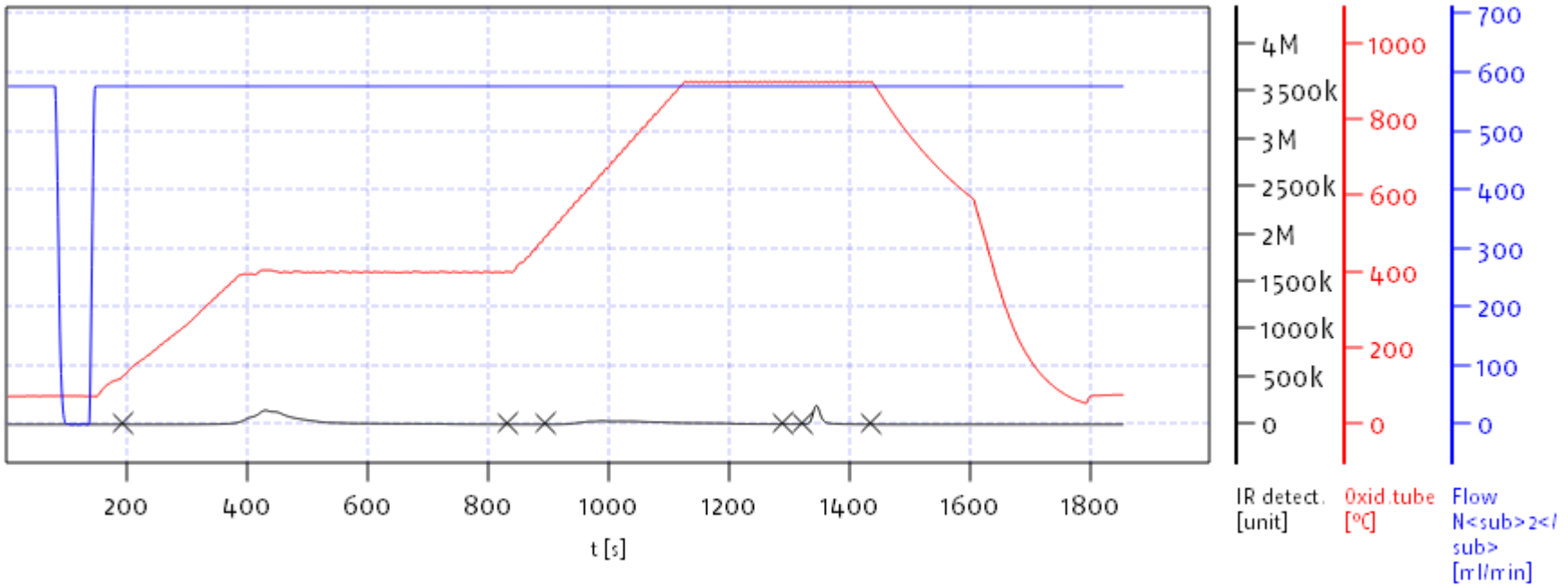
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
106	55	21H0176-01	541.00		1.00	CARBON	8/27/2021 10:01 PM	0.188	0.072	0.260	bl	515 890	241 787	120 500	0.9808	1.0000



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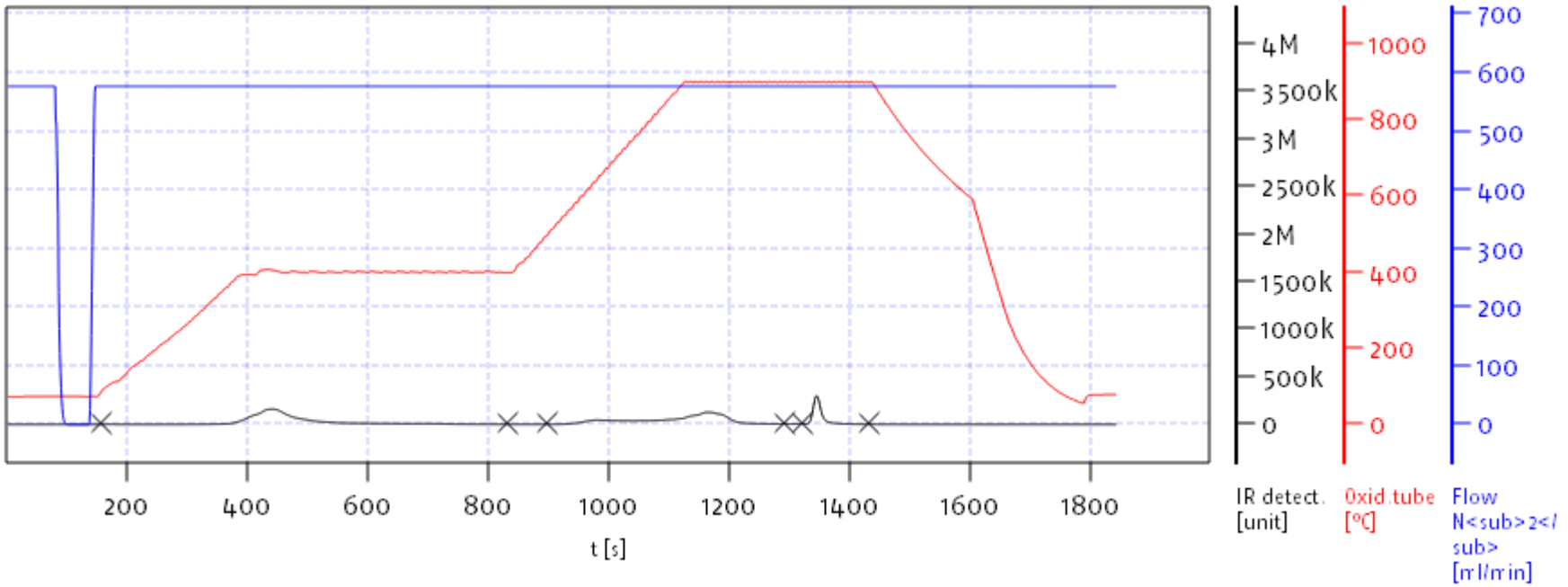
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
107	56	BJH0513-DUP1	581.10		1.00	CARBON	8/27/2021 10:33 PM	0.213	0.178	0.390	bl	577 819	622 448	187 712	0.9808	1.0000



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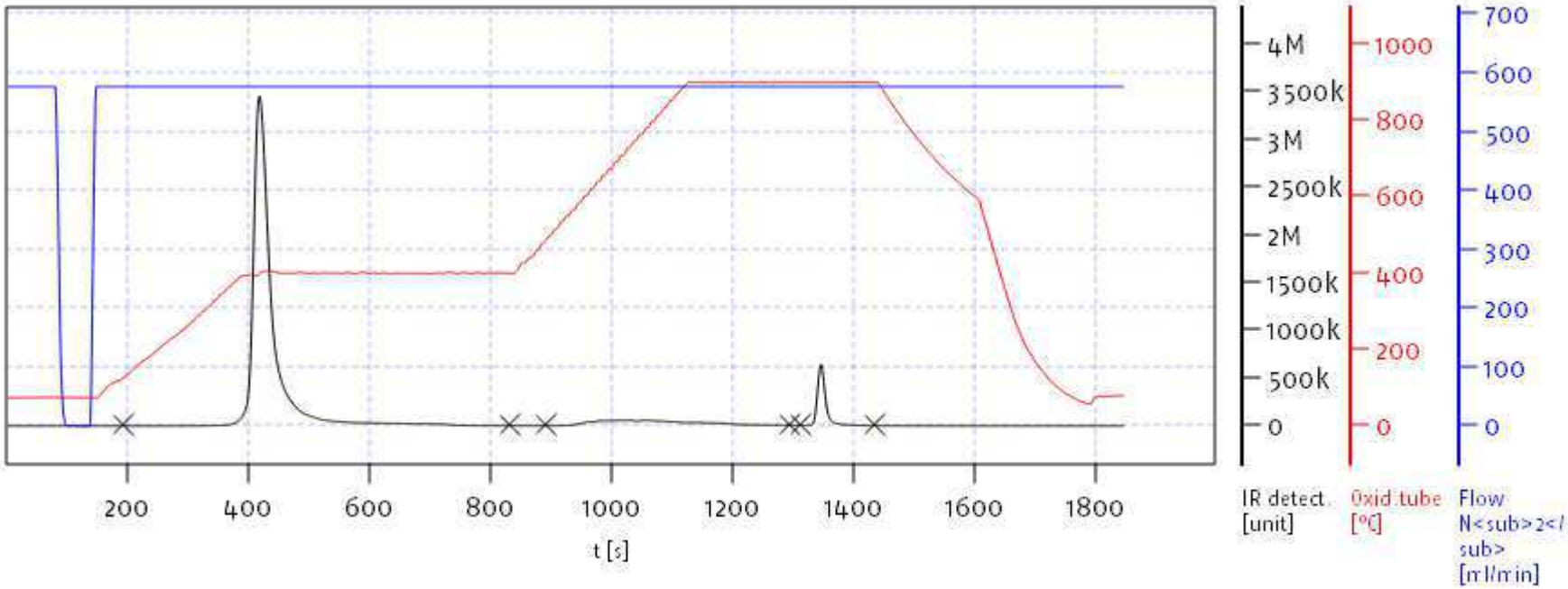
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
108	57	BJH0513-MS1	676.20	0.0142	1.00	CARBON	8/27/2021 11:04 PM	1.188	0.112	1.300	bl	4 484 310	458 939	382 479	0.9808	1.0000



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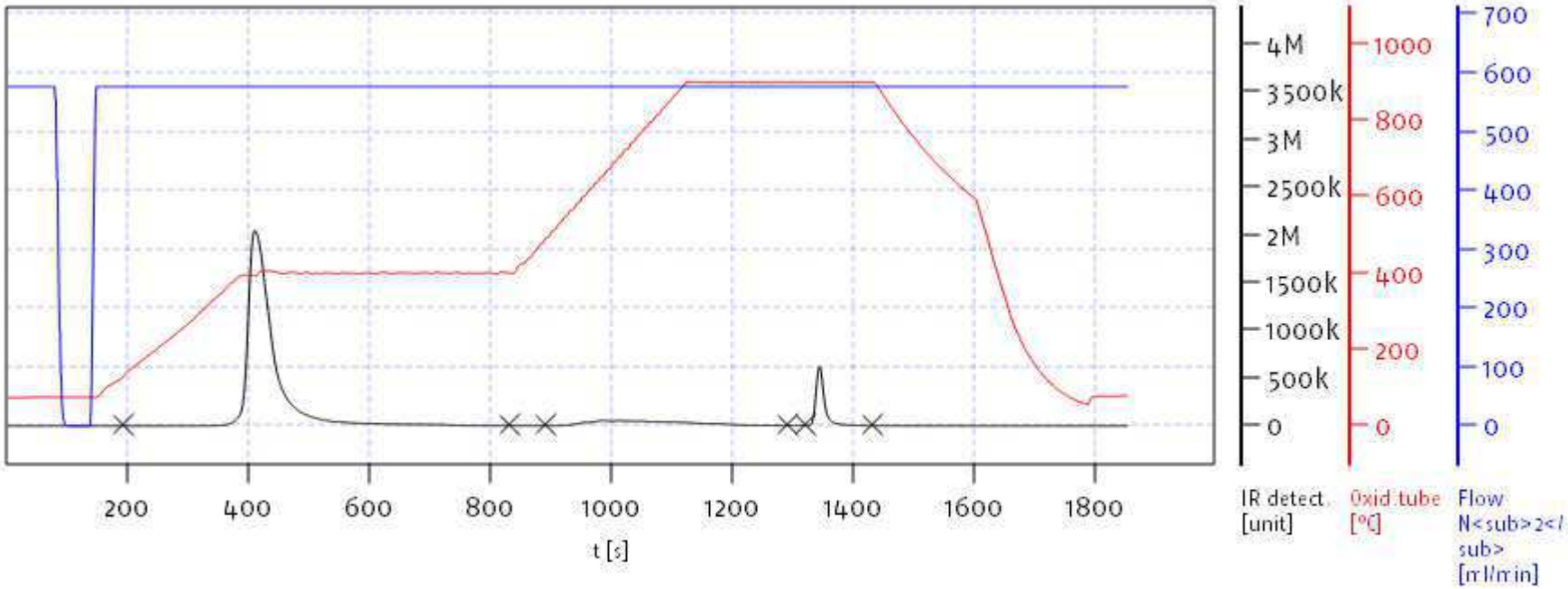
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
109	58	BJH0513-MSD1	535.30	0.0122	1.00	CARBON	8/27/2021 11:35 PM	1.231	0.124	1.355	bl	3 614 900	405 006	377 980	0.9808	1.0000



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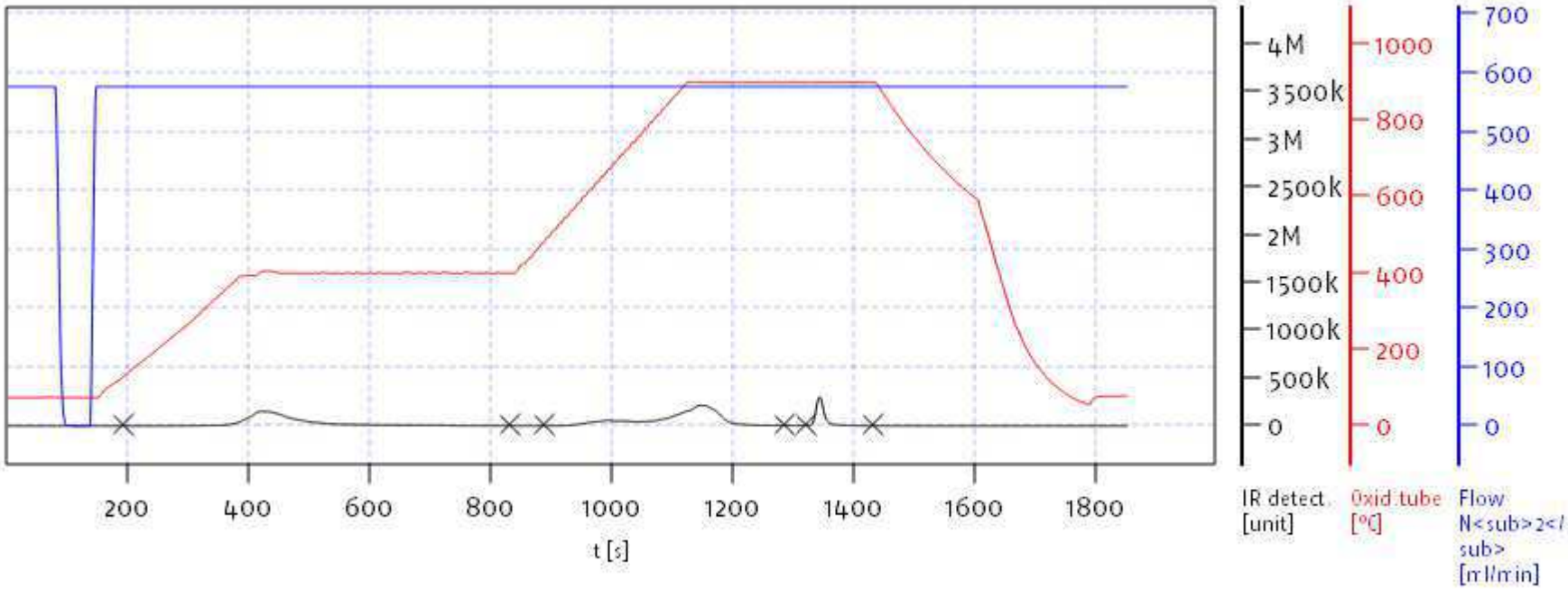
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
110	59	21H0176-02	541.10		1.00	CARBON	8/28/2021 12:07 AM	0.228	0.268	0.496	bl	581 433	870 357	184 279	0.9808	1.0000



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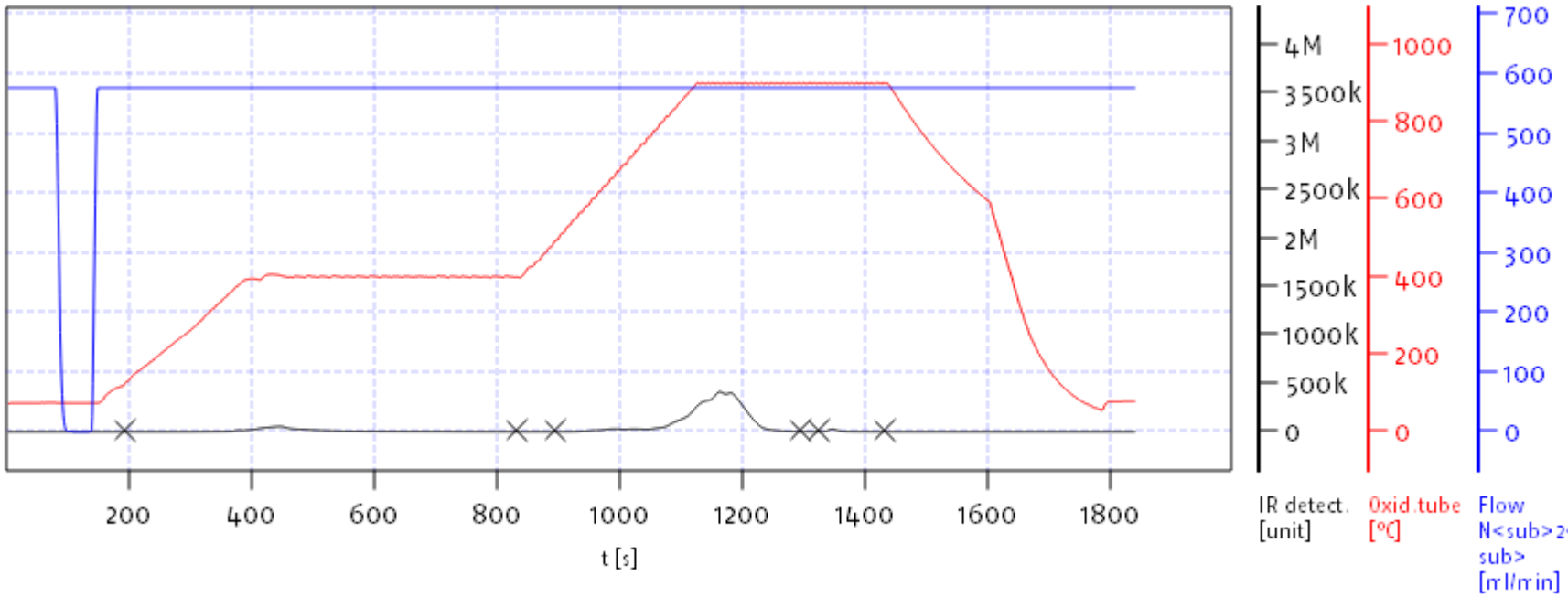
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
111	60	21H0176-03	416.50		1.00	CARBON	8/28/2021 12:38 AM	0.077	0.631	0.708	bl	197 028	1 568 240	20 300	0.9808	1.0000



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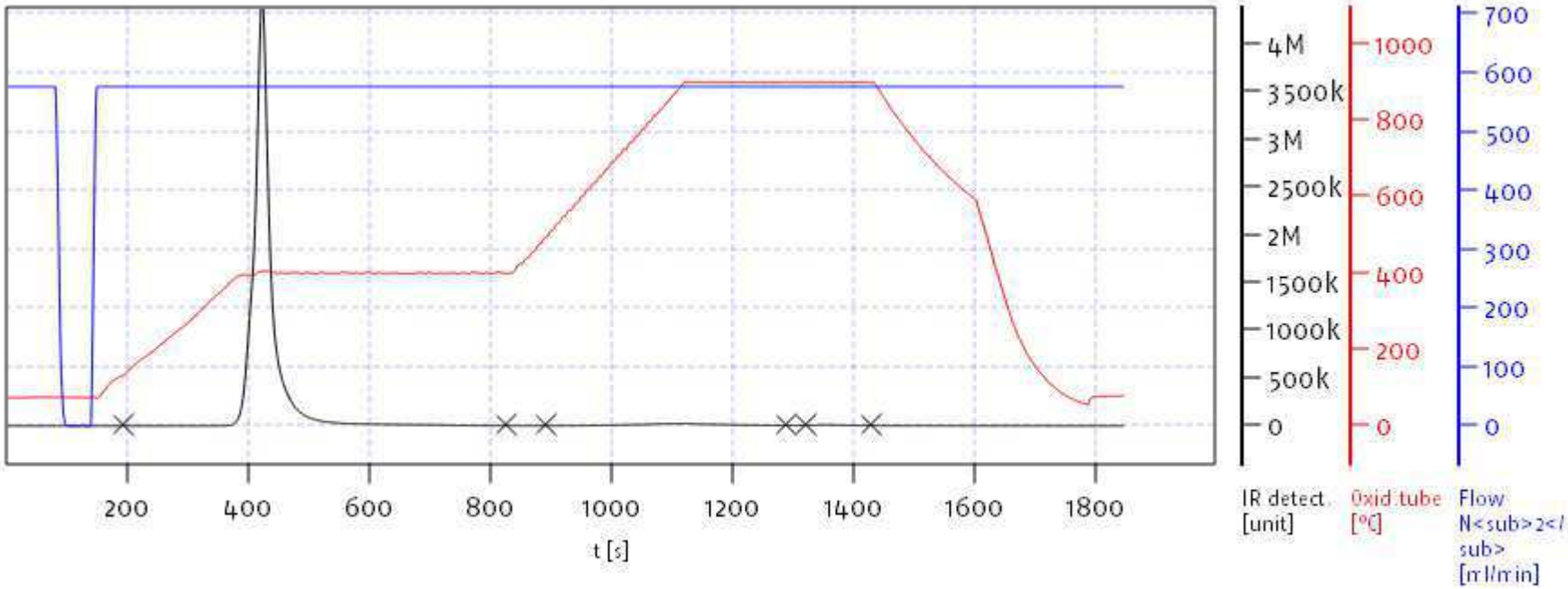
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
112	61	SJH0331-CCV9	20.30		1.00	CARBON	8/28/2021 1:09 AM	43.170	1.200	44.370	bl	5 288 560	155 914	25 110	0.9808	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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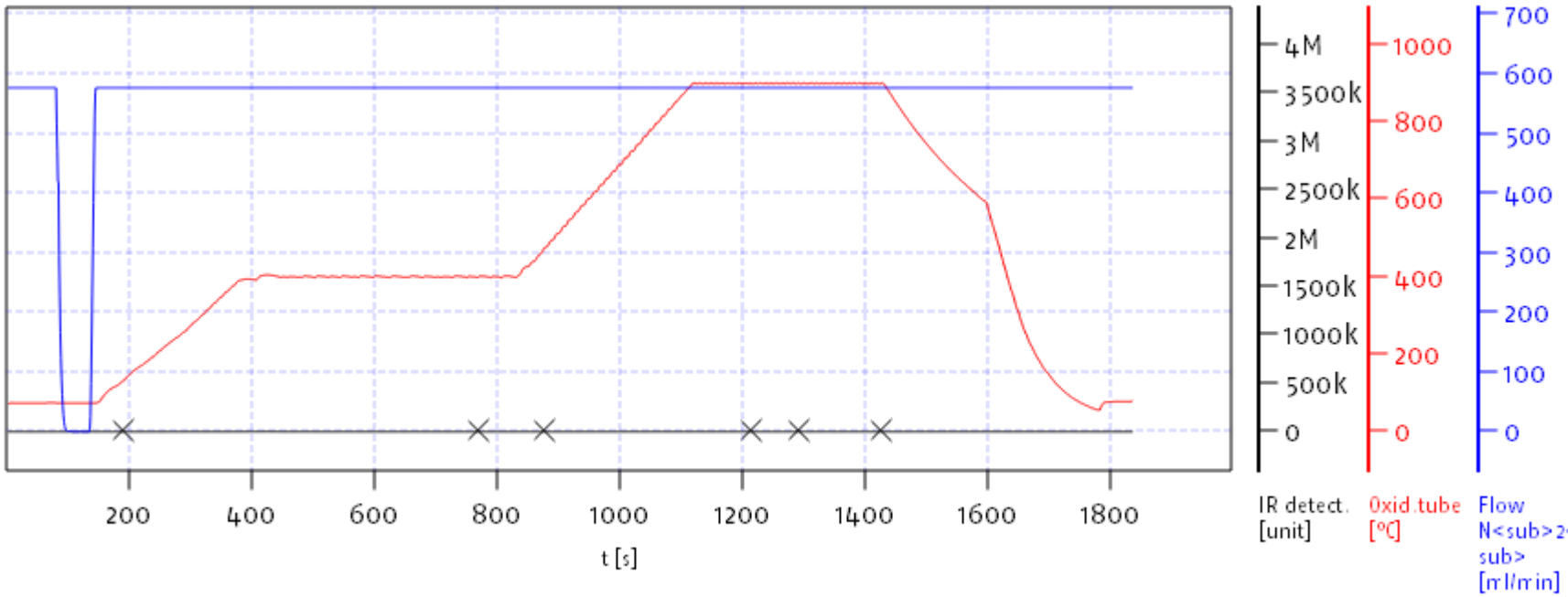
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
113	62	SJH0331-CCB9	597.10		1.00	CARBON	8/28/2021 1:40 AM	0.000	0.000	0.000	bl,C1u,C3u,C2u	2 135	522	52	0.9808	1.0000



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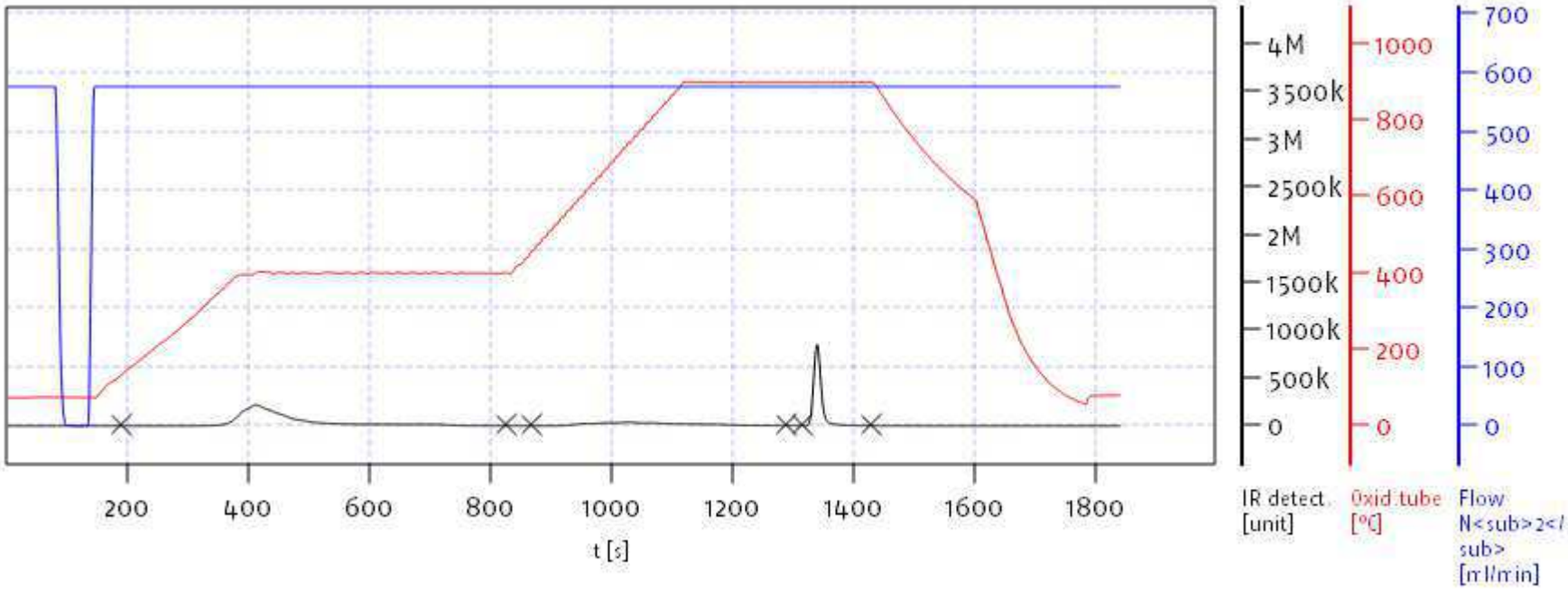
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
114	63	21H0184-11	319.30		1.00	CARBON	8/28/2021 2:11 AM	0.657	0.131	0.788	bl	812 426	258 742	468 624	0.9808	1.0000



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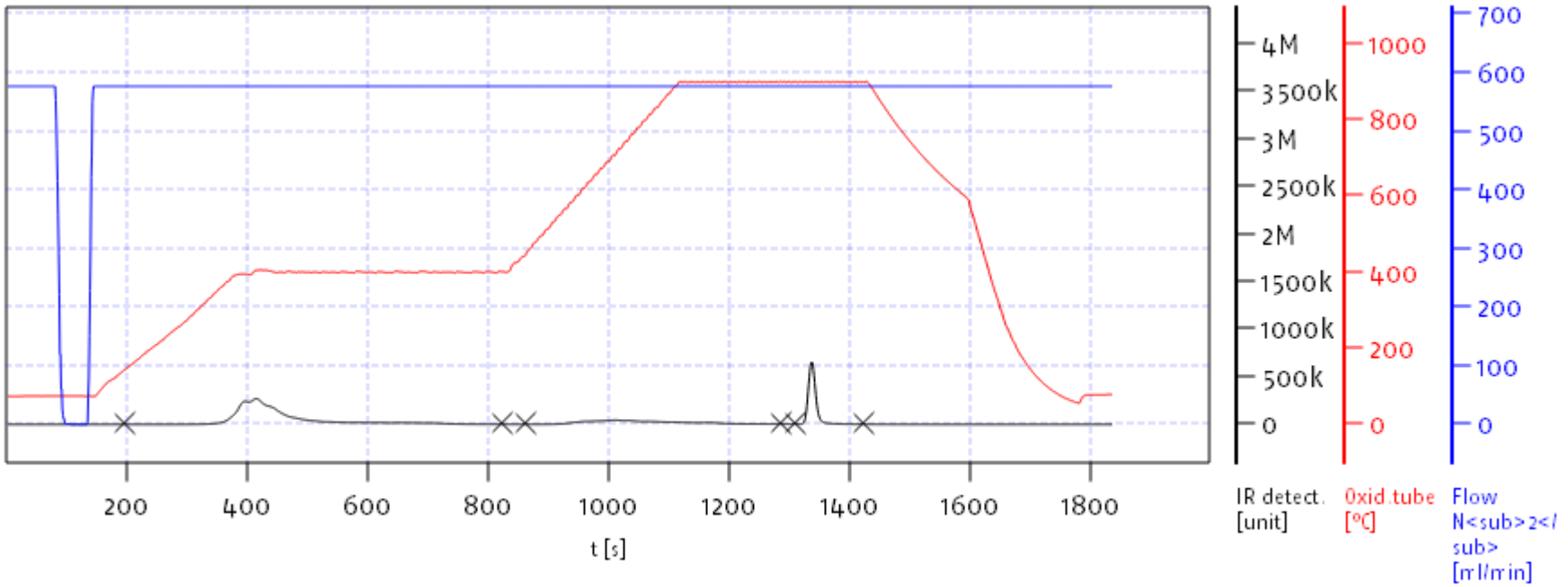
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
115	64	BJH0513-DUP3	383.80		1.00	CARBON	8/28/2021 2:42 AM	0.561	0.127	0.688	bl	960 731	300 644	356 407	0.9808	1.0000



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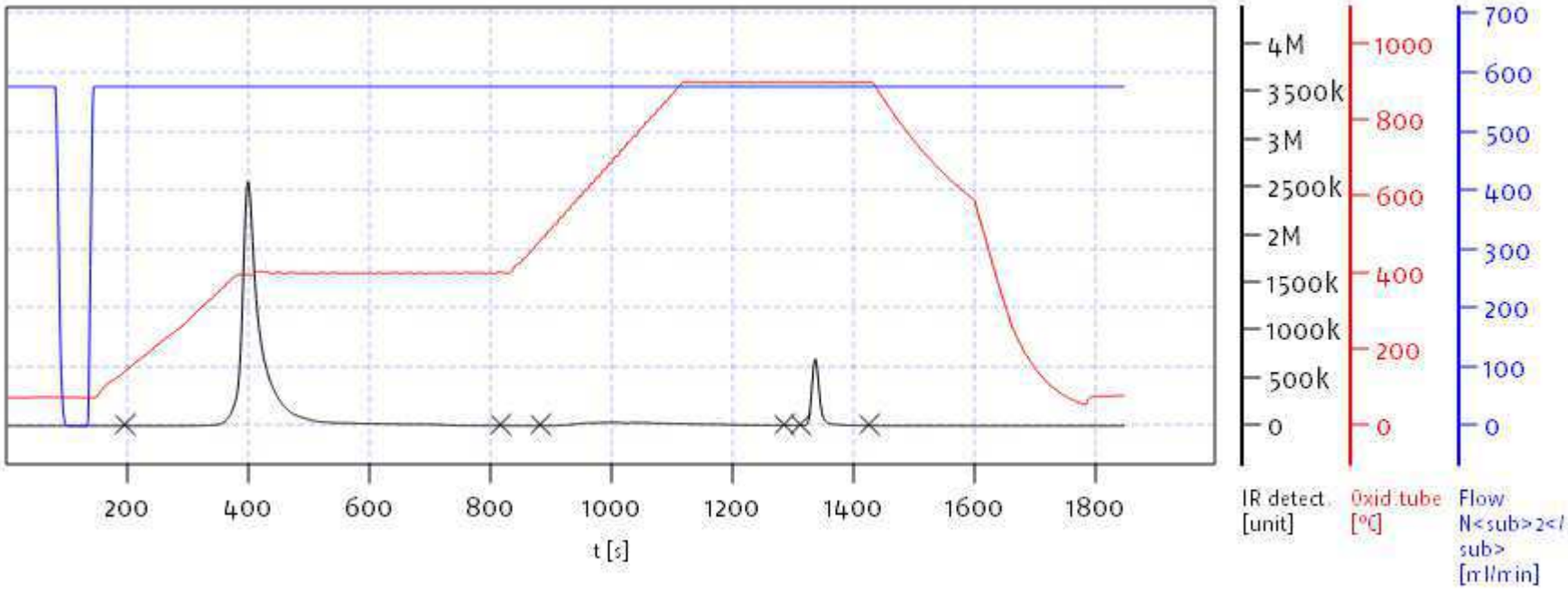
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
116	65	BJH0513-MS3	313.40	0.0104	1.00	CARBON	8/28/2021 3:13 AM	2.034	0.150	2.185	bl	3 467 590	290 894	396 867	0.9808	1.0000



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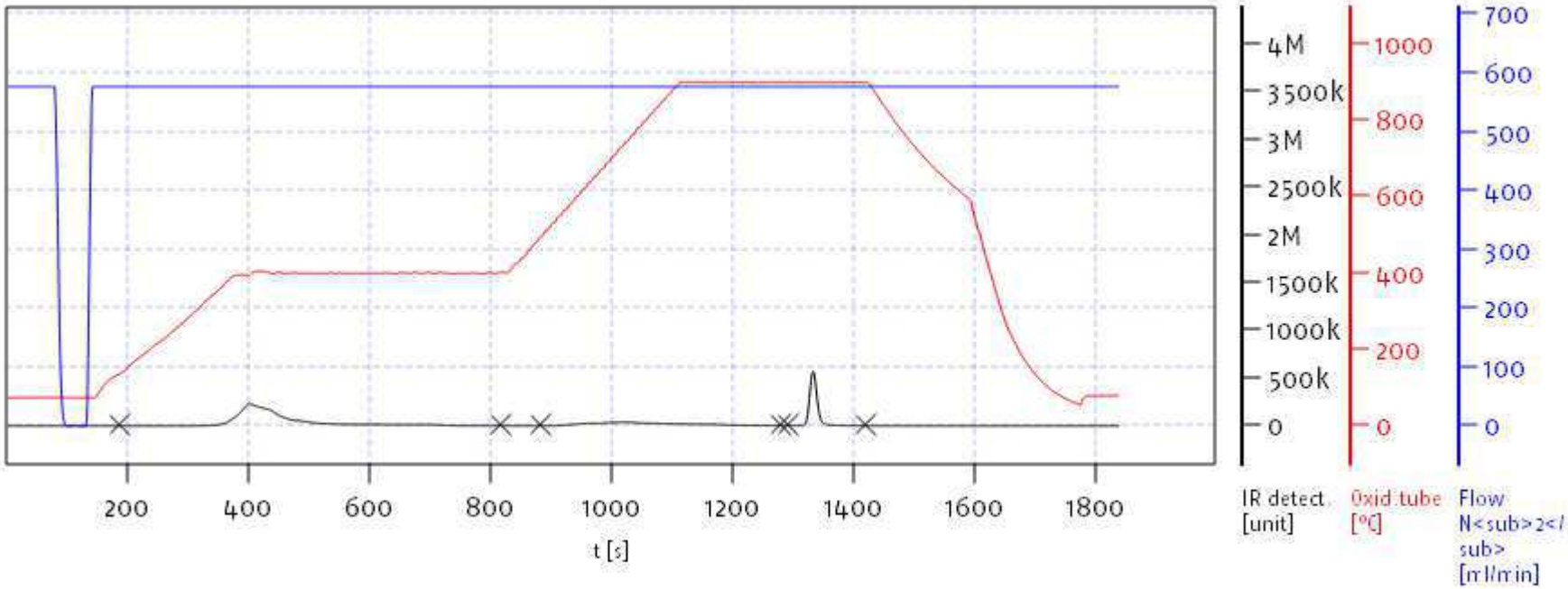
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
117	66	21H0184-12	306.00		1.00	CARBON	8/28/2021 3:45 AM	0.585	0.135	0.720	bl	786 153	255 459	312 050	0.9808	1.0000



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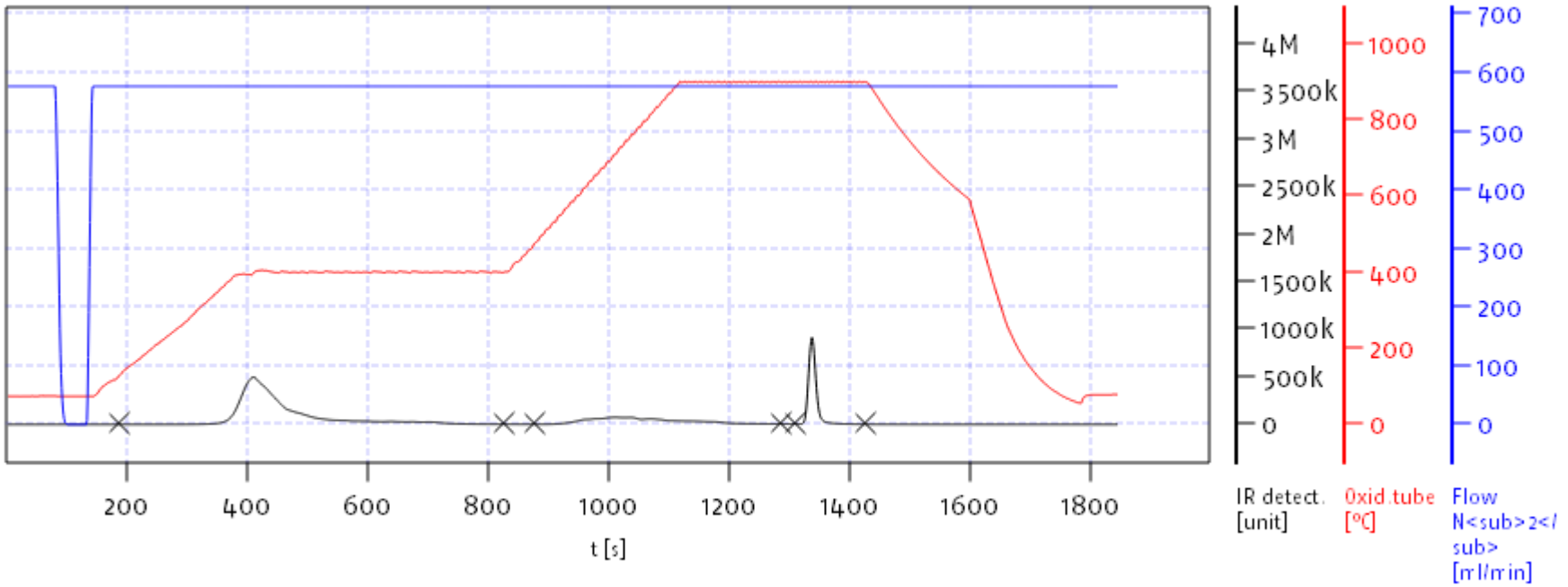
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
118	67	21H0184-13	597.90		1.00	CARBON	8/28/2021 4:16 AM	0.589	0.140	0.729	bl	1 637 950	506 802	502 418	0.9808	1.0000



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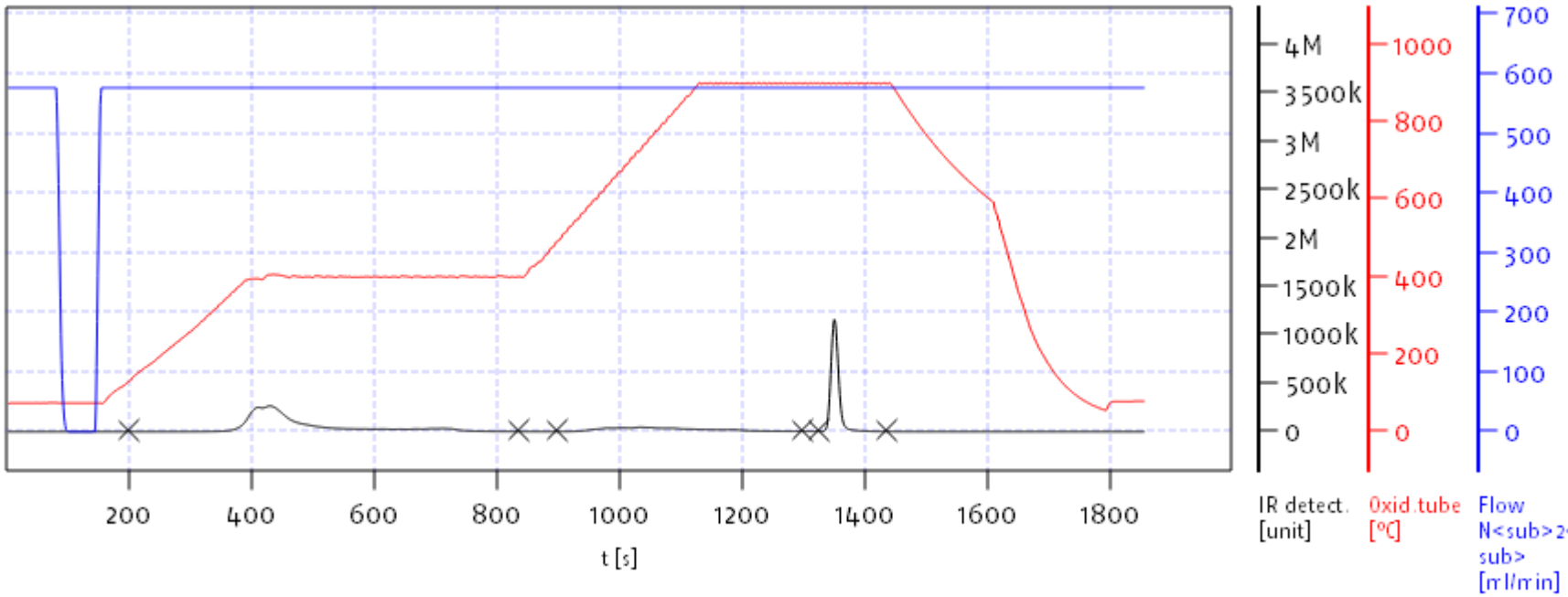
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
119	68	21H0184-14	283.00		1.00	CARBON	8/28/2021 4:47 AM	0.977	0.184	1.160	bl	1 042 850	319 175	637 140	0.9808	1.0000



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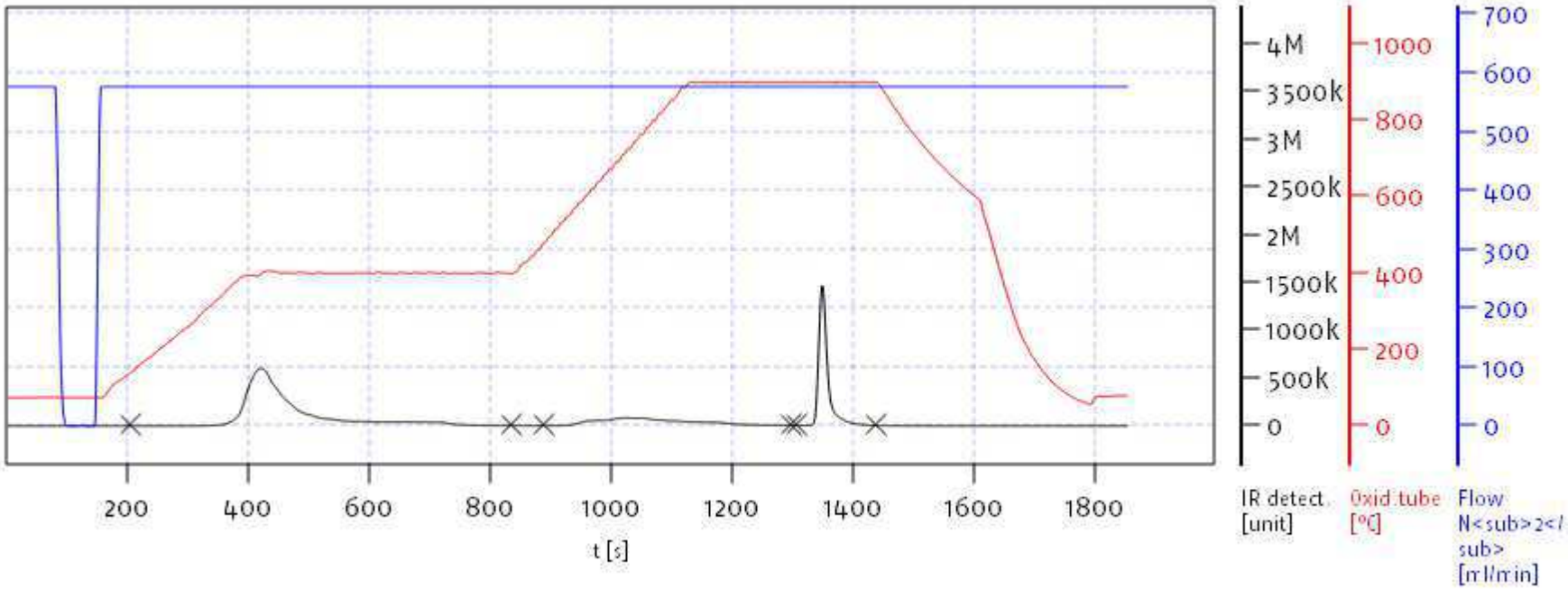
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
120	69	21H0184-15	519.90		1.00	CARBON	8/28/2021 5:18 AM	0.944	0.182	1.126	bl	2 016 720	573 102	951 018	0.9808	1.0000



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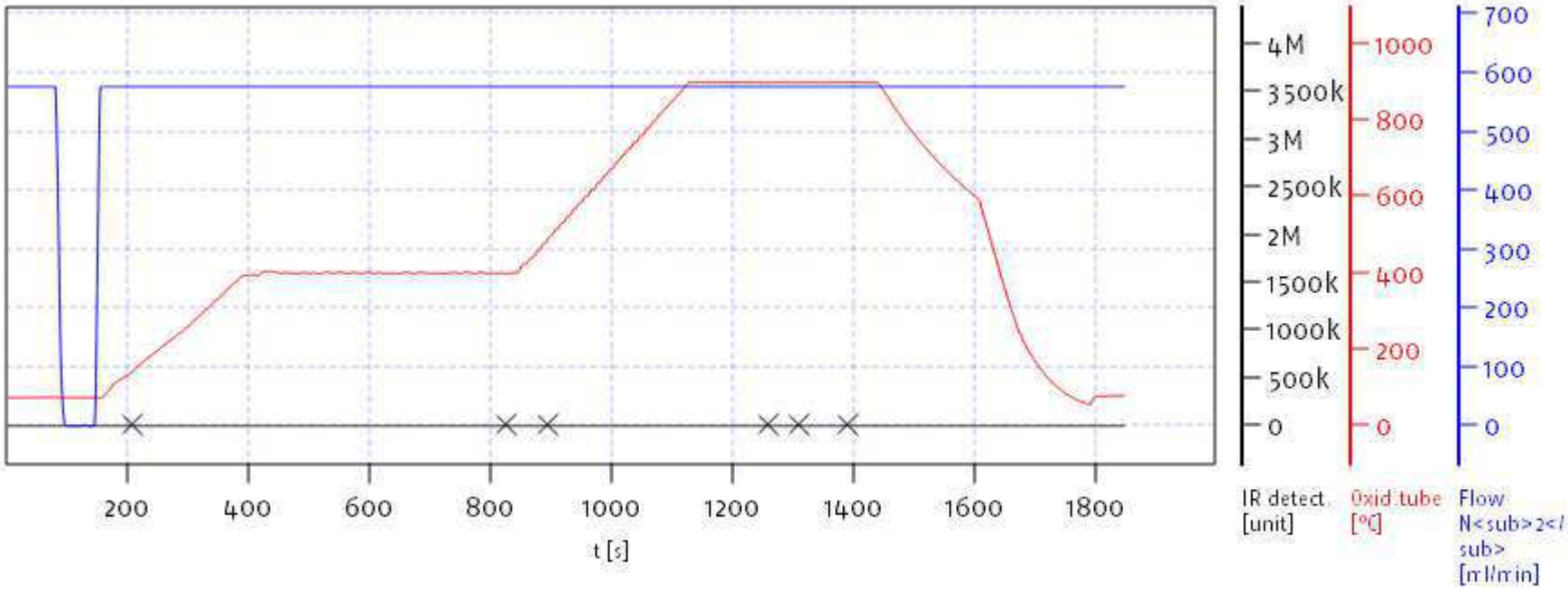
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
121	70	BLANK	1.00		1.00	CARBON	8/28/2021 5:50 AM	0.000	0.000	0.000	bl	1 460	264	159	0.9808	1.0000



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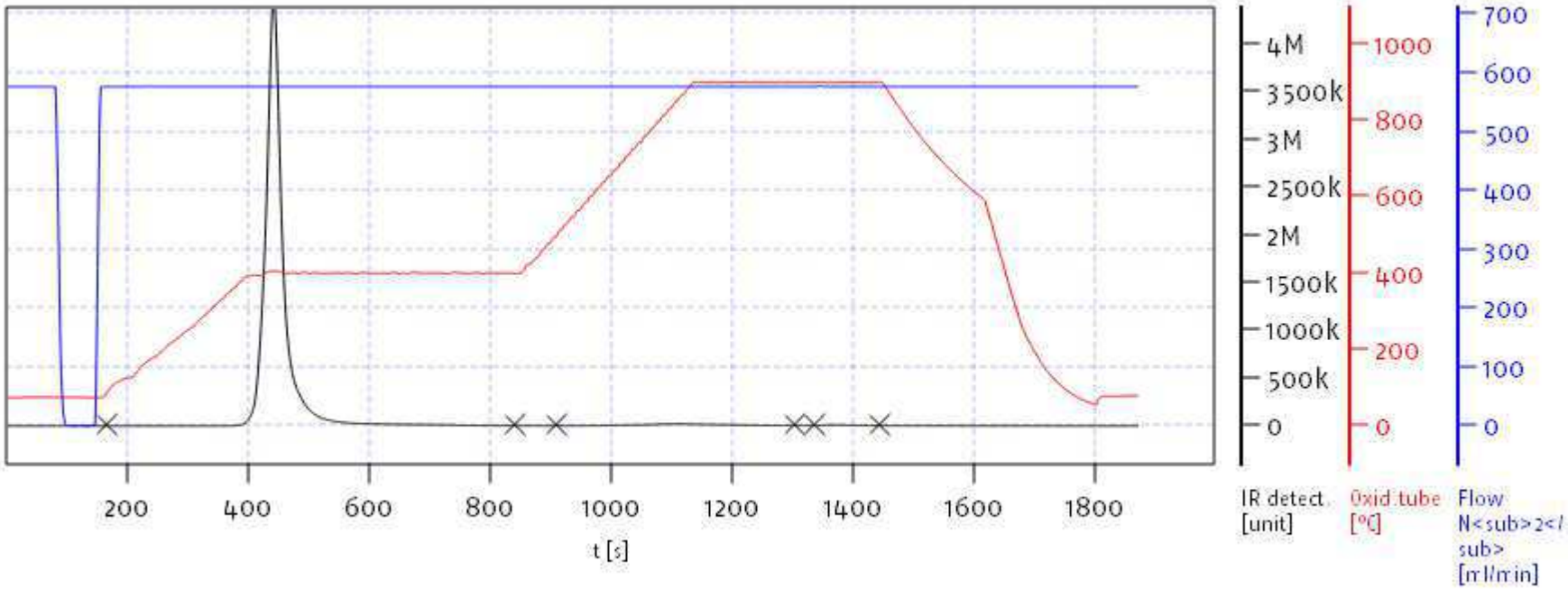
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
122	71	Dfactor	20.90		1.00	CARBON	8/28/2021 6:21 AM	44.549	0.999	45.547	bl	5 558 350	135 245	24 453	0.9916	1.0000



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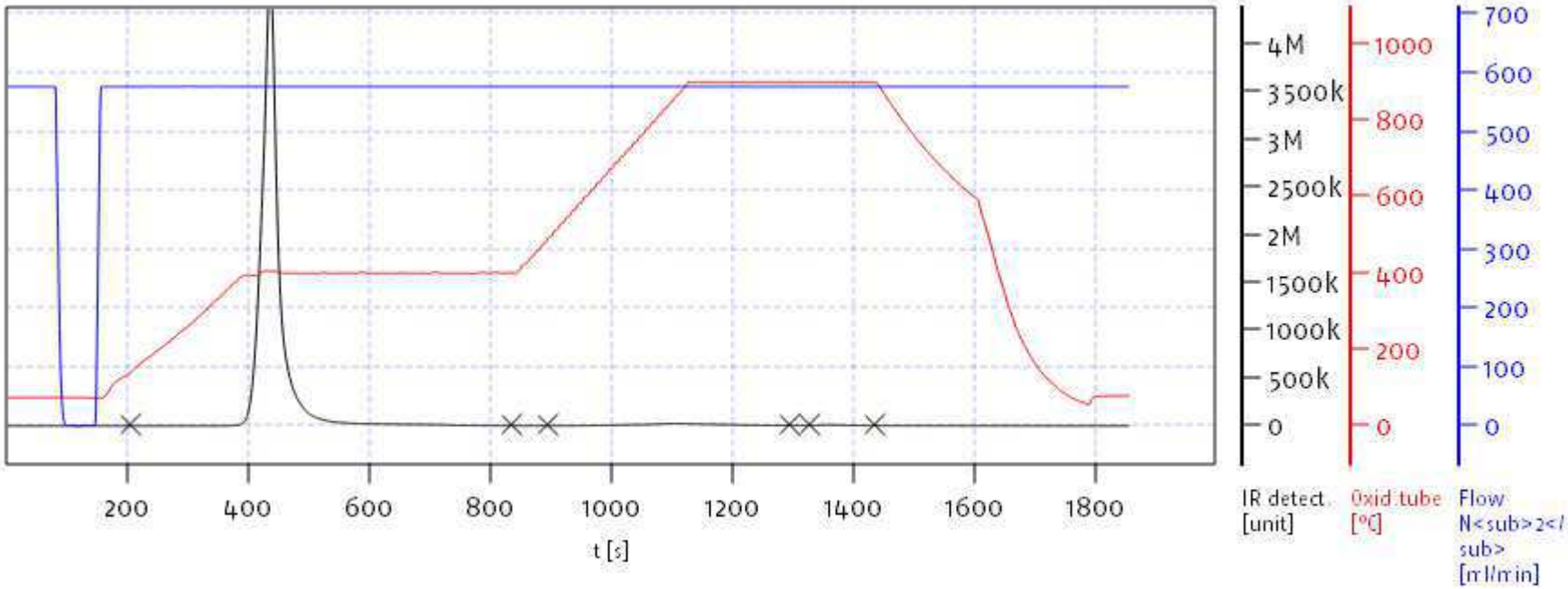
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
123	72	Dfactor	21.40		1.00	CARBON	8/28/2021 6:53 AM	44.550	1.165	45.715	bl	5 694 210	159 244	24 952	0.9911	1.0000



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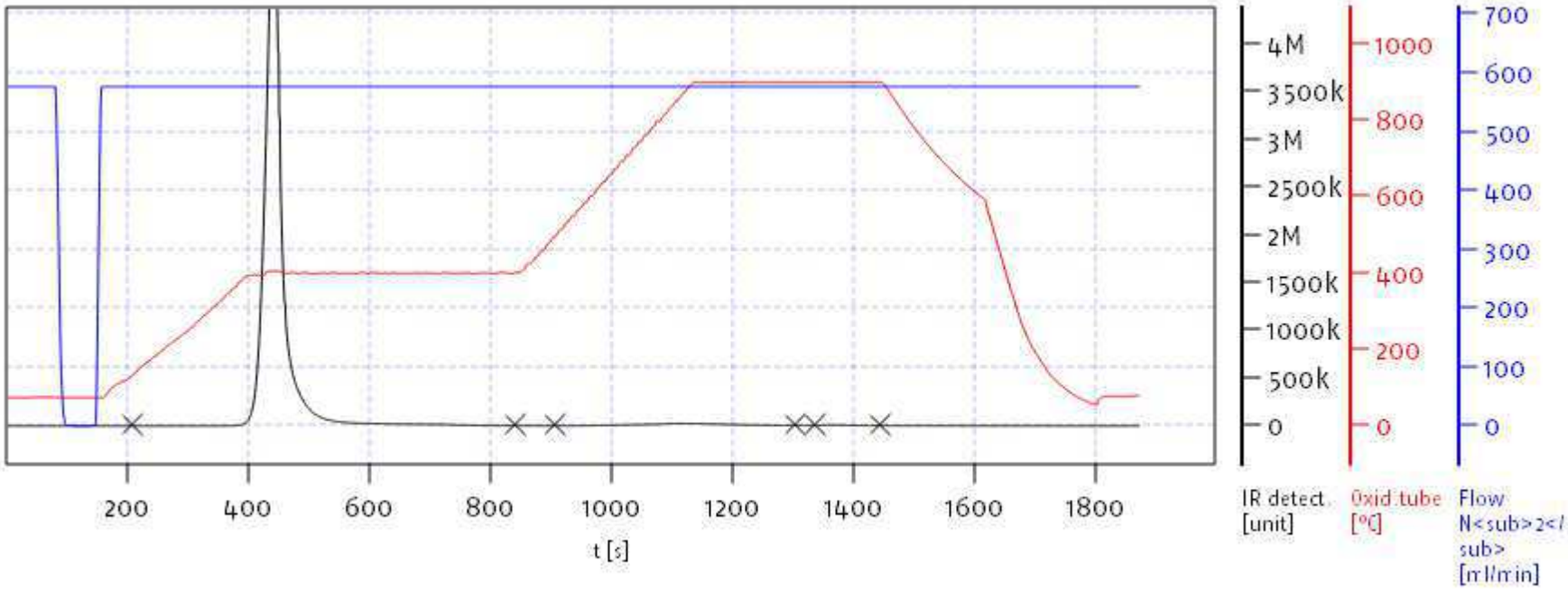
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
124	73	SJH0331-CCVA	24.30		1.00	CARBON	8/28/2021 7:24 AM	45.175	1.141	46.317	bl	6 557 250	175 865	22 725	0.9913	1.0000



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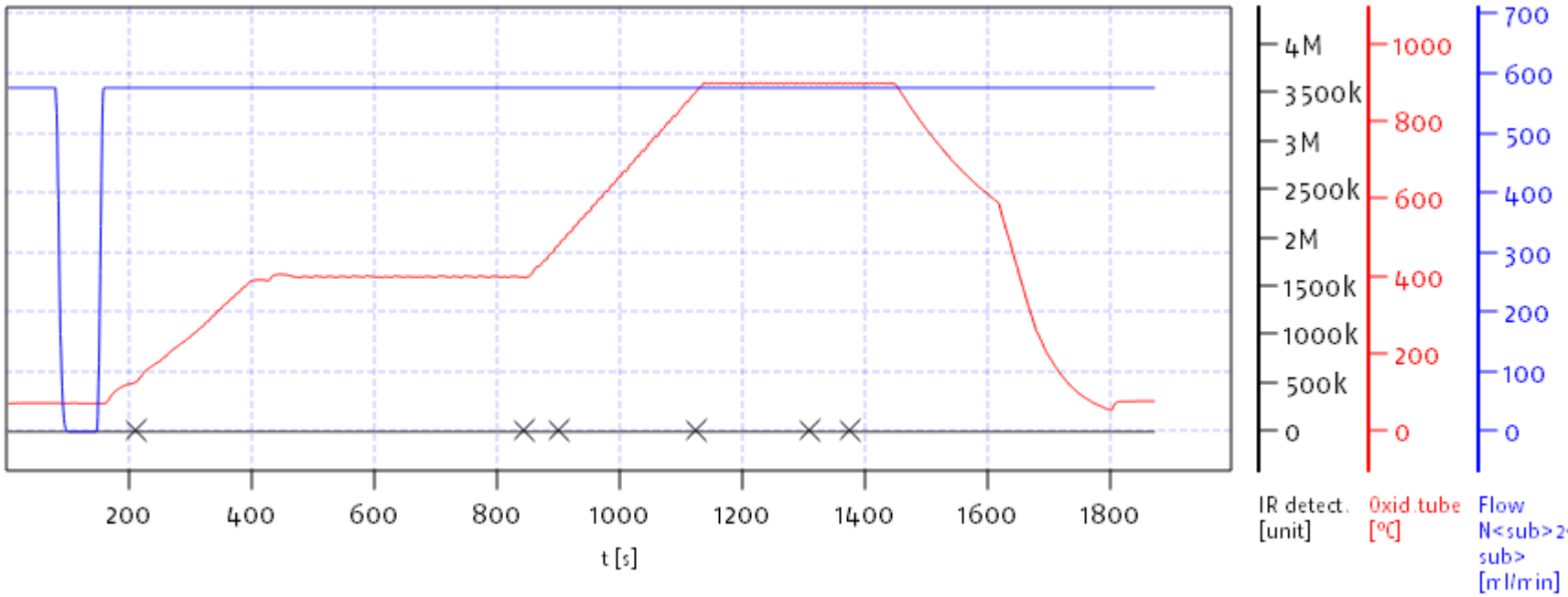
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
125	74	SJH0331-CCBA	622.30		1.00	CARBON	8/28/2021 7:56 AM	0.000	0.000	0.000	bl,C1u,C3u,C2u	2 179	58	345	0.9913	1.0000



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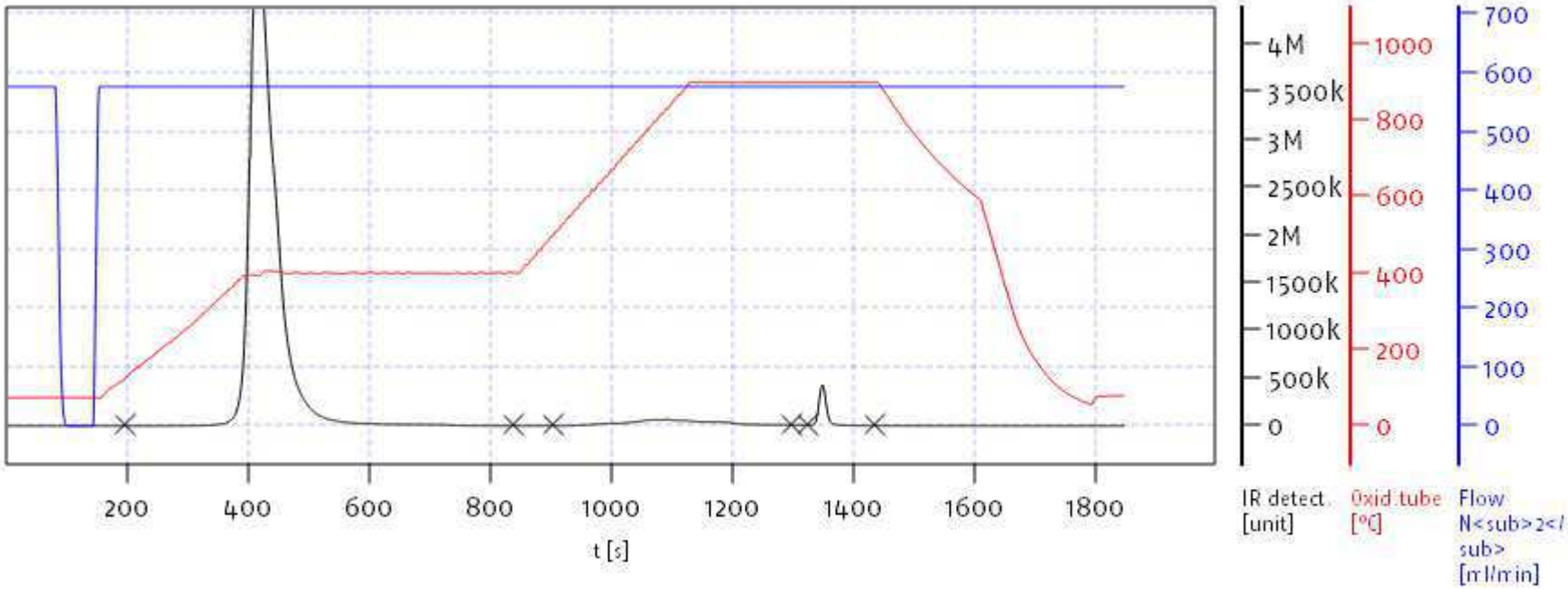
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
126	75	21H0184-16	565.70		1.00	CARBON	8/28/2021 8:27 AM	2.809	0.127	2.936	bl,Cl o	9 272 570	438 152	238 331	0.9913	1.0000



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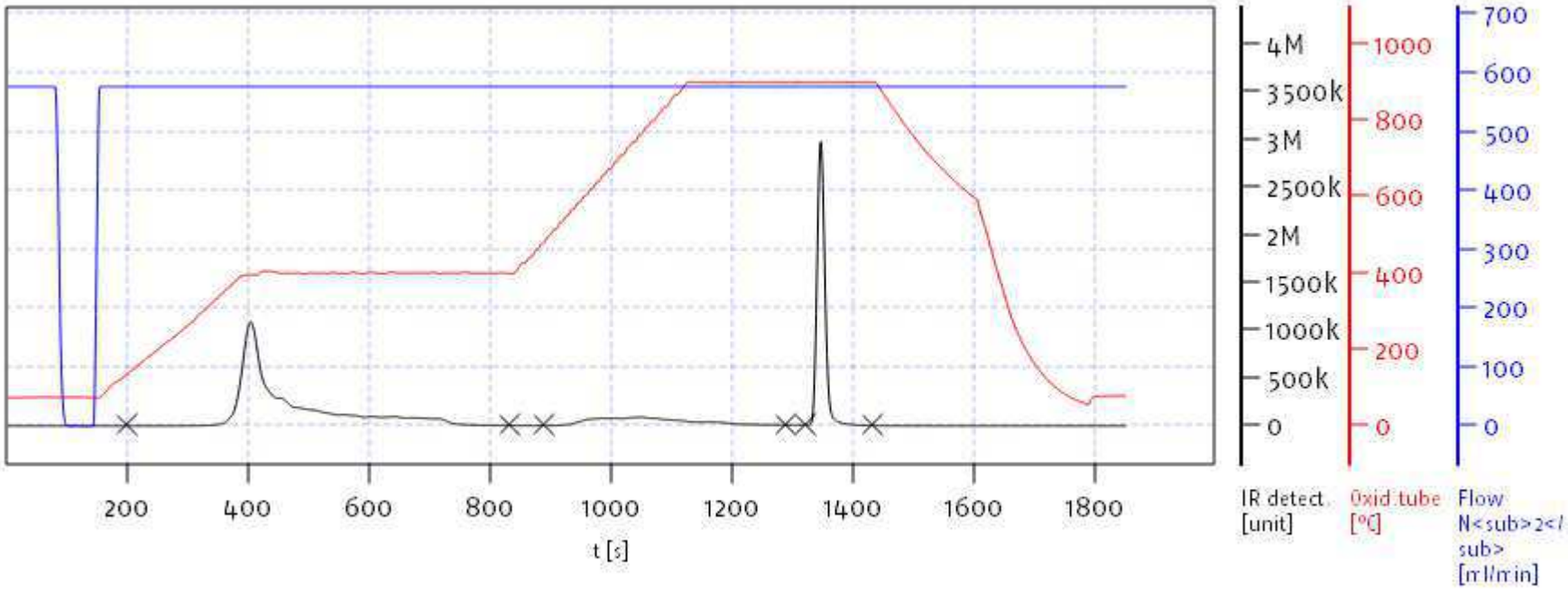
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
127	76	21H0184-17	328.10		1.00	CARBON	8/28/2021 8:59 AM	2.389	0.337	2.725	bl	2 990 010	665 689	1 699 900	0.9913	1.0000



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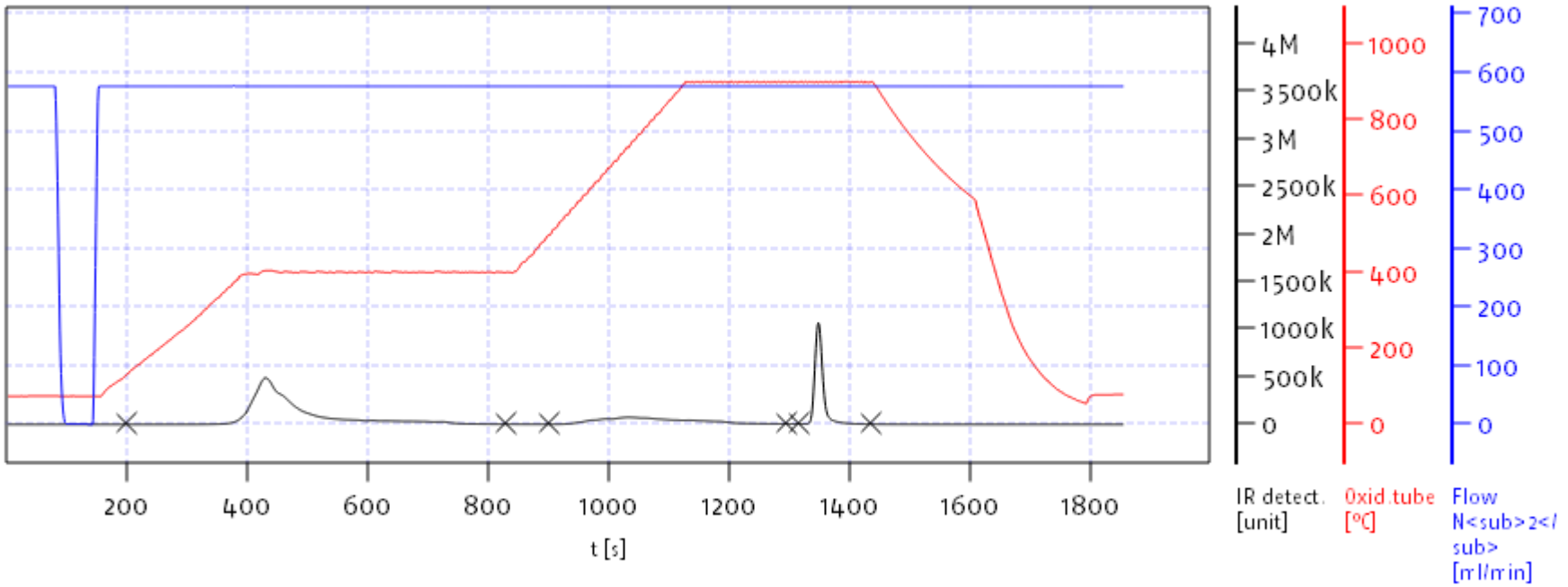
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
128	77	21H0184-18	627.00		1.00	CARBON	8/28/2021 9:30 AM	0.588	0.134	0.722	bl	1 591 990	510 199	627 006	0.9913	1.0000



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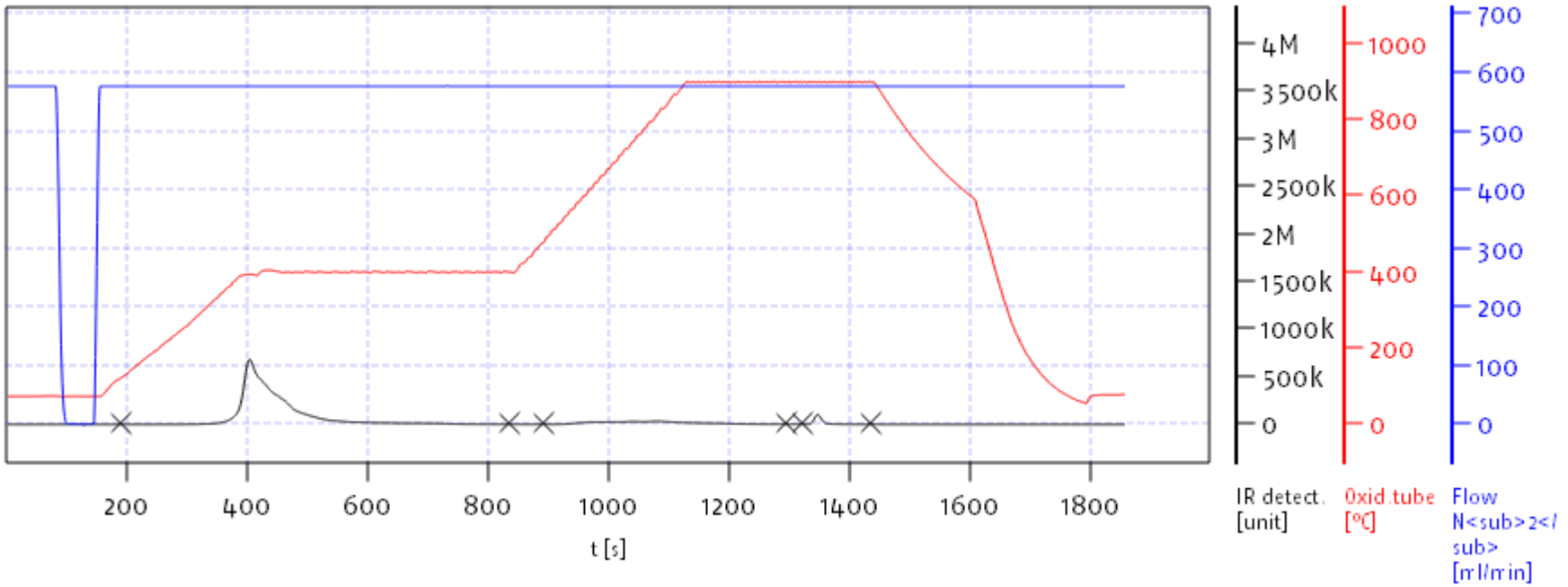
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
129	78	21H0219-01	527.60		1.00	CARBON	8/28/2021 10:02 AM	0.565	0.071	0.636	bl	1 743 570	232 620	60 843	0.9913	1.0000



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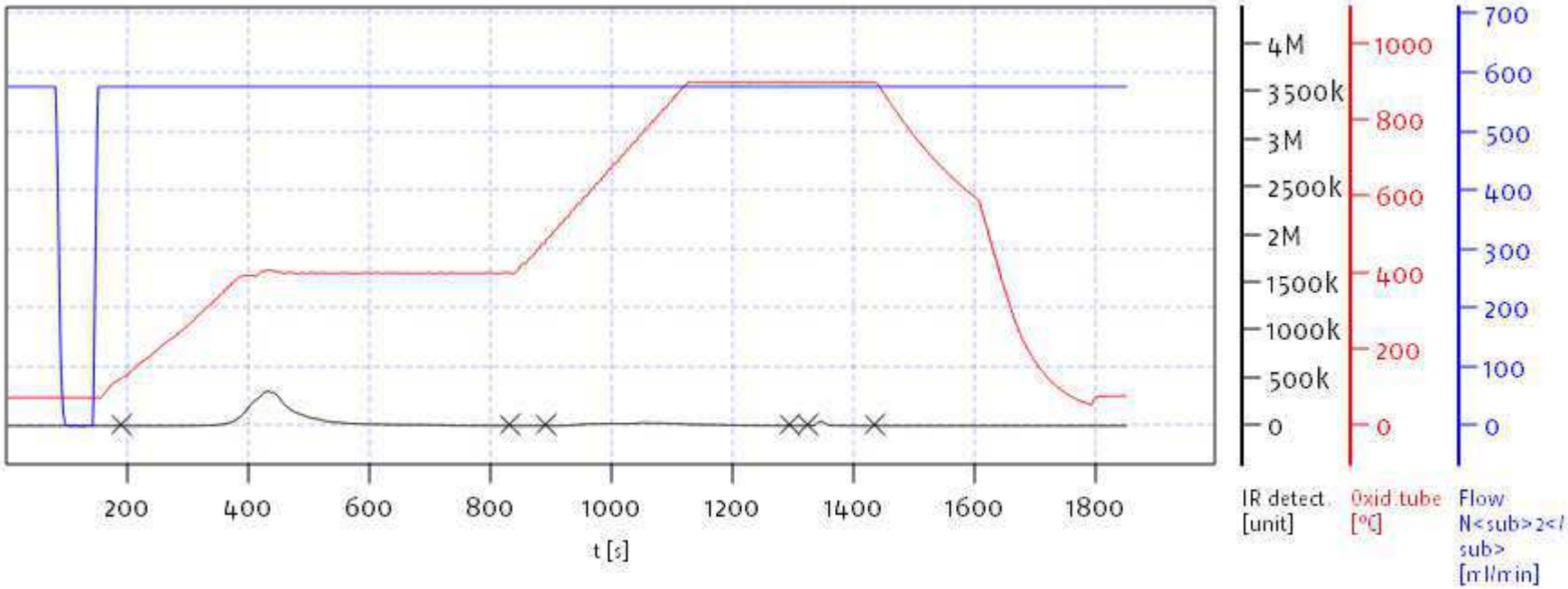
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
130	79	BJH0513-DUP2	532.50		1.00	CARBON	8/28/2021 10:33 AM	0.393	0.062	0.455	bl	1 241 740	208 054	30 430	0.9913	1.0000



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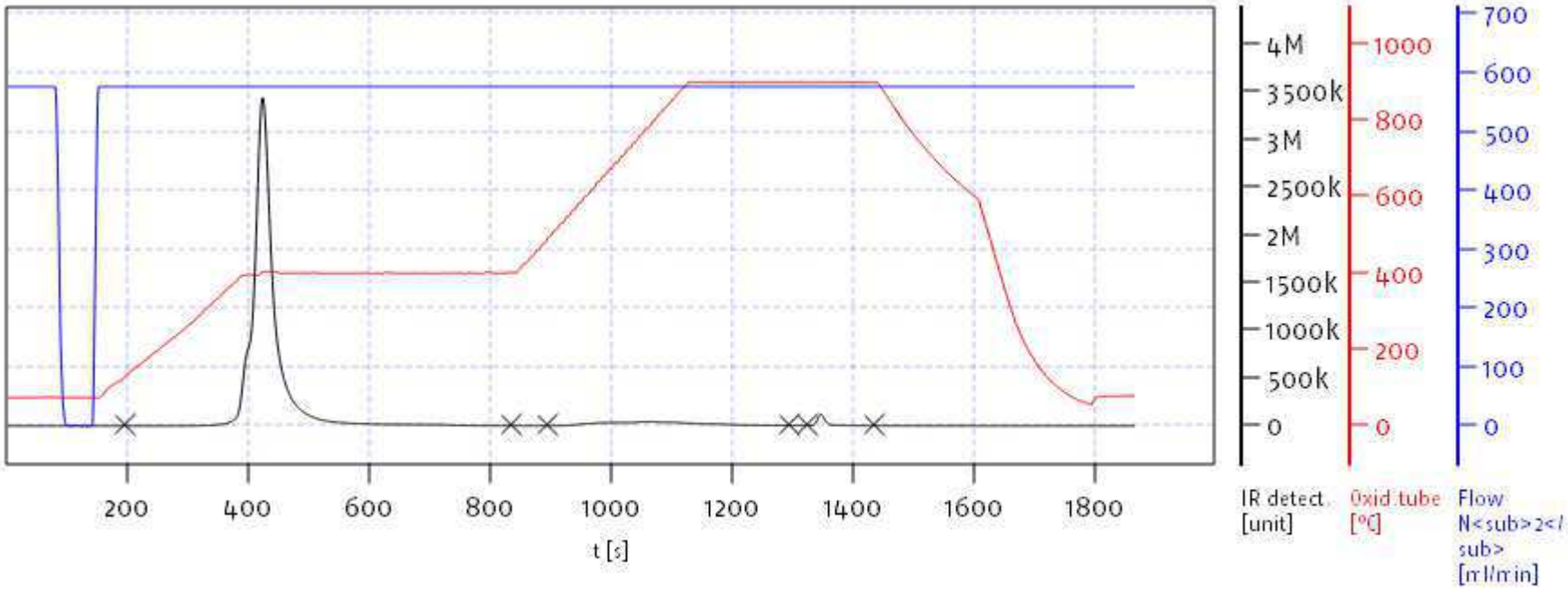
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
131	80	BJH0513-MS2	566.50	0.0108	1.00	CARBON	8/28/2021 11:04 AM	1.473	0.091	1.564	bl	4 929 470	318 082	77 016	0.9913	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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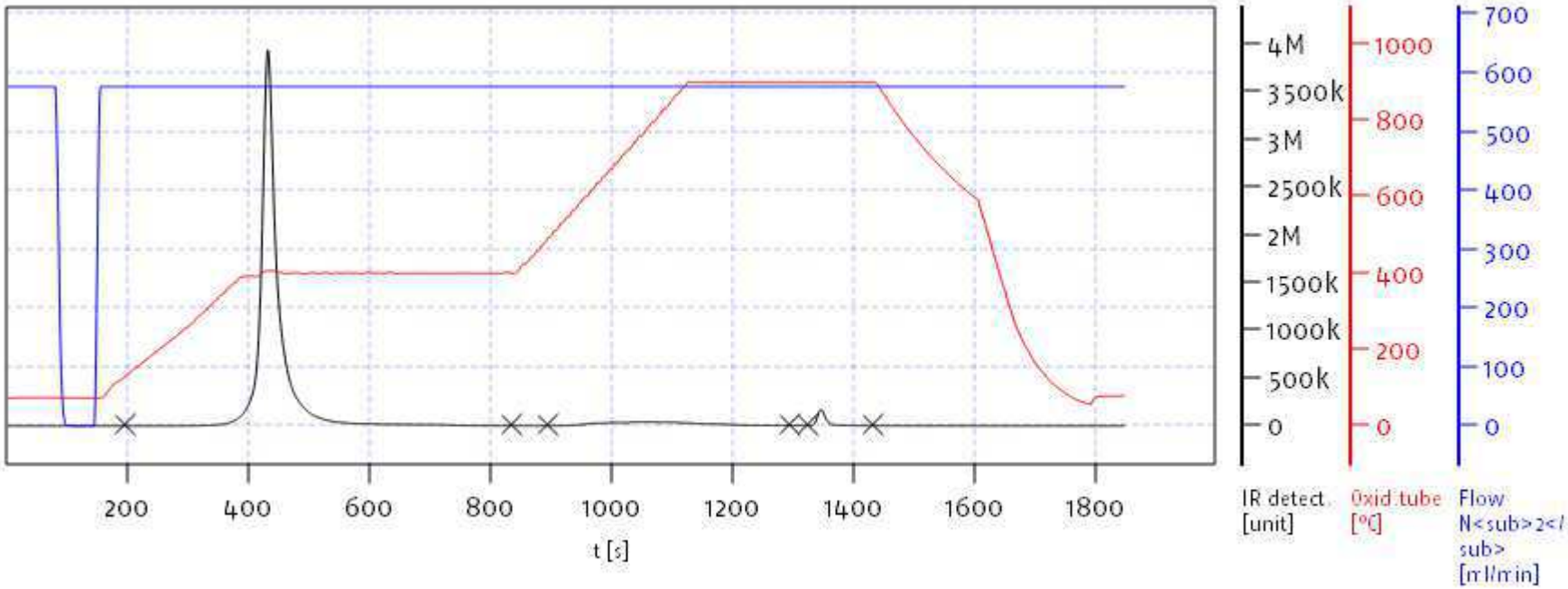
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
132	81	BJH0513-MSD2	598.70	0.0113	1.00	CARBON	8/28/2021 11:36 AM	1.347	0.084	1.431	bl	4 728 330	308 742	109 916	0.9913	1.0000



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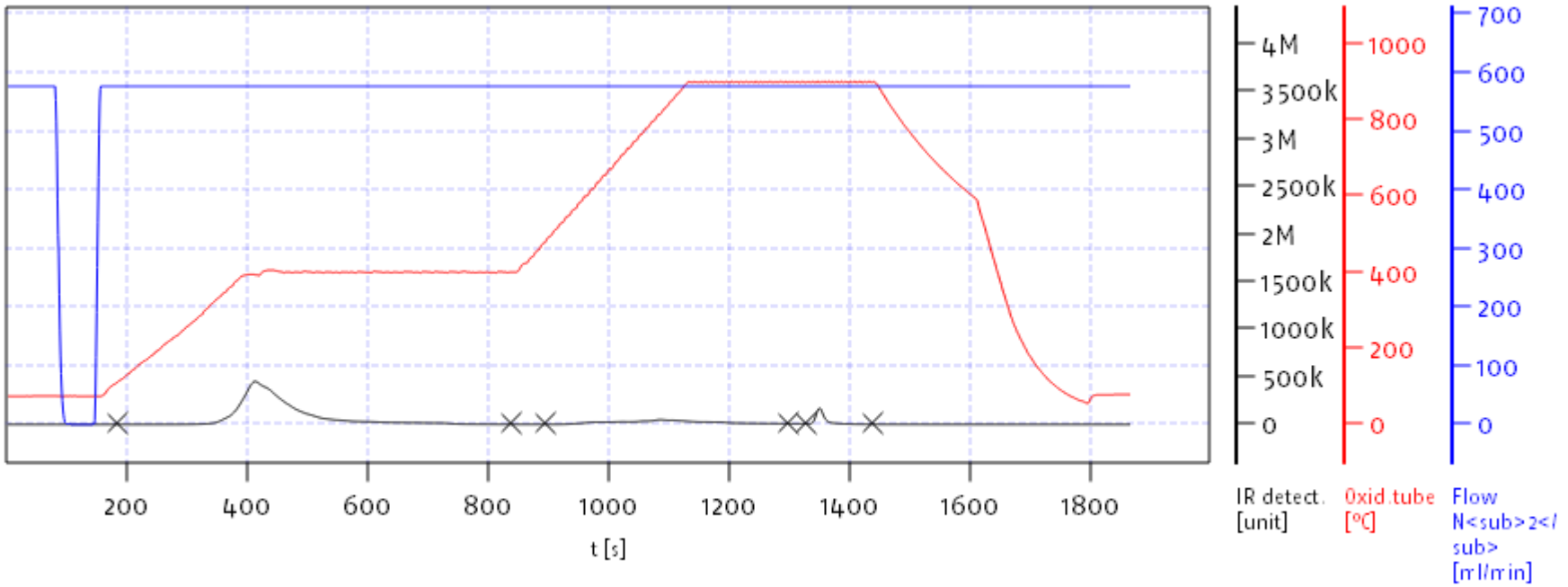
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
133	82	21H0223-01	105.40		1.00	CARBON	8/28/2021 12:07 PM	2.778	0.500	3.278	bl	1 657 300	323 449	113 953	0.9913	1.0000



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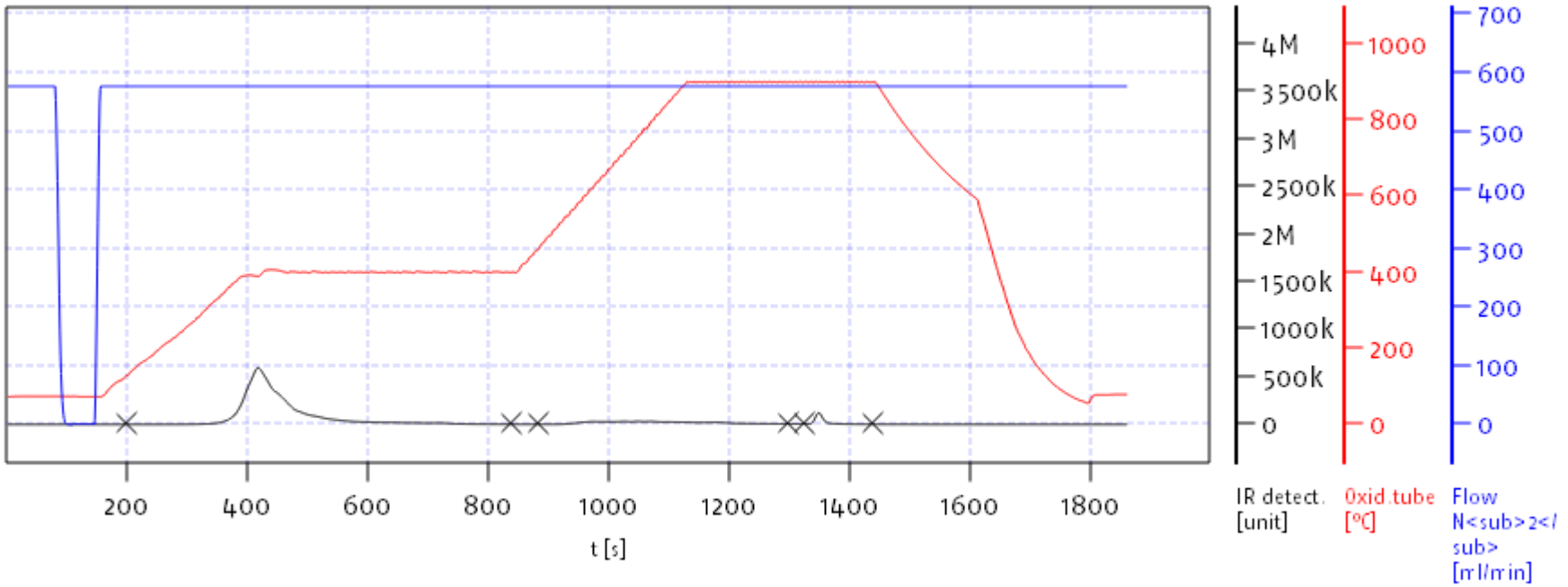
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
134	83	21H0223-02	114.70		1.00	CARBON	8/28/2021 12:39 PM	2.679	0.397	3.077	bl	1 777 140	281 623	81 103	0.9913	1.0000



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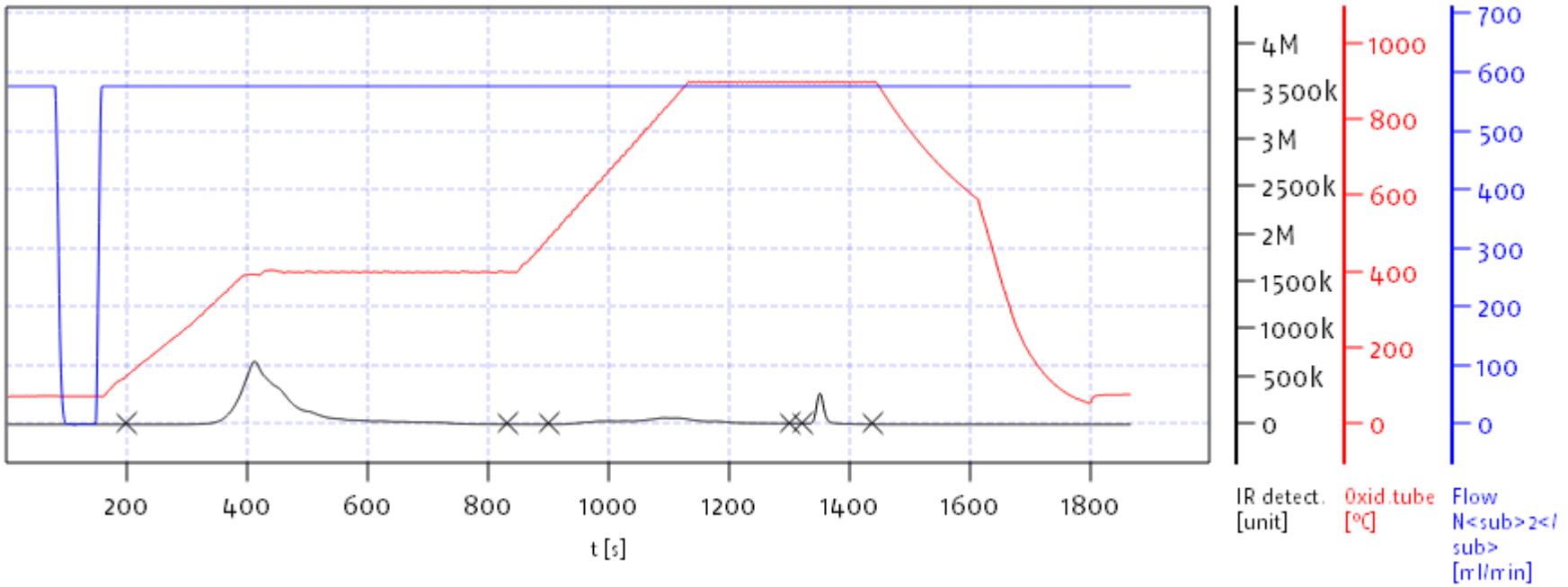
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
135	84	21H0223-03	121.20		1.00	CARBON	8/28/2021 1:10 PM	3.307	0.600	3.908	bl	2 220 990	442 362	195 018	0.9913	1.0000



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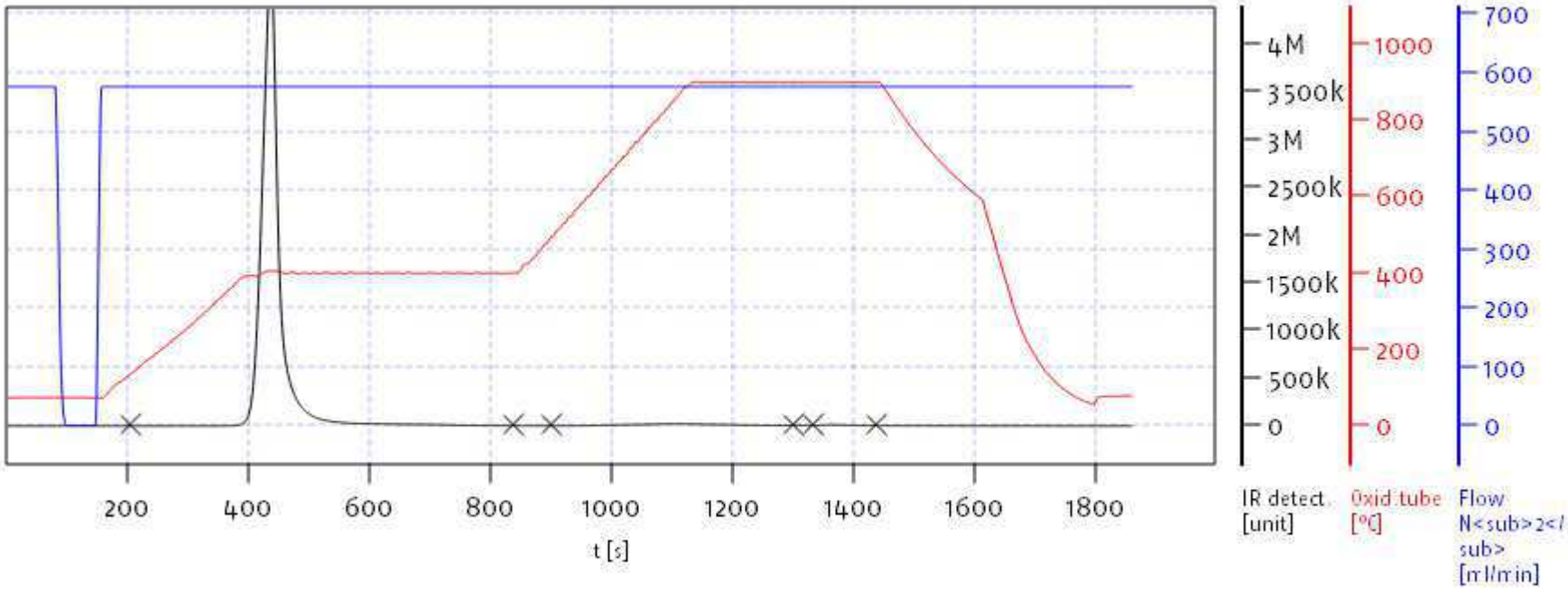
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
136	85	SJH0331-CCVB	21.80		1.00	CARBON	8/28/2021 1:42 PM	44.633	1.082	45.716	bl	5 809 870	151 374	24 927	0.9913	1.0000



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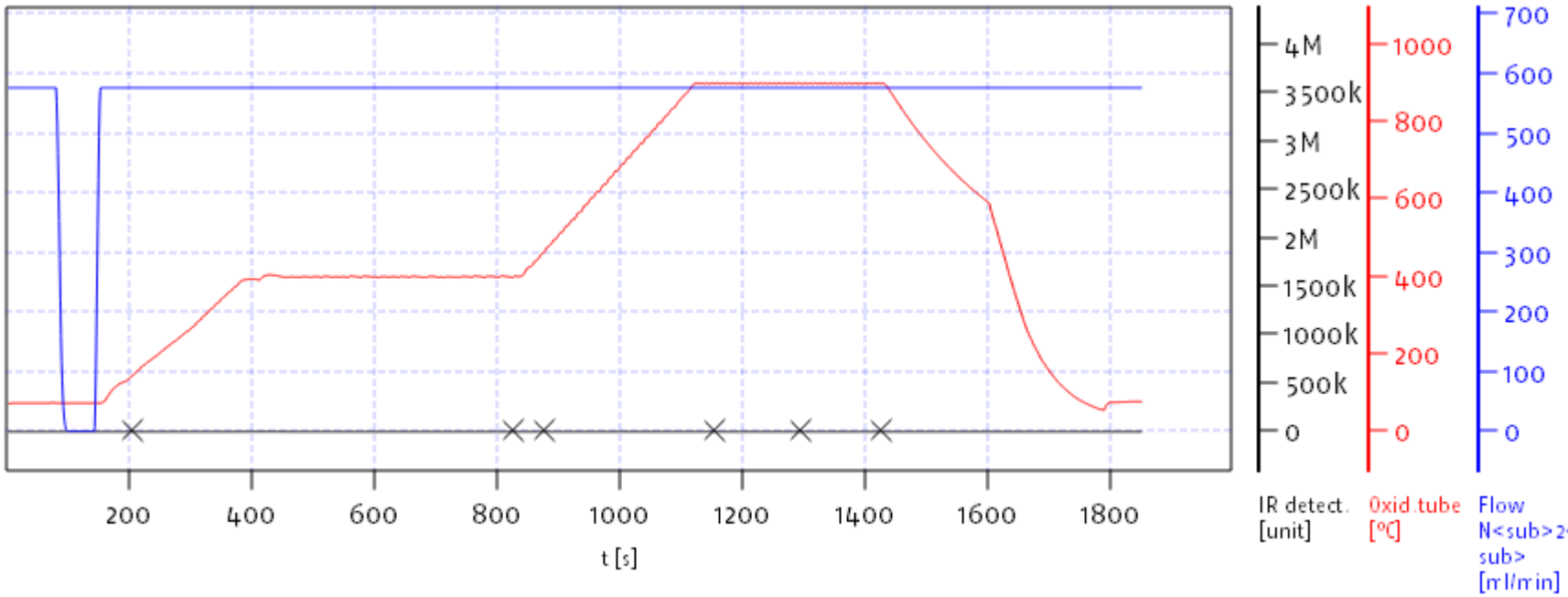
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
137	86	SJH0331-CCBB	553.80		1.00	CARBON	8/28/2021 2:13 PM	0.000	0.000	0.000	bl,C1u,C3u,C2u	3 219	275	254	0.9913	1.0000



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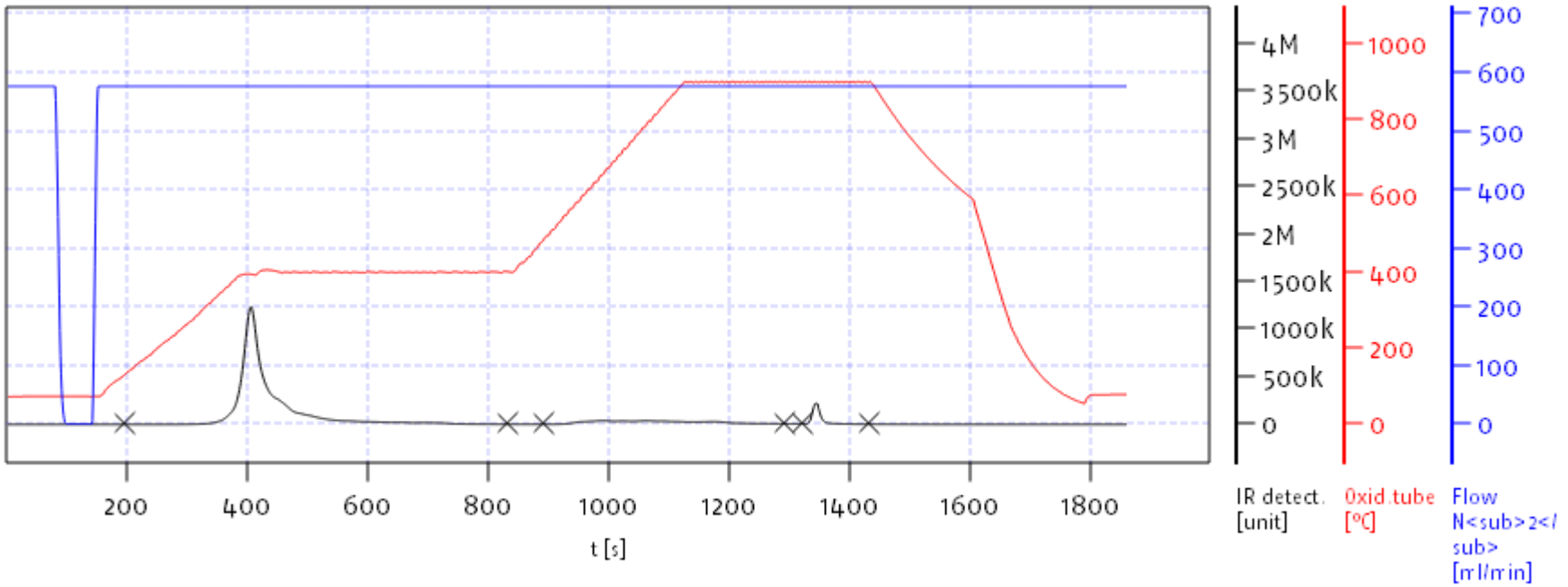
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
138	87	21H0223-04	138.40		1.00	CARBON	8/28/2021 2:45 PM	2.972	0.409	3.381	bl	2 338 910	346 798	139 874	0.9913	1.0000



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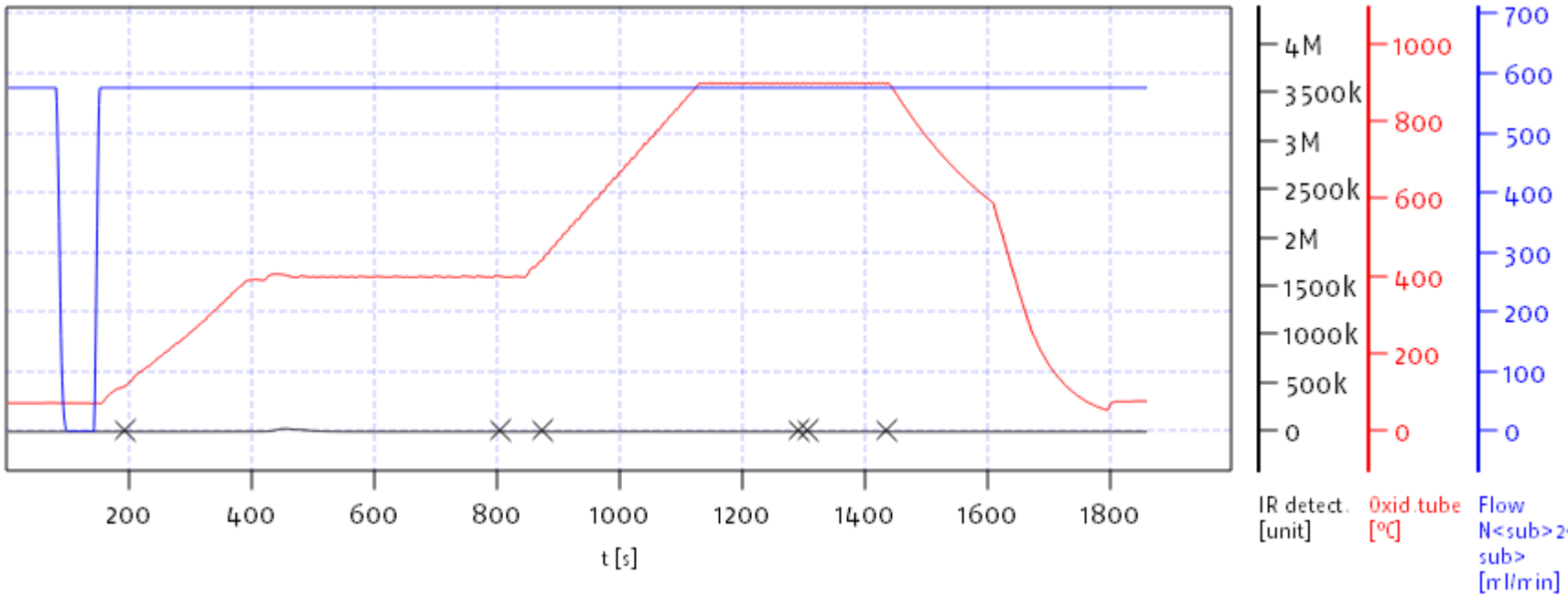
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
139	88	BJH0434-MRL1	556.70		1.00	CARBON	8/28/2021 3:16 PM	0.017	0.000	0.017	bl,C3u,C2u	68 246	7 250	503	0.9913	1.0000



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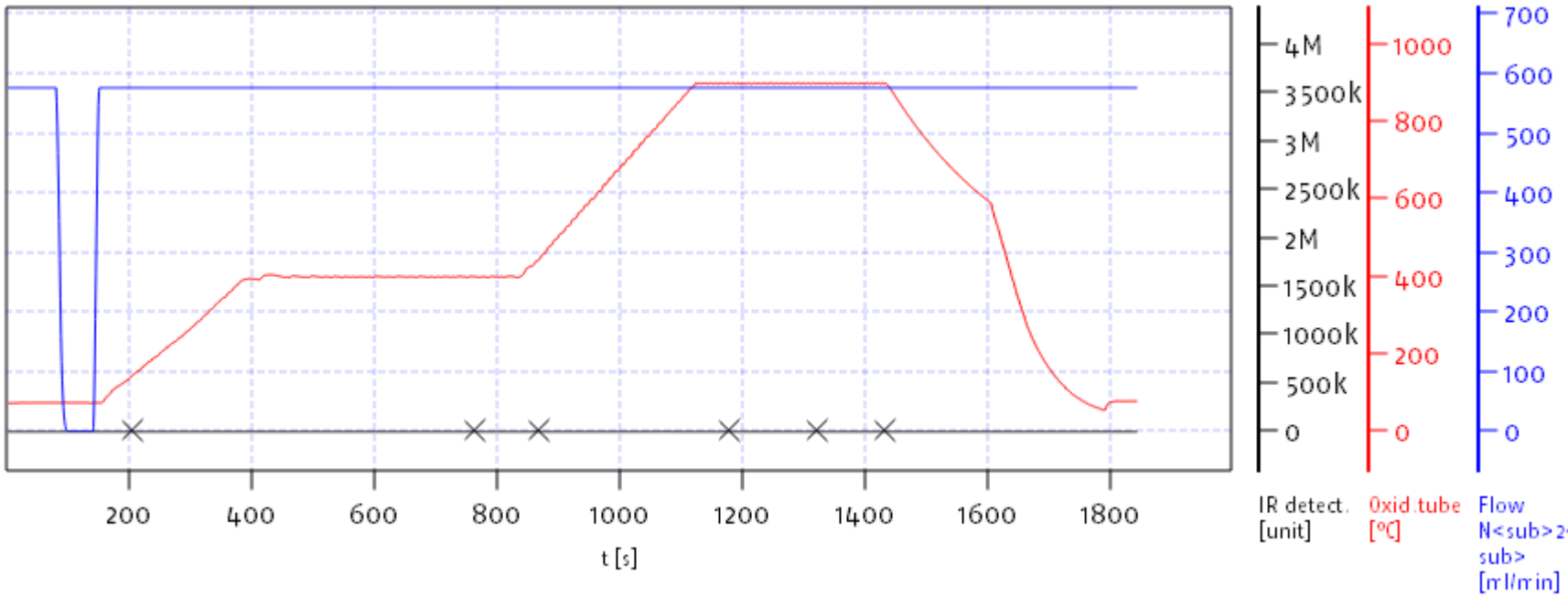
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
140	89	BJH0434-BLK1	518.90		1.00	CARBON	8/28/2021 3:47 PM	0.000	0.000	0.000	bl,C1u,C3u,C2u	1 696	2 157	367	0.9913	1.0000



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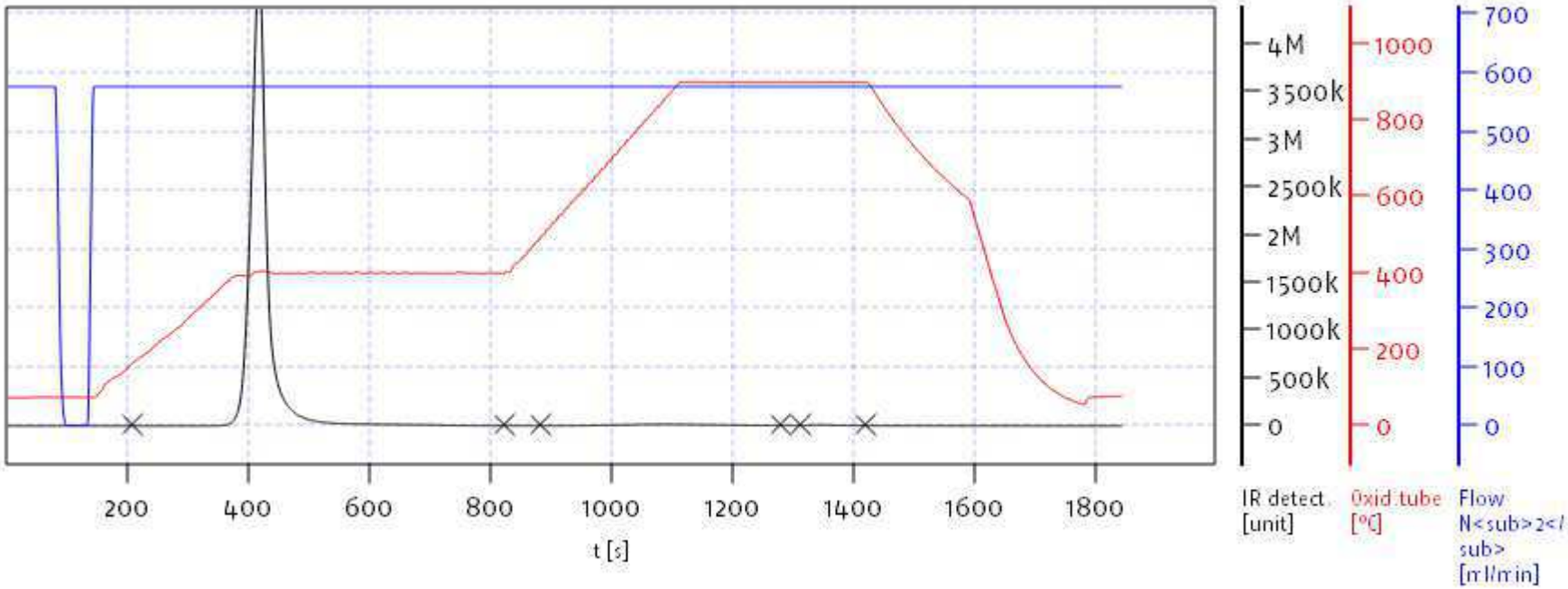
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
141	1	BJH0434-BS1	20.20		1.00	CARBON	8/28/2021 4:19 PM	46.270	0.931	47.201	bl	5 582 080	123 050	23 665	0.9913	1.0000



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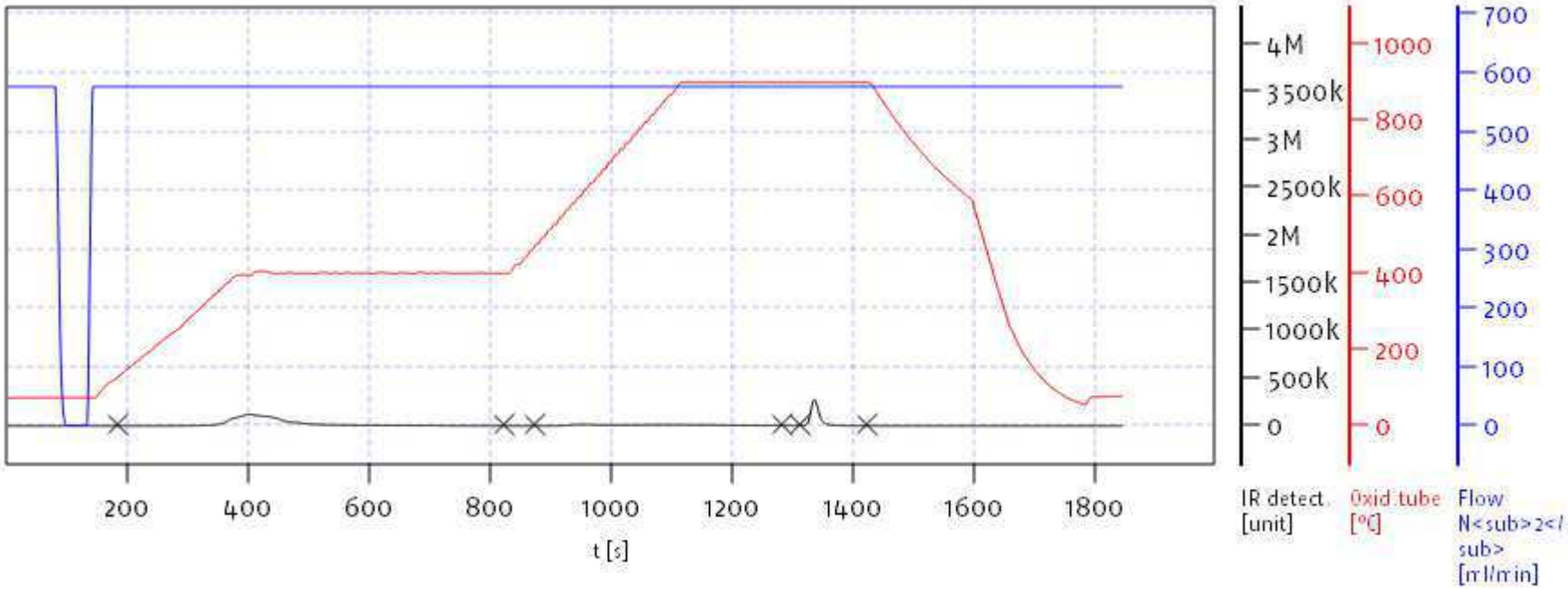
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
142	2	BJH0434-SRM1	40.00		1.00	CARBON	8/28/2021 4:50 PM	2.600	0.445	3.046	bl	473 382	117 120	169 870	0.9913	1.0000



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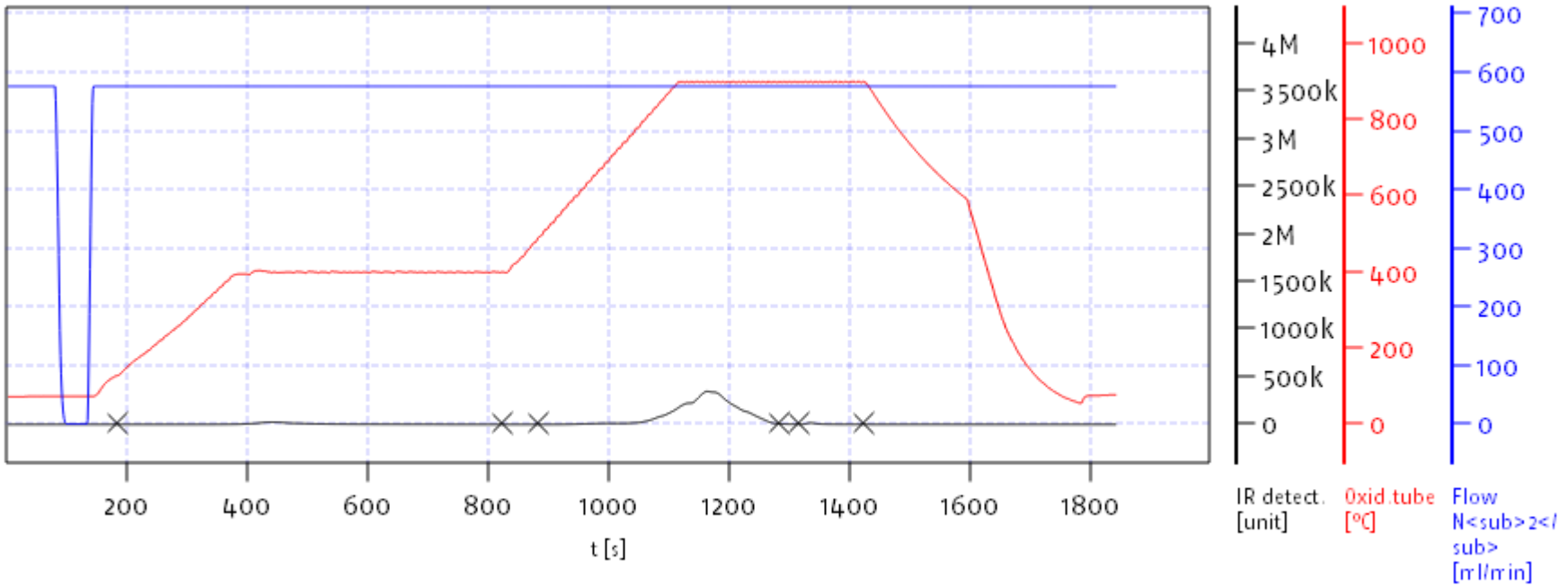
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
143	3	21G0313-15	362.60		1.00	CARBON	8/28/2021 5:21 PM	0.036	0.662	0.698	bl	87 395	1 432 640	14 807	0.9913	1.0000



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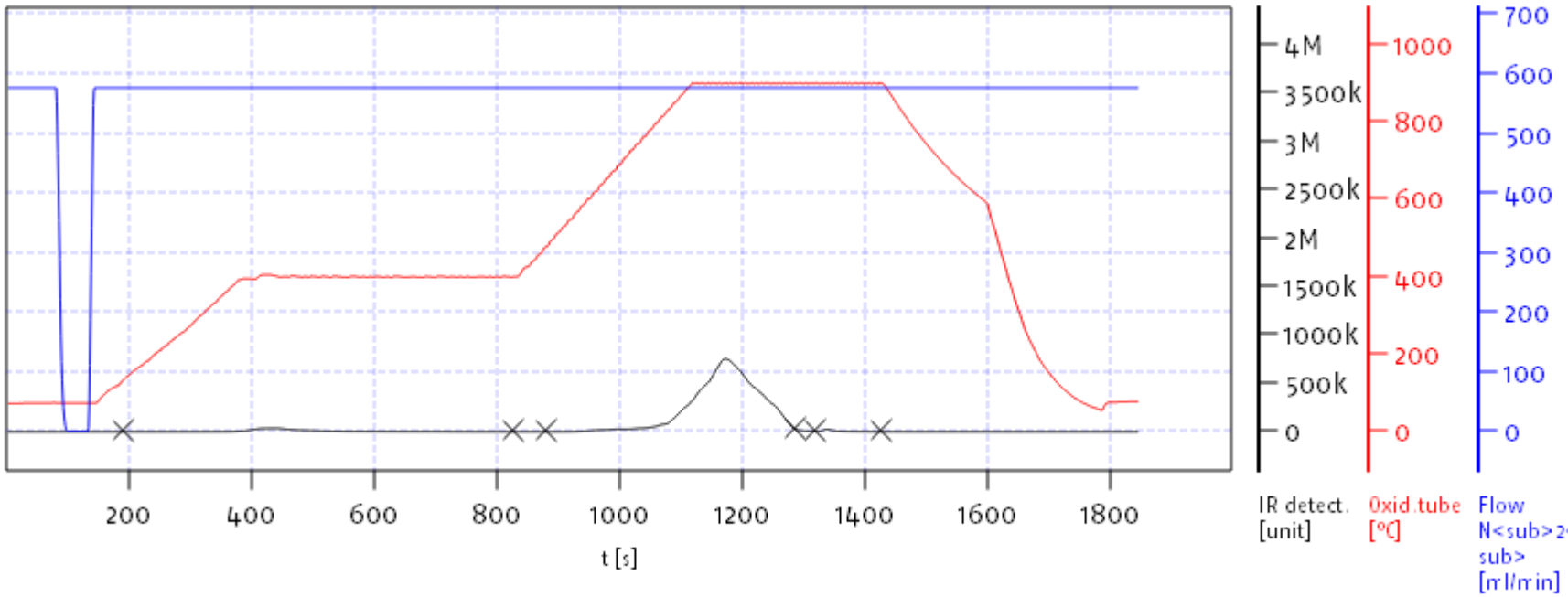
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
144	4	BJH0434-DUP2	376.10		1.00	CARBON	8/28/2021 5:52 PM	0.059	1.468	1.527	bl	133 193	3 280 160	22 916	0.9913	1.0000



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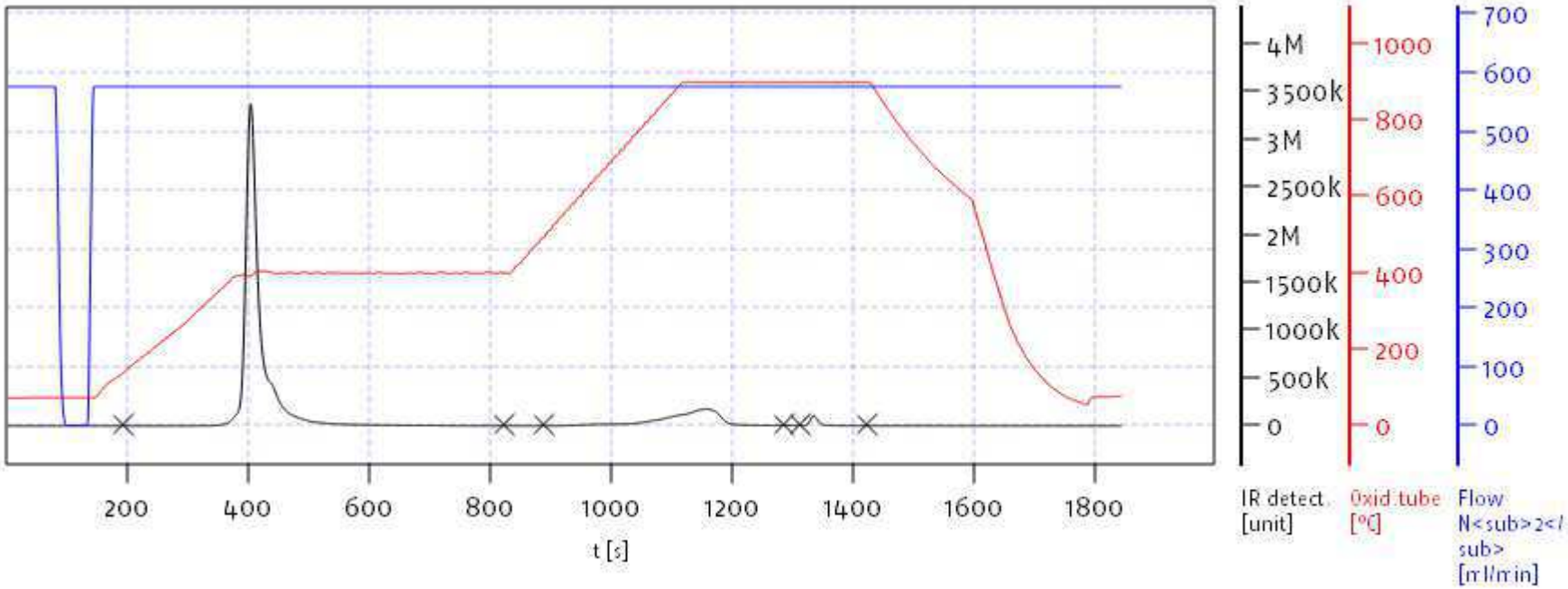
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
145	5	BJH0434-MS2	313.00	0.0113	1.00	CARBON	8/28/2021 6:23 PM	1.881	0.357	2.239	bl	3 473 330	674 151	66 394	0.9913	1.0000



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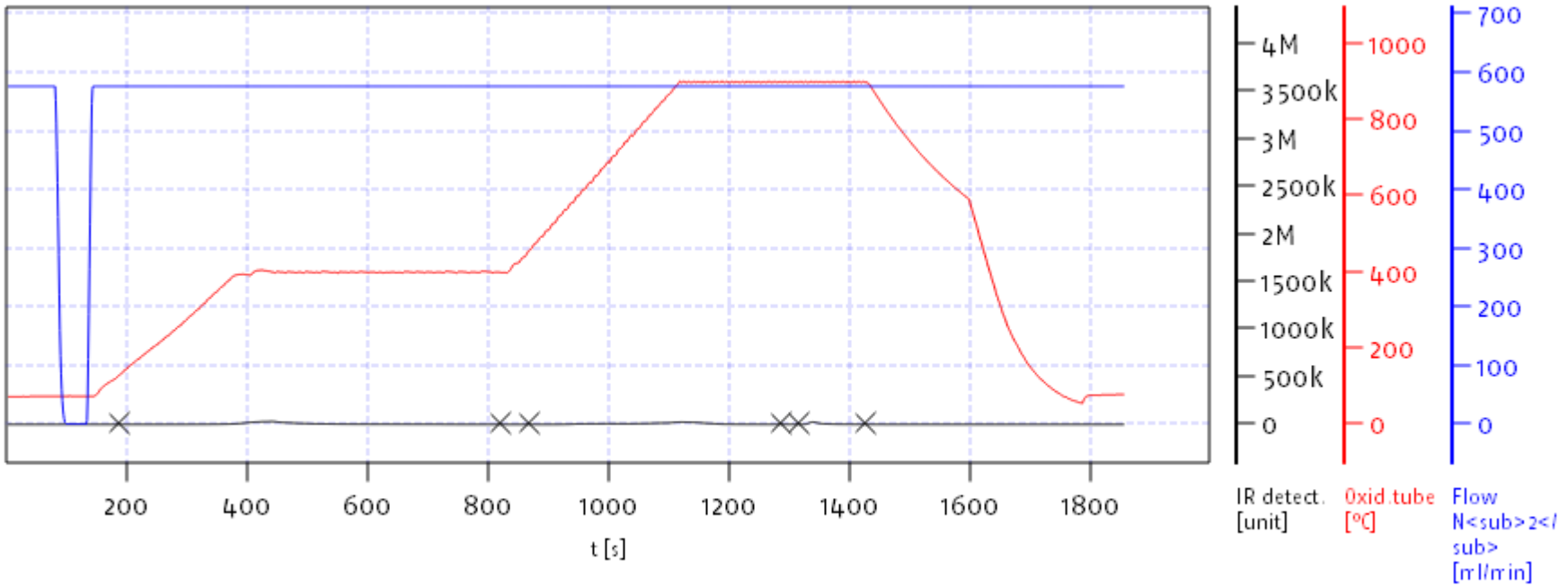
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
146	6	21G0313-16	500.80		1.00	CARBON	8/28/2021 6:55 PM	0.041	0.035	0.076	bl	122 396	114 752	23 407	0.9913	1.0000



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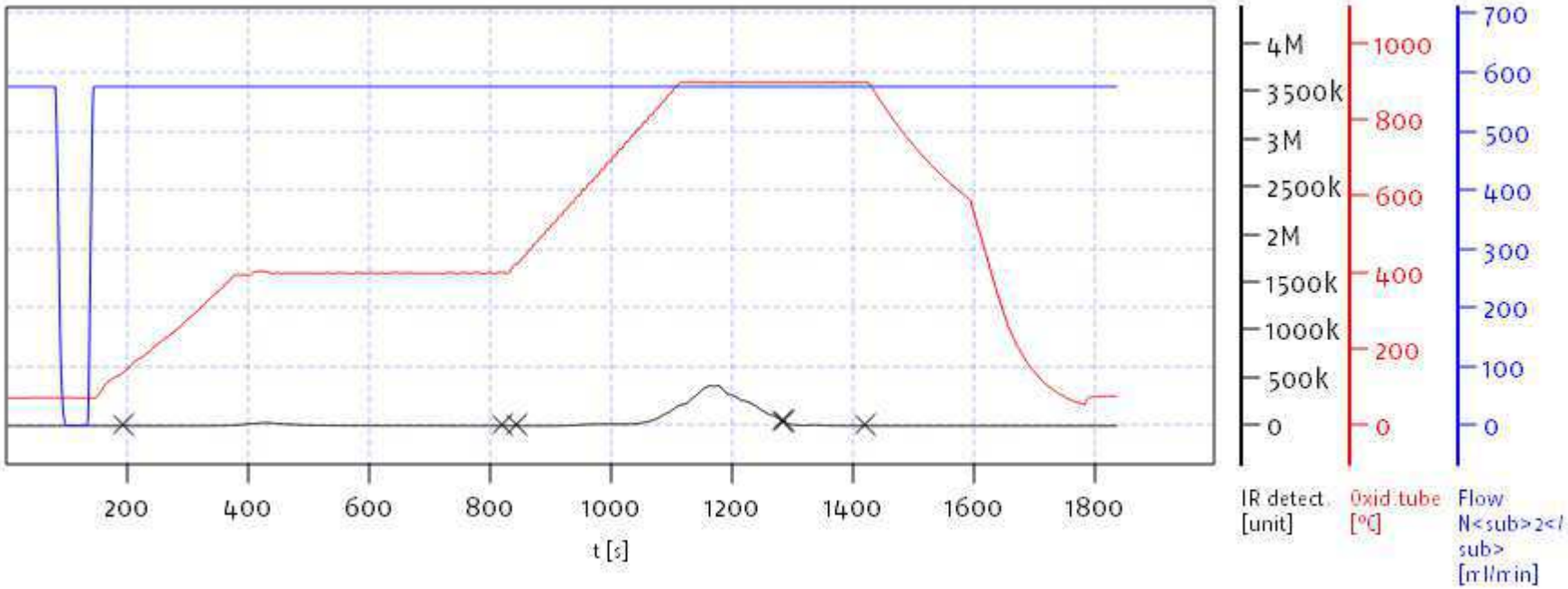
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
147	7	21G0310-03RE1	217.60		1.00	CARBON	8/28/2021 7:26 PM	0.083	1.270	1.353	bl	119 849	2 040 220	29 068	0.9913	1.0000



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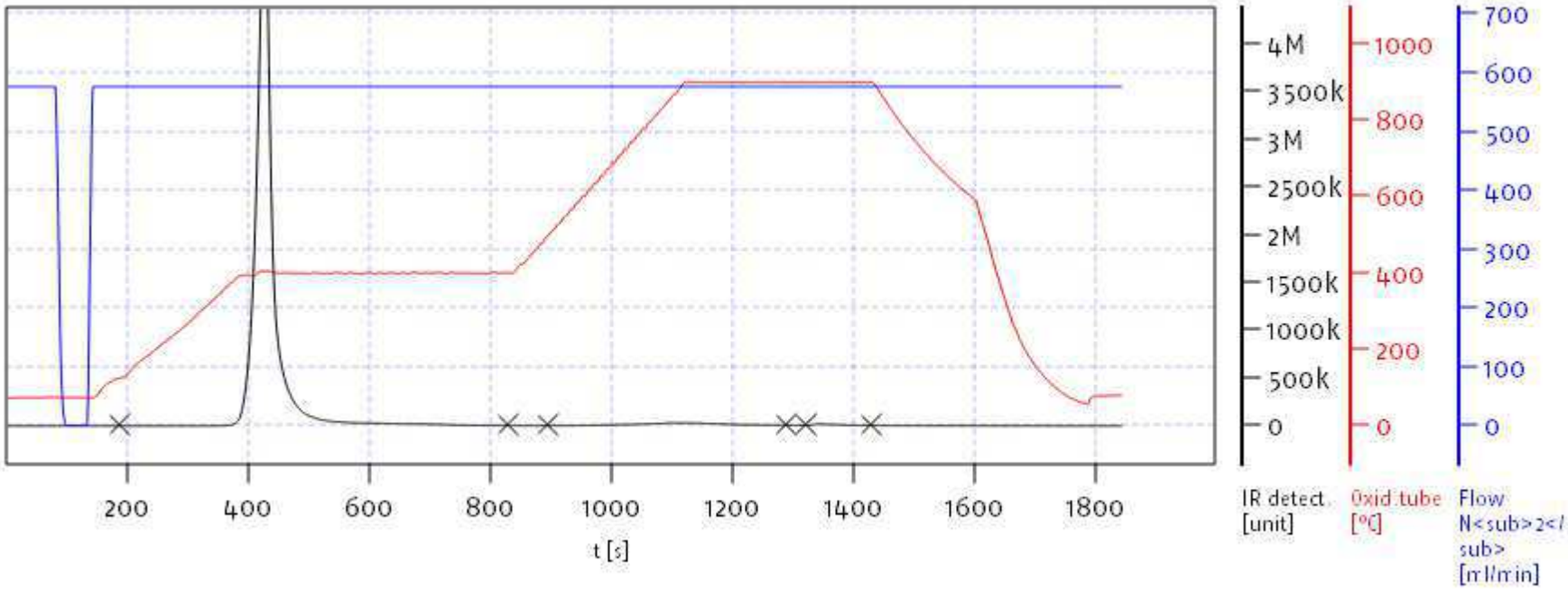
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
148	8	SJH0331-CCVC	23.90		1.00	CARBON	8/28/2021 7:57 PM	44.711	1.455	46.166	bl	6 364 610	217 611	40 995	0.9913	1.0000



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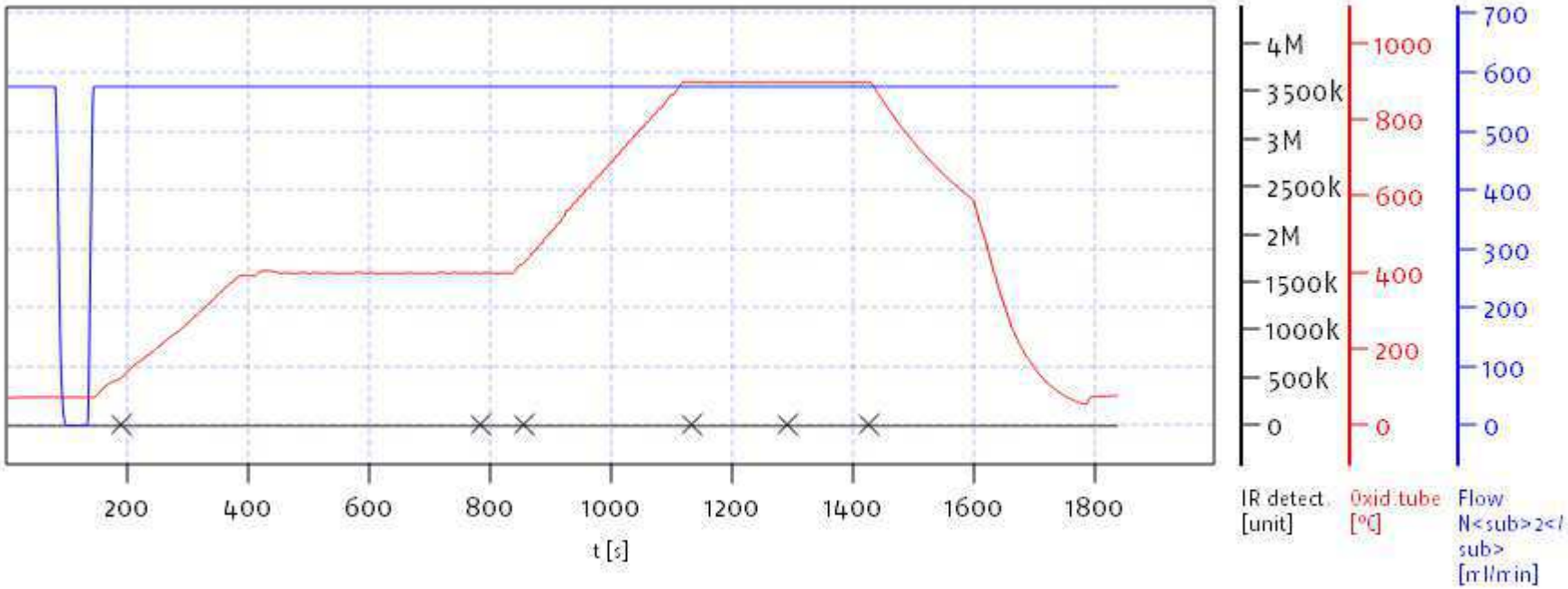
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
149	9	SJH0331-CCBC	588.20		1.00	CARBON	8/28/2021 8:28 PM	0.000	0.000	0.000	bl,C1u,C3u,C2u	2 316	13	79	0.9913	1.0000



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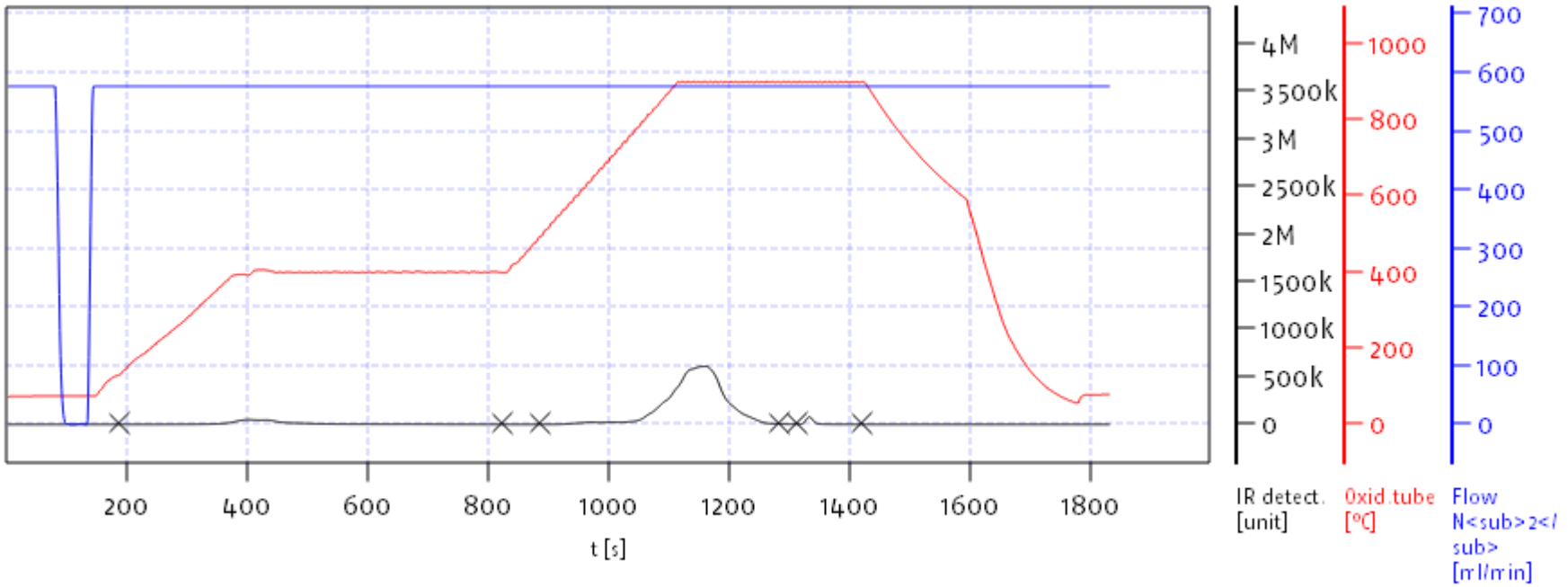
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
150	10	21G0310-06RE1	131.50		1.00	CARBON	8/28/2021 8:59 PM	0.285	3.067	3.353	bl	201 867	2 399 770	45 380	0.9913	1.0000



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Analyst: BF

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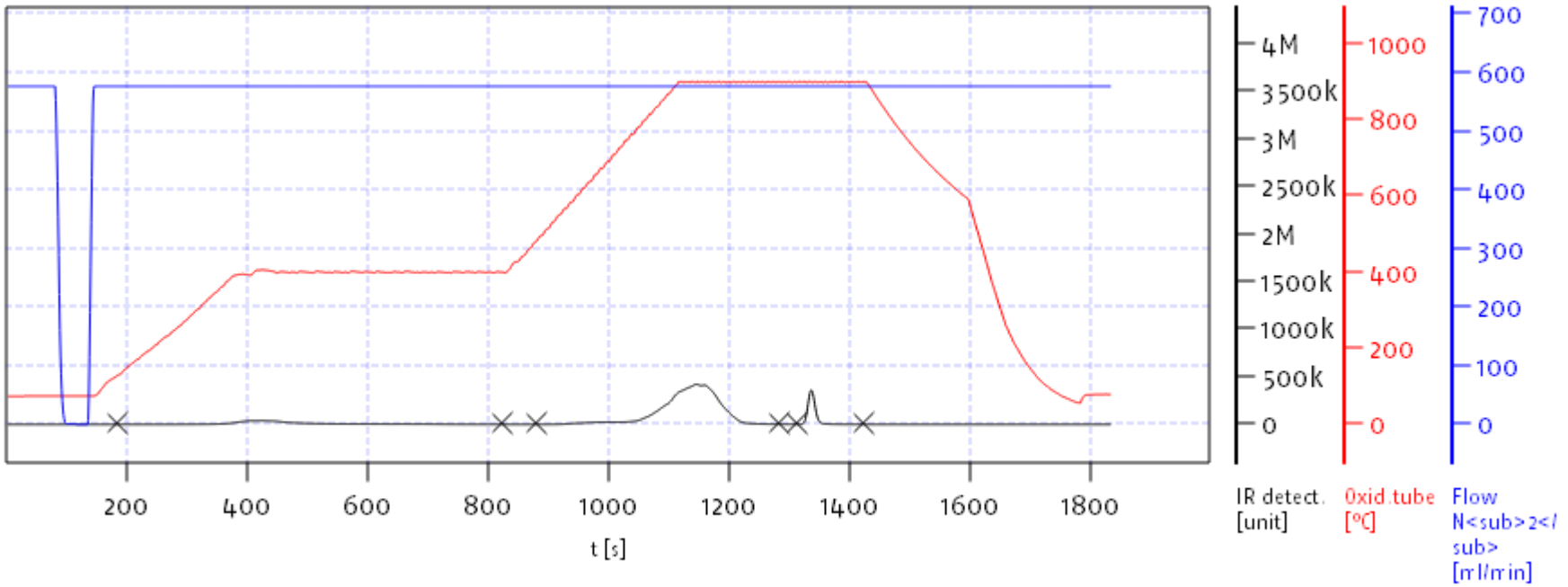
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
151	11	21G0310-07RE1	184.30		1.00	CARBON	8/28/2021 9:30 PM	0.325	1.485	1.810	bl	188 140	1 632 090	190 979	0.9913	1.0000



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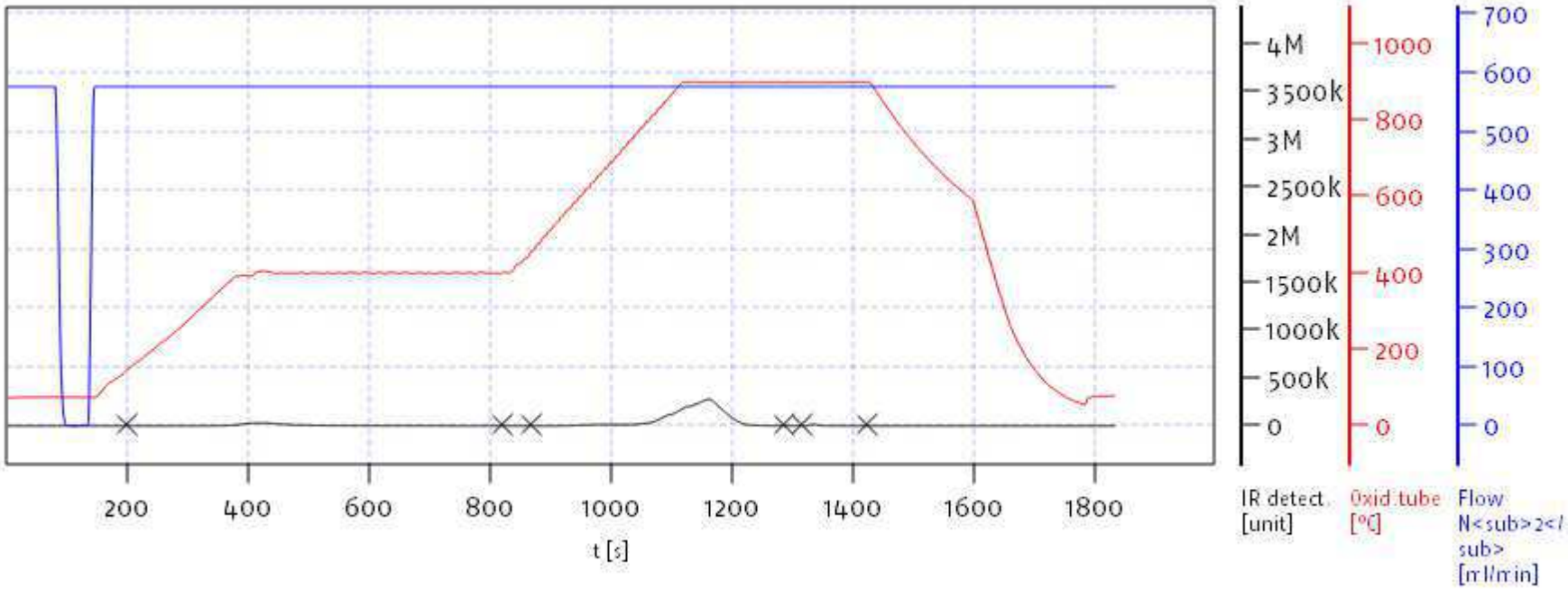
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
152	12	21G0312-14RE1	105.00		1.00	CARBON	8/28/2021 10:01 PM	0.163	1.524	1.687	bl	113 787	959 154	10 137	0.9913	1.0000



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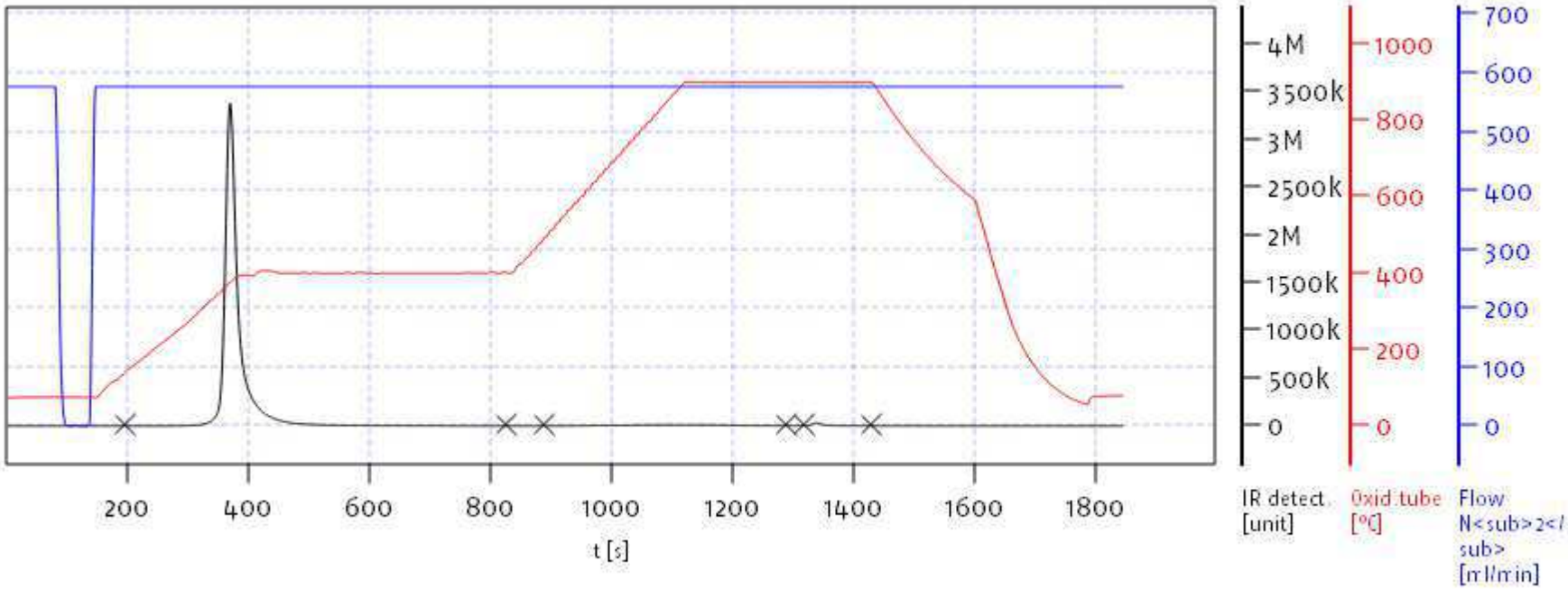
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
153	13	21H0061-01RE1	100.70		1.00	CARBON	8/28/2021 10:32 PM	5.373	0.116	5.489	bl	3 228 540	80 938	26 398	0.9913	1.0000



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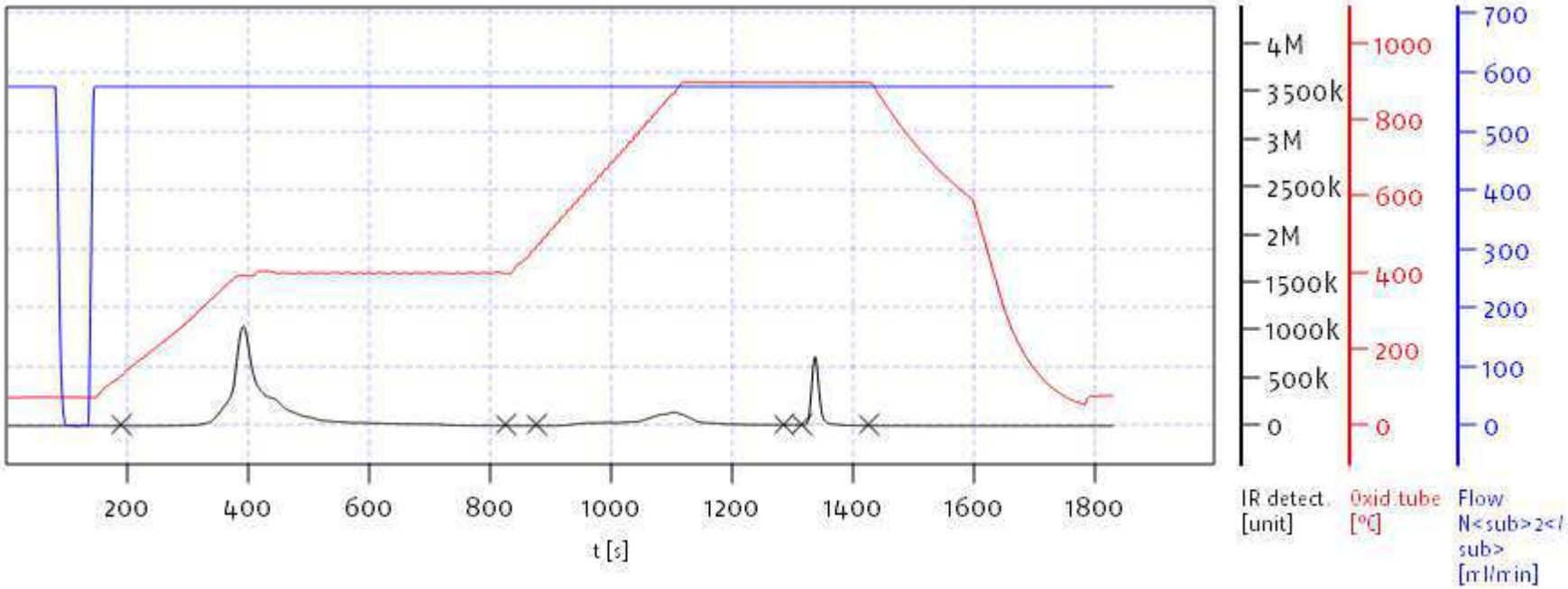
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
154	14	21H0061-03RE1	104.30		1.00	CARBON	8/28/2021 11:03 PM	4.442	0.954	5.396	bl	2 376 800	601 105	410 254	0.9913	1.0000



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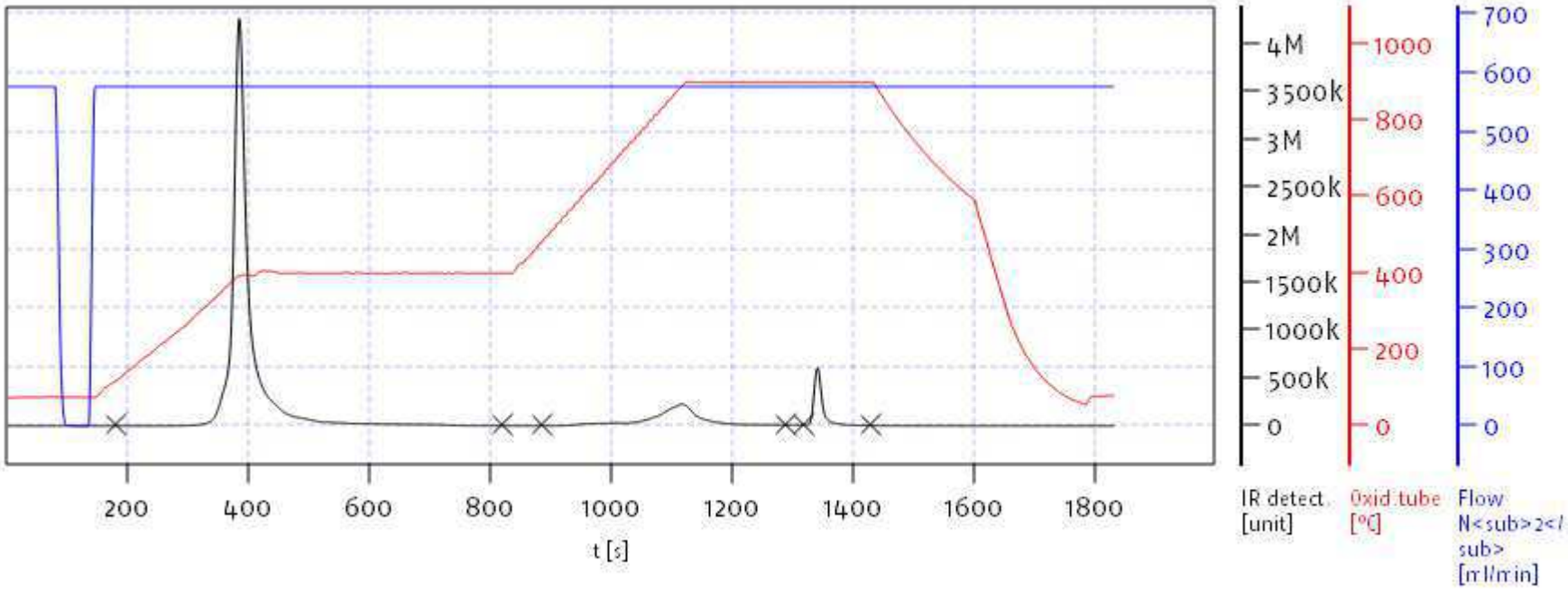
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
155	15	21H0061-04RE1	112.90		1.00	CARBON	8/28/2021 11:34 PM	7.662	1.113	8.775	bl	4 816 740	755 540	370 349	0.9913	1.0000



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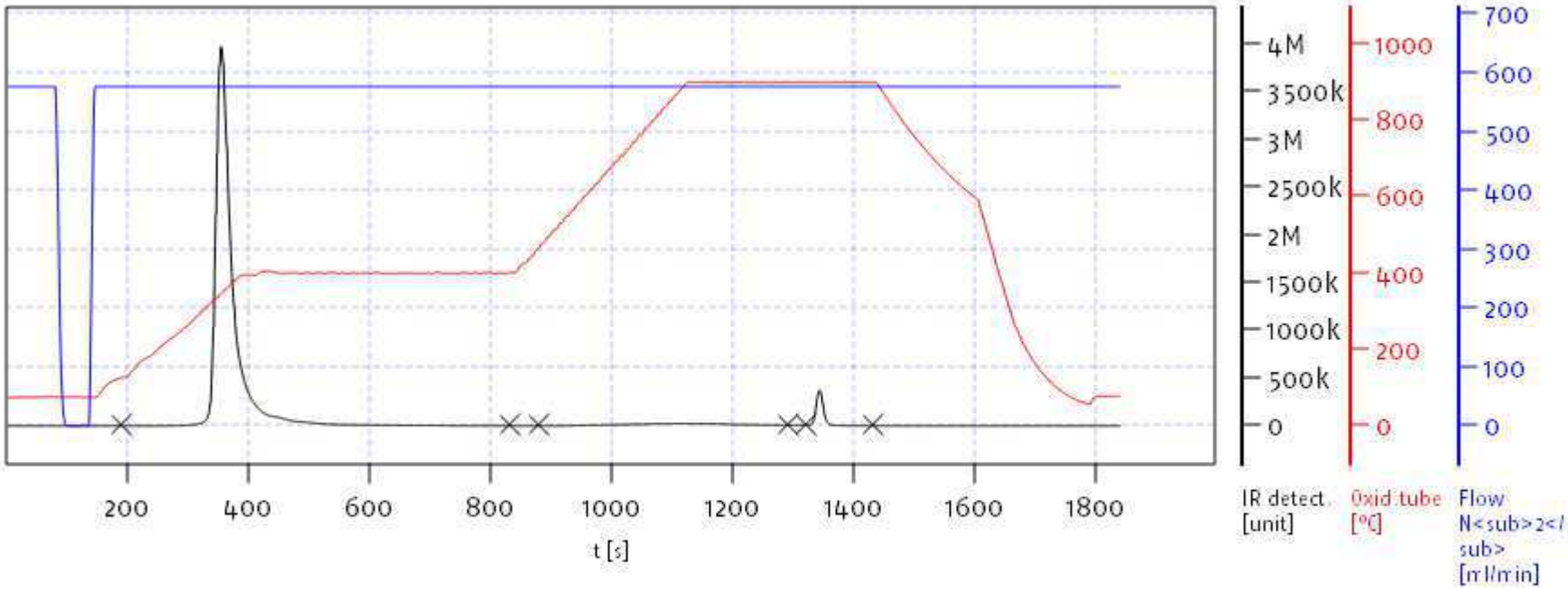
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
156	16	21H0061-05RE1	128.60		1.00	CARBON	8/29/2021 12:06 AM	6.375	0.247	6.622	bl	4 719 210	199 614	199 518	0.9913	1.0000



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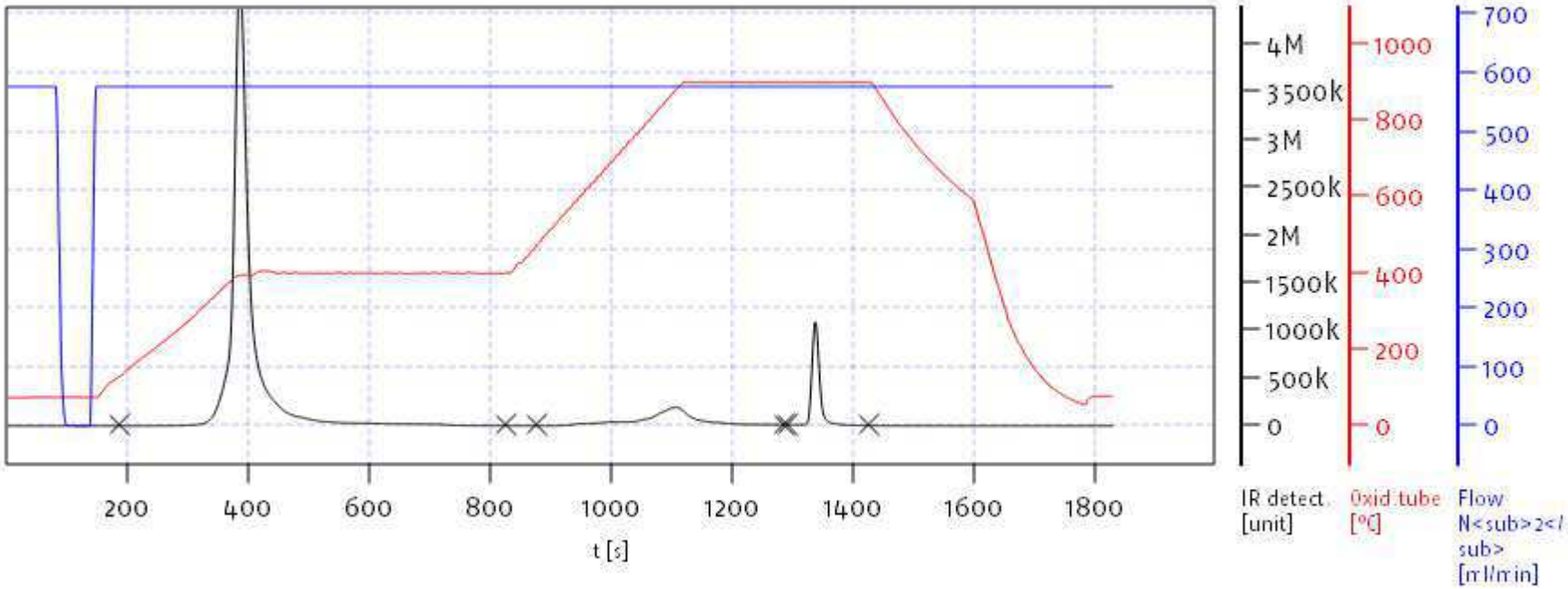
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
157	17	21H0061-06RE1	157.50		1.00	CARBON	8/29/2021 12:36 AM	6.566	0.765	7.331	bl	5 574 890	725 044	620 006	0.9913	1.0000



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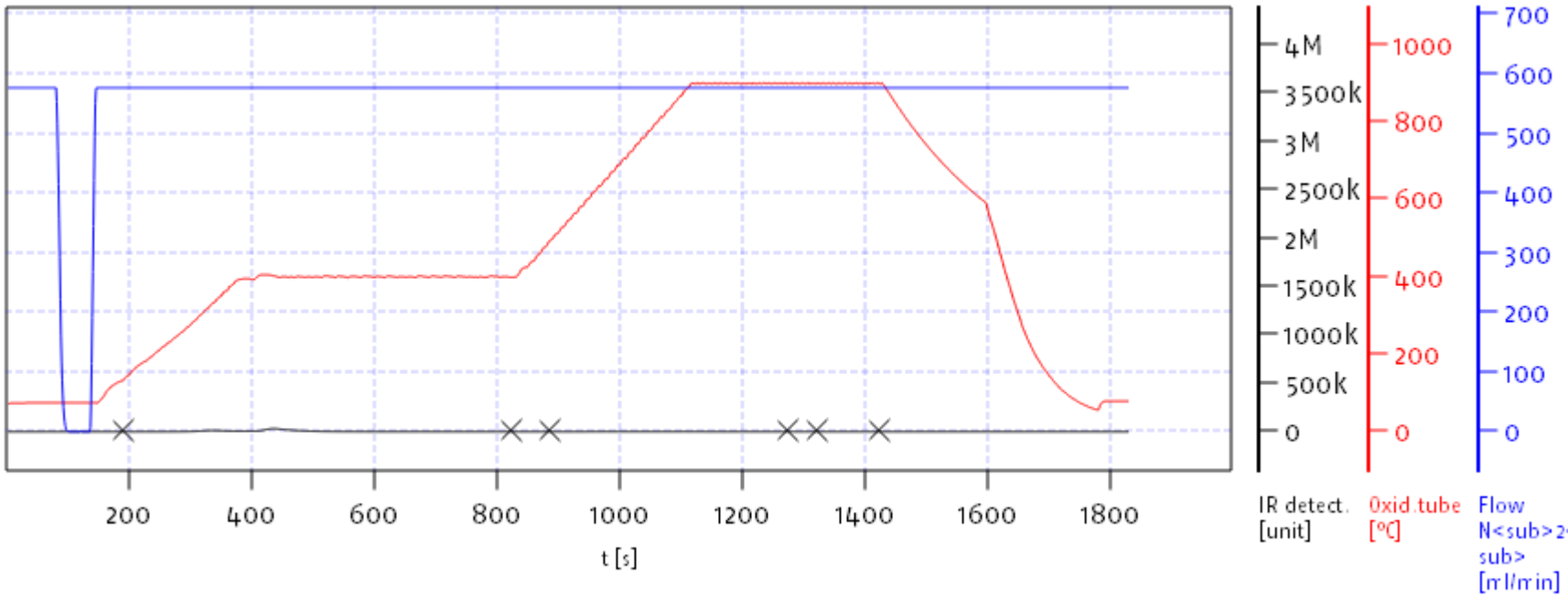
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
158	18	BJH0674-MRL1	519.00		1.00	CARBON	8/29/2021 1:07 AM	0.028	0.000	0.028	bl,C3u,C2u	97 908	6 907	347	0.9913	1.0000



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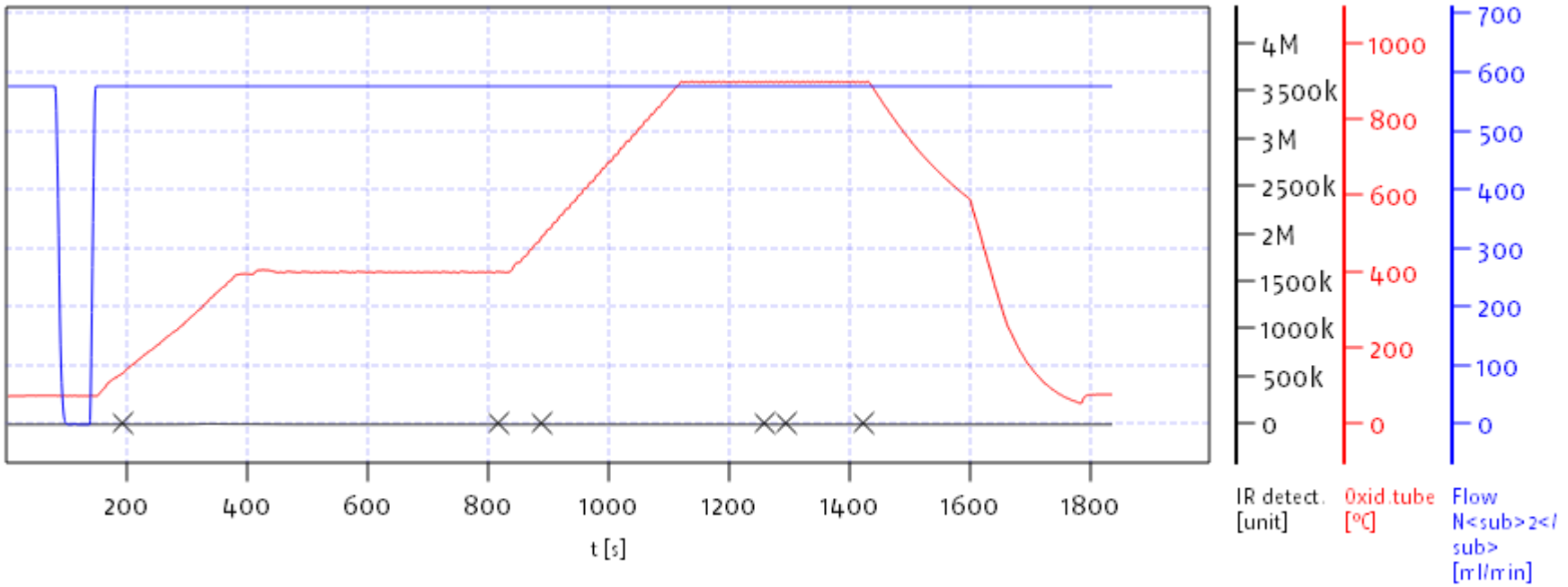
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
159	19	BJH0674-BLK1	618.30		1.00	CARBON	8/29/2021 1:38 AM	0.003	0.000	0.003	bl,C3u,C2u	23 033	2 269	472	0.9913	1.0000



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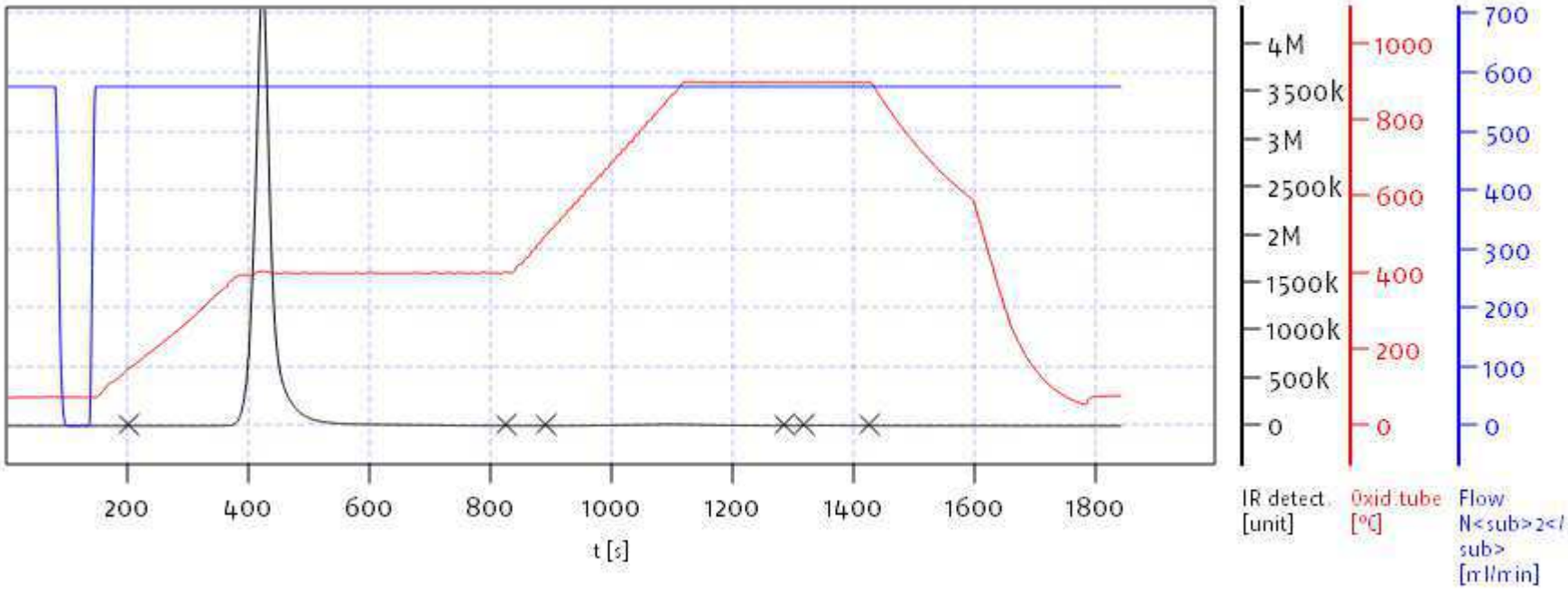
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
160	20	SJH0331-CCVD	20.30		1.00	CARBON	8/29/2021 2:10 AM	45.619	0.782	46.401	bl	5 540 110	105 612	14 448	0.9913	1.0000



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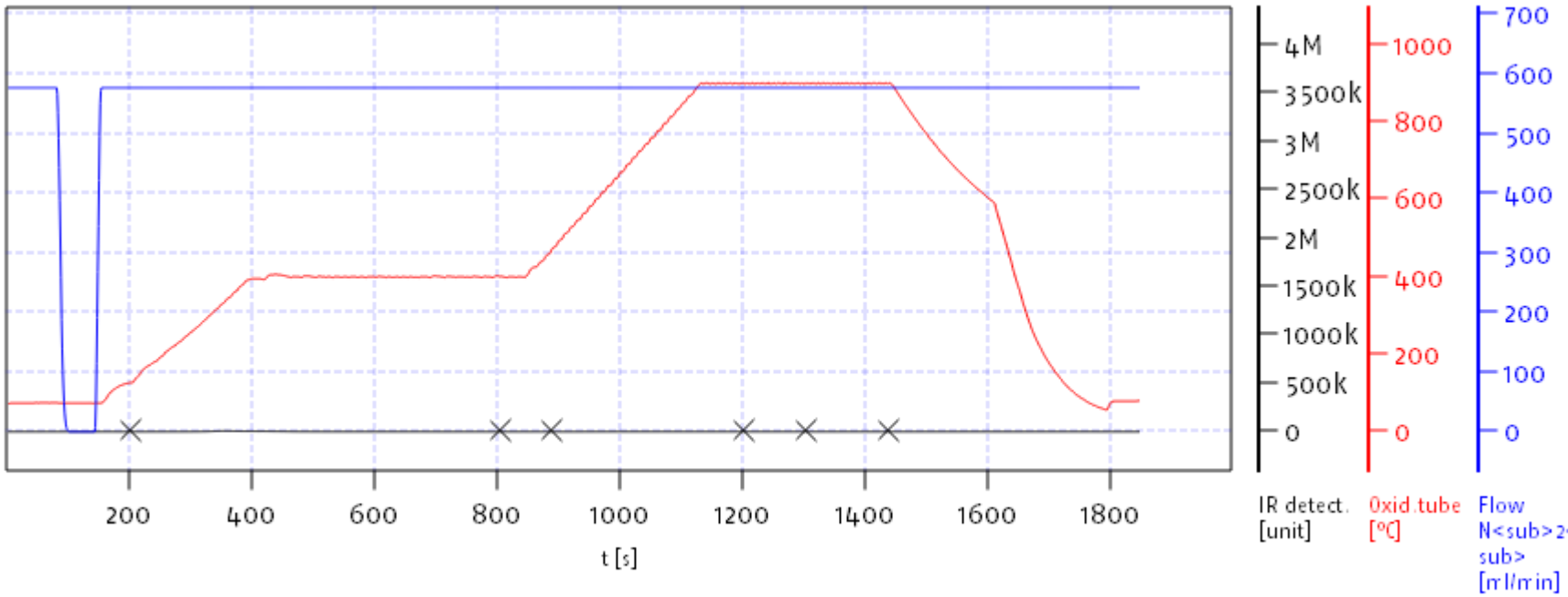
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
161	21	SJH0331-CCBD	664.20		1.00	CARBON	8/29/2021 2:41 AM	0.004	0.000	0.004	bl,C3u,C2u	25 929	1 898	287	0.9913	1.0000



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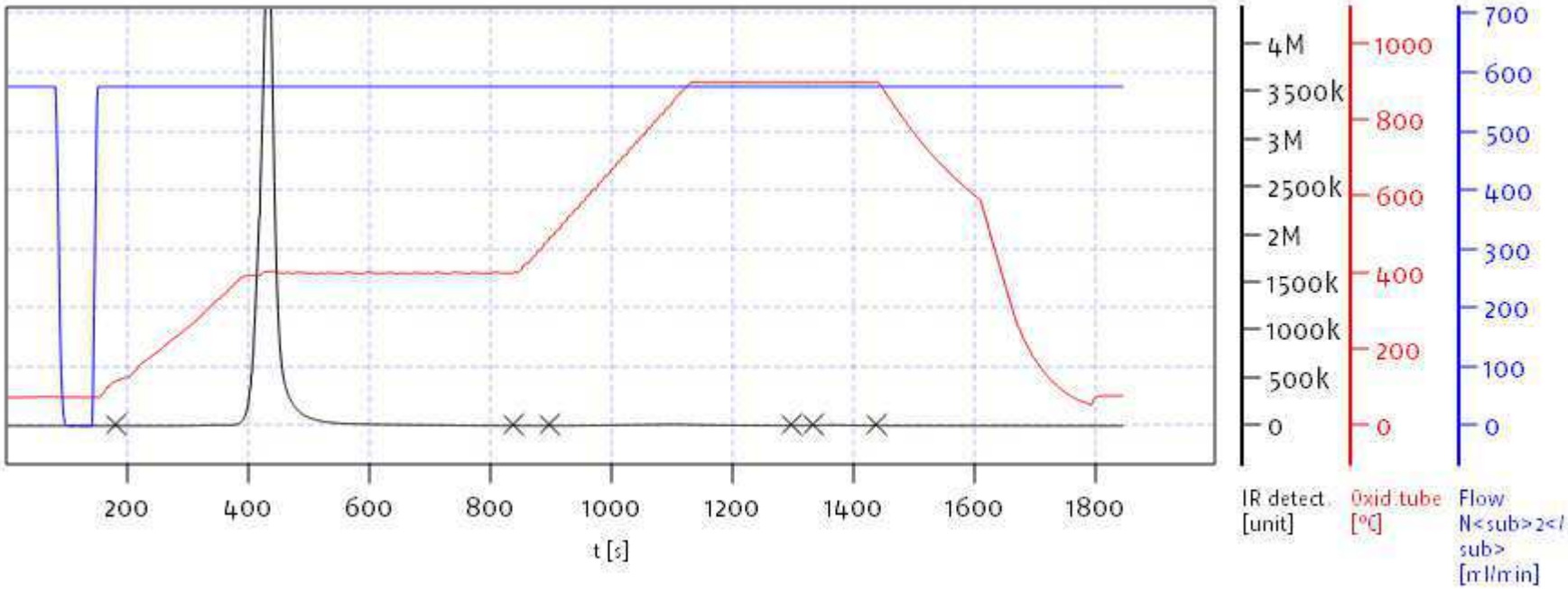
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
162	22	BJH0674-BS1	20.70		1.00	CARBON	8/29/2021 3:12 AM	45.521	0.772	46.292	bl	5 631 530	106 242	19 786	0.9913	1.0000



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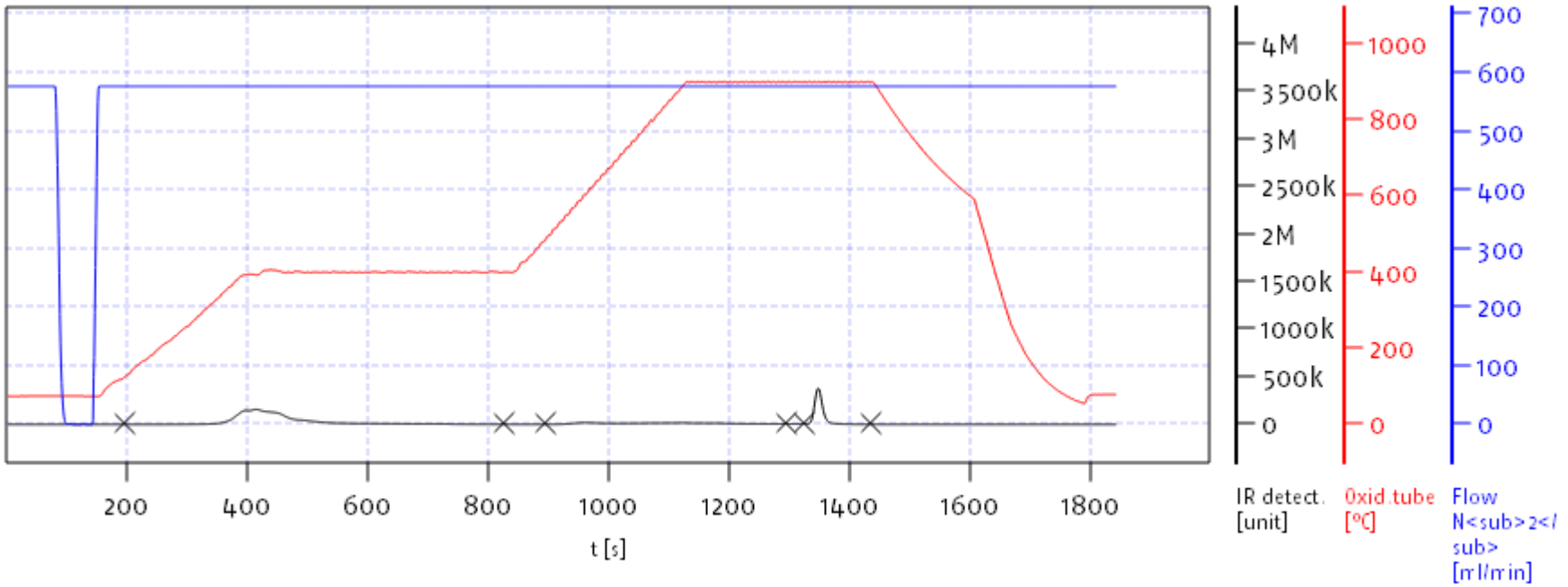
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
163	23	BJH0674-SRM1	54.60		1.00	CARBON	8/29/2021 3:43 AM	2.569	0.462	3.031	bl	634 862	161 145	224 316	0.9913	1.0000



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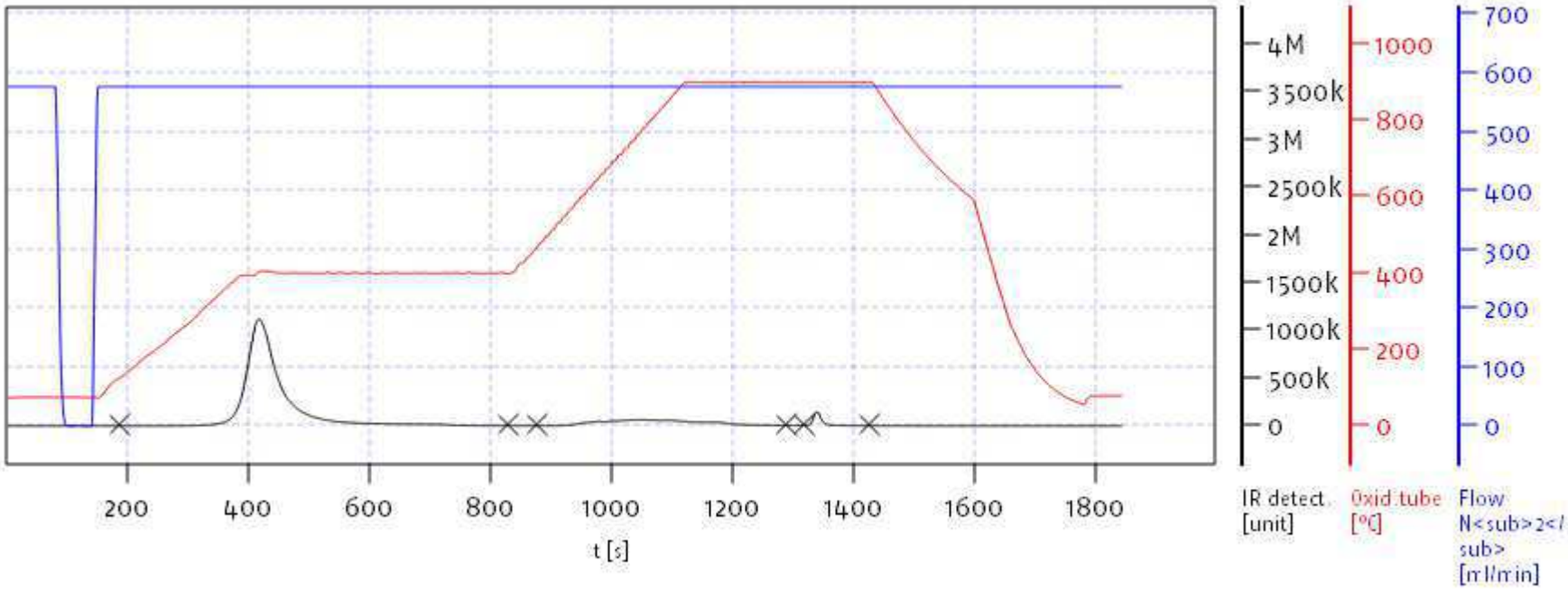
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
164	24	21H0244-01	598.90		1.00	CARBON	8/29/2021 4:14 AM	0.785	0.135	0.920	bl	2 735 500	491 425	93 499	0.9913	1.0000



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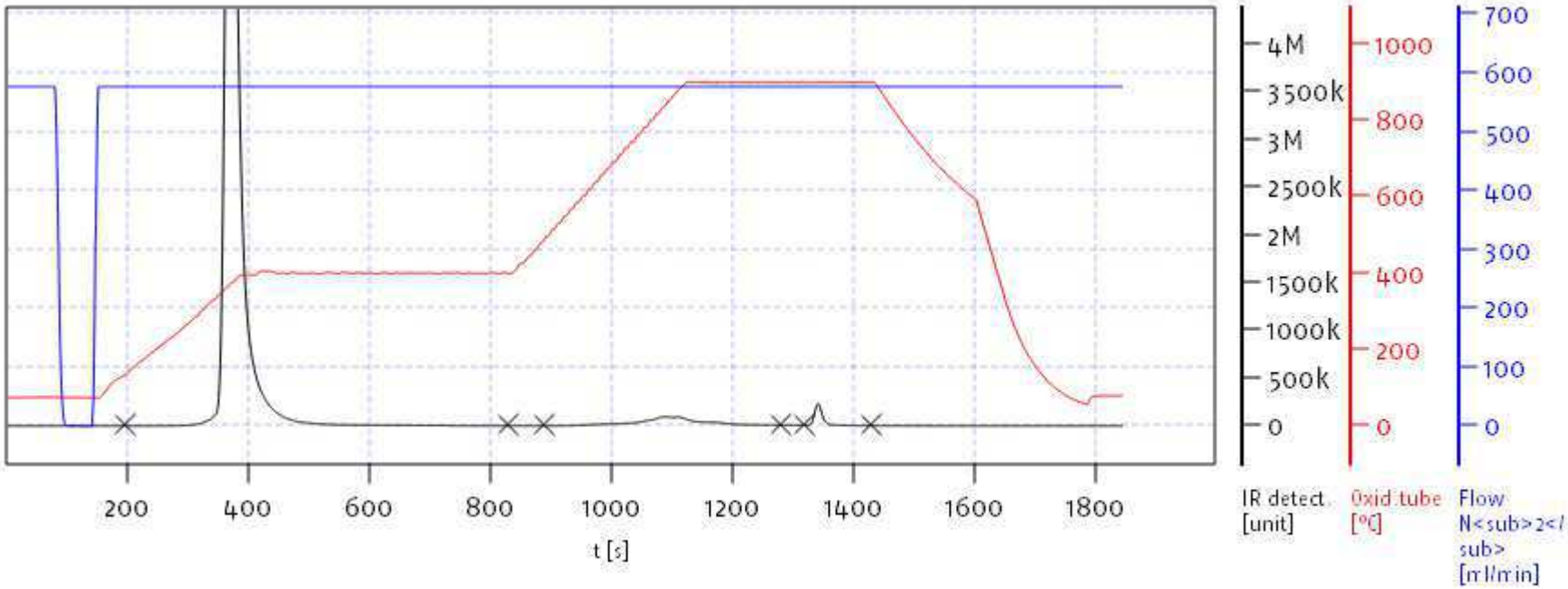
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
165	25	21H0260-01	202.60		1.00	CARBON	8/29/2021 4:46 AM	7.327	0.359	7.686	bl,Cl o	8 747 300	442 274	141 368	0.9913	1.0000



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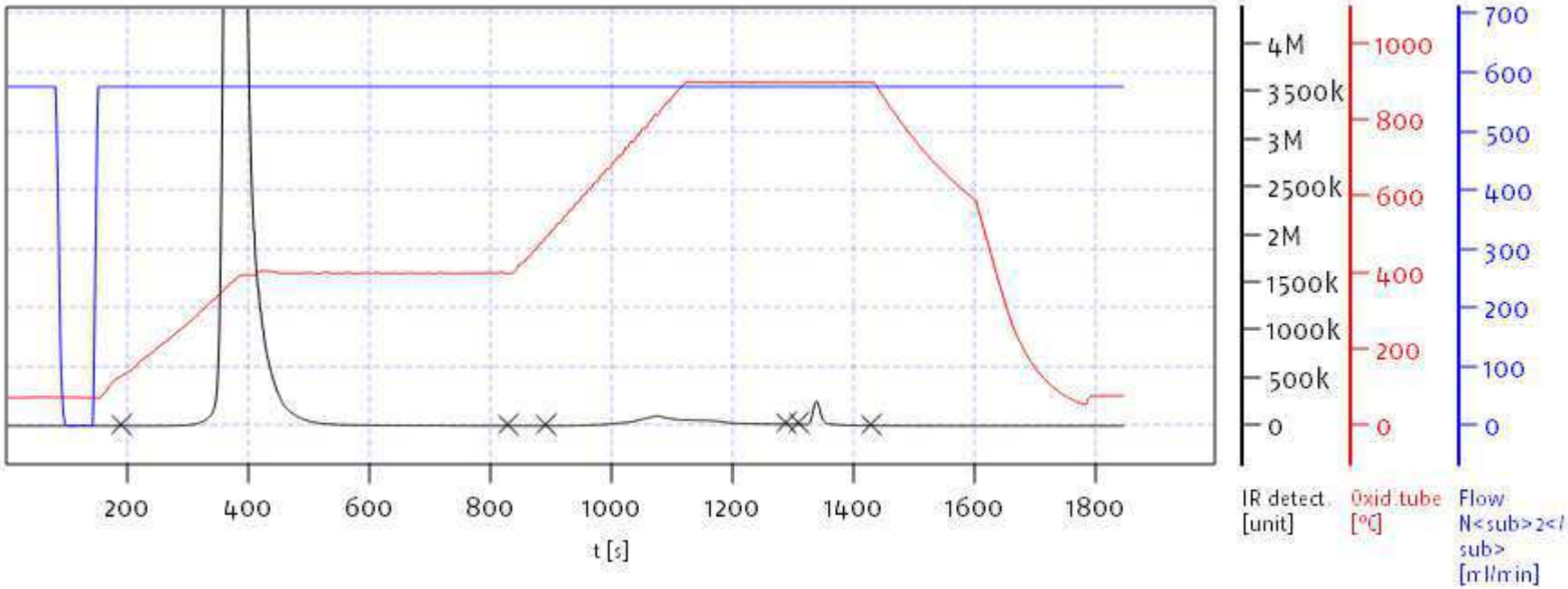
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
166	26	21H0260-02	170.80		1.00	CARBON	8/29/2021 5:17 AM	19.149	0.520	19.670	bl,C1o	19 383800	538 066	173 440	0.9913	1.0000



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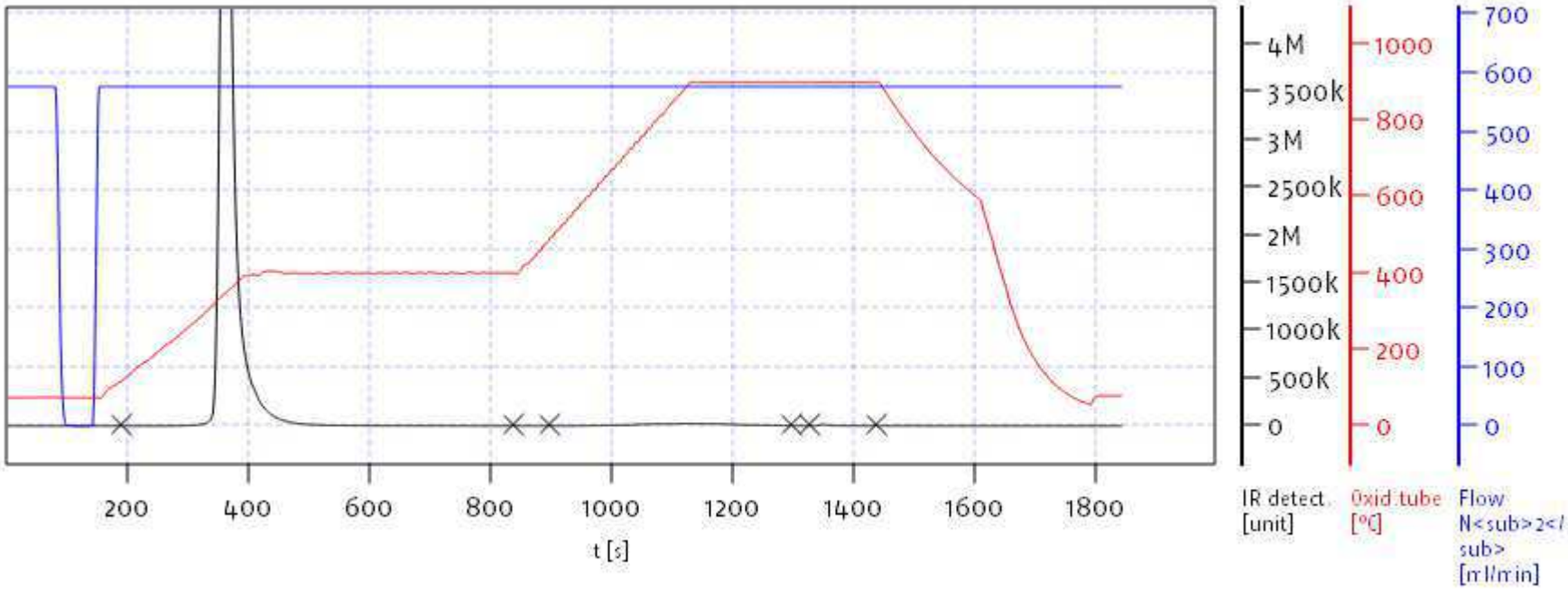
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
167	27	21H0260-03	206.90		1.00	CARBON	8/29/2021 5:48 AM	6.145	0.130	6.275	bl	7 604 160	170 475	13 148	0.9913	1.0000



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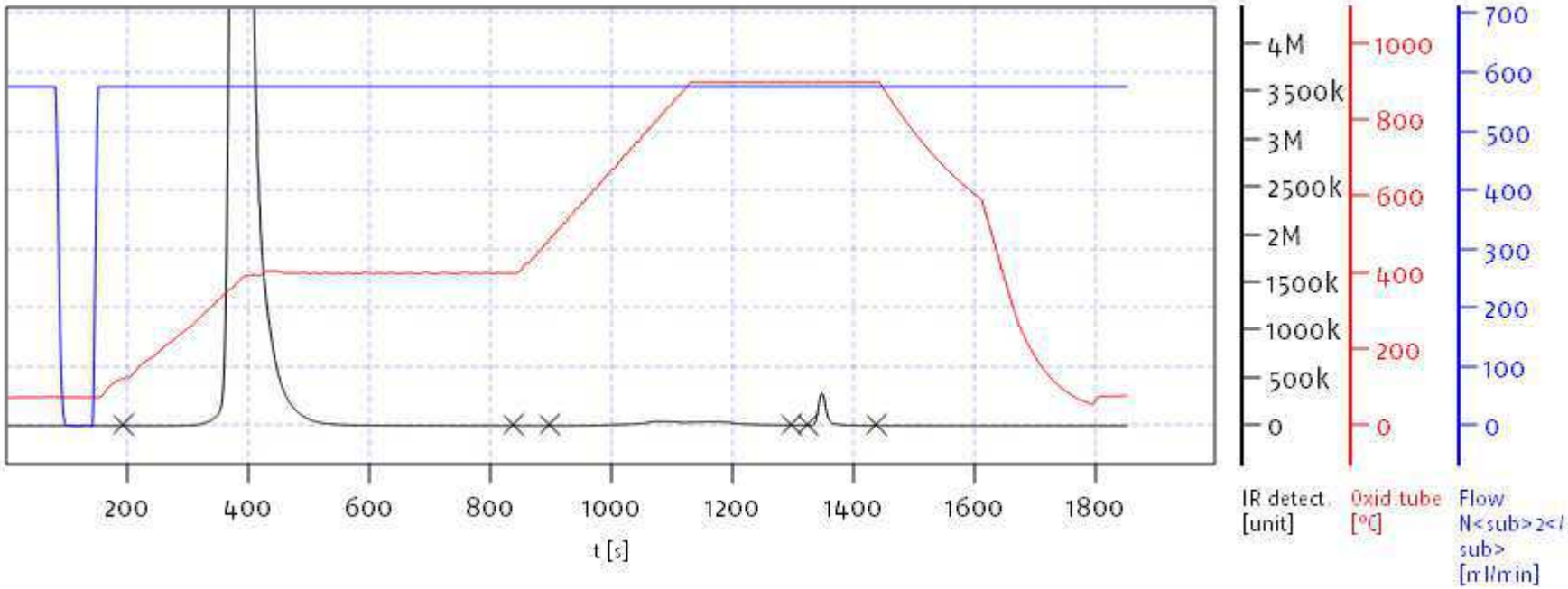
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
168	28	21H0261-01	209.00		1.00	CARBON	8/29/2021 6:19 AM	14.878	0.250	15.127	bl,C1o	18 385400	320 810	208 132	0.9913	1.0000



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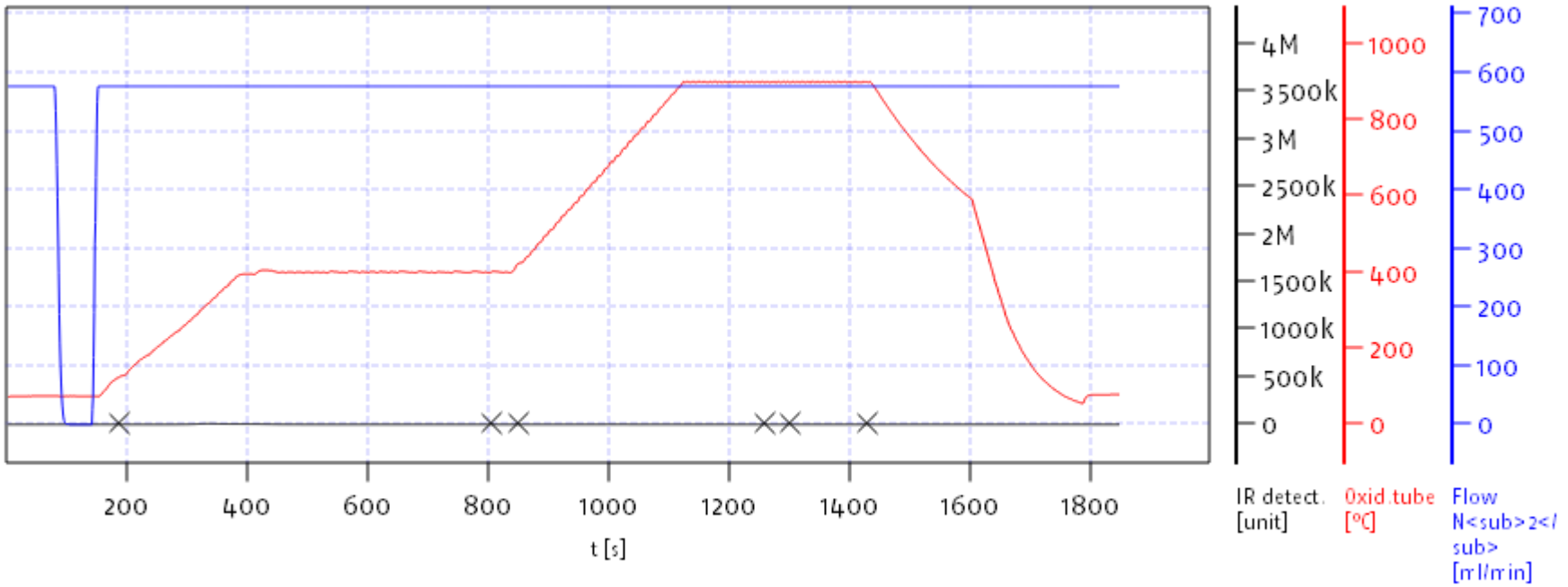
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
169	29	BLANK	1.00		1.00	CARBON	8/29/2021 6:51 AM	0.000	0.000	0.000	bl	28 416	2 891	319	0.9913	1.0000



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Date: Tue Aug 31 14:32:59 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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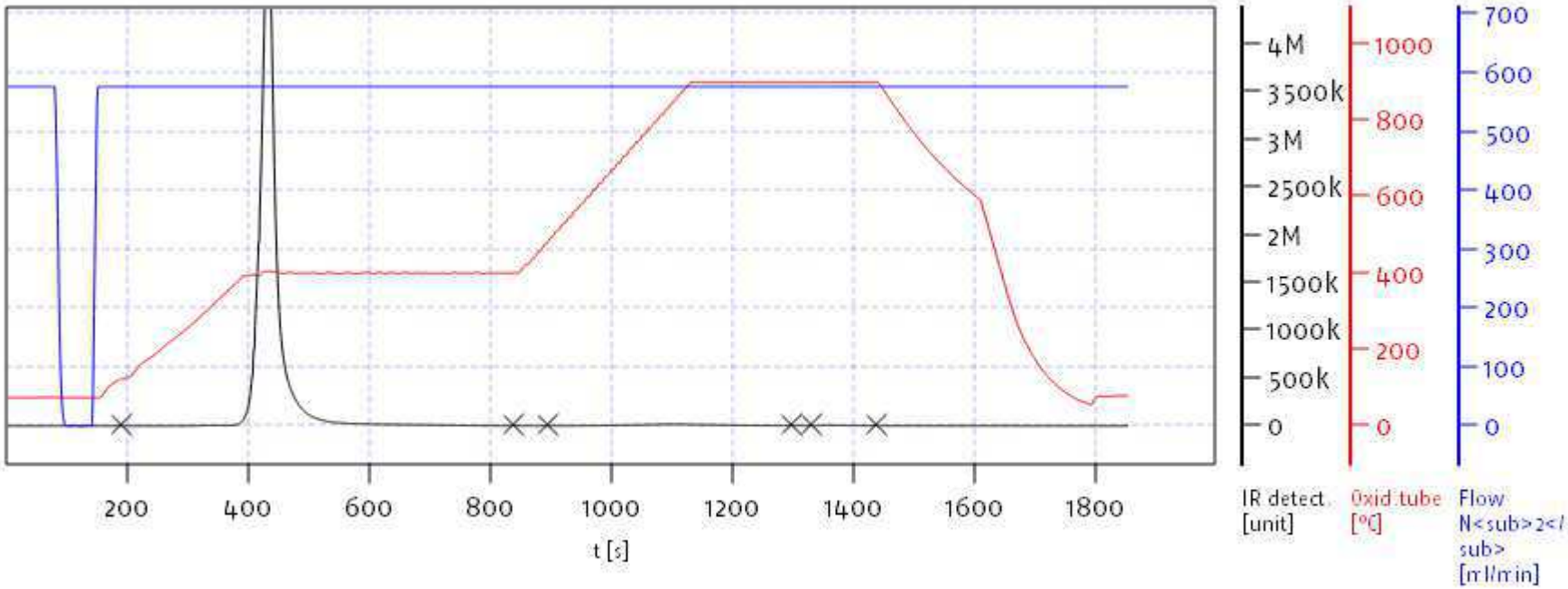
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
170	30	Dfactor	21.90		1.00	CARBON	8/29/2021 7:22 AM	44.490	0.782	45.272	bl	5 966 290	113 062	17 465	0.9679	1.0000



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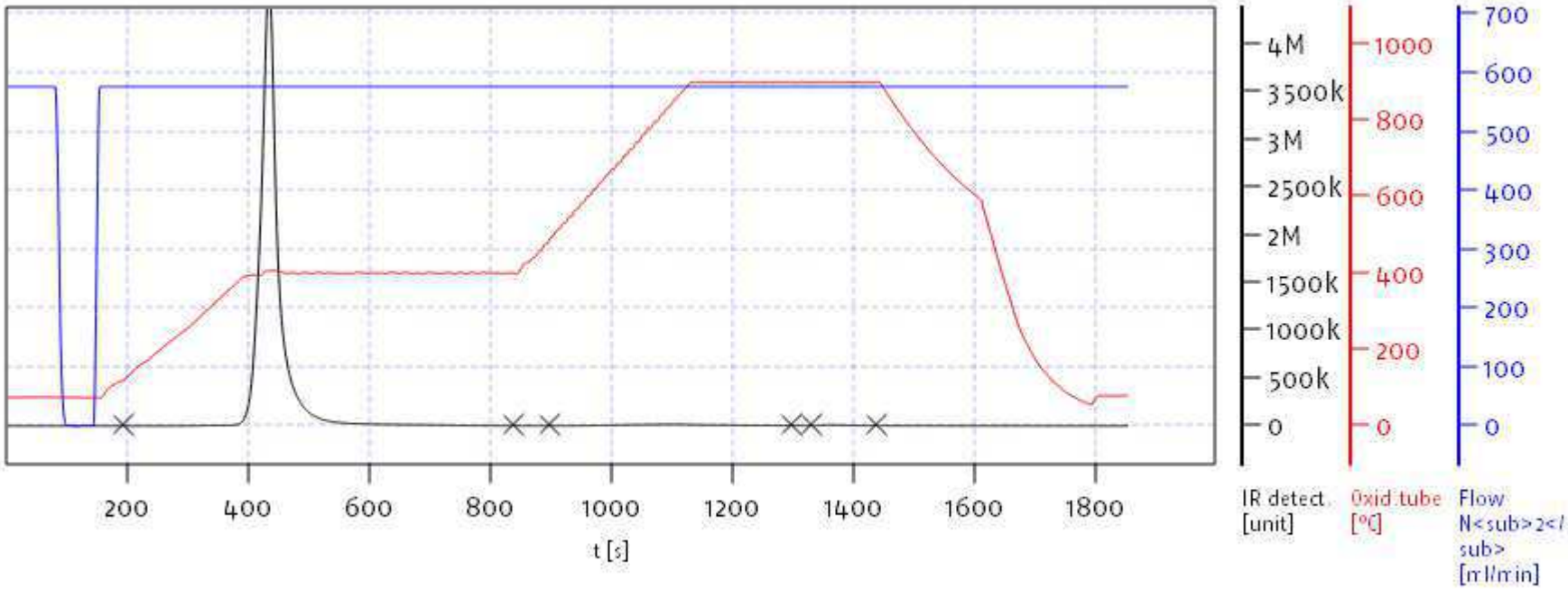
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
171	31	Dfactor	21.20		1.00	CARBON	8/29/2021 7:53 AM	44.523	0.814	45.338	bl	5 808 890	113 876	21 433	0.9624	1.0000



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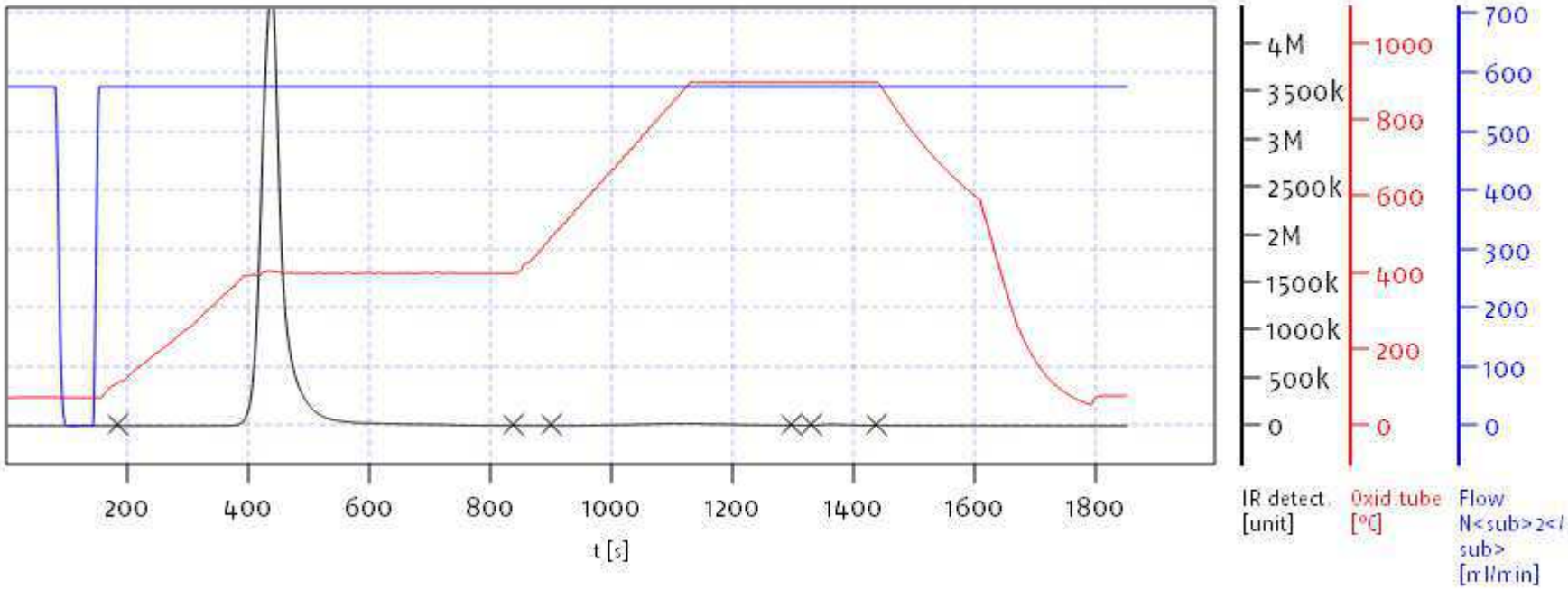
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
172	32	SJH0331-CCVE	25.60		1.00	CARBON	8/29/2021 8:25 AM	43.530	1.131	44.661	bl	6 823 460	183 162	35 661	0.9651	1.0000



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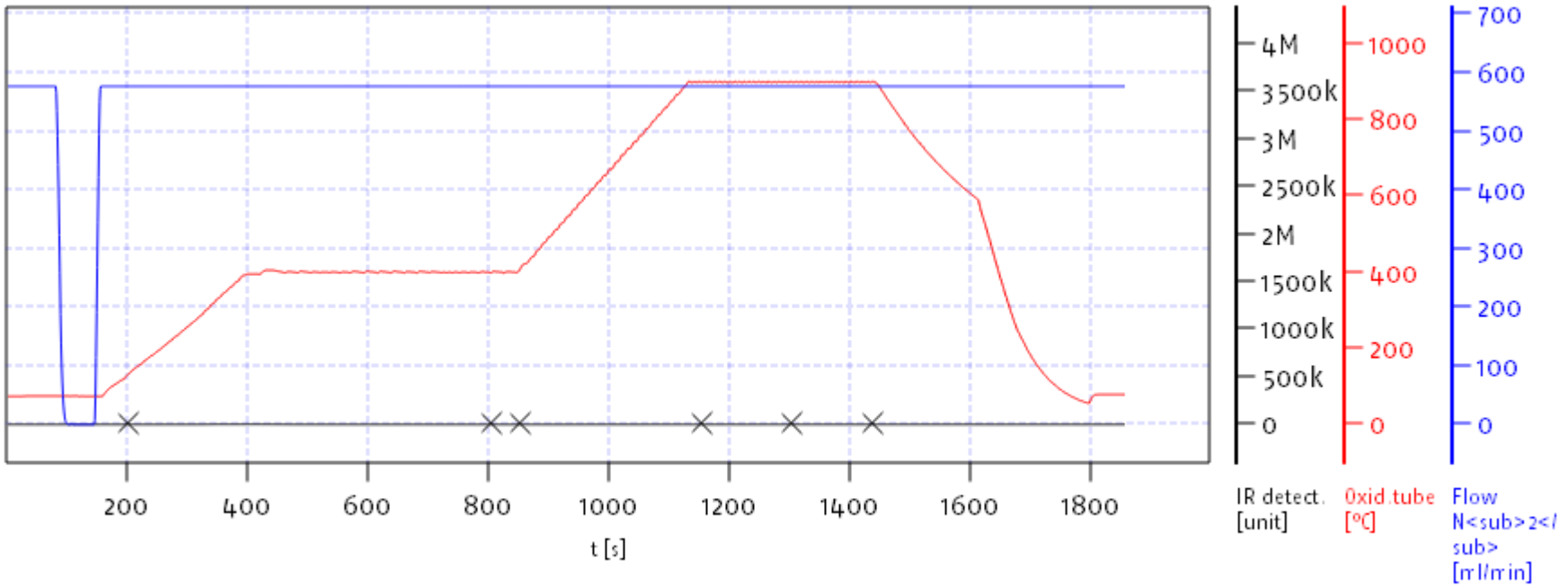
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
173	33	SJH0331-CCBE	558.70		1.00	CARBON	8/29/2021 8:56 AM	0.000	0.000	0.000	bl,C3u,C2u	8 363	771	466	0.9651	1.0000



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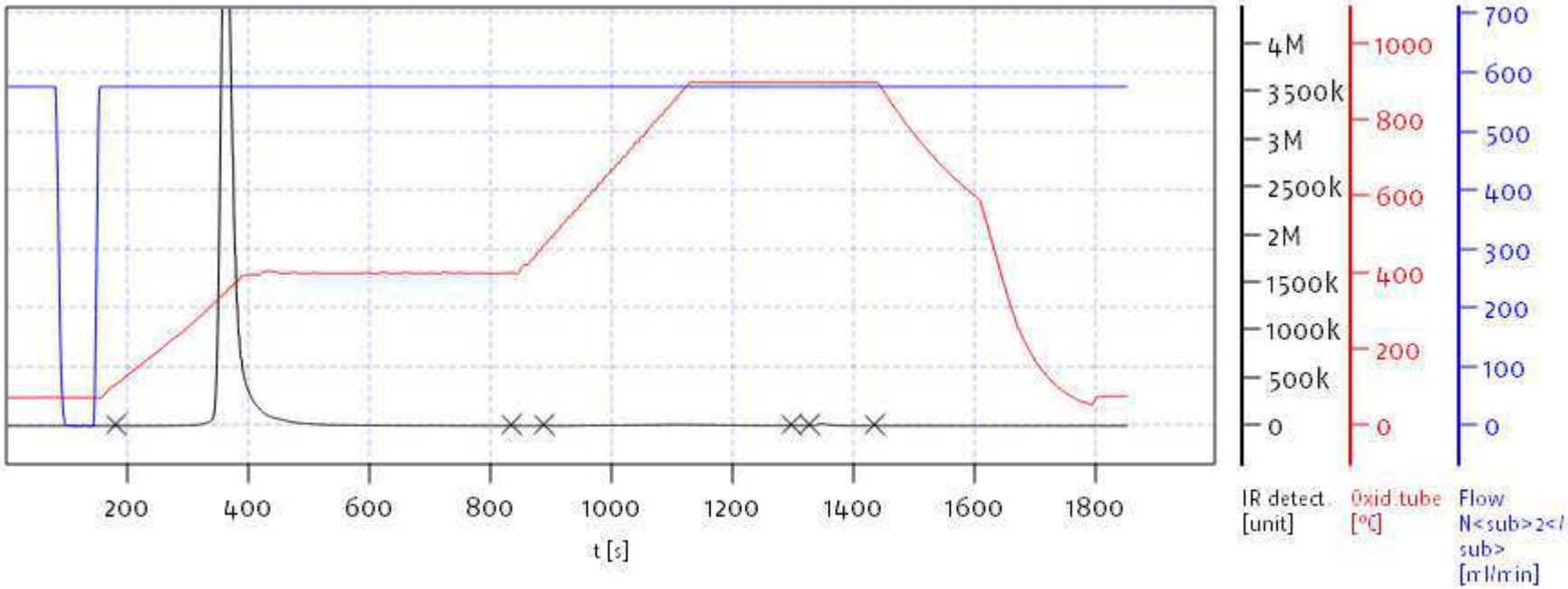
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
174	34	21H0261-02	203.40		1.00	CARBON	8/29/2021 9:28 AM	4.376	0.063	4.439	bl	5 463 700	87 012	20 134	0.9651	1.0000



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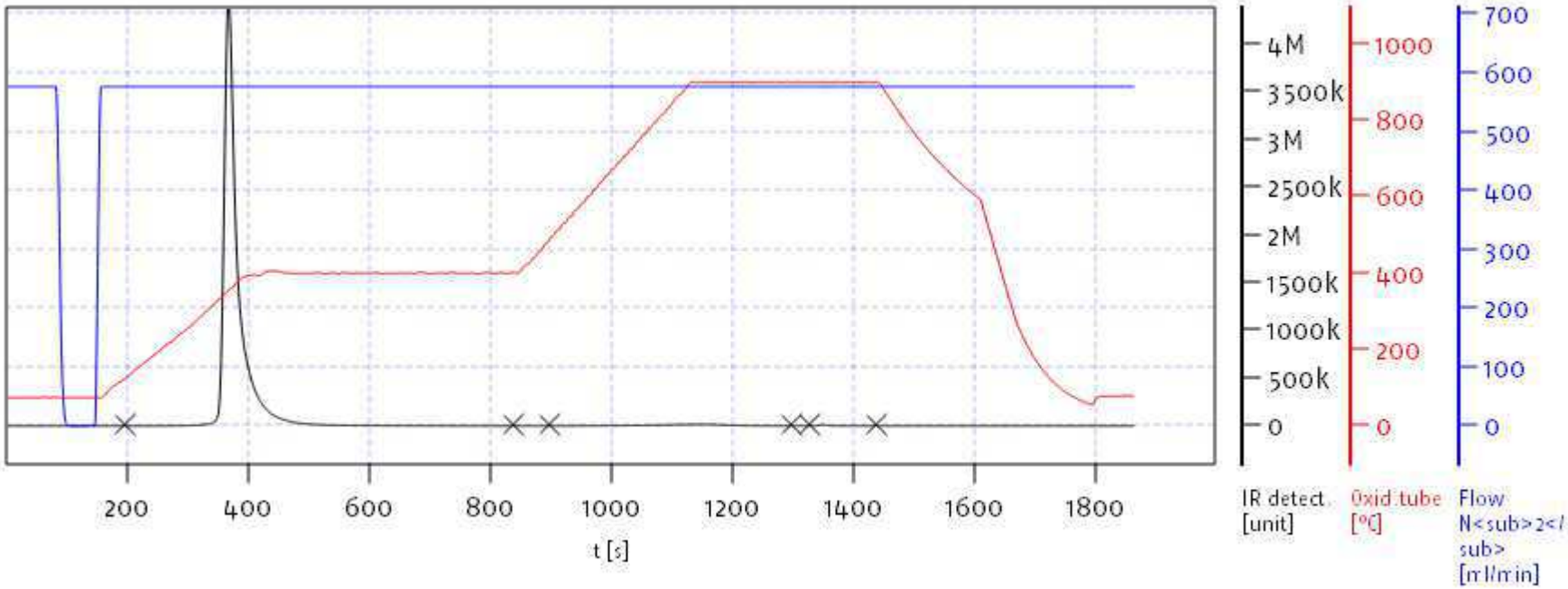
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
175	35	21H0261-03	159.20		1.00	CARBON	8/29/2021 9:59 AM	4.463	0.073	4.536	bl	4 370 410	80 886	9 432	0.9651	1.0000



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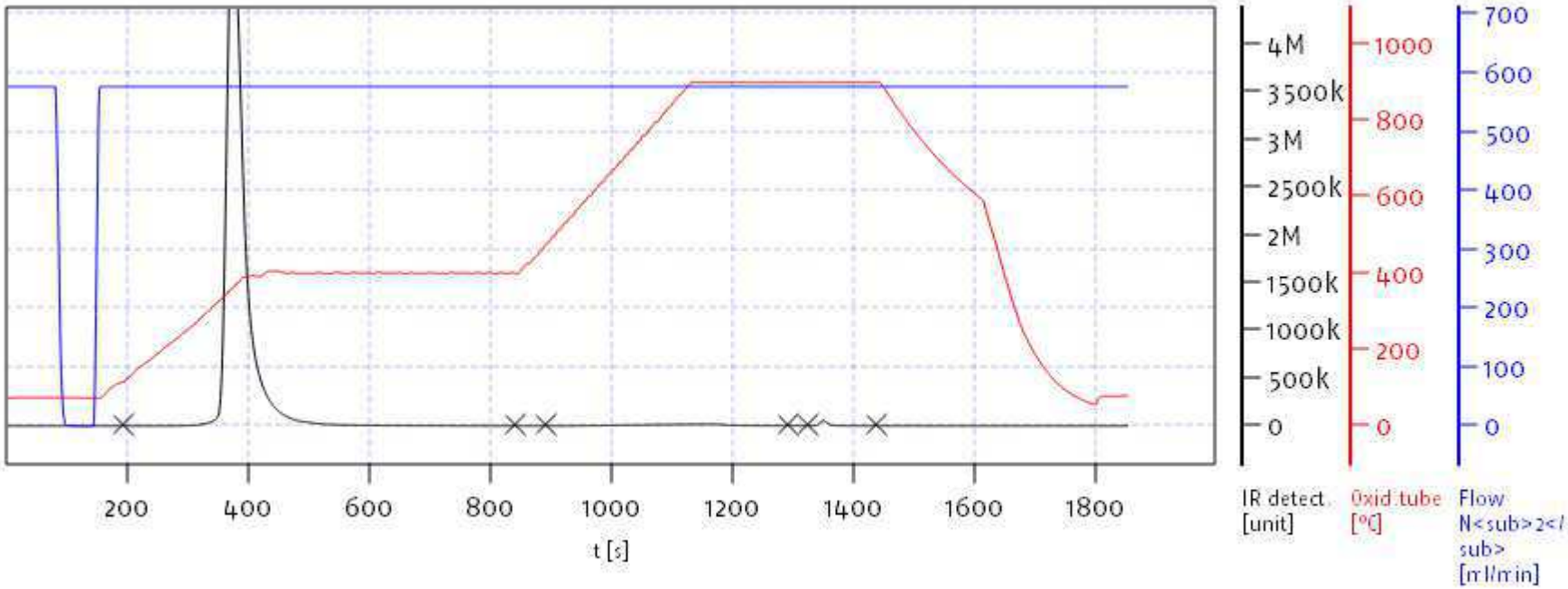
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
176	36	21H0261-04	216.30		1.00	CARBON	8/29/2021 10:30 AM	5.130	0.077	5.207	bl	6 795 630	110 543	34 709	0.9651	1.0000



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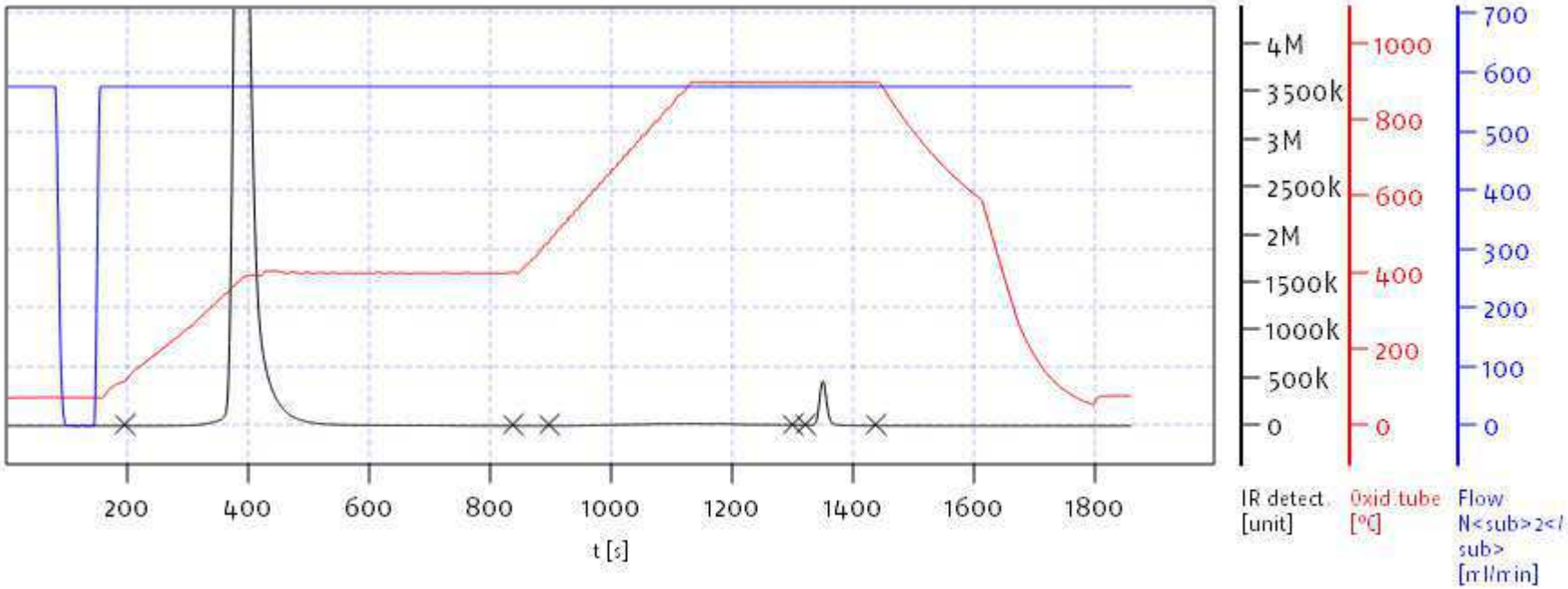
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
177	37	21H0262-01	157.10		1.00	CARBON	8/29/2021 11:02 AM	10.857	0.204	11.061	bl,C1o	10 220 000	201 520	258 859	0.9651	1.0000



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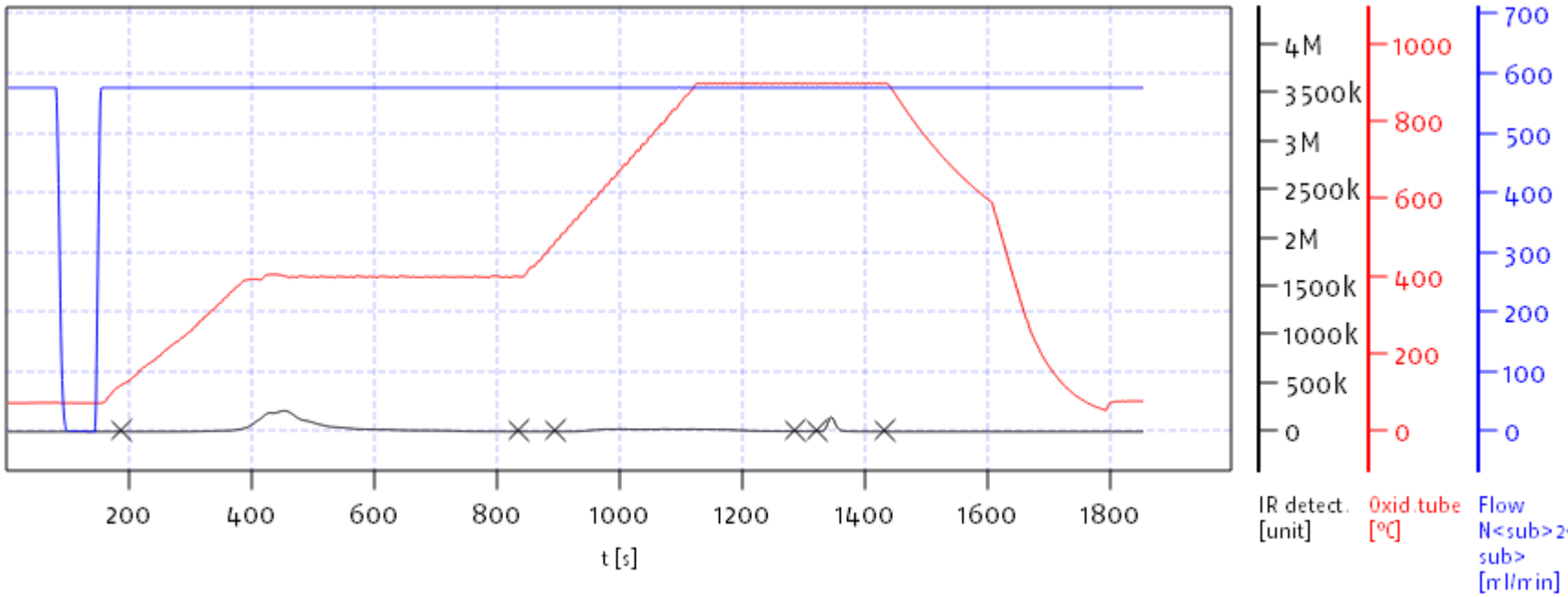
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
178	38	21H0263-01	564.90		1.00	CARBON	8/29/2021 11:33 AM	0.278	0.069	0.347	bl	895 505	242 038	88 665	0.9651	1.0000



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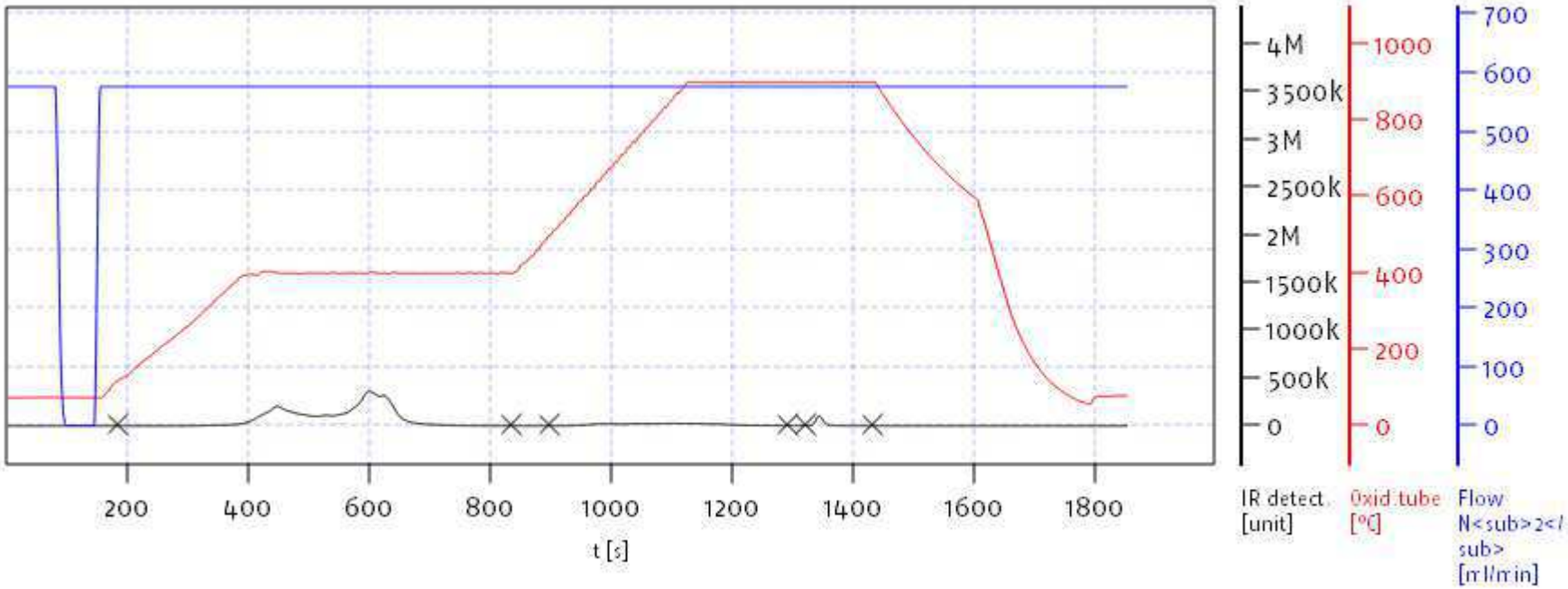
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
179	39	BJH0674-DUP1	530.50		1.00	CARBON	8/29/2021 12:05 PM	0.546	0.065	0.611	bl	1 737 790	214 569	61 081	0.9651	1.0000



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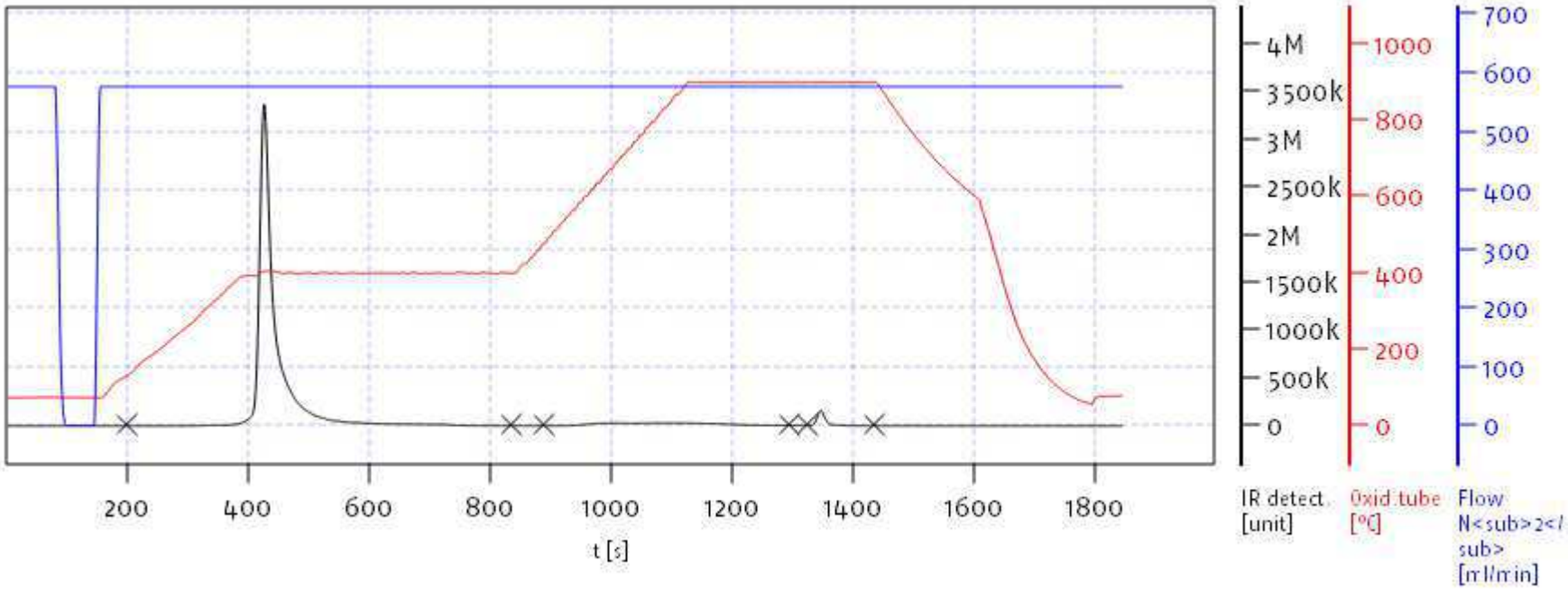
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
180	40	BJH0674-MS1	545.40	0.0106	1.00	CARBON	8/29/2021 12:36 PM	1.140	0.081	1.221	bl	3 733 680	273 424	100 090	0.9651	1.0000



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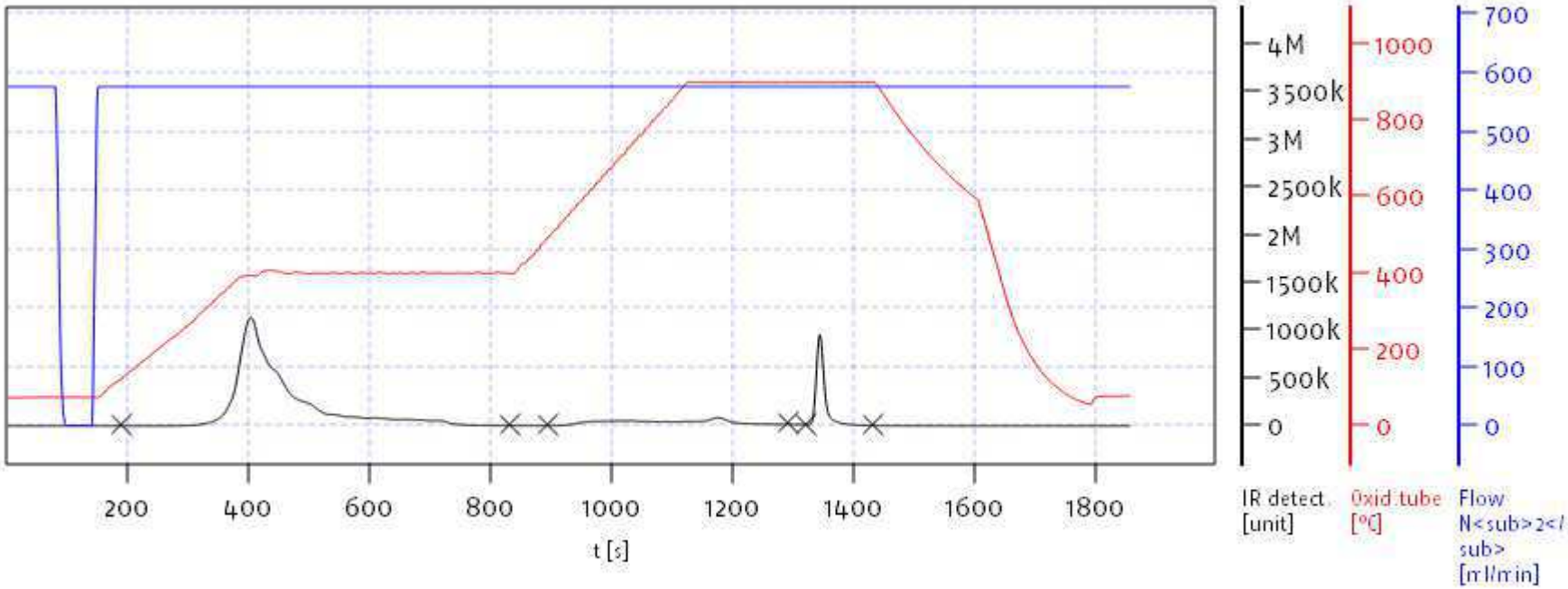
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
181	41	21H0274-01	165.80		1.00	CARBON	8/29/2021 1:07 PM	4.321	0.571	4.892	bl	3 818 180	572 056	580 044	0.9651	1.0000



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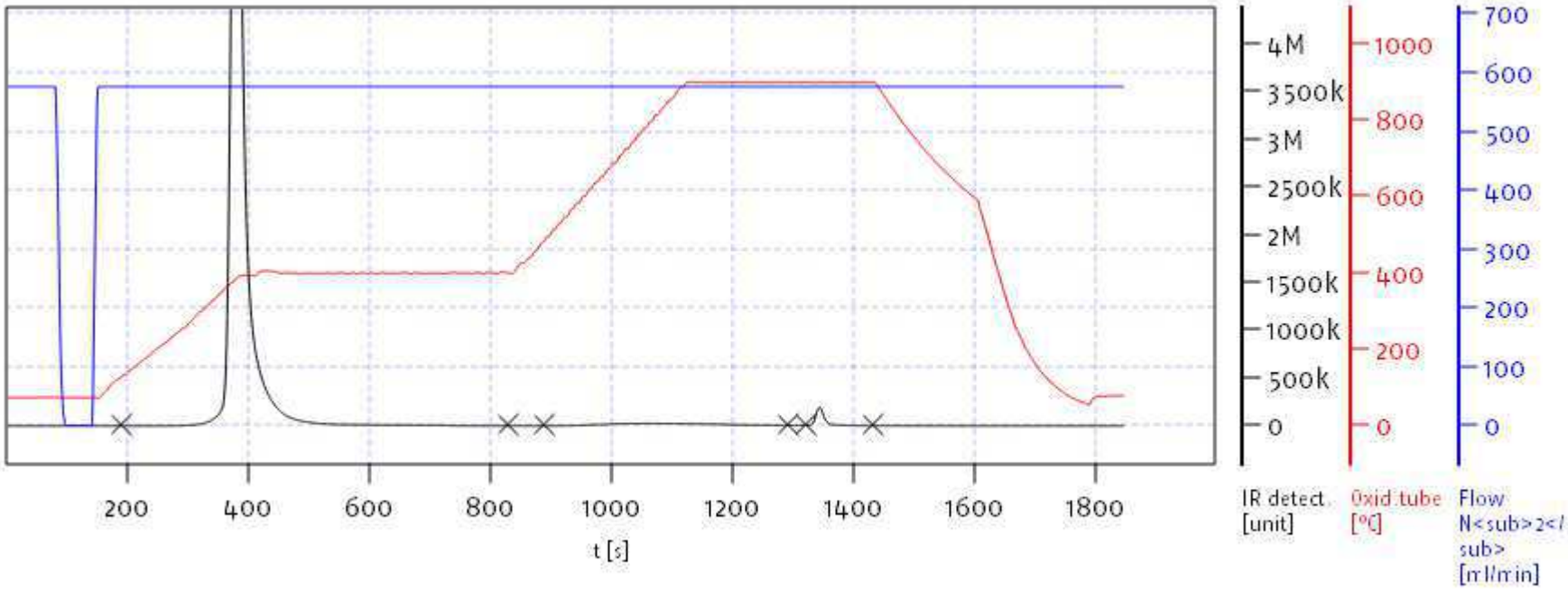
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
182	42	21H0274-02	138.80		1.00	CARBON	8/29/2021 1:39 PM	9.473	0.246	9.719	bl	7 959 620	213 893	126 043	0.9651	1.0000



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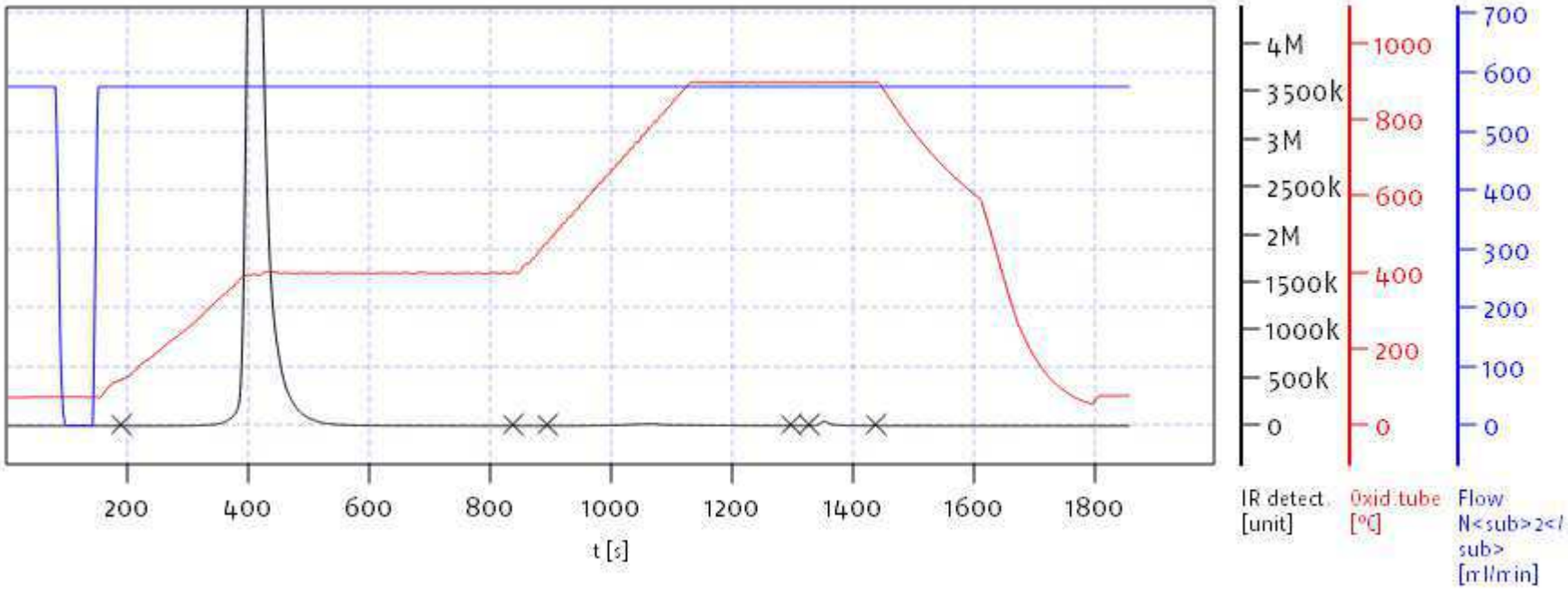
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
183	43	21H0274-03	520.80		1.00	CARBON	8/29/2021 2:10 PM	2.924	0.026	2.950	bl,Cl o	9 325 870	92 408	39 198	0.9651	1.0000



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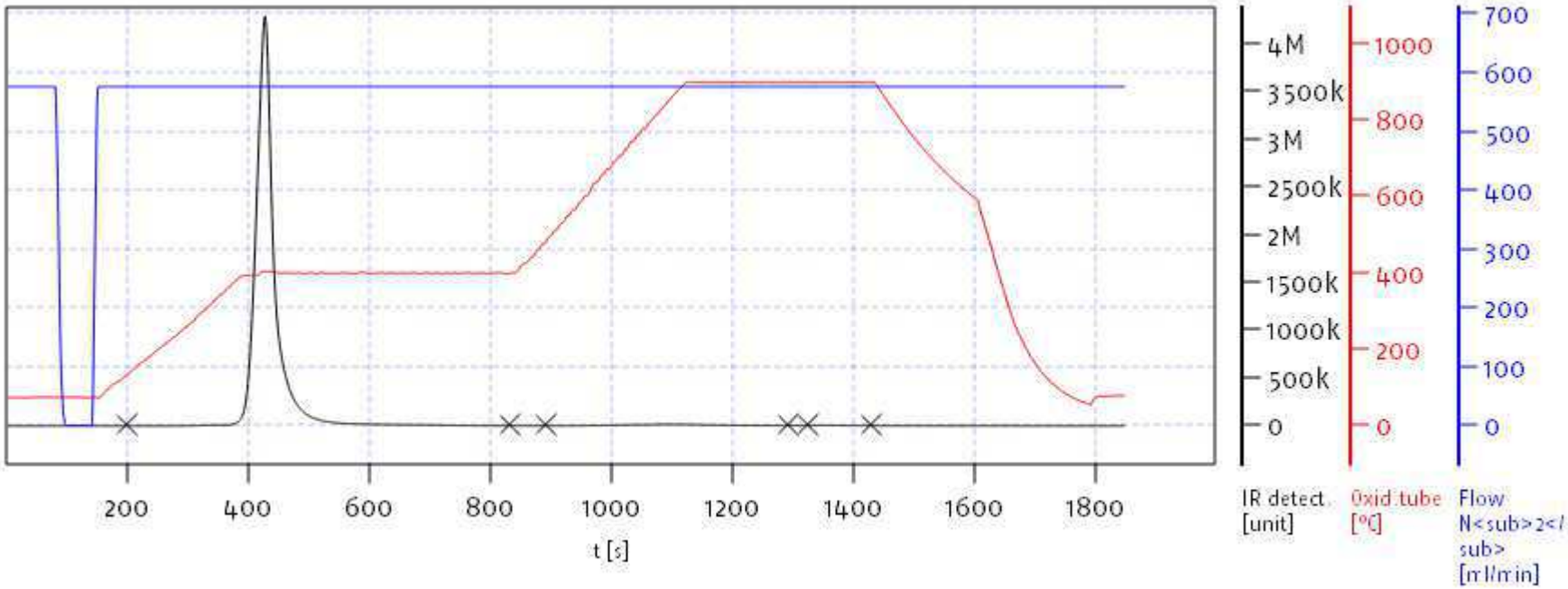
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
184	44	SJH0331-CCVF	20.30		1.00	CARBON	8/29/2021 2:41 PM	44.779	0.801	45.580	bl	5 584 430	107 969	15 612	0.9651	1.0000



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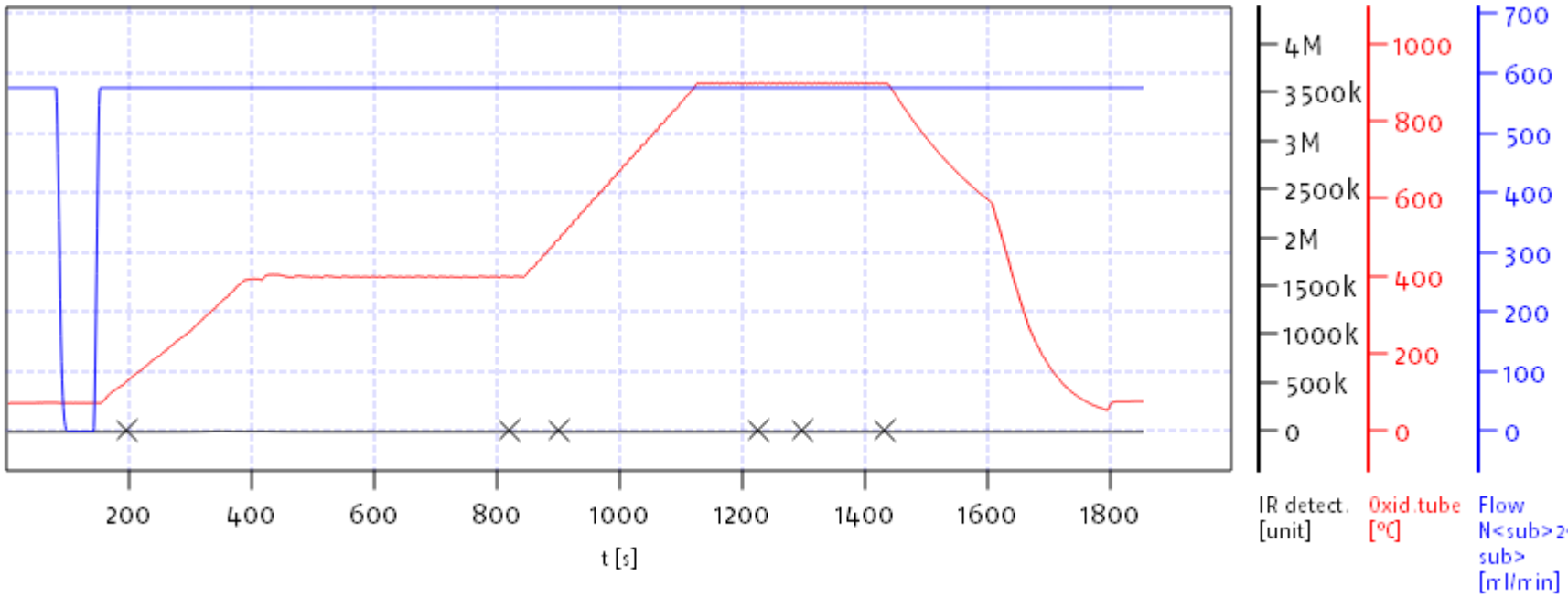
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
185	45	SJH0331-CCBF	512.70		1.00	CARBON	8/29/2021 3:13 PM	0.004	0.000	0.004	bl,C3u,C2u	24 272	1 086	436	0.9651	1.0000



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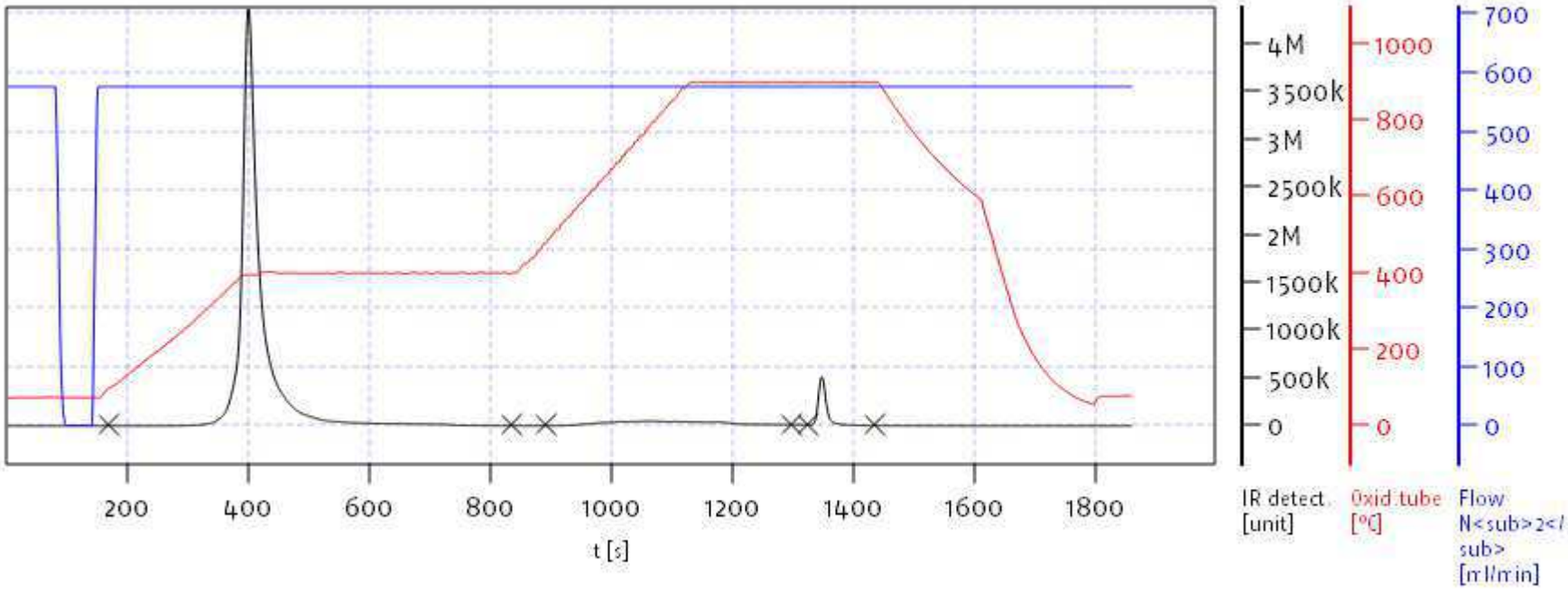
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
186	46	21H0274-04	172.00		1.00	CARBON	8/29/2021 3:44 PM	5.685	0.416	6.101	bl	5 703 440	435 100	307 981	0.9651	1.0000



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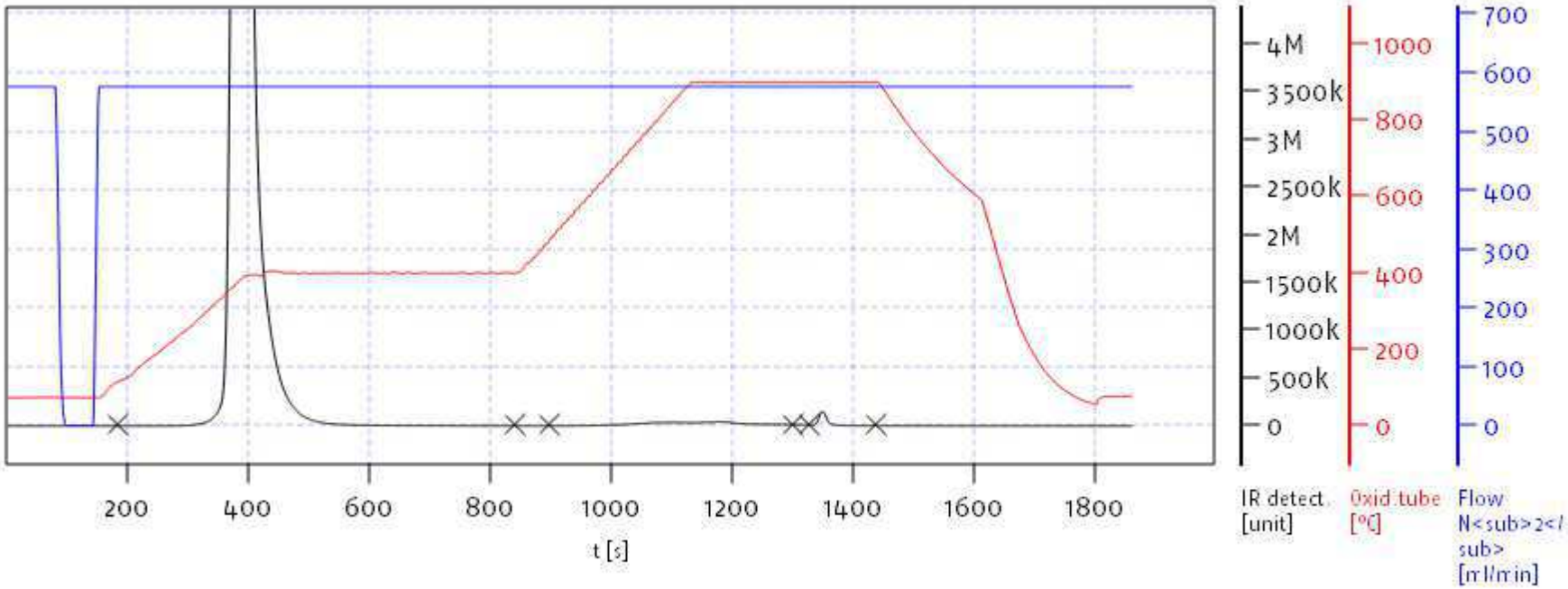
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
187	47	21H0275-01	152.70		1.00	CARBON	8/29/2021 4:16 PM	18.942	0.327	19.268	bl,C1o	17 668300	307 174	96 733	0.9651	1.0000



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Analyst: BF

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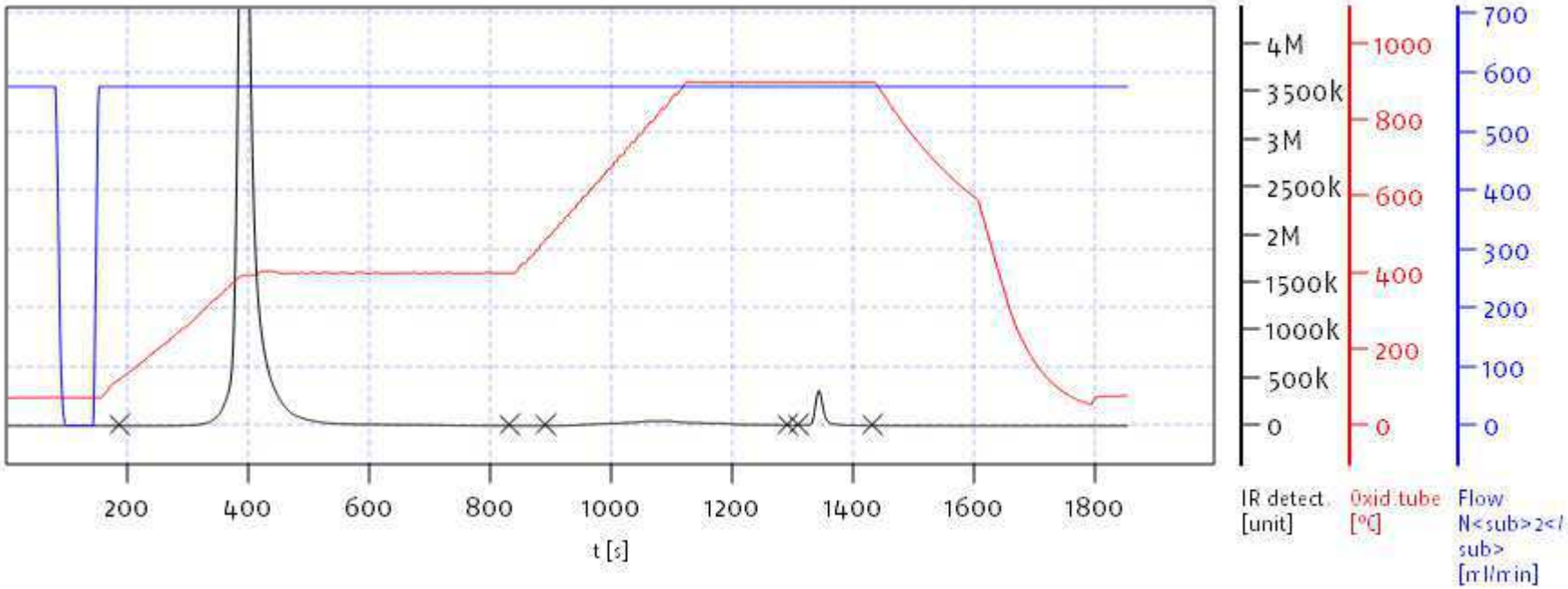
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
188	48	21H0275-02	181.60		1.00	CARBON	8/29/2021 4:47 PM	7.225	0.314	7.540	bl	7 834 780	349 790	230 470	0.9651	1.0000



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Balance: BAL3
Analyst: BF

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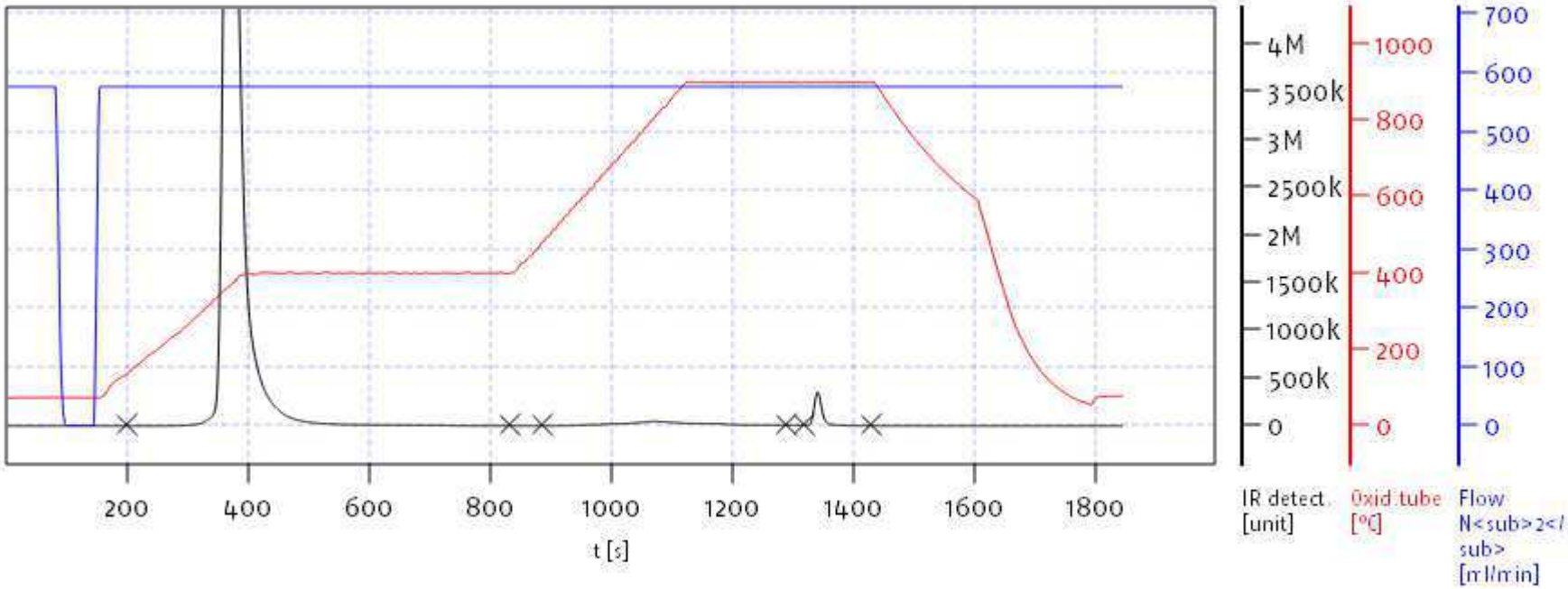
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
189	49	21H0275-03	175.40		1.00	CARBON	8/29/2021 5:18 PM	9.928	0.256	10.184	bl,C1o	10 495 200	278 007	204 224	0.9651	1.0000



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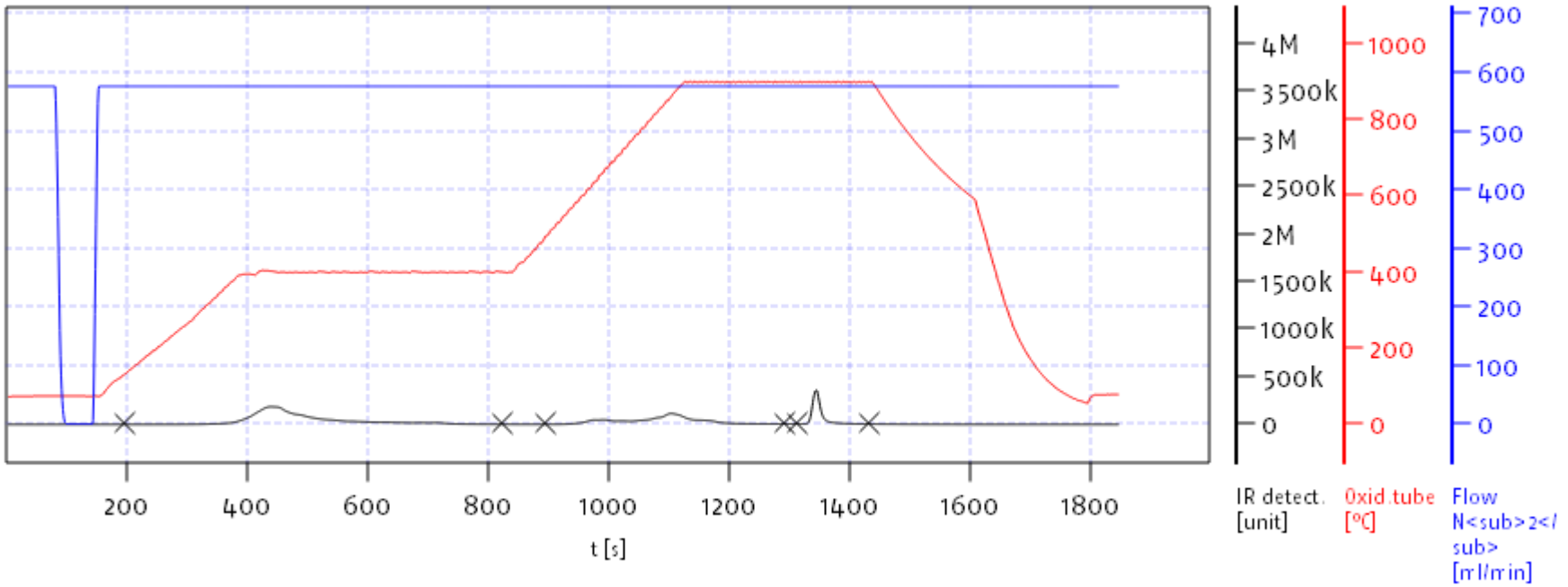
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
190	50	21H0275-04	595.50		1.00	CARBON	8/29/2021 5:49 PM	0.288	0.138	0.426	bl	832 669	498 138	234 707	0.9651	1.0000



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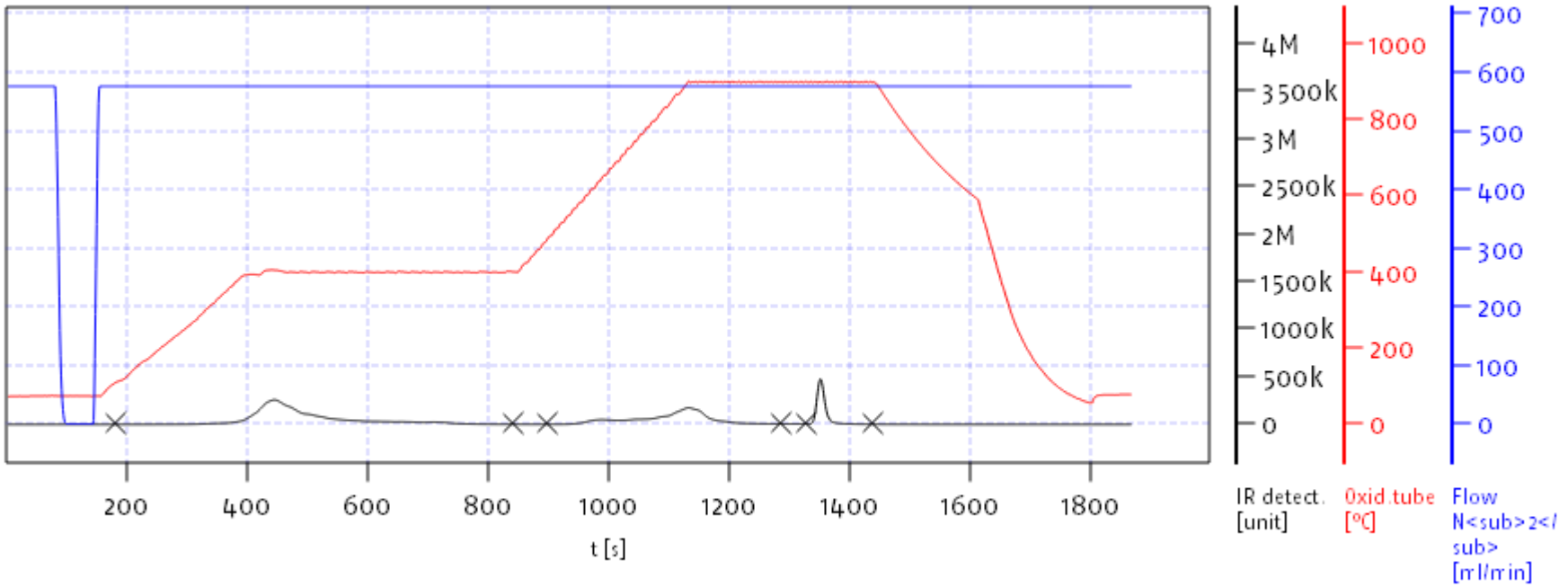
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
191	51	21H0275-05	526.70		1.00	CARBON	8/29/2021 6:21 PM	0.421	0.225	0.645	bl	1 085 710	711 901	286 674	0.9651	1.0000



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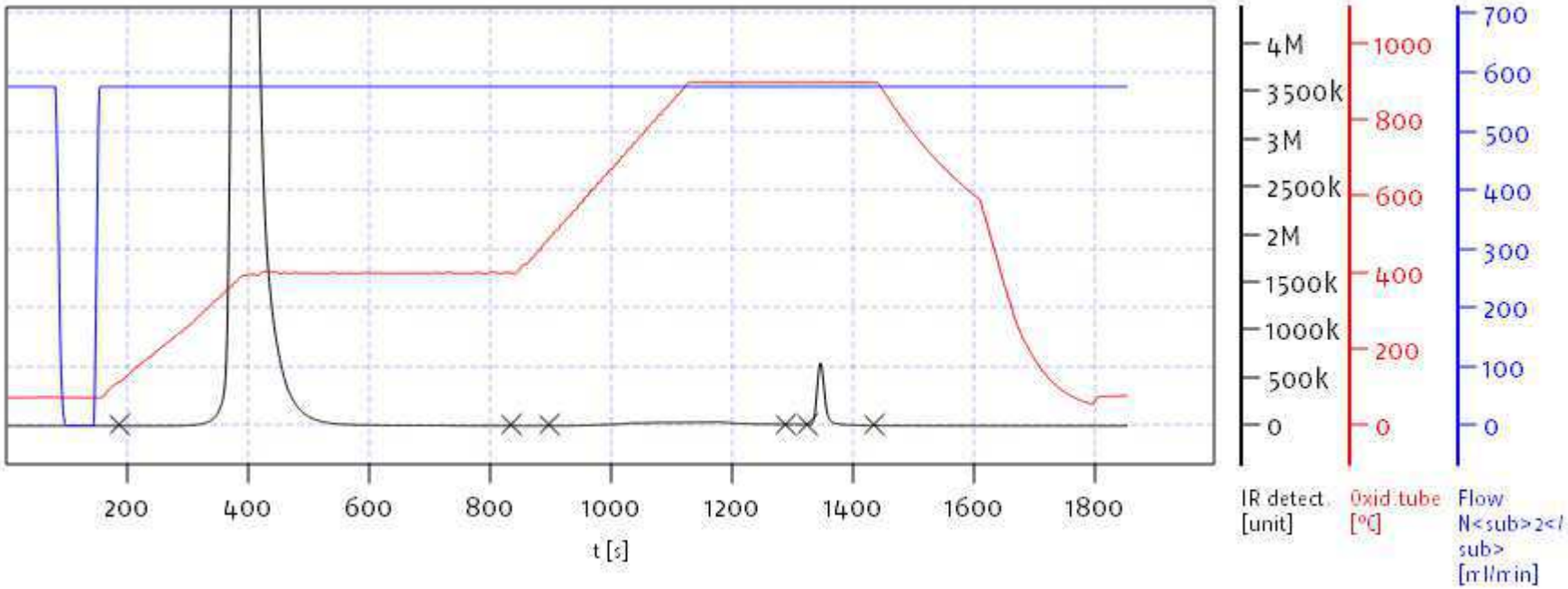
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
192	52	21H0275-06	179.70		1.00	CARBON	8/29/2021 6:52 PM	19.636	0.297	19.934	bl,Cl o	21 271 400	328 099	386 832	0.9651	1.0000



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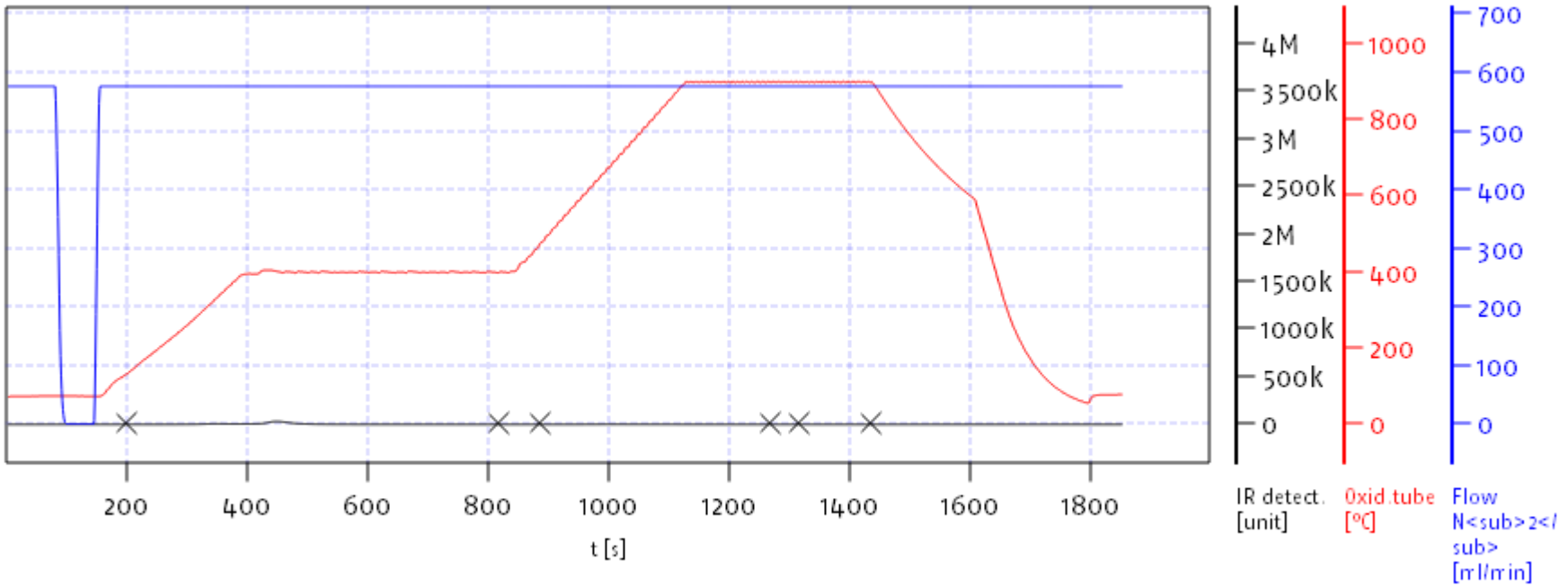
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
193	53	BJH0677-MRL1	538.30		1.00	CARBON	8/29/2021 7:24 PM	0.021	0.000	0.021	bl,C3u,C2u	81 334	6 834	305	0.9651	1.0000



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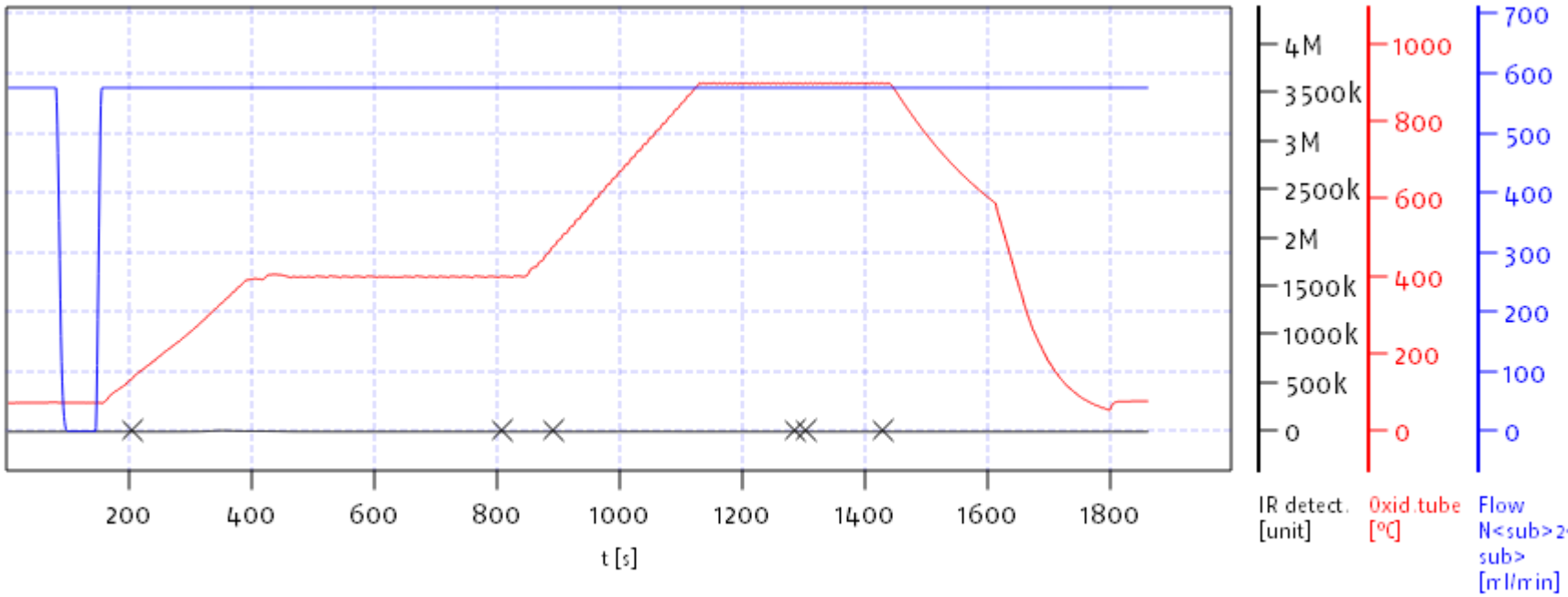
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
194	54	BJH0677-BLK1	537.20		1.00	CARBON	8/29/2021 7:55 PM	0.008	0.000	0.008	bl,C3u,C2u	36 820	4 881	448	0.9651	1.0000



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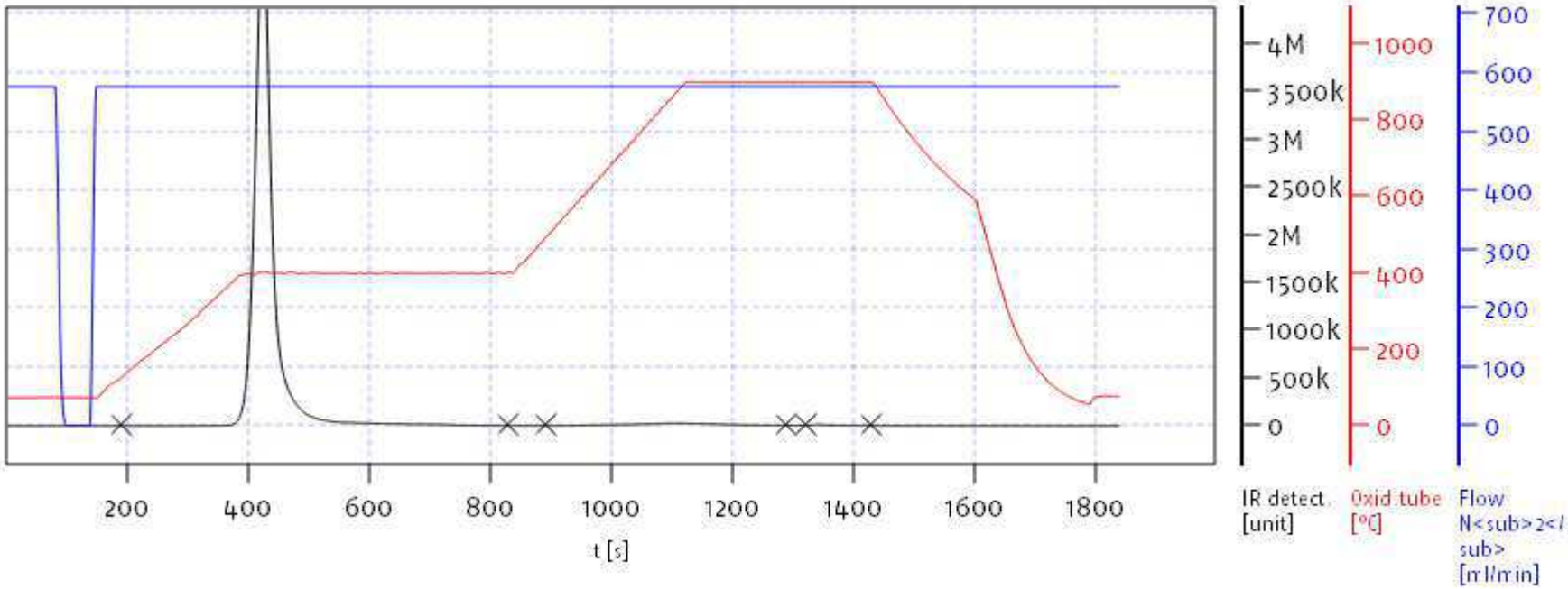
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
195	55	BJH0677-BS1	24.50		1.00	CARBON	8/29/2021 8:26 PM	44.364	1.263	45.627	bl	6 667 020	194 880	24 111	0.9651	1.0000



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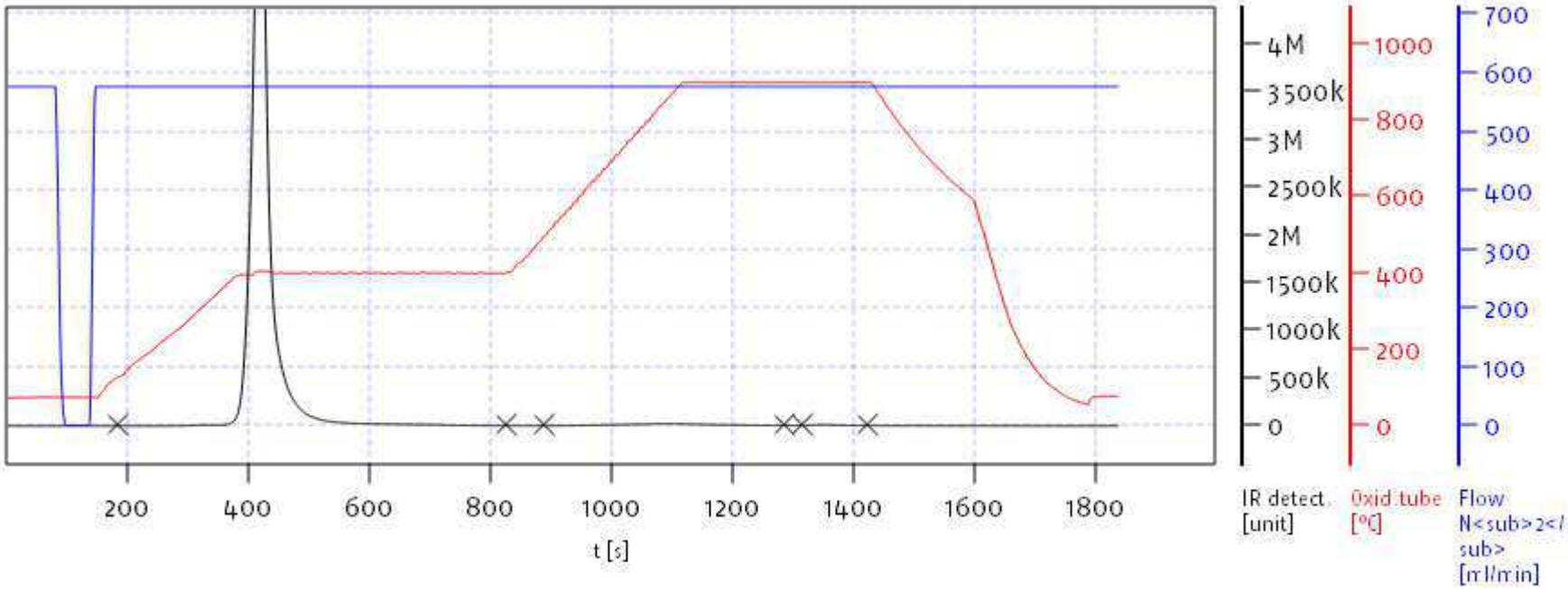
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
196	56	SJH0331-CCVG	28.20		1.00	CARBON	8/29/2021 8:58 PM	45.395	0.880	46.275	bl	7 851 740	158 612	24 729	0.9651	1.0000



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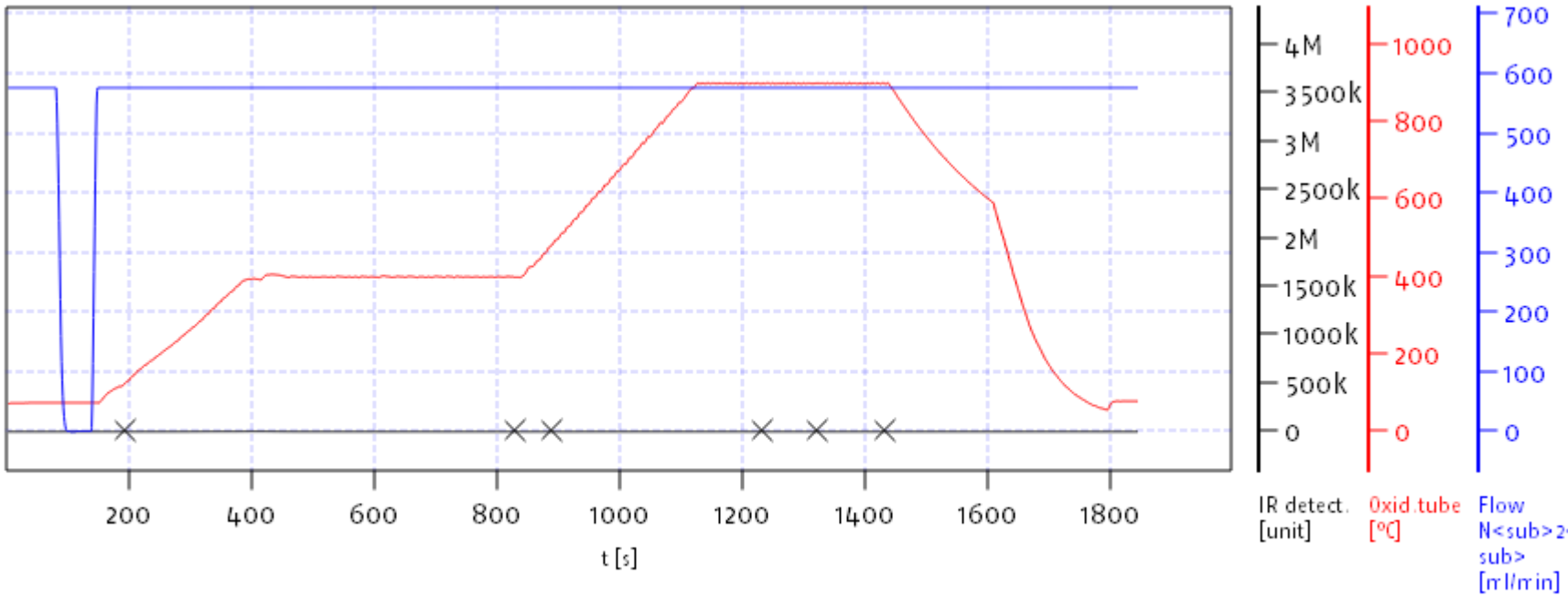
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
197	57	SJH0331-CCBG	515.50		1.00	CARBON	8/29/2021 9:29 PM	0.000	0.000	0.000	bl,C3u,C2u	12 285	1 549	397	0.9651	1.0000



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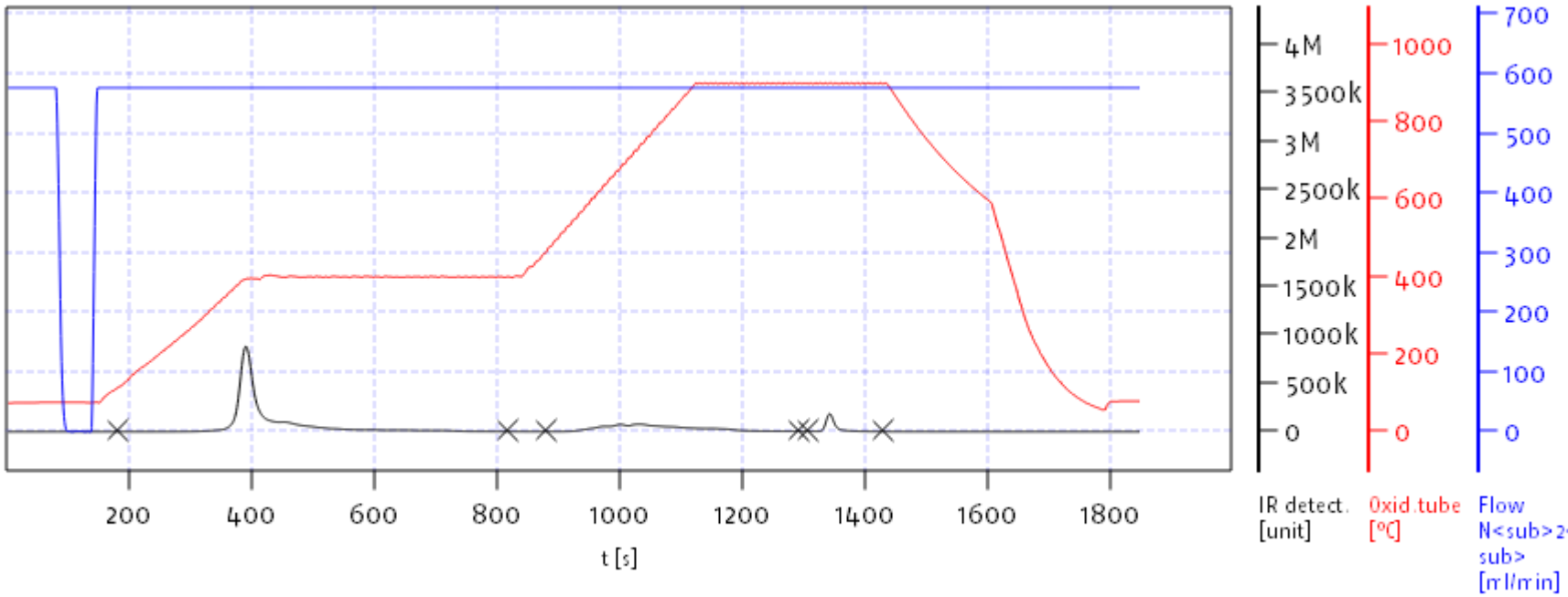
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
198	58	21H0224-02	321.90		1.00	CARBON	8/29/2021 10:00 PM	0.739	0.246	0.985	bl	1 357 010	480 652	122 297	0.9651	1.0000



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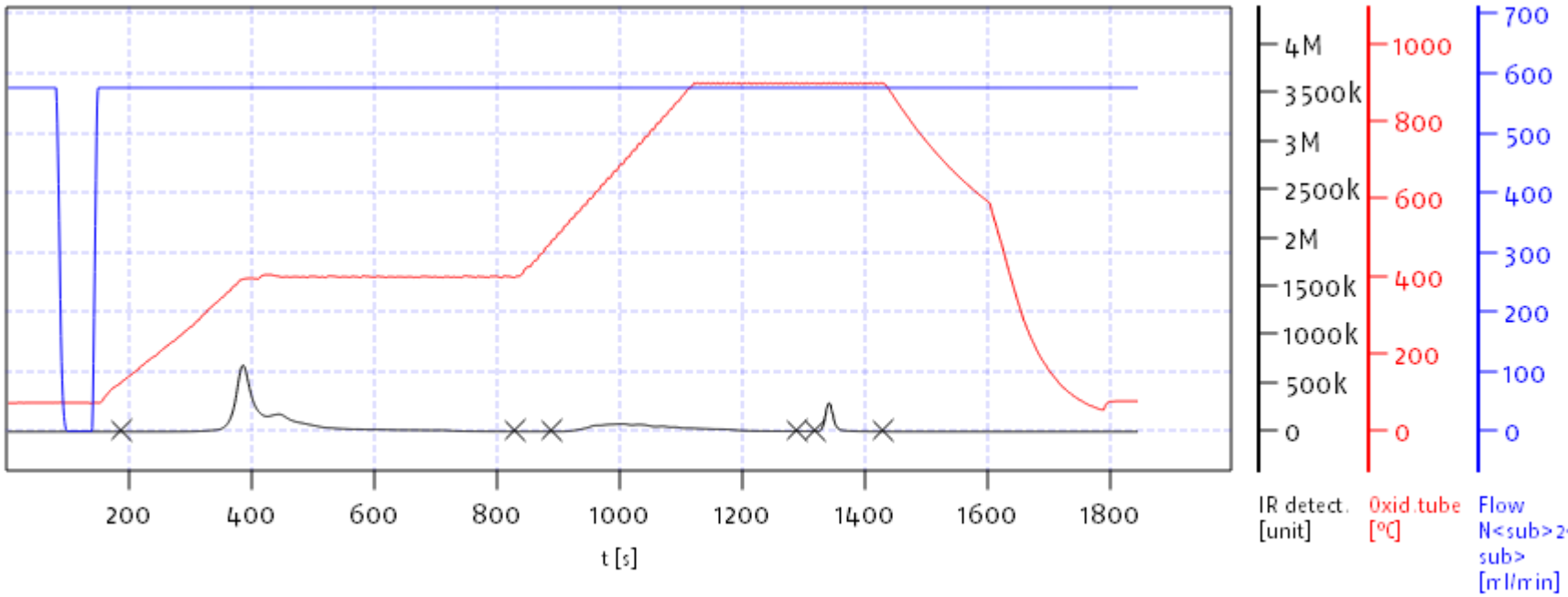
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
199	59	BJH0677-DUP1	331.90		1.00	CARBON	8/29/2021 10:31 PM	0.791	0.254	1.045	bl	1 448 930	511 750	178 206	0.9651	1.0000



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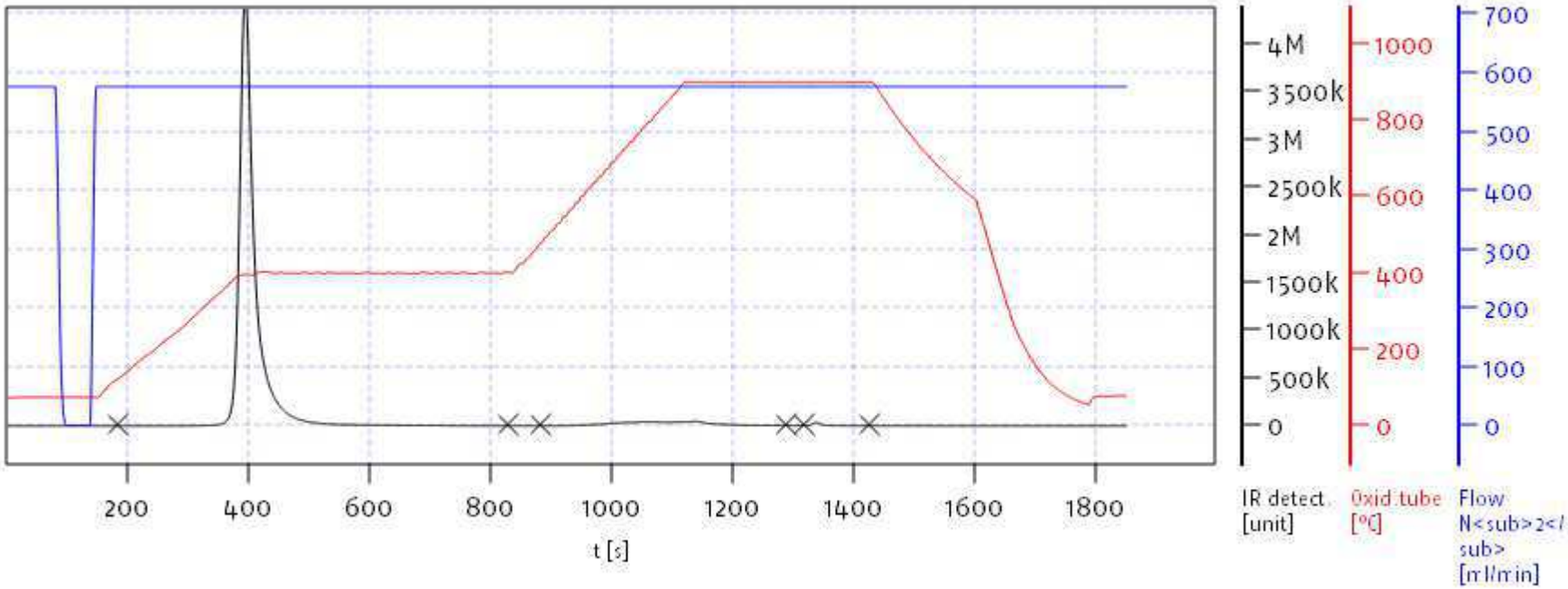
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
200	60	BJH0677-MS1	268.40	0.0122	1.00	CARBON	8/29/2021 11:03 PM	3.006	0.189	3.195	bl	4 945 240	311 892	26 776	0.9651	1.0000



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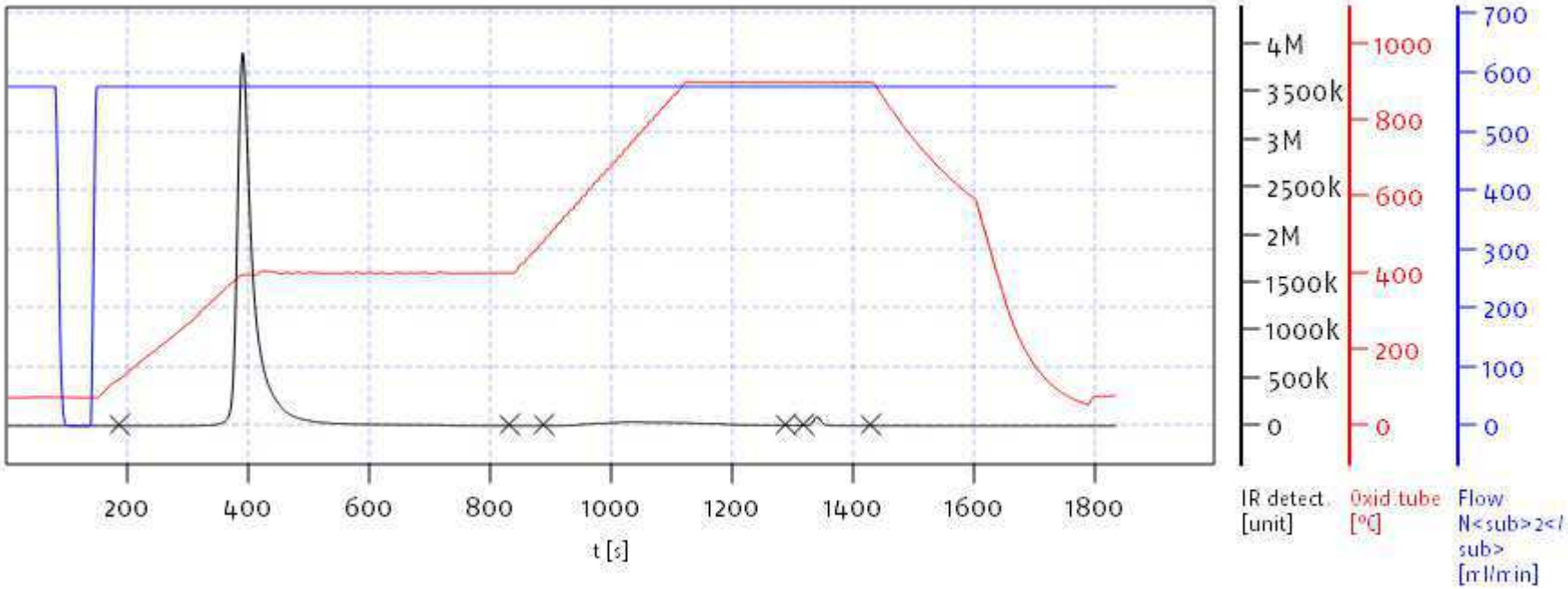
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
201	61	BJH0677-MSD1	258.10	0.0119	1.00	CARBON	8/29/2021 11:34 PM	2.949	0.195	3.144	bl	4 632 900	309 617	58 939	0.9651	1.0000



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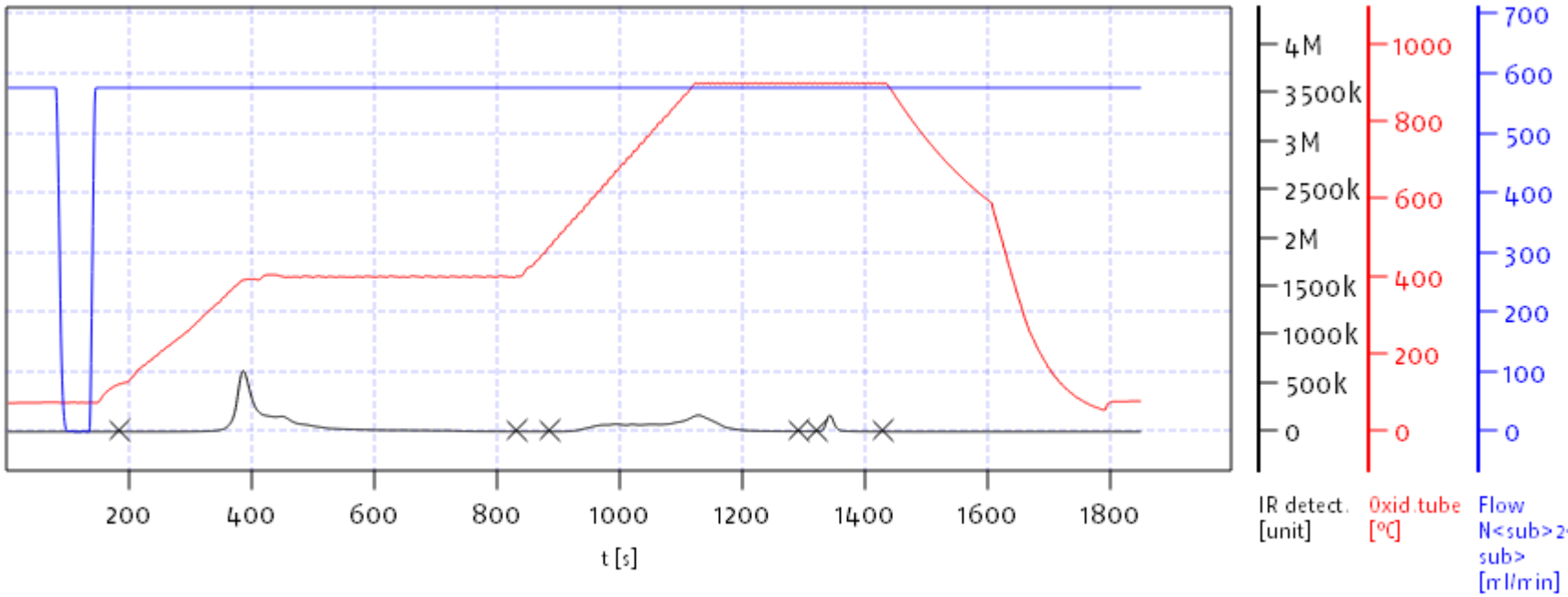
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
202	62	21H0224-03	331.30		1.00	CARBON	8/30/2021 12:05 AM	0.674	0.413	1.087	bl	1 287 520	821 348	102 649	0.9651	1.0000



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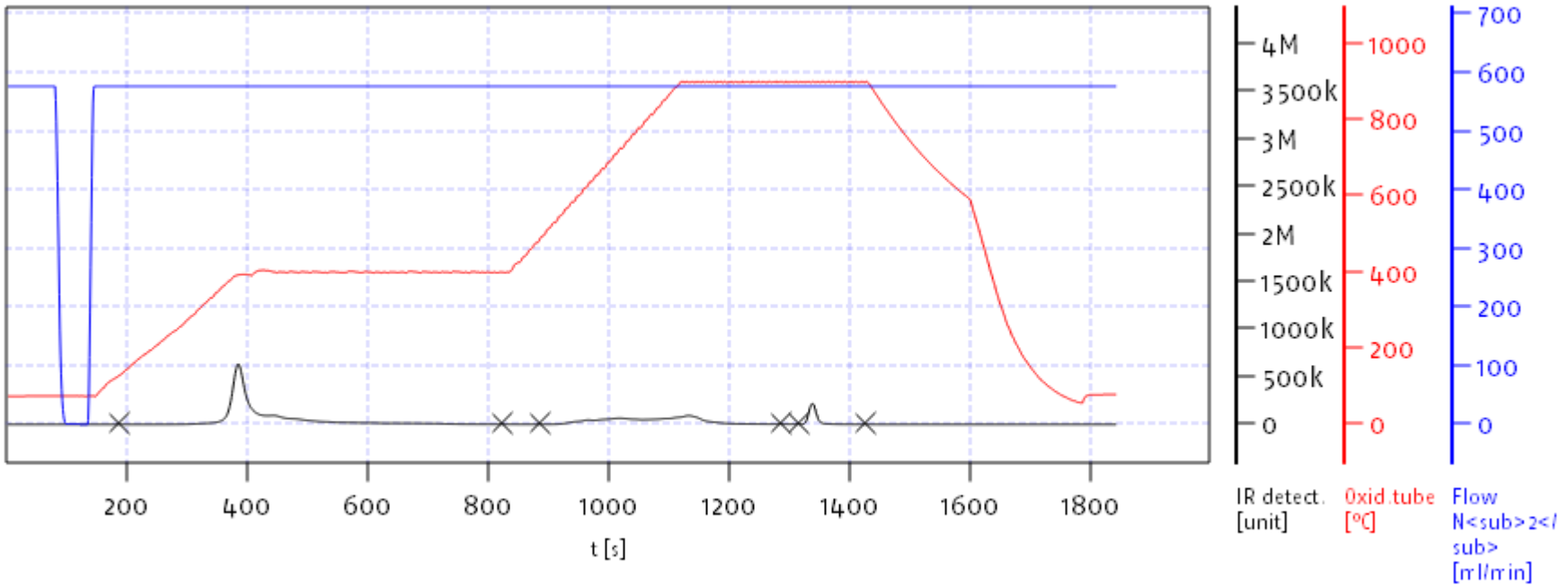
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
203	63	21H0224-04	216.30		1.00	CARBON	8/30/2021 12:36 AM	0.883	0.409	1.292	bl	1 064 670	535 045	126 428	0.9651	1.0000



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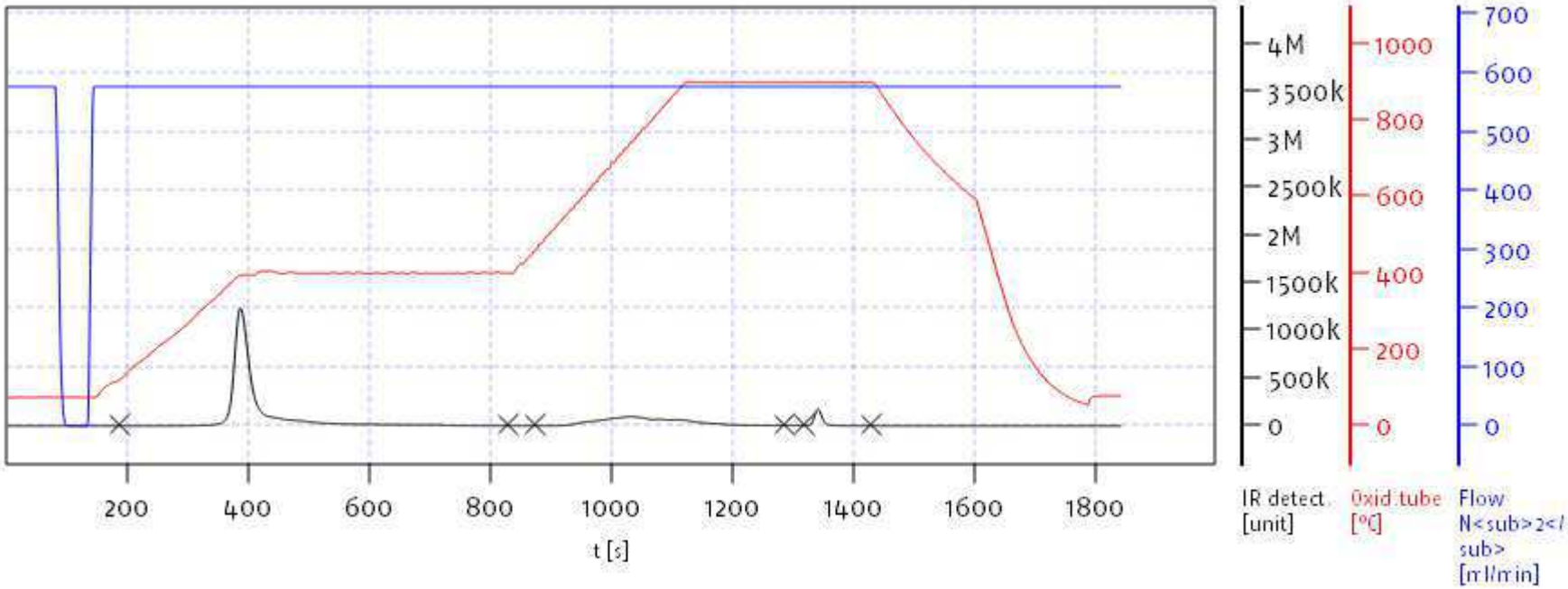
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
204	64	21H0224-05	325.20		1.00	CARBON	8/30/2021 1:07 AM	0.894	0.294	1.188	bl	1 702 020	577 355	102 413	0.9651	1.0000



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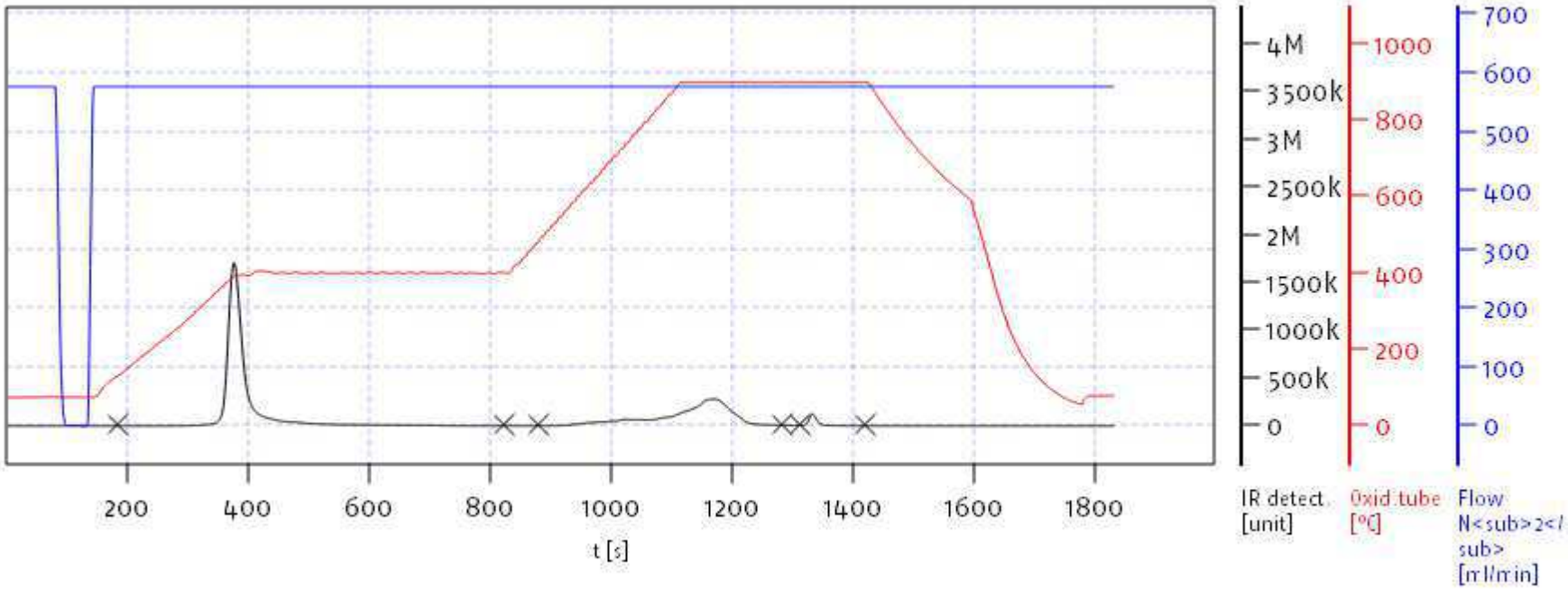
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
205	65	21H0224-06	343.50		1.00	CARBON	8/30/2021 1:38 AM	0.978	0.587	1.565	bl	2 005 360	1 205 480	77 385	0.9651	1.0000



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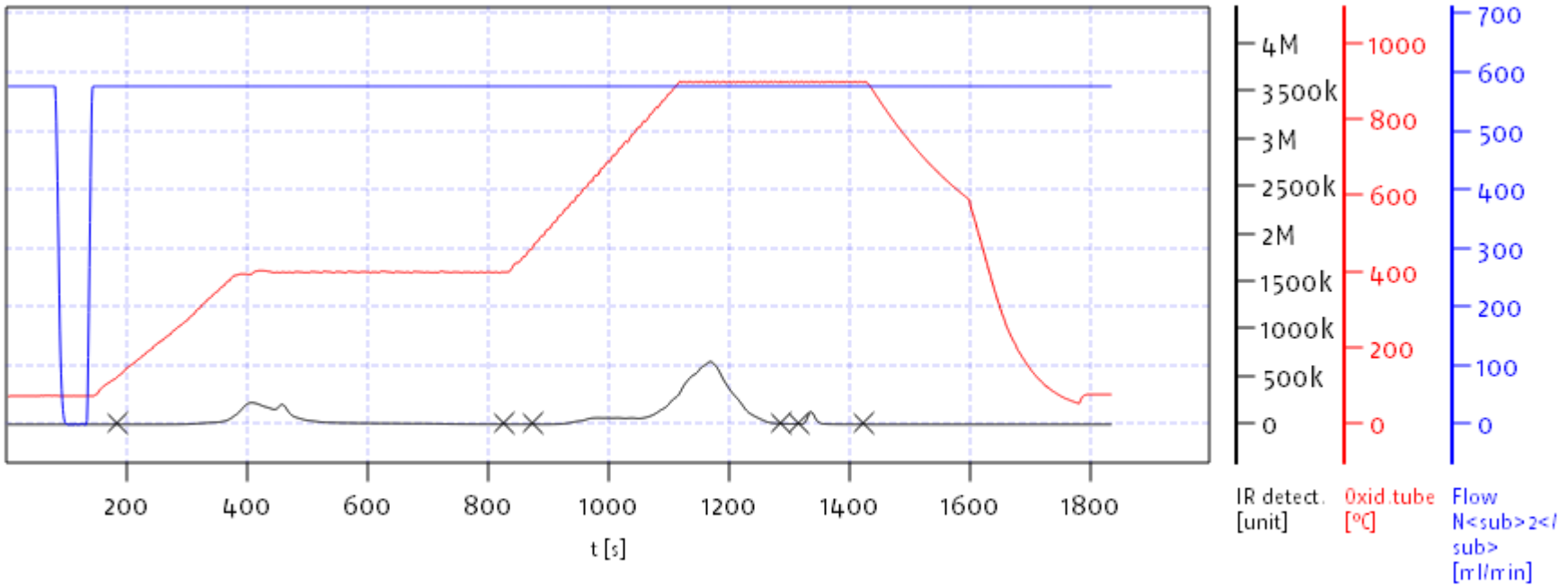
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
206	66	21H0224-07	345.80		1.00	CARBON	8/30/2021 2:09 AM	0.456	1.305	1.761	bl	909 599	2 684 350	78 594	0.9651	1.0000



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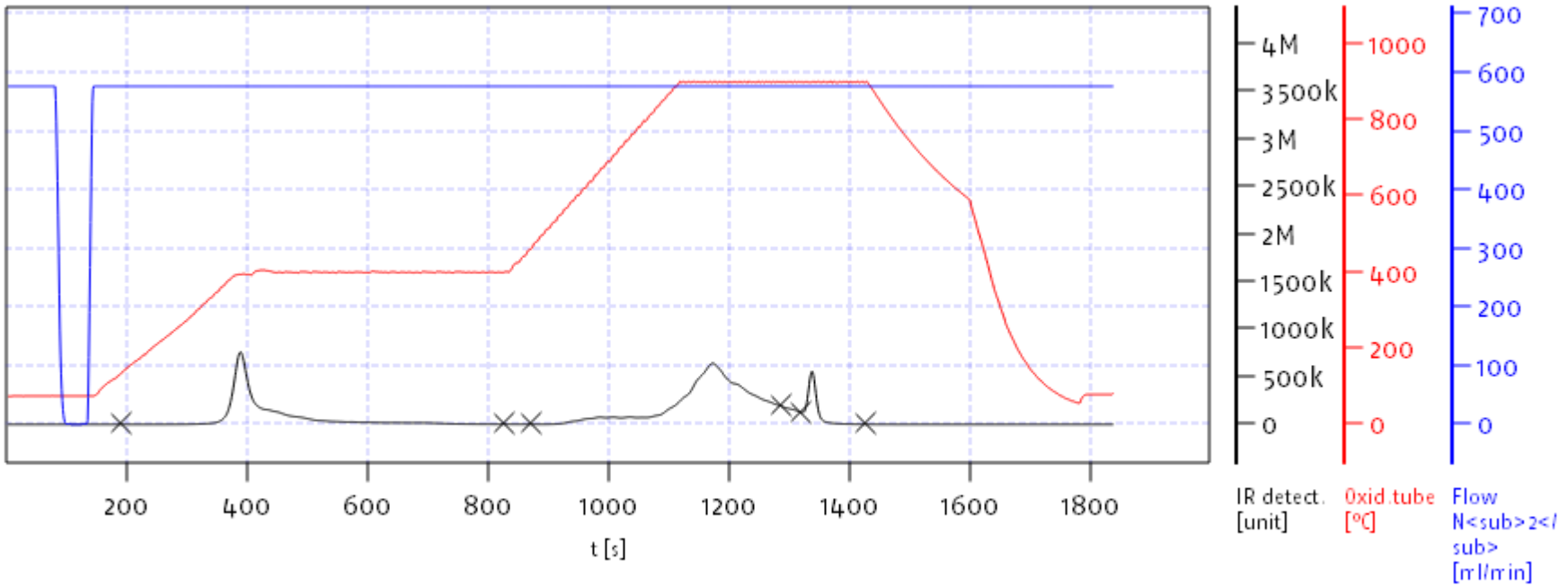
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
207	67	21H0224-08	336.20		1.00	CARBON	8/30/2021 2:40 AM	0.880	1.549	2.429	bl	1 447 370	3 095 250	376 840	0.9651	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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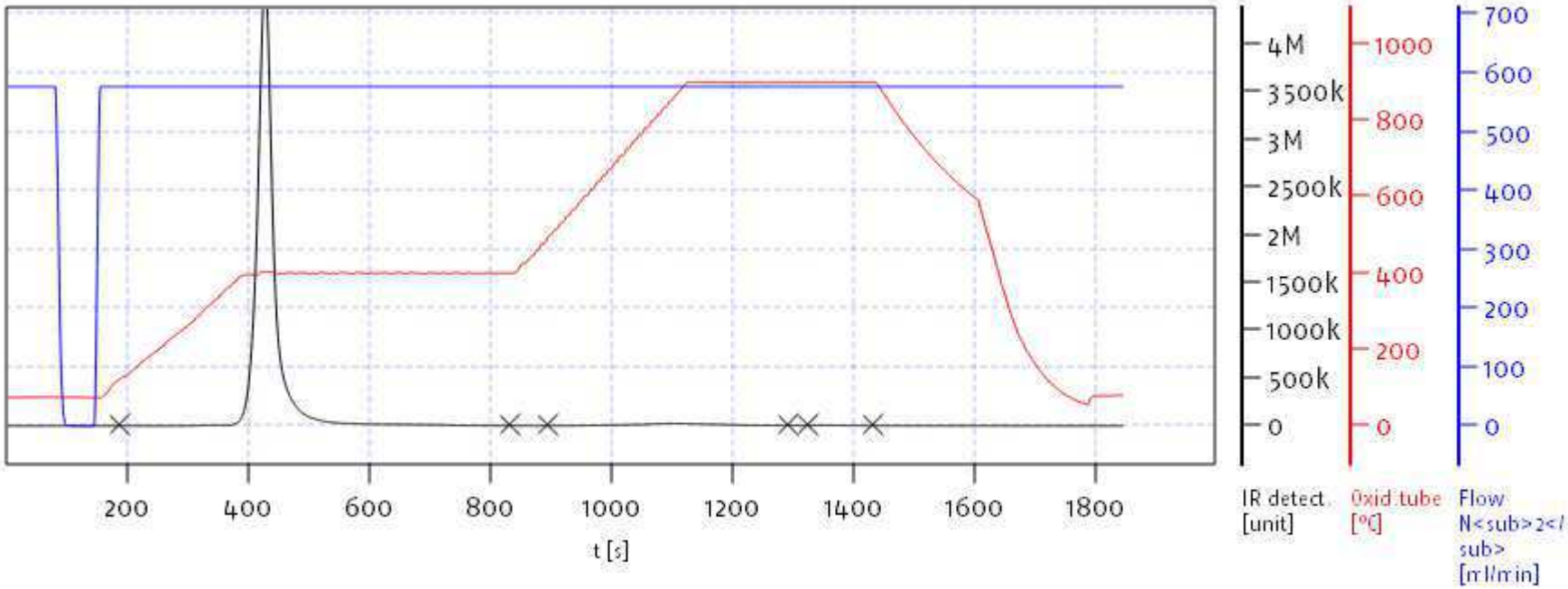
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
208	68	SJH0331-CCVH	20.30		1.00	CARBON	8/30/2021 3:12 AM	44.545	1.246	45.790	bl	5 554 990	161 382	15 856	0.9651	1.0000



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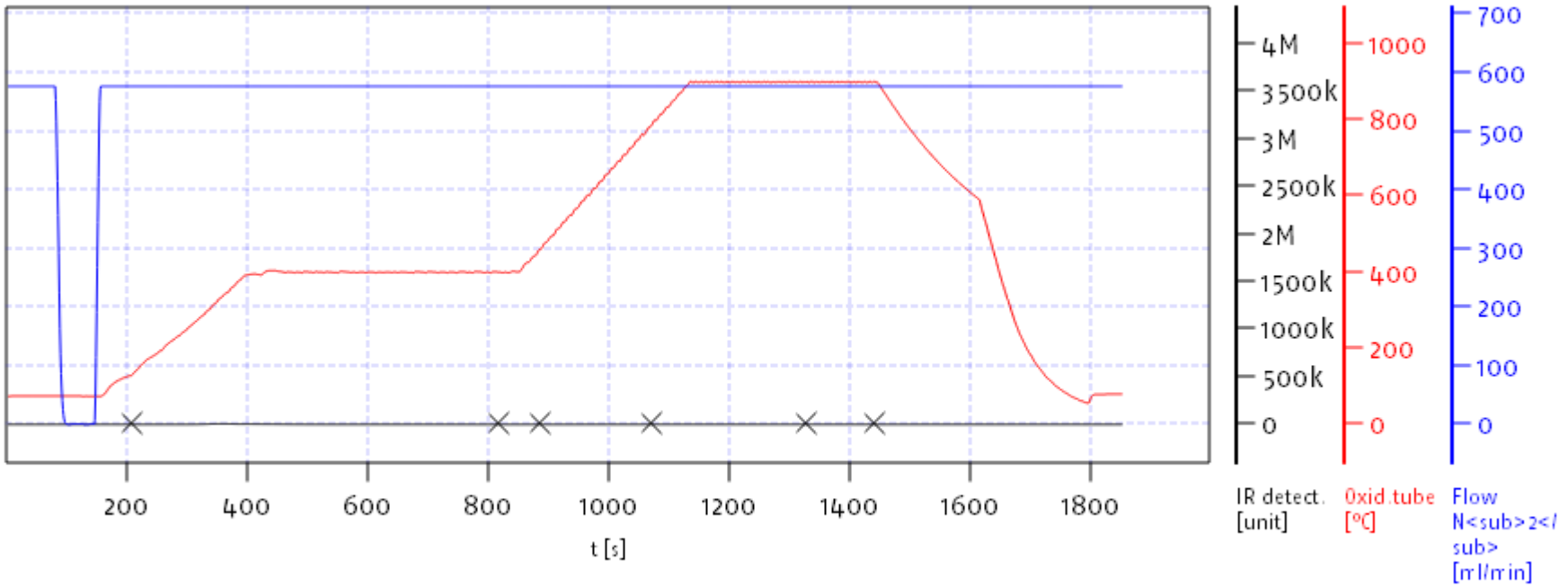
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
209	69	SJH0331-CCBH	513.70		1.00	CARBON	8/30/2021 3:43 AM	0.003	0.000	0.003	bl,C3u,C2u	22 555	212	386	0.9651	1.0000



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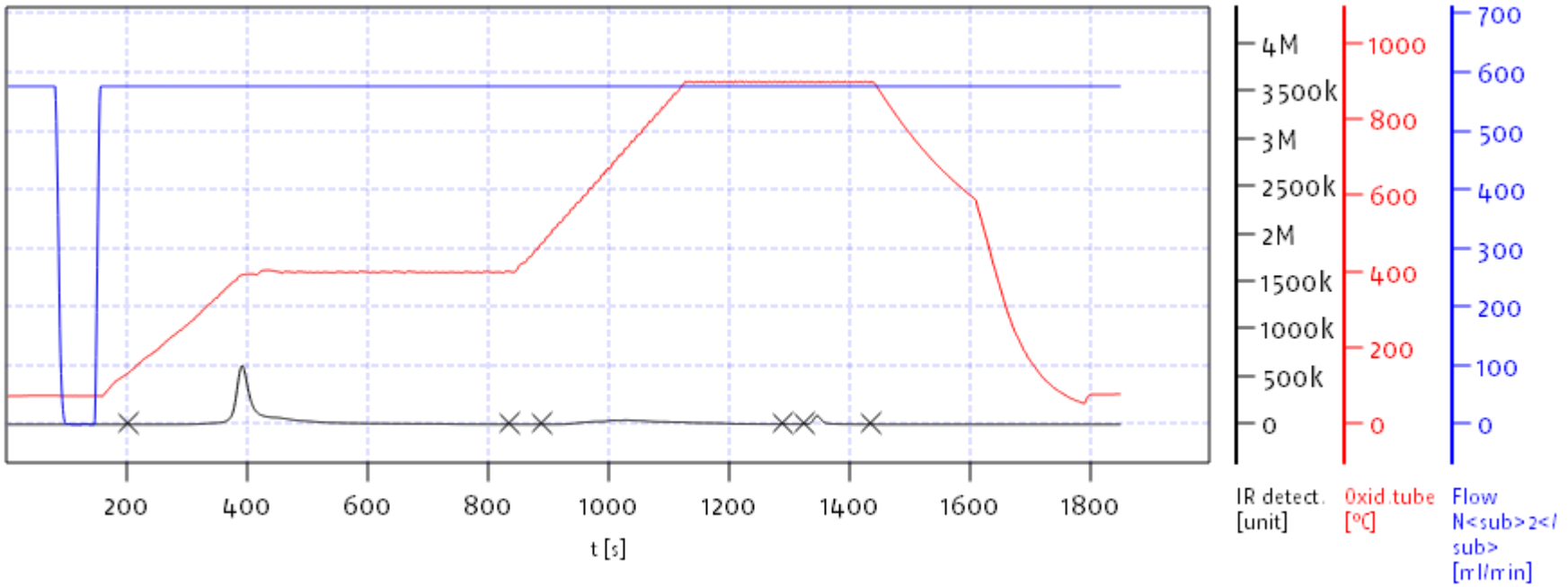
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
210	70	21H0224-09	213.30		1.00	CARBON	8/30/2021 4:14 AM	0.729	0.211	0.940	bl	915 310	278 071	60 869	0.9651	1.0000



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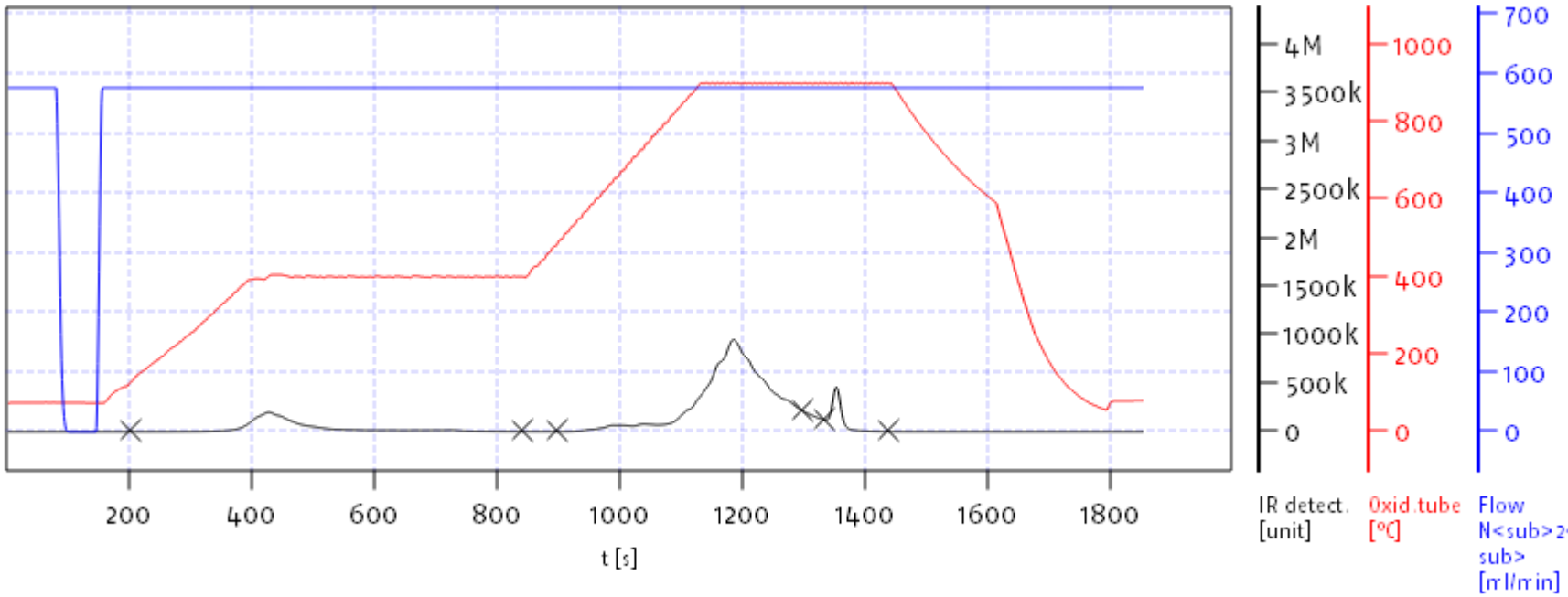
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
211	71	21H0234-01	219.50		1.00	CARBON	8/30/2021 4:46 AM	0.794	3.228	4.022	bl	744 062	4 207 200	336 945	0.9651	1.0000



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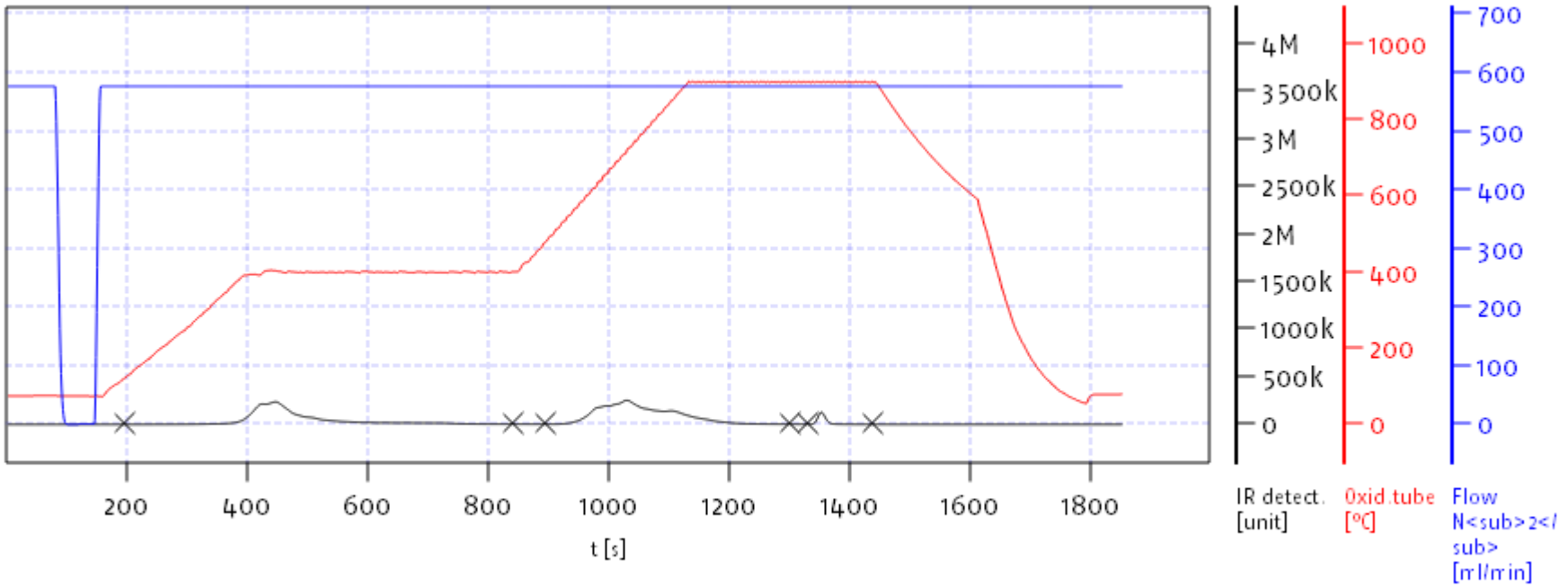
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
212	72	21H0234-04	517.90		1.00	CARBON	8/30/2021 5:17 AM	0.303	0.412	0.715	bl	907 251	1 275 550	76 254	0.9651	1.0000



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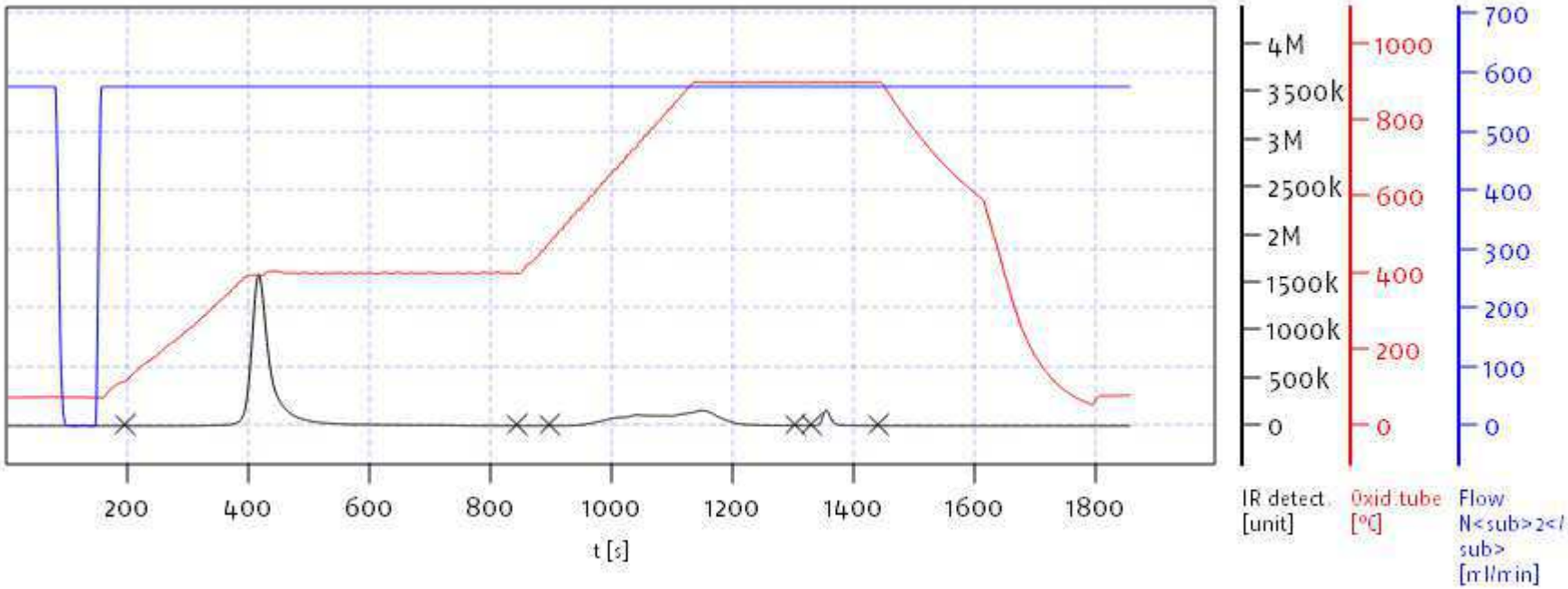
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
213	73	21H0234-06	373.10		1.00	CARBON	8/30/2021 5:49 AM	1.009	0.420	1.429	bl	2 225 290	939 624	104 534	0.9651	1.0000



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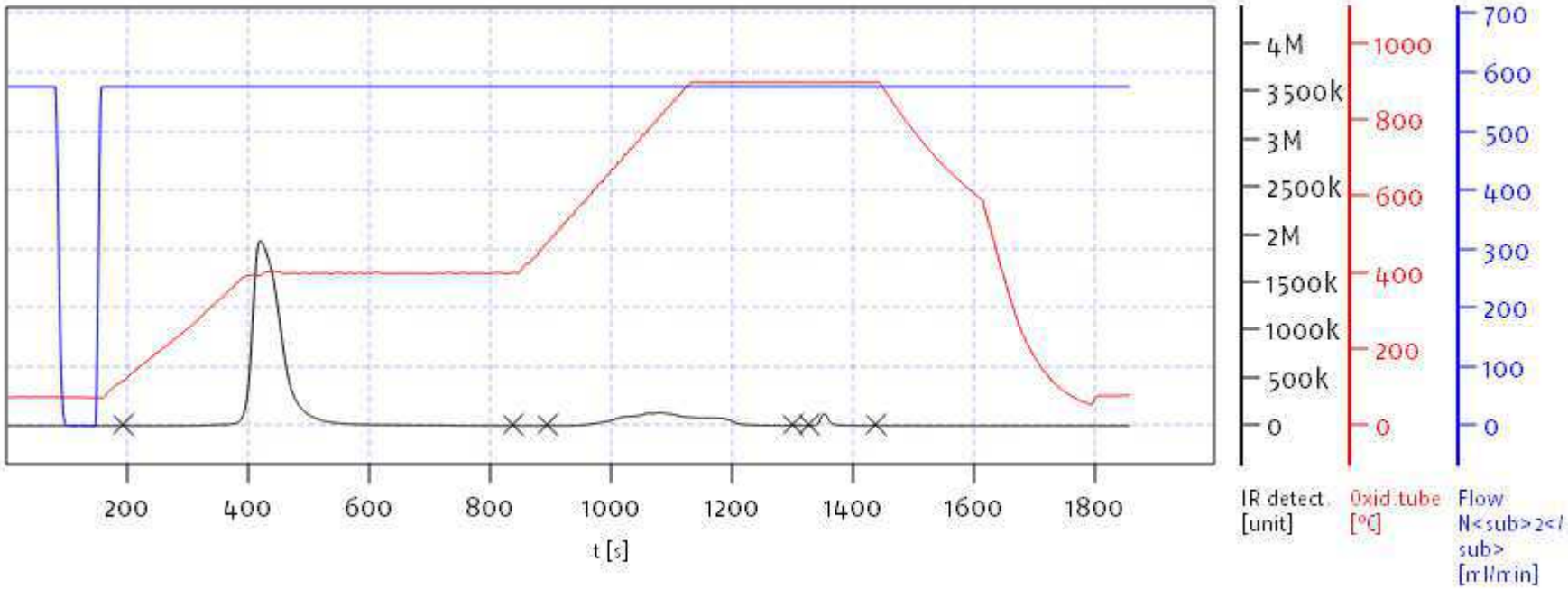
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
214	74	21H0234-09	556.70		1.00	CARBON	8/30/2021 6:20 AM	1.189	0.252	1.441	bl	3 997 190	841 290	83 898	0.9651	1.0000



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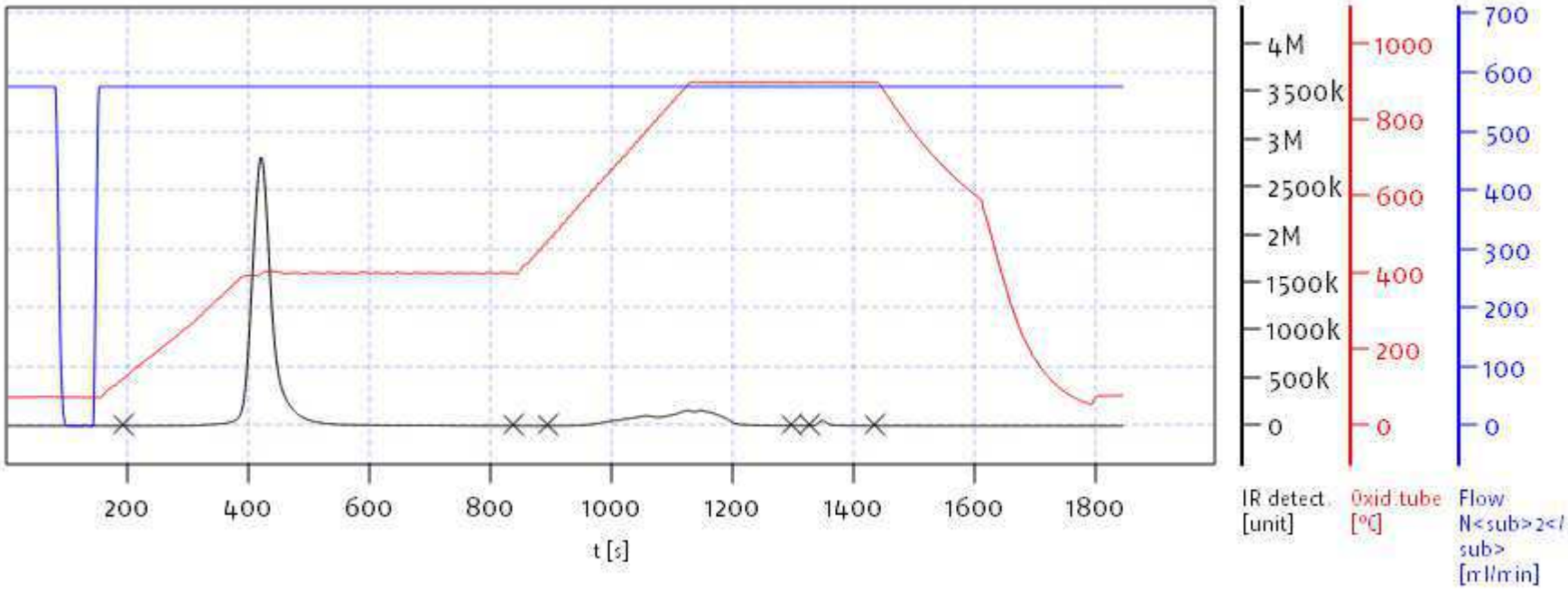
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
215	75	21H0281-01	468.50		1.00	CARBON	8/30/2021 6:51 AM	1.433	0.317	1.750	bl	4 098 100	890 549	42 629	0.9651	1.0000



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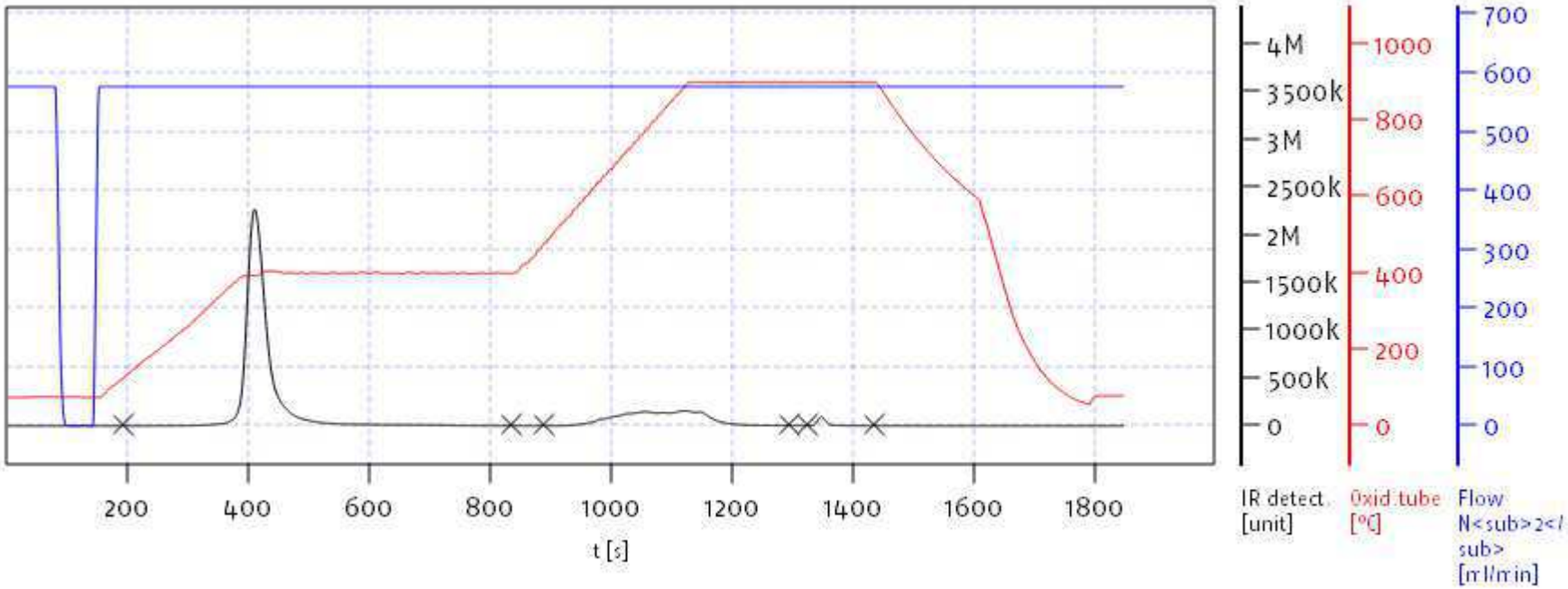
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
216	76	BJH0677-DUP2	454.40		1.00	CARBON	8/30/2021 7:22 AM	1.230	0.373	1.603	bl	3 387 130	1 014 720	63 796	0.9651	1.0000



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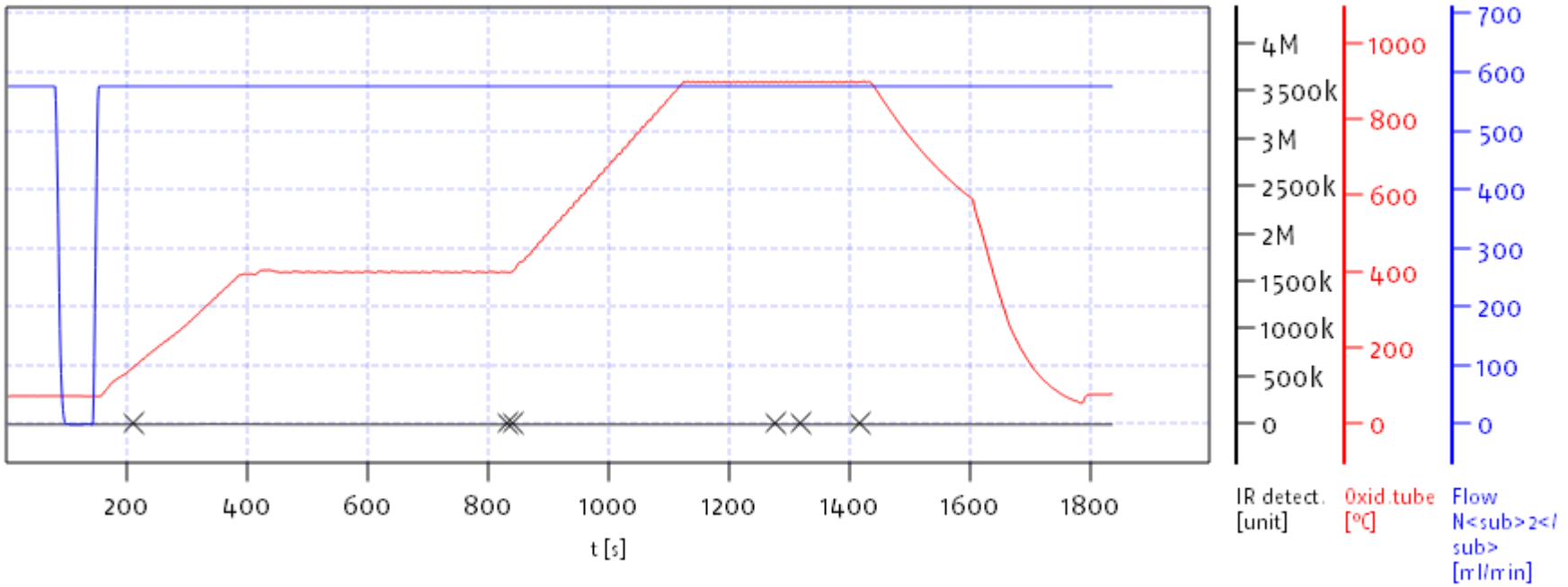
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
217	77	BLANK	1.00		1.00	CARBON	8/30/2021 7:53 AM	0.000	0.000	0.000	bl	11 607	1 004	451	0.9651	1.0000



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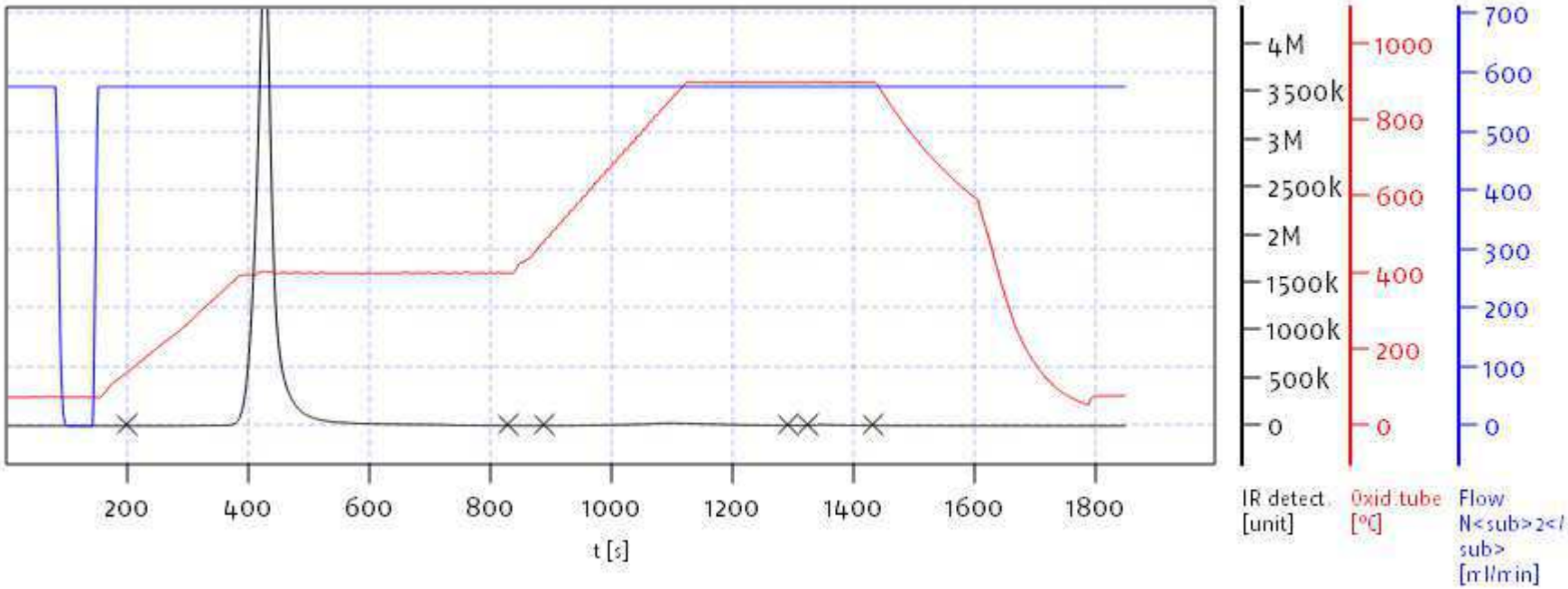
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
218	78	Dfactor	22.70		1.00	CARBON	8/30/2021 8:25 AM	44.555	1.284	45.839	bl	6 054 780	184 262	26 404	0.9886	1.0000



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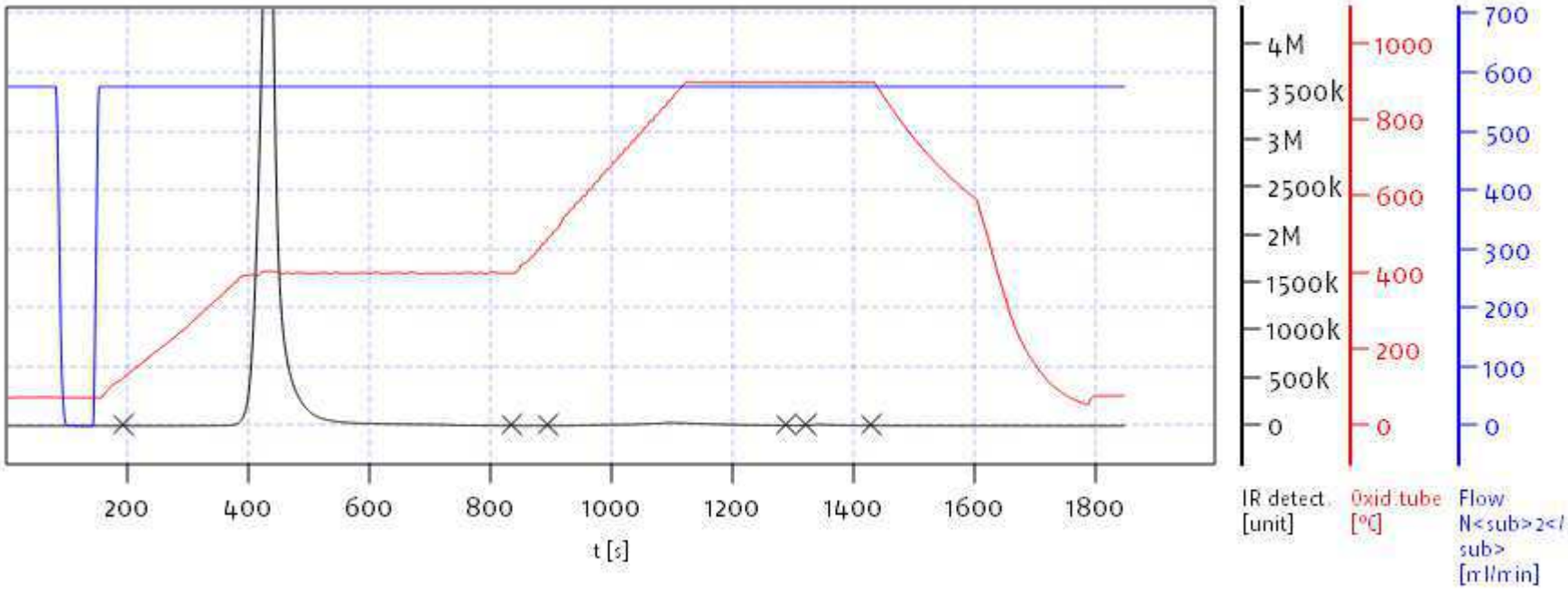
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
219	79	Dfactor	28.40		1.00	CARBON	8/30/2021 8:56 AM	44.533	1.142	45.676	bl	7 906 780	203 751	26 438	0.9467	1.0000



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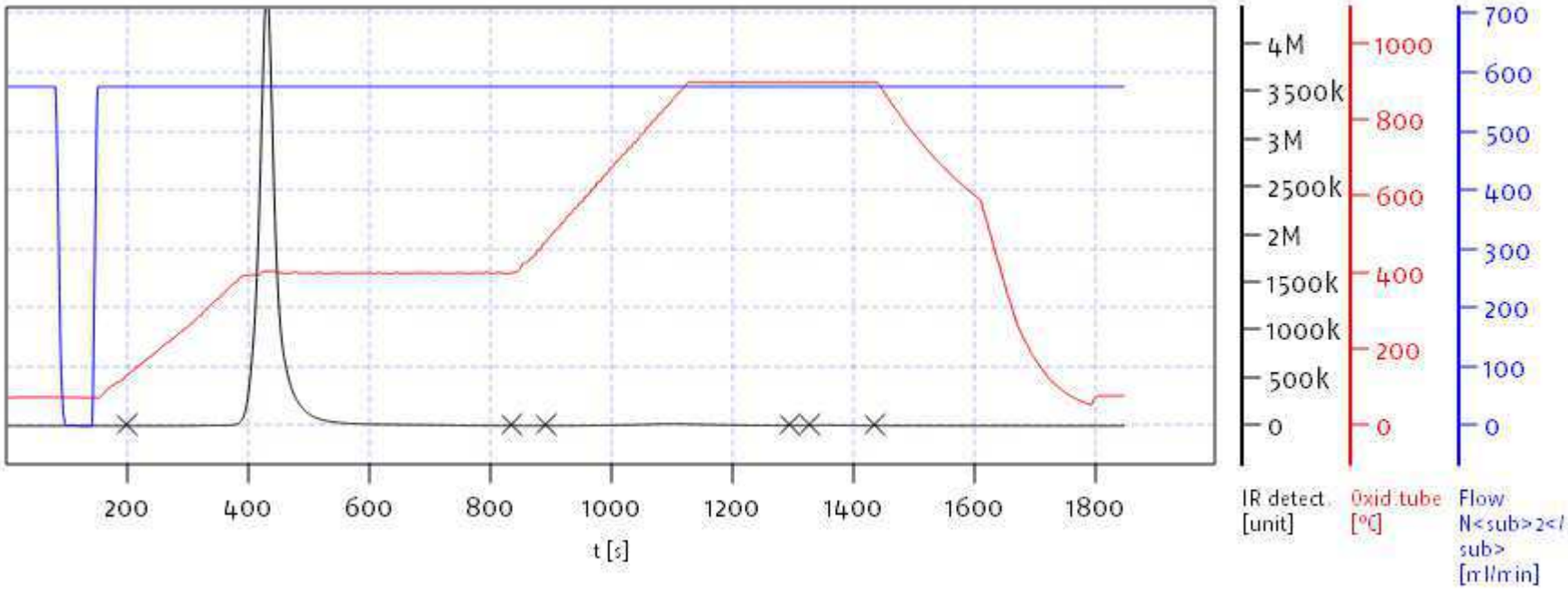
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
220	80	SJH0331-CCVI	21.40		1.00	CARBON	8/30/2021 9:27 AM	44.014	0.984	44.998	bl	5 769 520	136 407	17 400	0.9676	1.0000



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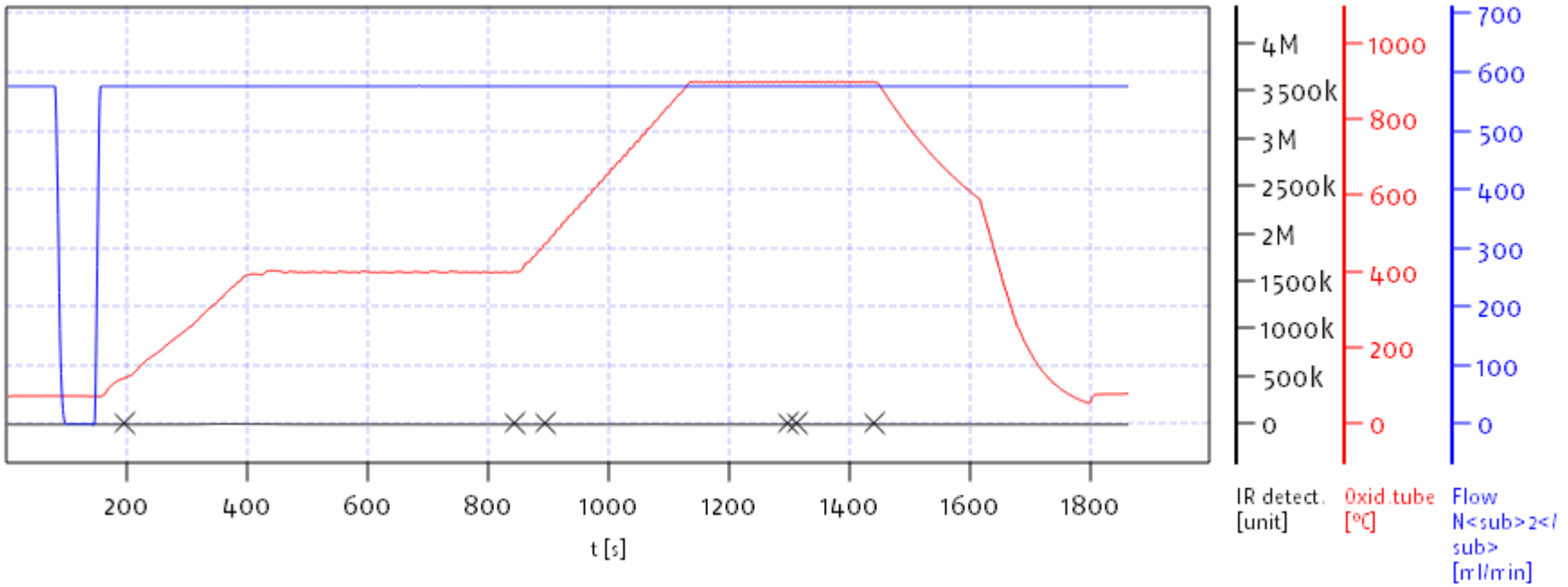
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
221	81	SJH0331-CCBI	586.00		1.00	CARBON	8/30/2021 9:59 AM	0.003	0.000	0.003	bl,C3u,C2u	23 563	4 985	576	0.9676	1.0000



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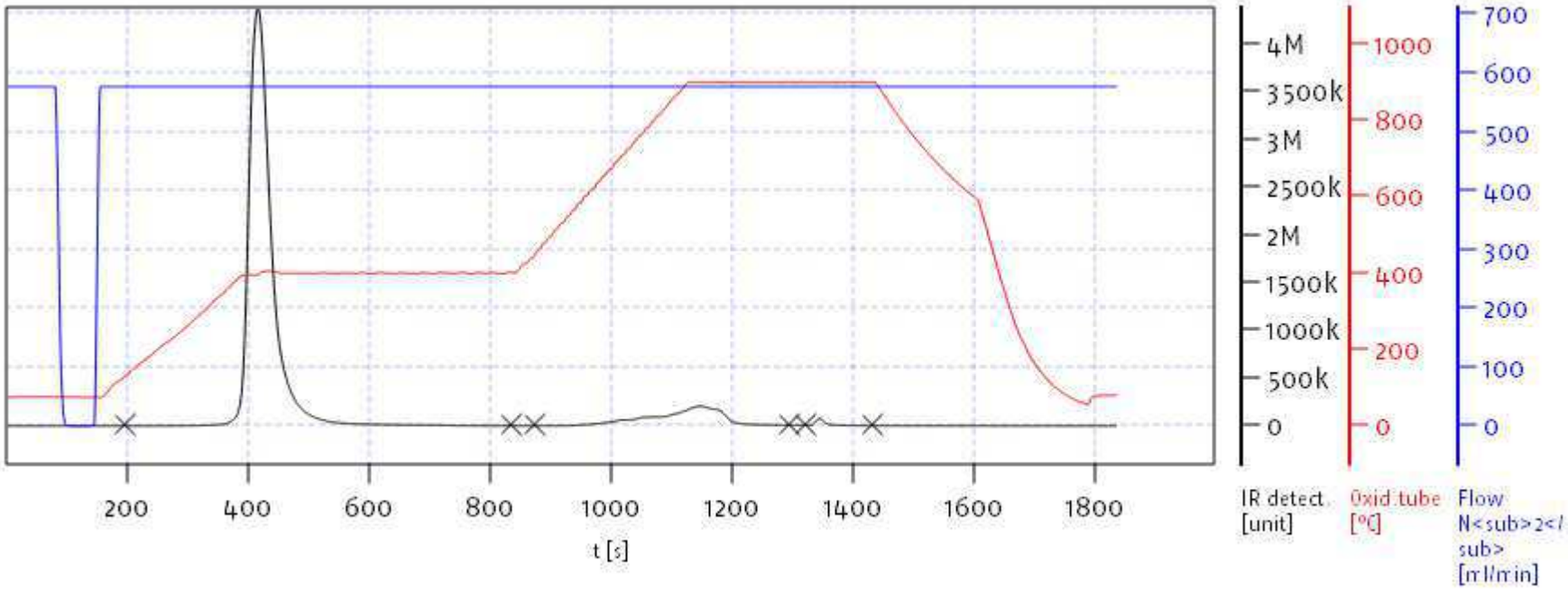
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
222	82	BJH0677-MS2	446.30	0.0141	1.00	CARBON	8/30/2021 10:30 AM	2.612	0.371	2.983	bl	7 093 380	992 173	61 344	0.9676	1.0000



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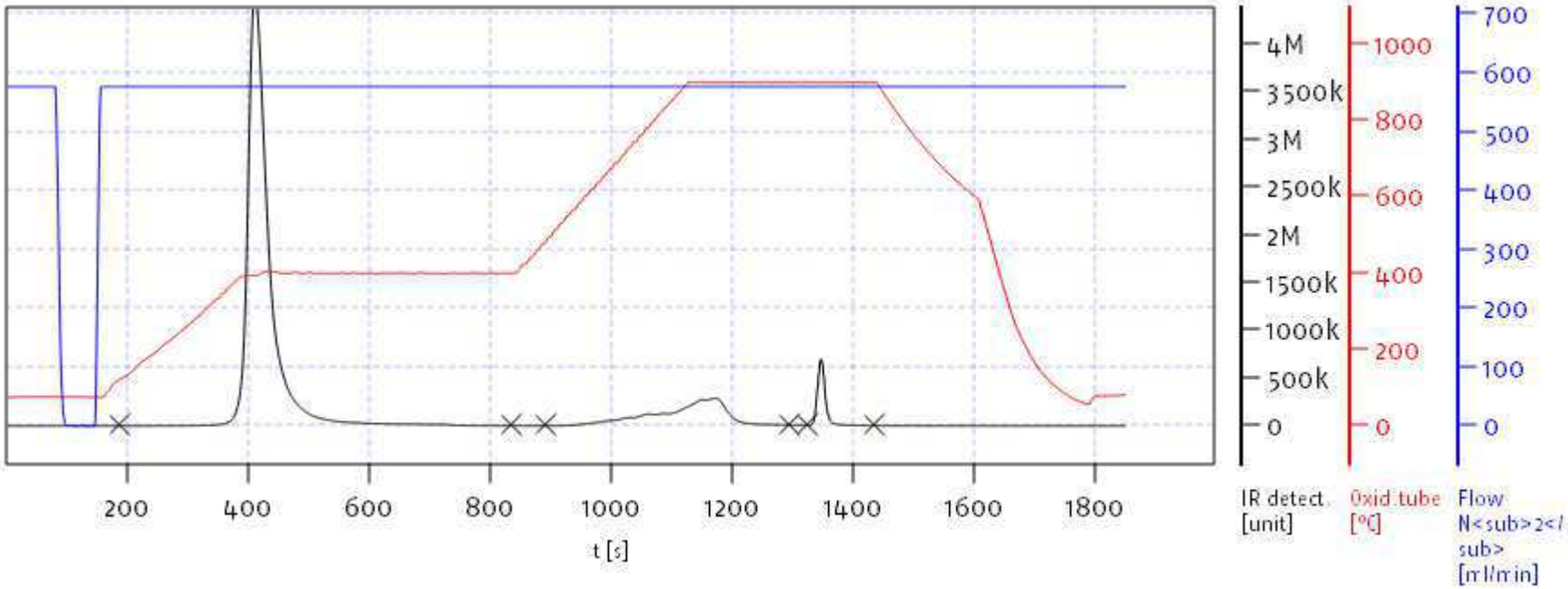
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
223	83	BJH0677-MSD2	451.90	0.0146	1.00	CARBON	8/30/2021 11:01 AM	2.604	0.502	3.106	bl	6 813 400	1 355 300	397 860	0.9676	1.0000



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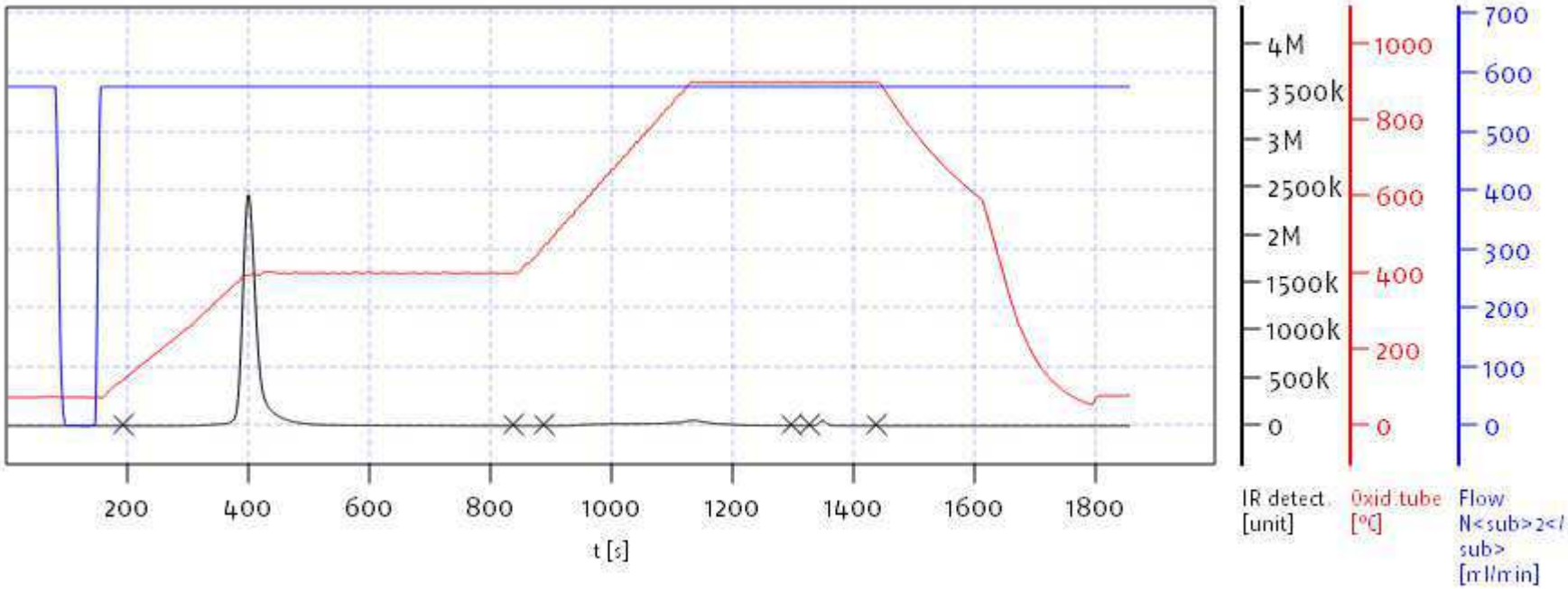
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
224	84	21H0281-04	255.10		1.00	CARBON	8/30/2021 11:33 AM	1.615	0.171	1.786	bl	2 511 560	270 300	32 476	0.9676	1.0000



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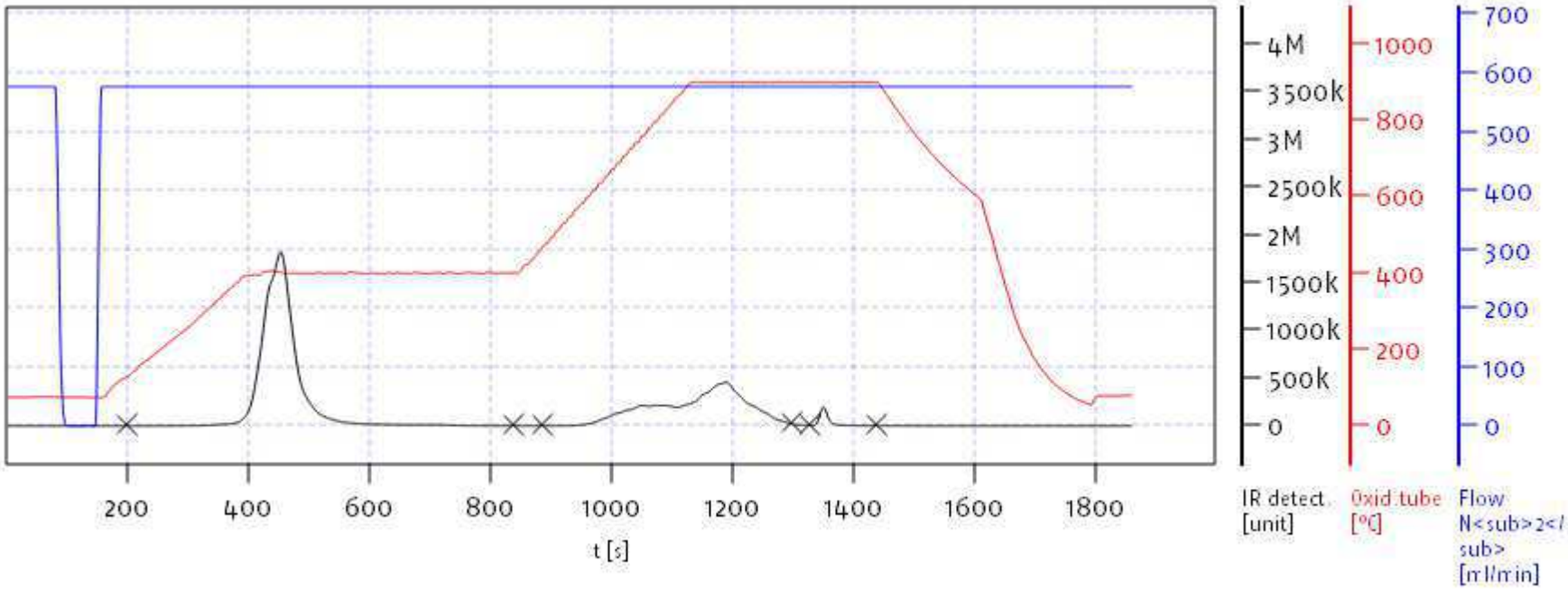
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
225	85	21H0281-11	770.90		1.00	CARBON	8/30/2021 12:04 PM	0.894	0.568	1.462	bl	4 111 100	2 604 340	125 164	0.9676	1.0000



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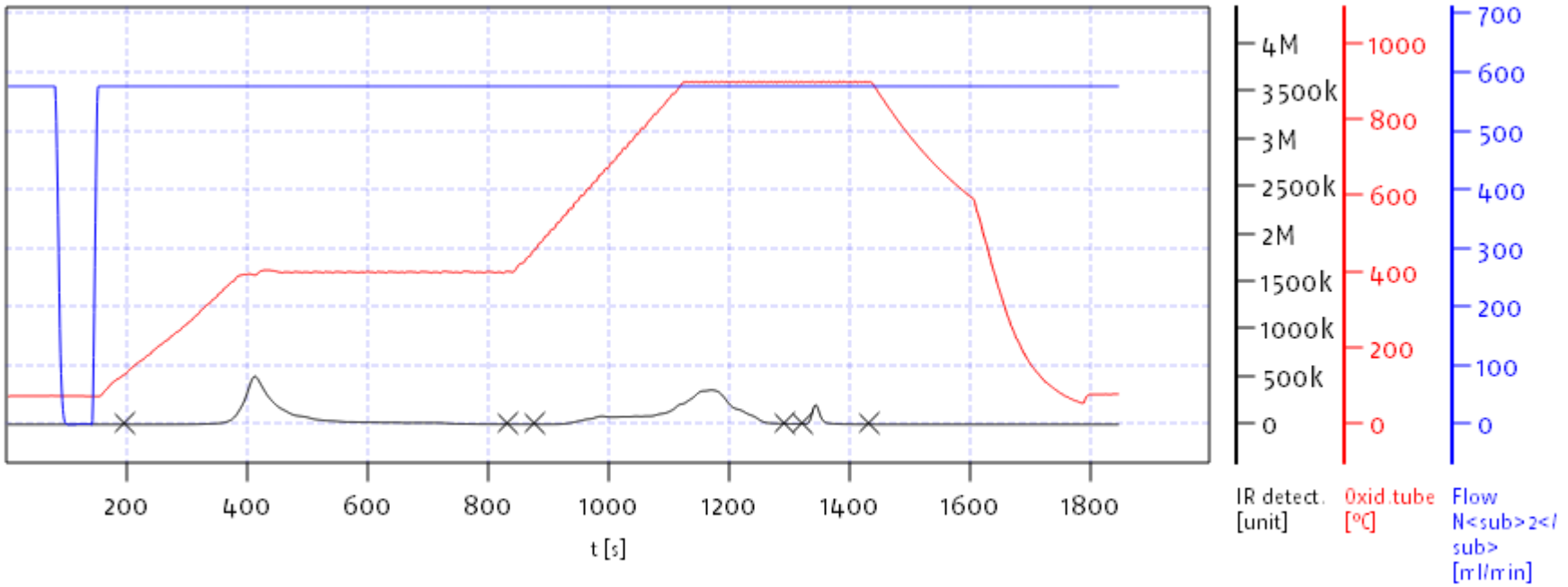
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
226	86	21H0281-14	315.70		1.00	CARBON	8/30/2021 12:35 PM	0.746	0.953	1.699	bl	1 332 770	1 792 890	127 280	0.9676	1.0000



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Access: soliTOC superuser

Date: Tue Aug 31 14:32:59 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

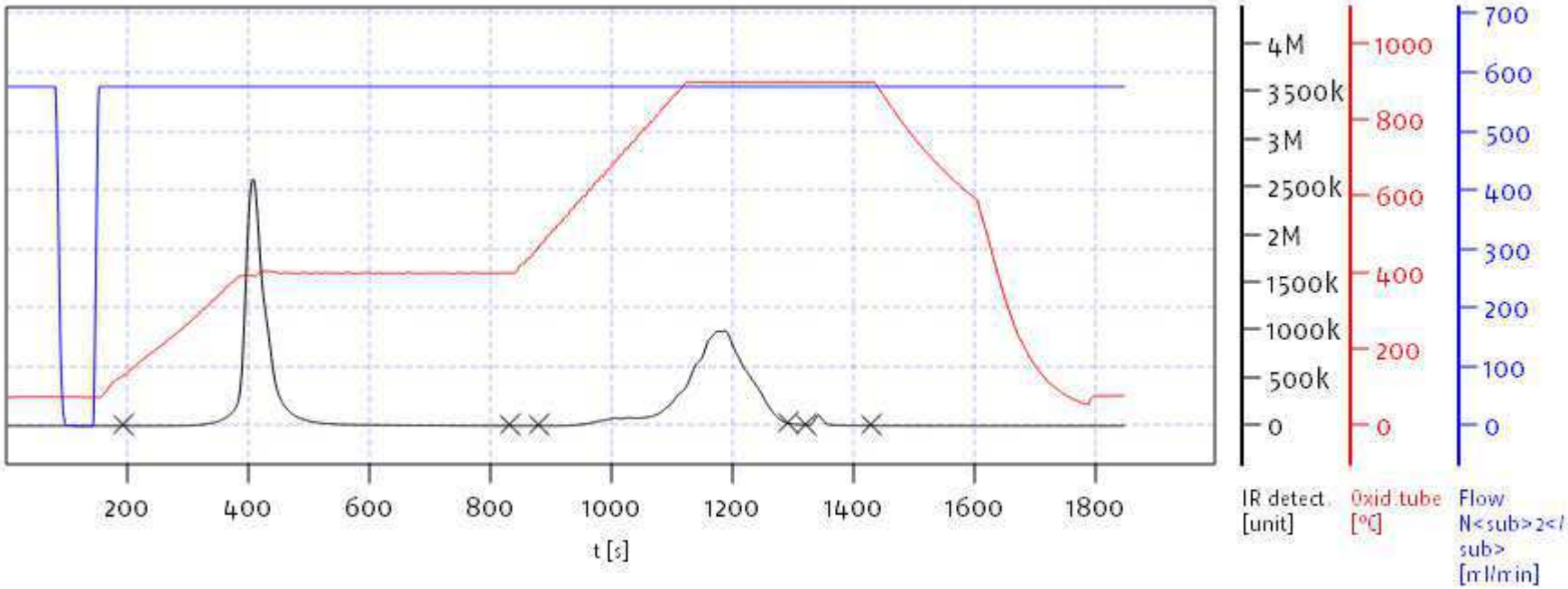
elementar
EXCELLENCE IN ELEMENTS

Document: 082521BFb from: 8/31/2021 10:17 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
227	87	21H0281-15	369.40		1.00	CARBON	8/30/2021 1:07 PM	1.763	1.991	3.754	bl	3 926 950	4 365 750	79 254	0.9676	1.0000



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Date: Tue Aug 31 14:32:59 2021

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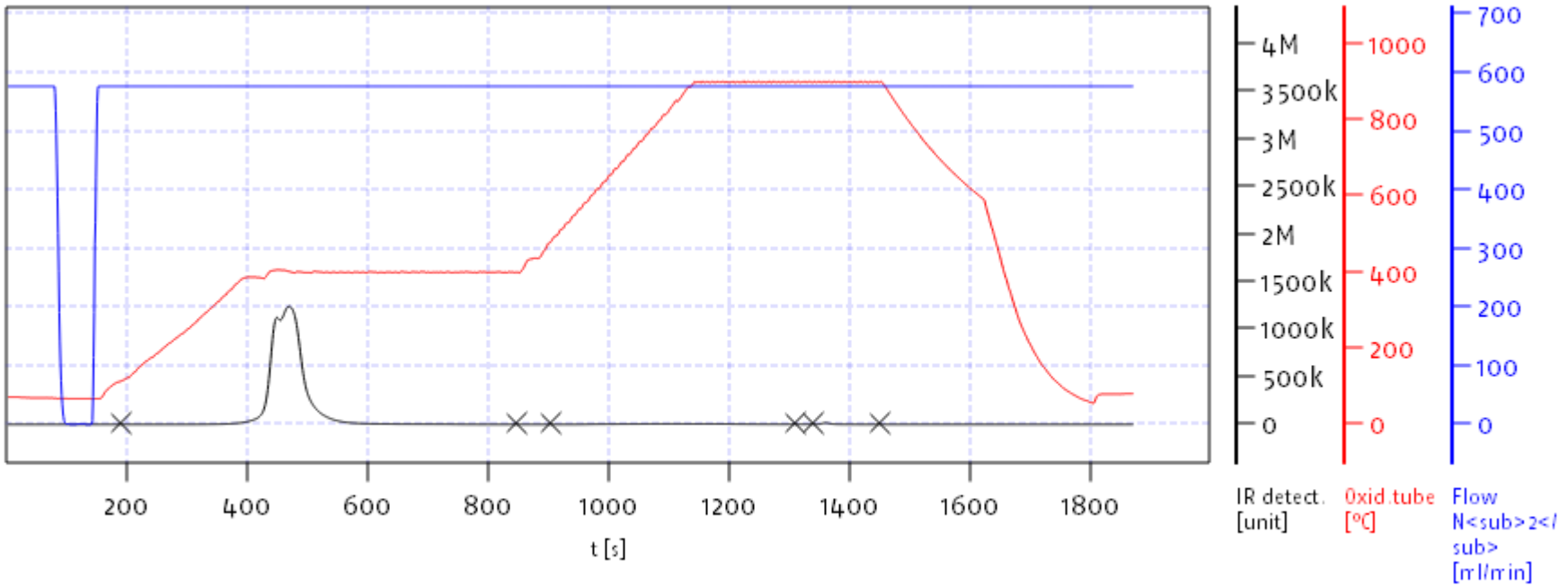
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
228	88	21G0303-02RE2	138.60		1.00	CARBON	8/30/2021 1:41 PM	3.374	0.053	3.427	bl	2 780 800	54 927	11 700	1.0000	1.0000



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Balance: BAL3
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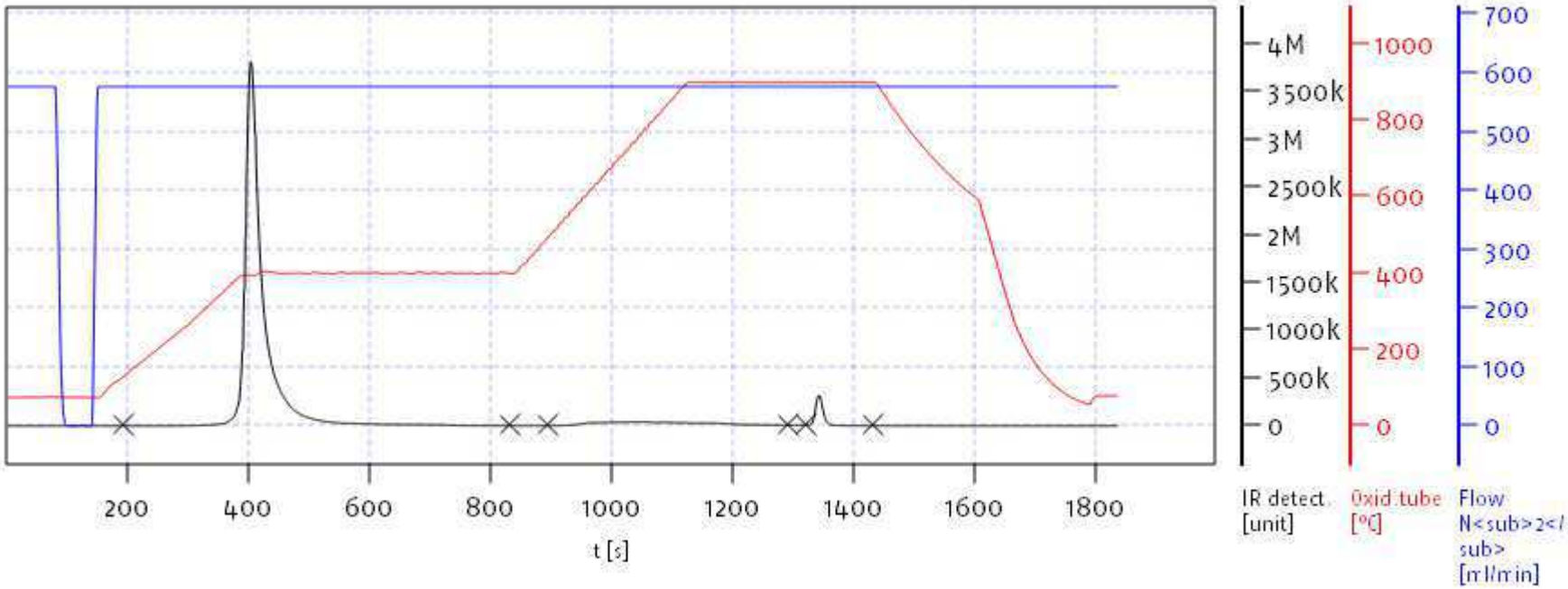
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
229	89	BJH0300-MS3	286.90	0.0132	1.00	CARBON	8/30/2021 2:12 PM	2.785	0.204	2.989	bl	4 726 410	358 091	180 107	0.9676	1.0000



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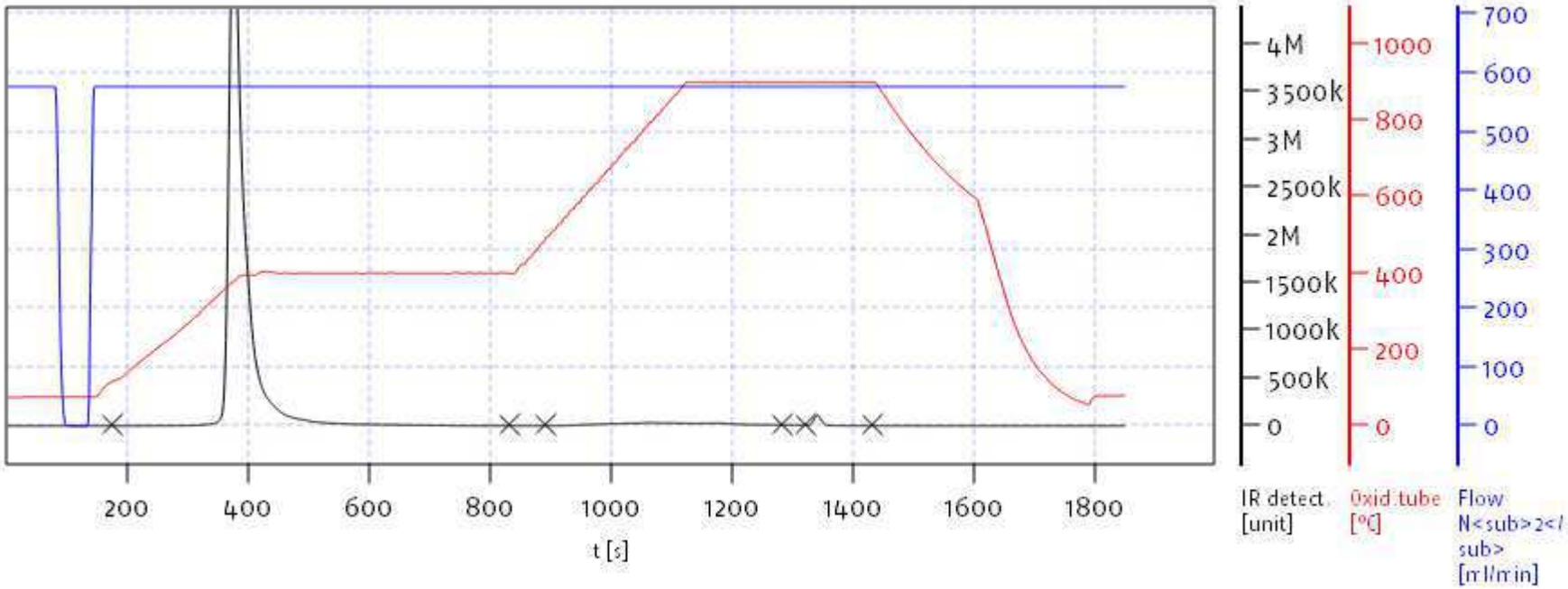
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
230	1	BJH0300-MS4	273.90	0.0102	1.00	CARBON	8/30/2021 2:43 PM	3.680	0.167	3.847	bl	6 122 540	281 811	67 609	0.9676	1.0000



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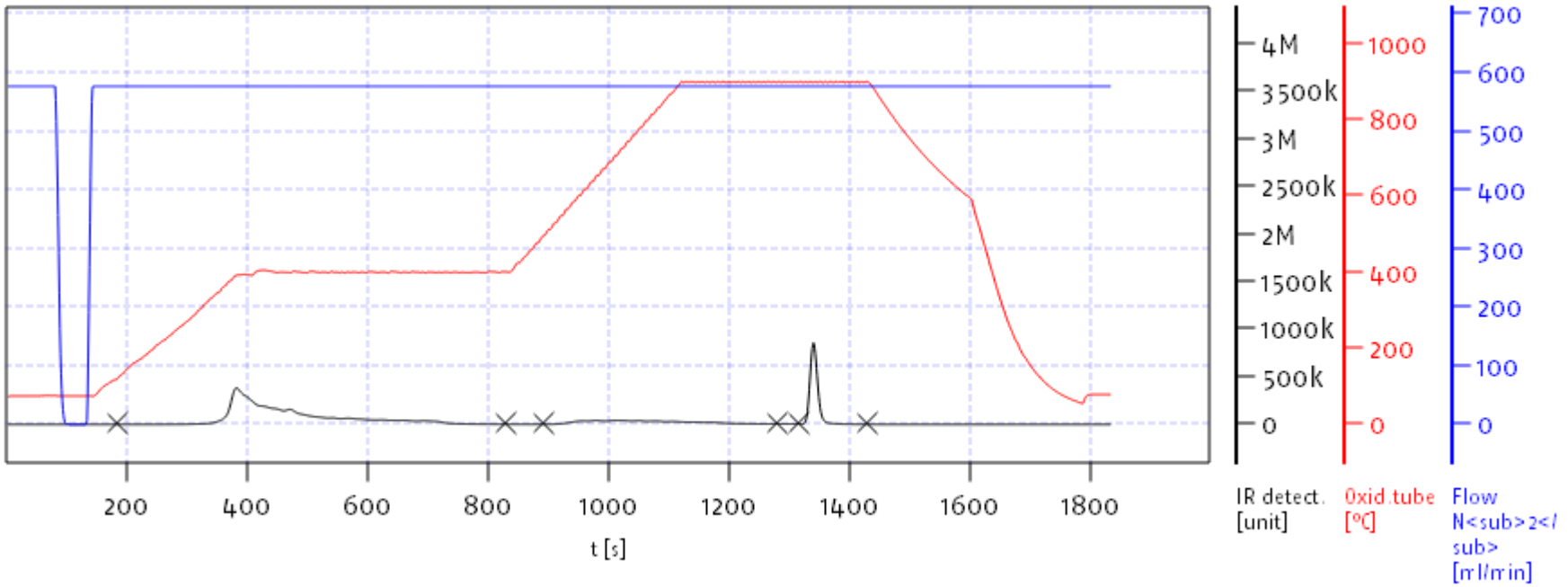
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
231	2	21G0305-02RE1	249.20		1.00	CARBON	8/30/2021 3:14 PM	1.304	0.222	1.527	bl	1 517 780	339 933	478 774	0.9676	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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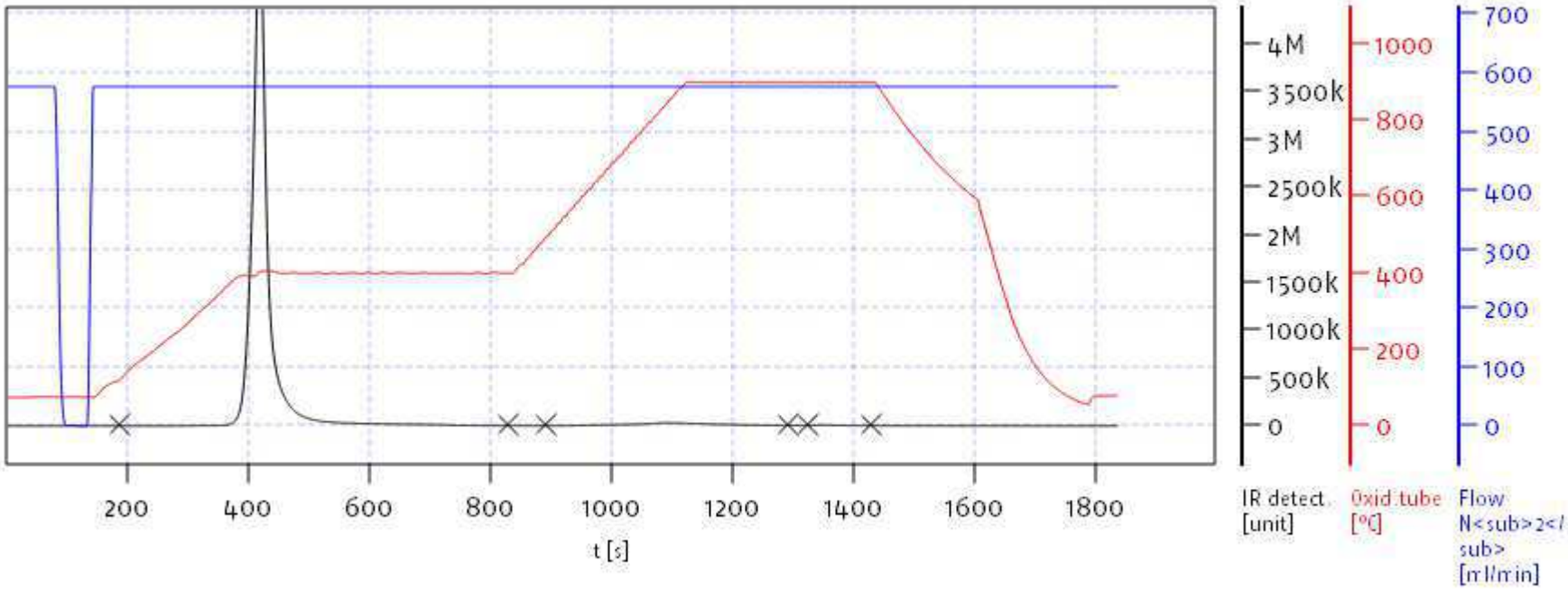
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
232	3	SJH0331-CCVJ	20.90		1.00	CARBON	8/30/2021 3:45 PM	45.536	1.533	47.069	bl	5 638 790	201 321	19 734	1.0000	1.0000



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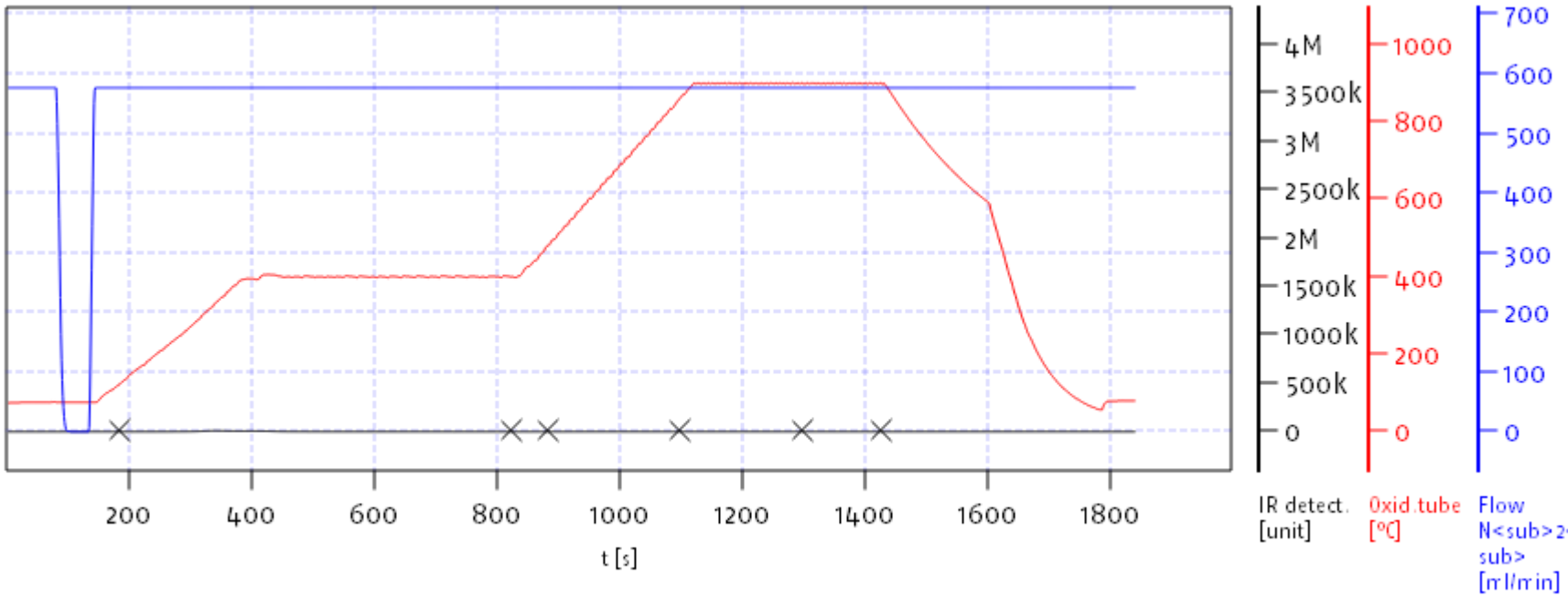
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
233	4	SJH0331-CCBJ	559.70		1.00	CARBON	8/30/2021 4:16 PM	0.007	0.000	0.007	bl,C3u,C2u	36 369	1 670	384	1.0000	1.0000



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Serial No: 0300.181017
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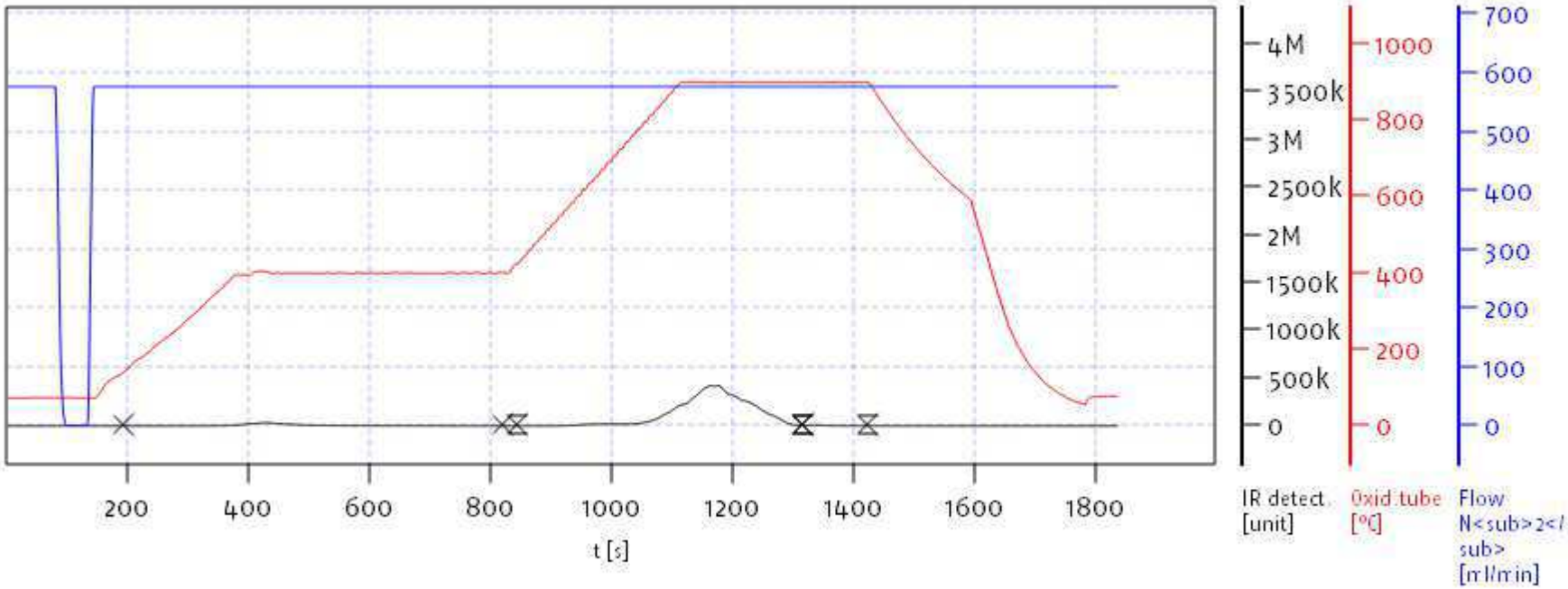
Document: 082521BFb from: 8/31/2021 10:17 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
147	7	21G0310-03RE1	217.60		1.00	CARBON	9/1/2021 10:21 AM	0.083	1.269	1.352	bl	119 849	1 646 642	0	0.9913	1.0000



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Date: Wed Sep 1 10:22:45 2021

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Serial No: 0300.181017
Mode CCC

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Document: 082521BFb from: 9/1/2021 10:22 AM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EG00035	Instrument:	TOC Cube
Calibration Date:	07/13/2021 13:33		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0.008099	3494172	0.014998	1188959	0.020398	1099618	0.029697	1187292	0.046495	1174126	0.059394	1229653
Total Carbon	0.008099	3494172	0.014998	1188959	0.020398	1099618	0.029697	1187292	0.046495	1174126	0.059394	1229653
Total Inorganic Carbon	0.008099	3494172	0.014998	1188959	0.020398	1099618	0.029697	1187292	0.046495	1174126	0.059394	1229653
% Soot	0.008099	3494172	0.014998	1188959	0.020398	1099618	0.029697	1187292	0.046495	1174126	0.059394	1229653

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EG00035	Instrument:	TOC Cube
Calibration Date:	07/13/2021 13:33		

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0.077092	1237755	0.089991	1249592	0.12209	1287313	0.15028	1247924	0.246	1235898	0.306	1262232
Total Carbon	0.077092	1237755	0.089991	1249592	0.12209	1287313	0.15028	1247924	0.246	1235898	0.306	1262232
Total Inorganic Carbon	0.077092	1237755	0.089991	1249592	0.12209	1287313	0.15028	1247924	0.246	1235898	0.306	1262232
% Soot	0.077092	1237755	0.089991	1249592	0.12209	1287313	0.15028	1247924	0.246	1235898	0.306	1262232

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EG00035	Instrument:	TOC Cube
Calibration Date:	07/13/2021 13:33		

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0.438	1275541	0.654	1281457	0.87	1298709	1.194	1285245	1.494	1287334	1.836	1284402
Total Carbon	0.438	1275541	0.654	1281457	0.87	1298709	1.194	1285245	1.494	1287334	1.836	1284402
Total Inorganic Carbon	0.438	1275541	0.654	1281457	0.87	1298709	1.194	1285245	1.494	1287334	1.836	1284402
% Soot	0.438	1275541	0.654	1281457	0.87	1298709	1.194	1285245	1.494	1287334	1.836	1284402

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EG00035	Instrument:	TOC Cube
Calibration Date:	07/13/2021 13:33		

Compound	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	2.514	1283888	3.006	1284229	4.2	1290010	4.848	1289540	5.382	1283899	7.422	1272406
Total Carbon	2.514	1283888	3.006	1284229	4.2	1290010	4.848	1289540	5.382	1283899	7.422	1272406
Total Inorganic Carbon	2.514	1283888	3.006	1284229	4.2	1290010	4.848	1289540	5.382	1283899	7.422	1272406
% Soot	2.514	1283888	3.006	1284229	4.2	1290010	4.848	1289540	5.382	1283899	7.422	1272406

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

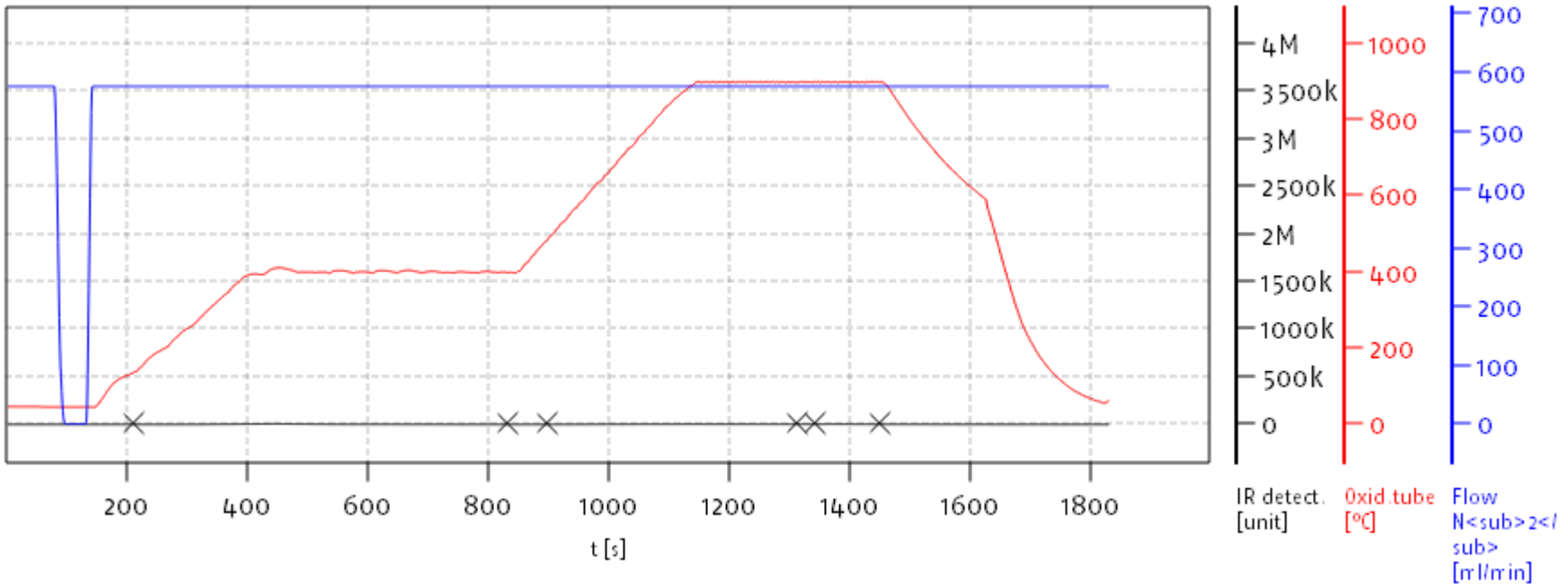
Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EG00035	Instrument:	TOC Cube
Calibration Date:	07/13/2021 13:33		

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	COD Limit	Q
Total Organic Carbon	1346300	34.2	0.9999			
Total Carbon	1346300	34.2	0.9999			
Total Inorganic Carbon	1346300	34.2	0.9999			
% Soot	1346300	34.2	0.9999			

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	1	BLANK	1.00		1.00	CARBON	7/13/2021 2:06 PM	0.000	0.000	0.000	bl	41 637	34 438	10 598	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Jul 14 09:43:57 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

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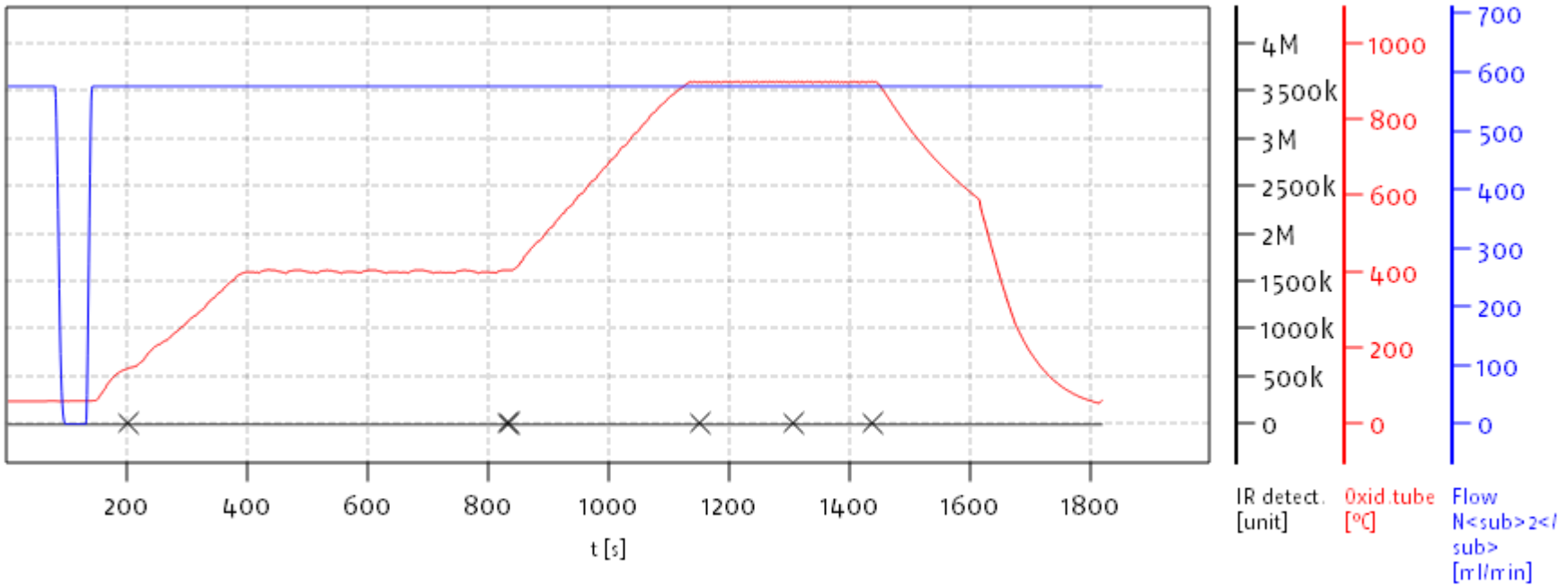
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	2	BLANK	1.00		1.00	CARBON	7/13/2021 2:37 PM	0.000	0.000	0.000	bl	4 874	0	164	1.0000	1.0000



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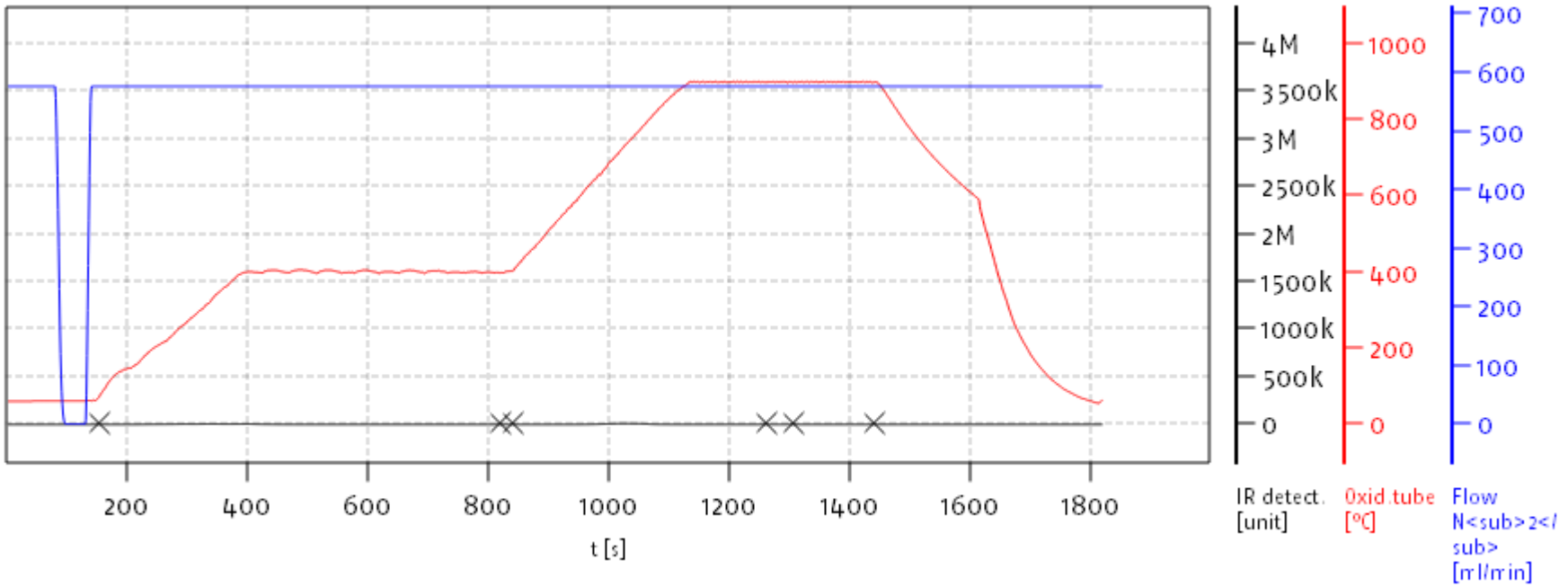
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	3	SEQ-CAL1	200.00	0.0027	1.00	CARBON	7/13/2021 3:07 PM	0.029	0.008	0.037	bl,C2u	31 040	28 300	256	1.0000	0.3447



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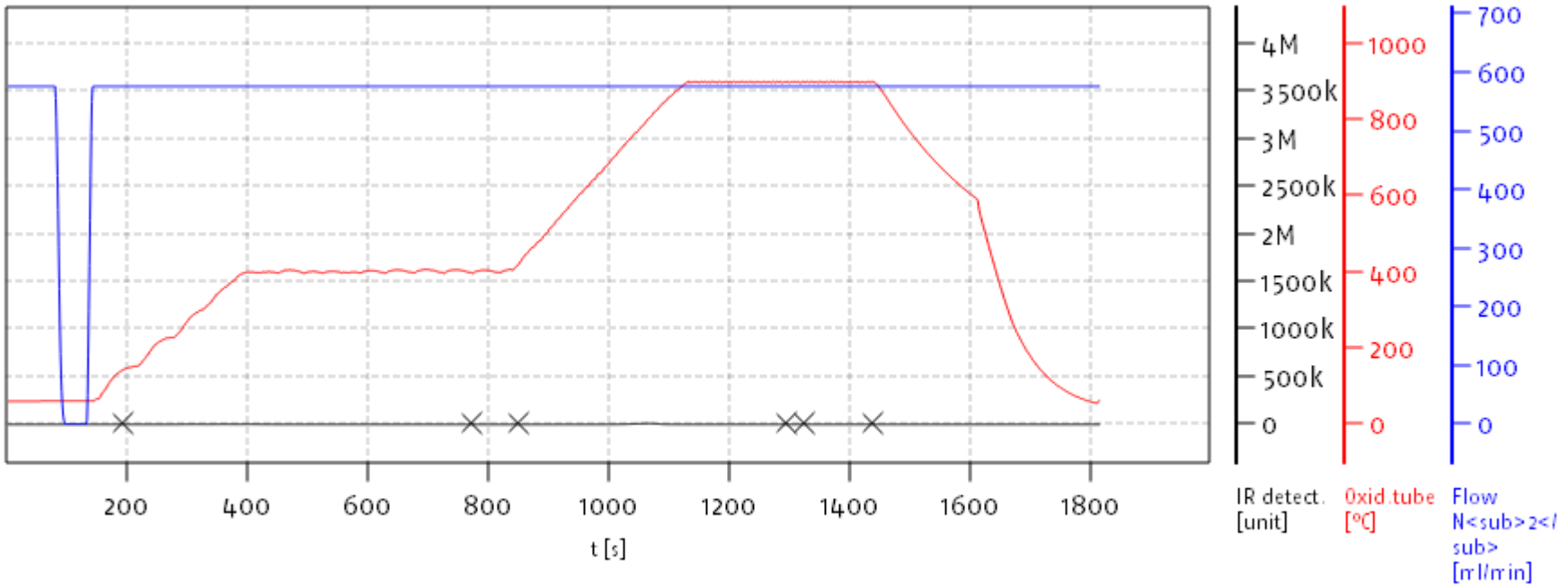
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	4	SEQ-CAL2	200.00	0.0050	1.00	CARBON	7/13/2021 3:38 PM	0.013	0.015	0.028	bl,C2u	10 883	17 832	143	1.0000	0.9493



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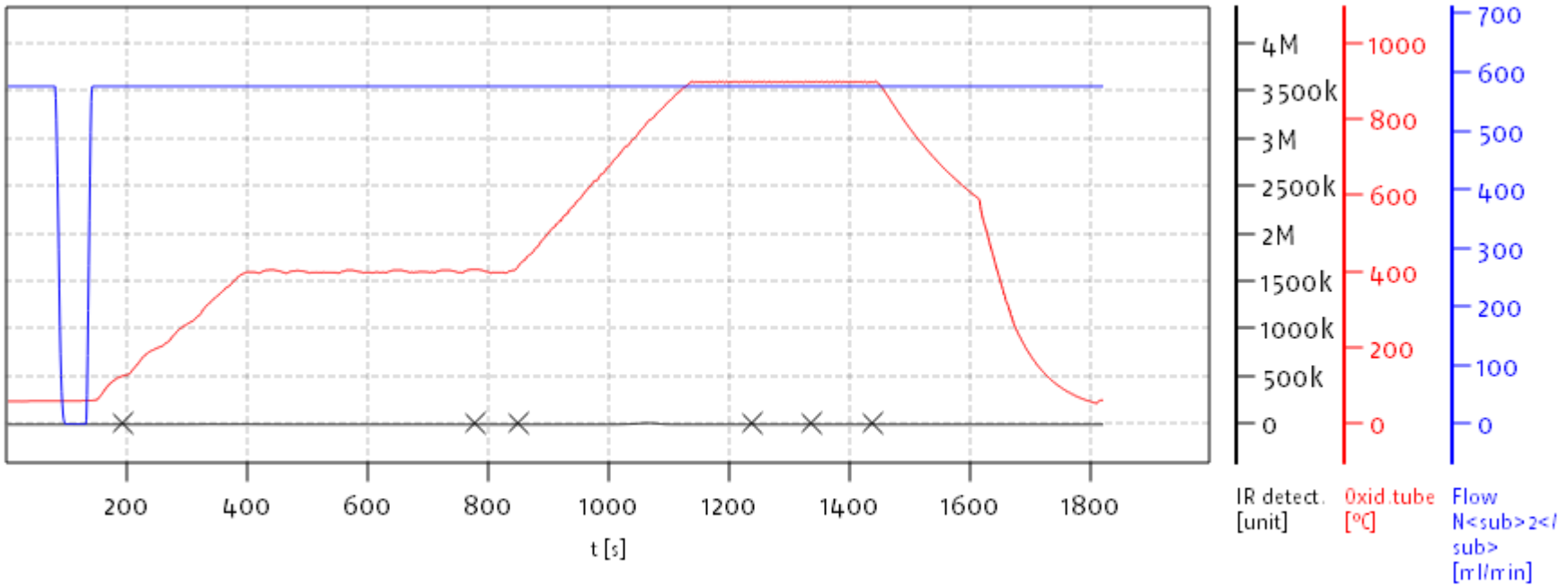
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	5	SEQ-CAL3	200.00	0.0068	1.00	CARBON	7/13/2021 4:09 PM	0.012	0.022	0.034	bl,C2u	9 870	22 430	107	1.0000	1.1246



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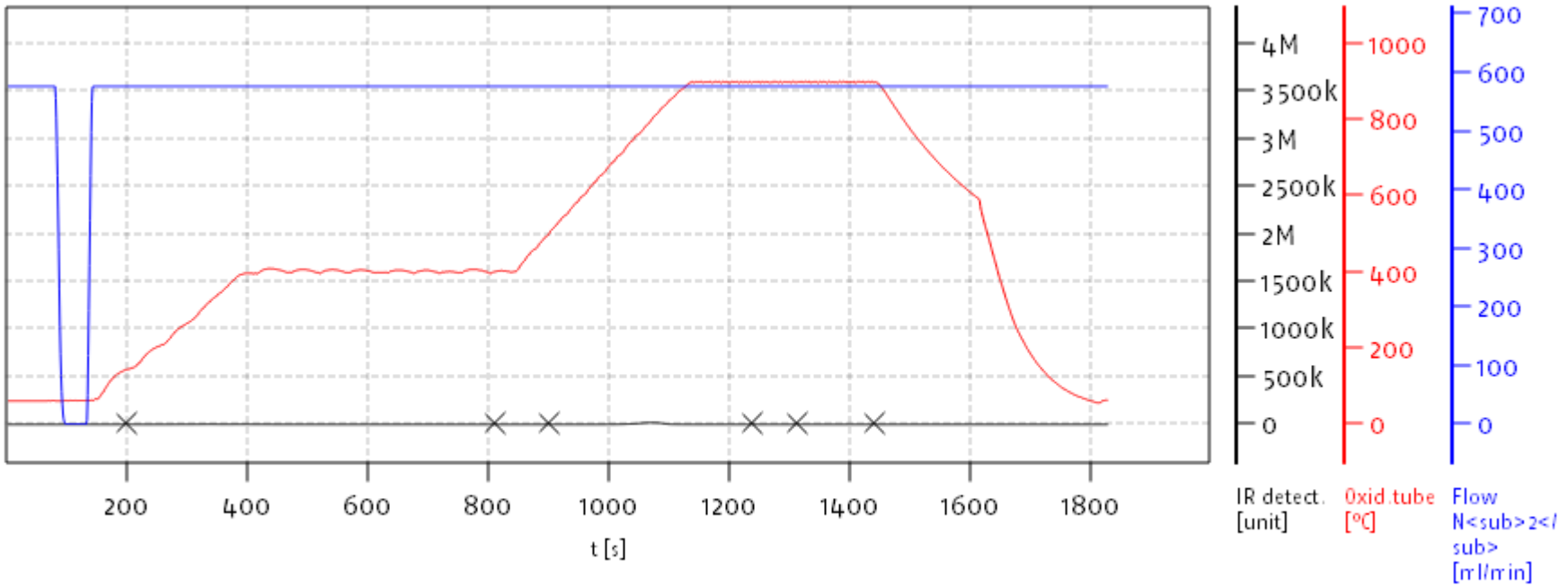
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	6	SEQ-CAL4	200.00	0.0099	1.00	CARBON	7/13/2021 4:40 PM	0.012	0.030	0.042	bl,C2u	9 549	35 259	82	1.0000	1.0150



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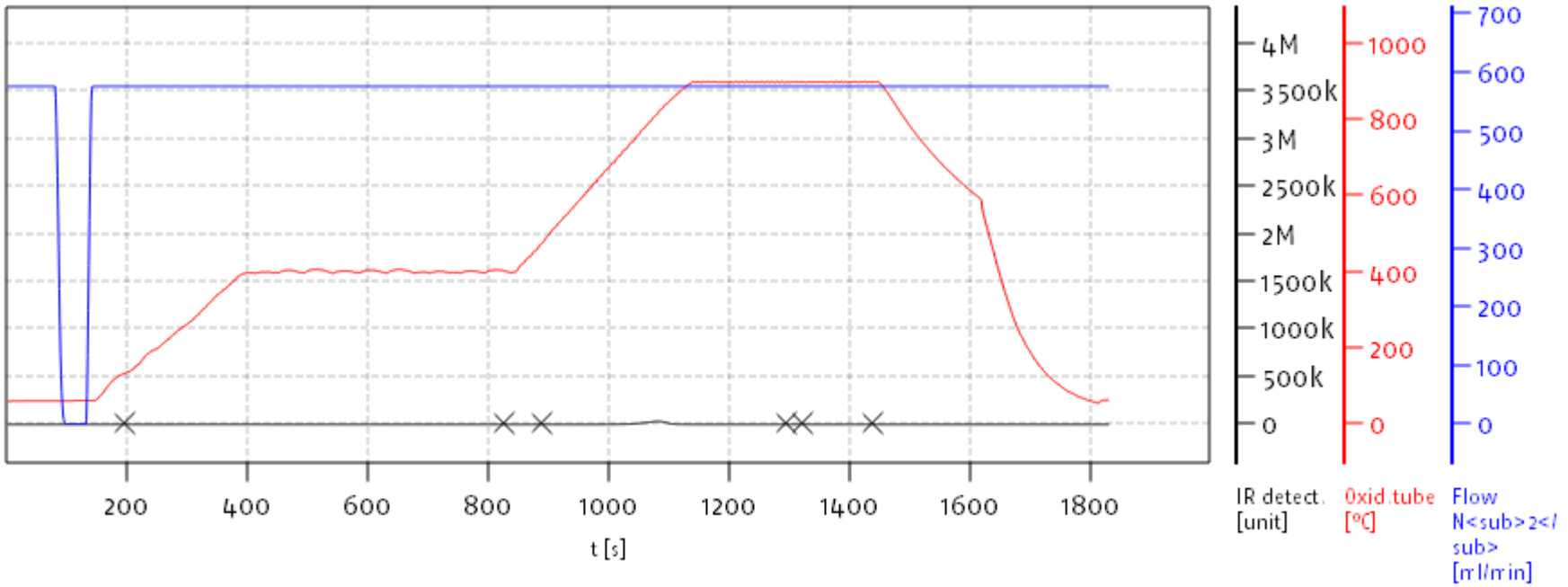
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	7	SEQ-CAL5	200.00	0.0155	1.00	CARBON	7/13/2021 5:11 PM	0.008	0.045	0.053	bl,C1u,C2u	4 269	54 591	65	1.0000	0.9980



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Date: Wed Jul 14 09:43:57 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
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Document: TOC Calibration EG00035 071321BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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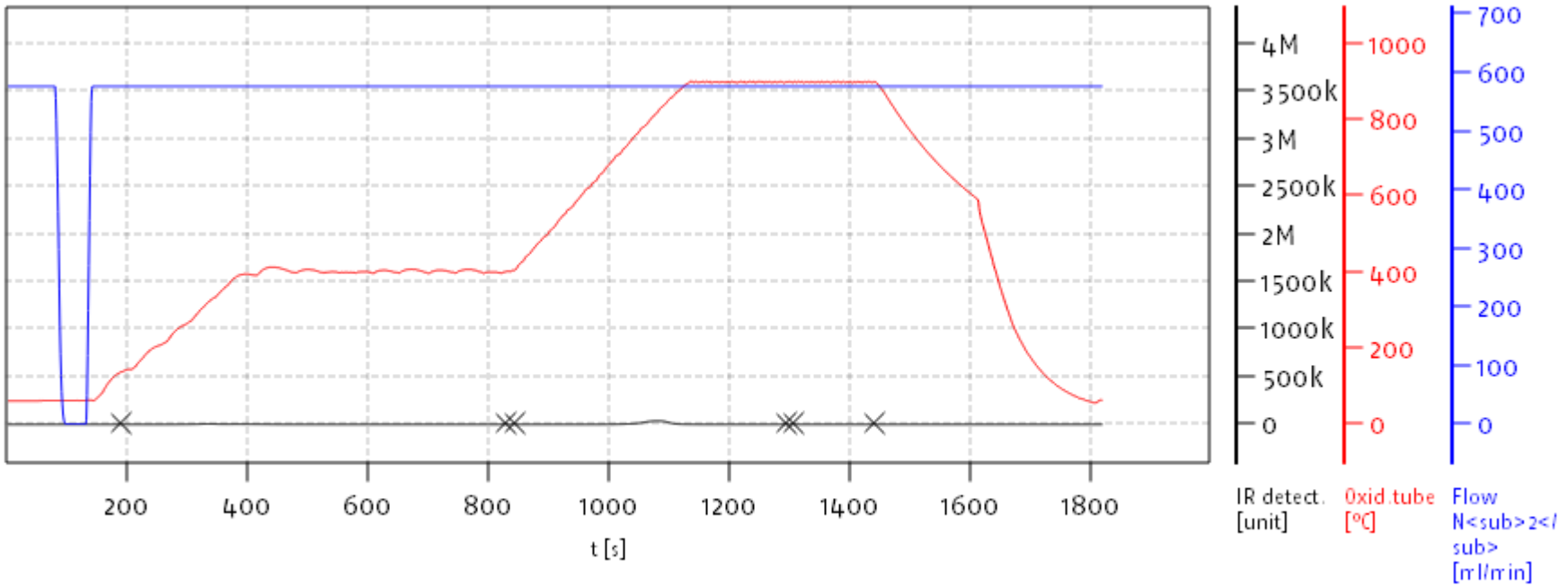
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	8	SEQ-CAL6	200.00	0.0198	1.00	CARBON	7/13/2021 5:41 PM	0.019	0.061	0.080	bl,C2u	18 512	73 034	79	1.0000	1.0264



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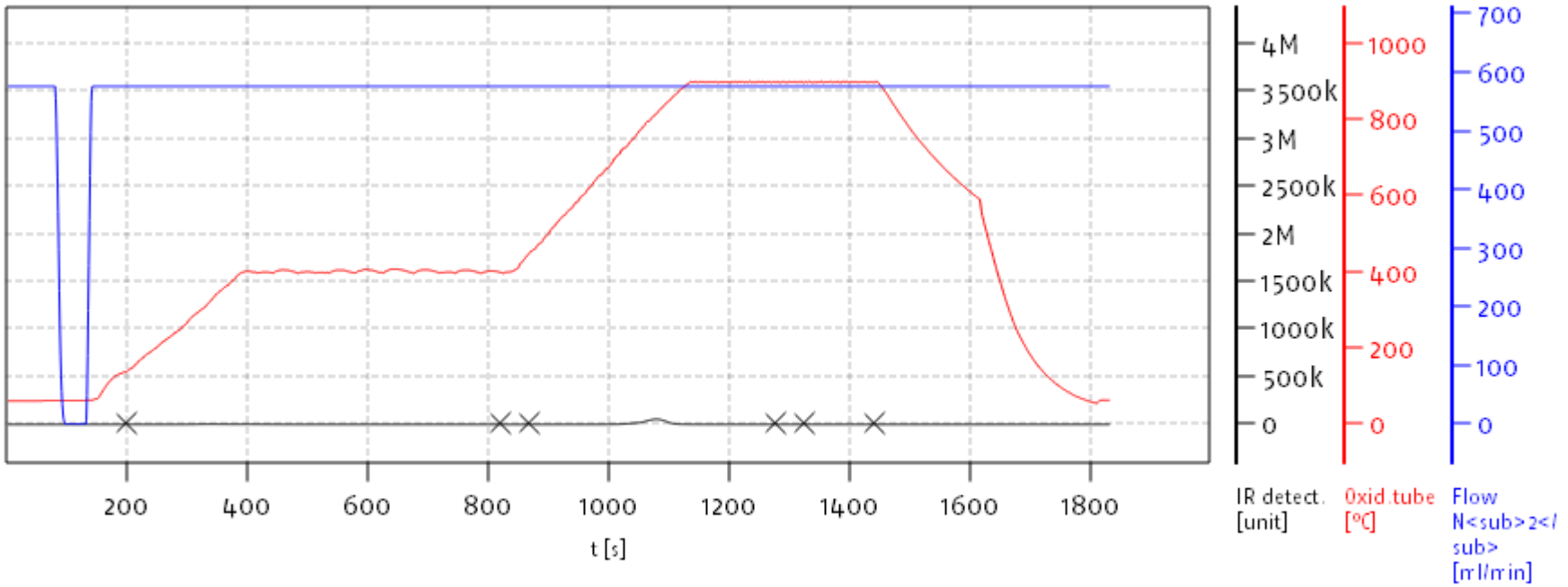
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	9	SEQ-CAL7	200.00	0.0257	1.00	CARBON	7/13/2021 6:12 PM	0.014	0.075	0.089	bl,C2u	12 682	95 421	29	1.0000	0.9745



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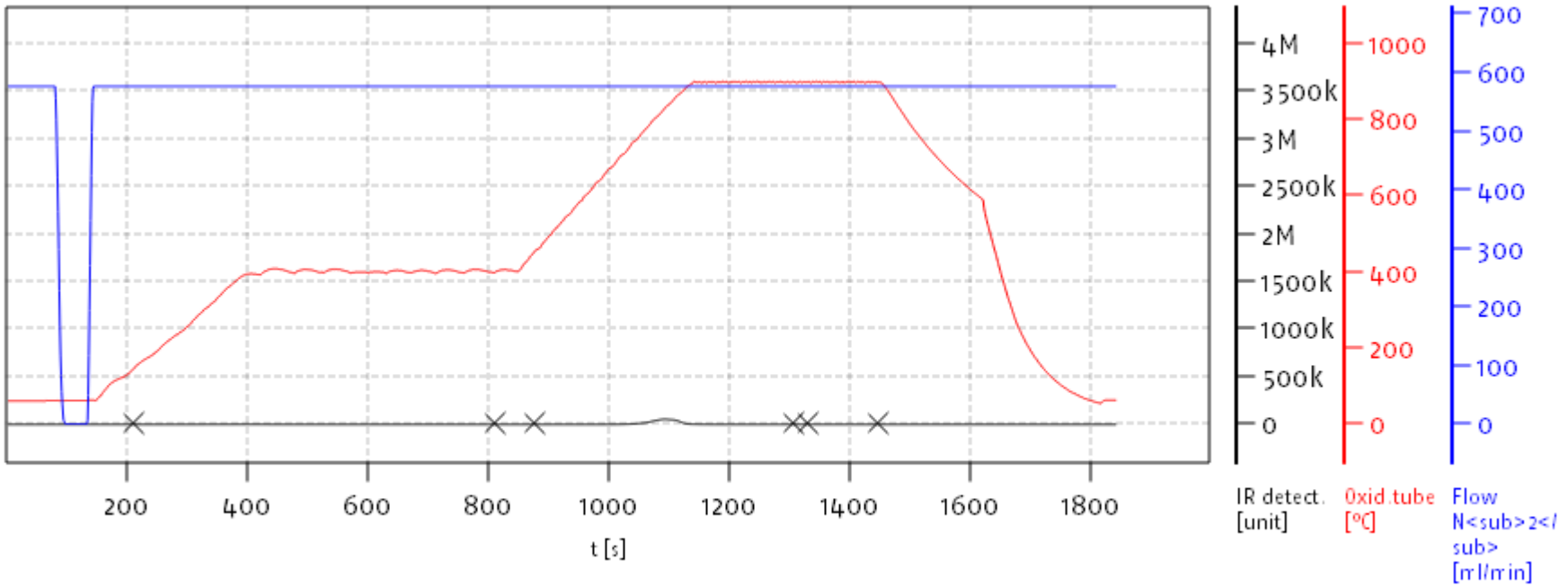
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	10	SEQ-CAL8	200.00	0.0300	1.00	CARBON	7/13/2021 6:43 PM	0.008	0.091	0.098	bl,C1u,C2u	4 663	112 452	86	1.0000	0.9989



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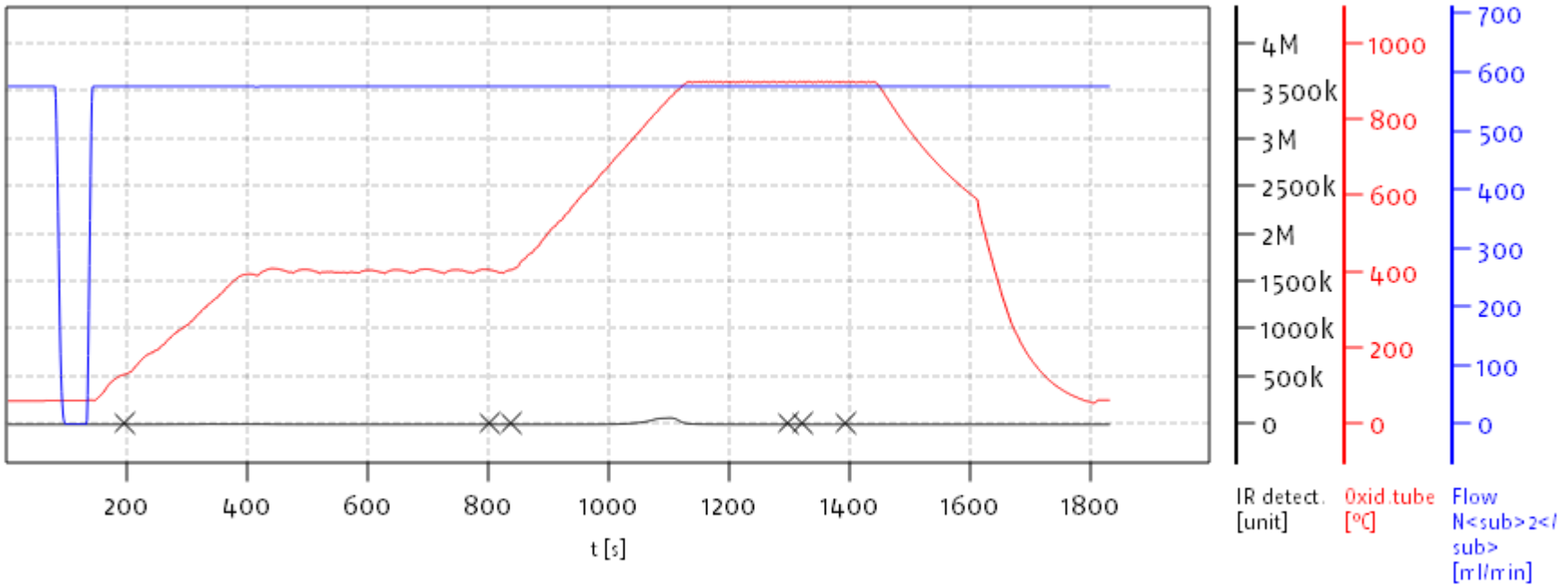
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	11	SEQ-CAL9	200.00	0.0407	1.00	CARBON	7/13/2021 7:14 PM	0.021	0.120	0.141	bl,C2u	21 063	157 168	339	1.0000	0.9528



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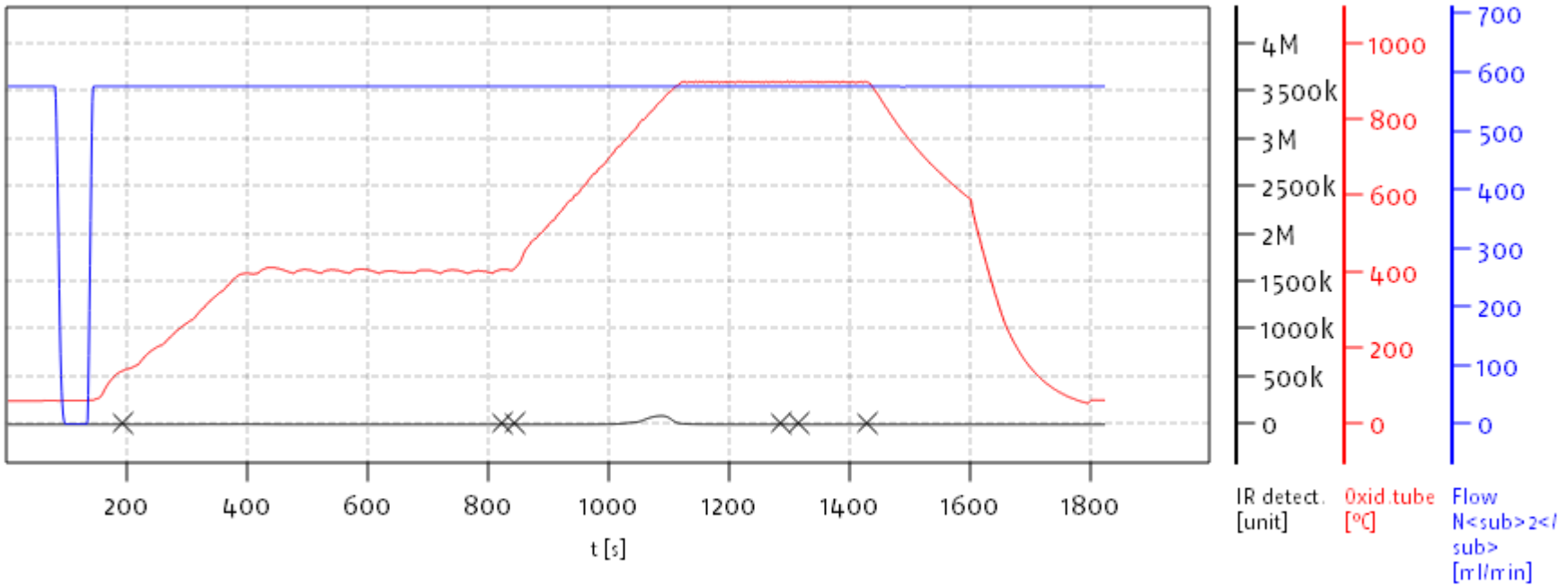
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	12	SEQ-CALA	200.00	0.0501	1.00	CARBON	7/13/2021 7:45 PM	0.013	0.151	0.164	bl,C2u	11 050	187 538	95	1.0000	1.0068



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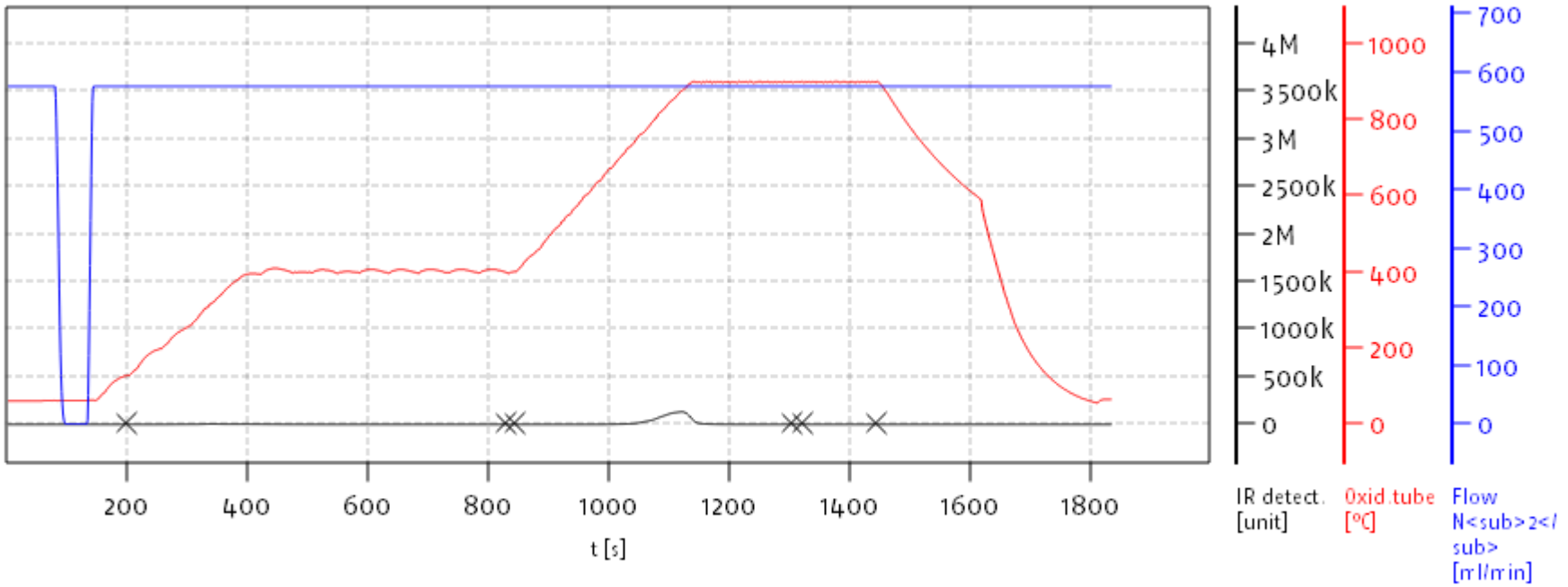
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	13	SEQ-CALB	200.00	0.0041	1.00	CARBON	7/13/2021 8:16 PM	0.021	0.258	0.279	bl,C2u	21 325	304 031	81	1.0000	1.0675



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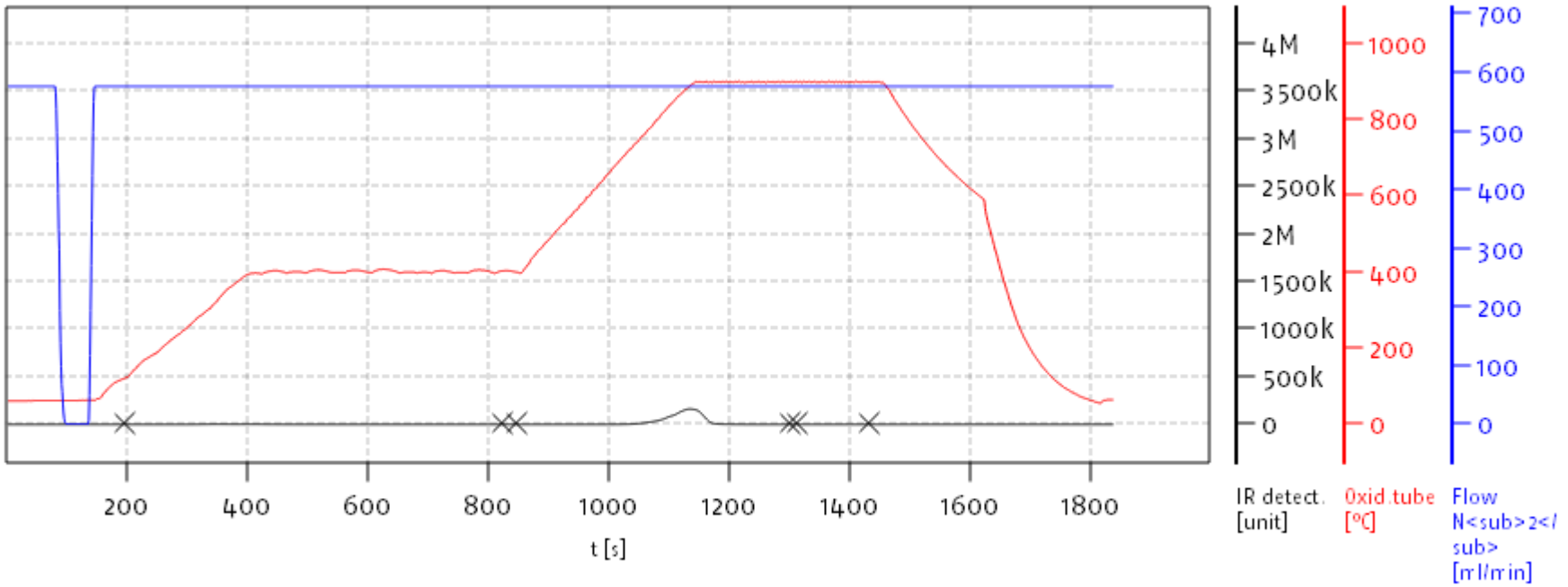
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	14	SEQ-CALC	200.00	0.0051	1.00	CARBON	7/13/2021 8:47 PM	0.013	0.324	0.337	bl,C2u	11 360	386 243	161	1.0000	1.0571



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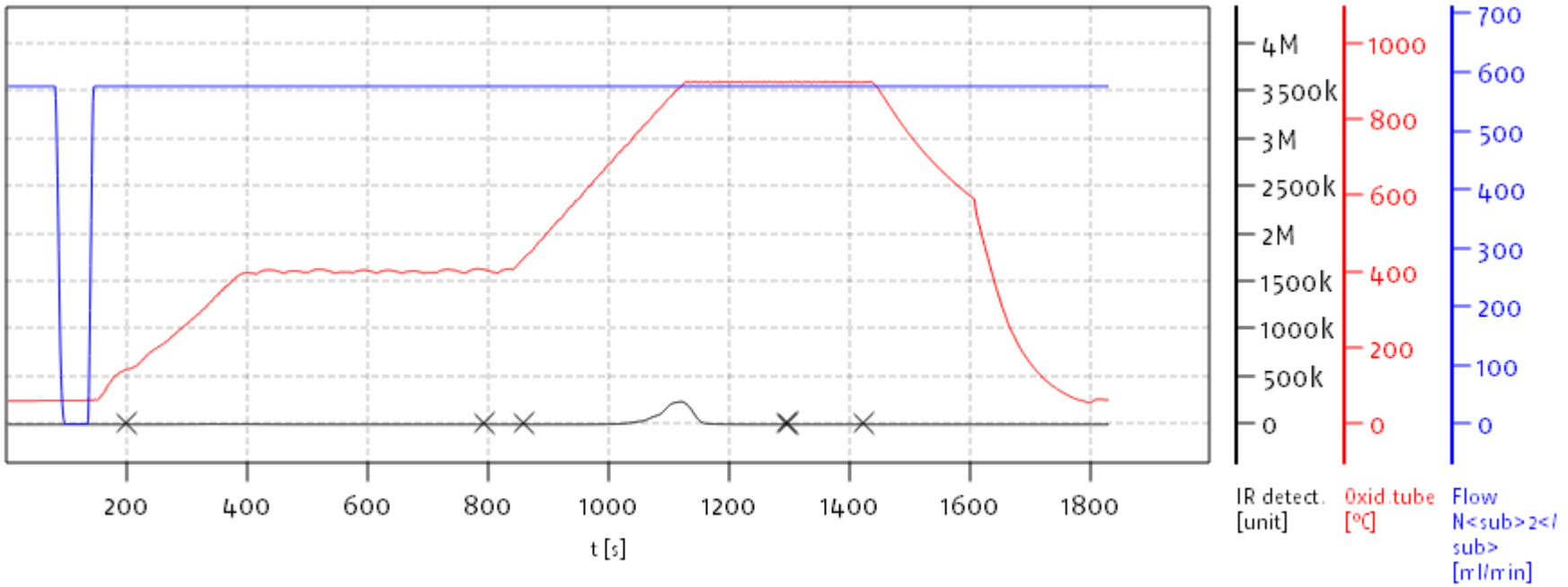
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	15	SEQ-CALD	200.00	0.0073	1.00	CARBON	7/13/2021 9:18 PM	0.017	0.444	0.461	bl,C2u	15 984	558 687	174	1.0000	1.0036



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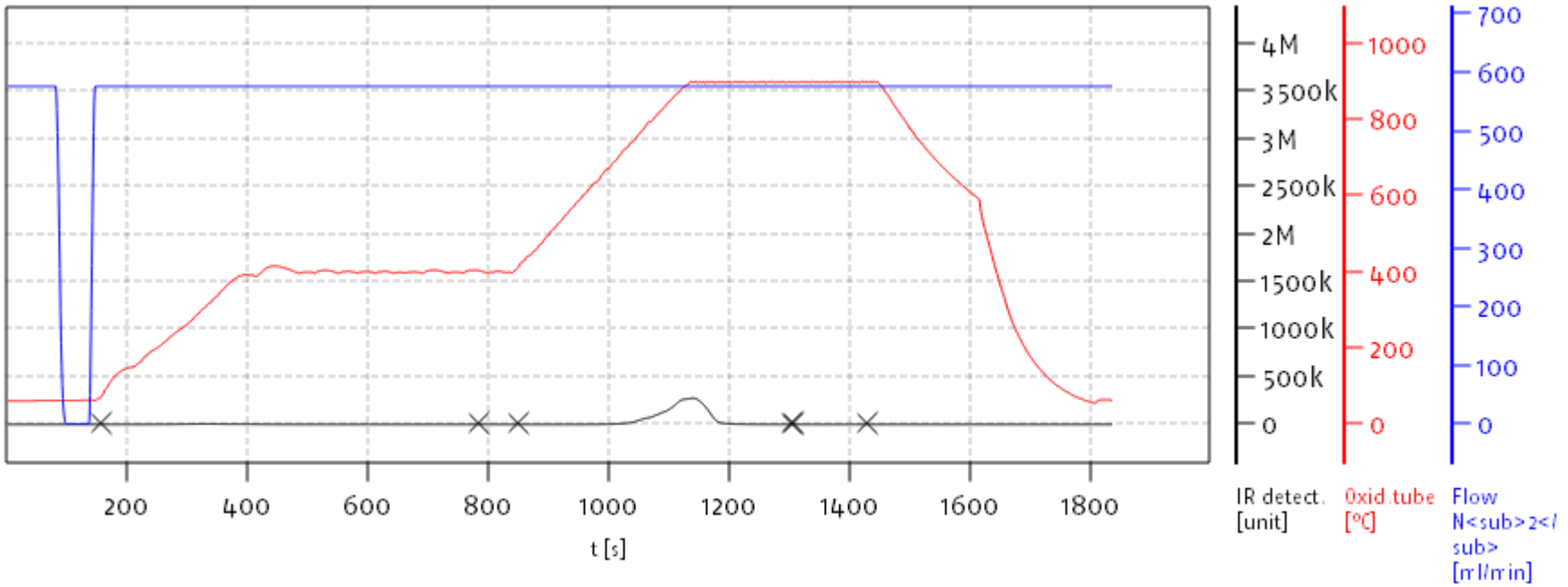
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	16	SEQ-CALE	200.00	0.0109	1.00	CARBON	7/13/2021 9:49 PM	0.024	0.600	0.624	bl,C2u	25 032	838 073	291	1.0000	0.9055



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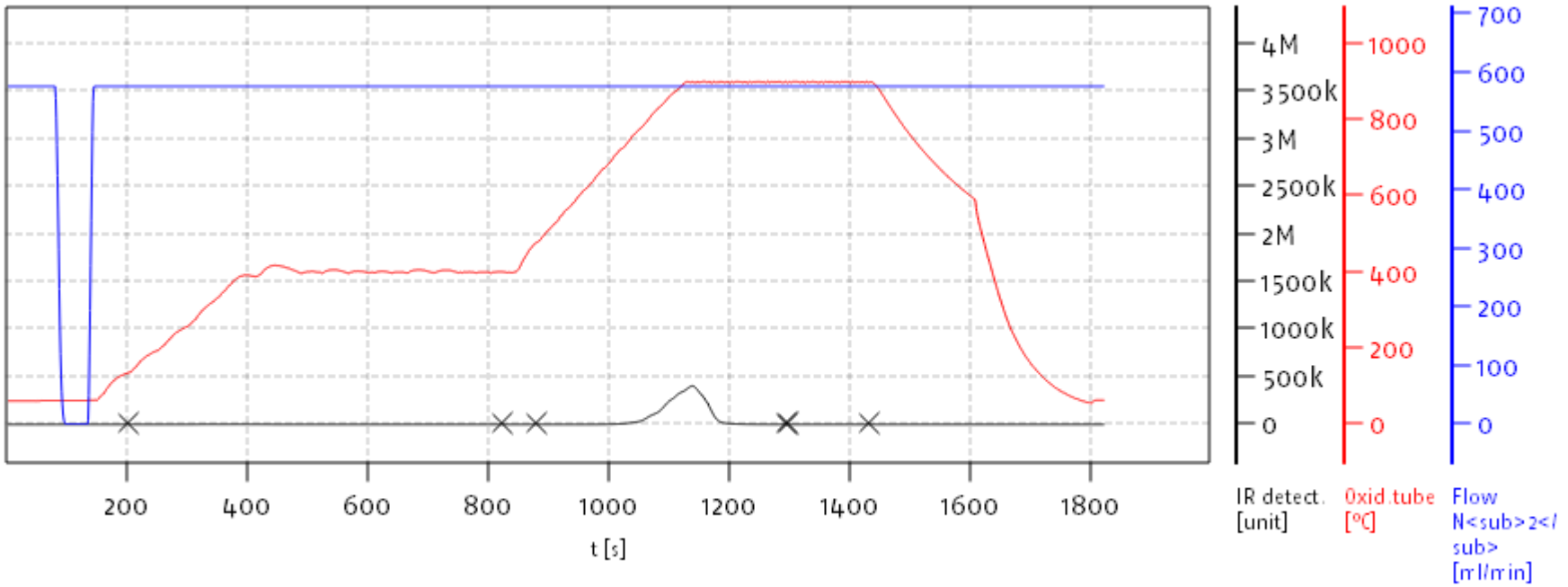
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	17	SEQ-CALF	200.00	0.0145	1.00	CARBON	7/13/2021 10:20 PM	0.011	0.906	0.917	bl,C1u,C2u	7 705	1 129 877	389	1.0000	1.0150



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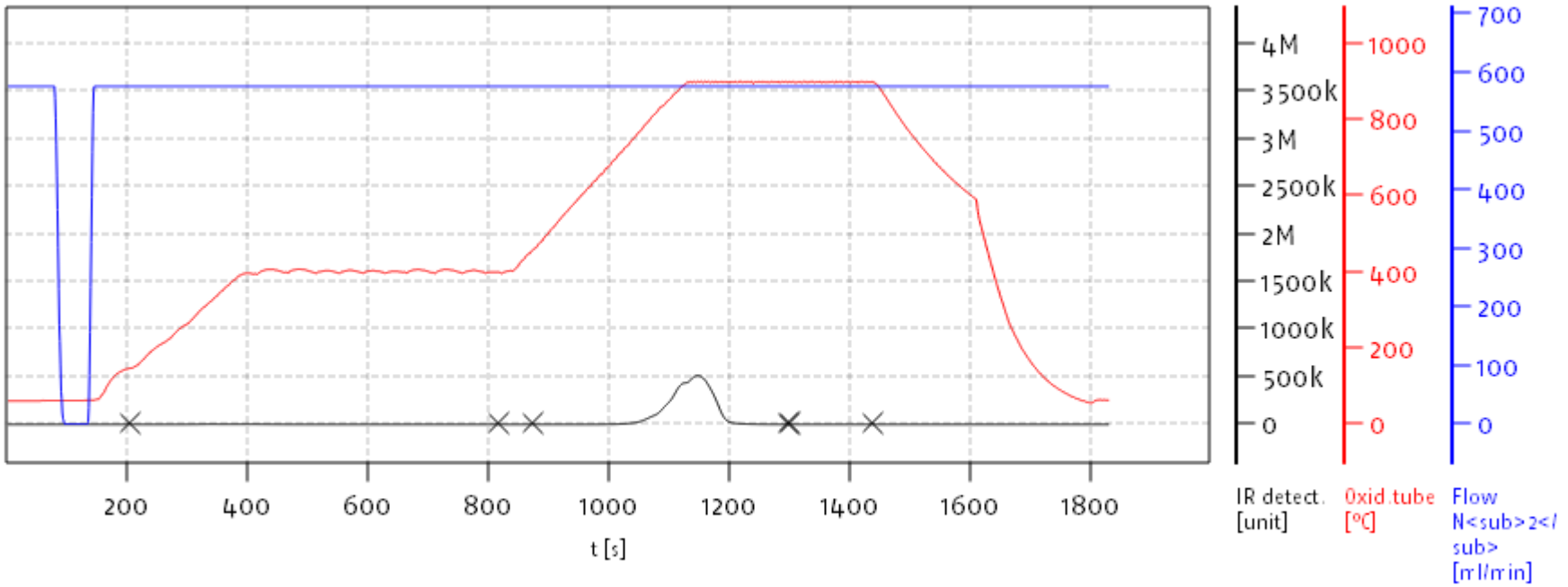
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	18	SEQ-CALG	200.00	0.0199	1.00	CARBON	7/13/2021 10:50 PM	0.015	1.206	1.221	bl,C2u	12 993	1 534 582	594	1.0000	0.9954



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Soli TOC Cube, Carbon
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Analyst: BF

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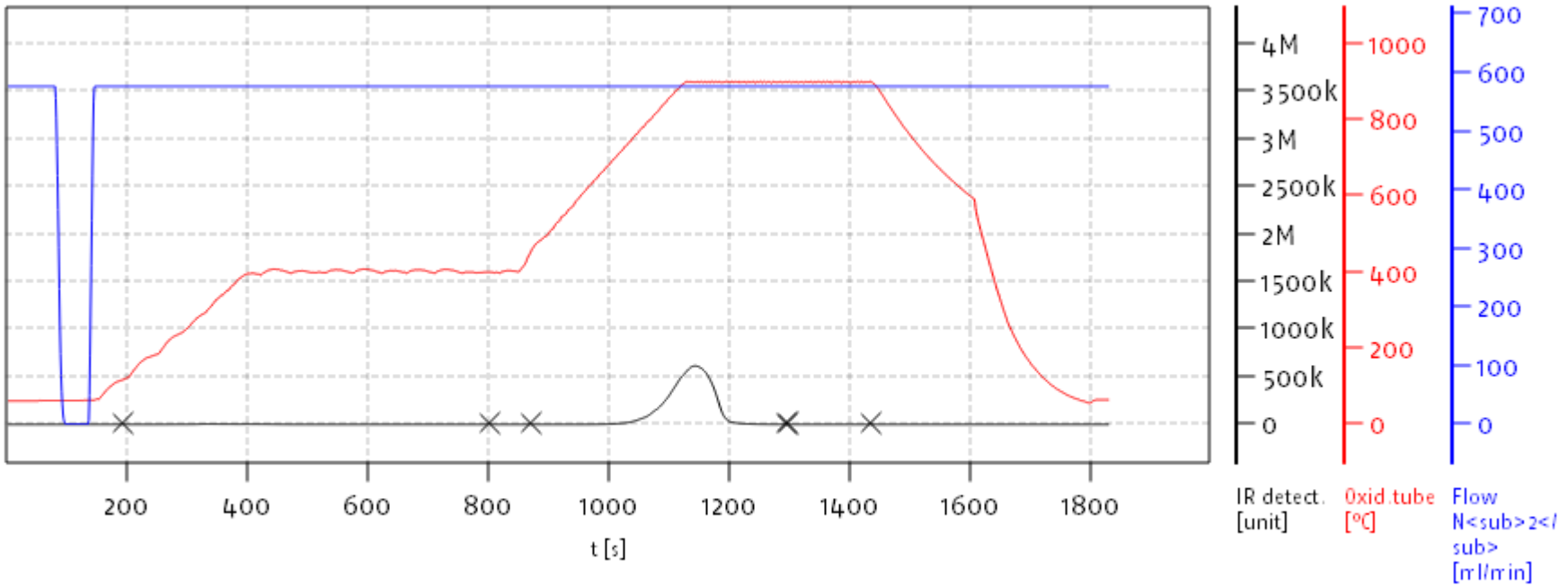
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	19	SEQ-CALH	200.00	0.0249	1.00	CARBON	7/13/2021 11:21 PM	0.021	1.524	1.545	bl,C2u	20 201	1 923 277	918	1.0000	1.0040



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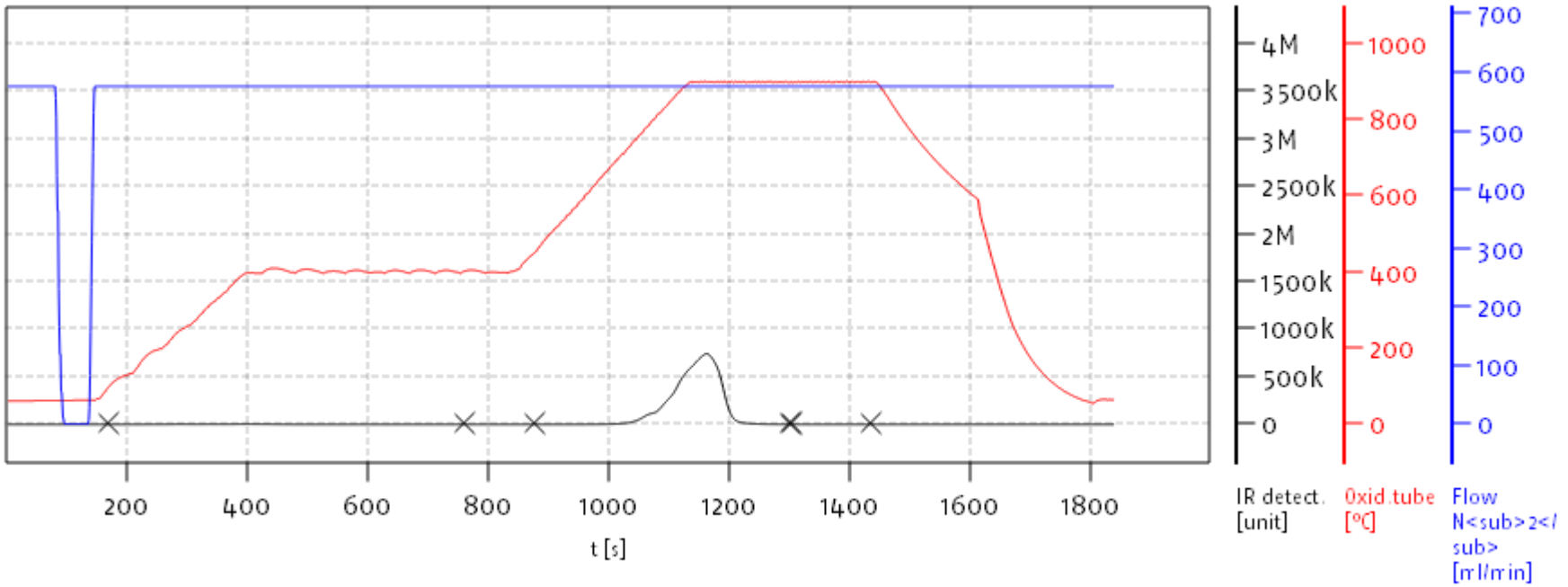
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	20	SEQ-CALI	200.00	0.0306	1.00	CARBON	7/13/2021 11:52 PM	0.021	1.800	1.821	bl,C2u	20 790	2 358 162	940	1.0000	0.9674



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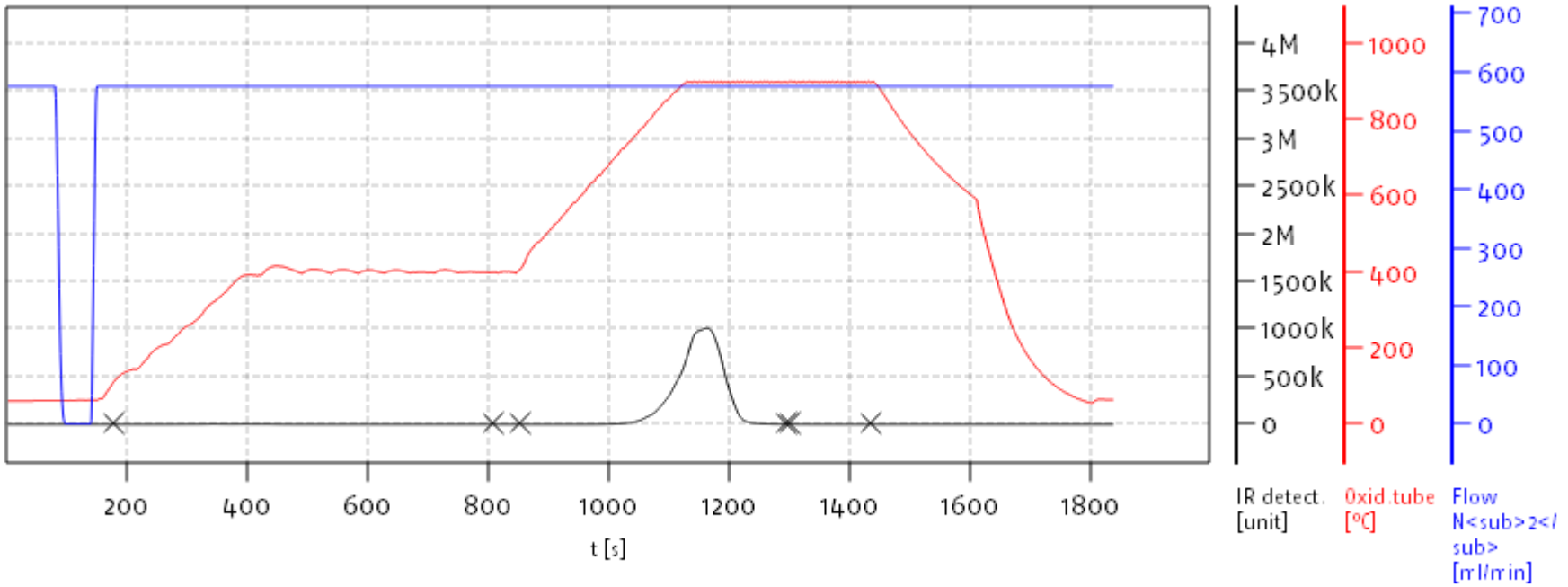
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	21	SEQ-CALJ	200.00	0.0419	1.00	CARBON	7/14/2021 12:23 AM	0.020	2.400	2.420	bl,C2u	17 643	3 227 695	2 142	1.0000	0.9426



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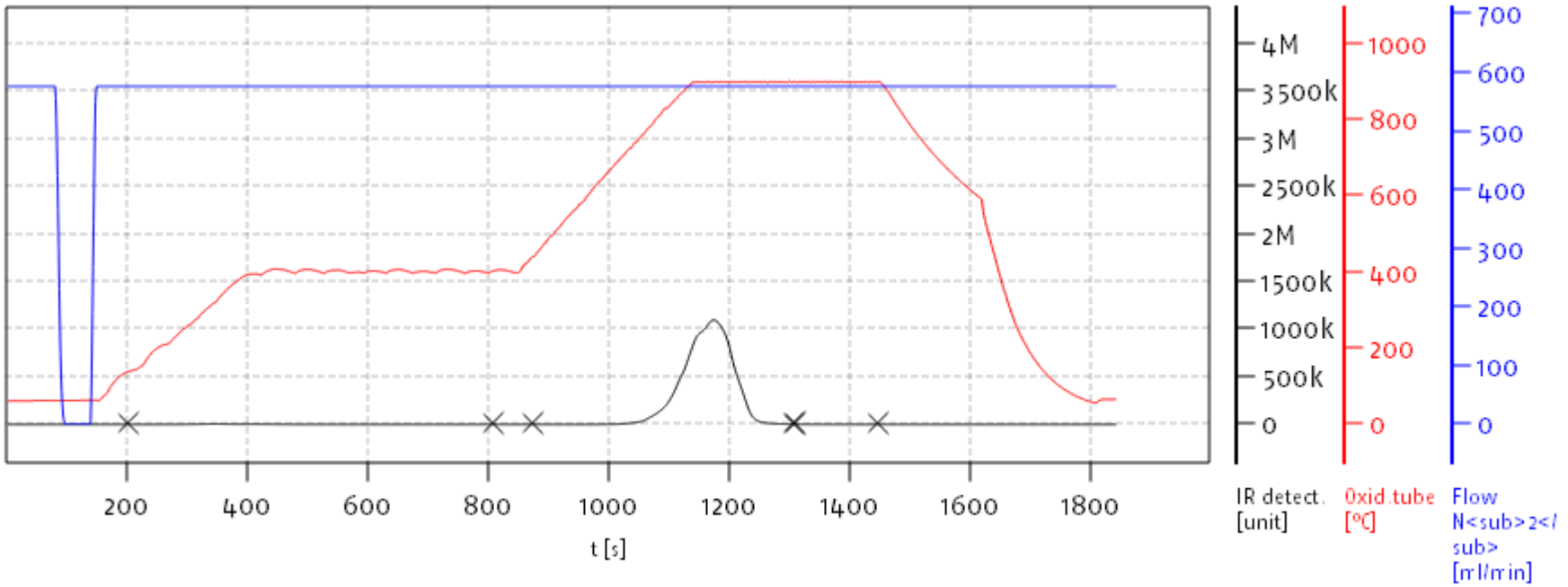
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	22	SEQ-CALK	200.00	0.0501	1.00	CARBON	7/14/2021 12:55 AM	0.023	3.012	3.035	bl,C2u	21 378	3 860 392	2 936	1.0000	0.9892



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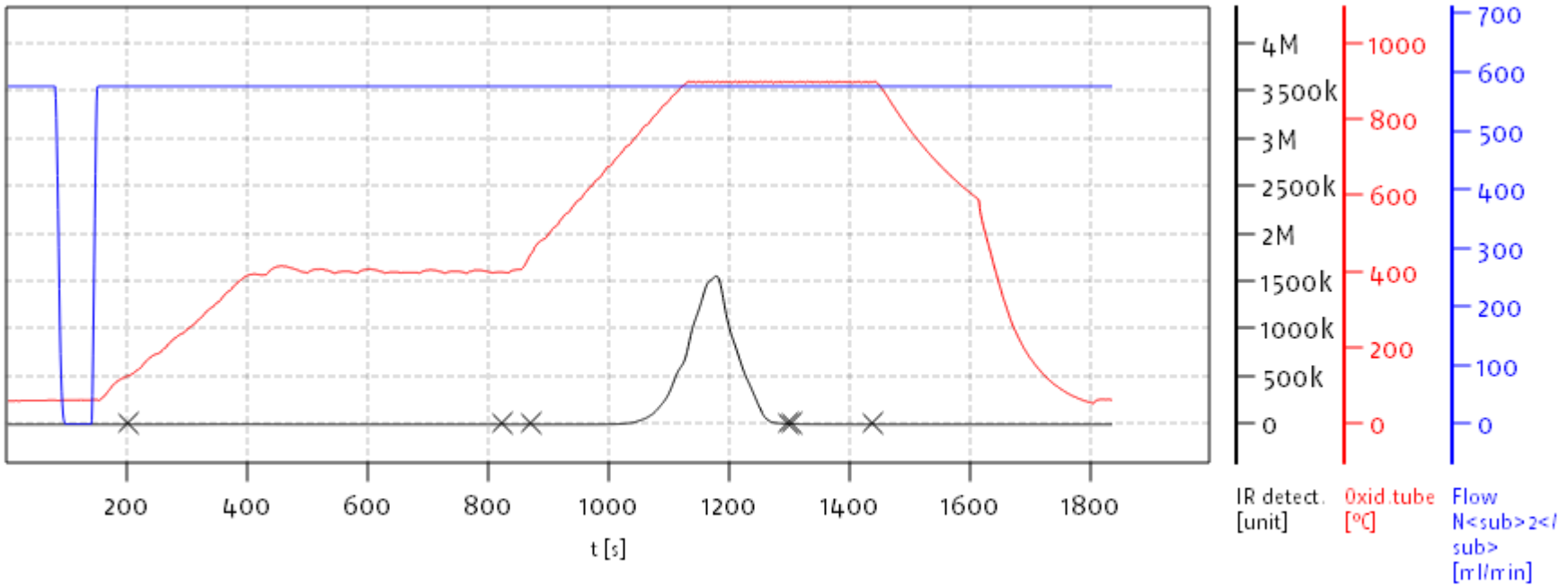
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	23	SEQ-CALL	200.00	0.0700	1.00	CARBON	7/14/2021 1:26 AM	0.016	4.206	4.222	bl,C1u,C2u	8 341	5 418 041	6 511	1.0000	0.9844



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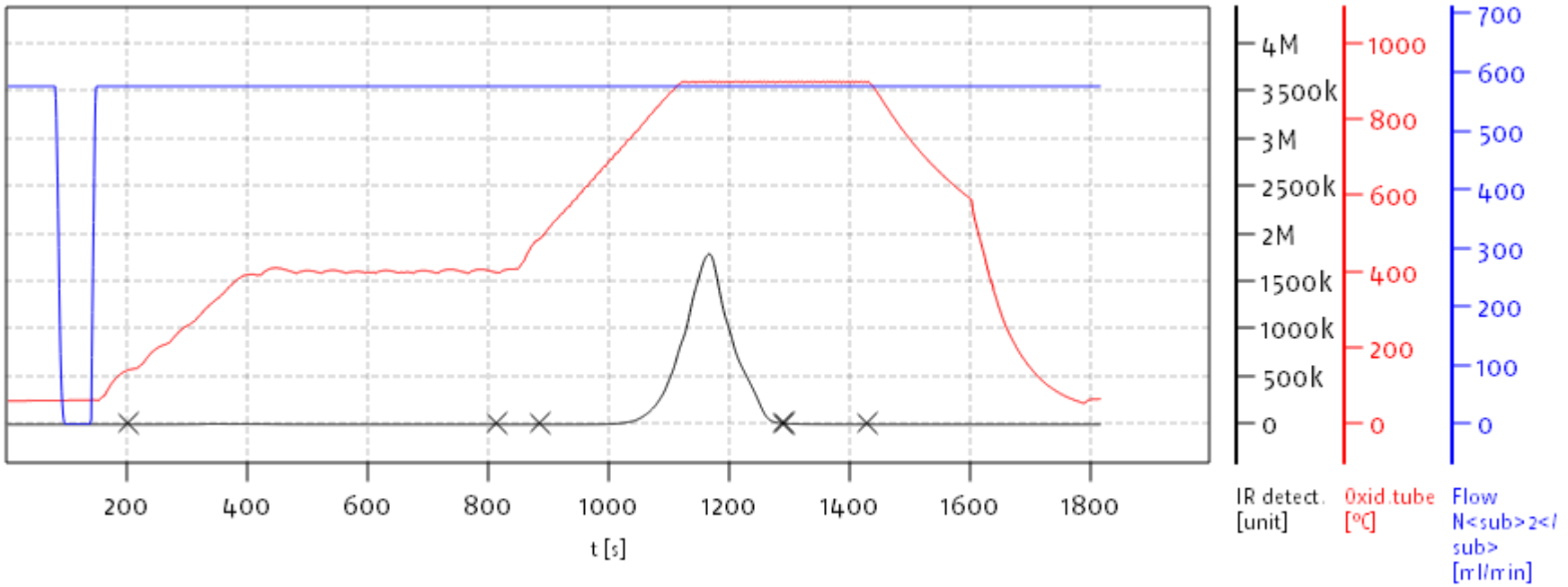
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	24	SEQ-CALM	200.00	0.0808	1.00	CARBON	7/14/2021 1:56 AM	0.032	4.812	4.844	bl	24 602	6 251 692	10 888	1.0000	0.9761



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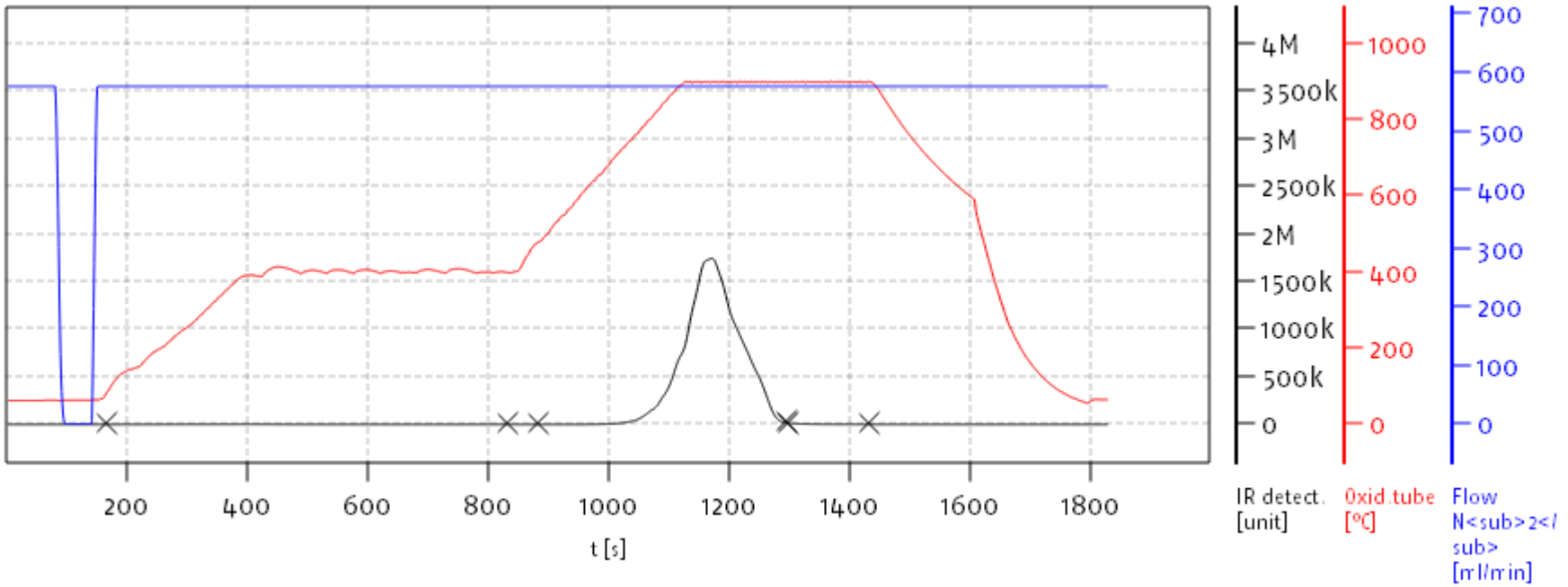
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	25	SEQ-CALN	200.00	0.0897	1.00	CARBON	7/14/2021 2:27 AM	0.025	5.406	5.431	bl	11 970	6 909 943	14 720	1.0000	0.9922



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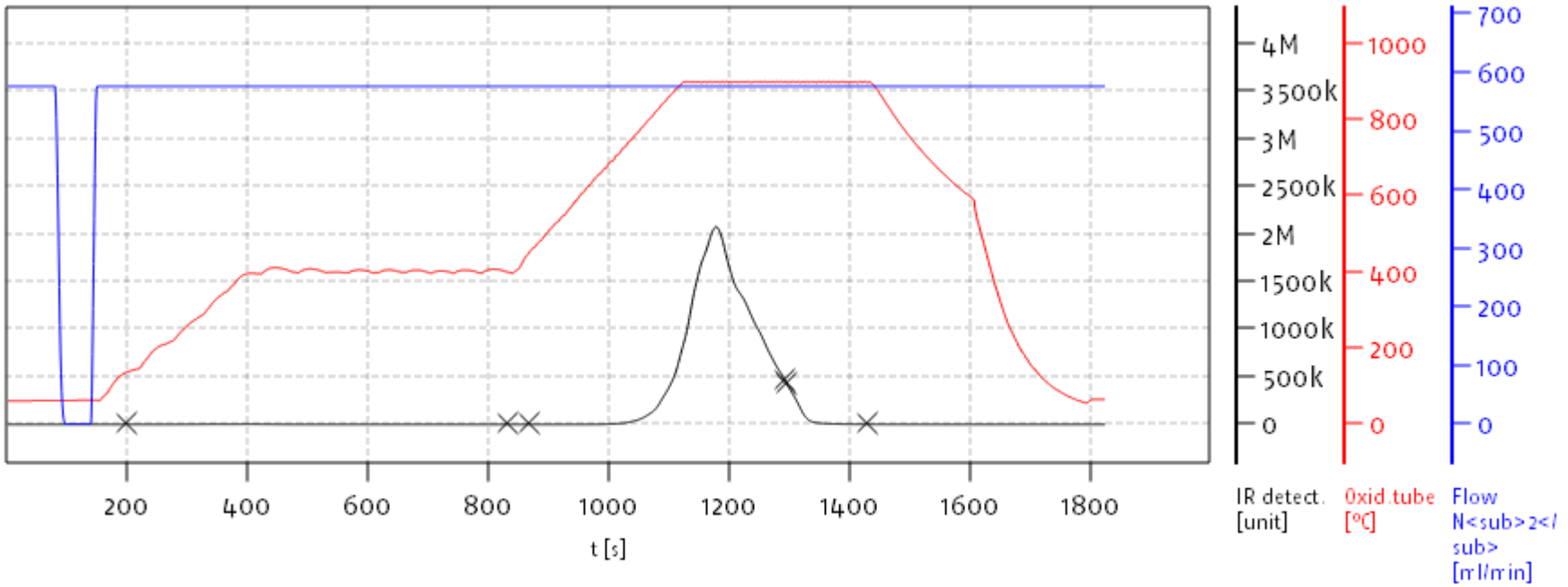
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	26	SEQ-CALO	200.00	0.1237	1.00	CARBON	7/14/2021 2:58 AM	0.271	7.218	7.489	bl,C3o	14 303	9 169 261	324 811	1.0000	0.9985



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Access: soliTOC superuser

Date: Wed Jul 14 09:43:57 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

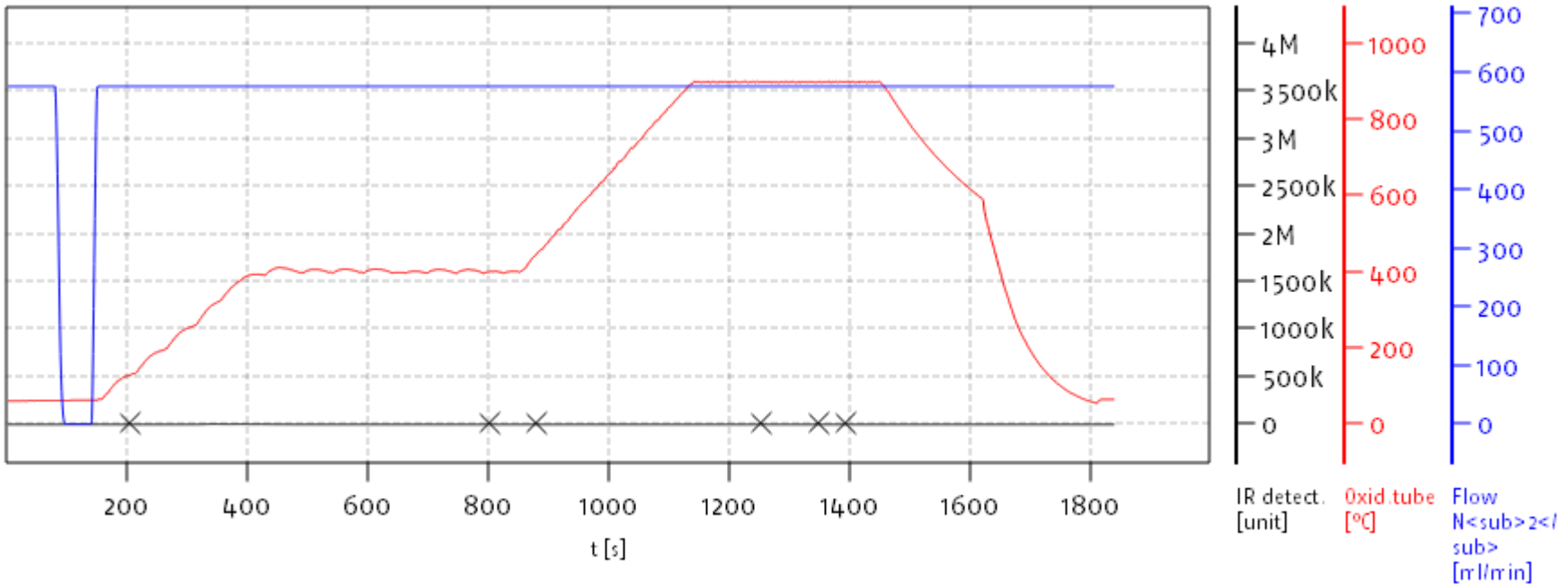
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EG00035 071321BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	27	BLANK	1.00		1.00	CARBON	7/14/2021 3:29 AM	0.000	0.000	0.000	bl	15 377	4	0	1.0000	0.9704



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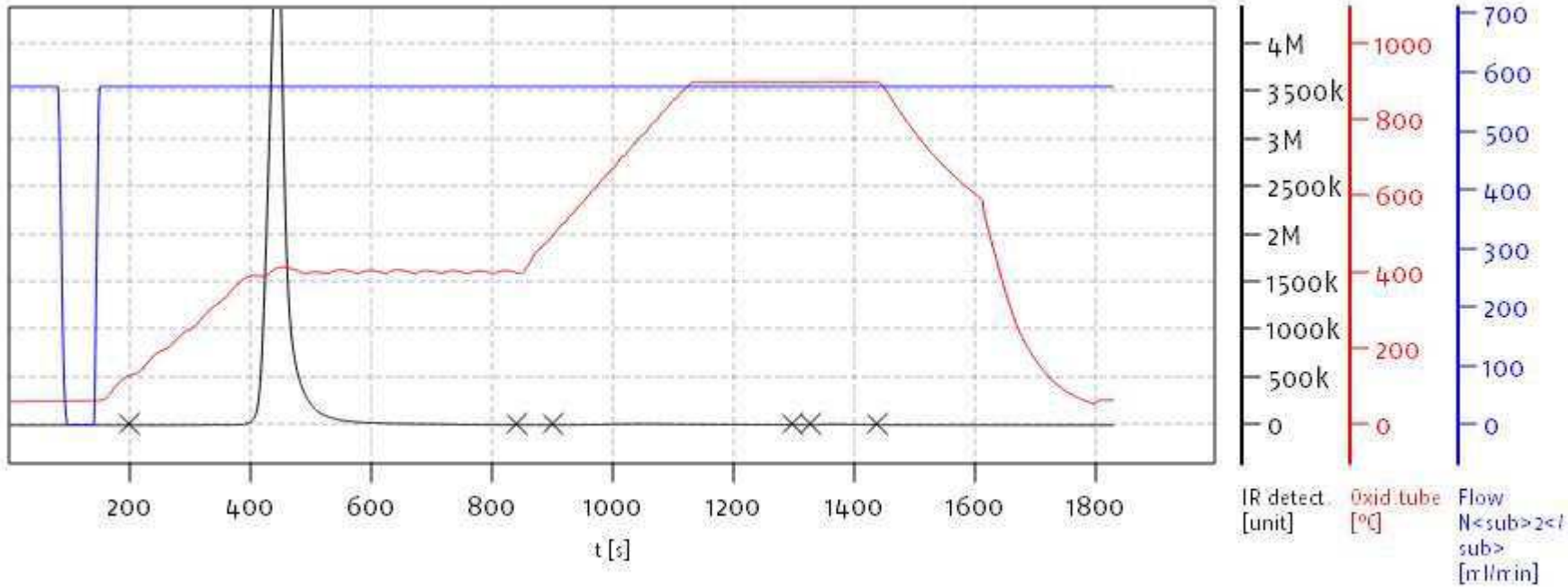
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	28	Dfactor	24.90		1.00	CARBON	7/14/2021 4:00 AM	44.620	0.675	45.295	bl	6 675 069	104 070	24 945	1.0513	1.0000



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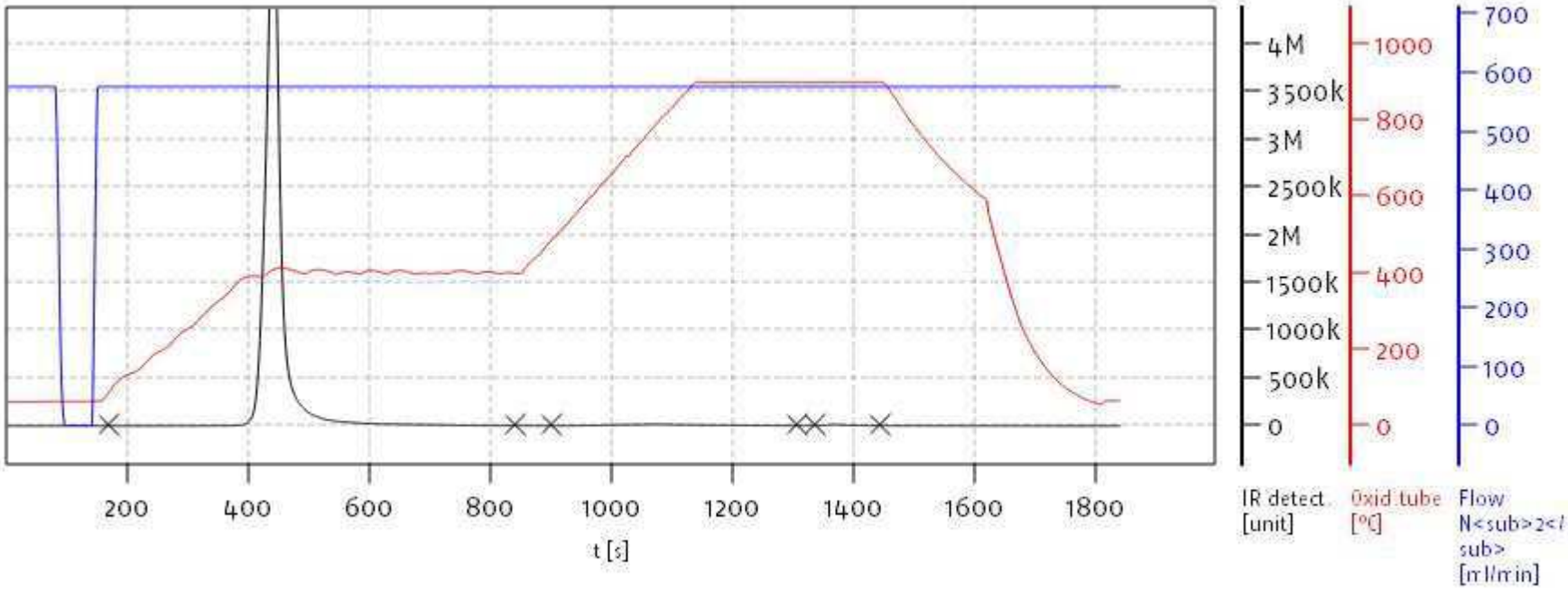
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	29	Dfactor	22.60		1.00	CARBON	7/14/2021 4:31 AM	44.643	0.810	45.453	bl	6 011 996	113 561	25 659	1.0594	1.0000



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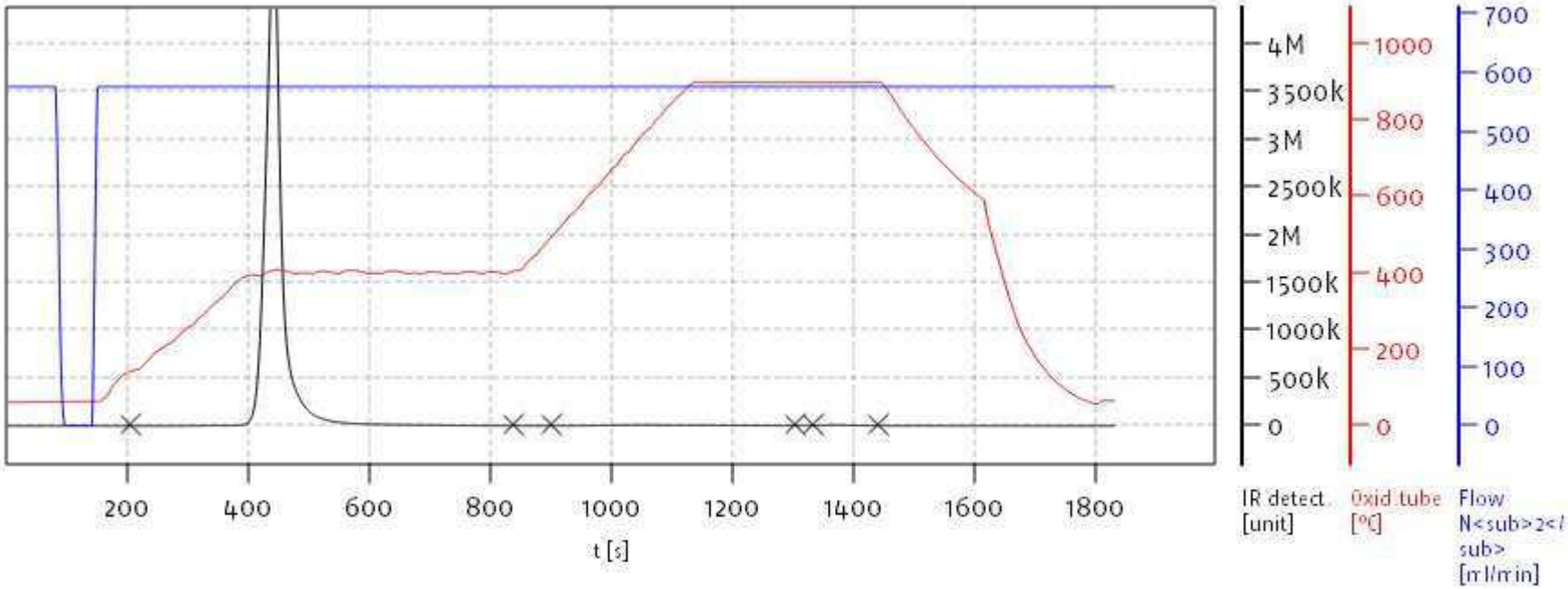
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	30	SEQ-ICV1	22.00		1.00	CARBON	7/14/2021 5:02 AM	44.870	0.594	45.465	bl	5 908 965	82 878	20 547	1.0554	0.9704



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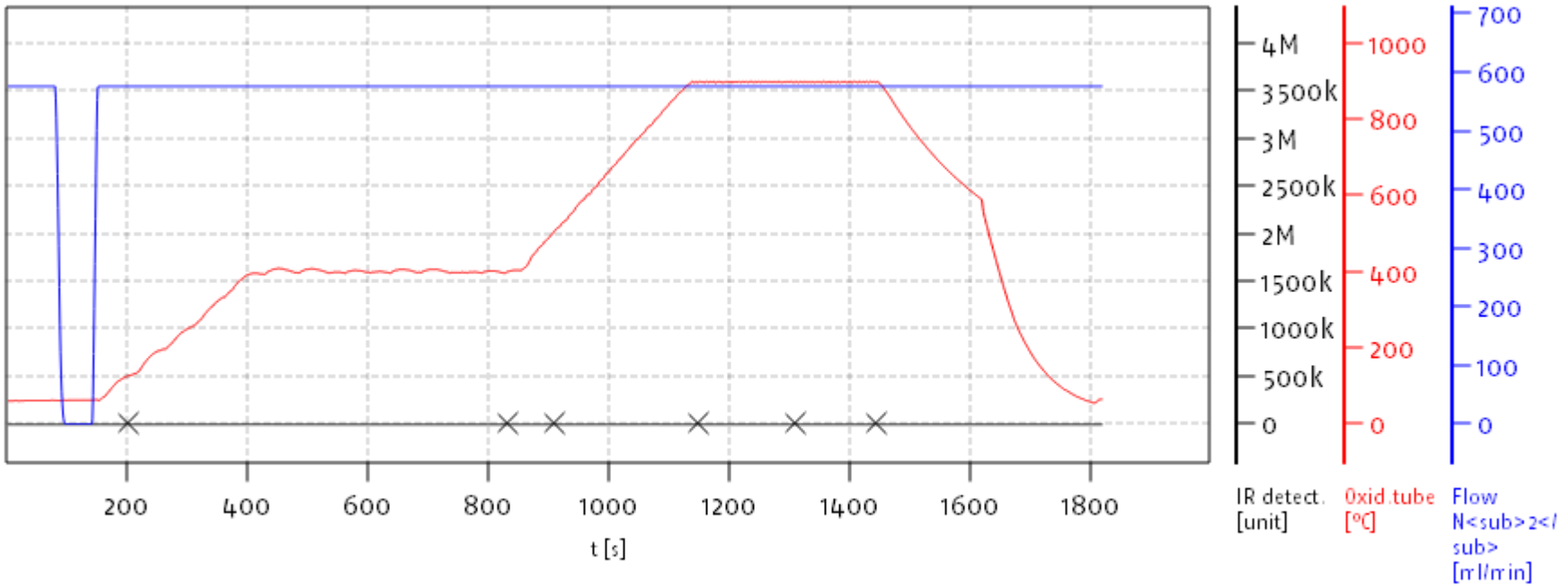
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	31	SEQ-ICB1	618.10		1.00	CARBON	7/14/2021 5:33 AM	0.002	0.001	0.003	bl,C1u,C3u,C2u	2 837	1 593	526	1.0554	0.9704



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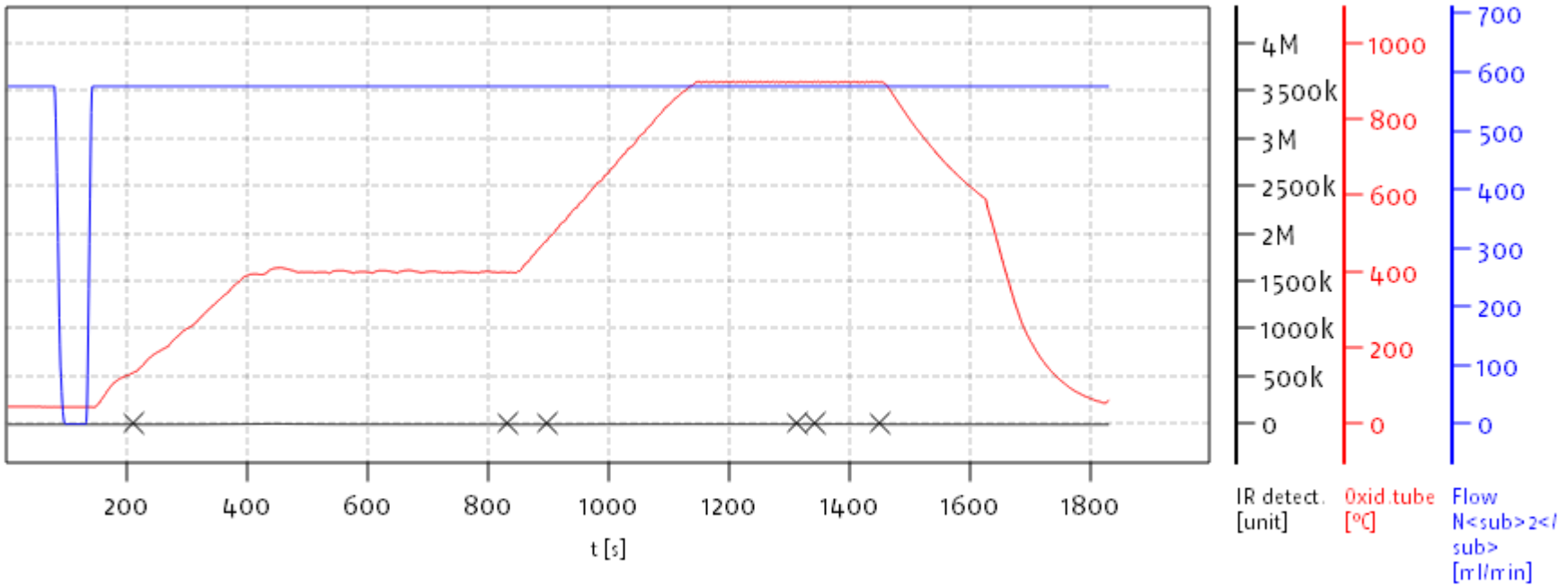
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	1	BLANK	1.00		1.00	CARBON	7/13/2021 2:06 PM	0.000	0.000	0.000	bl	41 637	34 438	10 598	1.0000	1.0000



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Soli TOC Cube, Carbon
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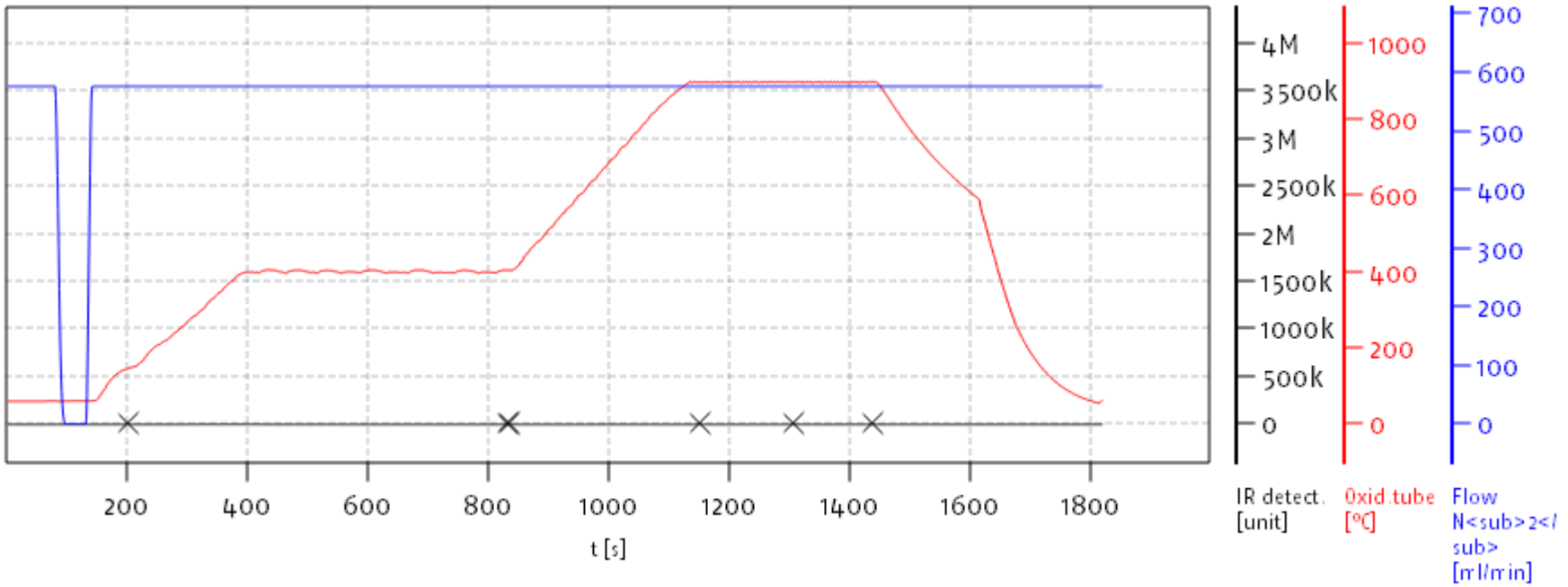
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	2	BLANK	1.00		1.00	CARBON	7/13/2021 2:37 PM	0.000	0.000	0.000	bl	4 874	0	164	1.0000	1.0000



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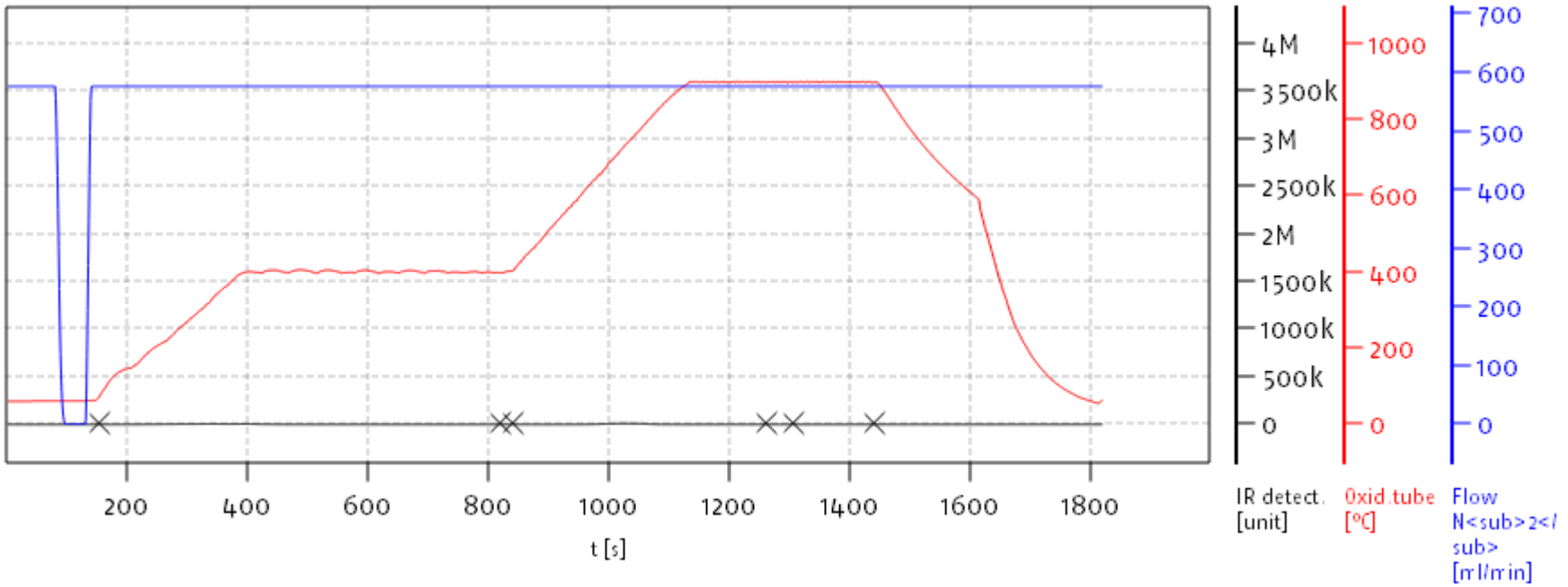
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	3	SEQ-CAL1	200.00	0.0027	1.00	CARBON	7/13/2021 3:07 PM	0.029	0.008	0.037	bl,C2u	31 040	28 300	256	1.0000	0.3447



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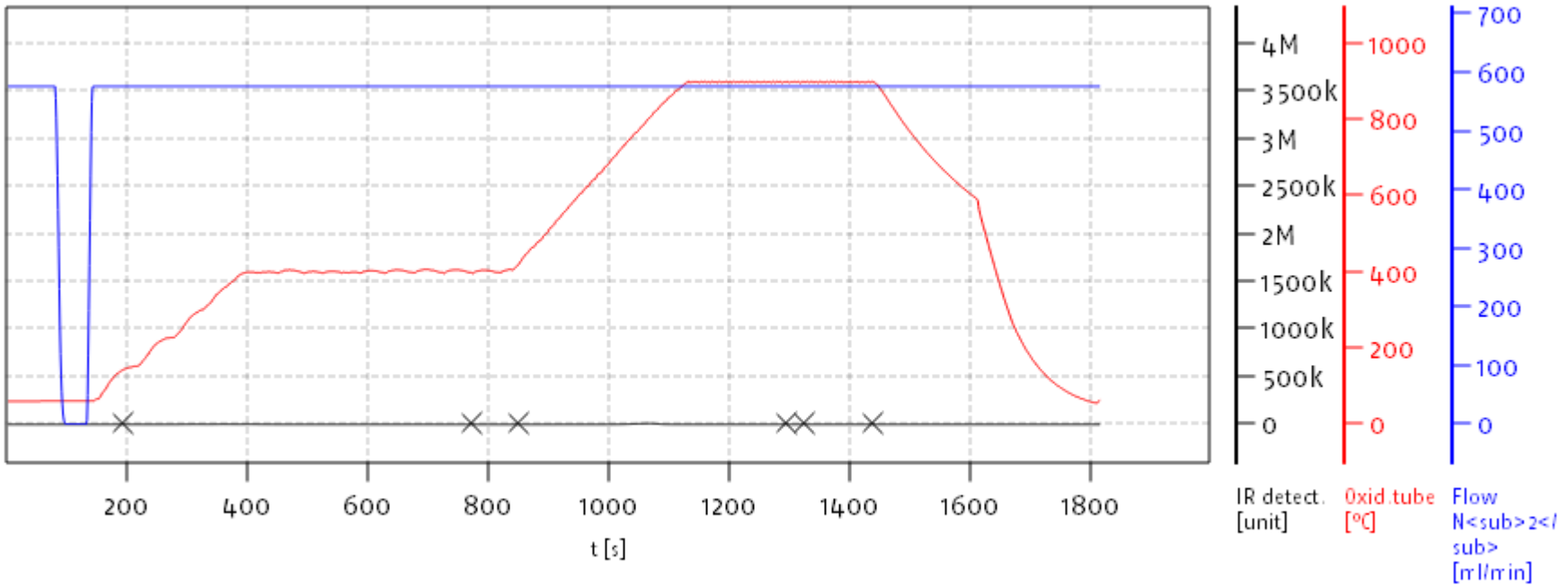
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	4	SEQ-CAL2	200.00	0.0050	1.00	CARBON	7/13/2021 3:38 PM	0.013	0.015	0.028	bl,C2u	10 883	17 832	143	1.0000	0.9493



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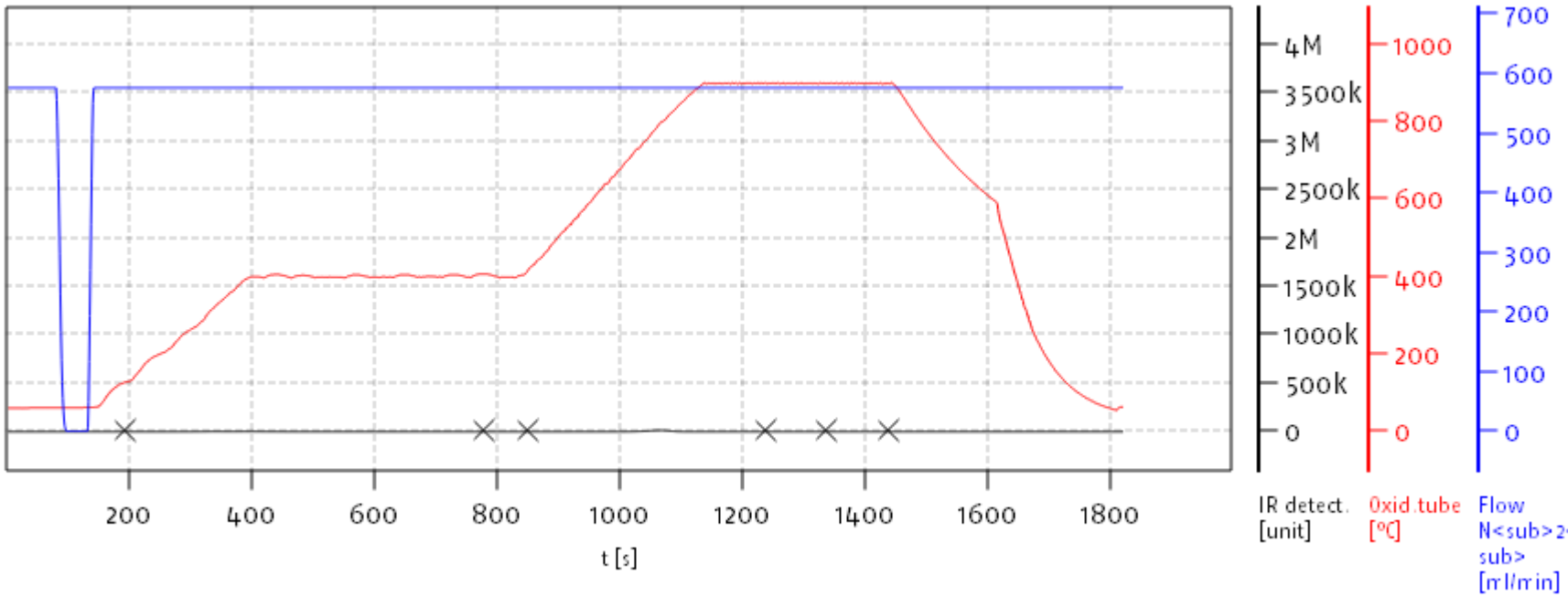
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	5	SEQ-CAL3	200.00	0.0068	1.00	CARBON	7/13/2021 4:09 PM	0.012	0.022	0.034	bl,C2u	9 870	22 430	107	1.0000	1.1246



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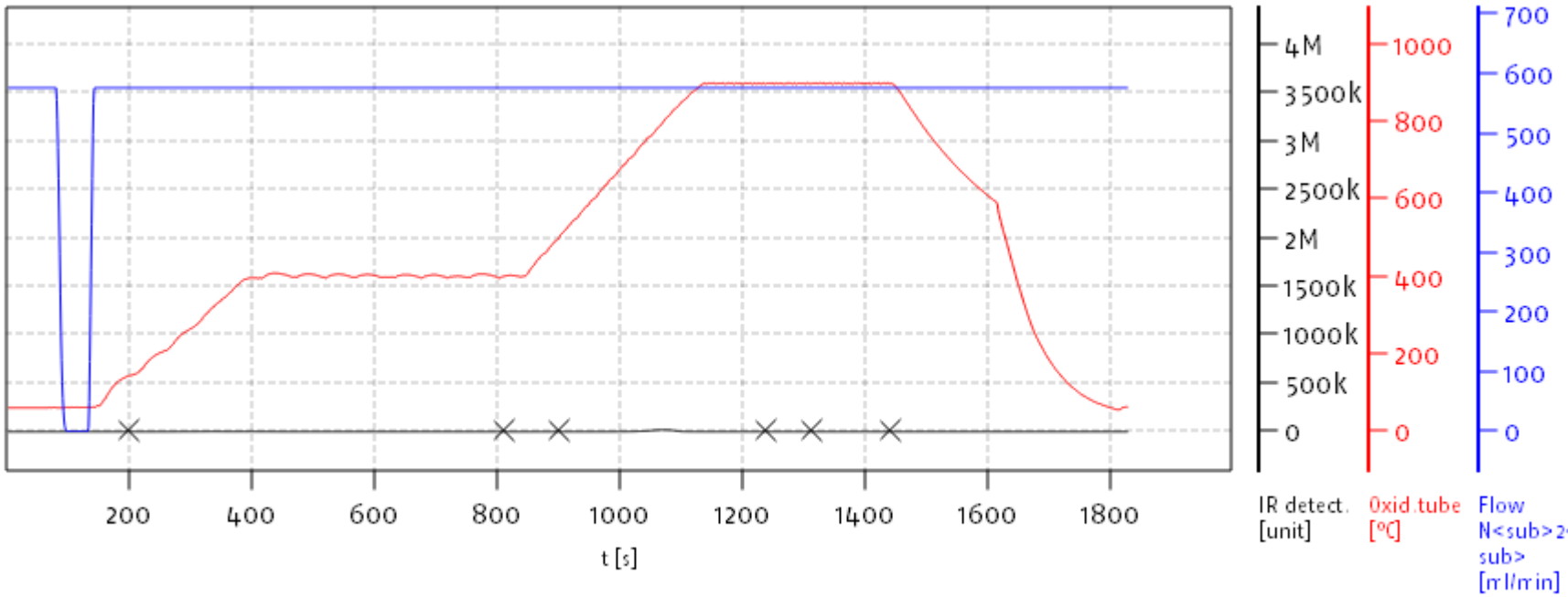
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	6	SEQ-CAL4	200.00	0.0099	1.00	CARBON	7/13/2021 4:40 PM	0.012	0.030	0.042	bl,C2u	9 549	35 259	82	1.0000	1.0150



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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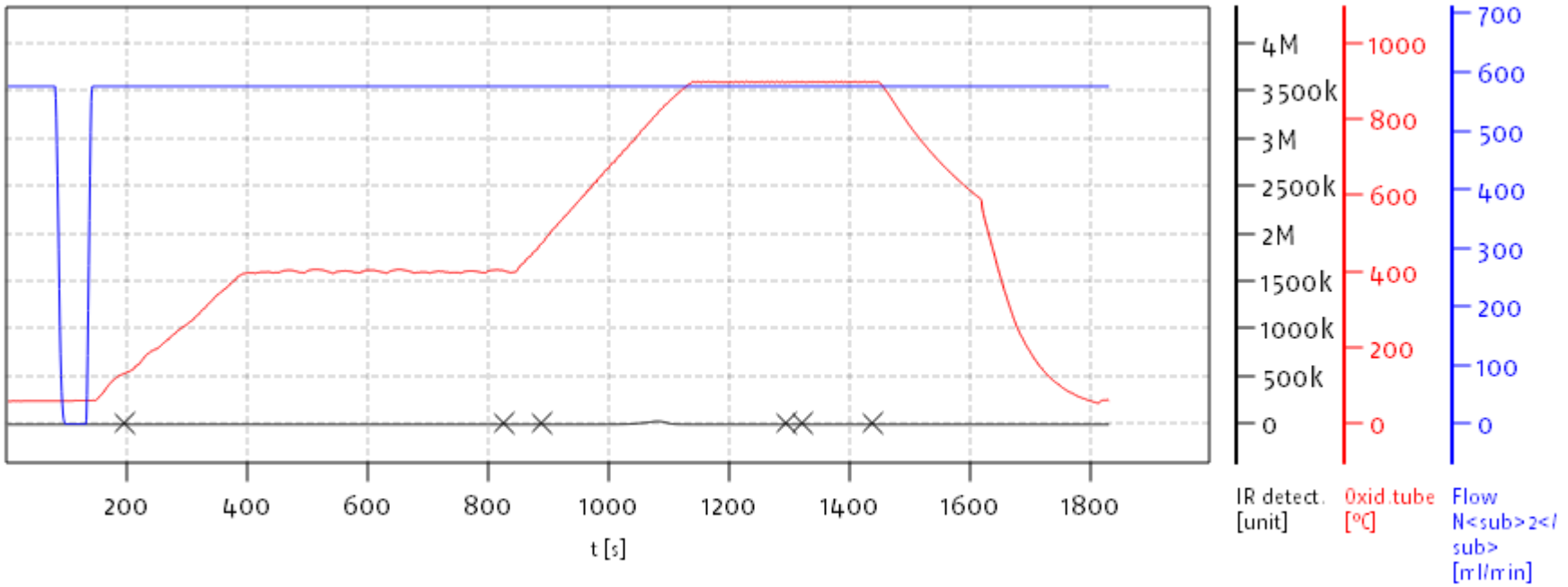
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	7	SEQ-CAL5	200.00	0.0155	1.00	CARBON	7/13/2021 5:11 PM	0.008	0.045	0.053	bl,C1u,C2u	4 269	54 591	65	1.0000	0.9980



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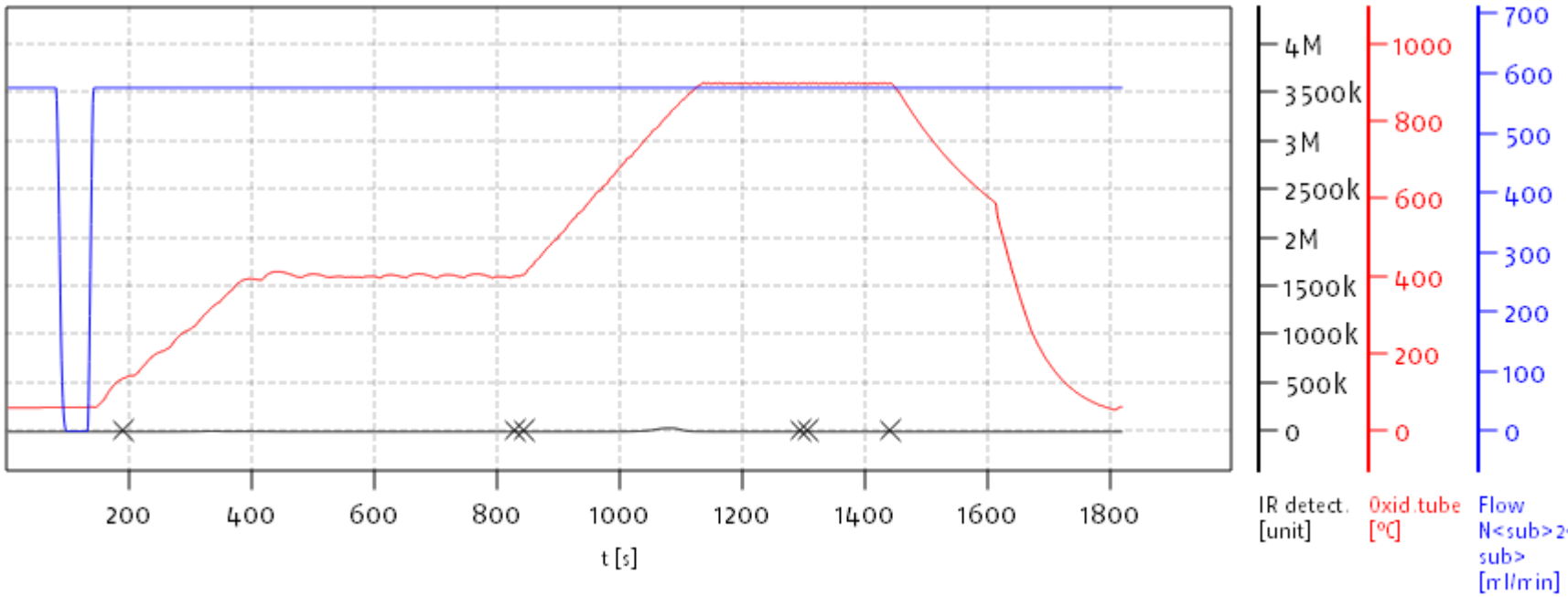
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	8	SEQ-CAL6	200.00	0.0198	1.00	CARBON	7/13/2021 5:41 PM	0.019	0.061	0.080	bl,C2u	18 512	73 034	79	1.0000	1.0264



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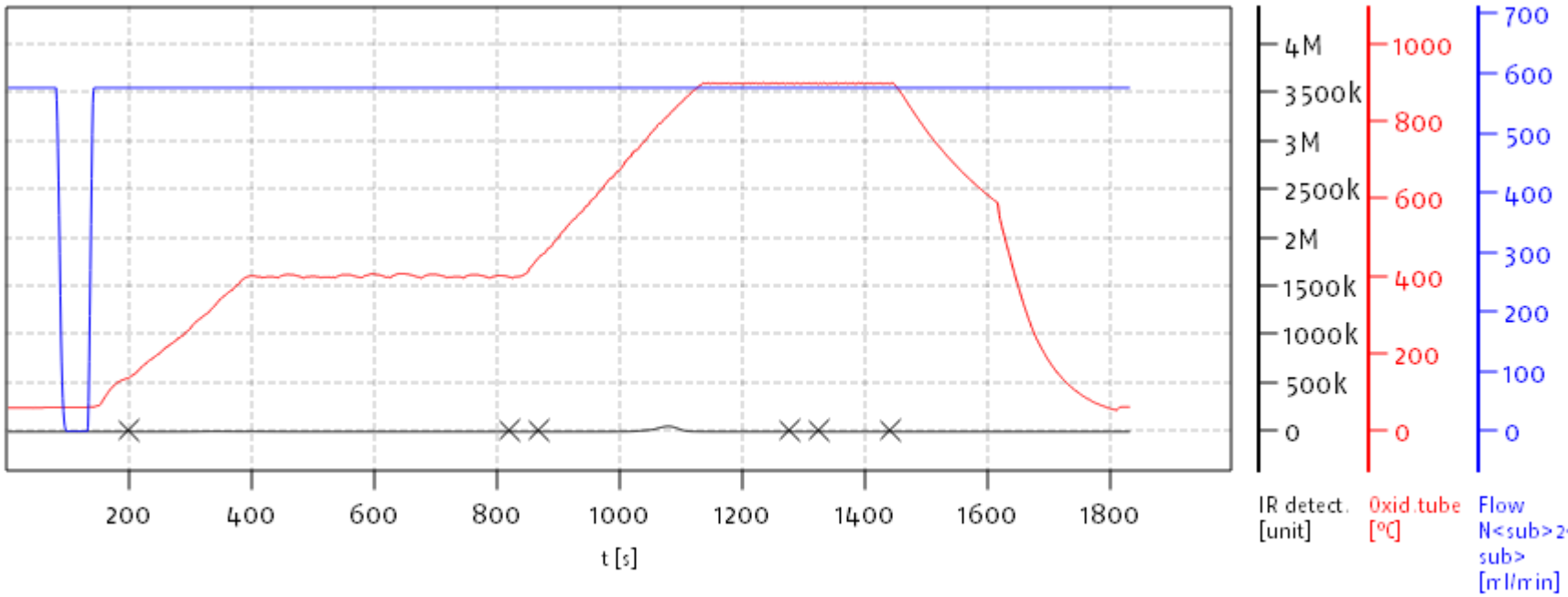
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	9	SEQ-CAL7	200.00	0.0257	1.00	CARBON	7/13/2021 6:12 PM	0.014	0.075	0.089	bl,C2u	12 682	95 421	29	1.0000	0.9745



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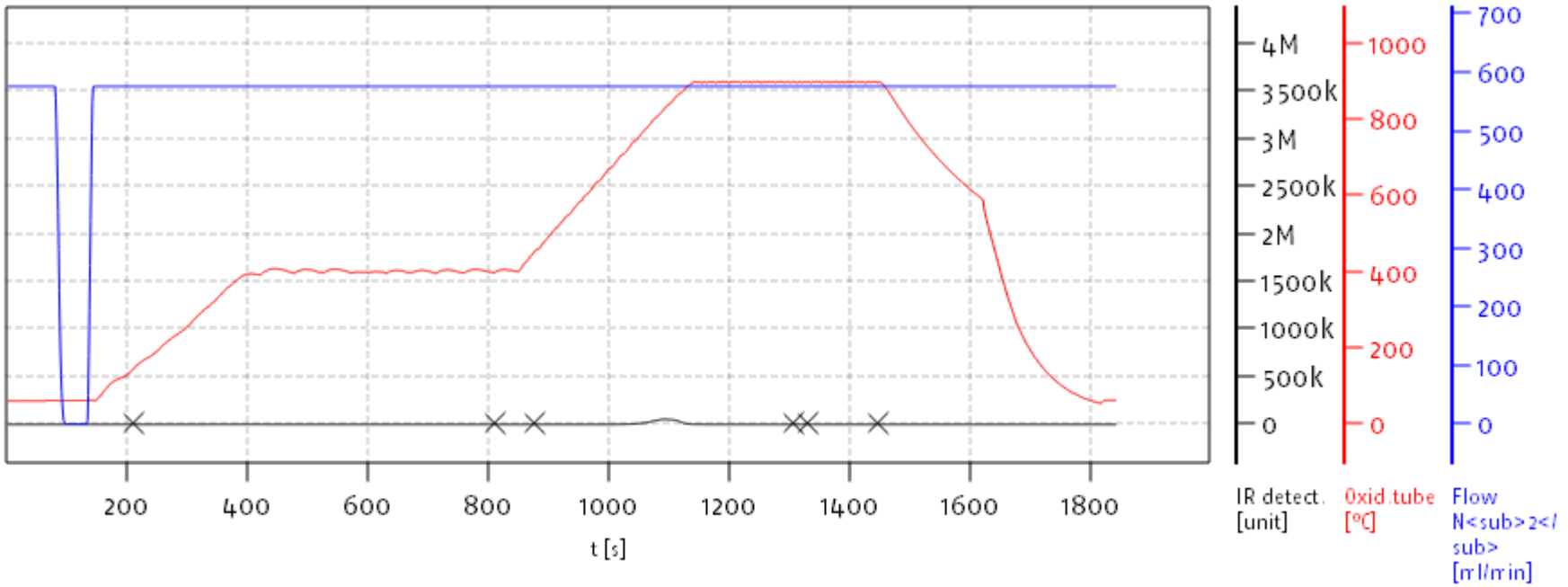
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	10	SEQ-CAL8	200.00	0.0300	1.00	CARBON	7/13/2021 6:43 PM	0.008	0.091	0.098	bl,C1u,C2u	4 663	112 452	86	1.0000	0.9989



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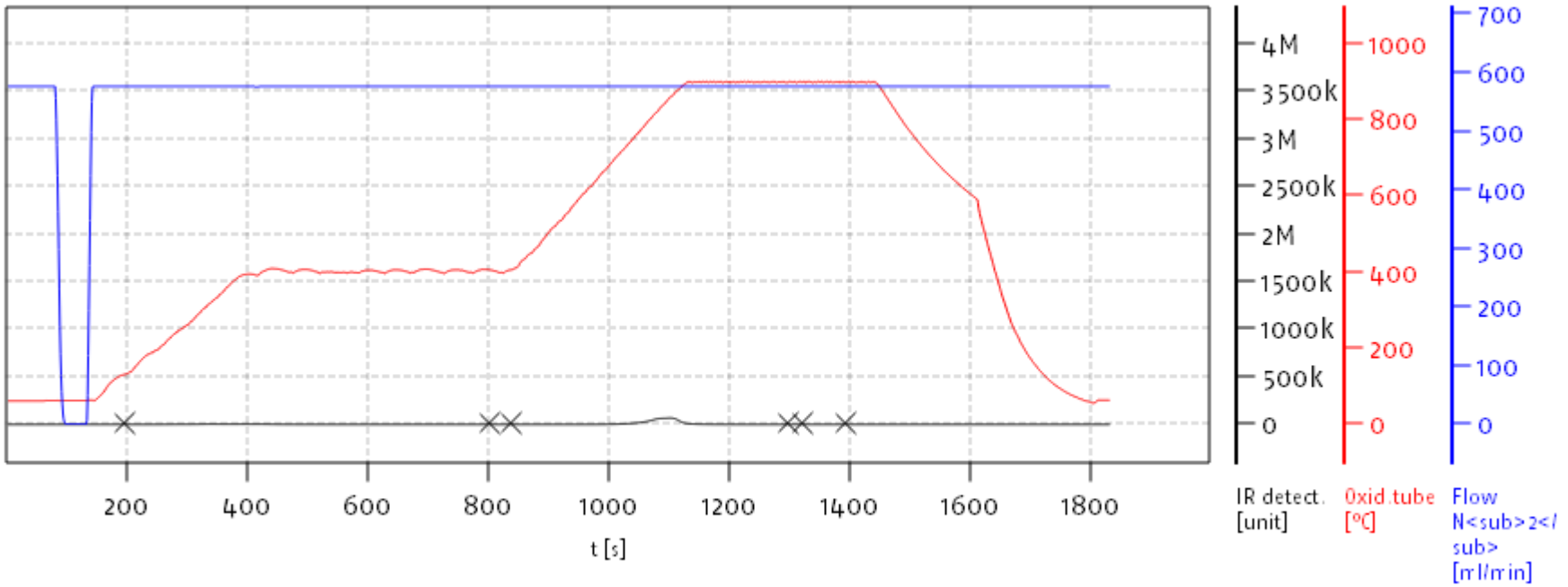
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	11	SEQ-CAL9	200.00	0.0407	1.00	CARBON	7/13/2021 7:14 PM	0.021	0.120	0.141	bl,C2u	21 063	157 168	339	1.0000	0.9528



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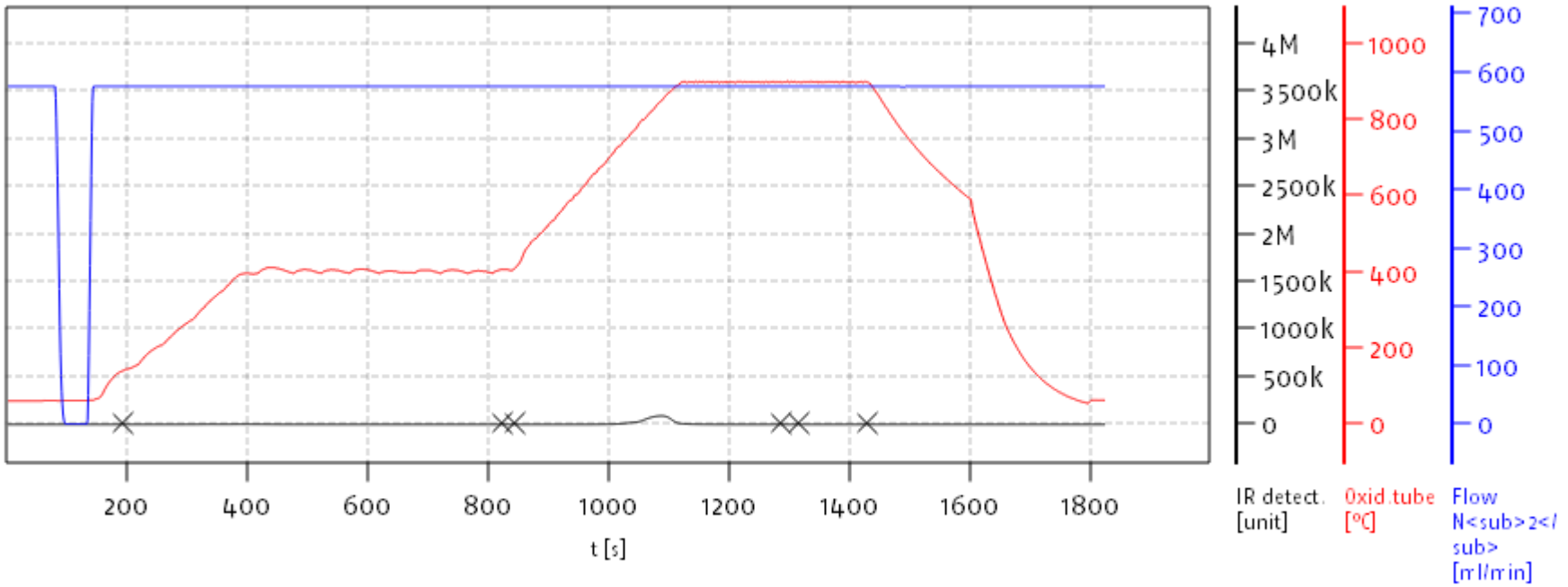
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	12	SEQ-CALA	200.00	0.0501	1.00	CARBON	7/13/2021 7:45 PM	0.013	0.151	0.164	bl,C2u	11 050	187 538	95	1.0000	1.0068



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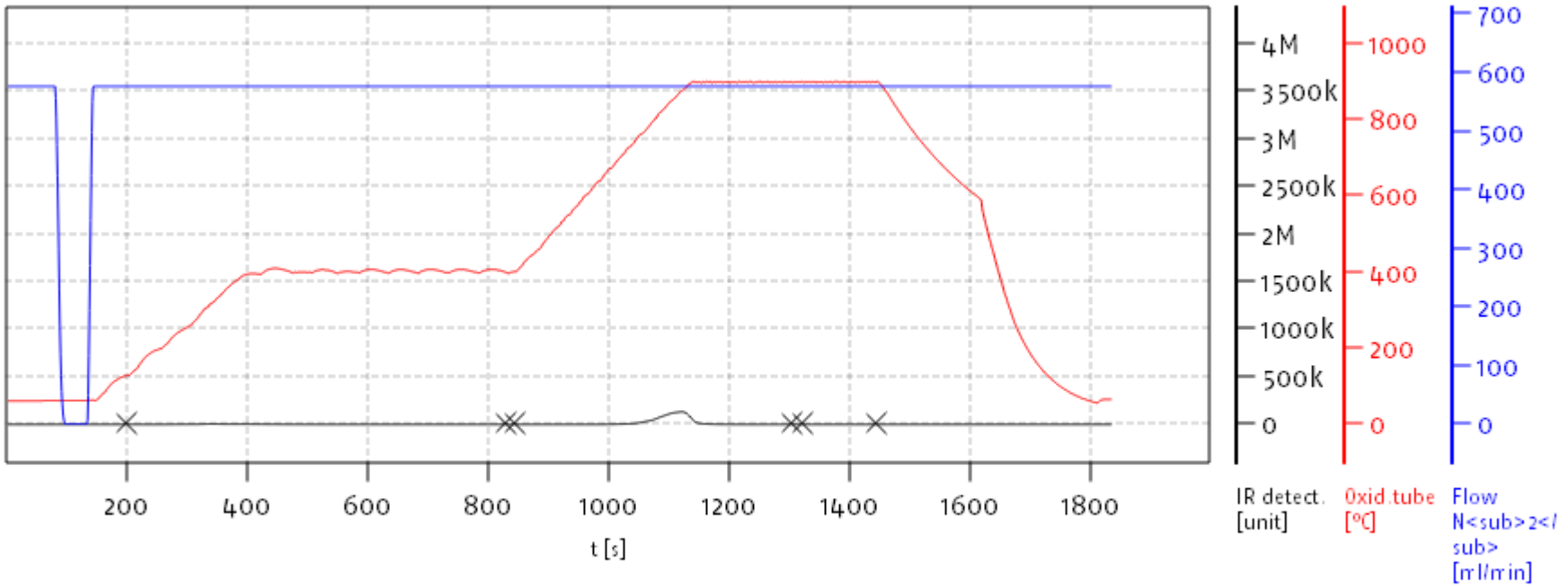
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	13	SEQ-CALB	200.00	0.0041	1.00	CARBON	7/13/2021 8:16 PM	0.021	0.258	0.279	bl,C2u	21 325	304 031	81	1.0000	1.0675



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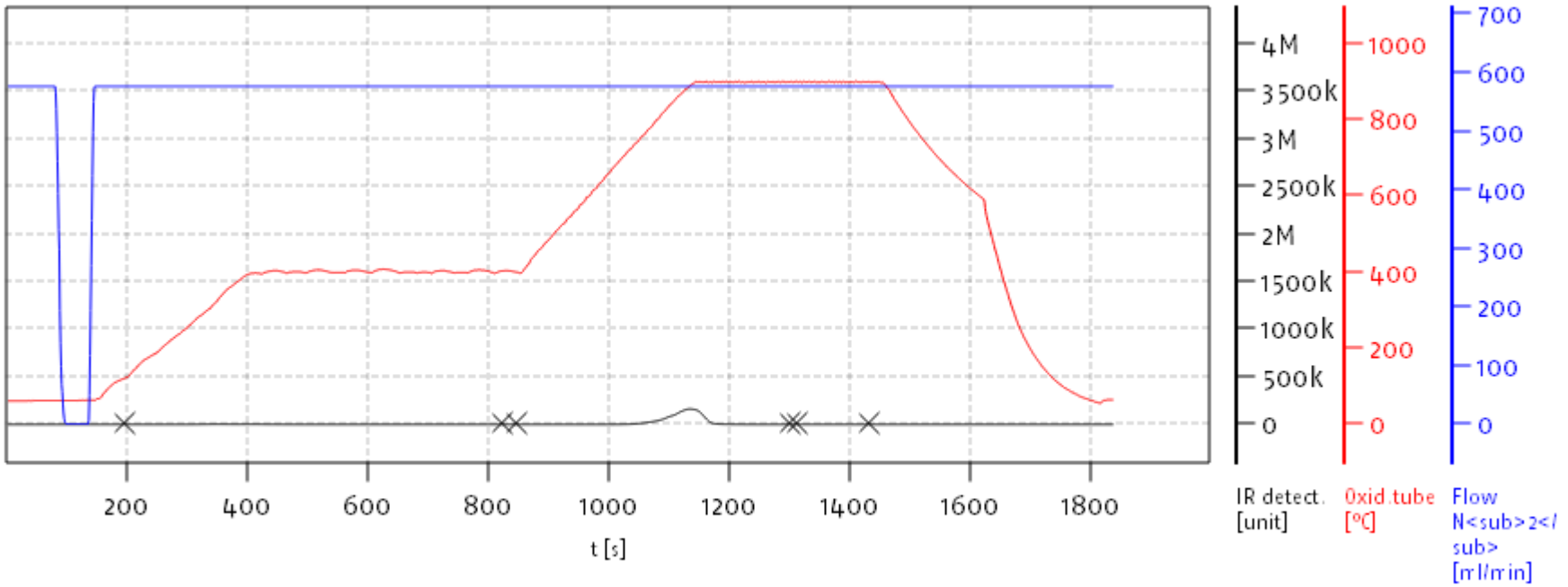
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	14	SEQ-CALC	200.00	0.0051	1.00	CARBON	7/13/2021 8:47 PM	0.013	0.324	0.337	bl,C2u	11 360	386 243	161	1.0000	1.0571



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Access: soliTOC superuser

Date: Wed Jul 14 10:35:53 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

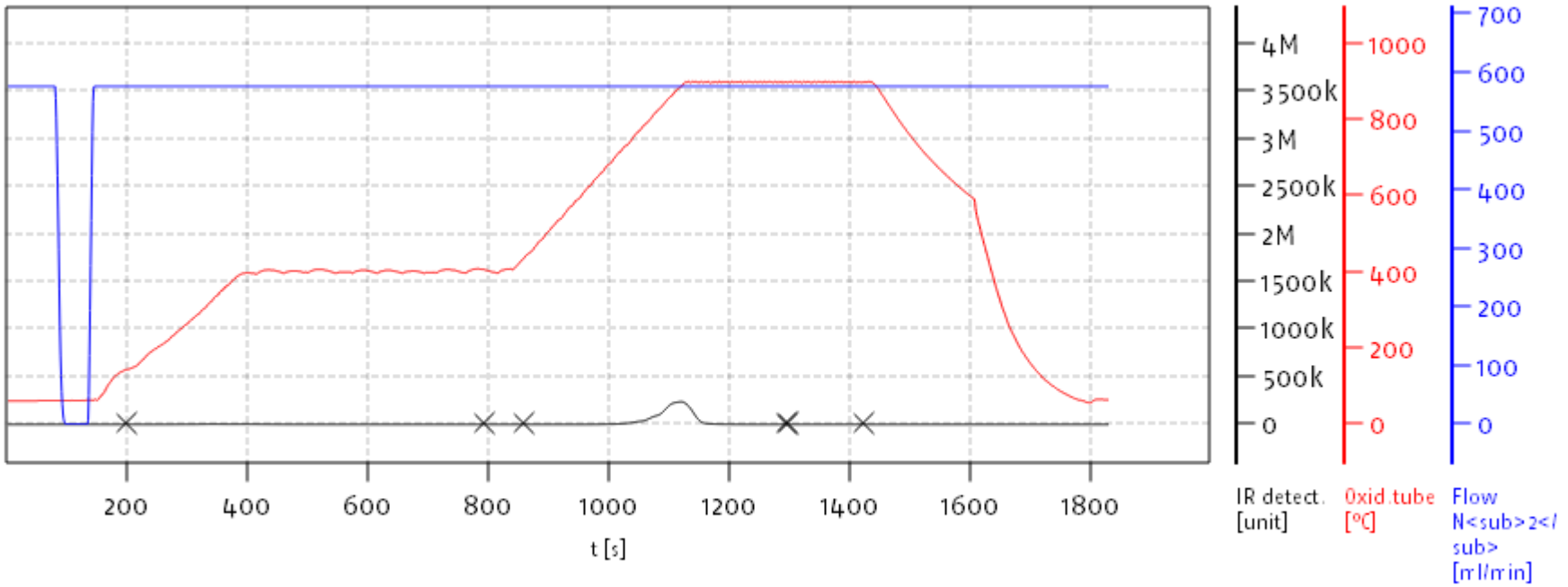
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EG00035 071321BF from: 7/14/2021 10:24 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	15	SEQ-CALD	200.00	0.0073	1.00	CARBON	7/13/2021 9:18 PM	0.017	0.444	0.461	bl,C2u	15 984	558 687	174	1.0000	1.0036



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Analyst: BF

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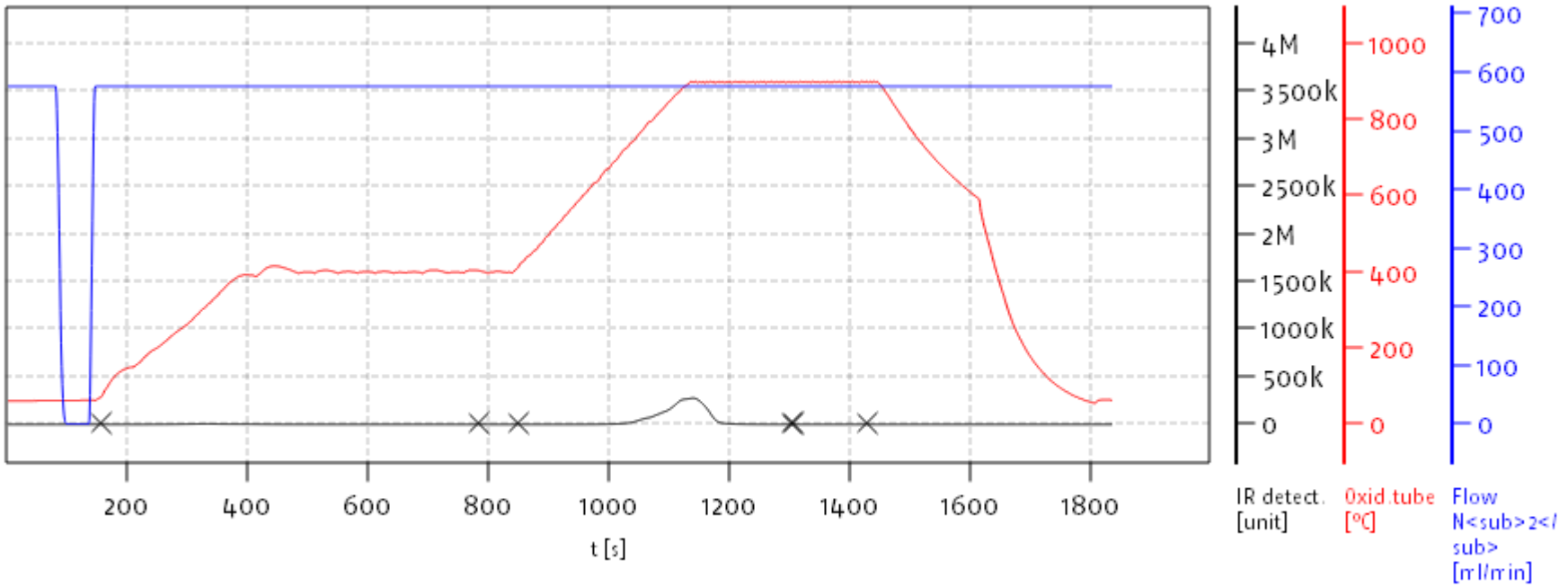
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	16	SEQ-CALE	200.00	0.0109	1.00	CARBON	7/13/2021 9:49 PM	0.024	0.600	0.624	bl,C2u	25 032	838 073	291	1.0000	0.9055



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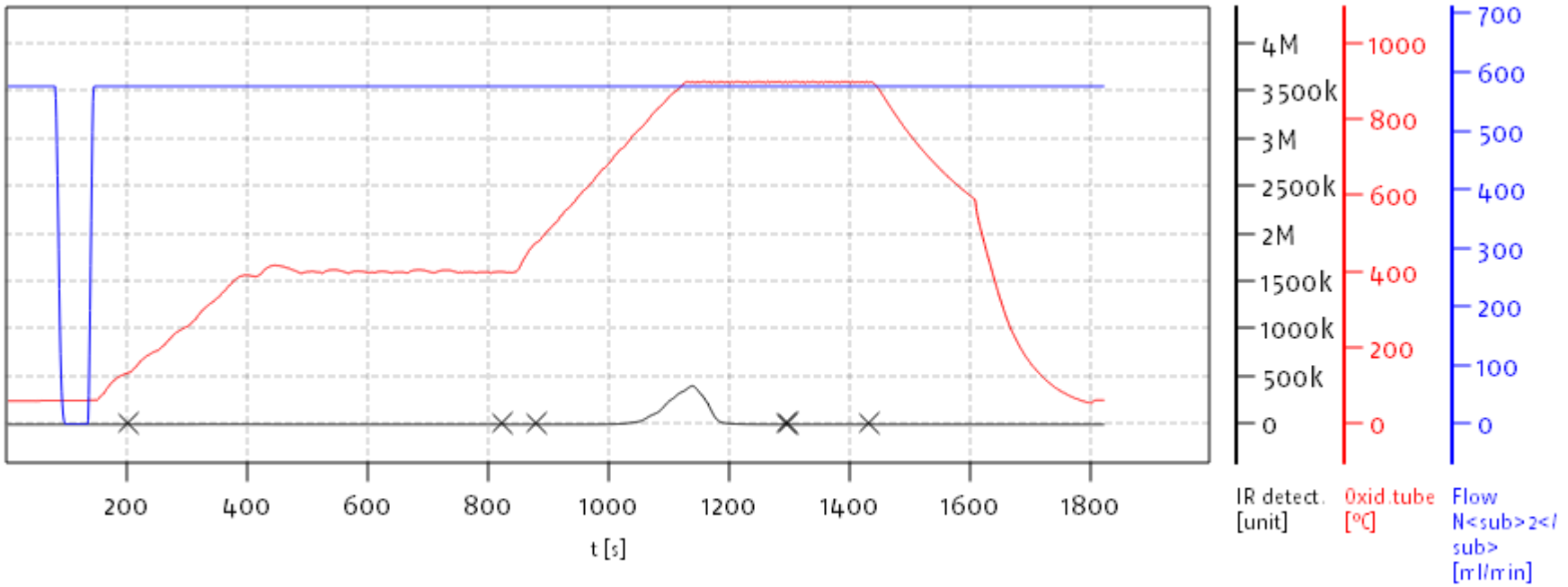
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	17	SEQ-CALF	200.00	0.0145	1.00	CARBON	7/13/2021 10:20 PM	0.011	0.906	0.917	bl,C1u,C2u	7 705	1 129 877	389	1.0000	1.0150



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Analyst: BF

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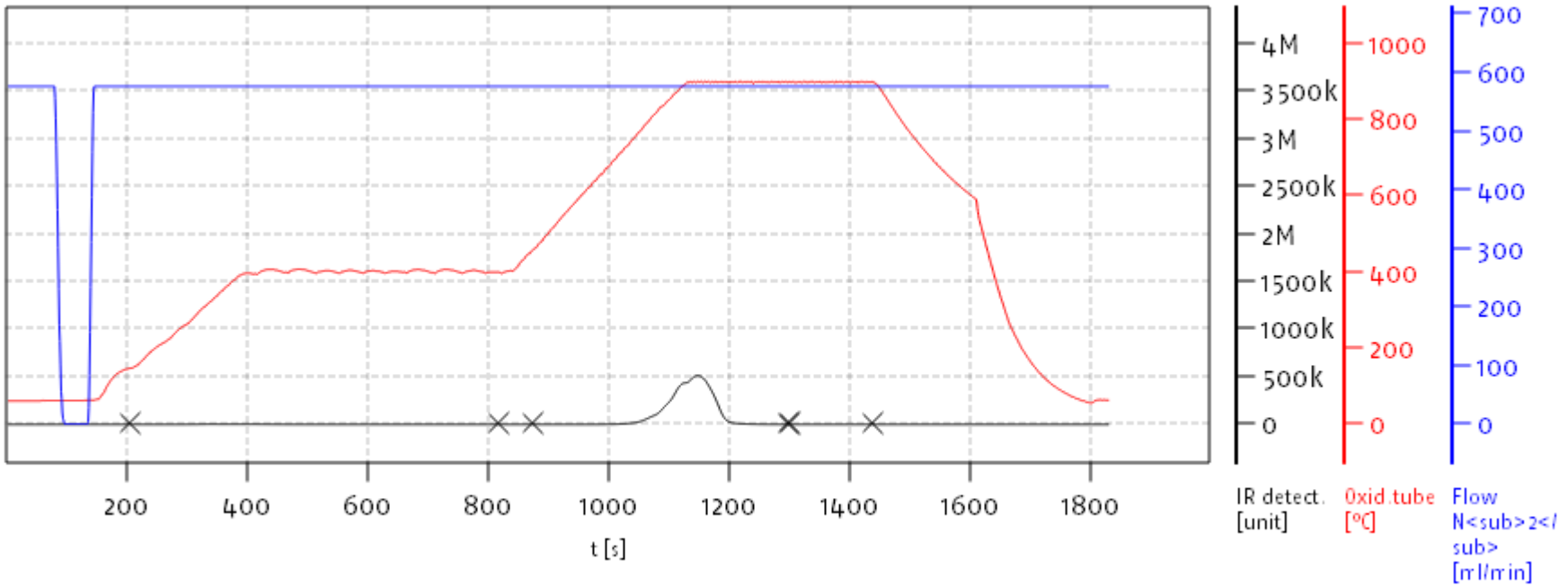
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	18	SEQ-CALG	200.00	0.0199	1.00	CARBON	7/13/2021 10:50 PM	0.015	1.206	1.221	bl,C2u	12 993	1 534 582	594	1.0000	0.9954



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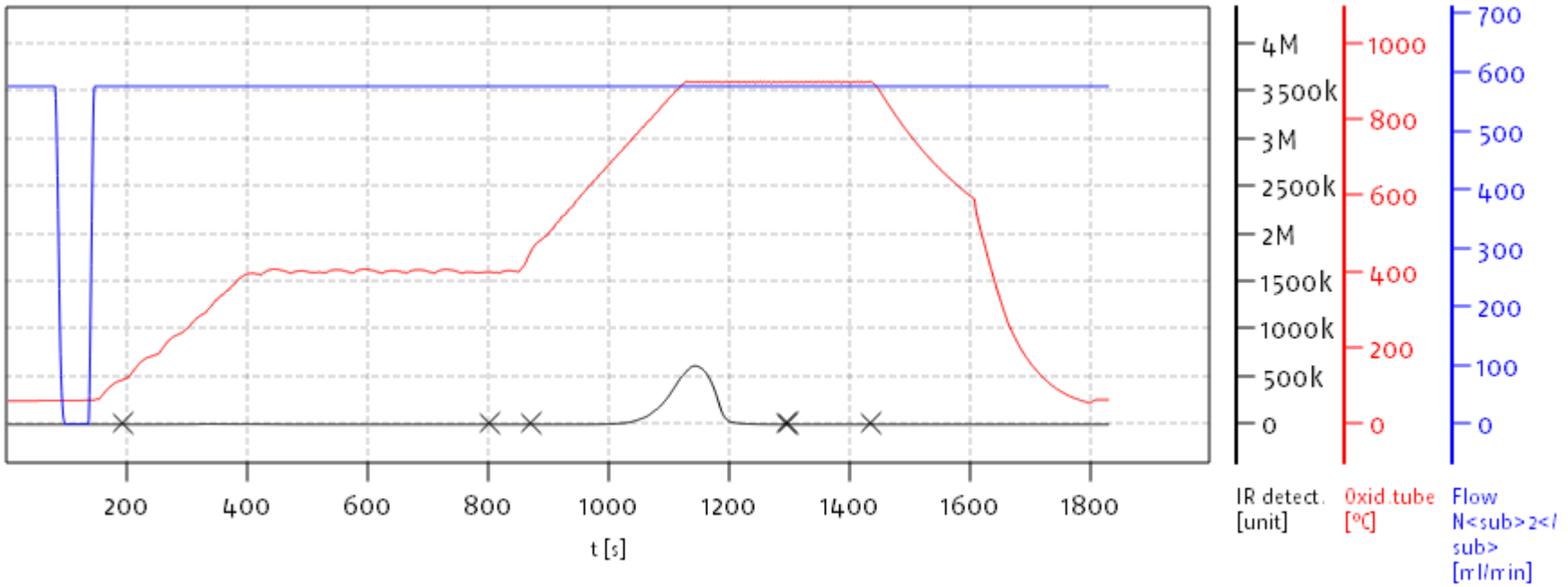
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	19	SEQ-CALH	200.00	0.0249	1.00	CARBON	7/13/2021 11:21 PM	0.021	1.524	1.545	bl,C2u	20 201	1 923 277	918	1.0000	1.0040



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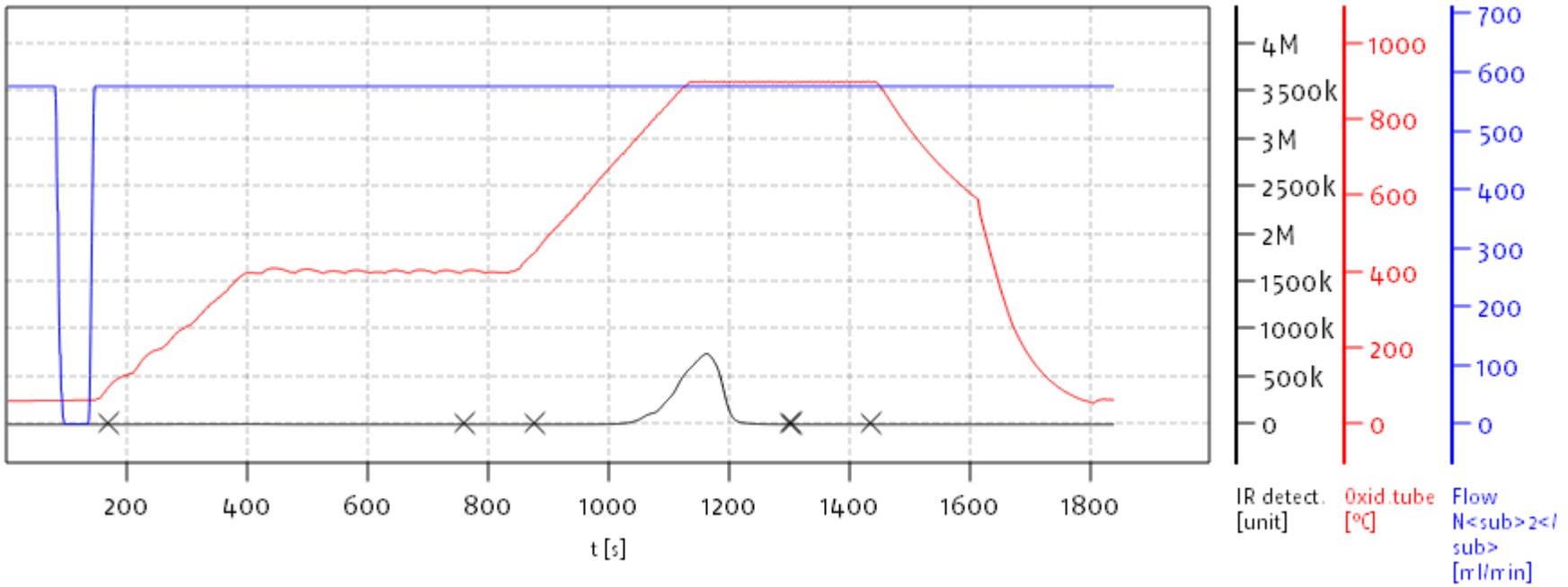
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	20	SEQ-CALI	200.00	0.0306	1.00	CARBON	7/13/2021 11:52 PM	0.021	1.800	1.821	bl,C2u	20 790	2 358 162	940	1.0000	0.9674



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Analyst: BF

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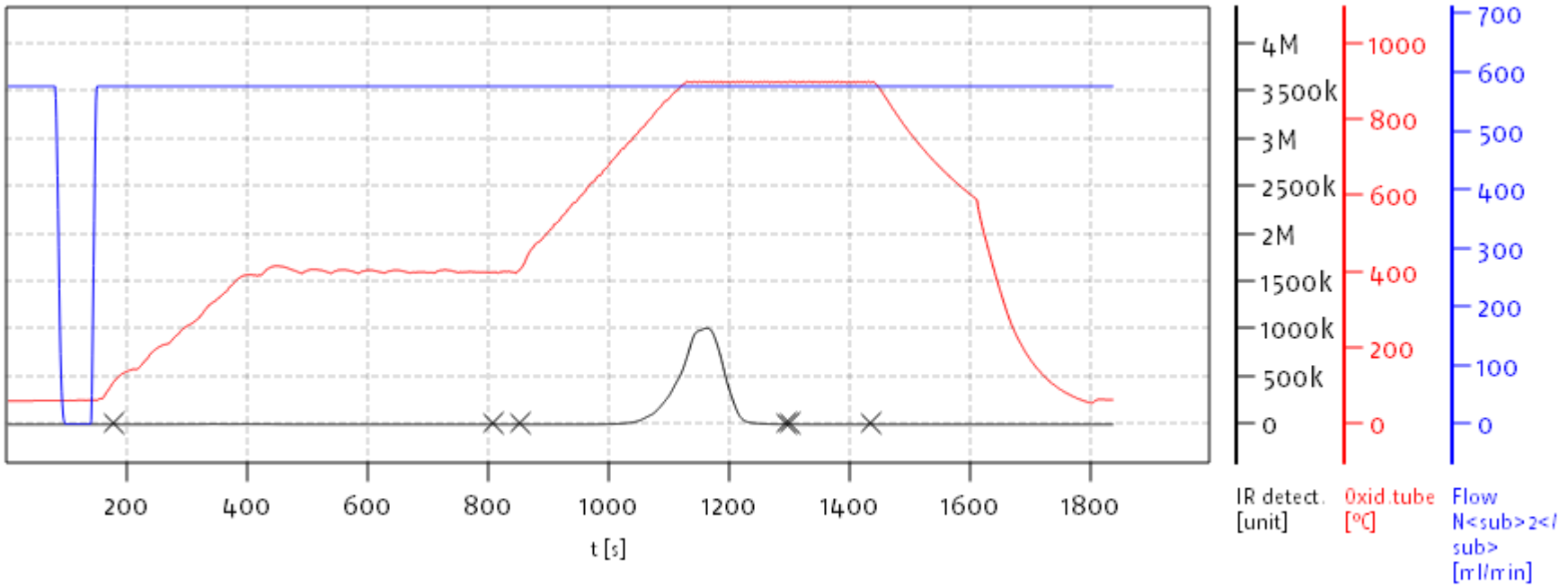
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	21	SEQ-CALJ	200.00	0.0419	1.00	CARBON	7/14/2021 12:23 AM	0.020	2.400	2.420	bl,C2u	17 643	3 227 695	2 142	1.0000	0.9426



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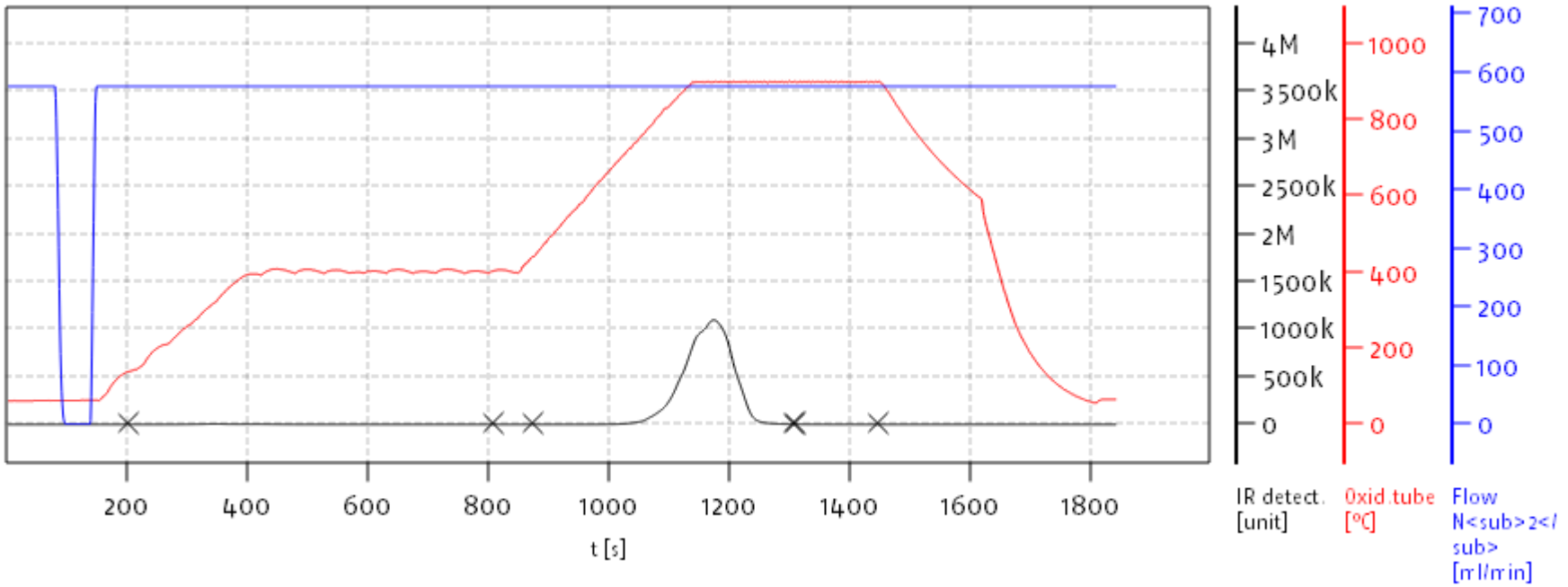
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	22	SEQ-CALK	200.00	0.0501	1.00	CARBON	7/14/2021 12:55 AM	0.023	3.012	3.035	bl,C2u	21 378	3 860 392	2 936	1.0000	0.9892



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Analyst: BF

Analytical Resources, Incorporated
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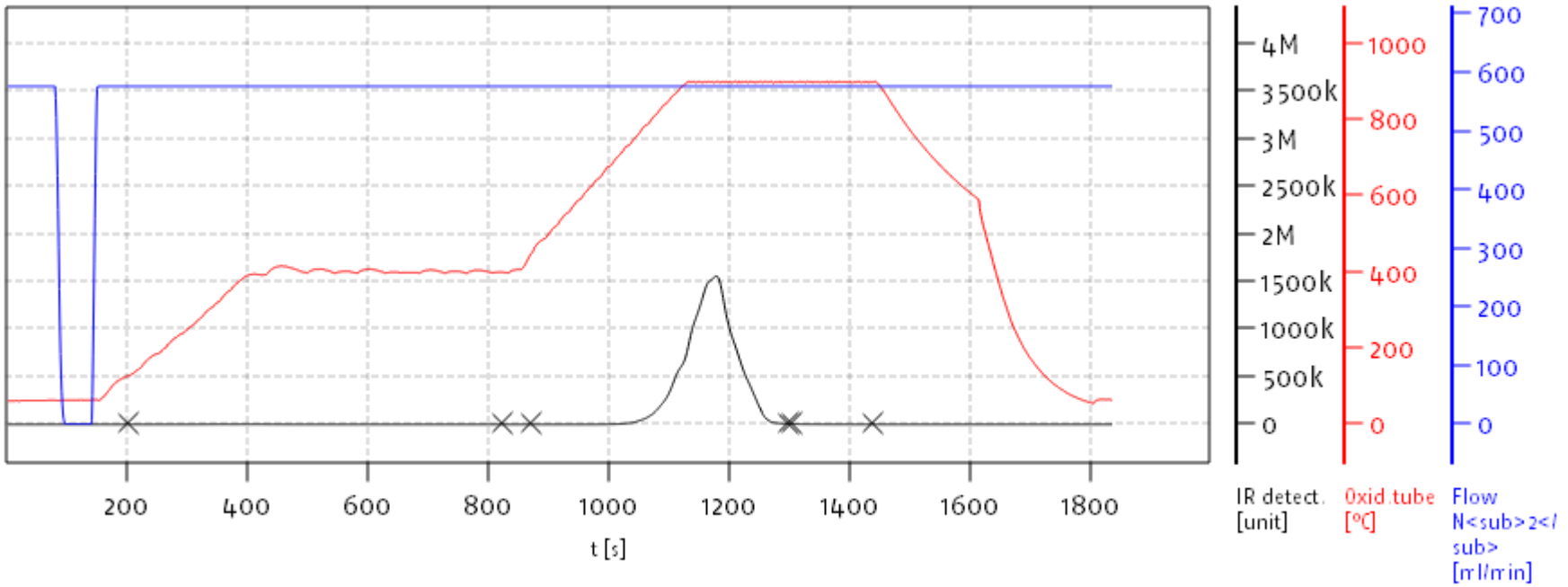
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	23	SEQ-CALL	200.00	0.0700	1.00	CARBON	7/14/2021 1:26 AM	0.016	4.206	4.222	bl,C1u,C2u	8 341	5 418 041	6 511	1.0000	0.9844



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Analytical Resources, Incorporated
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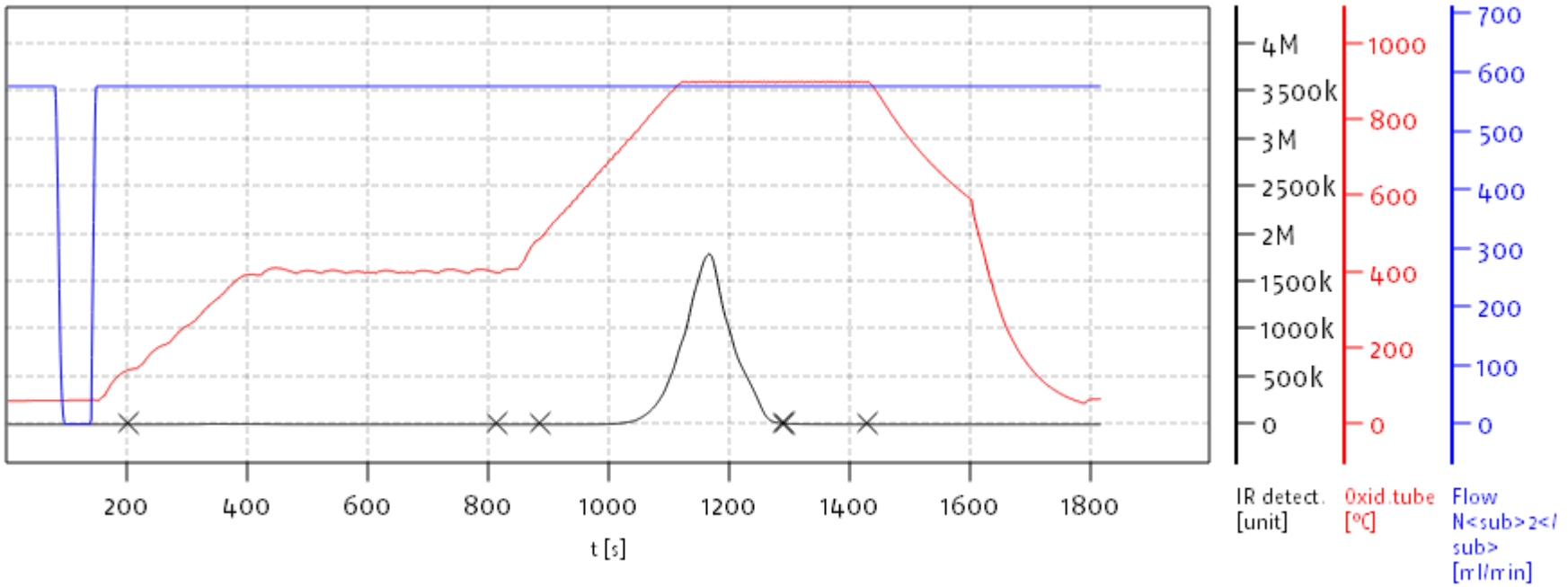
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	24	SEQ-CALM	200.00	0.0808	1.00	CARBON	7/14/2021 1:56 AM	0.032	4.812	4.844	bl	24 602	6 251 692	10 888	1.0000	0.9761



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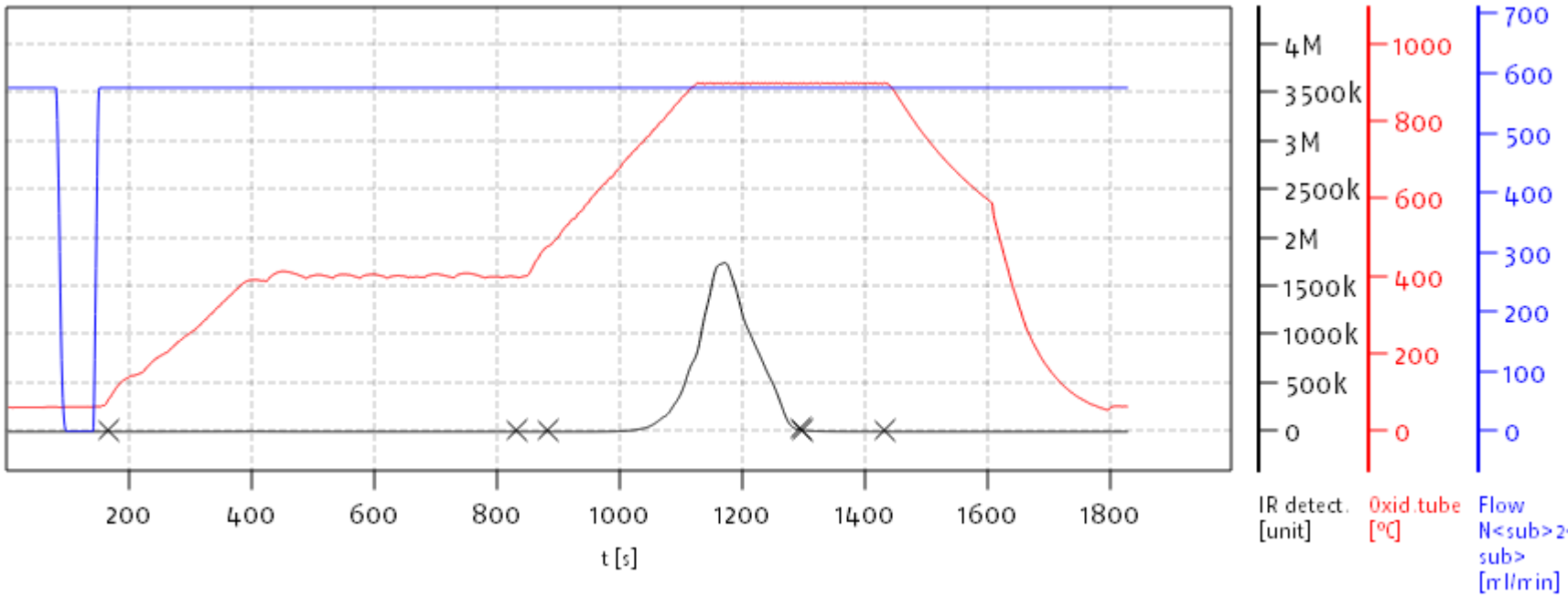
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	25	SEQ-CALN	200.00	0.0897	1.00	CARBON	7/14/2021 2:27 AM	0.025	5.406	5.431	bl	11 970	**6 909 943**	**14 720**	1.0000	0.9922



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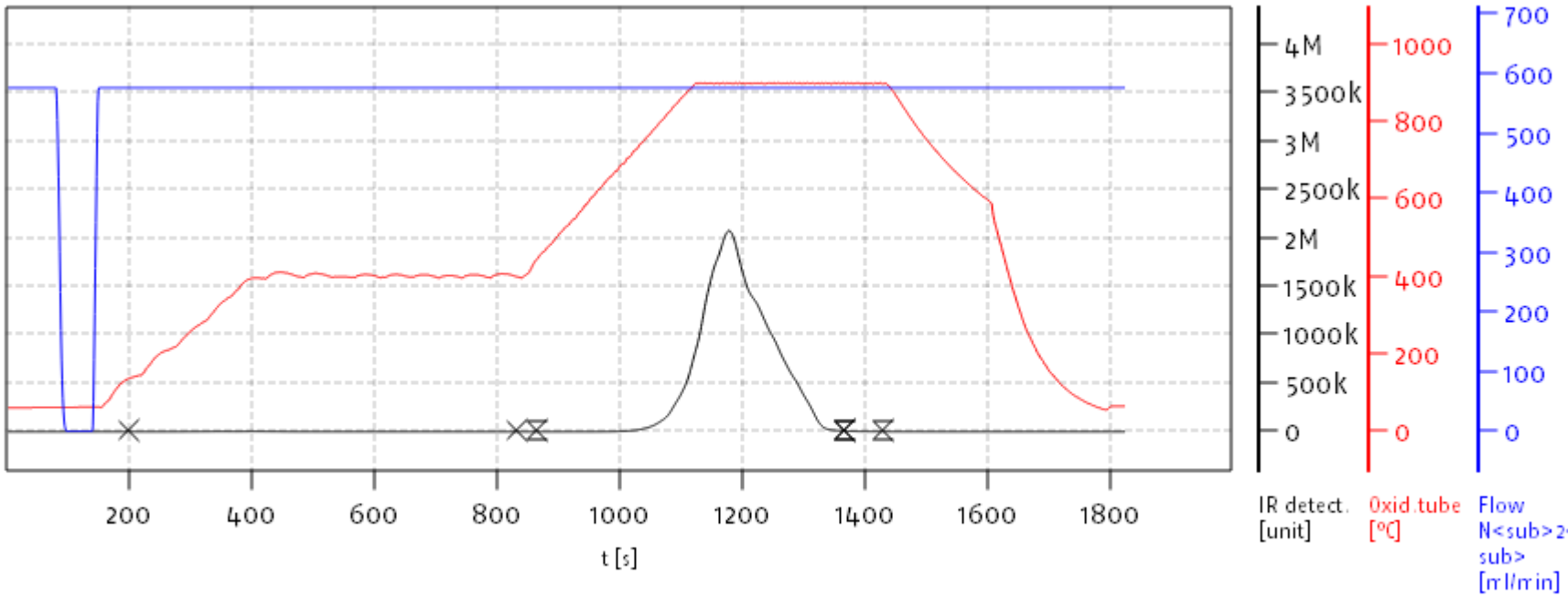
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	26	SEQ-CALO	200.00	0.1237	1.00	CARBON	7/14/2021 10:22 AM	0.013	7.434	7.447	bl,C3o	14 303	9 443 796	0	1.0000	0.9985



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Soli TOC Cube, Carbon
Balance: BAL3
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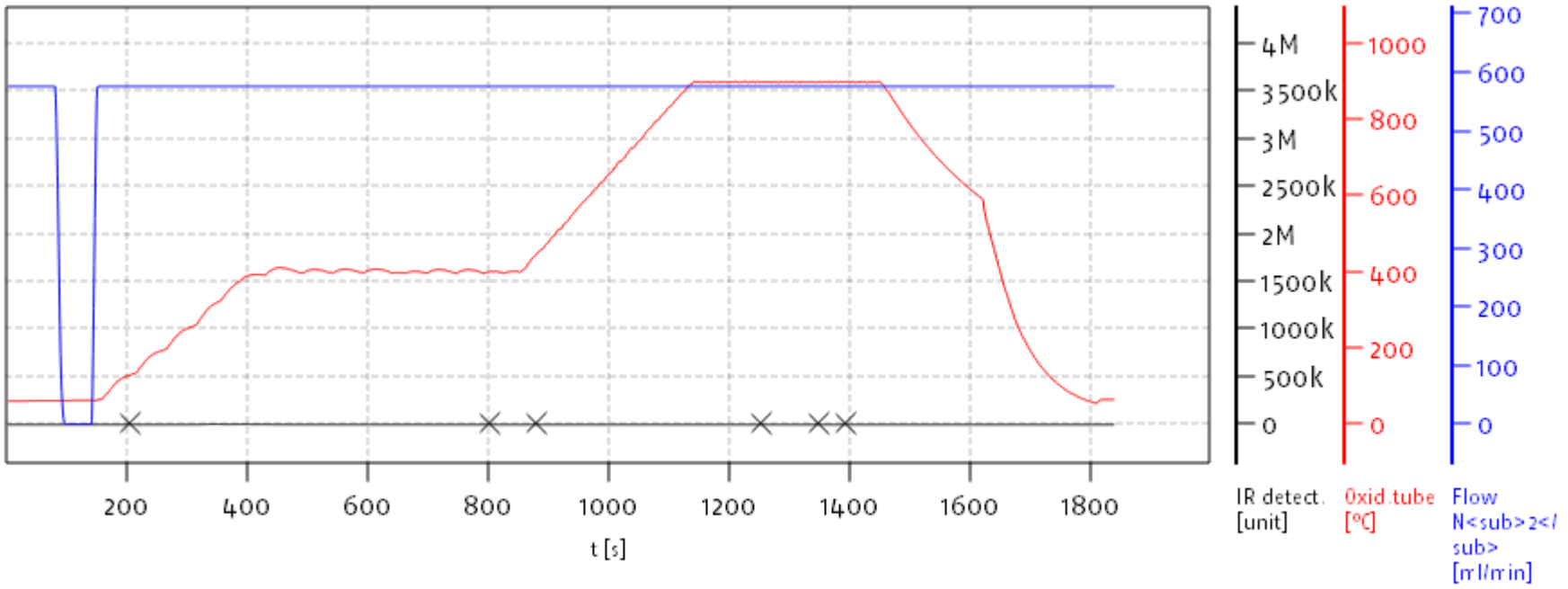
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	27	BLANK	1.00		1.00	CARBON	7/14/2021 3:29 AM	0.000	0.000	0.000	bl	15 377	4	0	1.0000	0.9704



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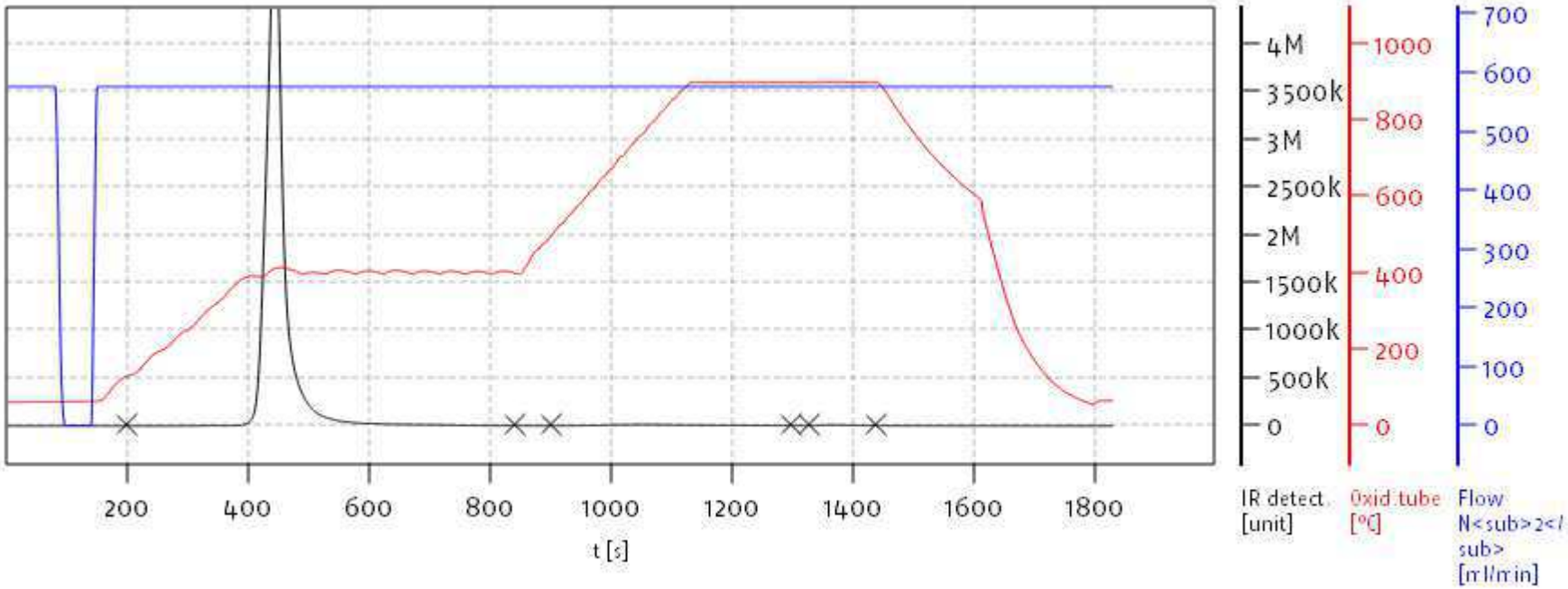
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	28	Dfactor	24.90		1.00	CARBON	7/14/2021 4:00 AM	44.620	0.675	45.295	bl	6 675 069	104 070	24 945	1.0513	1.0000



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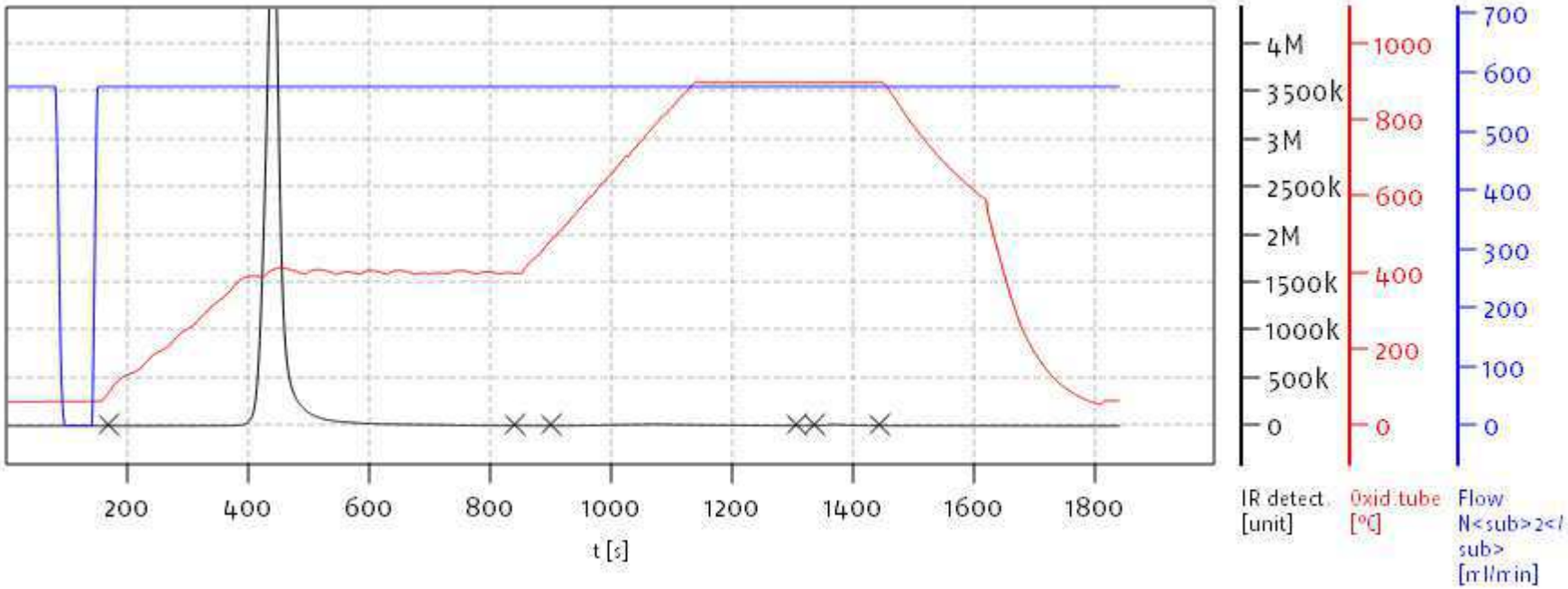
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	29	Dfactor	22.60		1.00	CARBON	7/14/2021 4:31 AM	44.643	0.810	45.453	bl	6 011 996	113 561	25 659	1.0594	1.0000



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Balance: BAL3
Analyst: BF

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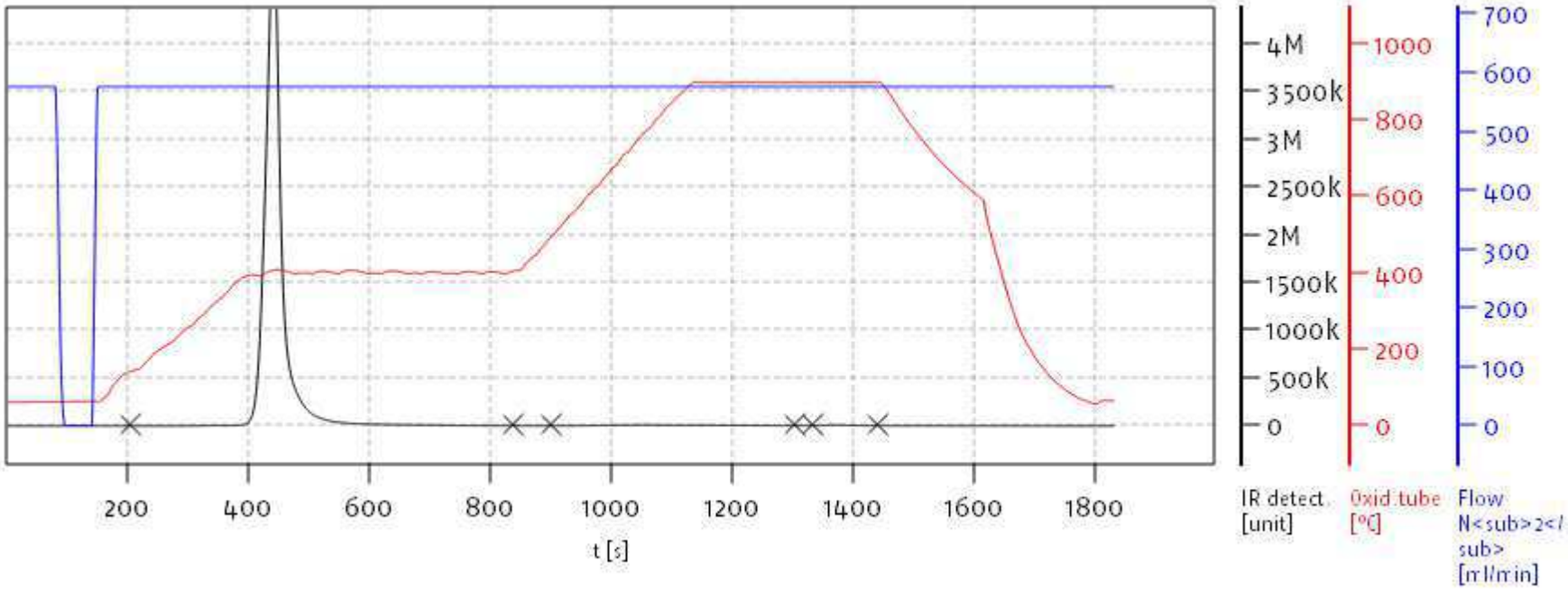
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	30	SEQ-ICV1	22.00		1.00	CARBON	7/14/2021 5:02 AM	44.870	0.594	45.465	bl	5 908 965	82 878	20 547	1.0554	0.9704



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Balance: BAL3
Analyst: BF

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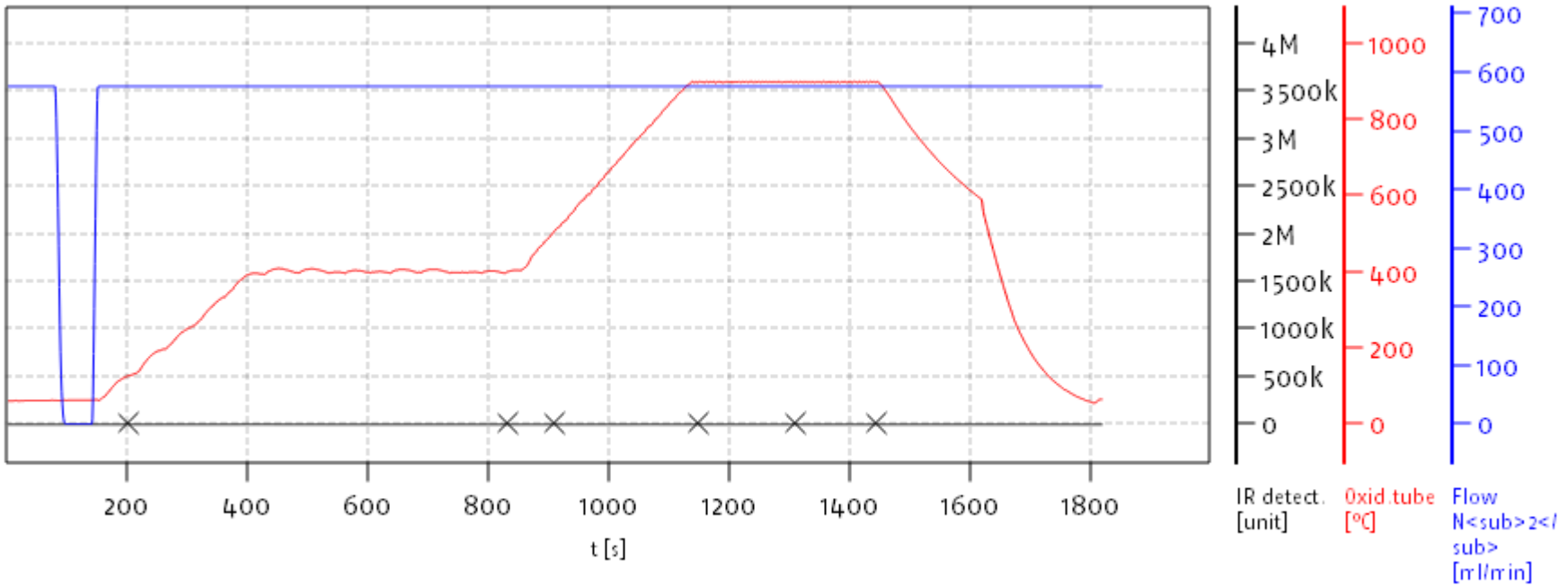
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	31	SEQ-ICB1	618.10		1.00	CARBON	7/14/2021 5:33 AM	0.002	0.001	0.003	bl,C1u,C3u,C2u	2 837	1 593	526	1.0554	0.9704



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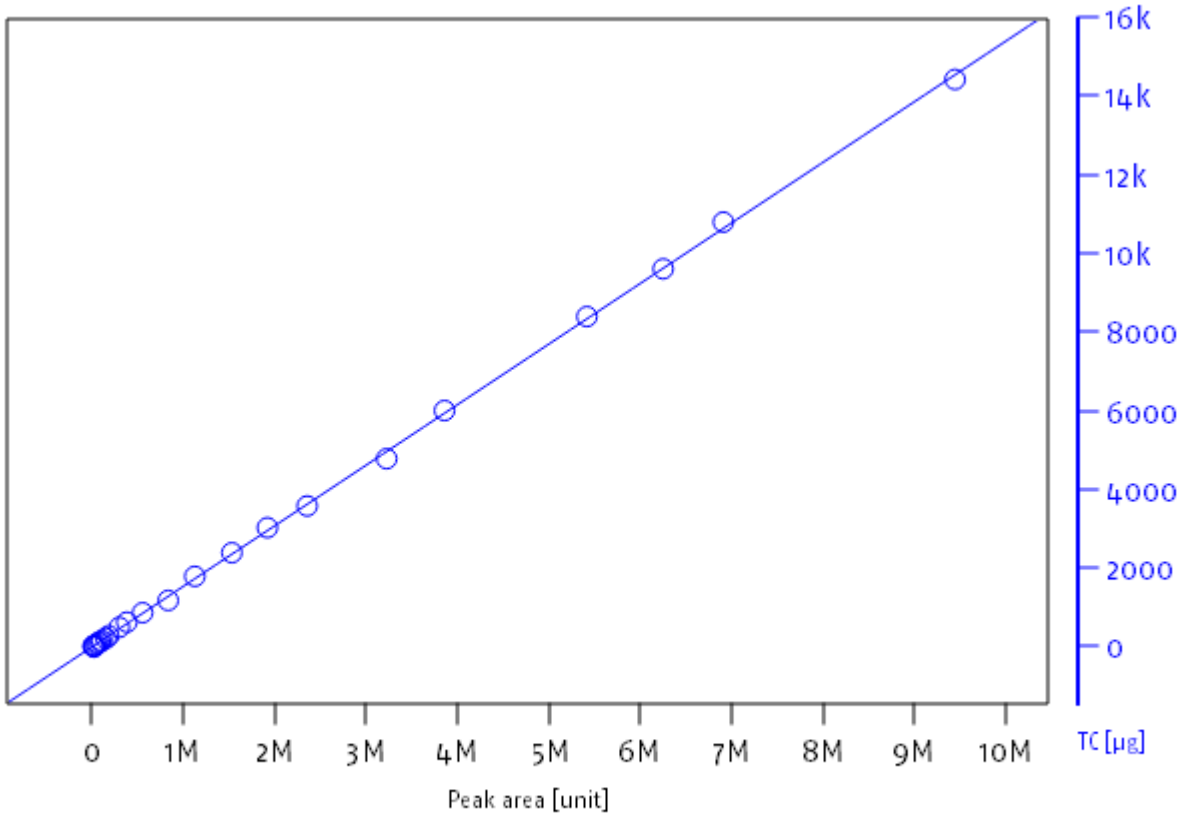
Calibration parameters TC, Whole range

a	+2.974966e-02
b	+1.539795e-06
c	+0.000000e+00
d	+0.000000e+00
e	+0.000000e+00
r	0.999715
r_old	0.999715
Proc.-SD	68.758935 µg

Calibration graph TC, Whole range



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Access: soliTOC superuser

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Serial No: 0300.181017
Mode CCC

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00021	Instrument:	TOC Cube
Calibration Date:	08/10/2021 12:39		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0.008374	1136972	0.015851	1268816	0.020935	1128063	0.030804	1237761	0.04486	1233816	0.059515	1290515
Total Carbon	0.008374	1136972	0.015851	1268816	0.020935	1128063	0.030804	1237761	0.04486	1233816	0.059515	1290515
Total Inorganic Carbon	0.008374	1136972	0.015851	1268816	0.020935	1128063	0.030804	1237761	0.04486	1233816	0.059515	1290515
% Soot	0.008374	1136972	0.015851	1268816	0.020935	1128063	0.030804	1237761	0.04486	1233816	0.059515	1290515

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00021	Instrument:	TOC Cube
Calibration Date:	08/10/2021 12:39		

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0.074169	1310642	0.090319	1267275	0.11873	1241877	0.14864	1216079	0.234	1269470	0.312	1255862
Total Carbon	0.074169	1310642	0.090319	1267275	0.11873	1241877	0.14864	1216079	0.234	1269470	0.312	1255862
Total Inorganic Carbon	0.074169	1310642	0.090319	1267275	0.11873	1241877	0.14864	1216079	0.234	1269470	0.312	1255862
% Soot	0.074169	1310642	0.090319	1267275	0.11873	1241877	0.14864	1216079	0.234	1269470	0.312	1255862

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00021	Instrument:	TOC Cube
Calibration Date:	08/10/2021 12:39		

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0.432	1282236	0.588	1272976	0.9	1313973	1.218	1298577	1.506	1294082	1.824	1297751
Total Carbon	0.432	1282236	0.588	1272976	0.9	1313973	1.218	1298577	1.506	1294082	1.824	1297751
Total Inorganic Carbon	0.432	1282236	0.588	1272976	0.9	1313973	1.218	1298577	1.506	1294082	1.824	1297751
% Soot	0.432	1282236	0.588	1272976	0.9	1313973	1.218	1298577	1.506	1294082	1.824	1297751

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00021	Instrument:	TOC Cube
Calibration Date:	08/10/2021 12:39		

Compound	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	2.394	1299464	3	1290681	4.194	1296753	4.806	1298028	5.418	1299159	7.188	1270865
Total Carbon	2.394	1299464	3	1290681	4.194	1296753	4.806	1298028	5.418	1299159	7.188	1270865
Total Inorganic Carbon	2.394	1299464	3	1290681	4.194	1296753	4.806	1298028	5.418	1299159	7.188	1270865
% Soot	2.394	1299464	3	1290681	4.194	1296753	4.806	1298028	5.418	1299159	7.188	1270865

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

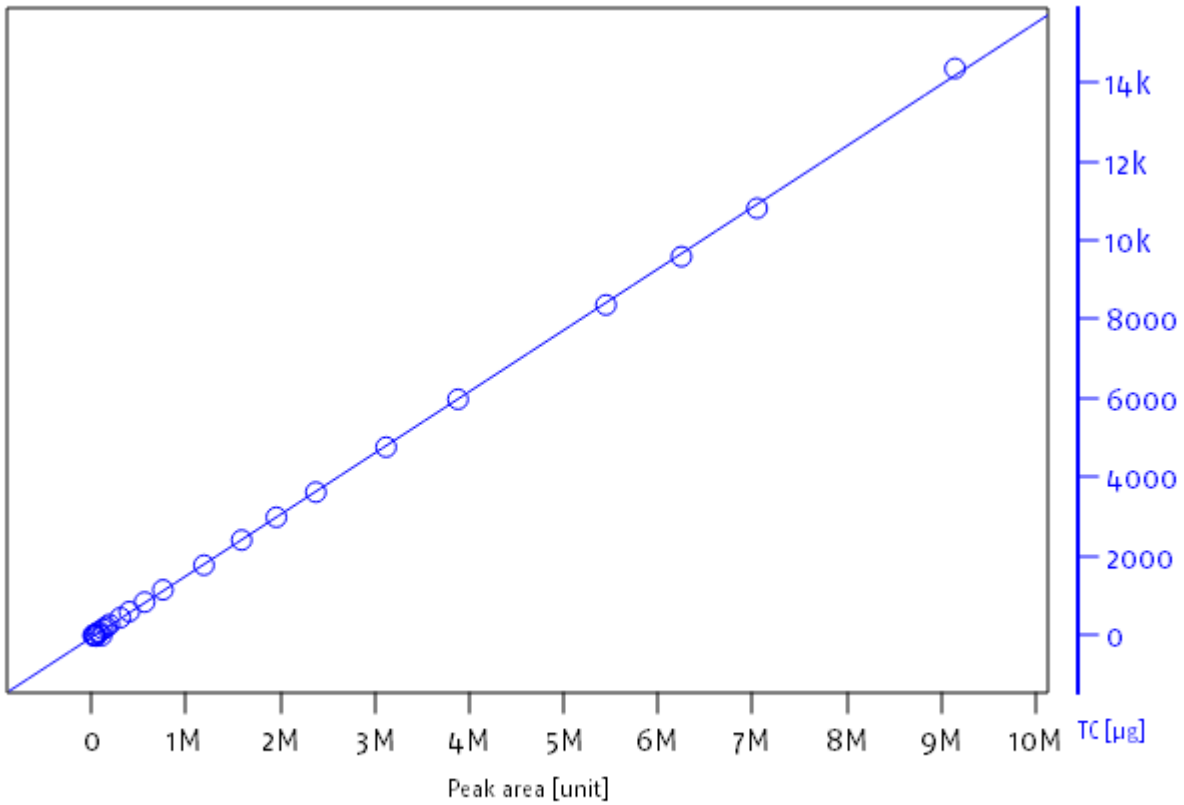
Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00021	Instrument:	TOC Cube
Calibration Date:	08/10/2021 12:39		

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	COD Limit	Q
Total Organic Carbon	1265487	3.8	0.9998			
Total Carbon	1265487	3.8	0.9998			
Total Inorganic Carbon	1265487	3.8	0.9998			
% Soot	1265487	3.8	0.9998			

Calibration parameters TC, Whole range

a	-1.664439e-02
b	+1.556221e-06
c	+0.000000e+00
d	+0.000000e+00
e	+0.000000e+00
r	0.999802
r_old	0.999802
Proc.-SD	57.257020 µg

Calibration graph TC, Whole range



Name:

Access: soliTOC superuser

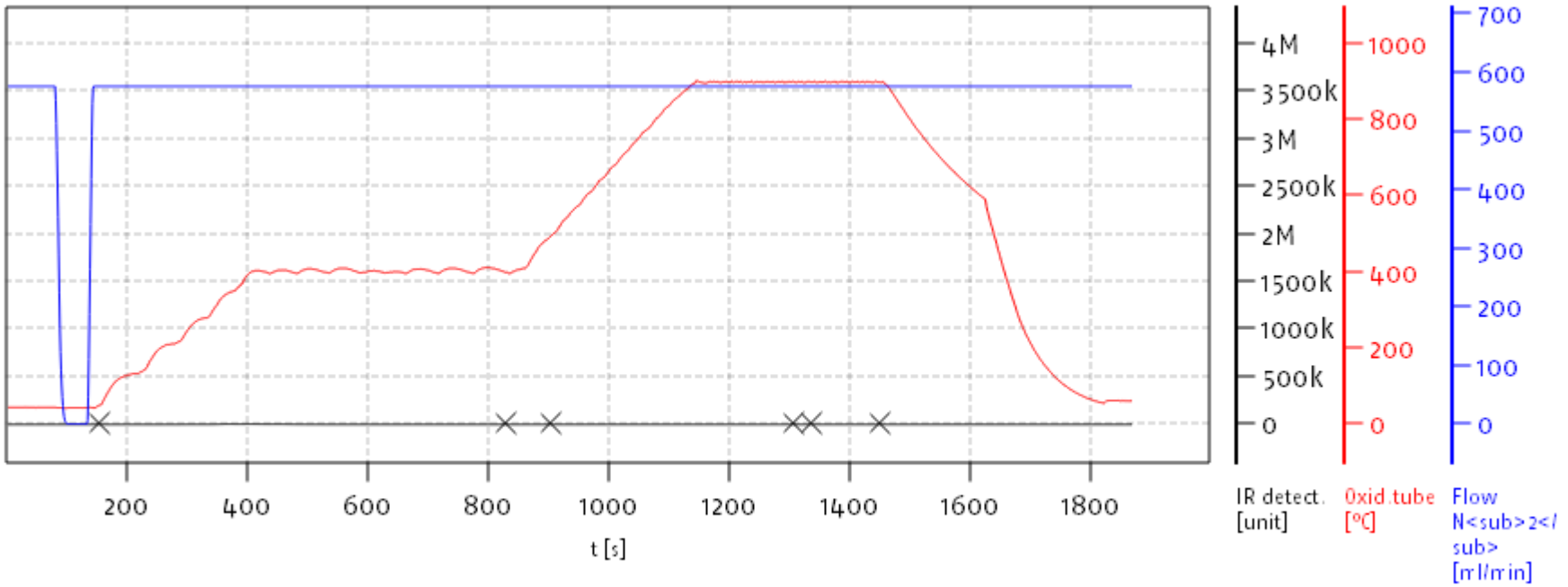
Date: Wed Aug 11 13:29:19 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	1	BLANK	1.00		1.00	CARBON	8/10/2021 1:17 PM	0.000	0.000	0.000	bl	22 805	4 168	1 160	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

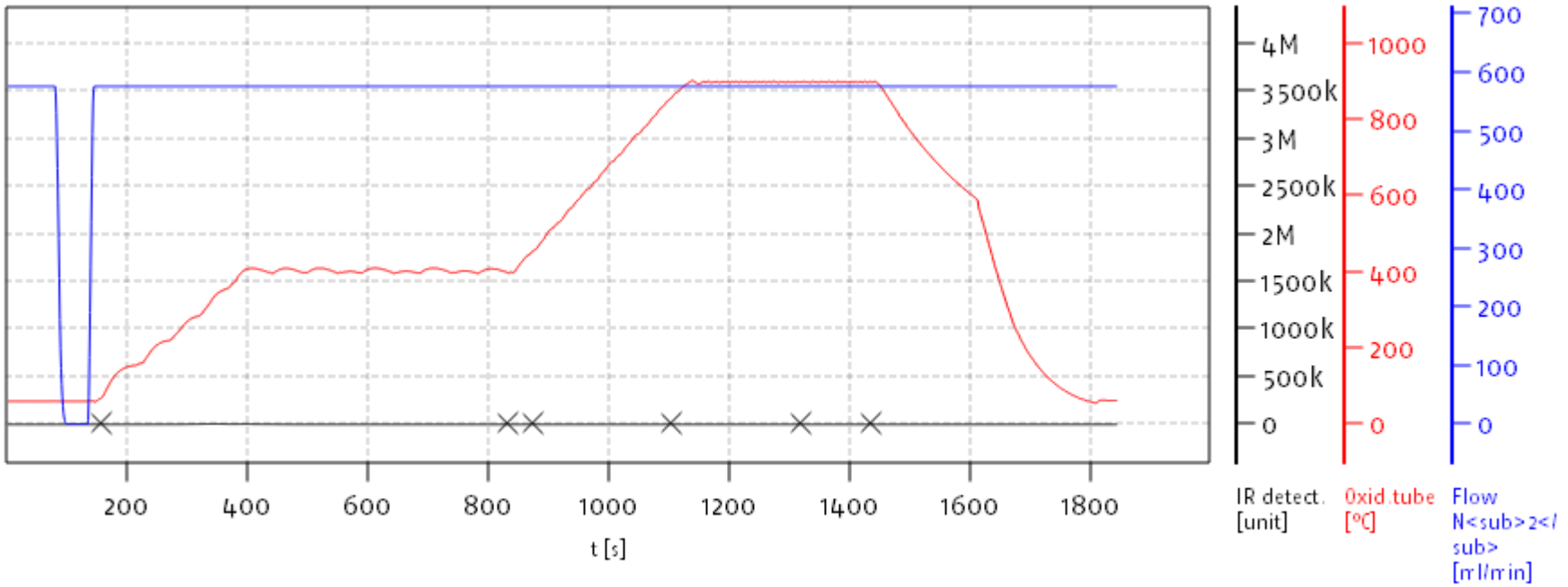
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	2	BLANK	1.00		1.00	CARBON	8/10/2021 1:48 PM	0.000	0.000	0.000	bl	25 029	584	417	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

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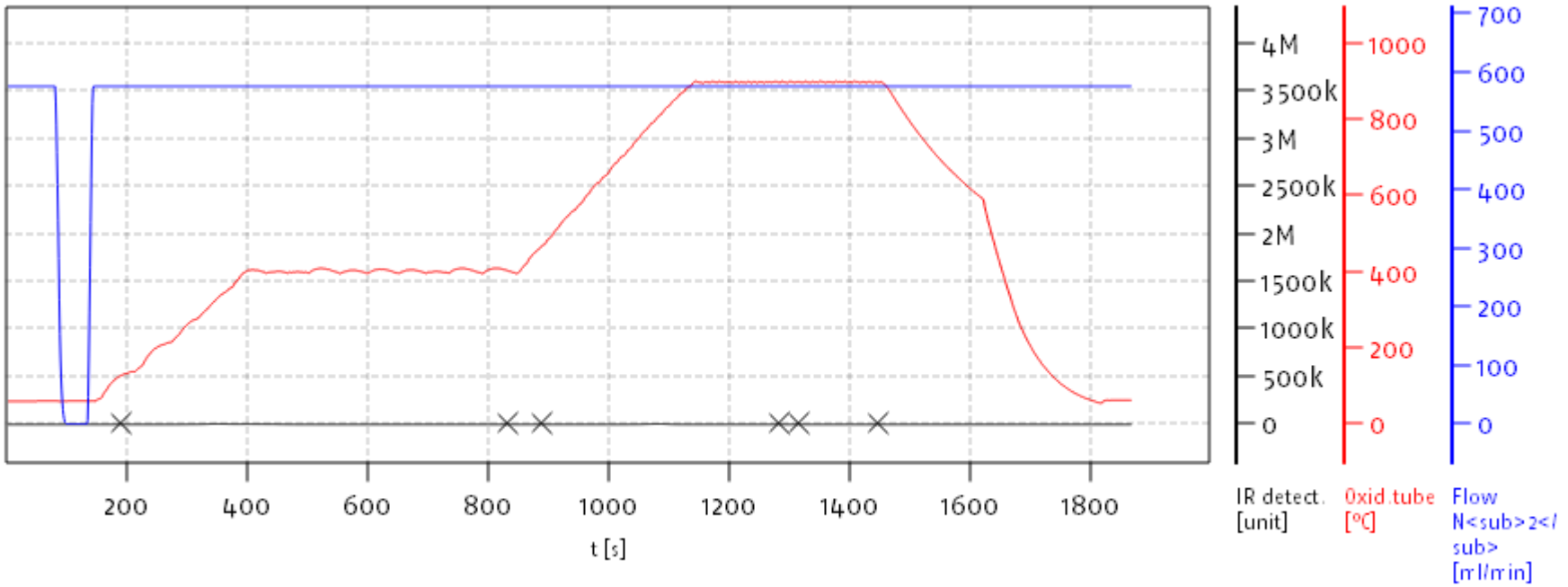
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	3	SJH0113-CAL1	200.00	0.0028	1.00	CARBON	8/10/2021 2:19 PM	0.022	0.010	0.032	bl,C2u	22 693	9 521	406	1.0000	1.0000



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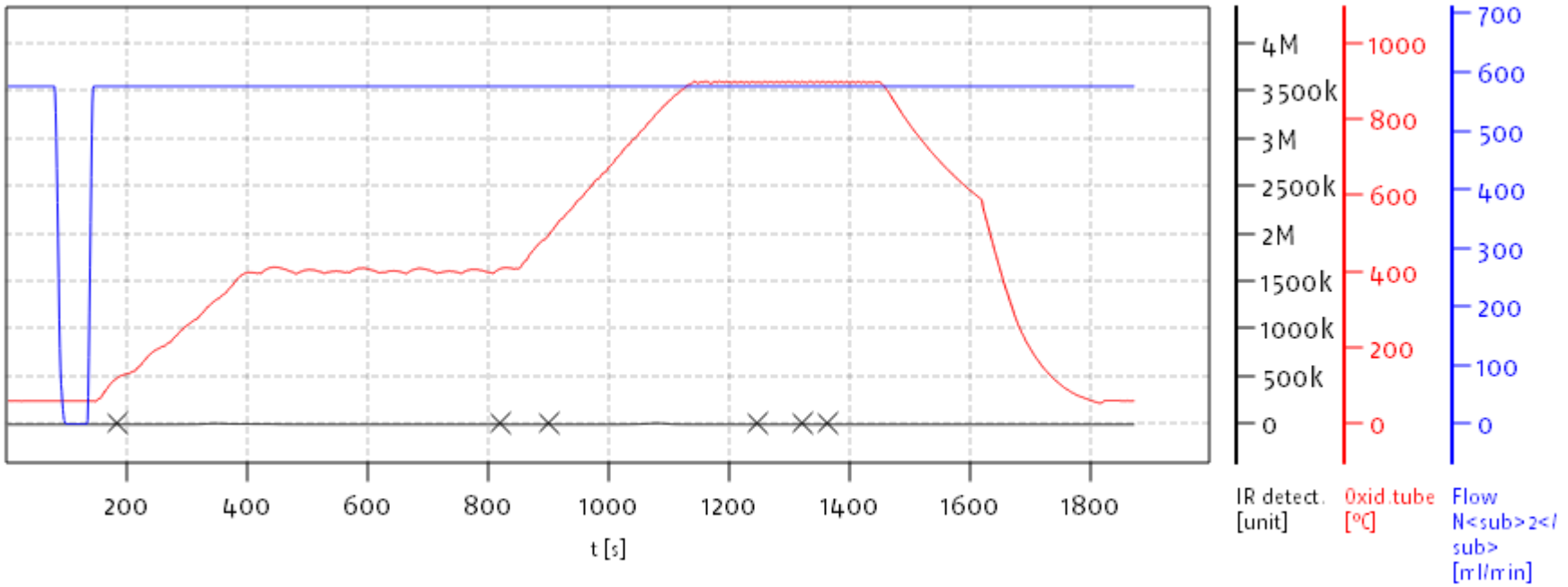
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	4	SJH0113-CAL2	200.00	0.0053	1.00	CARBON	8/10/2021 2:51 PM	0.029	0.018	0.046	bl,C2u	30 832	20 112	139	1.0000	1.0000



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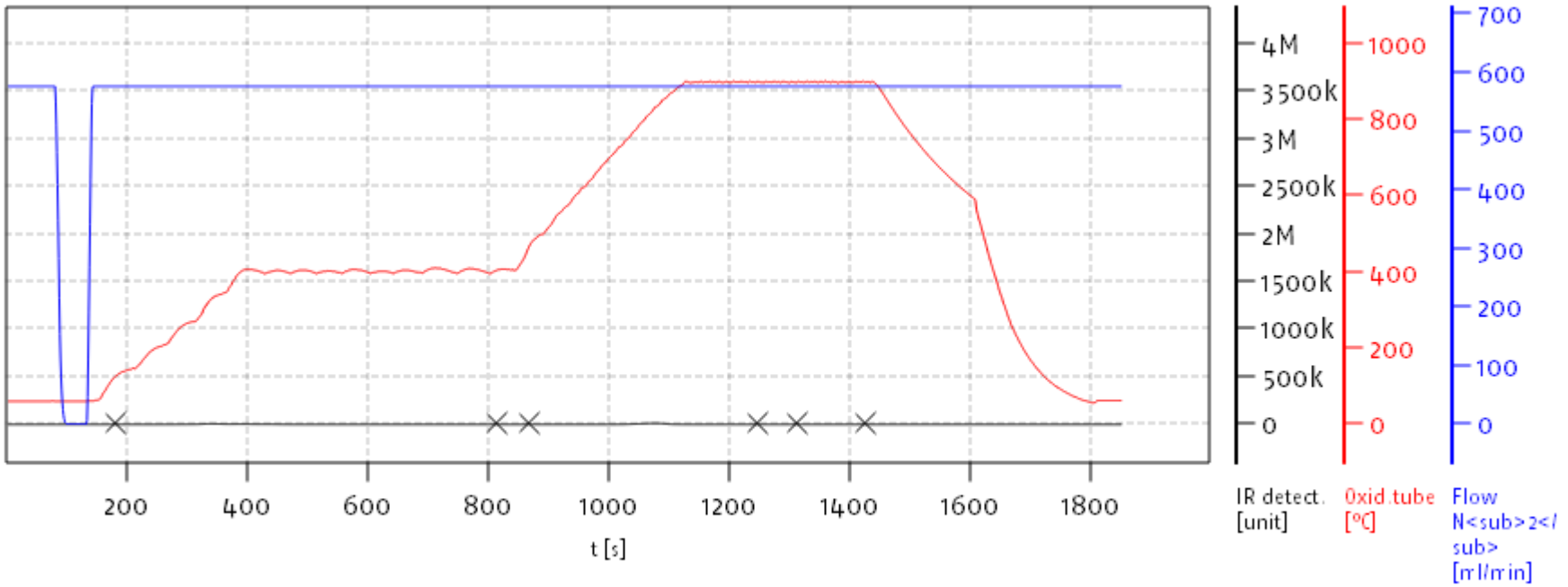
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	5	SJH0113-CAL3	200.00	0.0070	1.00	CARBON	8/10/2021 3:22 PM	0.022	0.021	0.043	bl,C2u	22 146	23 616	314	1.0000	1.0000



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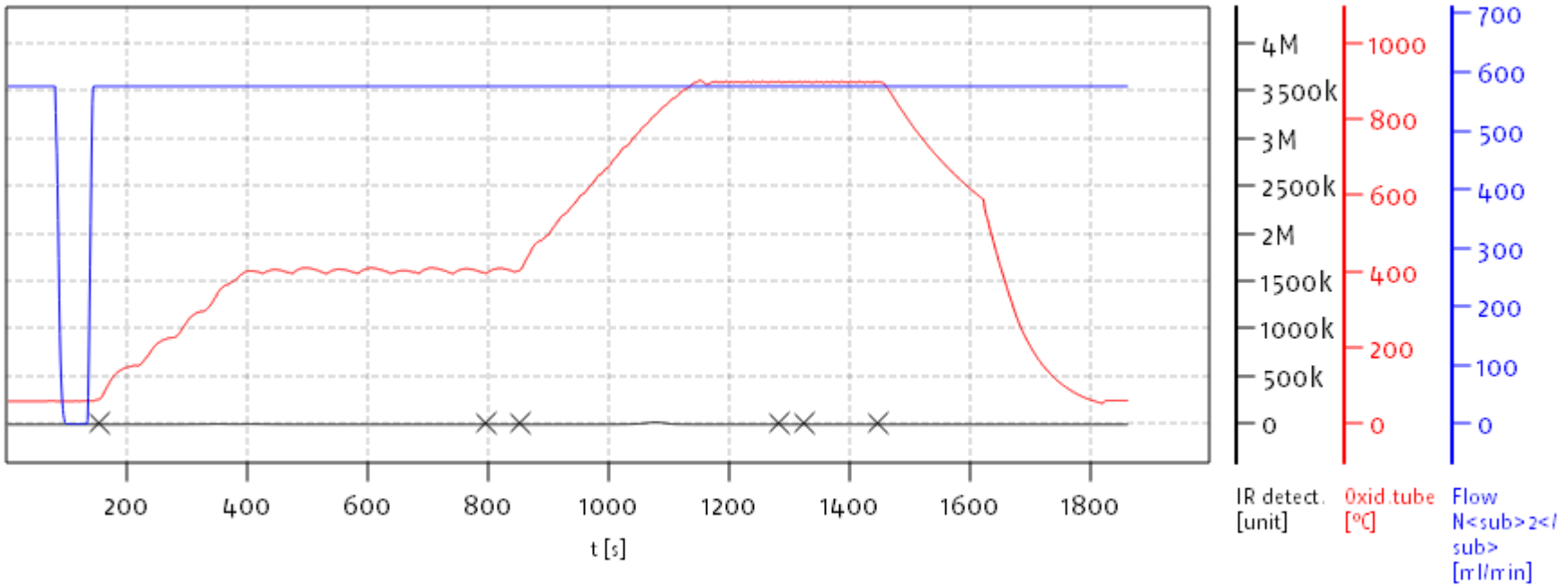
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	6	SJH0113-CAL4	200.00	0.0103	1.00	CARBON	8/10/2021 3:54 PM	0.018	0.032	0.050	bl,C2u	17 342	38 128	280	1.0000	1.0000



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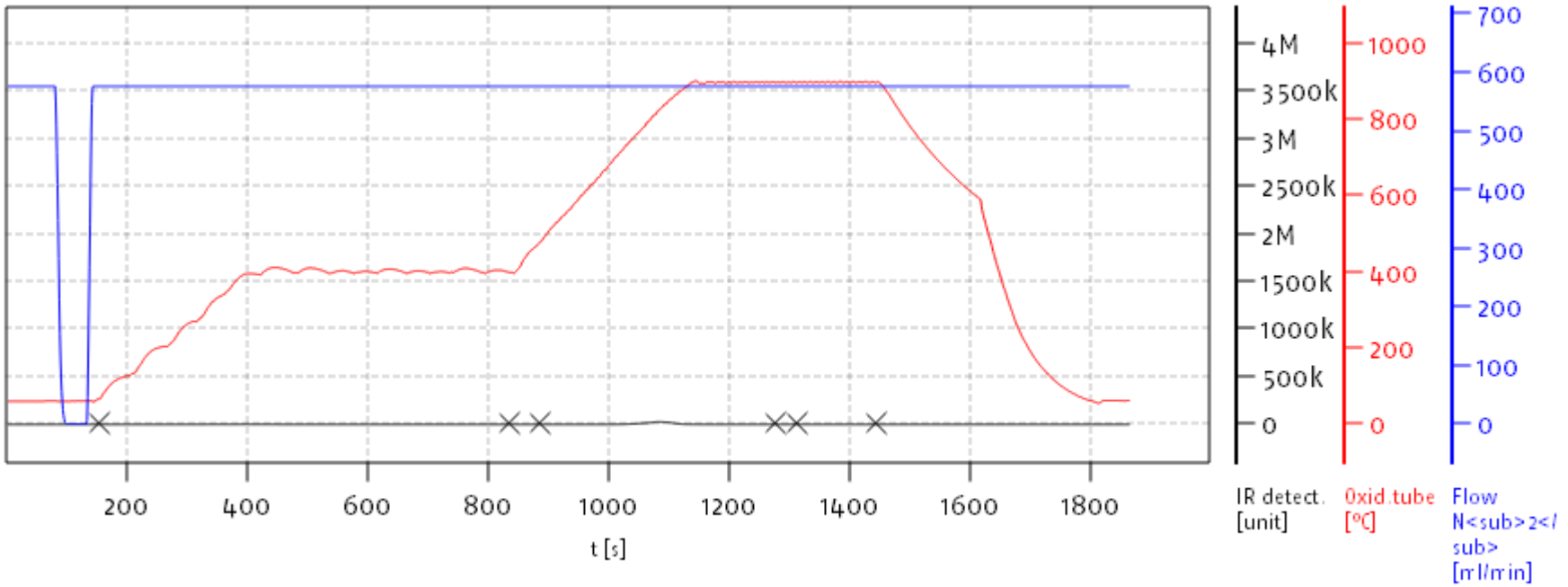
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	7	SJH0113-CAL5	200.00	0.0150	1.00	CARBON	8/10/2021 4:25 PM	0.009	0.046	0.055	bl,C1u,C2u	6 405	55 349	275	1.0000	1.0000



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Date: Wed Aug 11 13:04:23 2021

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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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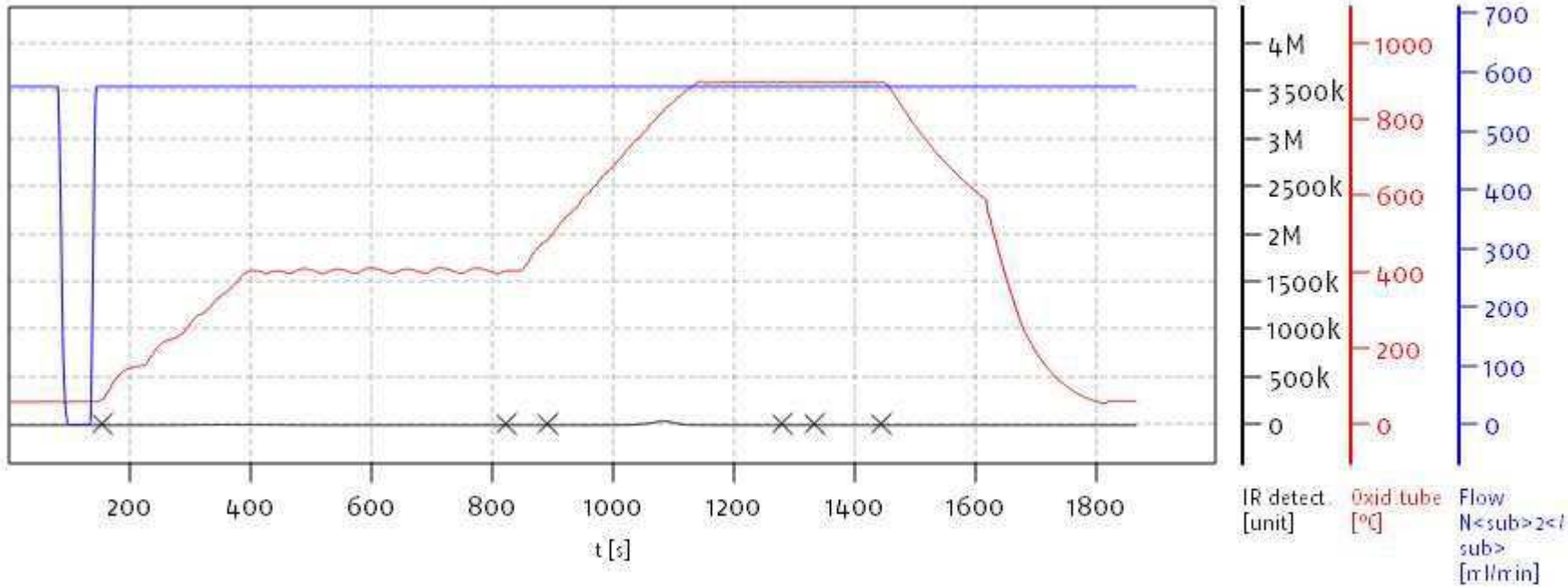
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	8	SJH0113-CAL6	200.00	0.0199	1.00	CARBON	8/10/2021 4:57 PM	0.024	0.063	0.087	bl,C2u	25 078	76 805	308	1.0000	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
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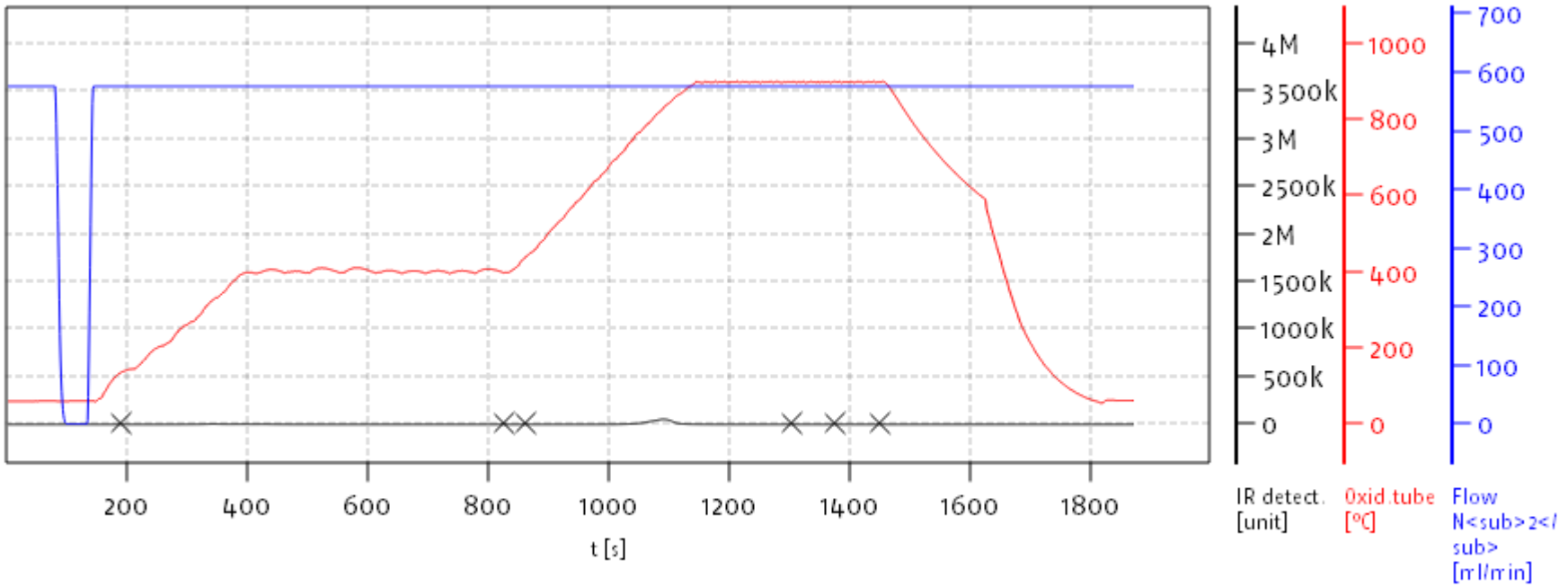
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	9	SJH0113-CAL7	200.00	0.0248	1.00	CARBON	8/10/2021 5:28 PM	0.017	0.079	0.096	bl,C2u	16 608	97 209	190	1.0000	1.0000



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Access: soliTOC superuser

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Mode CCC

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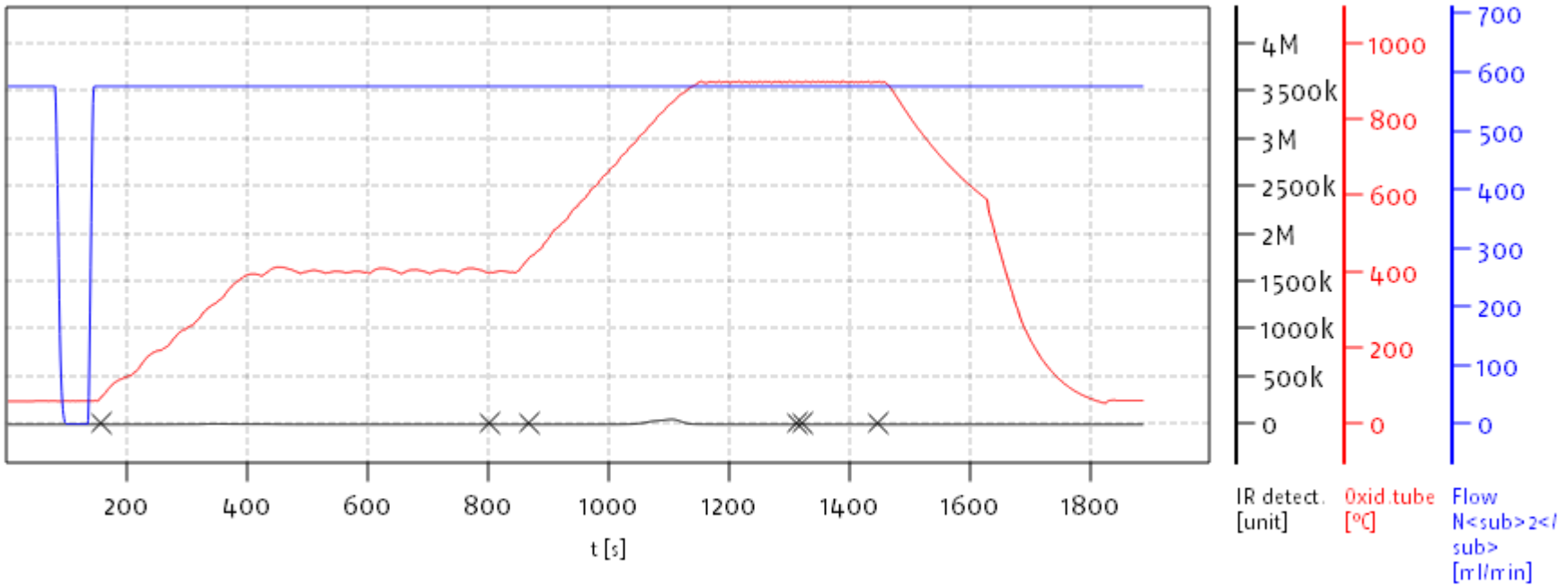
Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	10	SJH0113-CAL8	200.00	0.0302	1.00	CARBON	8/10/2021 6:00 PM	0.024	0.092	0.116	bl,C2u	24 582	114 459	270	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

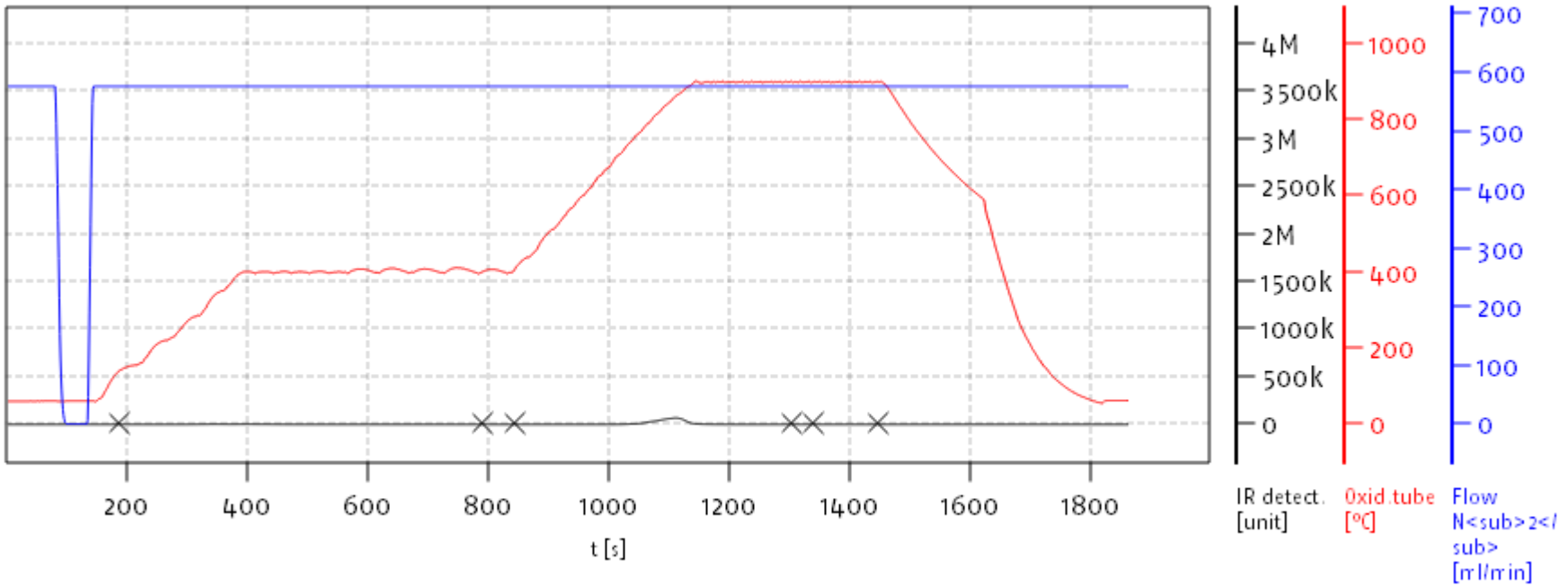
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	11	SJH0113-CAL9	200.00	0.0397	1.00	CARBON	8/10/2021 6:32 PM	0.014	0.118	0.132	bl,C2u	12 556	147 448	246	1.0000	1.0000



Name:

Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

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Serial No: 0300.181017
Mode CCC

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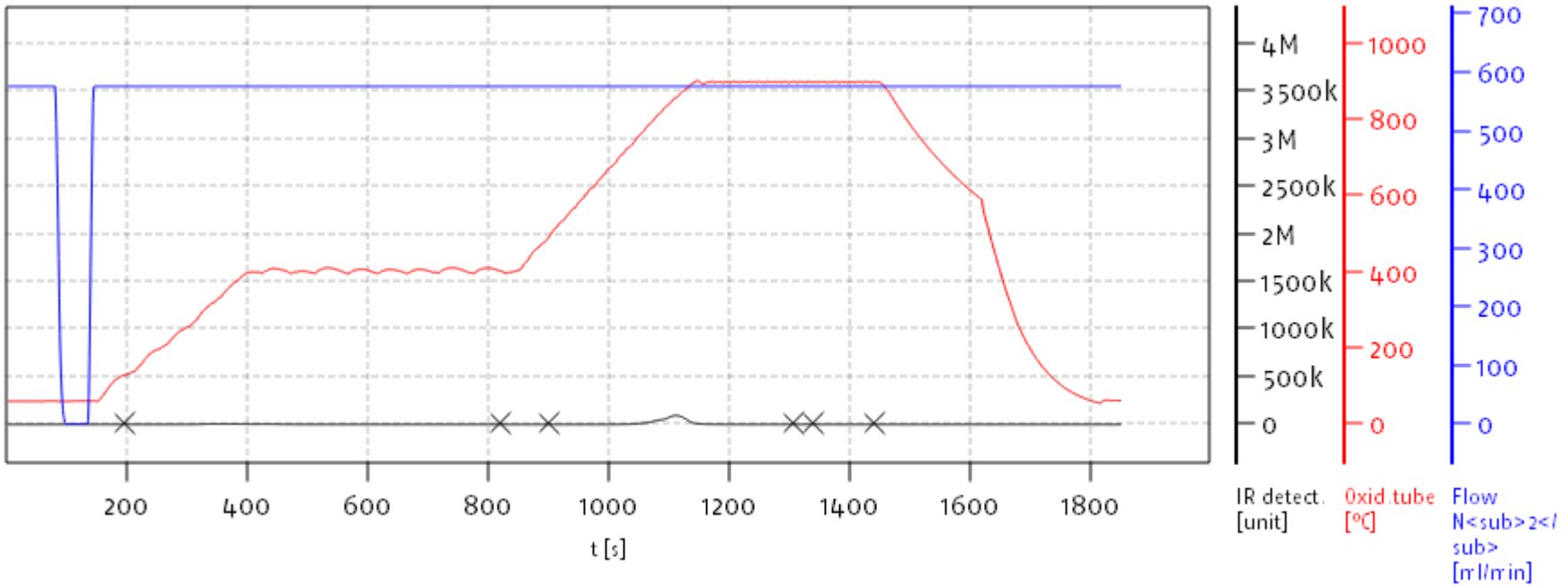
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	12	SJH0113-CALA	200.00	0.0497	1.00	CARBON	8/10/2021 7:03 PM	0.024	0.145	0.168	bl,C2u	24 575	180 758	227	1.0000	1.0000



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Soli TOC Cube, Carbon
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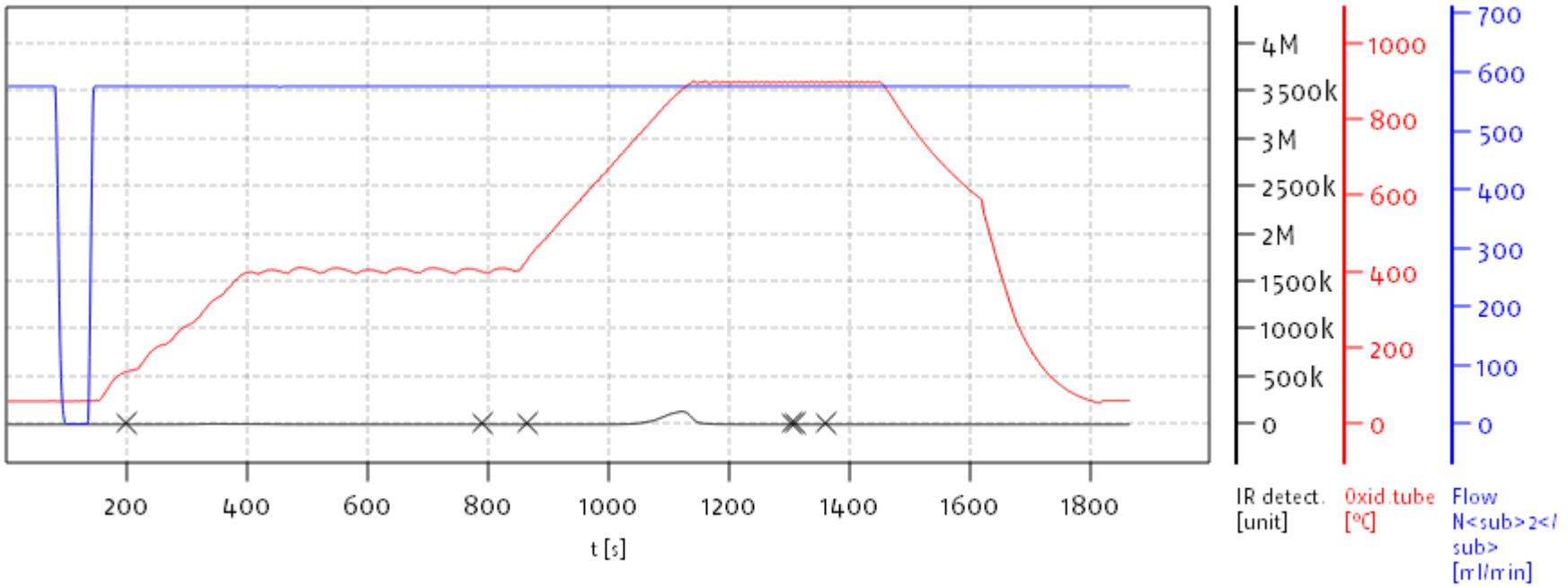
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	13	SJH0113-CALB	200.00	0.0039	1.00	CARBON	8/10/2021 7:34 PM	0.023	0.236	0.260	bl,C2u	24 401	297 056	121	1.0000	1.0000



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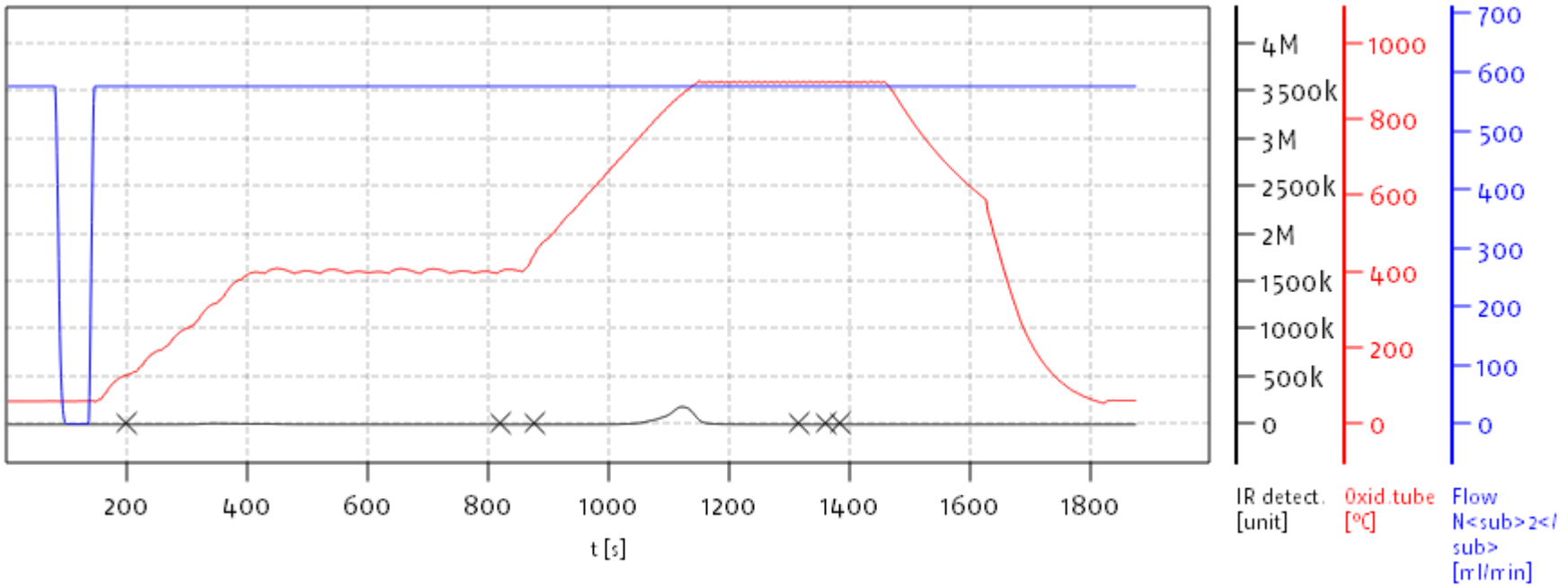
Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	14	SJH0113-CALC	200.00	0.0052	1.00	CARBON	8/10/2021 8:06 PM	0.036	0.311	0.347	bl,C2u	40 501	391 829	67	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

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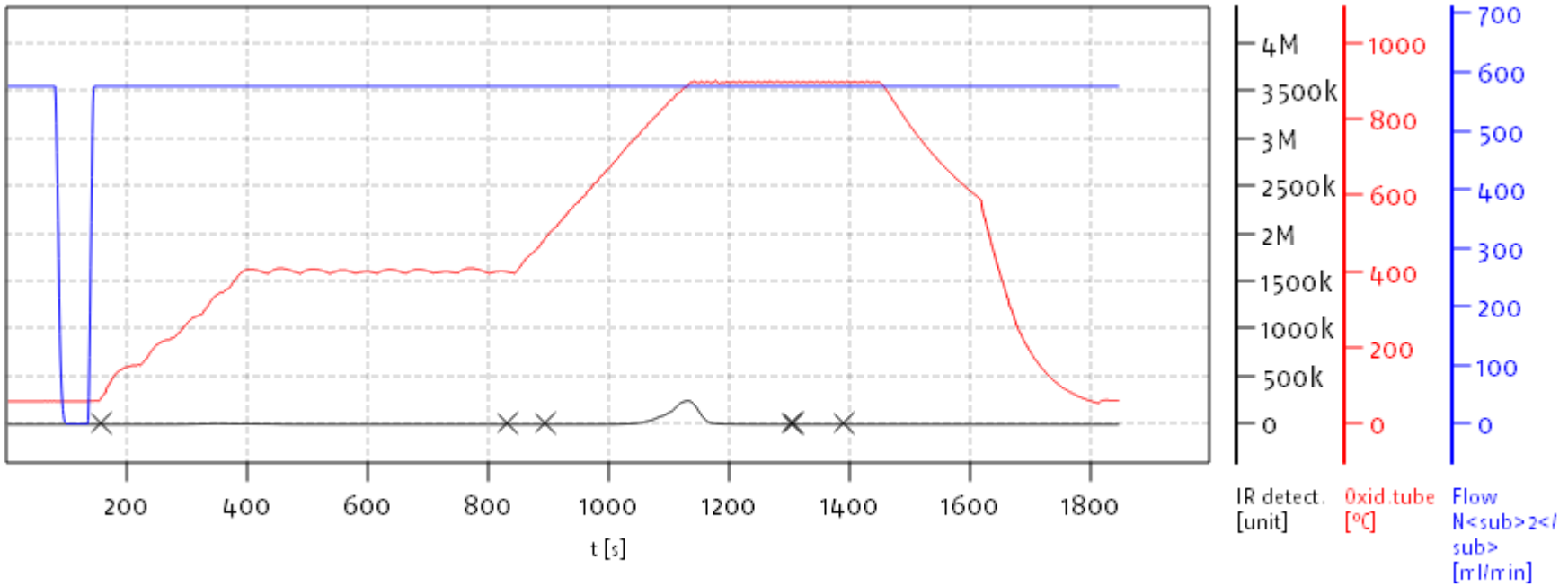
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	15	SJH0113-CALD	200.00	0.0072	1.00	CARBON	8/10/2021 8:37 PM	0.032	0.439	0.470	bl,C2u	34 638	553 926	294	1.0000	1.0000



Name:

Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

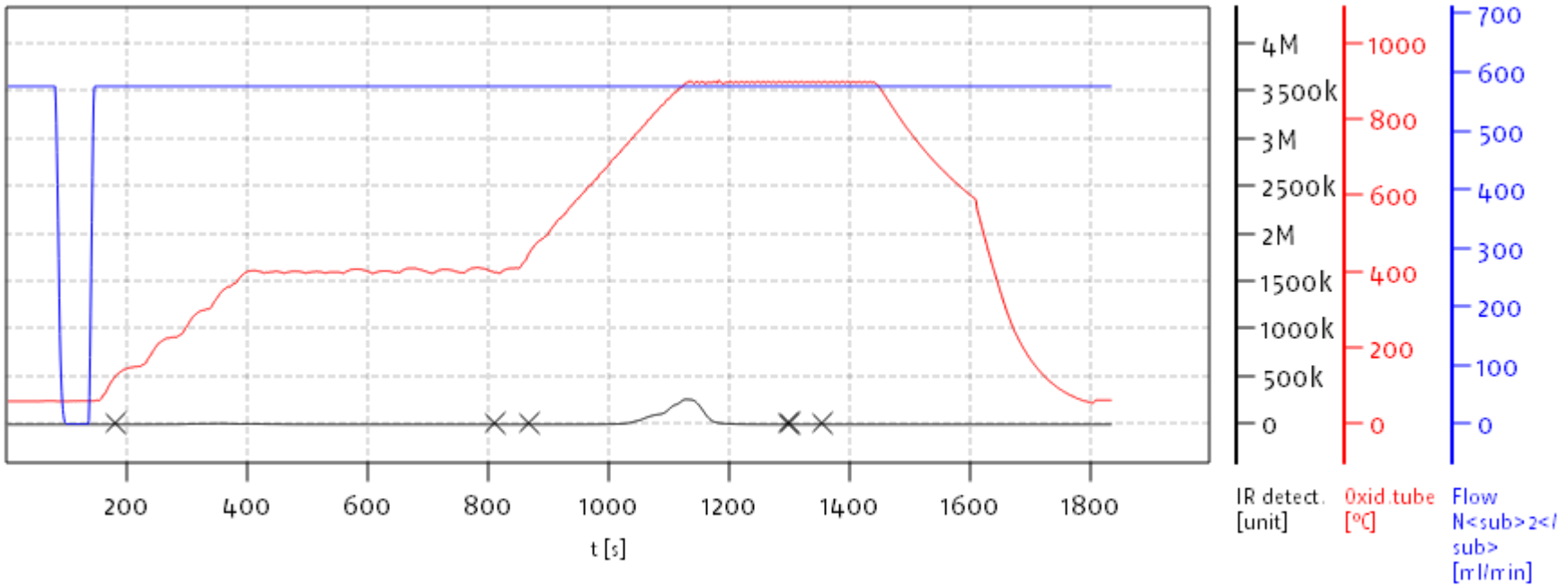
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	16	SJH0113-CALE	200.00	0.0098	1.00	CARBON	8/10/2021 9:08 PM	0.037	0.592	0.630	bl,C2u	42 067	748 510	251	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

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Analyst: BF

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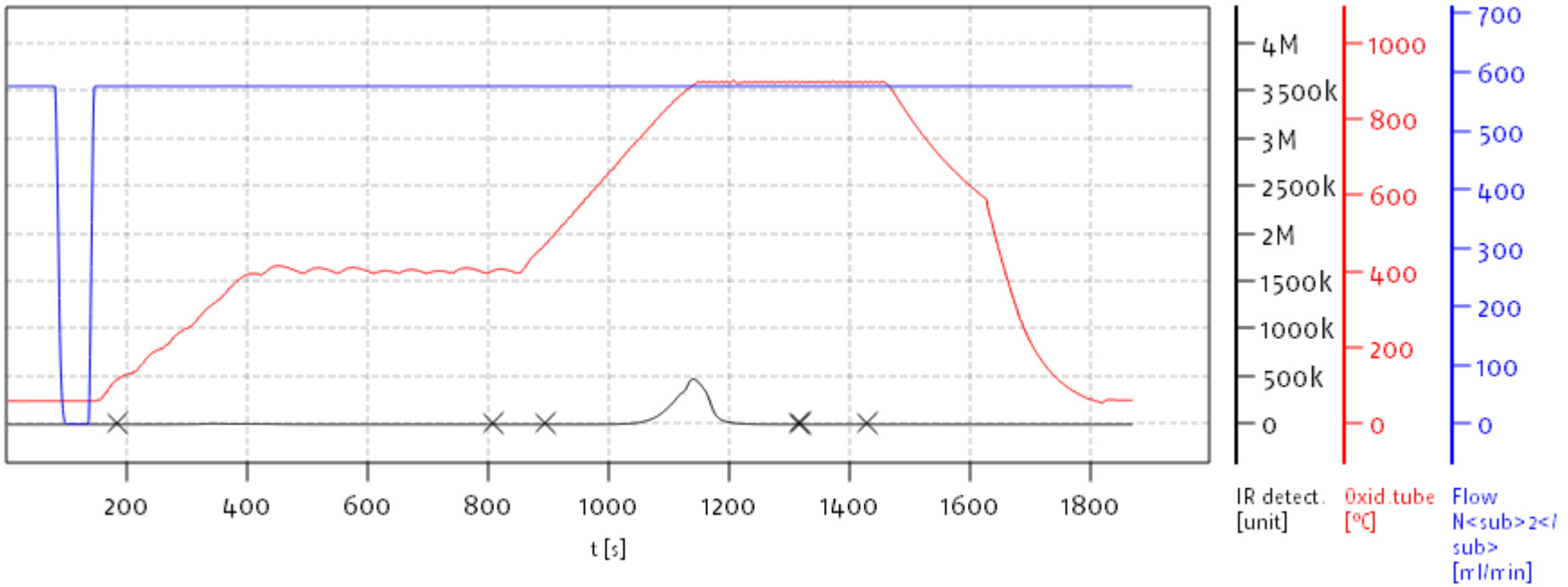
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	17	SJH0113-CALF	200.00	0.0150	1.00	CARBON	8/10/2021 9:40 PM	0.030	0.934	0.964	bl,C2u	32 751	1 182 576	479	1.0000	1.0000



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Balance: BAL3
Analyst: BF

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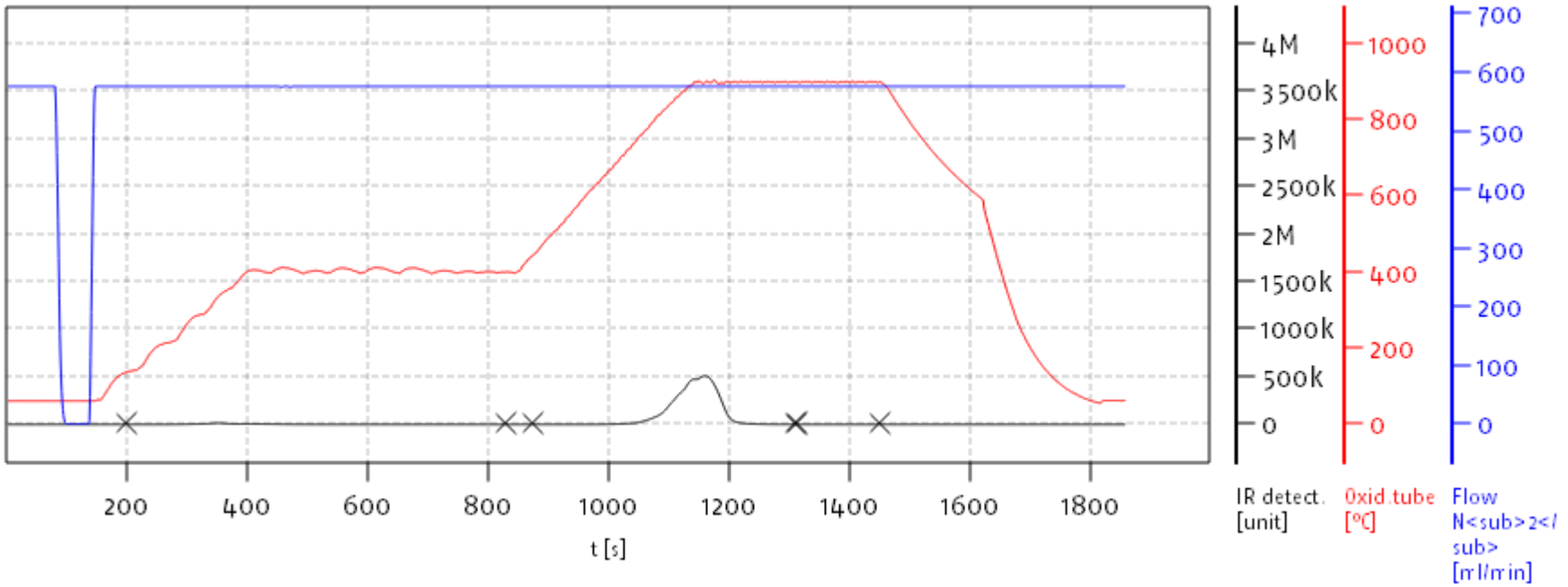
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	18	SJH0113-CALG	200.00	0.0203	1.00	CARBON	8/10/2021 10:11 PM	0.039	1.249	1.287	bl,C2u	42 932	1 581 667	955	1.0000	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
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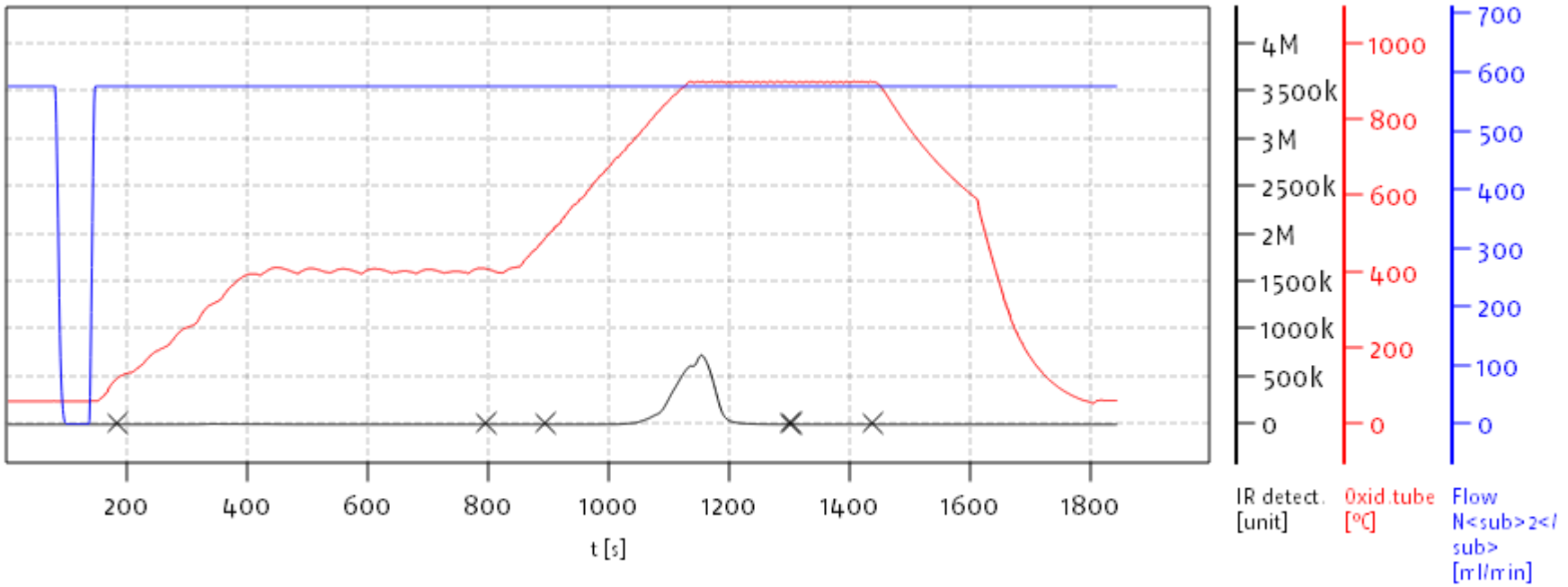
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	19	SJH0113-CALH	200.00	0.0251	1.00	CARBON	8/10/2021 10:42 PM	0.019	1.538	1.557	bl,C2u	17 895	1 948 888	1 191	1.0000	1.0000



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Balance: BAL3
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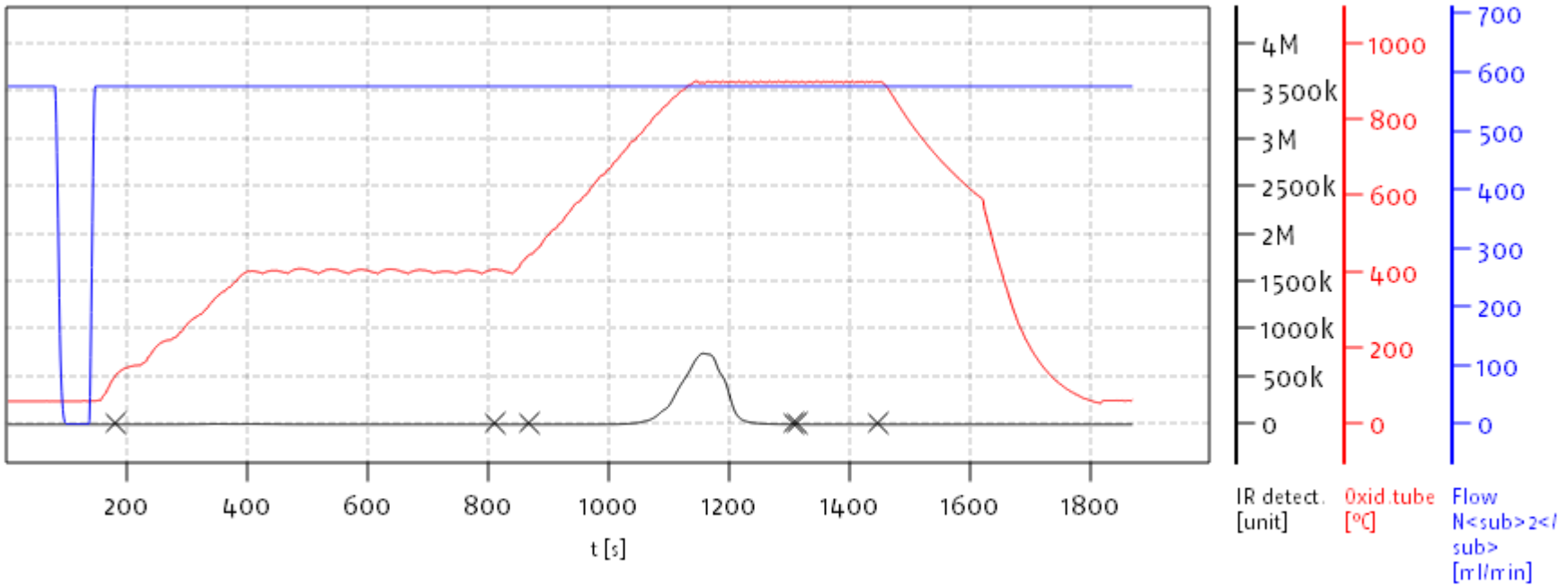
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	20	SJH0113-CALI	200.00	0.0304	1.00	CARBON	8/10/2021 11:14 PM	0.024	1.868	1.892	bl,C2u	23 738	2 367 098	1 836	1.0000	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
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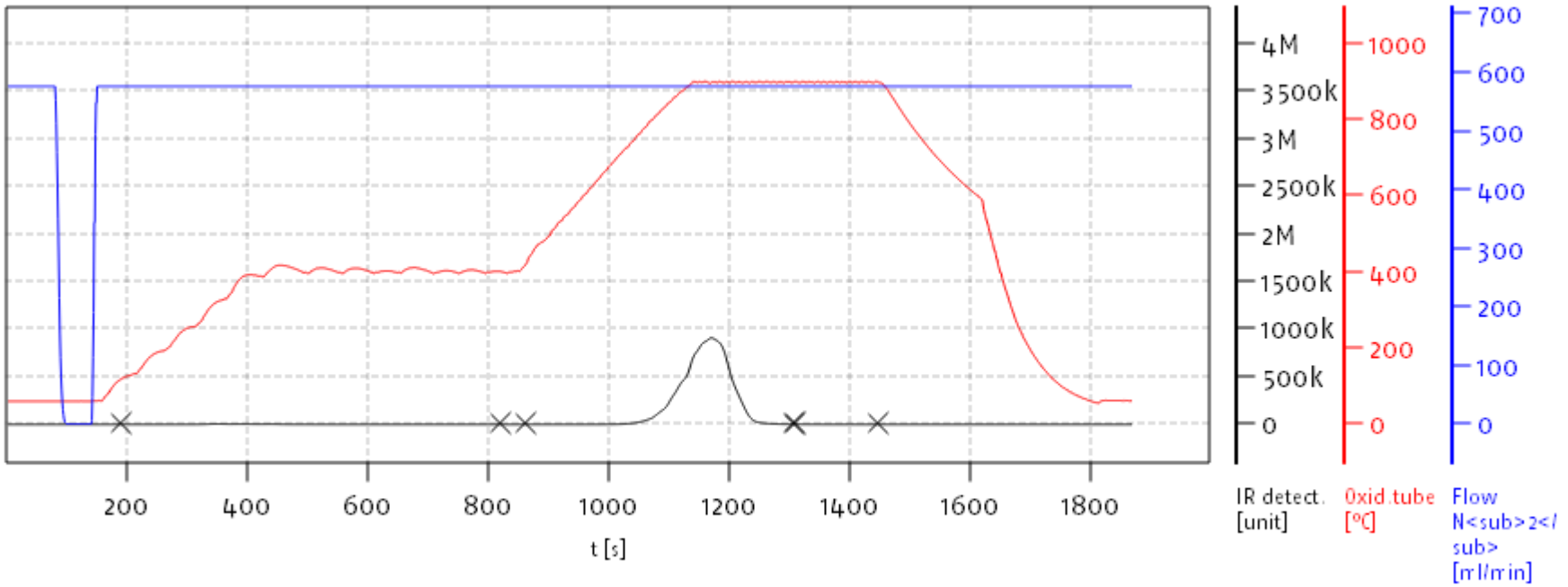
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	21	SJH0113-CALJ	200.00	0.0399	1.00	CARBON	8/10/2021 11:45 PM	0.023	2.454	2.477	bl,C2u	21 349	3 110 916	2 579	1.0000	1.0000



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Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
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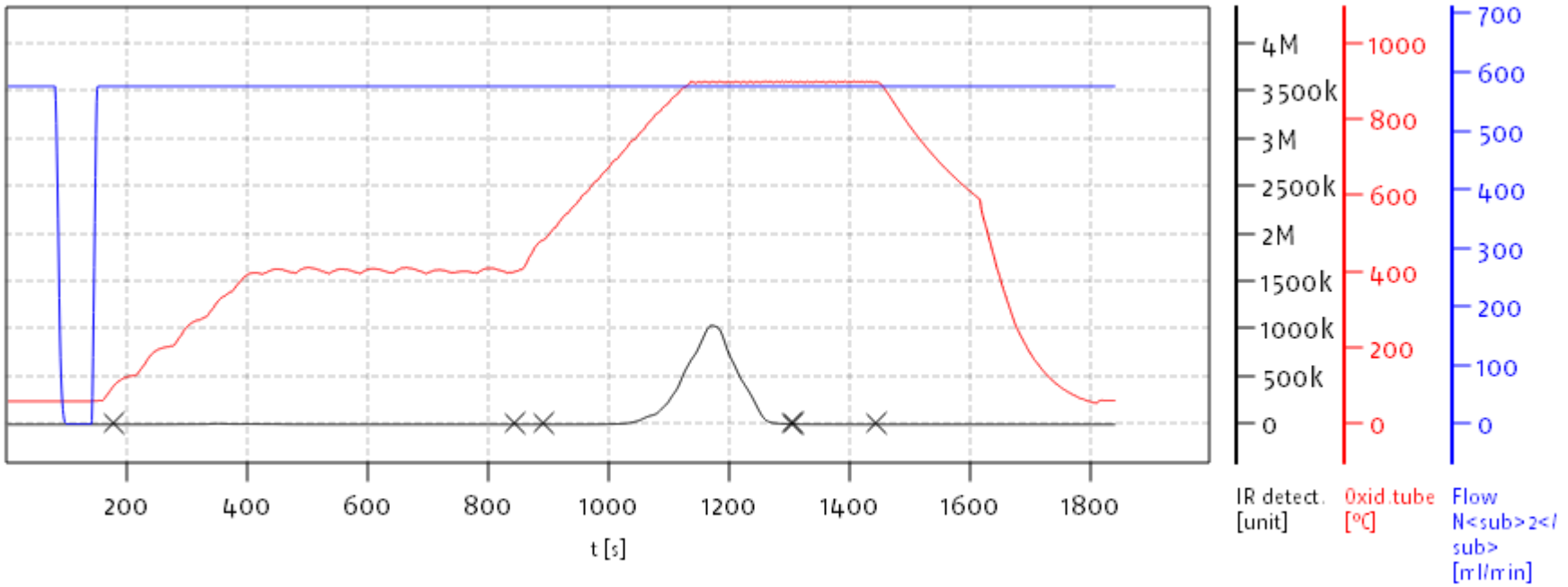
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	22	SJH0113-CALK	200.00	0.0500	1.00	CARBON	8/11/2021 12:16 AM	0.030	3.054	3.084	bl,C2u	29 231	3 872 043	4 133	1.0000	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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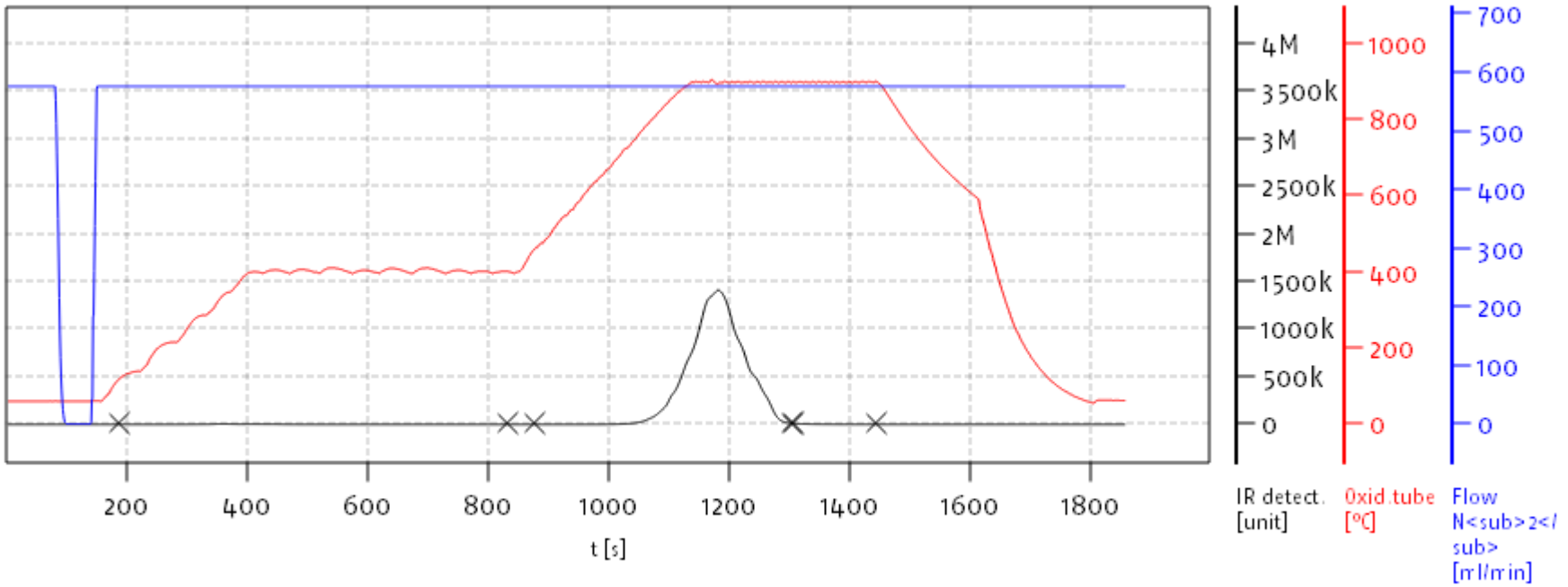
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	23	SJH0113-CALL	200.00	0.0699	1.00	CARBON	8/11/2021 12:48 AM	0.028	4.289	4.317	bl	19 838	5 438 583	10 830	1.0000	1.0000



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Balance: BAL3
Analyst: BF

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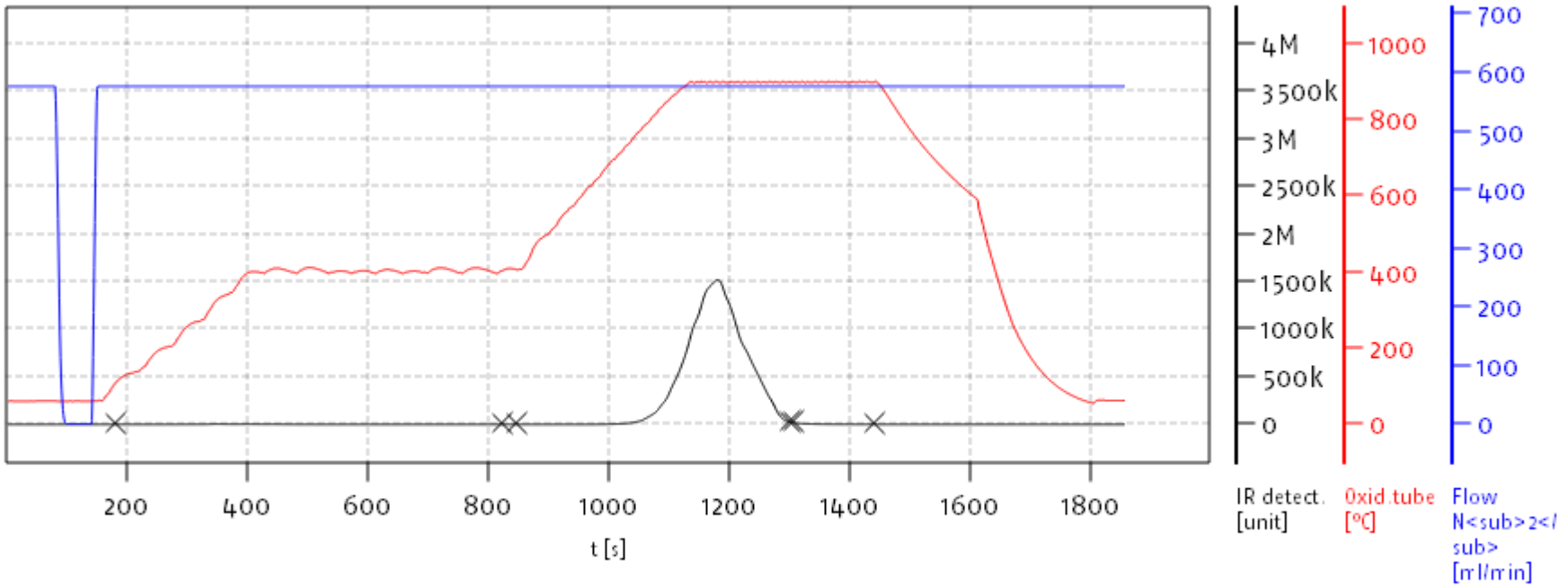
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	24	SJH0113-CALM	200.00	0.0801	1.00	CARBON	8/11/2021 1:19 AM	0.030	4.919	4.949	bl	16 438	6 238 324	16 703	1.0000	1.0000



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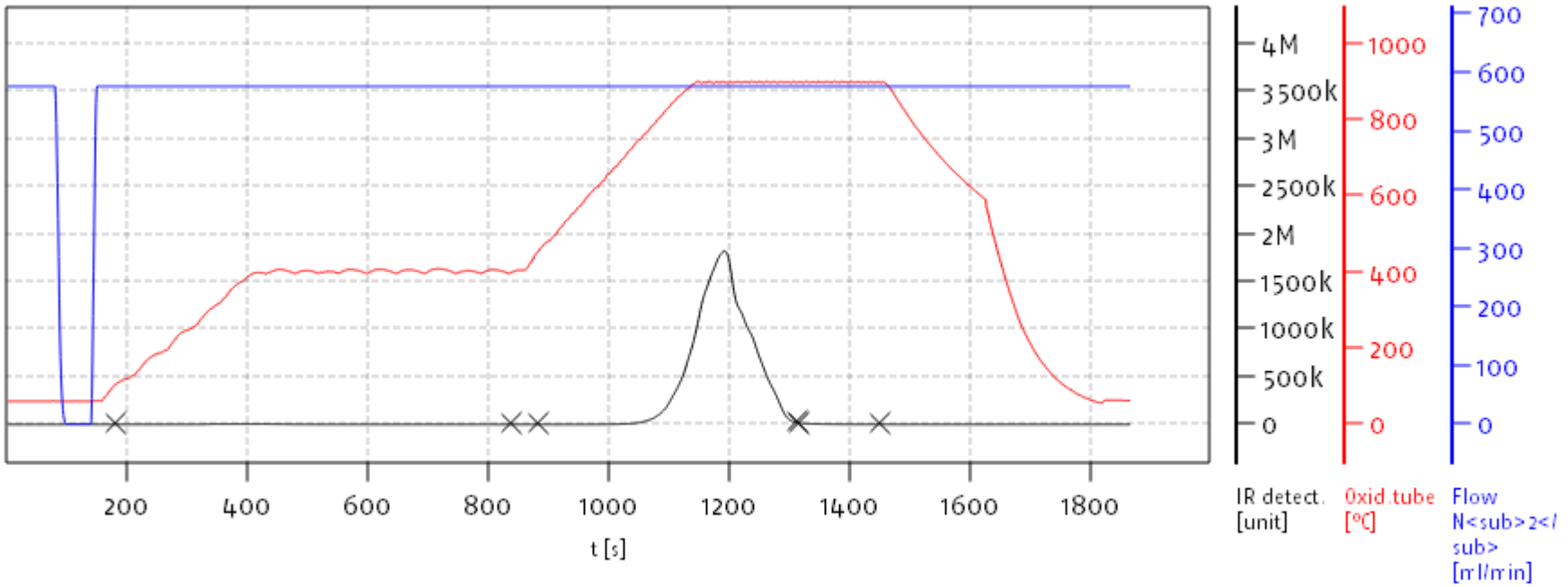
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	25	SJH0113-CALN	200.00	0.0903	1.00	CARBON	8/11/2021 1:50 AM	0.035	5.550	5.585	bl	23 597	7 038 842	15 761	1.0000	1.0000



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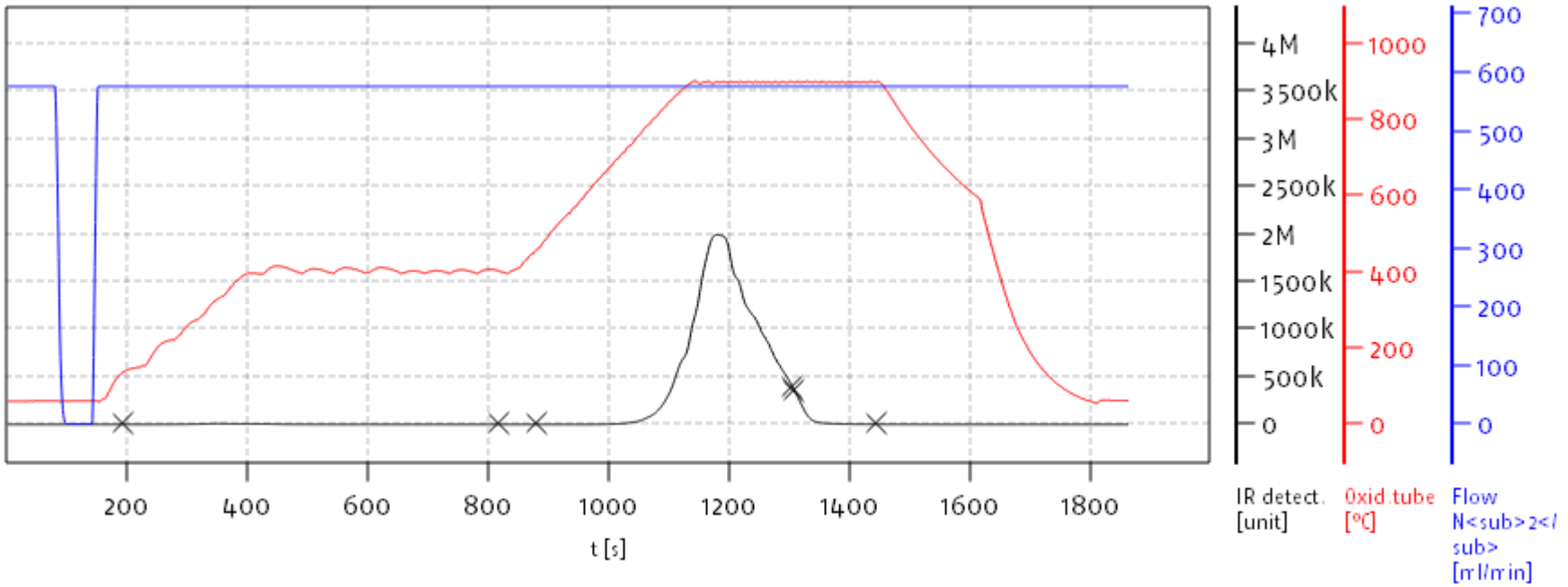
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	26	SJH0113-CALO	200.00	0.1198	1.00	CARBON	8/11/2021 2:22 AM	0.206	7.202	7.408	bl,C3o	38 020	9 134 974	218 134	1.0000	1.0000



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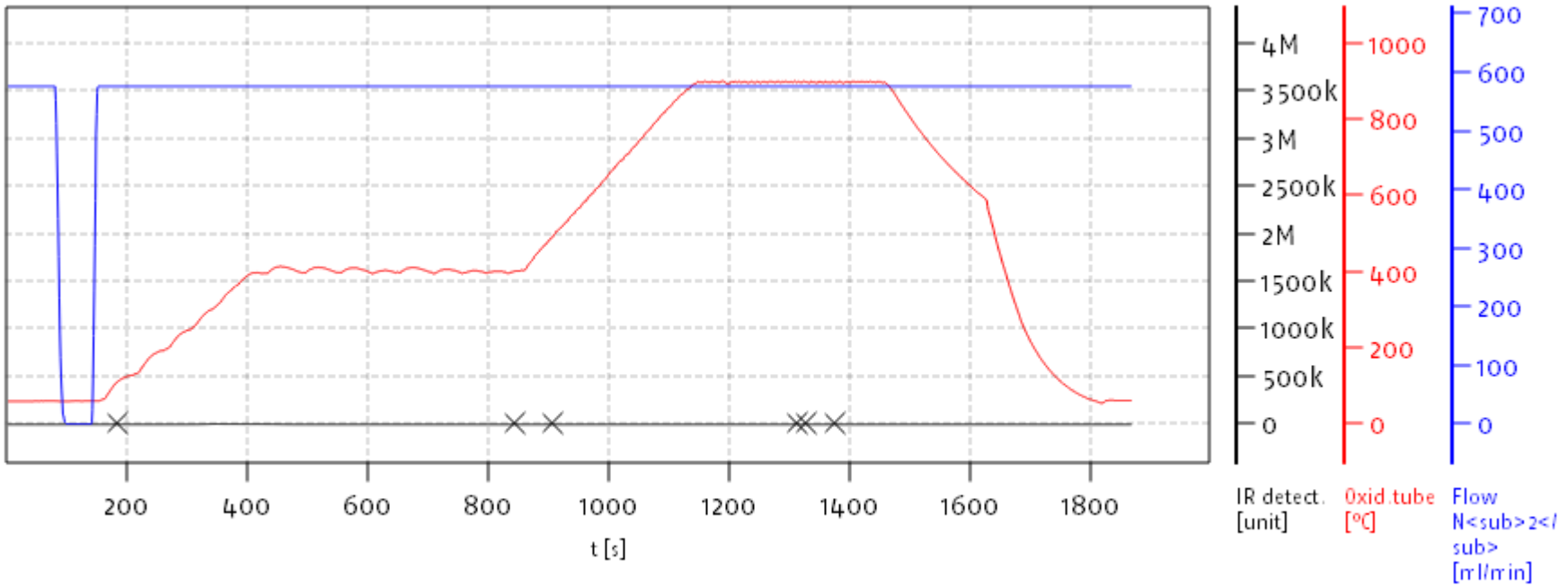
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	27	BLANK	1.00		1.00	CARBON	8/11/2021 2:53 AM	0.000	0.000	0.000	bl	19 335	23	0	1.0000	1.0000



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Balance: BAL3
Analyst: BF

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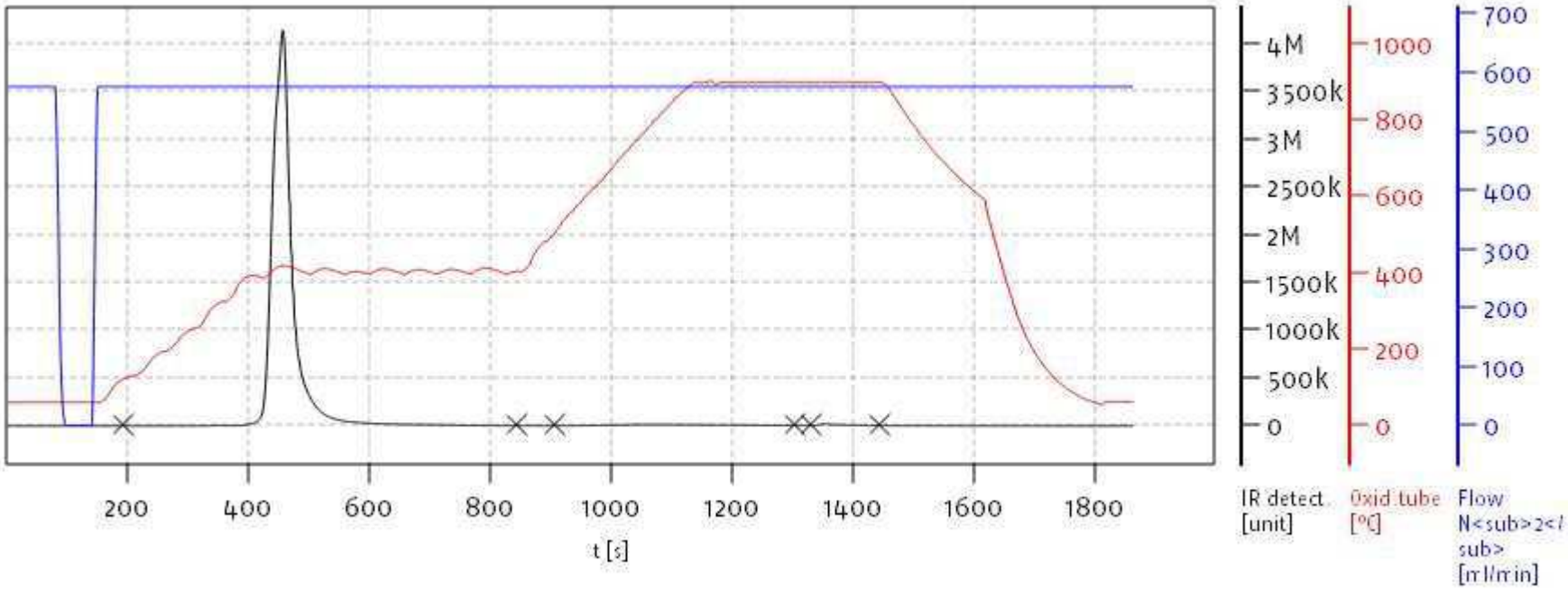
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	28	Dfactor	20.90		1.00	CARBON	8/11/2021 3:25 AM	44.744	0.921	45.666	bl	5 800 620	119 521	37 001	1.0154	1.0000



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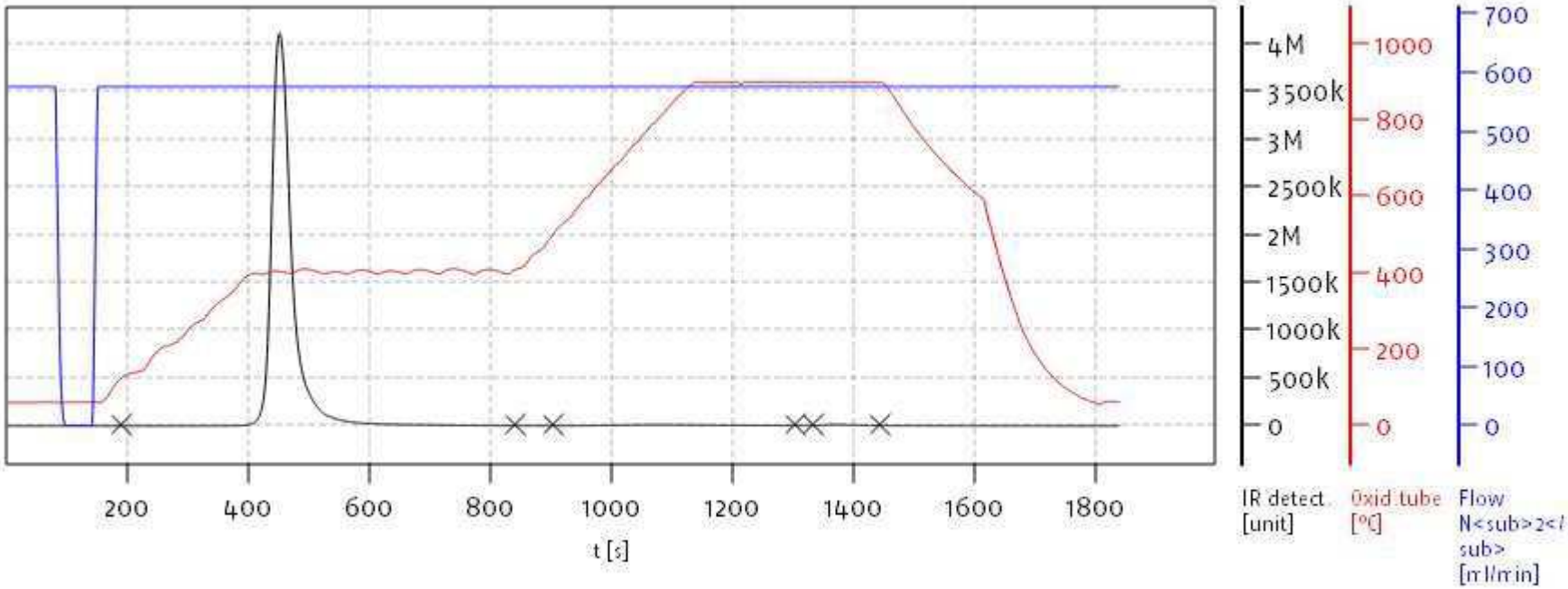
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	29	Dfactor	21.50		1.00	CARBON	8/11/2021 3:56 AM	44.697	0.738	45.435	bl	5 956 386	98 039	31 649	1.0173	1.0000



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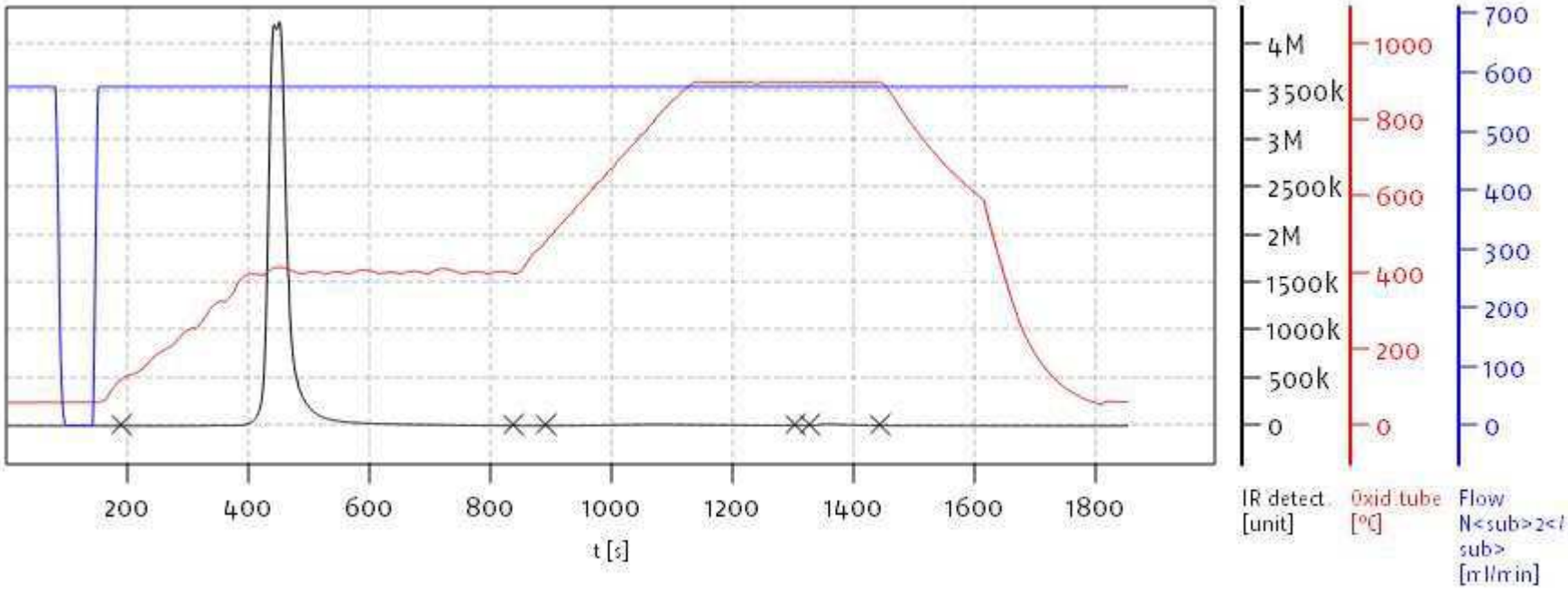
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	30	SJH0113-ICV1	21.40		1.00	CARBON	8/11/2021 4:27 AM	44.407	0.930	45.337	bl	5 886 637	123 684	40 335	1.0163	1.0000



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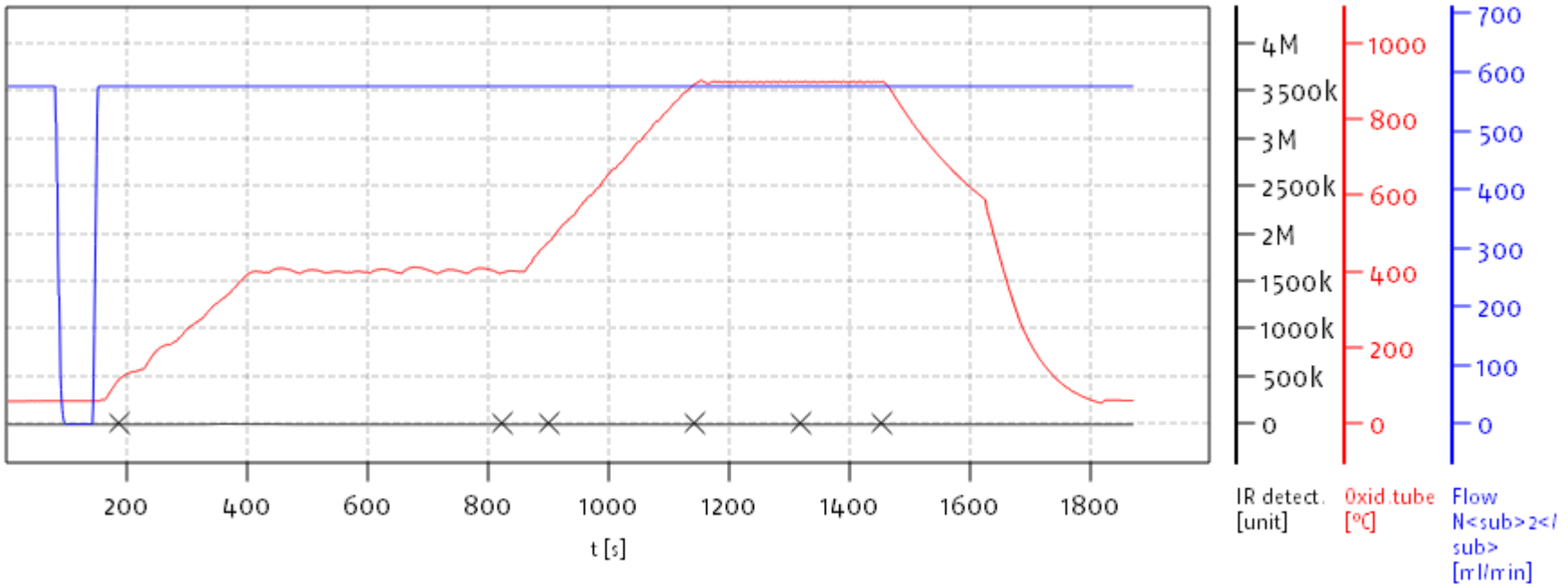
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	31	SJH0113-ICB1	613.30		1.00	CARBON	8/11/2021 4:59 AM	0.007	0.001	0.008	bl,C3u,C2u	20 520	1 826	970	1.0163	1.0000



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Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00065	Instrument:	TOC Cube
Calibration Date:	08/24/2021 17:16		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0.005112	1267041	0.01624	1156589	0.020451	1208352	0.030375	1027852	0.045412	1355038	0.060149	1226039
Total Carbon	0.005112	1267041	0.01624	1156589	0.020451	1208352	0.030375	1027852	0.045412	1355038	0.060149	1226039
Total Inorganic Carbon	0.005112	1267041	0.01624	1156589	0.020451	1208352	0.030375	1027852	0.045412	1355038	0.060149	1226039
% Soot	0.005112	1267041	0.01624	1156589	0.020451	1208352	0.030375	1027852	0.045412	1355038	0.060149	1226039

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00065	Instrument:	TOC Cube
Calibration Date:	08/24/2021 17:16		

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0.076991	1301360	0.091126	1300200	0.1191	1370840	0.14977	1231288	0.252	1210857	0.336	1231923
Total Carbon	0.076991	1301360	0.091126	1300200	0.1191	1370840	0.14977	1231288	0.252	1210857	0.336	1231923
Total Inorganic Carbon	0.076991	1301360	0.091126	1300200	0.1191	1370840	0.14977	1231288	0.252	1210857	0.336	1231923
% Soot	0.076991	1301360	0.091126	1300200	0.1191	1370840	0.14977	1231288	0.252	1210857	0.336	1231923

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00065	Instrument:	TOC Cube
Calibration Date:	08/24/2021 17:16		

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0.414	1268309	0.582	1278292	0.882	1265125	1.194	1264020	1.518	1271667	1.812	1261887
Total Carbon	0.414	1268309	0.582	1278292	0.882	1265125	1.194	1264020	1.518	1271667	1.812	1261887
Total Inorganic Carbon	0.414	1268309	0.582	1278292	0.882	1265125	1.194	1264020	1.518	1271667	1.812	1261887
% Soot	0.414	1268309	0.582	1278292	0.882	1265125	1.194	1264020	1.518	1271667	1.812	1261887

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00065	Instrument:	TOC Cube
Calibration Date:	08/24/2021 17:16		

Compound	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	2.4	1255529	2.988	1141805	4.194	1173122	4.818	1173843	5.412	1191617	7.224	1189552
Total Carbon	2.4	1255529	2.988	1141805	4.194	1173122	4.818	1173843	5.412	1191617	7.224	892723
Total Inorganic Carbon	2.4	1255529	2.988	1141805	4.194	1173122	4.818	1173843	5.412	1191617	7.224	892723
% Soot	2.4	1255529	2.988	1141805	4.194	1173122	4.818	1173843	5.412	1191617	7.224	892723

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

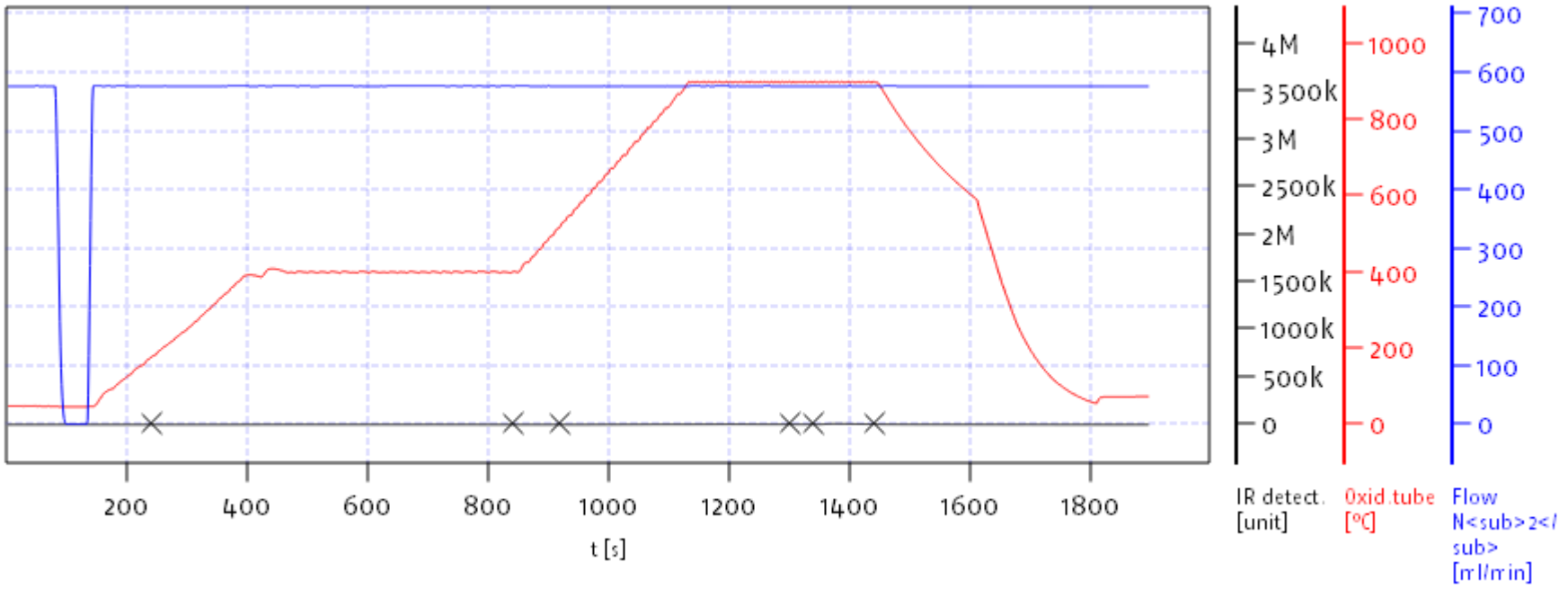
Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00065	Instrument:	TOC Cube
Calibration Date:	08/24/2021 17:16		

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	COD Limit	Q
Total Organic Carbon	1234256	5.9	0.9993			
Total Carbon	1221888	8.2	0.9742			
Total Inorganic Carbon	1221888	8.2	0.9742			
% Soot	1221888	8.2	0.9742			

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	9	BLANK	1.00		1.00	CARBON	8/24/2021 6:00 PM	0.000	0.000	0.000	bl	13 861	33 454	21 567	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Aug 25 11:48:01 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

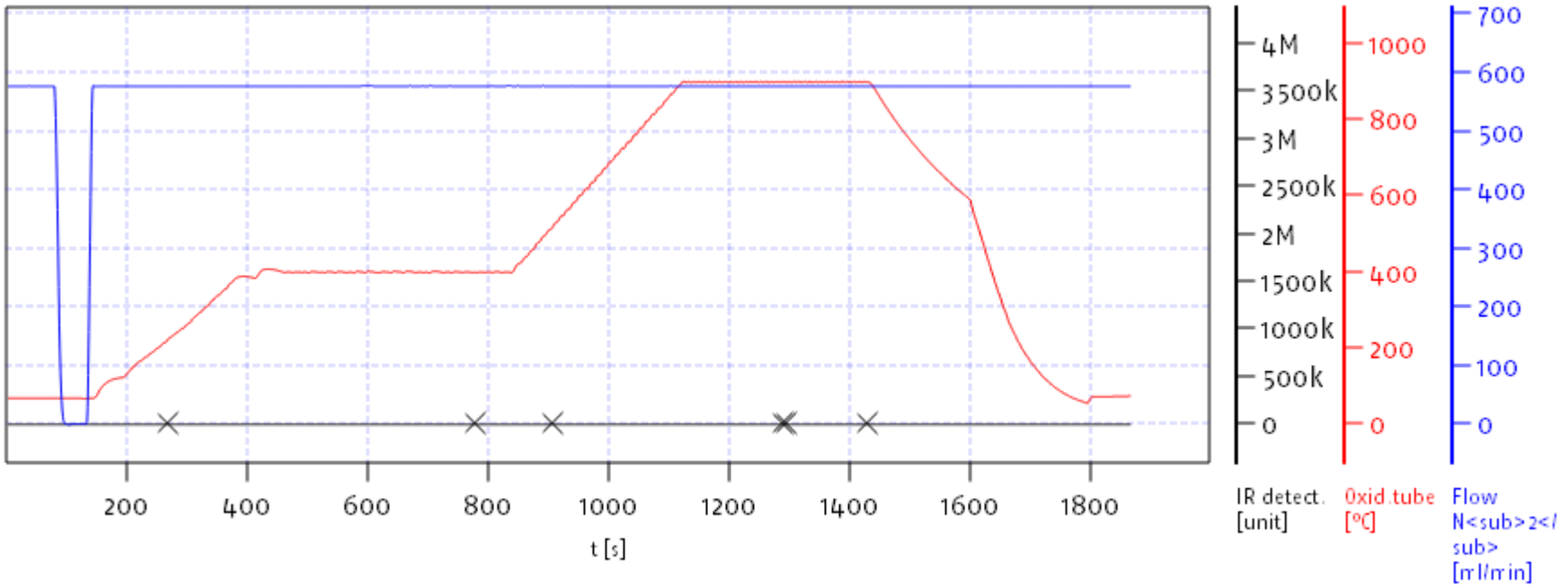
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00065 082421BFb from: 8/25/2021 11:47 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	10	BLANK	1.00		1.00	CARBON	8/24/2021 6:31 PM	0.000	0.000	0.000	bl	1 643	8	245	1.0000	1.0000



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Balance: BAL3
Analyst: BF

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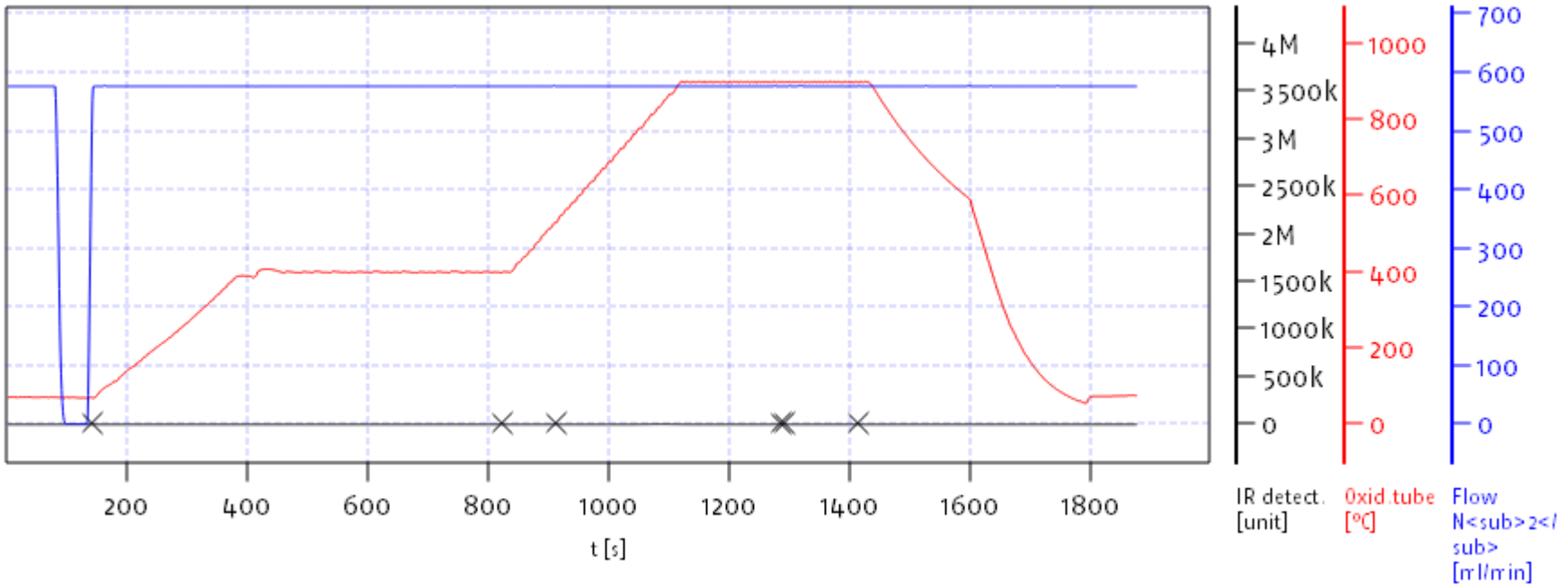
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	11	SEQ-CAL1	200.00	0.0017	1.00	CARBON	8/24/2021 7:03 PM	0.000	0.008	0.008	bl,C1u,C3u,C2u	1 070	6 478	141	1.0000	1.1719



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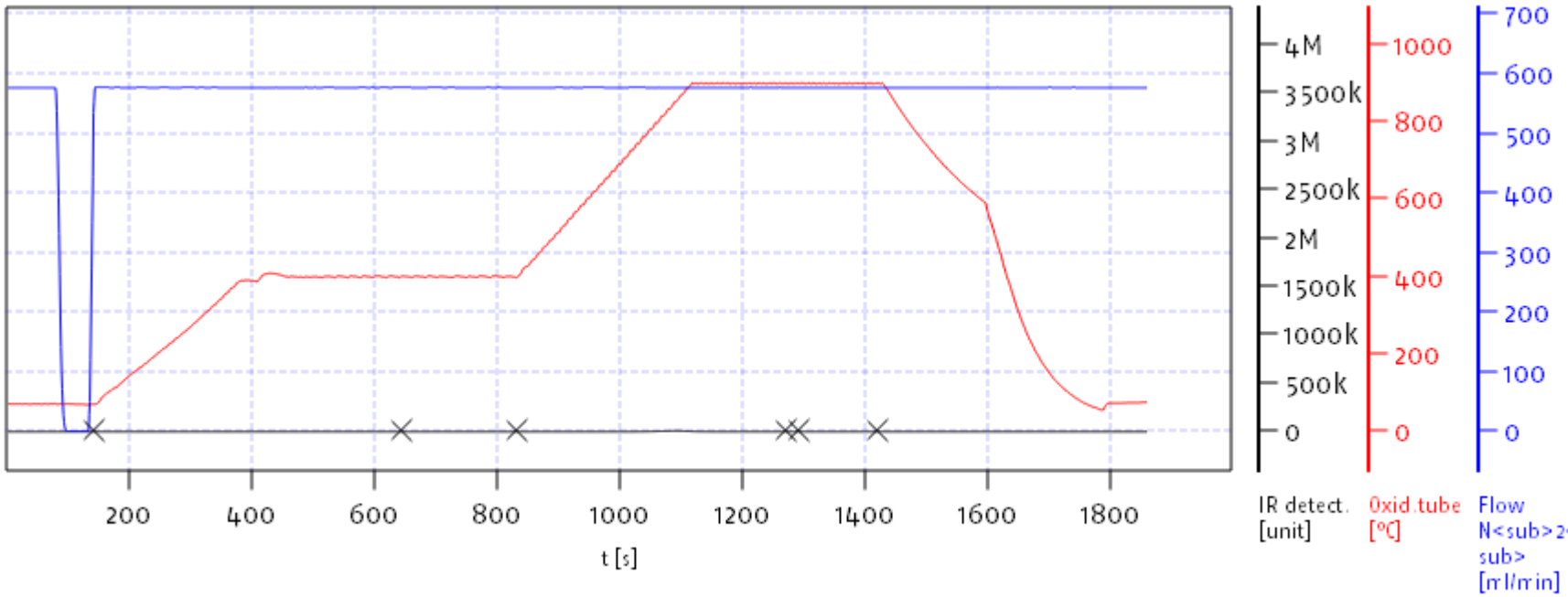
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	12	SEQ-CAL2	200.00	0.0054	1.00	CARBON	8/24/2021 7:34 PM	0.000	0.015	0.015	bl,C1u,C2u	660	18 783	85	1.0000	0.9072



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Balance: BAL3
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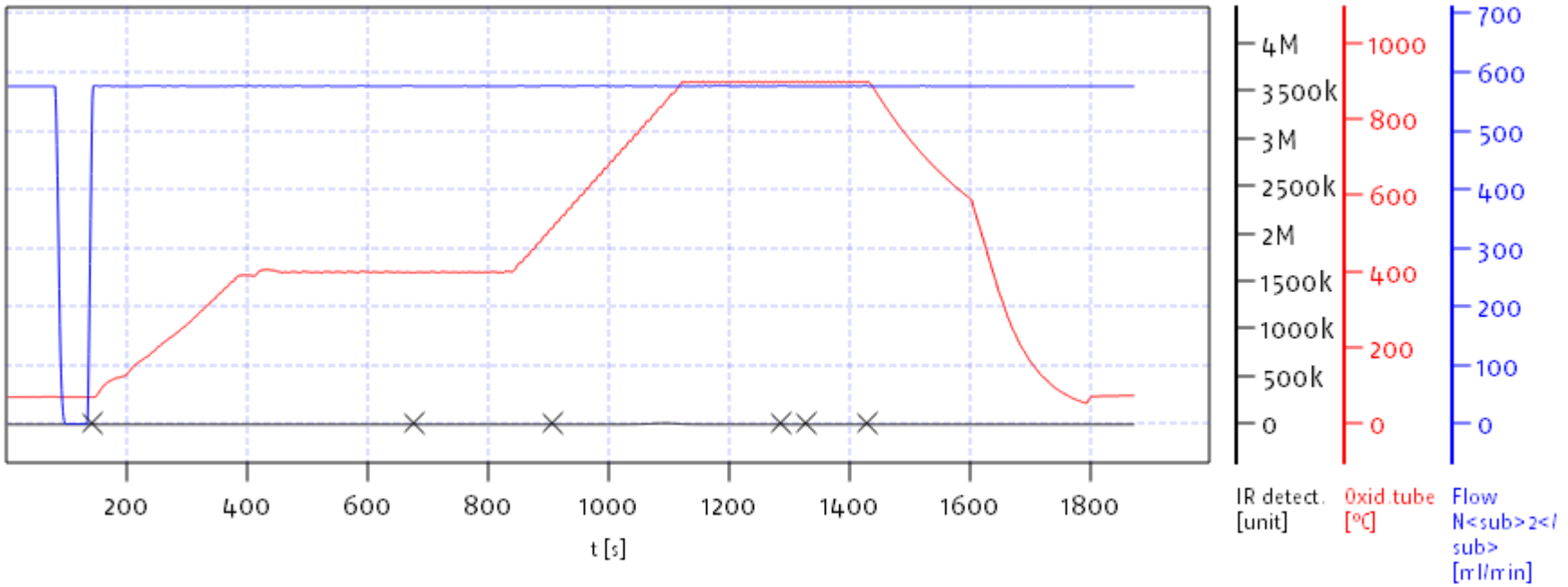
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	13	SEQ-CAL3	200.00	0.0068	1.00	CARBON	8/24/2021 8:06 PM	0.000	0.022	0.022	bl,C1u,C2u	889	24 712	60	1.0000	1.0307



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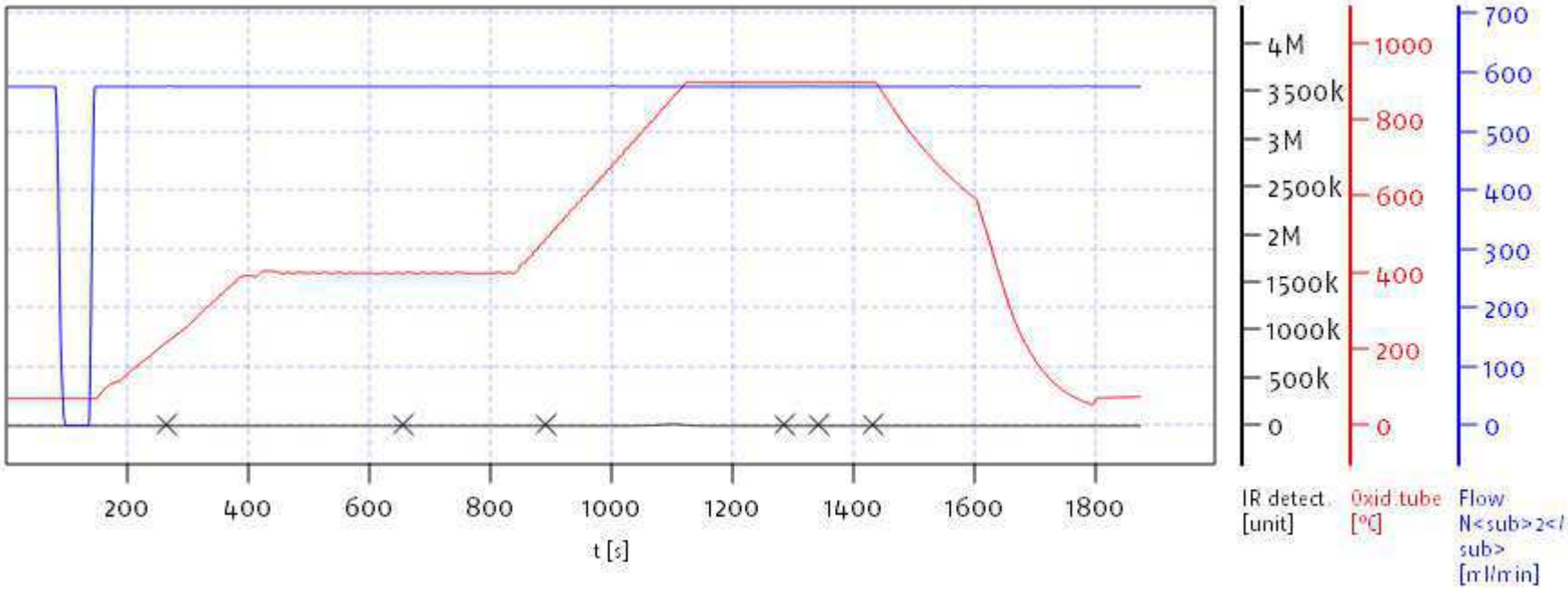
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	14	SEQ-CAL4	200.00	0.0101	1.00	CARBON	8/24/2021 8:38 PM	0.000	0.030	0.030	bl,C1u,C2u	1 503	31 221	84	1.0000	1.1361



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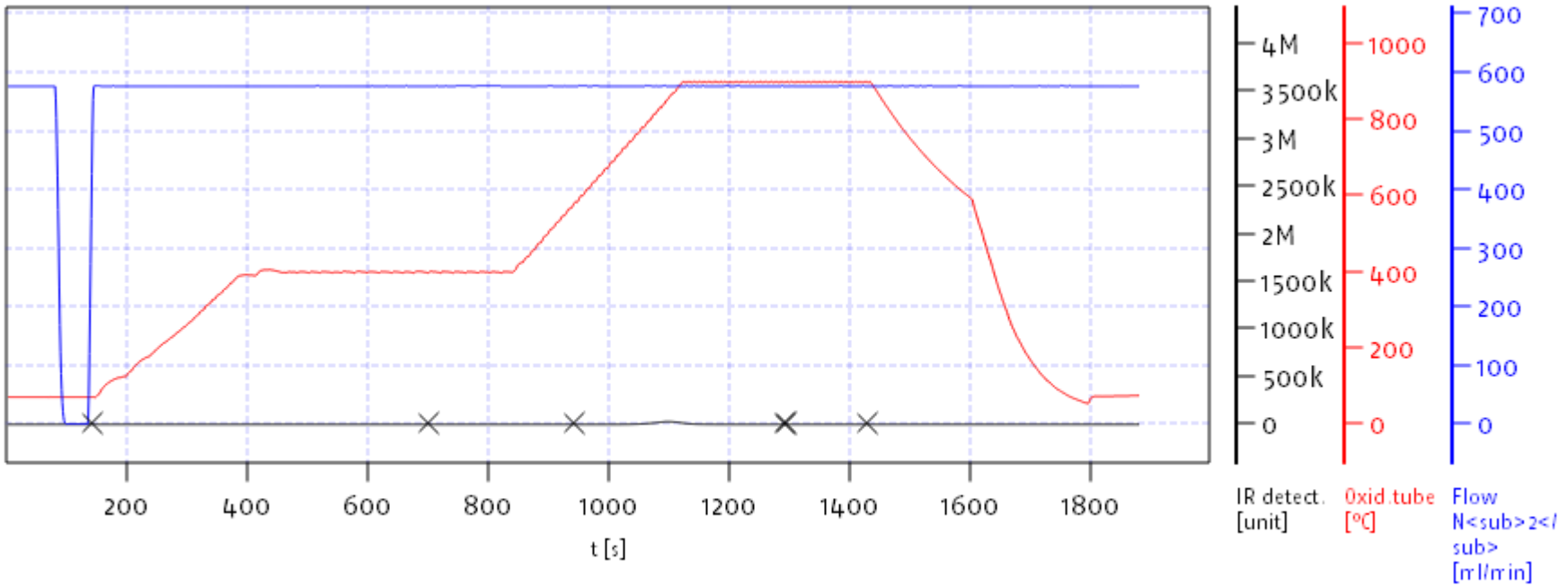
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	15	SEQ-CAL5	200.00	0.0151	1.00	CARBON	8/24/2021 9:10 PM	0.000	0.045	0.045	bl,C1u,C2u	776	61 535	62	1.0000	0.8900



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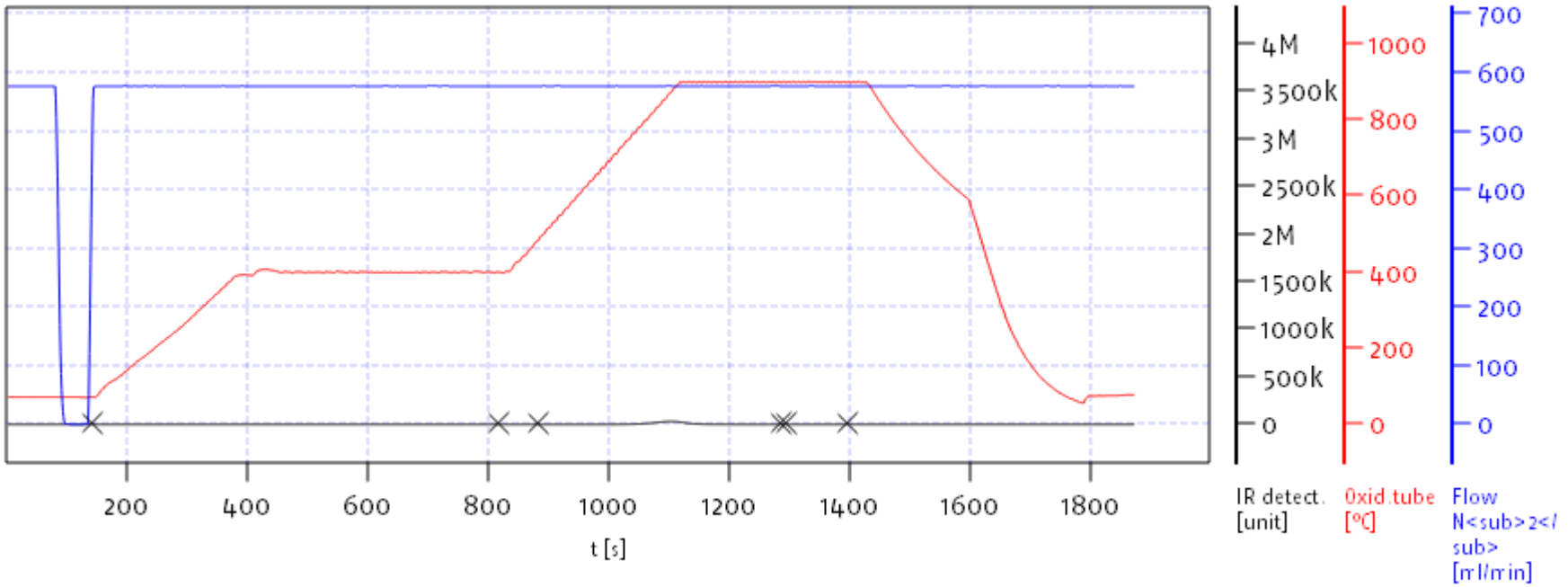
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	16	SEQ-CAL6	200.00	0.0200	1.00	CARBON	8/24/2021 9:41 PM	0.000	0.061	0.061	bl,C1u,C2u	1 086	73 745	55	1.0000	1.0168



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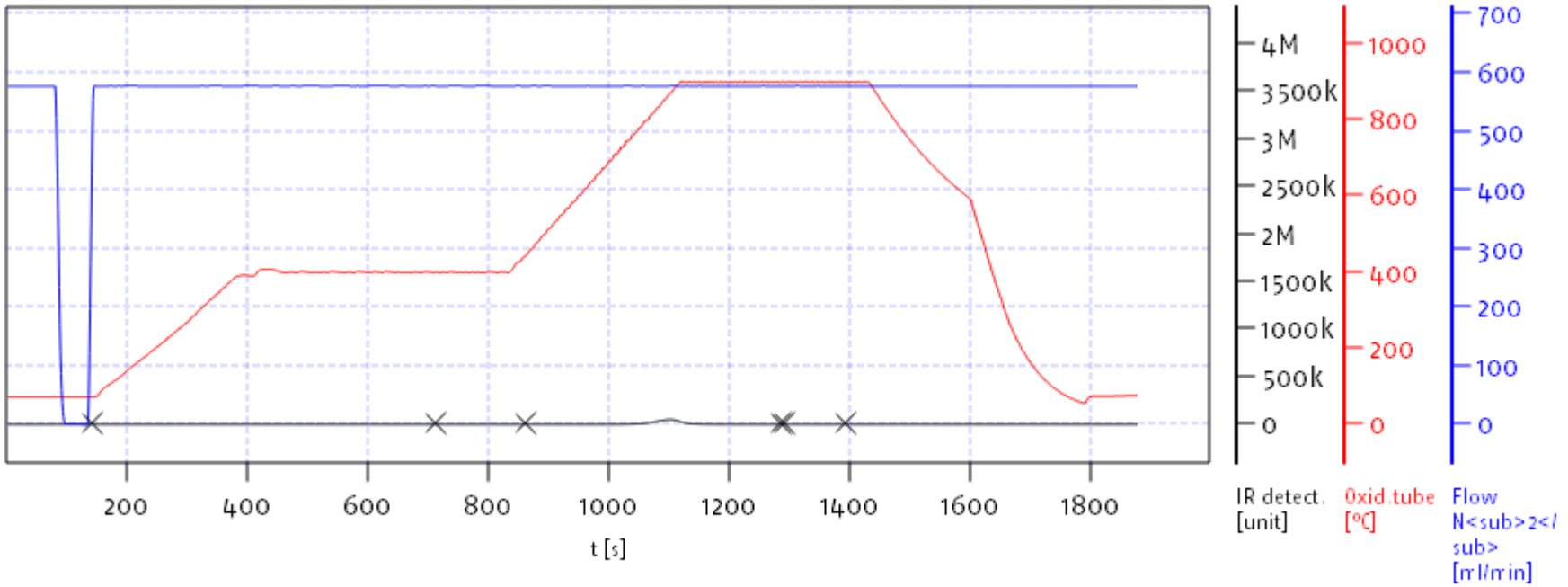
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	17	SEQ-CAL7	200.00	0.0256	1.00	CARBON	8/24/2021 10:13 PM	0.000	0.075	0.075	bl,C1u,C2u	1 149	100 193	99	1.0000	0.9293



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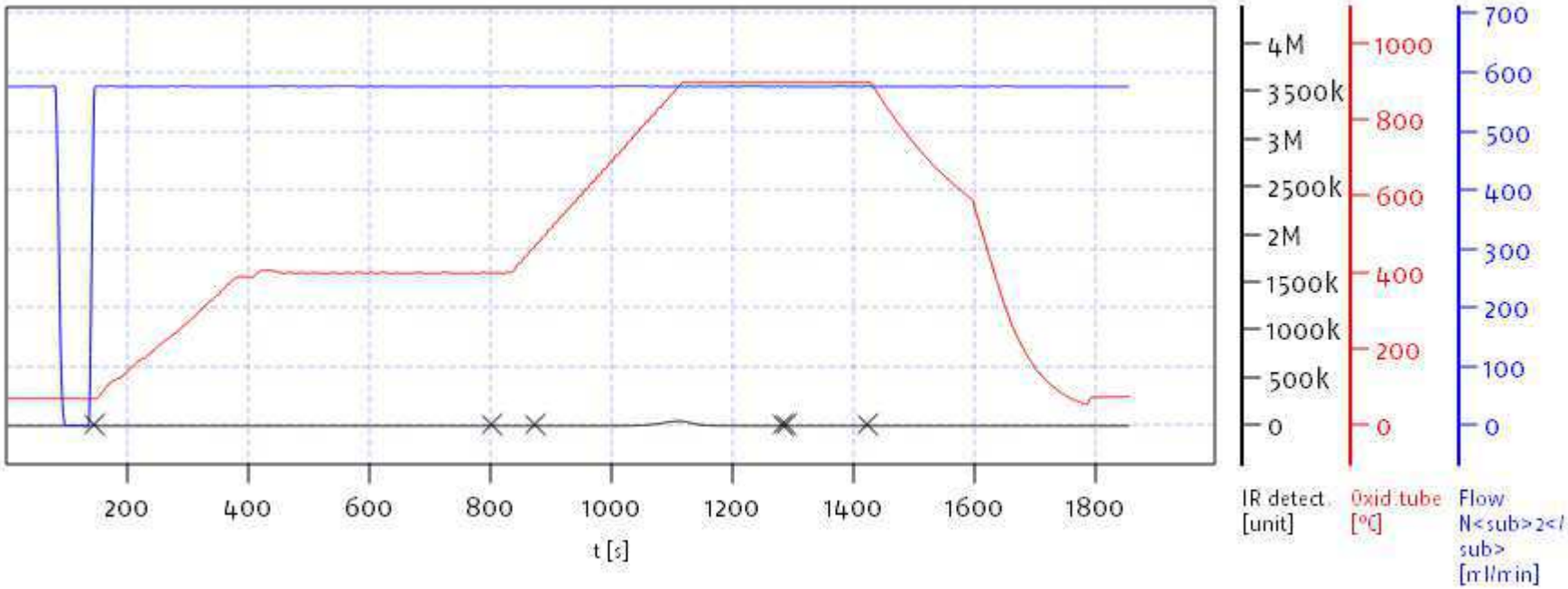
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	18	SEQ-CAL8	200.00	0.0303	1.00	CARBON	8/24/2021 10:44 PM	0.000	0.091	0.091	bl,C1u,C2u	779	118 482	109	1.0000	0.9492



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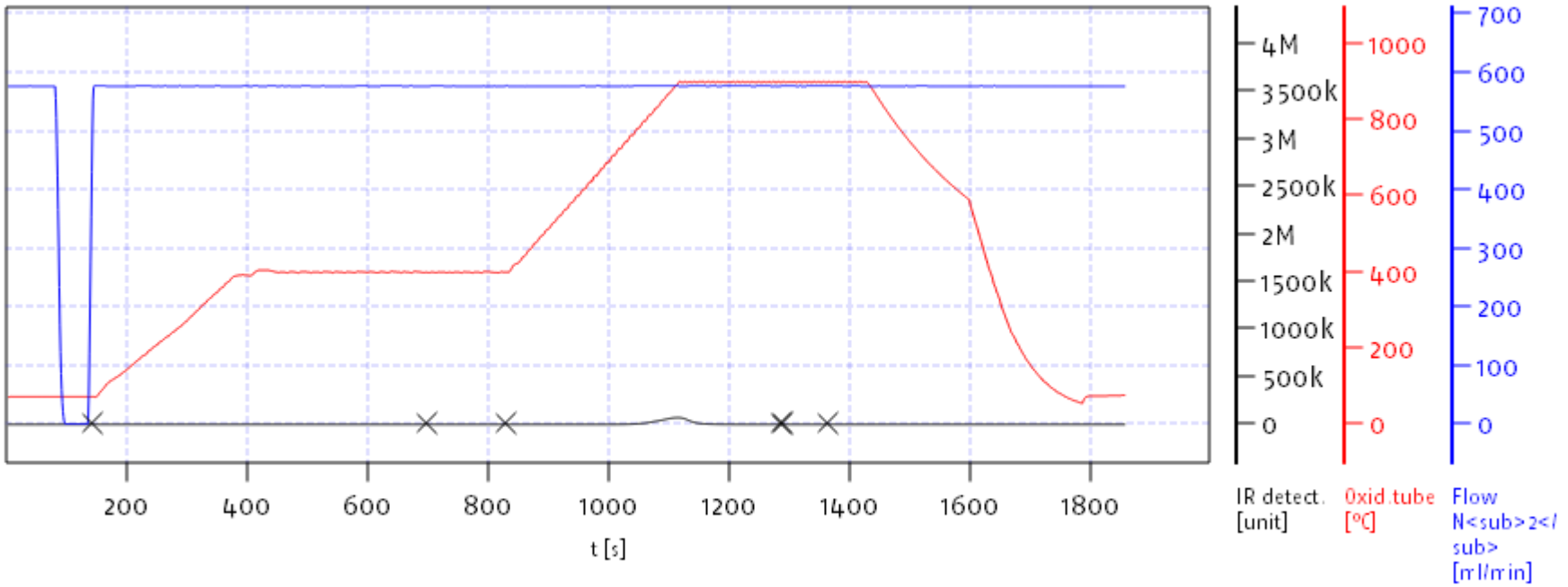
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	19	SEQ-CAL9	200.00	0.0396	1.00	CARBON	8/24/2021 11:16 PM	0.000	0.120	0.120	bl,C1u,C2u	848	163 267	93	1.0000	0.9178



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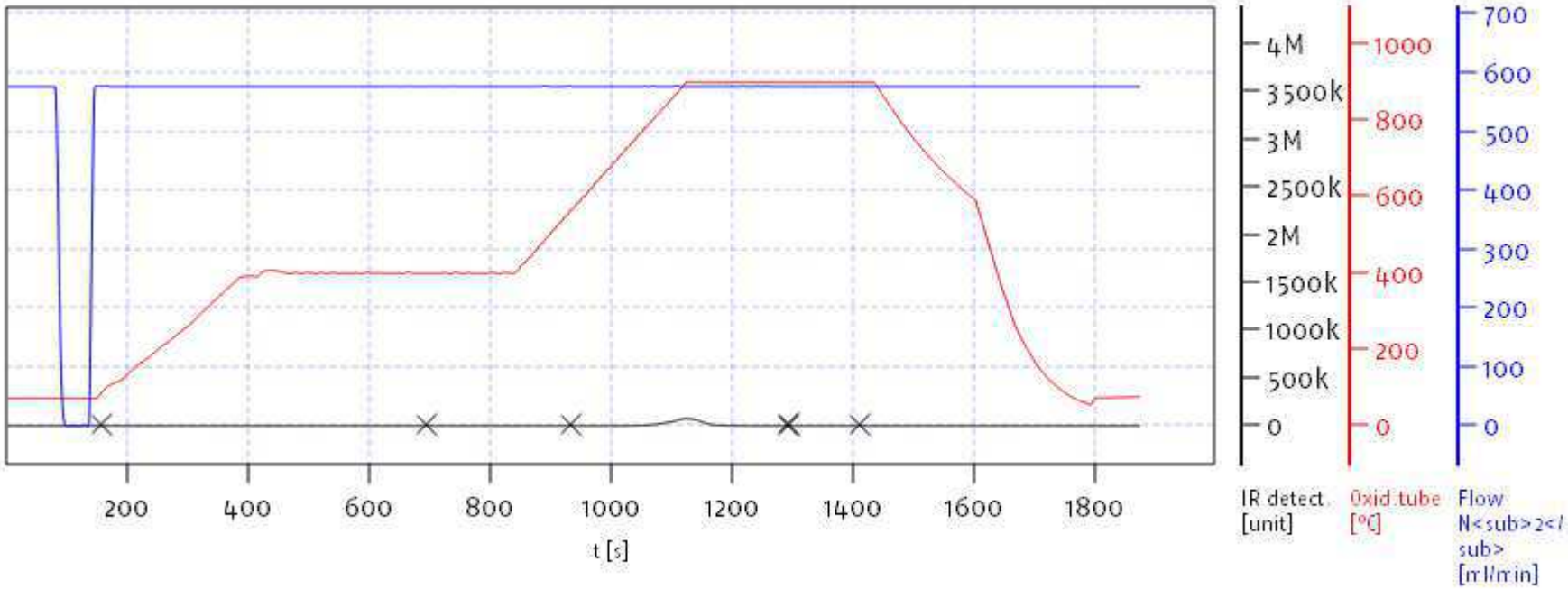
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	20	SEQ-CALA	200.00	0.0498	1.00	CARBON	8/24/2021 11:48 PM	0.000	0.151	0.151	bl,C1u,C2u	1 818	184 410	146	1.0000	1.0237



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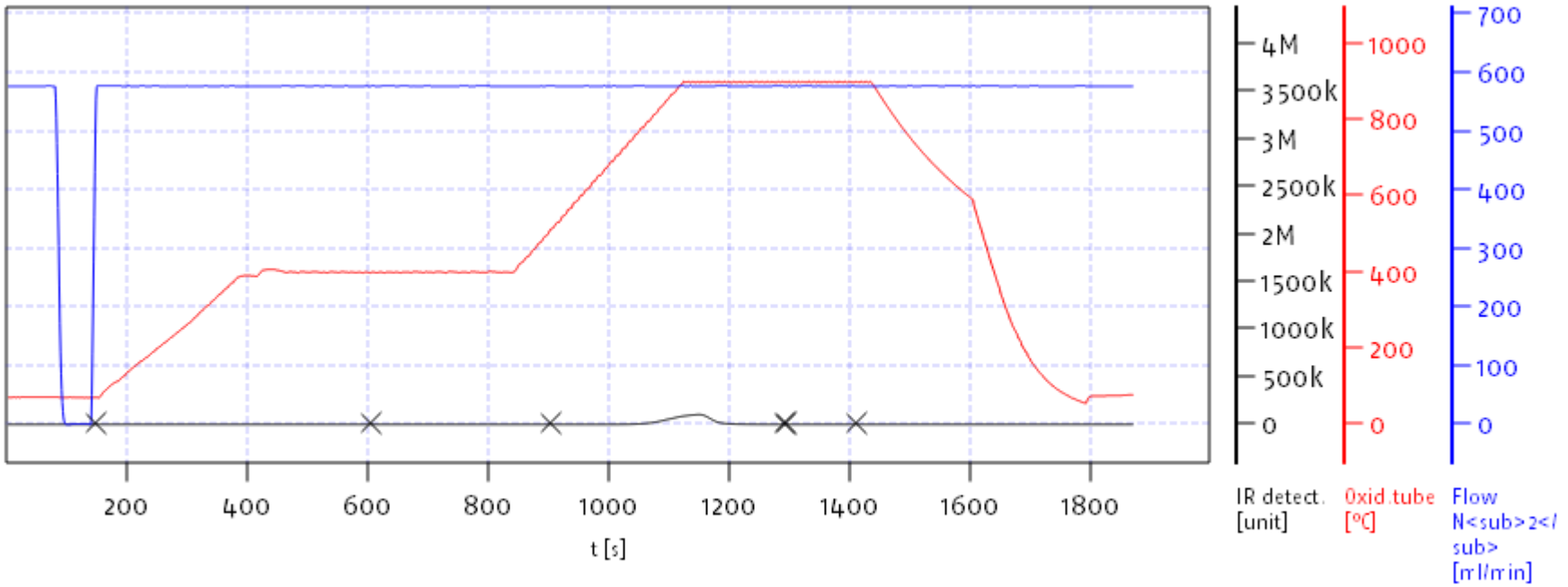
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	21	SEQ-CALB	200.00	0.0042	1.00	CARBON	8/25/2021 12:19 AM	0.000	0.258	0.258	bl,C1u,C2u	972	305 136	284	1.0000	1.0636



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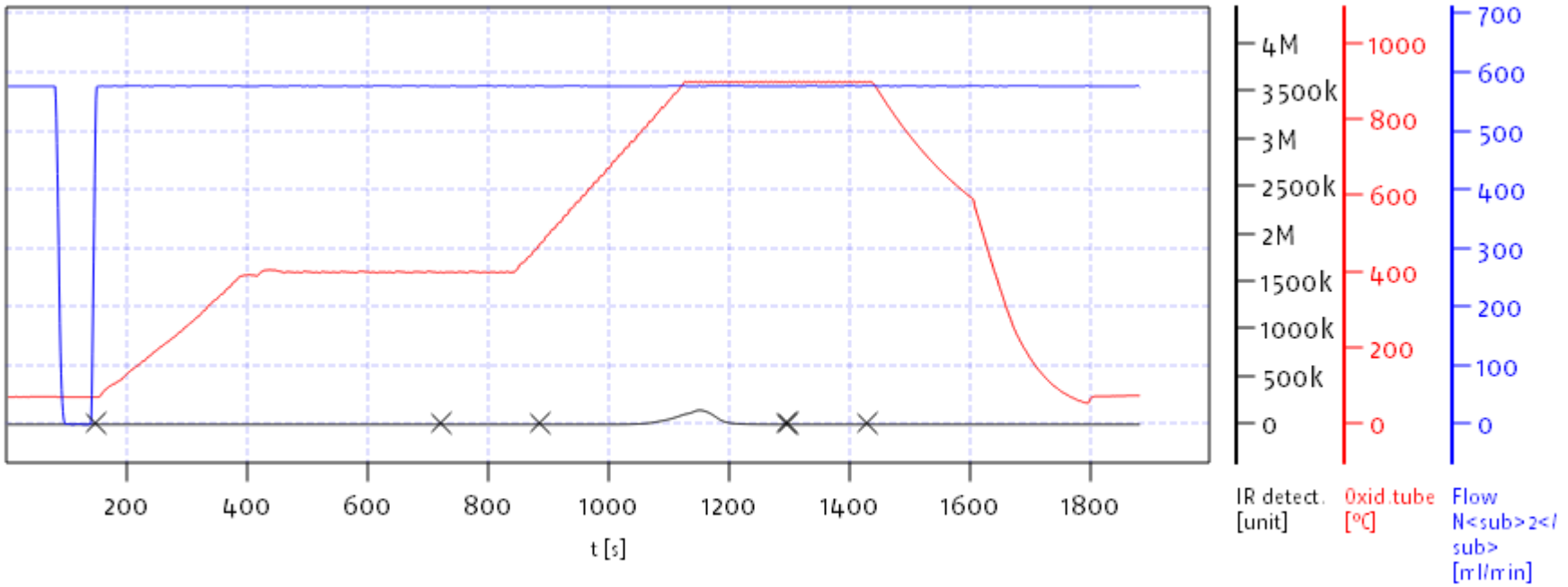
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	22	SEQ-CALC	200.00	0.0056	1.00	CARBON	8/25/2021 12:51 AM	0.000	0.324	0.324	bl,C1u,C2u	925	413 926	393	1.0000	0.9869



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Analyst: BF

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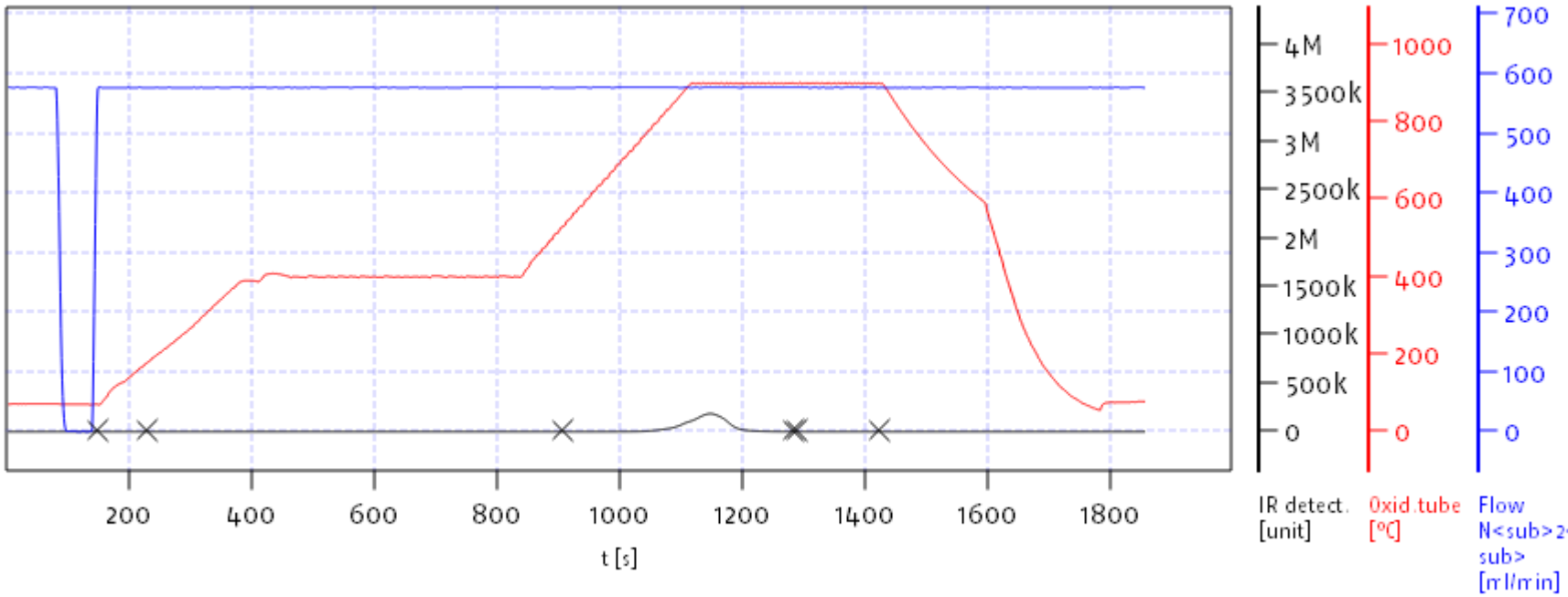
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	23	SEQ-CALD	200.00	0.0069	1.00	CARBON	8/25/2021 1:22 AM	0.000	0.444	0.444	bl,C1u,C2u	172	525 080	677	1.0000	1.0675



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Analyst: BF

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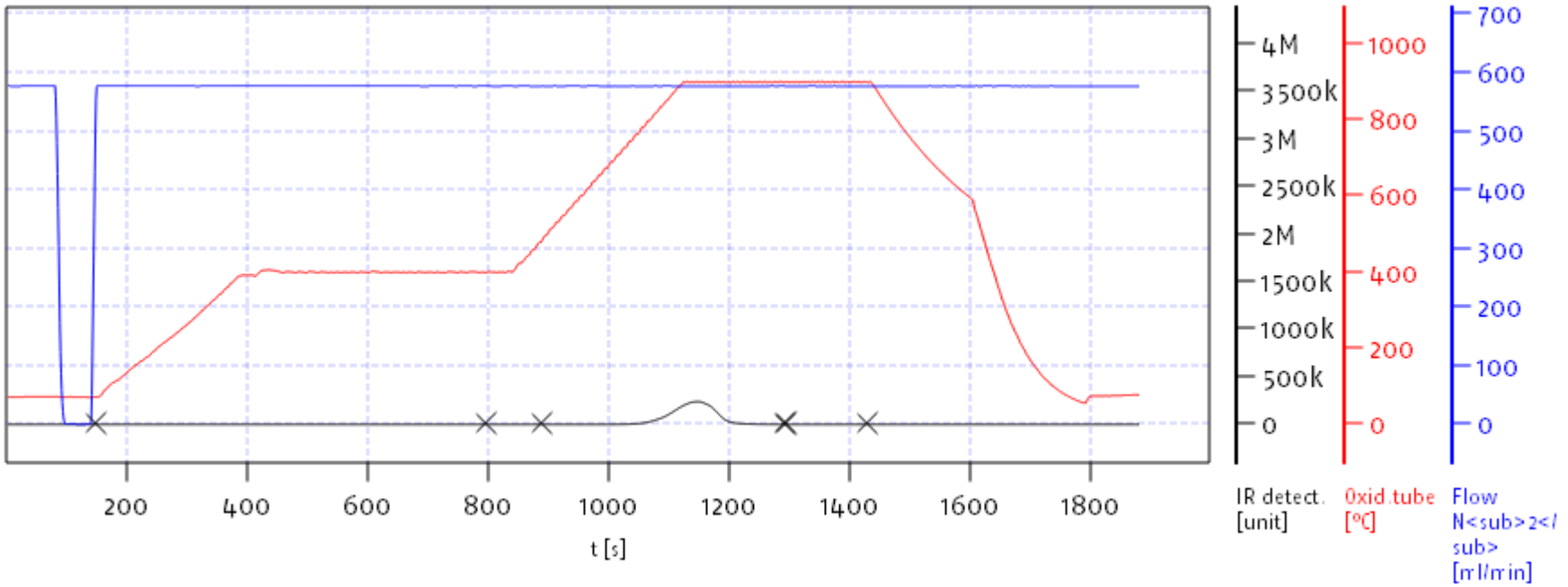
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	24	SEQ-CALE	200.00	0.0097	1.00	CARBON	8/25/2021 1:54 AM	0.000	0.600	0.600	bl,C1u,C2u	989	743 966	687	1.0000	1.0196



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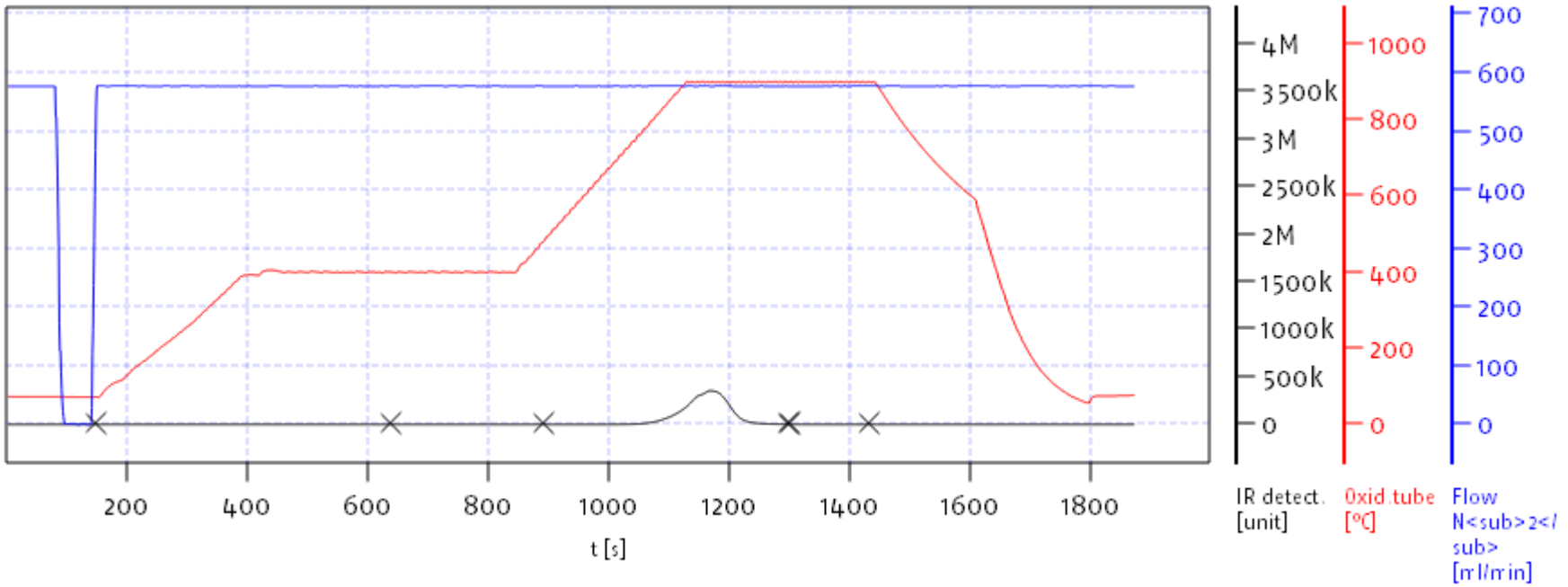
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	25	SEQ-CALF	200.00	0.0147	1.00	CARBON	8/25/2021 2:26 AM	0.000	0.906	0.906	bl,C1u,C2u	925	1 115 840	1 898	1.0000	1.0277



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Serial No: 0300.181017
Mode CCC

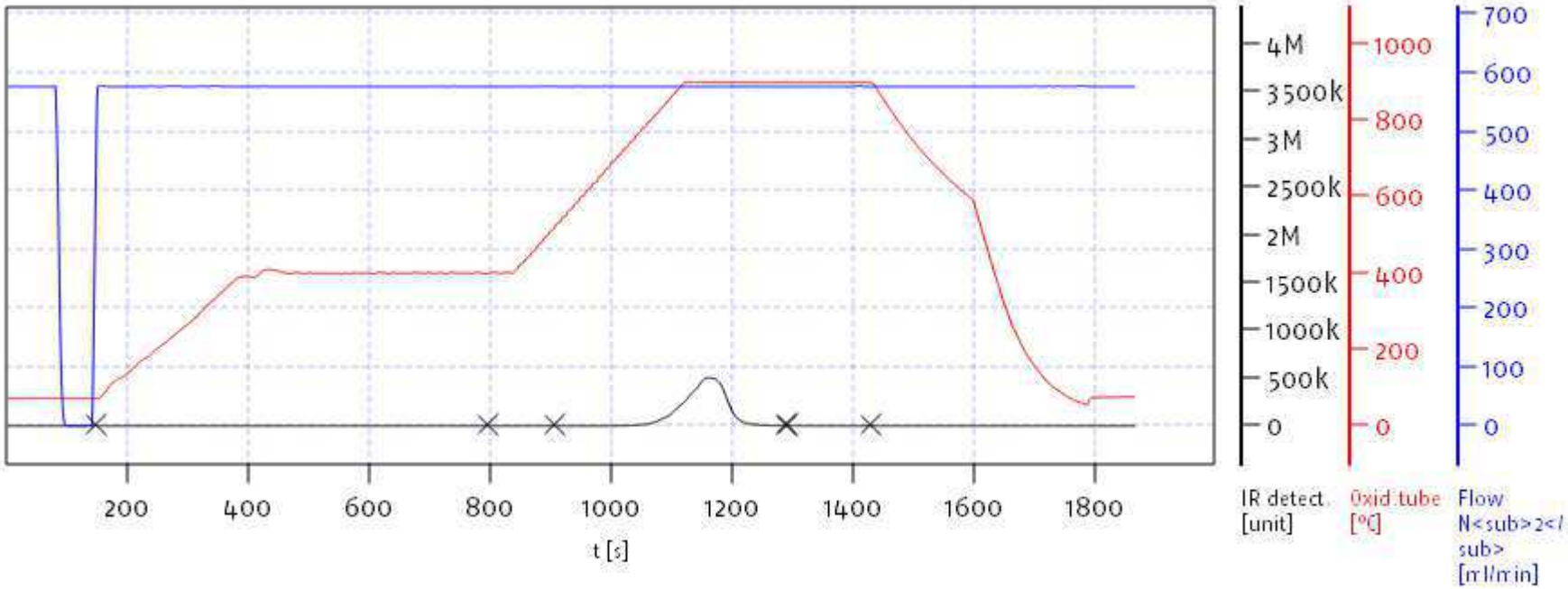
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00065 082421BFb from: 8/25/2021 11:47 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	26	SEQ-CALG	200.00	0.0199	1.00	CARBON	8/25/2021 2:58 AM	0.000	1.206	1.206	bl,C1u,C2u	1 253	1 509 240	2 258	1.0000	1.0121



Name:

Access: soliTOC superuser

Date: Wed Aug 25 11:48:01 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

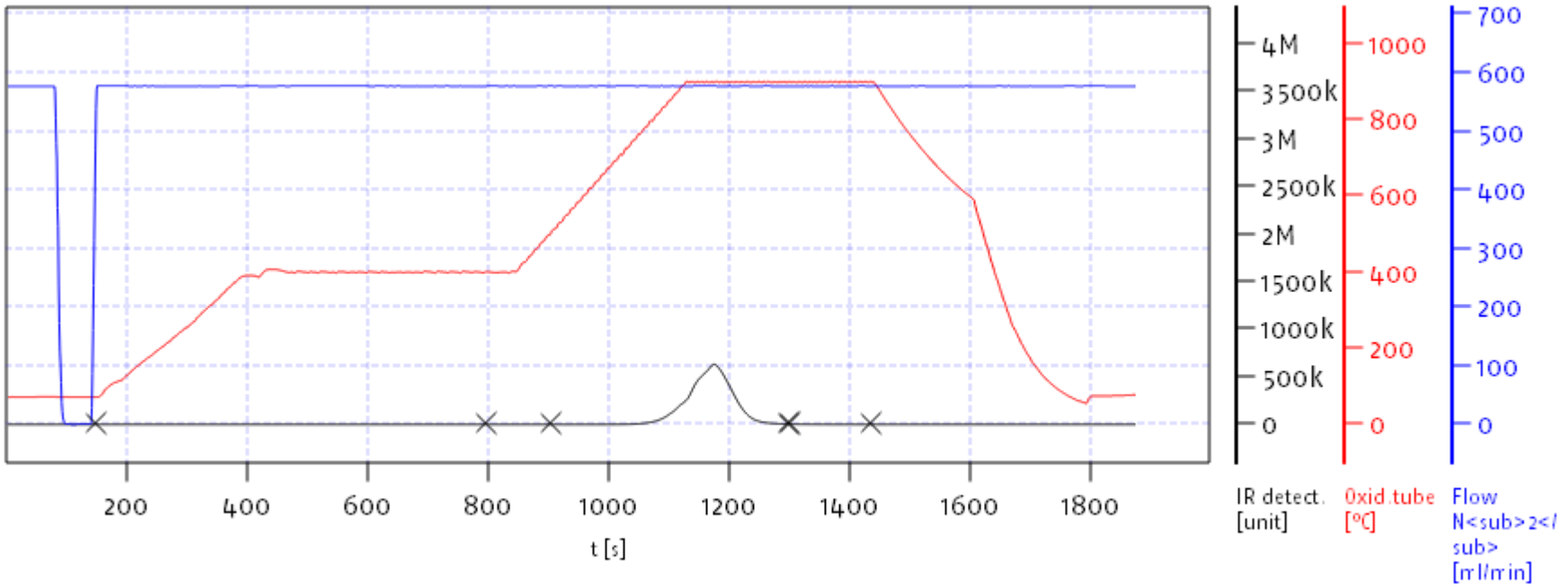
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00065 082421BFb from: 8/25/2021 11:47 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	27	SEQ-CALH	200.00	0.0253	1.00	CARBON	8/25/2021 3:29 AM	0.000	1.524	1.524	bl,C1u,C2u	1 233	1 930 390	4 311	1.0000	1.0003



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Analyst: BF

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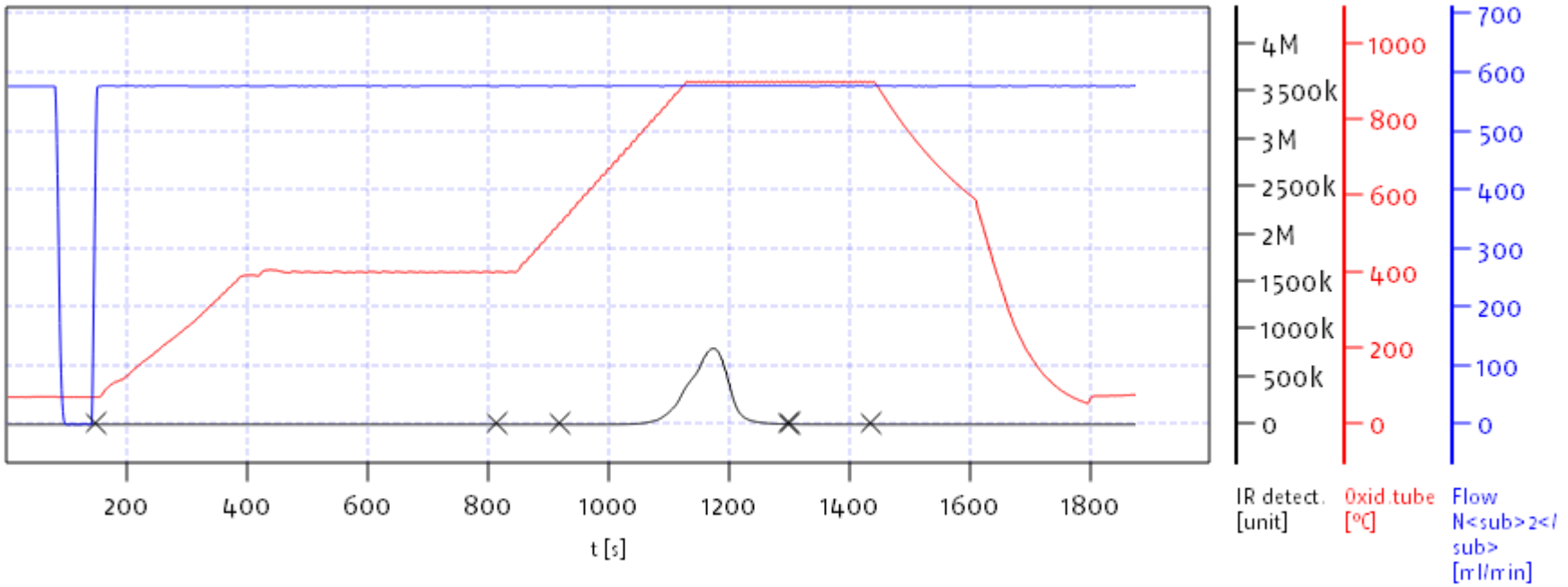
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	28	SEQ-CALI	200.00	0.0302	1.00	CARBON	8/25/2021 4:01 AM	0.000	1.800	1.800	bl,C1u,C2u	1 600	2 286 540	3 907	1.0000	0.9976



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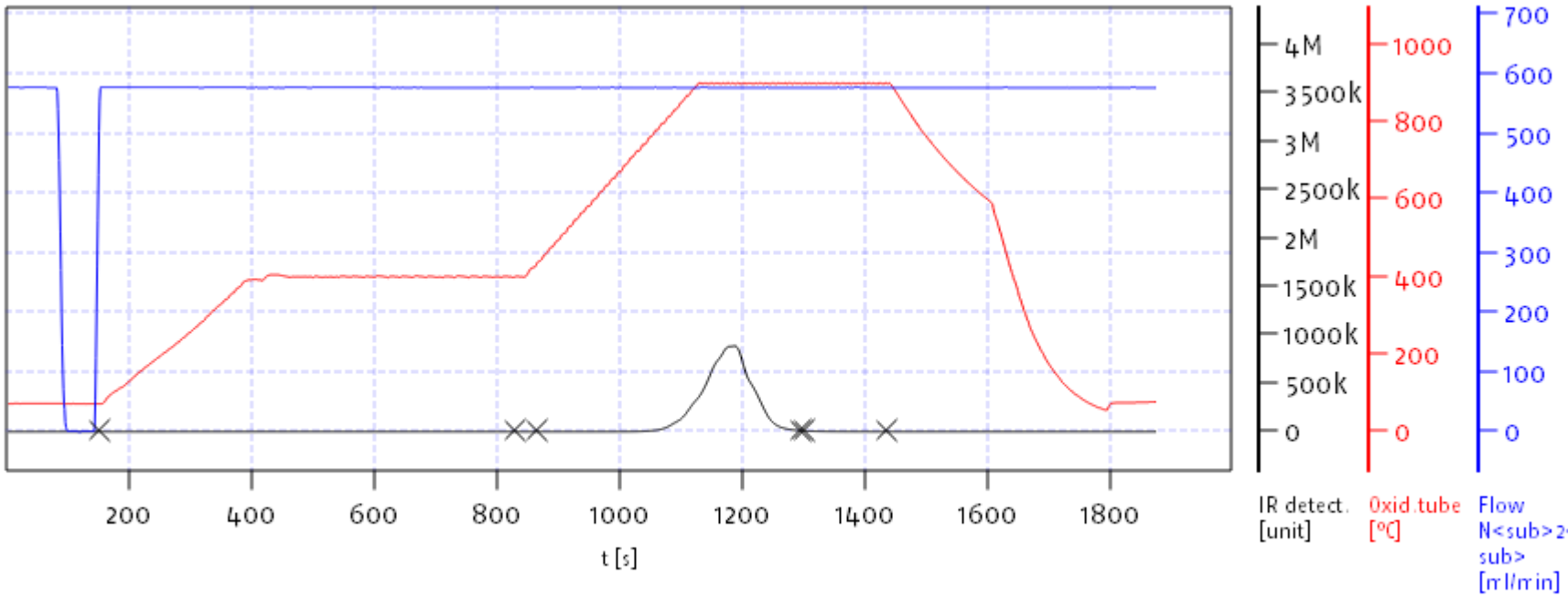
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	29	SEQ-CALJ	200.00	0.0400	1.00	CARBON	8/25/2021 4:33 AM	0.000	2.400	2.400	bl,C1u	1 589	**3 013 270**	**9 826**	1.0000	1.0096



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Serial No: 0300.181017
Mode CCC

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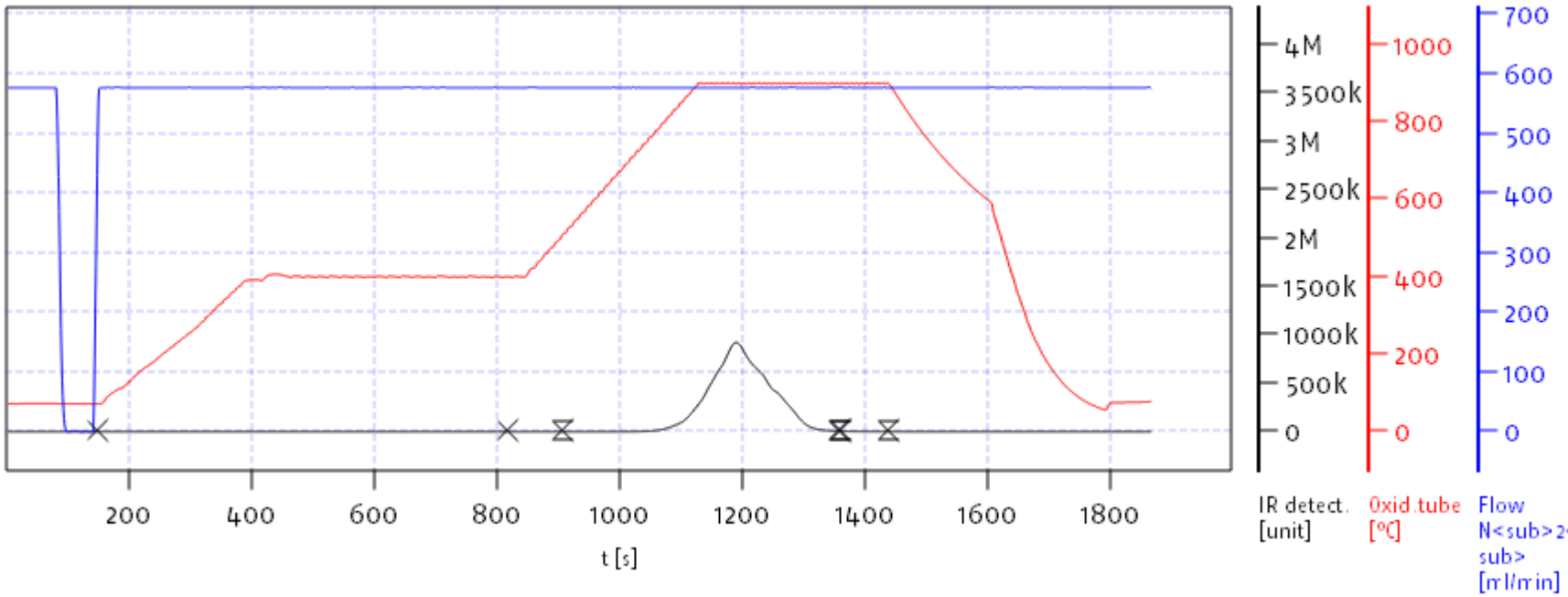
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	30	SEQ-CALK	200.00	0.0498	1.00	CARBON	8/25/2021 11:41 AM	0.000	3.012	3.012	bl,C1u	2 117	**3 411 713**	**0**	1.0000	1.0310



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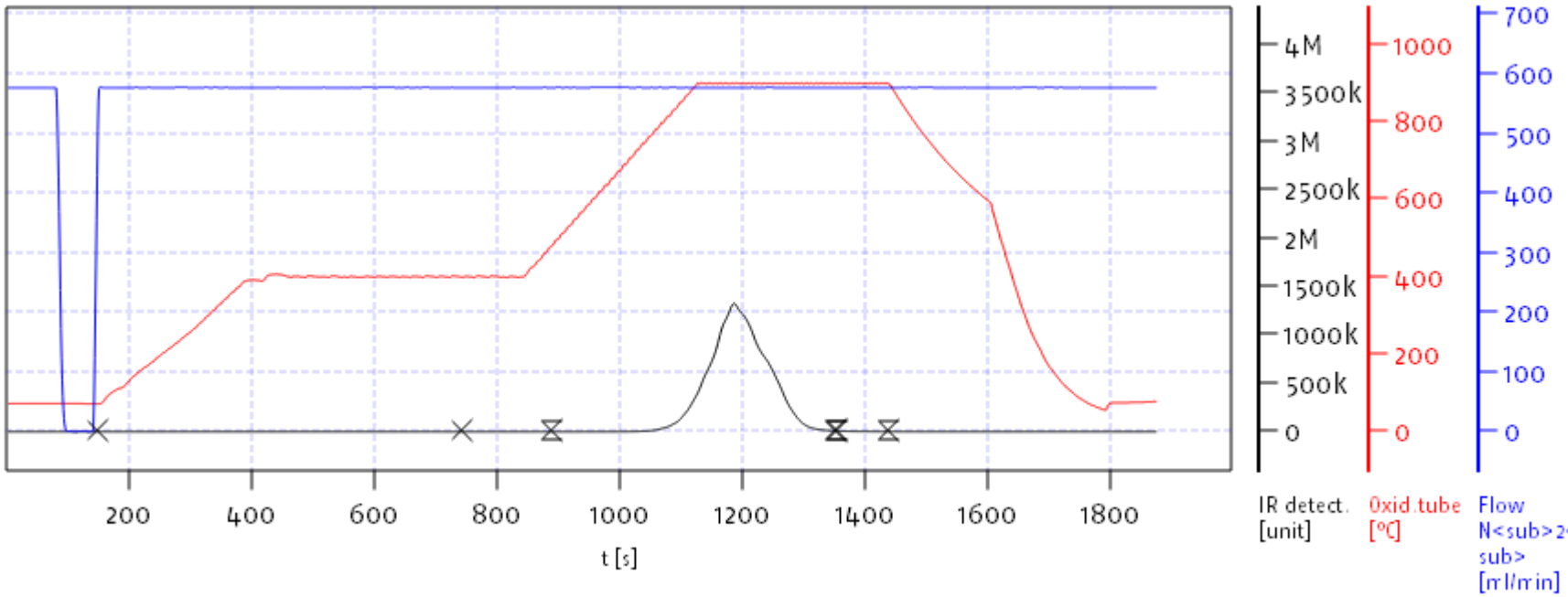
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	31	SEQ-CALL	200.00	0.0699	1.00	CARBON	8/25/2021 11:42 AM	0.000	4.206	4.206	bl,C1u	1 285	**4 920 073**	**0**	1.0000	1.0206



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Mode CCC

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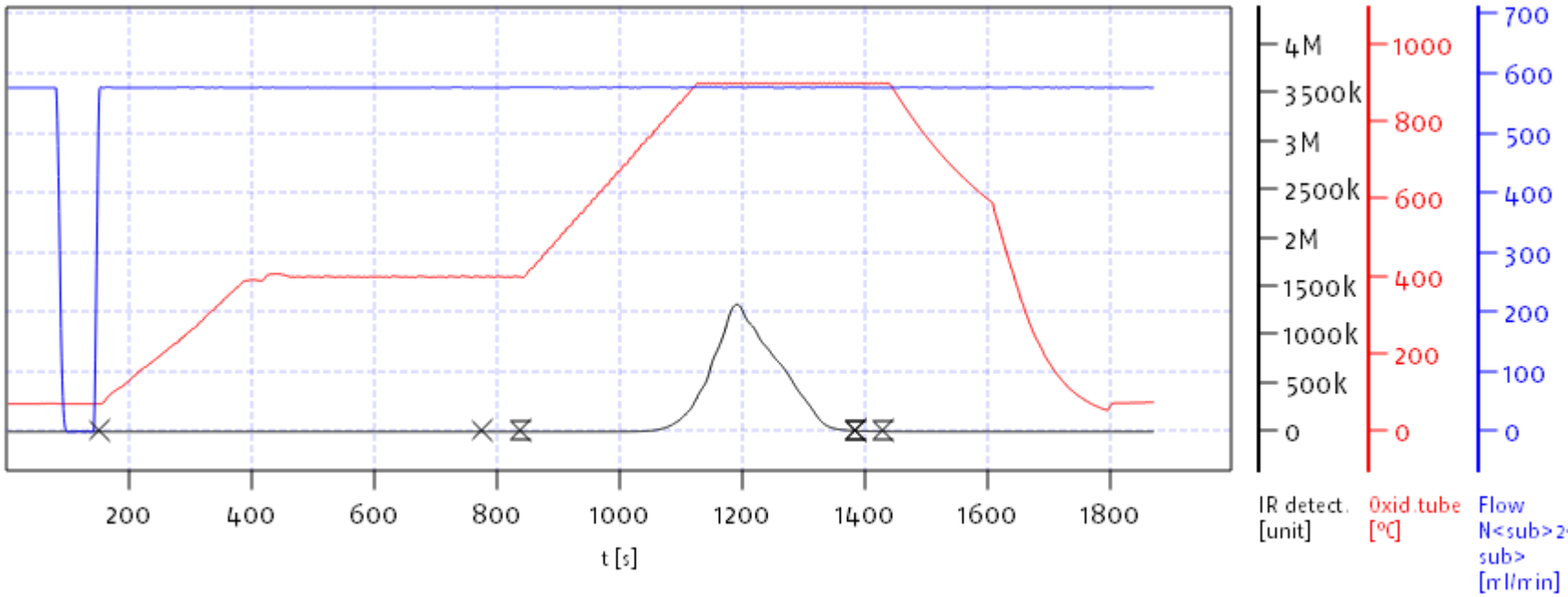
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	32	SEQ-CALM	200.00	0.0803	1.00	CARBON	8/25/2021 11:43 AM	0.000	4.812	4.812	bl,C1u	1 537	**5 655 573**	**0**	1.0000	1.0683



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Balance: BAL3
Analyst: BF

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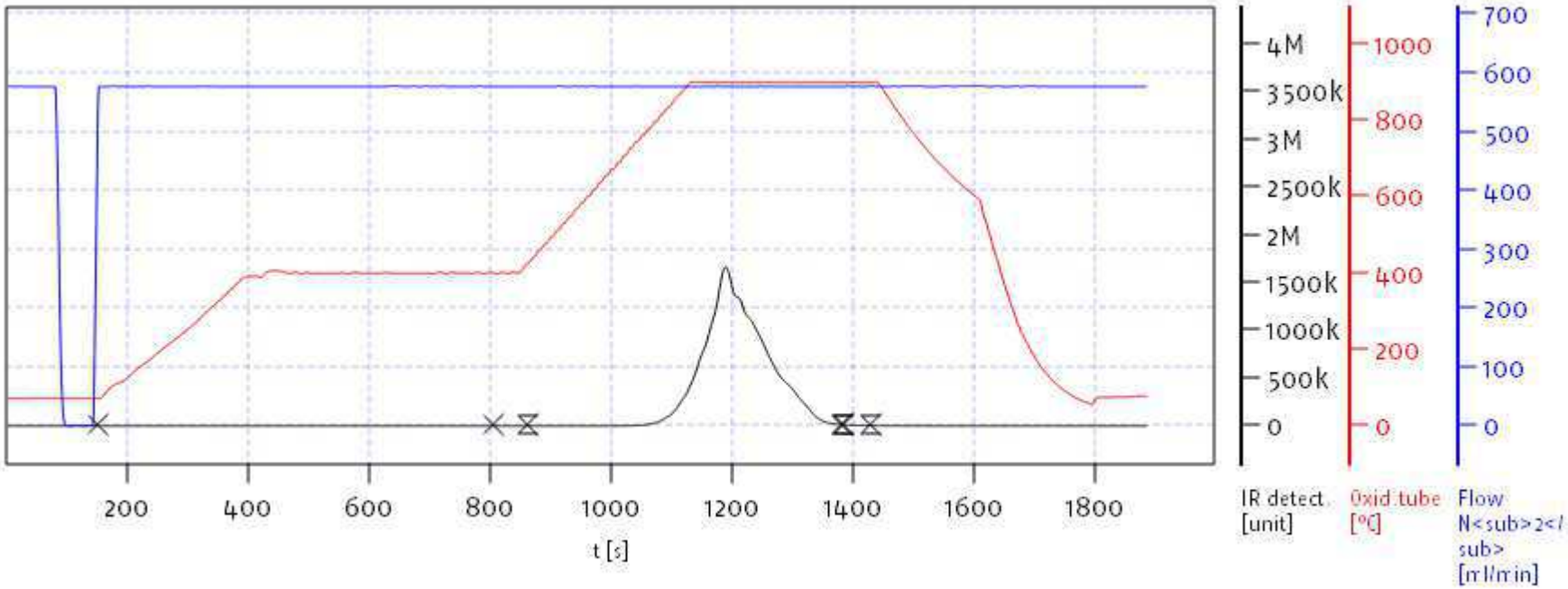
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	33	SEQ-CALN	200.00	0.0902	1.00	CARBON	8/25/2021 11:45 AM	0.000	5.406	5.406	bl,C1u	1 694	**6 449 031**	**0**	1.0000	1.0610



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Balance: BAL3
Analyst: BF

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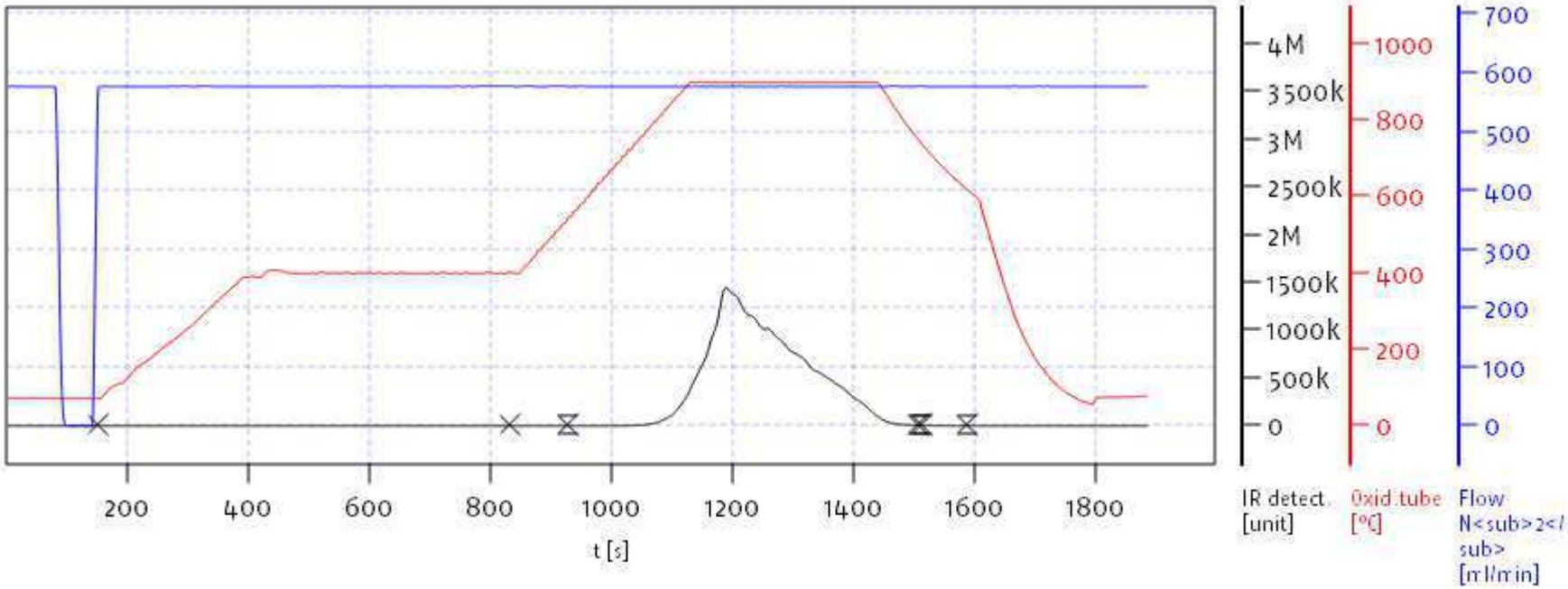
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	34	SEQ-CALO	200.00	0.1204	1.00	CARBON	8/25/2021 11:46 AM	0.000	7.218	7.218	bl,C1 u,C3o	1 658	8 593 324	0	1.0000	1.3657



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Balance: BAL3
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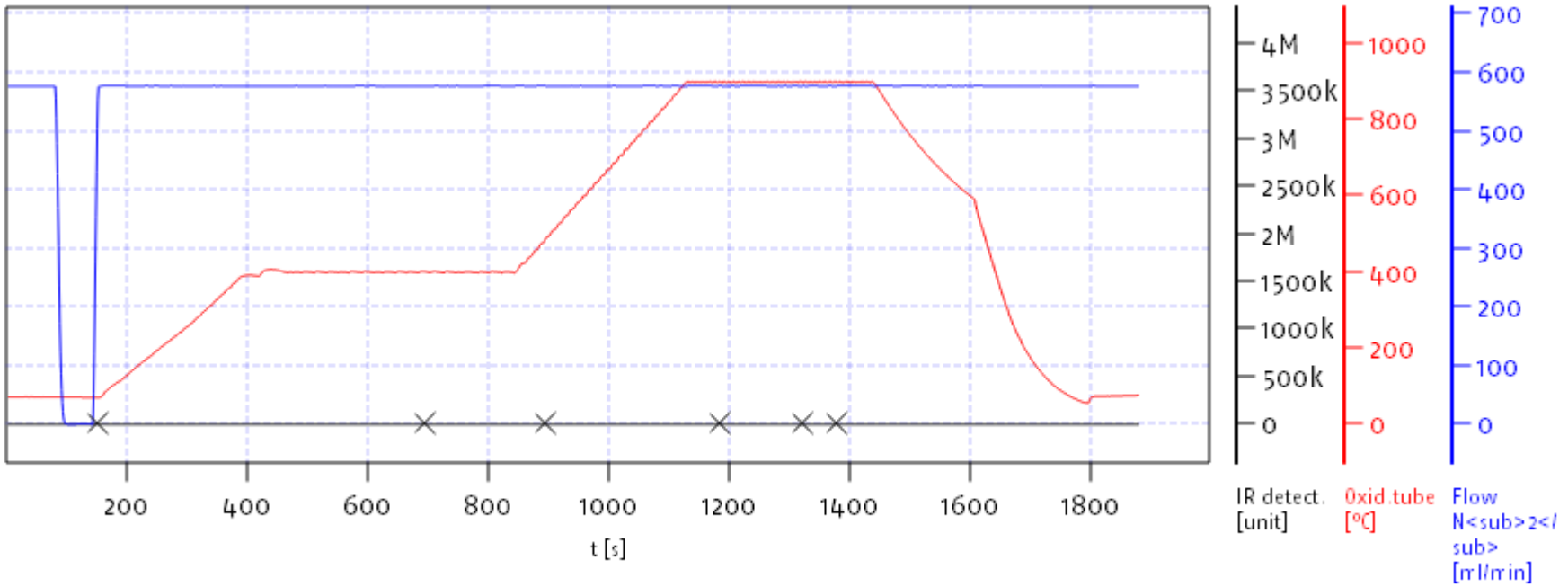
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	35	BLANK	1.00		1.00	CARBON	8/25/2021 7:43 AM	0.000	0.000	0.000	bl	708	0	0	1.0000	1.0293



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Balance: BAL3
Analyst: BF

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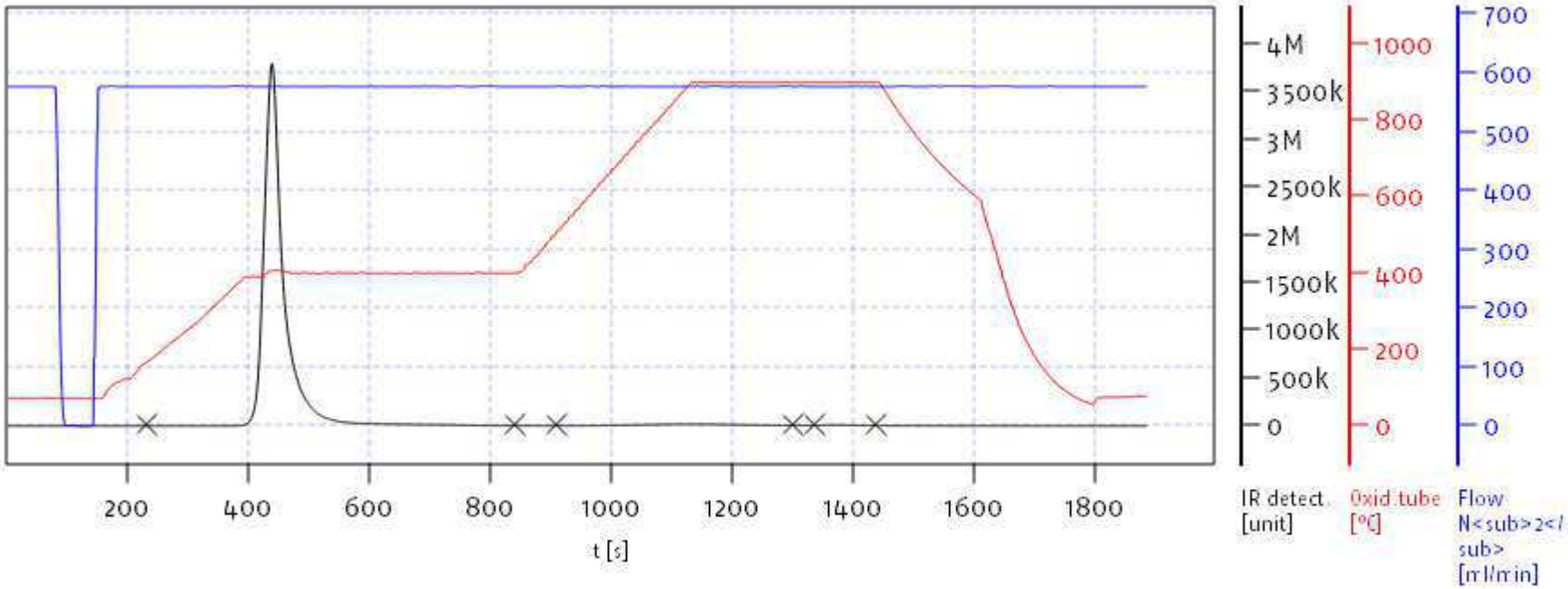
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	36	Dfactor	20.30		1.00	CARBON	8/25/2021 8:15 AM	44.446	0.000	44.446	bl	5 319 150	136 410	24 452	1.0755	1.0000



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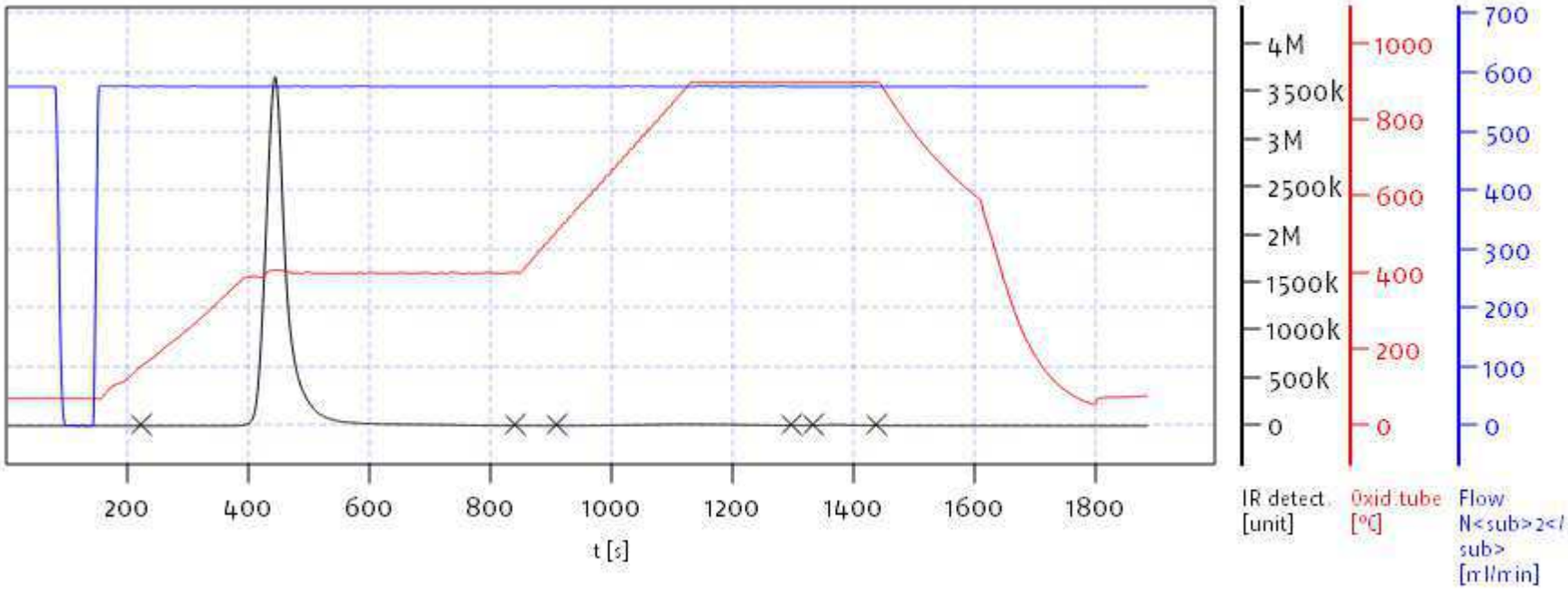
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	37	Dfactor	21.00		1.00	CARBON	8/25/2021 8:47 AM	44.446	0.000	44.446	bl	5 524 800	134 598	27 280	1.0712	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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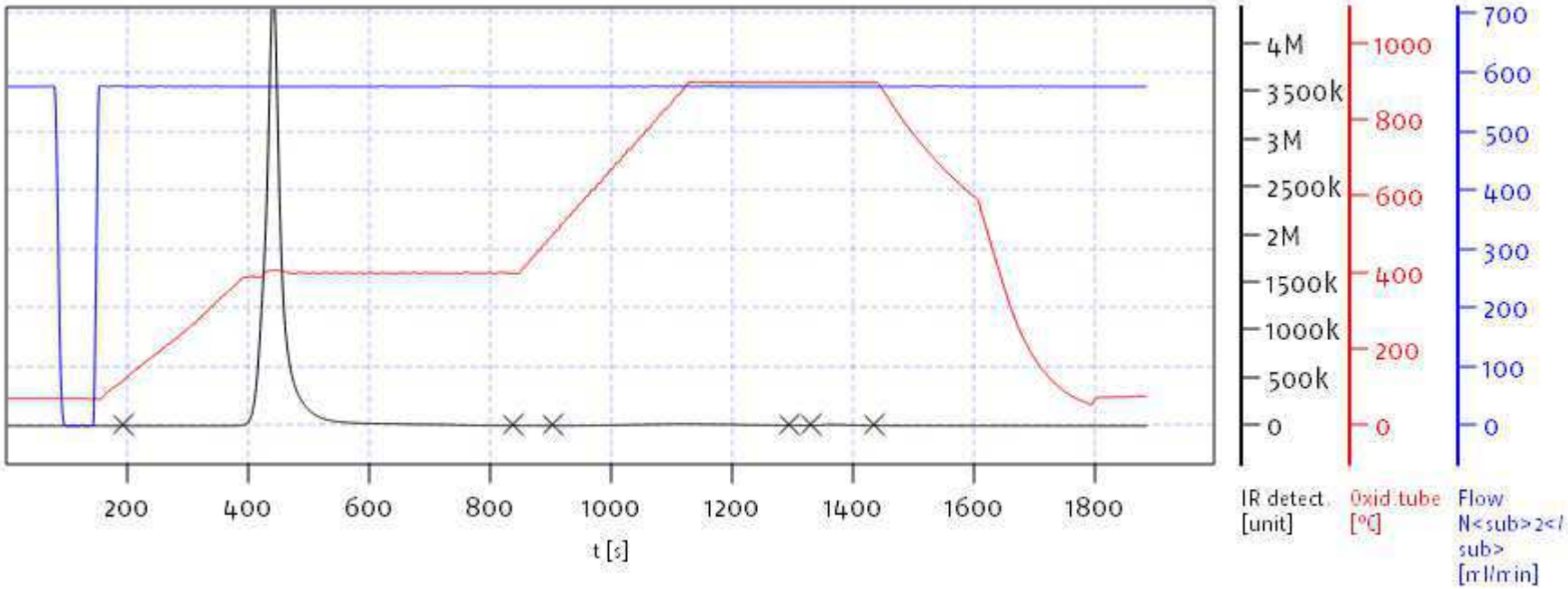
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	38	SEQ-ICV1	20.50		1.00	CARBON	8/25/2021 9:19 AM	47.154	1.091	48.245	bl	5 328 380	151 538	28 760	1.0733	1.0293



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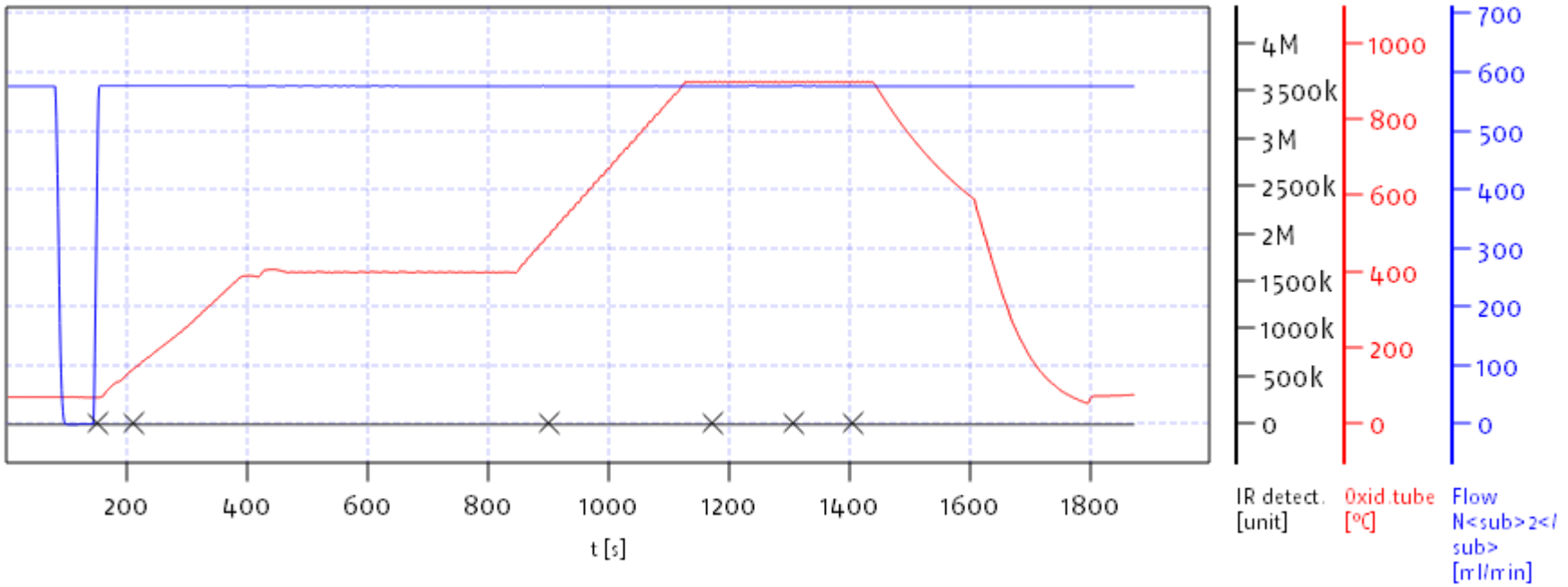
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	39	SEQ-ICB1	599.20		1.00	CARBON	8/25/2021 9:51 AM	0.000	0.000	0.000	bl,C1u,C3u,C2u	172	1 307	338	1.0733	1.0293



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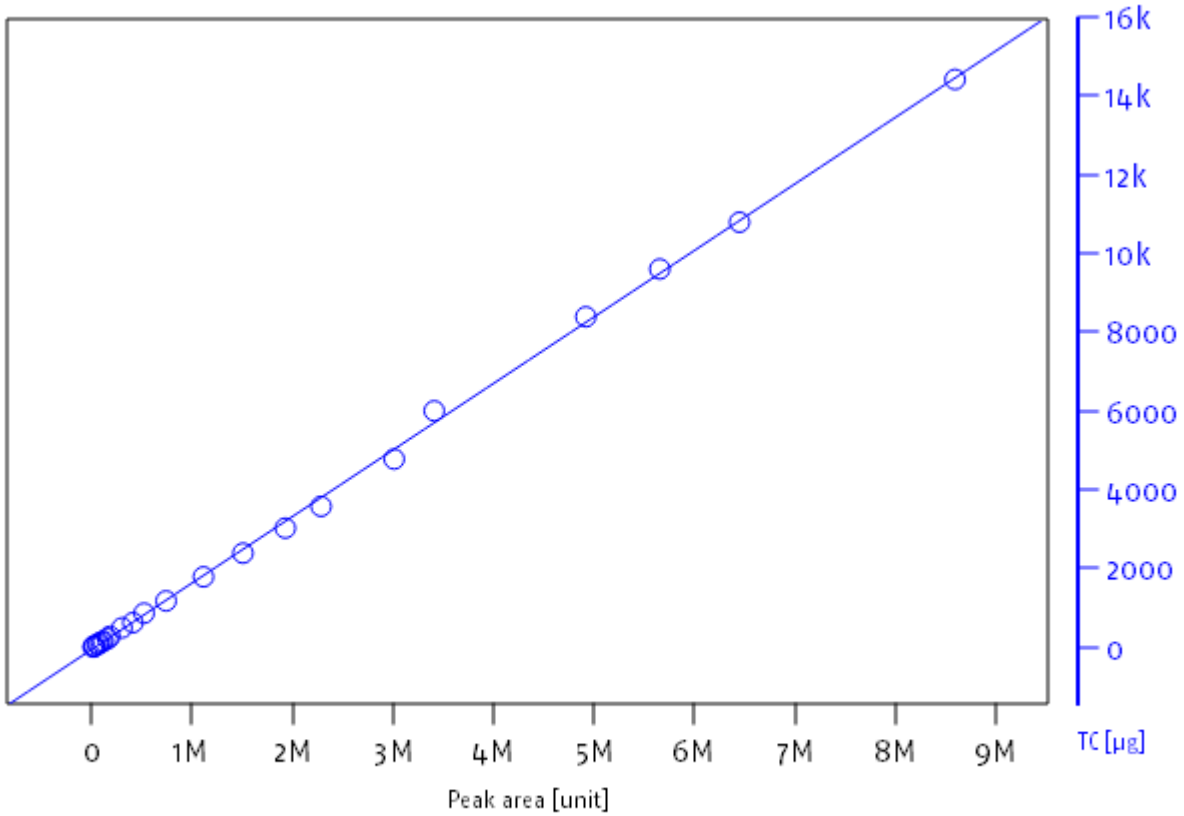
Calibration parameters TC, Whole range

a	-1.970923e-02
b	+1.688862e-06
c	+0.000000e+00
d	+0.000000e+00
e	+0.000000e+00
r	0.999218
r_old	0.999218
Proc.-SD	115.145985 µg

Calibration graph TC, Whole range



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Access: soliTOC superuser

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soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EG00035
Sequence: SJG0169
Date Analyzed: 07/14/21 05:33

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SJG0169-ICB1	Total Organic Carbon	0.002	0.02	0.02	%	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EG00035
Sequence: SJH0071
Date Analyzed: 08/06/21 13:11

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SJH0071-ICB1	Total Organic Carbon	0.02	0.02	0.02	%	
SJH0071-CCB1	Total Organic Carbon	0.02	0.02	0.02	%	
SJH0071-CCB2	Total Organic Carbon	0.02	0.02	0.02	%	
SJH0071-CCB3	Total Organic Carbon	0.02	0.02	0.02	%	
SJH0071-CCB4	Total Organic Carbon	0.01	0.02	0.02	%	
SJH0071-CCB5	Total Organic Carbon	0.02	0.02	0.02	%	
SJH0071-CCB6	Total Organic Carbon	0.02	0.02	0.02	%	
SJH0071-CCB7	Total Organic Carbon	0.02	0.02	0.02	%	
SJH0071-CCB8	Total Organic Carbon	0.01	0.02	0.02	%	
SJH0071-CCB9	Total Organic Carbon	0.01	0.02	0.02	%	
SJH0071-CCBA	Total Organic Carbon	0.01	0.02	0.02	%	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00021
Sequence: SJH0113
Date Analyzed: 08/11/21 04:59

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SJH0113-ICB1	Total Organic Carbon	0.007	0.02	0.02	%	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00021
Sequence: SJH0136
Date Analyzed: 08/12/21 14:39

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SJH0136-ICB1	Total Organic Carbon	0.005	0.02	0.02	%	
SJH0136-CCB1	Total Organic Carbon	0.001	0.02	0.02	%	
SJH0136-CCB2	Total Organic Carbon	0.003	0.02	0.02	%	
SJH0136-CCB3	Total Organic Carbon	0.003	0.02	0.02	%	
SJH0136-CCB4	Total Organic Carbon	0.002	0.02	0.02	%	
SJH0136-CCB5	Total Organic Carbon	0.007	0.02	0.02	%	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00065
Sequence: SJH0323
Date Analyzed: 08/25/21 09:51

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SJH0323-ICB1	Total Organic Carbon	0.00	0.02	0.02	%	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00065
Sequence: SJH0331
Date Analyzed: 08/25/21 16:40

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SJH0331-ICB1	Total Organic Carbon	0.003	0.02	0.02	%	
SJH0331-CCB1	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCB2	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCB3	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCB4	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCB5	Total Organic Carbon	0.001	0.02	0.02	%	
SJH0331-CCB6	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCB7	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCB8	Total Organic Carbon	0.001	0.02	0.02	%	
SJH0331-CCB9	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCBA	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCBB	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCBC	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCBD	Total Organic Carbon	0.004	0.02	0.02	%	
SJH0331-CCBE	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCBF	Total Organic Carbon	0.004	0.02	0.02	%	
SJH0331-CCBG	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCBH	Total Organic Carbon	0.003	0.02	0.02	%	
SJH0331-CCBI	Total Organic Carbon	0.003	0.02	0.02	%	
SJH0331-CCBJ	Total Organic Carbon	0.007	0.02	0.02	%	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EG00035
Control Limt: +/- 10.00%
Sequence: SJG0169

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SJG0169-ICV1	Total Organic Carbon	44.446	44.9	101	%	EPA 9060A m
	Total Carbon	44.446	45.5	102	%	EPA 9060A m
	Total Inorganic Carbon	0.0000	0.59		%	EPA 9060A m
	% Soot	0.0000	0.17		%	EPA 9060A m

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EG00035
Control Limt: +/- 10.00%
Sequence: SJH0071

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SJH0071-ICV1	Total Organic Carbon	44.446	45.1	102	%	EPA 9060A m
SJH0071-CCV1	Total Organic Carbon	44.446	45.4	102	%	EPA 9060A m
SJH0071-CCV2	Total Organic Carbon	44.446	44.9	101	%	EPA 9060A m
SJH0071-CCV3	Total Organic Carbon	44.446	44.1	99.2	%	EPA 9060A m
SJH0071-CCV4	Total Organic Carbon	44.446	45.4	102	%	EPA 9060A m
SJH0071-CCV5	Total Organic Carbon	44.446	44.9	101	%	EPA 9060A m
SJH0071-CCV6	Total Organic Carbon	44.446	43.3	97.4	%	EPA 9060A m
SJH0071-CCV7	Total Organic Carbon	44.446	44.4	99.9	%	EPA 9060A m
SJH0071-CCV8	Total Organic Carbon	44.446	44.9	101	%	EPA 9060A m
SJH0071-CCV9	Total Organic Carbon	44.446	45.7	103	%	EPA 9060A m
SJH0071-CCVA	Total Organic Carbon	44.446	44.7	101	%	EPA 9060A m

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00021
Control Limt: +/- 10.00%
Sequence: SJH0113

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SJH0113-ICV1	Total Organic Carbon	44.446	44.4	99.9	%	EPA 9060A m
	Total Carbon	44.446	45.3	102	%	EPA 9060A m
	Total Inorganic Carbon	0.0000	0.93		%	EPA 9060A m
	% Soot	0.0000	0.32		%	EPA 9060A m

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00021
Control Limt: +/- 10.00%
Sequence: SJH0136

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SJH0136-ICV1	Total Organic Carbon	44.446	43.7	98.4	%	EPA 9060A m
SJH0136-CCV1	Total Organic Carbon	44.446	44.5	100	%	EPA 9060A m
SJH0136-CCV2	Total Organic Carbon	44.446	44.6	100	%	EPA 9060A m
SJH0136-CCV3	Total Organic Carbon	44.446	43.7	98.2	%	EPA 9060A m
SJH0136-CCV4	Total Organic Carbon	44.446	44.6	100	%	EPA 9060A m
SJH0136-CCV5	Total Organic Carbon	44.446	45.2	102	%	EPA 9060A m

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00065
Control Limt: +/- 10.00%
Sequence: SJH0323

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SJH0323-ICV1	Total Organic Carbon	44.446	47.2	106	%	EPA 9060A m
	Total Carbon	44.446	48.2	109	%	EPA 9060A m
	Total Inorganic Carbon	0.0000	1.09		%	EPA 9060A m
	% Soot	0.0000	0.14		%	EPA 9060A m

* Values outside of QC limits

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INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00065
Control Limt: +/- 10.00%
Sequence: SJH0331

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SJH0331-ICV1	Total Organic Carbon	44.446	43.9	98.7	%	EPA 9060A m
SJH0331-CCV1	Total Organic Carbon	44.446	43.8	98.4	%	EPA 9060A m
SJH0331-CCV2	Total Organic Carbon	44.446	44.4	100	%	EPA 9060A m
SJH0331-CCV3	Total Organic Carbon	44.446	44.4	100	%	EPA 9060A m
SJH0331-CCV4	Total Organic Carbon	44.446	45.1	101	%	EPA 9060A m
SJH0331-CCV5	Total Organic Carbon	44.446	44.7	100	%	EPA 9060A m
SJH0331-CCV6	Total Organic Carbon	44.446	44.0	99.1	%	EPA 9060A m
SJH0331-CCV7	Total Organic Carbon	44.446	44.8	101	%	EPA 9060A m
SJH0331-CCV8	Total Organic Carbon	44.446	45.6	103	%	EPA 9060A m
SJH0331-CCV9	Total Organic Carbon	44.446	43.2	97.1	%	EPA 9060A m
SJH0331-CCVA	Total Organic Carbon	44.446	45.2	102	%	EPA 9060A m
SJH0331-CCVB	Total Organic Carbon	44.446	44.6	100	%	EPA 9060A m
SJH0331-CCVC	Total Organic Carbon	44.446	44.7	101	%	EPA 9060A m
SJH0331-CCVD	Total Organic Carbon	44.446	45.6	103	%	EPA 9060A m
SJH0331-CCVE	Total Organic Carbon	44.446	43.5	97.9	%	EPA 9060A m
SJH0331-CCVF	Total Organic Carbon	44.446	44.8	101	%	EPA 9060A m
SJH0331-CCVG	Total Organic Carbon	44.446	45.4	102	%	EPA 9060A m
SJH0331-CCVH	Total Organic Carbon	44.446	44.5	100	%	EPA 9060A m
SJH0331-CCVI	Total Organic Carbon	44.446	44.0	99.0	%	EPA 9060A m
SJH0331-CCVJ	Total Organic Carbon	44.446	45.5	102	%	EPA 9060A m

* Values outside of QC limits

Analytical Resources, Incorporated
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STANDARD REFERENCE MATERIAL RECOVERY

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Laboratory ID: BJH0062-SRM1
Batch: BJH0062
Initial/Final: 0.0461 g / 0.0461 mL
Preparation: PSEP 1986 (modified)
Analyzed: 08/08/2021 1:01
Standard ID: H003424
Expires: 12/31/2079
Standard Lot#: 1941b
Description: 1941B- Organics in Marine Sediment (Conv)

ANALYTE	TRUE (% wet)	FOUND (% wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	2.9900	2.87	0.02	0.02		95.8	80 - 120

* Values outside of QC limits

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HOLDING TIME SUMMARY

Analysis: EPA 9060A m

Laboratory: Analytical Resources, Inc. SDG: 21G0303

Client: Anchor QEA, LLC Project: Lower Duwamish AOC4

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
LDW21-IT694A 21G0303-01	07/20/21 16:39	07/21/21 10:47	08/03/21 13:45	13	14	08/08/21 13:06			
LDW21-IT694B 21G0303-02RE2	07/20/21 16:39	07/21/21 10:47	08/03/21 13:45	13	14	08/30/21 13:41			
LDW21-IT694C 21G0303-03	07/20/21 16:39	07/21/21 10:47	08/03/21 13:45	13	14	08/08/21 14:09			
LDW21-IT694E 21G0303-04	07/20/21 16:39	07/21/21 10:47	08/03/21 13:45	13	14	08/08/21 17:20			

* Indicates hold time exceedance.

Analytical Resources, Incorporated
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METHOD DETECTION AND REPORTING LIMITS

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Instrument: TOC Cube

Analyte	MDL	RL	Units
Total Organic Carbon	0.02	0.02	%

H001822

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: $(C_6H_{10}O_5)n$
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 +60 mesh +200 mesh	Wt % <8% >45%	 <1% 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

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 cm^2
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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National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material® 1941b

Organics in Marine Sediment

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. Information values are also provided for total organic carbon (TOC), total carbon, hydrogen, and nitrogen. All of the constituents for which certified, reference, and information 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.

Certified Mass Fraction 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].

Reference Mass Fraction Values: Reference mass fraction values for additional PAHs (some in combination), additional PCB congeners, and additional chlorinated pesticides are provided in Table 4 through Table 7. Reference values for alkylated PAH groups are provided in Table 8 and for selected hopanes and steranes in Table 9. A reference value for total organic carbon is provided in Table 10. Reference values are noncertified 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].

Information Mass Fraction Values: Information mass fraction values are provided in Table 11 for carbon, hydrogen, and nitrogen. An information value is considered to be a value that will be of use to the SRM user, but insufficient information is available to assess the uncertainty associated with the value [1]. Information values cannot be used to establish metrological traceability.

Expiration of Certification: The certification of **SRM 1941b** is valid, within the measurement uncertainty specified, until **01 October 2020**, provided the SRM is handled and stored in accordance with the instructions given in this certificate (see "Instructions for Handling, Storage, and Use"). This certification is nullified if the SRM is damaged, contaminated, or otherwise modified.

Maintenance of SRM Certification: NIST will monitor this SRM over the period of its certification. If substantive technical changes occur that affect the certification before the expiration of this certificate, NIST will notify the purchaser. Registration (see attached sheet or register online) will facilitate notification.

Coordination of the technical measurements leading to the certification of this material was under the leadership of M.M. Schantz and S.A. Wise of the NIST Chemical Sciences Division.

Analytical measurements for the certification of SRM 1941b were performed at NIST by J.R. Kucklick, B.J. Porter, D.L. Poster, M.M. Schantz, P. Schubert, S. Tutschku, and L.L. Yu of the NIST Chemical Sciences Division.

Carlos A. Gonzalez, Chief
Chemical Sciences Division

Robert L. Watters, Jr., Director
Office of Reference Materials

Gaithersburg, MD 20899
Certificate Issue Date: 16 January 2015

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 A) 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 B) 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 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.

INSTRUCTIONS FOR HANDLING, STORAGE, AND USE

Handling: 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.

PREPARATION AND ANALYSIS[1]

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 °C shelf temperature and a –50 °C condenser temperature. The moisture content in SRM 1941b at the time of the certification analyses was 2.39 % ± 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 [2]. 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

[1] Certain commercial equipment, instruments or materials are identified in this certificate to adequately specify the experimental procedure. Such identification does not imply recommendation or endorsement by the National Institute of Standards

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 NH_2, 9 mm i.d. × 30 cm, Waters Associates, Milford, MA) to isolate isomeric PAH fractions as described previously [3–6]. The total PAH fraction and the isomeric PAH fractions were analyzed using a 5 µm particle-size polymeric octadecylsilane (C_{18}) column (4.6 mm i.d. × 25 cm, Hypersil-PAH, Keystone Scientific, Inc., Bellefonte, PA) with wavelength-programmed fluorescence detection [4,5].

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 [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 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 [8].

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 [2].

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 [9,10]) and endosulfan I-d_4, 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 reference 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) [11]. 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 [12]. Results from 33 laboratories that participated in this exercise were used in the determination of the reference 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.

Table 1. Certified Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions[a] (µg/kg)		
Naphthalene[b,c,d,e,f,g]	848	±	95[h]
Fluorene[b,c,d,e,f,g]	85	±	15[h]
Phenanthrene[b,c,d,e,f,g]	406	±	44[h]
Anthracene[b,c,d,e,f,g]	184	±	18[h]
3-Methylphenanthrene[b,c,d]	105	±	13[h]
2-Methylphenathrene[b,c,d]	128	±	14[h]
1-Methylphenanthrene[b,c,d,g]	73.2	±	5.9[h]
Fluoranthene[b,c,d,e,f,g]	651	±	50[h]
Pyrene[b,c,d,e,f,g]	581	±	39[h]
Benz[*a*]anthracene[b,c,d,e,f,g]	335	±	25[h]
Chrysene[d,f]	291	±	31[h]
Triphenylene[d,f]	108	±	5[i]
Benzo[*b*]fluoranthene[c,e]	453	±	21[h]
Benzo[*k*]fluoranthene[b,c,d,e]	225	±	18[h]
Benzo[*e*]pyrene[b,c,d,g]	325	±	25[h]
Benzo[*a*]pyrene[b,c,d,f,g]	358	±	17[h]
Perylene[b,c,d,f,g]	397	±	45[h]
Benzo[*ghi*]perylene[b,c,d,f,g]	307	±	45[h]
Indeno[1,2,3-*cd*]pyrene[b,c,d,f,g]	341	±	57[h]
Dibenz[*a,j*]anthracene[b,c,d,f]	48.9	±	4.6[h]
Dibenz[*a,c*]anthracene[c,f]	36.7	±	5.2[h]
Dibenz[*a,h*]anthracene[c,f]	53	±	10[h]
Benzo[*b*]chrysene[b,c,d,f]	53	±	12[h]
Picene[b,c,d]	46.6	±	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 [7] 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 [13]. 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 [14,15]. 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 [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. 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] (µg/kg)		
PCB	8	(2,4'-Dichlorobiphenyl)[c,d,e,f,g]	1.65	±	0.19[h]
PCB	18	(2,2',5-Trichlorobiphenyl)[c,d,e,f,g]	2.39	±	0.29[h]
PCB	28	(2,4,4'-Trichlorobiphenyl)[c,d,e,f,g]	4.52	±	0.57[h]
PCB	31	(2,4',5-Trichlorobiphenyl)[c,e,f]	3.18	±	0.41[h]
PCB	44	(2,2'3,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	3.85	±	0.20[i]
PCB	49	(2,2'4,5'-Tetrachlorobiphenyl)[c,d,e,f]	4.34	±	0.28[i]
PCB	52	(2,2',5,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	5.24	±	0.28[i]
PCB	66	(2,3',4,4'-Tetrachlorobiphenyl)[c,e,f,g,j]	4.96	±	0.53[i]
PCB	87	(2,2',3,4,5'-Pentachlorobiphenyl)[c,d,f,j]	1.14	±	0.16[h]
PCB	95	(2,2',3,5',6-Pentachlorobiphenyl)[c,e,f,g]	3.93	±	0.62[i]
PCB	99	(2,2',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g]	2.90	±	0.36[i]
PCB	101	(2,2',4,5,5'-Pentachlorobiphenyl)[c,e,f,g,j]	5.11	±	0.34[i]
PCB	105	(2,3,3',4,4'-Pentachlorobiphenyl)[c,d,e,f,g,j]	1.43	±	0.10[i]
PCB	110	(2,3,3',4',6-Pentachlorobiphenyl)[c,e,f,j]	4.62	±	0.36[i]
PCB	118	(2,3',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g,j]	4.23	±	0.19[i]
PCB	128	(2,2',3,3',4,4'-Hexachlorobiphenyl)[c,d,e,f,g,j]	0.696	±	0.044[i]
PCB	138	(2,2',3,4,4',5'-Hexachlorobiphenyl)[c,e,f,j]	3.60	±	0.28[i]
PCB	149	(2,2',3,4',5',6-Hexachlorobiphenyl)[c,d,e,j]	4.35	±	0.26[h]
PCB	153	(2,2',4,4',5,5'-Hexachlorobiphenyl)[c,d,e,f,g,j]	5.47	±	0.32[i]
PCB	156	(2,3,3',4,4',5-Hexachlorobiphenyl)[c,d,e,f,j]	0.507	±	0.090[h]
PCB	170	(2,2',3,3',4,4',5-Heptachlorobiphenyl)[c,d,e,f,g,j]	1.35	±	0.09[i]
PCB	180	(2,2',3,4,4',5,5'-Heptachlorobiphenyl)[c,d,e,f,g,j]	3.24	±	0.51[i]
PCB	183	(2,2',3,4,4',5',6-Heptachlorobiphenyl)[c,d,e,j]	0.979	±	0.087[h]
PCB	187	(2,2',3,4',5,5',6-Heptachlorobiphenyl)[c,d,e,f,g,j]	2.17	±	0.22[i]
PCB	194	(2,2',3,3',4,4',5,5'-Octachlorobiphenyl)[c,d,e,j]	1.04	±	0.06[h]
PCB	195	(2,2',3,3',4,4',5,6-Octachlorbiphenyl)[c,e,g,j]	0.645	±	0.060[i]
PCB	201	(2,2',3,3',4,5',6,6'-Octachlorobiphenyl)[c,e,j]	0.777	±	0.034[h]
PCB	206	(2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl)[c,e,f,g,j]	2.42	±	0.19[i]
PCB	209	Decachlorobiphenyl[c,d,e,f,g,j]	4.86	±	0.45[i]

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] 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 [7] 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 [16] with a pooled, within method variance following the ISO/JCGM Guide [14,15]. 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 [13]. 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 [14,15]. 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] (µg/kg)
Hexachlorobenzene[b,c,d,e]	5.83 ± 0.38[f]
cis-Chlordane[b,c,d,e,g]	0.85 ± 0.11[h]
trans-Chlordane[b,c,e]	0.566 ± 0.093[f]
cis-Nonachlor[b,e,g]	0.378 ± 0.053[h]
trans-Nonachlor[b,c,d,e,g]	0.438 ± 0.073[f]
4,4'-DDE[b,d,e,g]	3.22 ± 0.28[h]
4,4'-DDD[b,d,e,g]	4.66 ± 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 [7] 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 [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. 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 [13]. 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 [14,15]. 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.

Table 4. Reference Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions[a] (µg/kg)		
1-Methylnaphthalene[b,c,d,e]	127	±	14[f]
2-Methylnaphthalene[b,c,d,e]	276	±	53[f]
2,6-Dimethylnaphthalene[b,c,d,e]	75.9	±	4.5[f]
2,3,5-Trimethylnaphthalene[b,c,d,e]	25.5	±	5.1[f]
Biphenyl[b,c,d,e]	74.0	±	8.0[f]
Acenaphthylene[b,c,d,e]	53.3	±	6.4[f]
Acenaphthene[b,c,d,e]	38.4	±	5.2[f]
9-Methylphenanthrene[c]	63.5	±	2.5[g]
4-Methylphenanthrene and 9-Methylphenanthrene[b,d]	80.1	±	4.8[f]
2-Methylanthracene[c,d]	36	±	15[f]
8-Methylfluoranthene[b]	49.5	±	2.7[g]
7-Methylfluoranthene[b]	45.4	±	1.5[g]
1-Methylfluoranthene[b]	42.4	±	2.1[g]
3-Methylfluoranthene[b]	28.8	±	1.3[g]
2-Methylpyrene[b]	78.7	±	4.0[g]
4-Methylpyrene[b]	66.4	±	2.6[g]
1-Methylpyrene[b]	52.5	±	2.3[g]
Acephenanthrene[d]	30.5	±	1.9[g]
Benzo[*c*]phenanthrene[b,c,d]	58	±	15[f]
Benzo[*a*]fluoranthene[b,c,d]	73	±	18[f]
Benzo[*j*]fluoranthene[c]	217	±	5[g]
Indeno[1,2,3-*cd*]fluoranthene[d]	9.63	±	0.34[g]
Pentaphene[d]	25.3	±	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 [7] with 14 to 26 laboratories submitting data for each PAH.
[f] Reference values are weighted means of the results from two to four analytical methods [13]. 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 [14,15]. The measurand is the total mass fraction of PAHs listed as determined by the methods indicted. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[g] Reference 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 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 indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 5. Reference 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] (µg/kg)		
Coronene	72.6	±	4.7
Dibenzo[*b,e*]fluoranthene	10.3	±	0.3
Naphtho[1,2-*b*]fluoranthene	91.0	±	3.1
Naphtho[1,2-*k*]fluoranthene and Naphtho[2,3-*j*]fluoranthene	79.8	±	2.5
Naphtho[2,3-*b*]fluoranthene	23.5	±	0.3
Dibenzo[*b,k*]fluoranthene	95.6	±	3.1
Dibenzo[*a,k*]fluoranthene	26.6	±	0.4
Dibenzo[*j,l*]fluoranthene	63.8	±	1.8
Dibenzo[*a,l*]pyrene	11.1	±	1.0
Naphtho[2,3-*k*]fluoranthene	10.7	±	0.6
Naphtho[1,2-*a*]pyrene	16.7	±	1.4
Naphtho[2,3-*e*]pyrene	33.2	±	2.3
Dibenzo[*a,e*]pyrene	76.1	±	3.6
Naphtho[2,1-*a*]pyrene	59.2	±	1.8
Dibenzo[*e,i*]pyrene	35.0	±	2.4
Naphtho[2,3-*a*]pyrene	16.5	±	0.6
Benzo[*b*]perylene	38.2	±	1.2
Dibenzo[*a,i*]pyrene	25.5	±	1.0
Dibenzo[*a,h*]pyrene	6.94	±	0.29

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[b] Reference 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 indicted. 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 [8].

Table 6. Reference 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 [9] and later revised by Schulte and Malisch [10] 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 reference 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 [16] with a pooled within-method variance following the ISO/JCGM Guide [14,15]. For PCB 77, the reference value is the mean 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 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 indicted. 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 7. Reference 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 reference 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 [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the chlorinated pesticides listed as determined by the methods indicted. 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 [7] with 10 laboratories submitting data for 4,4'-DDT.

Table 8. Reference 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-benzanthraces/chrysenes/triphenylenes	208	±	43
C2-benzanthraces/chrysenes/triphenylenes	120	±	24
C3-benzanthraces/chrysenes/triphenylenes	73	±	31
C4-benzanthraces/chrysenes/triphenylenes	41	±	11

[a] The reference 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 [12].

Table 9. Reference Mass Fraction Values for Hopanes and Steranes in SRM 1941b

Hopane or Sterane	Mass Fraction[a,b] (μg/kg)		
17α(H)-22,29,30-Trisnorhopane	54	±	18
17α(H)-21β(H)-30-Norhopane	137	±	21
17α(H)-21β(H)-30-Hopane	215	±	44
17α(H)-21β(H)-22R-Homohopane	44	±	10
17α(H)-21β(H)-22S-Homohopane	48	±	13
5α(H)-14α(H),17α(H)-Cholestane 20R	41	±	11
5α(H)-14β(H),17β(H)-Cholestane 20R	27	±	6
5α(H)-14β(H),17β(H)-24-Methylcholestane 20R	21	±	8
5α(H)-14α(H),17α(H)-24-Ethylcholestane 20R	19	±	5
5α(H)-14β(H),17β(H)-24-Ethylcholestane 20R	41	±	9

[a] The reference 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 [12].

Table 10. Reference Mass Fraction Value for Total Organic Carbon in SRM 1941b

Total Organic Carbon (TOC)	2.99 % ± 0.24 %[a,b]

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference value for total organic carbon is a weighted mean value from routine measurements made by two laboratories [21]. 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 [2]. The measurand is the total mass fraction of TOC listed as determined by the methods indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as a percent on a dry-mass basis.

Table 11. Information Mass Fraction Values for Carbon, Hydrogen, and Nitrogen in 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.

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Certificate Revision History: 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); 16 August 2004 (Reference values for the butyl tins removed; editorial changes); 15 July 2002 (Original certificate date).

Users of this SRM should ensure that the Certificate of Analysis in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srminfo@nist.gov; or via the Internet at http://www.nist.gov/srm.

APPENDIX A

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
Axys Analytical Services; Sidney, BC, Canada
B & B Laboratories; College Station, TX
Battelle Ocean Sciences; Duxbury, MA
Bedford Institute of Oceanography; Dartmouth, NS, Canada
California Department of Fish and Game; Rancho Cordova, CA
Central Contra Costa Sanitary District; Martinez, CA
Chesapeake Biological Laboratory; Solomons, MD
Centro de Investigacionies Energeticas Medioambientales y Tecnologicas; Madrid, Spain
City of Los Angeles Environmental Monitoring Division; Playa del Rey, CA
City of San Jose Environmental Services Department; San Jose, CA
Columbia Analytical Services; Kelso, WA
East Bay Municipal Utility District; Oakland, CA
Florida Department of Environmental Protection; Tallahassee, FL
Manchester Environmental Laboratory; Port Orchard, WA
Murray State University; Murray, KY
Massachusetts Water Resources Authority Central Lab; Winthrop, MA
National Research Council of Canada; Ottawa, Ontario, Canada
National Oceanic and Atmospheric Association (NOAA), National Marine Fisheries Service (NMFS), Auke Bay Laboratory; Juneau, AK
NOAA, National Ocean Service/Center for Coastal Environmental Health and Biomolecular Research; Charleston, SC
NOAA, NMFS, Sandy Hook Marine Laboratory; Highlands, NJ
NOAA, NMFS, Northwest Fisheries Science Center; Seattle, WA
Orange County Sanitation District; Fountain Valley, CA
Philip Analytical Services; Burlington, Ontario, Canada
Serv de Hidrografia Naval; Buenos Aires, Argentina
Skidaway Institute of Technology; Savannah, GA
Southwest Laboratory of Oklahoma; Broken Arrow, OK
Severn Trent Knoxville Laboratory; Knoxville, TN
Texas A&M University, Geochemical and Environmental Research Group; College Station, TX
Texas Parks and Wildlife Department; San Marcos, TX
University of California at Los Angeles, Institute of Geophysics and Planetary Physics; Los Angeles, CA
University of Connecticut, Environmental Research Institute; Storrs, CT
University of Rhode Island, Graduate School of Oceanography; Narragansett, RI
US Department of Agriculture, Environmental Chemistry Laboratory; Beltsville, MD
US Environmental Protection Agency, Atlantic Ecology Division; Narragansett, RI
US Geological Survey, National Water Quality Laboratory; Denver, CO
Woods Hole Group Environmental Lab; Raynham, MA
Wright State University; Dayton, OH

APPENDIX B

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
Axys 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

NIST

Date of Issue:
31 March 2014

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, reference, and information 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
FAX: 301-948-3730
E-mail: SRMMSDS@nist.gov
Website: http://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).

NFPA Ratings (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health = 1 Fire = 0 Reactivity = 0

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/m^3 (TWA, total particulates not otherwise regulated)
OSHA (PEL) 5 mg/m^3 (TWA, respirable particulates not otherwise regulated)

NIOSH (REL): 10 mg/m^3 (TWA, total particulates not otherwise regulated, 8 h)
NIOSH (REL): 5 mg/m^3 (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 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: 31 March 2014

Sources: 29 CFR Occupational Health and Safety Office (OSHA) 1910.1000, *Limits for Air Contaminants*, Table Z-1; available at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9992 (accessed Mar 2014).

Center for Disease Control (CDC) NIOSH Pocket Guide to Chemical Hazards, *Particulates not otherwise regulated*; available at http://www.cdc.gov/niosh/npg/npgd0480.html (accessed Mar 2014).

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
NFPA	National Fire Protection Association	TWA	Time Weighted Average
NIOSH	National Institute for Occupational Safety and Health	UEL	Upper Explosive Limit
NIST	National Institute of Standards and Technology	WHMIS	Workplace Hazardous Materials Information System

Disclaimer: Physical and chemical data contained in this SDS are provided only for use in assessing the hazardous nature of the material. The SDS was prepared carefully, using current references; however, NIST does not certify the data in the SDS. The certified values for this material are given in the NIST Certificate of Analysis.

Users of this SRM should ensure that the SDS in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srmmsds@nist.gov; or via the Internet at http://www.nist.gov/srm.

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Order discrepancies (other than back ordered items) must be reported to our Customer Relations Department at 301-975-6776 within 5 days of receipt of shipment or this order will be considered complete. NIST SRMs/RMs are generally not returnable - with the exception of defective goods or shipments made in error by NIST. To return a SRM/RM, please call for instructions and a Return SRM/RM Authorization Number before shipment. Returns WILL NOT BE ACCEPTED without prior authorization.

Order	UOM	Ship	UOM	B/O	UOM	Item	Description
1	EACH	1	EACH	0	EACH	1941B	Organics in Marine Sediment
						Total qty:	1 / EACH
							NOT FOR HUMAN CONSUMPTION, LABORATORY USE ONLY.

9/21/16
04:04 PM

Picked by	
Packed by	
# of pieces	
Weight	

1700101

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Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW21-IT694A

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0303-01 D	SDG:	21G0303
Sampled:	07/20/21 16:39	Prepared:	07/27/21 11:38	File ID:	
% Solids:	71.45	Preparation:	No Prep Wet Chem	Analyzed:	07/27/21 11:43
Batch:	BJG0626	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	71.45	1	0.04	0.04	

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Form I
INORGANIC ANALYSIS DATA SHEET
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LDW21-IT694B

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0303-02 D	SDG:	21G0303
Sampled:	07/20/21 16:39	Prepared:	07/27/21 11:38	File ID:	
% Solids:	70.42	Preparation:	No Prep Wet Chem	Analyzed:	07/27/21 11:43
Batch:	BJG0626	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	70.42	1	0.04	0.04	

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Form I
INORGANIC ANALYSIS DATA SHEET
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LDW21-IT694C

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0303-03 D	SDG:	21G0303
Sampled:	07/20/21 16:39	Prepared:	07/27/21 11:38	File ID:	
% Solids:	72.09	Preparation:	No Prep Wet Chem	Analyzed:	07/27/21 11:43
Batch:	BJG0626	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	72.09	1	0.04	0.04	

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Form I
INORGANIC ANALYSIS DATA SHEET
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LDW21-IT694E

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0303-04 D	SDG:	21G0303
Sampled:	07/20/21 16:39	Prepared:	07/27/21 11:38	File ID:	
% Solids:	80.12	Preparation:	No Prep Wet Chem	Analyzed:	07/27/21 11:43
Batch:	BJG0626	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	80.12	1	0.04	0.04	

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PREPARATION BATCH SUMMARY

SM 2540 G-97

Laboratory:	Analytical Resources, Inc.	SDG:	21G0303
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Batch:	BJG0626 Batch Matrix: Solid	Preparation:	No Prep Wet Chem

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-IT694A	21G0303-01		07/27/21 11:38	
LDW21-IT694B	21G0303-02		07/27/21 11:38	
LDW21-IT694C	21G0303-03		07/27/21 11:38	
LDW21-IT694E	21G0303-04		07/27/21 11:38	
Blank	BJG0626-BLK1		07/27/21 11:38	

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET for Solid samples

Method: PSEP 1986, SM2540, EPA 160.1

(dry at 104 (12-24 hr) then combust at 550 (30 min))

Batch:	BJG0626
Date:	7/27/2021 11:43
Analyst:	DOE

Instrumentation

Drying Ovens:	12	**Analytical Balance:**	BAL2
Muffle Furnace:	2		

Batch drying time				**Oven Temps, °C**	
record times as mm/dd/yy hh:mm			TS (%) calculated as:	Start Temp	106
date/time in oven:	7/27/2021 12:20		Final dry wt (g) = (Dry Wt - Tare Wt)	Dry Cycle 1	104
date/time out:	7/28/2021 10:05		TS = (Final Dry Wt)/ (grams Sample-Tare)	Dry Cycle 2	
elapsed hrs =	21.8	OK		Dry Cycle 3	

TVS (mg/kg dry wt) calculated as:
Final ash wt (g) = (min ash wt - tare wt)
TVS (mg/kg) = [(Dry wt-Ash wt)/ (dry weight)] *1,000,000
if ash wt > dry wt, "Chk for Err"
if dry wt-ash wt < 0.001 g, "< (1/dry wt)*1,000,000

Balance Calibration Check

Record weights to 4 places											
	Cal Weight ID:	CV-02	CV-02	CV-02	CV-02	CV-02		CV-02	CV-02	CV-02	
	Date & Time:	7/27/21 11:45	7/27/21 11:50	7/28/21 10:20							
Cal Wt (g):	10.0000	9.9999	9.9999	9.9999							
		Cal OK!	Cal OK!	Cal OK!							

Sample ID	Dish #	Tare Wt. (g)	Dish & Sample (g)	Dry Wt 104C (grams) 1	2	3	dry Wt (g)	TS (%)	Notes	ASH WT 550C (grams) 1	2	3	Ash Wt (g)	TVS (mg/kg)	TVS (%)	Notes	Fixed (%)
BJG0626-BLK1	24	0.7949	0.0000	0.7949			0.0000	0.00%									
21G0145-03	25	0.7972	4.4501	2.8345			2.0373	55.77%									
BJG0626-DUP1	26	0.7866	4.0016	2.5768			1.7902	55.68%	RPD=0.2								
BJG0626-DUP2	27	0.7848	4.8231	3.0394			2.2546	55.83%	RSD=0.1								
21G0286-01	28	0.8030	5.9909	4.6839			3.8809	74.81%									
21G0286-02	29	0.8087	4.2434	3.3226			2.5139	73.19%									
21G0286-03	30	0.7787	6.2840	5.6336			4.8549	88.19%									
21G0286-04	31	0.7918	5.3965	3.3145			2.5227	54.79%									
21G0286-05	32	0.7832	5.0639	3.5883			2.8051	65.53%									
21G0303-01	33	0.7916	6.0696	4.5626			3.7710	71.45%									
21G0303-02	34	0.8041	5.8266	4.3410			3.5369	70.42%									
21G0303-03	35	0.7833	7.2462	5.4422			4.6589	72.09%									
21G0303-04	36	0.7743	4.6232	3.8580			3.0837	80.12%									
21G0305-01	37	0.7924	4.8537	2.9648			2.1724	53.49%									
21G0305-02	38	0.8019	7.2929	4.8265			4.0246	62.00%									
21G0305-03	39	0.7782	5.2463	3.2125			2.4343	54.48%									
21G0305-04	40	0.7922	4.8488	3.3149			2.5227	62.19%									
21G0305-05	41	0.8149	5.3145	3.5035			2.6886	59.75%									
21G0305-06	42	0.7927	4.6397	3.0534			2.2607	58.77%									
21G0305-07	43	0.7969	6.5334	4.3807			3.5838	62.47%									
21G0305-08	44	0.7941	8.2977	5.7333			4.9392	65.82%									
21G0305-09	45	0.7814	4.8889	3.0948			2.3134	56.32%									
21G0305-10	46	0.8050	5.2435	3.3377			2.5327	57.06%									

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Form I

METHOD BLANK DATA SHEET

SM 2540 G-97

TotalAnalytes

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	21G0303
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Batch:	BJG0626	Laboratory ID:	BJG0626-BLK1	Prepared:	07/27/21 11:38
Matrix:	Solid	Preparation:	No Prep Wet Chem	Analyzed:	07/27/21 11:43
Sequence:		Calibration:		Instrument:	BAL2

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	ND	1	0.04	0.04	U

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HOLDING TIME SUMMARY

Analysis: SM 2540 G-97

Laboratory: Analytical Resources, Inc. SDG: 21G0303

Client: Anchor QEA, LLC Project: Lower Duwamish AOC4

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
LDW21-IT694A 21G0303-01	07/20/21 16:39	07/21/21 10:47	07/27/21 11:38	6	28	07/27/21 11:43	7	28	
LDW21-IT694B 21G0303-02	07/20/21 16:39	07/21/21 10:47	07/27/21 11:38	6	28	07/27/21 11:43	7	28	
LDW21-IT694C 21G0303-03	07/20/21 16:39	07/21/21 10:47	07/27/21 11:38	6	28	07/27/21 11:43	7	28	
LDW21-IT694E 21G0303-04	07/20/21 16:39	07/21/21 10:47	07/27/21 11:38	6	28	07/27/21 11:43	7	28	

* Indicates hold time exceedance.

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METHOD DETECTION AND REPORTING LIMITS

SM 2540 G-97

Laboratory: Analytical Resources, Inc.
SDG: 21G0303
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Instrument:

Analyte	MDL	RL	Units
Total Solids	0.04	0.04	%