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LAB CHRONICLE

OrderID:	Q1215	**OrderDate:**	1/29/2025 11:20:00 AM
Client:	RU2 Engineering, LLC	**Project:**	NYCDDC SANTWOBR Brooklyn Bridge BBMCR
Contact:	Rutu Manani	**Location:**	E11,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1215-02	**JPP-29.1-012825**	**TCLP**			**01/28/25**			**01/29/25**
			TCLP VOA	8260D			01/31/25	
Q1215-06	**JPP-29.2-012825**	**TCLP**			**01/28/25**			**01/29/25**
			TCLP VOA	8260D			02/03/25	

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Hit Summary Sheet
SW-846

SDG No.: Q1215

Client: RU2 Engineering, LLC

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units

Client ID:

0

Total Voc :

Total Concentration:

SAMPLE DATA

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Report of Analysis

Client:	RU2 Engineering, LLC	Date Collected:	01/28/25
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	01/29/25
Client Sample ID:	JPP-29.1-012825	SDG No.:	Q1215
Lab Sample ID:	Q1215-02	Matrix:	TCLP
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	TCLP VOA
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :	SW5035		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN085614.D	1		01/31/25 20:05	VN013125

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
75-01-4	Vinyl Chloride	5.00	U	0.34	5.00	ug/L
75-35-4	1,1-Dichloroethene	5.00	U	0.26	5.00	ug/L
78-93-3	2-Butanone	25.0	U	1.30	25.0	ug/L
56-23-5	Carbon Tetrachloride	5.00	U	0.25	5.00	ug/L
67-66-3	Chloroform	5.00	U	0.26	5.00	ug/L
71-43-2	Benzene	5.00	U	0.16	5.00	ug/L
107-06-2	1,2-Dichloroethane	5.00	U	0.24	5.00	ug/L
79-01-6	Trichloroethene	5.00	U	0.32	5.00	ug/L
127-18-4	Tetrachloroethene	5.00	U	0.25	5.00	ug/L
108-90-7	Chlorobenzene	5.00	U	0.13	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	60.9		74 - 125	122%	SPK: 50
1868-53-7	Dibromofluoromethane	50.0		75 - 124	100%	SPK: 50
2037-26-5	Toluene-d8	51.9		86 - 113	104%	SPK: 50
460-00-4	4-Bromofluorobenzene	41.7		77 - 121	83%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	151000	8.224			
540-36-3	1,4-Difluorobenzene	317000	9.1			
3114-55-4	Chlorobenzene-d5	288000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	92800	13.794			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Alliance TECHNICAL GROUP
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Report of Analysis

Client:	RU2 Engineering, LLC	Date Collected:	01/28/25
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	01/29/25
Client Sample ID:	JPP-29.2-012825	SDG No.:	Q1215
Lab Sample ID:	Q1215-06	Matrix:	TCLP
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	TCLP VOA
GC Column:	DB-624UI ID : 0.18	Level :	LOW
Prep Method :	SW5035		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX044808.D	1		02/03/25 12:18	VX020325

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
75-01-4	Vinyl Chloride	5.00	U	0.34	5.00	ug/L
75-35-4	1,1-Dichloroethene	5.00	U	0.26	5.00	ug/L
78-93-3	2-Butanone	25.0	U	1.30	25.0	ug/L
56-23-5	Carbon Tetrachloride	5.00	U	0.25	5.00	ug/L
67-66-3	Chloroform	5.00	U	0.26	5.00	ug/L
71-43-2	Benzene	5.00	U	0.16	5.00	ug/L
107-06-2	1,2-Dichloroethane	5.00	U	0.24	5.00	ug/L
79-01-6	Trichloroethene	5.00	U	0.32	5.00	ug/L
127-18-4	Tetrachloroethene	5.00	U	0.25	5.00	ug/L
108-90-7	Chlorobenzene	5.00	U	0.13	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	50.1		74 - 125	100%	SPK: 50
1868-53-7	Dibromofluoromethane	50.1		75 - 124	100%	SPK: 50
2037-26-5	Toluene-d8	55.2		86 - 113	110%	SPK: 50
460-00-4	4-Bromofluorobenzene	52.5		77 - 121	105%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	118000	5.543			
540-36-3	1,4-Difluorobenzene	246000	6.756			
3114-55-4	Chlorobenzene-d5	220000	10.049			
3855-82-1	1,4-Dichlorobenzene-d4	94600	12.018			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

QC SUMMARY

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Surrogate Summary

SDG No.: Q1215

Client: RU2 Engineering, LLC

Analytical Method: SW8260D

Lab Sample ID	Client ID	Parameter	Spike	Result	RecoveryQual	Limits Low	Limits High
Q1215-02	JPP-29.1-012825	1,2-Dichloroethane-d4	50	60.9	122	74	125
		Dibromofluoromethane	50	50.0	100	75	124
		Toluene-d8	50	51.9	104	86	113
		4-Bromofluorobenzene	50	41.7	83	77	121
Q1215-06	JPP-29.2-012825	1,2-Dichloroethane-d4	50	50.1	100	74	125
		Dibromofluoromethane	50	50.1	100	75	124
		Toluene-d8	50	55.2	110	86	113
		4-Bromofluorobenzene	50	52.5	105	77	121
VN0131WBL01	VN0131WBL01	1,2-Dichloroethane-d4	50	57.4	115	74	125
		Dibromofluoromethane	50	54.1	108	75	124
		Toluene-d8	50	49.7	99	86	113
		4-Bromofluorobenzene	50	45.4	91	77	121
VN0131WBS01	VN0131WBS01	1,2-Dichloroethane-d4	50	50.3	101	74	125
		Dibromofluoromethane	50	52.5	105	75	124
		Toluene-d8	50	53.6	107	86	113
		4-Bromofluorobenzene	50	50.8	102	77	121
VN0131WBSD0	VN0131WBSD01	1,2-Dichloroethane-d4	50	53.2	106	74	125
		Dibromofluoromethane	50	53.2	106	75	124
		Toluene-d8	50	52.1	104	86	113
		4-Bromofluorobenzene	50	53.2	106	77	121
VX0203WBL01	VX0203WBL01	1,2-Dichloroethane-d4	50	48.6	97	74	125
		Dibromofluoromethane	50	50.1	100	75	124
		Toluene-d8	50	55.2	110	86	113
		4-Bromofluorobenzene	50	52.9	106	77	121
VX0203WBS01	VX0203WBS01	1,2-Dichloroethane-d4	50	43.1	86	74	125
		Dibromofluoromethane	50	46.5	93	75	124
		Toluene-d8	50	50.2	100	86	113
		4-Bromofluorobenzene	50	47.5	95	77	121

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: Q1215

Client: RU2 Engineering, LLC

Analytical Method: SW8260D **Datafile :** VN085593.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VN0131WBS01	Vinyl chloride	20	16.8	ug/L	84			65	117	
	1,1-Dichloroethene	20	17.0	ug/L	85			74	110	
	2-Butanone	100	97.0	ug/L	97			65	122	
	Carbon Tetrachloride	20	19.0	ug/L	95			77	113	
	Chloroform	20	19.2	ug/L	96			79	113	
	Benzene	20	18.9	ug/L	95			82	109	
	1,2-Dichloroethane	20	19.5	ug/L	98			80	115	
	Trichloroethene	20	18.3	ug/L	92			77	113	
	Tetrachloroethene	20	20.2	ug/L	101			67	123	
	Chlorobenzene	20	18.9	ug/L	95			82	109	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: Q1215

Client: RU2 Engineering, LLC

Analytical Method: SW8260D **Datafile :** VN085594.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VN0131WBSD01	Vinyl chloride	20	17.2	ug/L	86	2		65	117	20
	1,1-Dichloroethene	20	18.1	ug/L	91	7		74	110	20
	2-Butanone	100	110	ug/L	110	13		65	122	20
	Carbon Tetrachloride	20	19.3	ug/L	97	2		77	113	20
	Chloroform	20	20.8	ug/L	104	8		79	113	20
	Benzene	20	19.4	ug/L	97	2		82	109	20
	1,2-Dichloroethane	20	21.3	ug/L	106	8		80	115	20
	Trichloroethene	20	18.9	ug/L	95	3		77	113	20
	Tetrachloroethene	20	20.6	ug/L	103	2		67	123	20
	Chlorobenzene	20	19.9	ug/L	100	5		82	109	20

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: Q1215

Client: RU2 Engineering, LLC

Analytical Method: SW8260D **Datafile :** VX044805.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VX0203WBS01	Vinyl chloride	20	20.2	ug/L	101			65	117	
	1,1-Dichloroethene	20	16.8	ug/L	84			74	110	
	2-Butanone	100	110	ug/L	110			65	122	
	Carbon Tetrachloride	20	17.6	ug/L	88			77	113	
	Chloroform	20	19.3	ug/L	97			79	113	
	Benzene	20	20.7	ug/L	104			82	109	
	1,2-Dichloroethane	20	18.0	ug/L	90			80	115	
	Trichloroethene	20	19.4	ug/L	97			77	113	
	Tetrachloroethene	20	18.9	ug/L	95			67	123	
	Chlorobenzene	20	19.9	ug/L	100			82	109	

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VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VN0131WBL01

Lab Name: CHEMTECH Contract: RUTW01

Lab Code: CHEM Case No.: Q1215 SAS No.: Q1215 SDG NO.: Q1215

Lab File ID: VN085592.D Lab Sample ID: VN0131WBL01

Date Analyzed: 01/31/2025 Time Analyzed: 10:42

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: MSVOA_N

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
VN0131WBS01	VN0131WBS01	VN085593.D	01/31/2025
VN0131WBSD01	VN0131WBSD01	VN085594.D	01/31/2025
JPP-29.1-012825	Q1215-02	VN085614.D	01/31/2025

COMMENTS:

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VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VX0203WBL01

Lab Name: CHEMTECH Contract: RUTW01

Lab Code: CHEM Case No.: Q1215 SAS No.: Q1215 SDG NO.: Q1215

Lab File ID: VX044804.D Lab Sample ID: VX0203WBL01

Date Analyzed: 02/03/2025 Time Analyzed: 10:44

GC Column: DB-624UI ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: MSVOA_X

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
VX0203WBS01	VX0203WBS01	VX044805.D	02/03/2025
JPP-29.2-012825	Q1215-06	VX044808.D	02/03/2025

COMMENTS:

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: RUTW01

Lab Code: CHEM Case No.: Q1215 SAS No.: Q1215 SDG NO.: Q1215

Lab File ID: VN085437.D BFB Injection Date: 01/14/2025

Instrument ID: MSVOA_N BFB Injection Time: 14:22

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: Y/N N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	22.3
75	30.0 - 60.0% of mass 95	58
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	7.8
173	Less than 2.0% of mass 174	1.4 (1.8) 1
174	50.0 - 100.0% of mass 95	76
175	5.0 - 9.0% of mass 174	5.4 (7.1) 1
176	95.0 - 101.0% of mass 174	74.1 (97.4) 1
177	5.0 - 9.0% of mass 176	4.9 (6.7) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDICC100	VSTDICC100	VN085438.D	01/14/2025	14:56
VSTDICCC050	VSTDICCC050	VN085439.D	01/14/2025	15:19
VSTDICC020	VSTDICC020	VN085440.D	01/14/2025	15:43
VSTDICC010	VSTDICC010	VN085441.D	01/14/2025	16:07
VSTDICC005	VSTDICC005	VN085442.D	01/14/2025	16:31
VSTDICC001	VSTDICC001	VN085443.D	01/14/2025	17:19

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: RUTW01

Lab Code: CHEM Case No.: Q1215 SAS No.: Q1215 SDG NO.: Q1215

Lab File ID: VN085590.D BFB Injection Date: 01/31/2025

Instrument ID: MSVOA_N BFB Injection Time: 09:30

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: Y/N N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	23.8
75	30.0 - 60.0% of mass 95	53.5
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	1 (1.4) 1
174	50.0 - 100.0% of mass 95	76.1
175	5.0 - 9.0% of mass 174	6.3 (8.3) 1
176	95.0 - 101.0% of mass 174	73.9 (97.1) 1
177	5.0 - 9.0% of mass 176	4.5 (6) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDCCC050	VSTDCCC050	VN085591.D	01/31/2025	10:04
VN0131WBL01	VN0131WBL01	VN085592.D	01/31/2025	10:42
VN0131WBS01	VN0131WBS01	VN085593.D	01/31/2025	11:06
VN0131WBSD01	VN0131WBSD01	VN085594.D	01/31/2025	11:39
JPP-29.1-012825	Q1215-02	VN085614.D	01/31/2025	20:05

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: RUTW01

Lab Code: CHEM Case No.: Q1215 SAS No.: Q1215 SDG NO.: Q1215

Lab File ID: VX044647.D BFB Injection Date: 01/15/2025

Instrument ID: MSVOA_X BFB Injection Time: 09:30

GC Column: DB-624UI ID: 0.18 (mm) Heated Purge: Y/N N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.6
75	30.0 - 60.0% of mass 95	50.2
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.6 (0.9) 1
174	50.0 - 100.0% of mass 95	67.1
175	5.0 - 9.0% of mass 174	4.9 (7.3) 1
176	95.0 - 101.0% of mass 174	64.4 (96) 1
177	5.0 - 9.0% of mass 176	4.3 (6.8) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDICC001	VSTDICC001	VX044648.D	01/15/2025	10:31
VSTDICC005	VSTDICC005	VX044649.D	01/15/2025	11:17
VSTDICC020	VSTDICC020	VX044650.D	01/15/2025	11:40
VSTDICCC050	VSTDICCC050	VX044651.D	01/15/2025	12:02
VSTDICC100	VSTDICC100	VX044652.D	01/15/2025	13:14
VSTDICC150	VSTDICC150	VX044653.D	01/15/2025	13:37

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: RUTW01

Lab Code: CHEM Case No.: Q1215 SAS No.: Q1215 SDG NO.: Q1215

Lab File ID: VX044801.D BFB Injection Date: 02/03/2025

Instrument ID: MSVOA_X BFB Injection Time: 08:12

GC Column: DB-624UI ID: 0.18 (mm) Heated Purge: Y/N N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.4
75	30.0 - 60.0% of mass 95	51.1
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.8 (1) 1
174	50.0 - 100.0% of mass 95	77.6
175	5.0 - 9.0% of mass 174	5.9 (7.6) 1
176	95.0 - 101.0% of mass 174	74.5 (96.1) 1
177	5.0 - 9.0% of mass 176	4.9 (6.6) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDCCC050	VSTDCCC050	VX044802.D	02/03/2025	09:52
VX0203WBL01	VX0203WBL01	VX044804.D	02/03/2025	10:44
VX0203WBS01	VX0203WBS01	VX044805.D	02/03/2025	11:07
JPP-29.2-012825	Q1215-06	VX044808.D	02/03/2025	12:18

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: RUTW01

Lab Code: CHEM Case No.: Q1215 SAS No.: Q1215 SDG NO.: Q1215

Lab File ID: VN085591.D Date Analyzed: 01/31/2025

Instrument ID: MSVOA_N Time Analyzed: 10:04

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	190291	8.22	311950	9.10	284481	11.87
UPPER LIMIT	380582	8.724	623900	9.6	568962	12.365
LOWER LIMIT	95145.5	7.724	155975	8.6	142241	11.365
EPA SAMPLE NO.						
JPP-29.1-012825	150642	8.22	317464	9.10	287869	11.87
VN0131WBL01	163540	8.22	304758	9.10	267449	11.87
VN0131WBS01	192673	8.22	320848	9.10	286465	11.87
VN0131WBSD01	170842	8.22	291614	9.10	260387	11.87

IS1 = Pentafluorobenzene
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: RUTW01

Lab Code: CHEM Case No.: Q1215 SAS No.: Q1215 SDG NO.: Q1215

Lab File ID: VN085591.D Date Analyzed: 01/31/2025

Instrument ID: MSVOA_N Time Analyzed: 10:04

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	IS4 AREA #	RT #				
12 HOUR STD	145646	13.788				
UPPER LIMIT	291292	14.288				
LOWER LIMIT	72823	13.288				
EPA SAMPLE NO.						
JPP-29.1-012825	92759	13.79				
VN0131WBL01	104737	13.79				
VN0131WBS01	135464	13.79				
VN0131WBSD01	125242	13.79				

IS4 = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: RUTW01

Lab Code: CHEM Case No.: Q1215 SAS No.: Q1215 SDG NO.: Q1215

Lab File ID: VX044802.D Date Analyzed: 02/03/2025

Instrument ID: MSVOA_X Time Analyzed: 09:52

GC Column: DB-624UI ID: 0.18 (mm) Heated Purge: (Y/N) N

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	162430	5.54	297715	6.75	252415	10.05
UPPER LIMIT	324860	6.038	595430	7.251	504830	10.549
LOWER LIMIT	81215	5.038	148858	6.251	126208	9.549
EPA SAMPLE NO.						
JPP-29.2-012825	118450	5.54	245754	6.76	219935	10.05
VX0203WBL01	124993	5.54	257688	6.76	232979	10.05
VX0203WBS01	151779	5.54	276067	6.76	242310	10.05

IS1 = Pentafluorobenzene
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: RUTW01

Lab Code: CHEM Case No.: Q1215 SAS No.: Q1215 SDG NO.: Q1215

Lab File ID: VX044802.D Date Analyzed: 02/03/2025

Instrument ID: MSVOA_X Time Analyzed: 09:52

GC Column: DB-624UI ID: 0.18 (mm) Heated Purge: (Y/N) N

	IS4 AREA #	RT #				
12 HOUR STD	101849	12.018				
UPPER LIMIT	203698	12.518				
LOWER LIMIT	50924.5	11.518				
EPA SAMPLE NO.						
JPP-29.2-012825	94615	12.02				
VX0203WBL01	100905	12.02				
VX0203WBS01	107943	12.02				

IS4 = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

QC SAMPLE DATA

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Fax : 908 789 8922

Report of Analysis

Client:	RU2 Engineering, LLC	Date Collected:	
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	
Client Sample ID:	VN0131WBL01	SDG No.:	Q1215
Lab Sample ID:	VN0131WBL01	Matrix:	TCLP
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	TCLP VOA
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN085592.D	1		01/31/25 10:42	VN013125

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
75-01-4	Vinyl Chloride	5.00	U	0.34	5.00	ug/L
75-35-4	1,1-Dichloroethene	5.00	U	0.26	5.00	ug/L
78-93-3	2-Butanone	25.0	U	1.30	25.0	ug/L
56-23-5	Carbon Tetrachloride	5.00	U	0.25	5.00	ug/L
67-66-3	Chloroform	5.00	U	0.26	5.00	ug/L
71-43-2	Benzene	5.00	U	0.16	5.00	ug/L
107-06-2	1,2-Dichloroethane	5.00	U	0.24	5.00	ug/L
79-01-6	Trichloroethene	5.00	U	0.32	5.00	ug/L
127-18-4	Tetrachloroethene	5.00	U	0.25	5.00	ug/L
108-90-7	Chlorobenzene	5.00	U	0.13	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	57.3		74 - 125	115%	SPK: 50
1868-53-7	Dibromofluoromethane	54.1		75 - 124	108%	SPK: 50
2037-26-5	Toluene-d8	49.7		86 - 113	99%	SPK: 50
460-00-4	4-Bromofluorobenzene	45.4		77 - 121	91%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	164000	8.224			
540-36-3	1,4-Difluorobenzene	305000	9.1			
3114-55-4	Chlorobenzene-d5	267000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	105000	13.788			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

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Fax : 908 789 8922

Report of Analysis

Client:	RU2 Engineering, LLC	Date Collected:	
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	
Client Sample ID:	VX0203WBL01	SDG No.:	Q1215
Lab Sample ID:	VX0203WBL01	Matrix:	TCLP
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	TCLP VOA
GC Column:	DB-624UI ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX044804.D	1		02/03/25 10:44	VX020325

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
75-01-4	Vinyl Chloride	5.00	U	0.34	5.00	ug/L
75-35-4	1,1-Dichloroethene	5.00	U	0.26	5.00	ug/L
78-93-3	2-Butanone	25.0	U	1.30	25.0	ug/L
56-23-5	Carbon Tetrachloride	5.00	U	0.25	5.00	ug/L
67-66-3	Chloroform	5.00	U	0.26	5.00	ug/L
71-43-2	Benzene	5.00	U	0.16	5.00	ug/L
107-06-2	1,2-Dichloroethane	5.00	U	0.24	5.00	ug/L
79-01-6	Trichloroethene	5.00	U	0.32	5.00	ug/L
127-18-4	Tetrachloroethene	5.00	U	0.25	5.00	ug/L
108-90-7	Chlorobenzene	5.00	U	0.13	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	48.6		74 - 125	97%	SPK: 50
1868-53-7	Dibromofluoromethane	50.1		75 - 124	100%	SPK: 50
2037-26-5	Toluene-d8	55.2		86 - 113	110%	SPK: 50
460-00-4	4-Bromofluorobenzene	52.9		77 - 121	106%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	125000	5.544			
540-36-3	1,4-Difluorobenzene	258000	6.757			
3114-55-4	Chlorobenzene-d5	233000	10.049			
3855-82-1	1,4-Dichlorobenzene-d4	101000	12.018			

U = Not Detected
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() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

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Fax : 908 789 8922

Report of Analysis

Client:	RU2 Engineering, LLC	Date Collected:	
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	
Client Sample ID:	VN0131WBS01	SDG No.:	Q1215
Lab Sample ID:	VN0131WBS01	Matrix:	TCLP
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	TCLP VOA
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN085593.D	1		01/31/25 11:06	VN013125

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
75-01-4	Vinyl Chloride	16.8		0.34	5.00	ug/L
75-35-4	1,1-Dichloroethene	17.0		0.26	5.00	ug/L
78-93-3	2-Butanone	97.0		1.30	25.0	ug/L
56-23-5	Carbon Tetrachloride	19.0		0.25	5.00	ug/L
67-66-3	Chloroform	19.2		0.26	5.00	ug/L
71-43-2	Benzene	18.9		0.16	5.00	ug/L
107-06-2	1,2-Dichloroethane	19.5		0.24	5.00	ug/L
79-01-6	Trichloroethene	18.3		0.32	5.00	ug/L
127-18-4	Tetrachloroethene	20.2		0.25	5.00	ug/L
108-90-7	Chlorobenzene	18.9		0.13	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	50.3		74 - 125	101%	SPK: 50
1868-53-7	Dibromofluoromethane	52.5		75 - 124	105%	SPK: 50
2037-26-5	Toluene-d8	53.6		86 - 113	107%	SPK: 50
460-00-4	4-Bromofluorobenzene	50.8		77 - 121	102%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	193000	8.224			
540-36-3	1,4-Difluorobenzene	321000	9.1			
3114-55-4	Chlorobenzene-d5	286000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	135000	13.788			

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A = Aldol-Condensation Reaction Products

Alliance TECHNICAL GROUP
284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Report of Analysis

Client:	RU2 Engineering, LLC	Date Collected:	
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	
Client Sample ID:	VX0203WBS01	SDG No.:	Q1215
Lab Sample ID:	VX0203WBS01	Matrix:	TCLP
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	TCLP VOA
GC Column:	DB-624UI ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX044805.D	1		02/03/25 11:07	VX020325

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
75-01-4	Vinyl Chloride	20.2		0.34	5.00	ug/L
75-35-4	1,1-Dichloroethene	16.8		0.26	5.00	ug/L
78-93-3	2-Butanone	110		1.30	25.0	ug/L
56-23-5	Carbon Tetrachloride	17.6		0.25	5.00	ug/L
67-66-3	Chloroform	19.3		0.26	5.00	ug/L
71-43-2	Benzene	20.7		0.16	5.00	ug/L
107-06-2	1,2-Dichloroethane	18.0		0.24	5.00	ug/L
79-01-6	Trichloroethene	19.4		0.32	5.00	ug/L
127-18-4	Tetrachloroethene	18.9		0.25	5.00	ug/L
108-90-7	Chlorobenzene	19.9		0.13	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	43.1		74 - 125	86%	SPK: 50
1868-53-7	Dibromofluoromethane	46.5		75 - 124	93%	SPK: 50
2037-26-5	Toluene-d8	50.2		86 - 113	100%	SPK: 50
460-00-4	4-Bromofluorobenzene	47.5		77 - 121	95%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	152000	5.544			
540-36-3	1,4-Difluorobenzene	276000	6.757			
3114-55-4	Chlorobenzene-d5	242000	10.049			
3855-82-1	1,4-Dichlorobenzene-d4	108000	12.018			

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A = Aldol-Condensation Reaction Products

Alliance TECHNICAL GROUP
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Fax : 908 789 8922

Report of Analysis

Client:	RU2 Engineering, LLC	Date Collected:	
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	
Client Sample ID:	VN0131WBSD01	SDG No.:	Q1215
Lab Sample ID:	VN0131WBSD01	Matrix:	TCLP
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	TCLP VOA
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN085594.D	1		01/31/25 11:39	VN013125

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
75-01-4	Vinyl Chloride	17.2		0.34	5.00	ug/L
75-35-4	1,1-Dichloroethene	18.1		0.26	5.00	ug/L
78-93-3	2-Butanone	110		1.30	25.0	ug/L
56-23-5	Carbon Tetrachloride	19.3		0.25	5.00	ug/L
67-66-3	Chloroform	20.8		0.26	5.00	ug/L
71-43-2	Benzene	19.4		0.16	5.00	ug/L
107-06-2	1,2-Dichloroethane	21.3		0.24	5.00	ug/L
79-01-6	Trichloroethene	18.9		0.32	5.00	ug/L
127-18-4	Tetrachloroethene	20.6		0.25	5.00	ug/L
108-90-7	Chlorobenzene	19.9		0.13	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	53.2		74 - 125	106%	SPK: 50
1868-53-7	Dibromofluoromethane	53.2		75 - 124	106%	SPK: 50
2037-26-5	Toluene-d8	52.1		86 - 113	104%	SPK: 50
460-00-4	4-Bromofluorobenzene	53.2		77 - 121	106%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	171000	8.224			
540-36-3	1,4-Difluorobenzene	292000	9.1			
3114-55-4	Chlorobenzene-d5	260000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	125000	13.788			

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D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

CALIBRATION SUMMARY

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: RUTW01

Lab Code: CHEM Case No.: Q1215 SAS No.: Q1215 SDG No.: Q1215

Instrument ID: MSVOA_N Calibration Date(s): 01/14/2025 01/14/2025

Heated Purge: (Y/N) N Calibration Time(s): 14:56 17:19

GC Column: RXI-624 ID: 0.25 (mm)

LAB FILE ID: RRF100 = VN085438.D RRF050 = VN085439.D RRF020 = VN085440.D
RRF010 = VN085441.D RRF005 = VN085442.D RRF001 = VN085443.D

COMPOUND	RRF100	RRF050	RRF020	RRF010	RRF005	RRF001	$\overline{RRF}$	% RSD
Vinyl Chloride	0.697	0.686	0.727	0.711	0.781	0.819	0.737	7.1
1,1-Dichloroethene	0.548	0.533	0.556	0.526	0.559	0.497	0.537	4.3
2-Butanone	0.378	0.390	0.398	0.363	0.387	0.386	0.384	3.1
Carbon Tetrachloride	0.574	0.530	0.579	0.529	0.565	0.567	0.557	4
Chloroform	1.197	1.175	1.241	1.169	1.253	1.273	1.218	3.6
Benzene	1.551	1.449	1.527	1.376	1.474	1.400	1.463	4.7
1,2-Dichloroethane	0.569	0.547	0.575	0.522	0.574	0.517	0.551	4.8
Trichloroethene	0.362	0.324	0.352	0.310	0.343	0.352	0.341	5.8
Tetrachloroethene	0.351	0.322	0.365	0.338	0.346	0.323	0.341	4.9
Chlorobenzene	1.133	1.076	1.154	1.047	1.110	1.051	1.095	4
1,2-Dichloroethane-d4	0.774	0.831	0.754	0.762	0.914		0.807	8.3
Dibromofluoromethane	0.359	0.358	0.335	0.310	0.373		0.347	7.1
Toluene-d8	1.339	1.267	1.207	1.076	1.274		1.232	8.1
4-Bromofluorobenzene	0.475	0.449	0.410	0.357	0.417		0.422	10.6

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

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Fax : 908 789 8922

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: RUTW01

Lab Code: CHEM Case No.: Q1215 SAS No.: Q1215 SDG No.: Q1215

Instrument ID: MSVOA_X Calibration Date(s): 01/15/2025 01/15/2025

Heated Purge: (Y/N) N Calibration Time(s): 10:31 13:37

GC Column: DB-624UI ID: 0.18 (mm)

LAB FILE ID: RRF001 = VX044648.D RRF005 = VX044649.D RRF020 = VX044650.D
RRF050 = VX044651.D RRF100 = VX044652.D RRF150 = VX044653.D

COMPOUND	RRF001	RRF005	RRF020	RRF050	RRF100	RRF150	$\overline{RRF}$	% RSD
Vinyl Chloride	0.801	0.681	0.681	0.702	0.699	0.749	0.719	6.6
1,1-Dichloroethene	0.638	0.546	0.572	0.566	0.571	0.618	0.585	6
2-Butanone	0.451	0.444	0.444	0.426	0.449	0.450	0.444	2.1
Carbon Tetrachloride	0.585	0.503	0.468	0.460	0.465	0.502	0.497	9.4
Chloroform	1.261	1.226	1.185	1.142	1.095	1.206	1.186	5
Benzene	1.517	1.376	1.364	1.306	1.274	1.384	1.370	6.1
1,2-Dichloroethane	0.552	0.494	0.491	0.477	0.473	0.513	0.500	5.8
Trichloroethene	0.338	0.319	0.324	0.316	0.324	0.355	0.329	4.5
Tetrachloroethene	0.346	0.309	0.299	0.296	0.308	0.326	0.314	5.9
Chlorobenzene	1.178	1.085	1.036	1.008	0.998	1.067	1.062	6.2
1,2-Dichloroethane-d4		0.863	0.691	0.745	0.689	0.785	0.755	9.6
Dibromofluoromethane		0.355	0.289	0.318	0.293	0.333	0.318	8.8
Toluene-d8		1.270	1.051	1.111	1.001	1.104	1.108	9.1
4-Bromofluorobenzene		0.445	0.394	0.421	0.383	0.421	0.413	6

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: RUTW01

Lab Code: CHEM Case No.: Q1215 SAS No.: Q1215 SDG No.: Q1215

Instrument ID: MSVOA_N Calibration Date/Time: 01/31/2025 10:04

Lab File ID: VN085591.D Init. Calib. Date(s): 01/14/2025 01/14/2025

Heated Purge: (Y/N) N Init. Calib. Time(s): 14:56 17:19

GC Column: RXI-624 ID: 0.25 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
Vinyl Chloride	0.737	0.631		-14.38	20
1,1-Dichloroethene	0.537	0.497		-7.45	20
2-Butanone	0.384	0.389		1.3	20
Carbon Tetrachloride	0.557	0.576		3.41	20
Chloroform	1.218	1.221		0.25	20
Benzene	1.463	1.491		1.91	20
1,2-Dichloroethane	0.551	0.571		3.63	20
Trichloroethene	0.341	0.337		-1.17	20
Tetrachloroethene	0.341	0.357		4.69	20
Chlorobenzene	1.095	1.091	0.3	-0.37	20
1,2-Dichloroethane-d4	0.807	0.801		-0.74	20
Dibromofluoromethane	0.347	0.374		7.78	20
Toluene-d8	1.232	1.332		8.12	20
4-Bromofluorobenzene	0.422	0.473		12.09	20

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: RUTW01

Lab Code: CHEM Case No.: Q1215 SAS No.: Q1215 SDG No.: Q1215

Instrument ID: MSVOA_X Calibration Date/Time: 02/03/2025 09:52

Lab File ID: VX044802.D Init. Calib. Date(s): 01/15/2025 01/15/2025

Heated Purge: (Y/N) N Init. Calib. Time(s): 10:31 13:37

GC Column: DB-624UI ID: 0.18 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
Vinyl Chloride	0.719	0.766		6.54	20
1,1-Dichloroethene	0.585	0.636		8.72	20
2-Butanone	0.444	0.459		3.38	20
Carbon Tetrachloride	0.497	0.454		-8.65	20
Chloroform	1.186	1.162		-2.02	20
Benzene	1.370	1.440		5.11	20
1,2-Dichloroethane	0.500	0.454		-9.2	20
Trichloroethene	0.329	0.337		2.43	20
Tetrachloroethene	0.314	0.312		-0.64	20
Chlorobenzene	1.062	1.101	0.3	3.67	20
1,2-Dichloroethane-d4	0.755	0.726		-3.84	20
Dibromofluoromethane	0.318	0.333		4.72	20
Toluene-d8	1.108	1.249		12.73	20
4-Bromofluorobenzene	0.413	0.437		5.81	20

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.