CHEMTECH

284 Sheffield Street, Mountainside, New Jersey - 07092

Phone: (908) 789 8900 Fax: (908) 789 8922

# LAB CHRONICLE

| | | | |
|---|---|---|---|
| **OrderID:** | P1747 | **OrderDate:** | 3/13/2024 12:28:00 PM |
| **Client:** | LiRo Engineers, Inc. | **Project:** | Walter Gladwin Recreation Center, Bronx, NY |
| **Contact:** | Steve Frank | **Location:** | I21,I31,VOA Ref. #3 Water |

| LabID | ClientID | Matrix | Test | Method | Sample Date | Prep Date | Anal Date | Received |
|---|---|---|---|---|---|---|---|---|
| **P1747-03** | **MW-01** | **Water** | | | **03/13/24** | | | **03/13/24** |
| | | | VOC-NYCD | 624.1 | | | 03/14/24 | |

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# Hit Summary Sheet
**SW-846**

**SDG No.:** P1747

**Client:** LiRo Engineers, Inc.

| Sample ID | Client ID | Matrix | Parameter | Concentration | C | MDL | RDL | Units |
|---|---|---|---|---|---|---|---|---|
| **Client ID:** | | | | | | | | |
| | | | | 0 | | | | |

**Total Voc :**

**Total Concentration:**

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# SAMPLE DATA

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | LiRo Engineers, Inc. | Date Collected: | 03/13/24 |
| Project: | Walter Gladwin Recreation Center, Bronx, NY | Date Received: | 03/13/24 |
| Client Sample ID: | MW-01 | SDG No.: | P1747 |
| Lab Sample ID: | P1747-03 | Matrix: | Water |
| Analytical Method: | E624.1 | % Solid: | 0 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC-NYCD |
| GC Column: | DB-624UI ID : 0.18 | Level : | LOW |
| Prep Method : | | | |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VX040637.D | 1 | | 03/14/24 12:46 | VX031424 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| 1634-04-4 | Methyl tert-Butyl Ether | 5.00 | U | 0.83 | 5.00 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 5.00 | U | 0.91 | 5.00 | ug/L |
| 67-66-3 | Chloroform | 5.00 | U | 0.72 | 5.00 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 5.00 | U | 0.79 | 5.00 | ug/L |
| 71-43-2 | Benzene | 5.00 | U | 0.69 | 5.00 | ug/L |
| 108-88-3 | Toluene | 5.00 | U | 0.72 | 5.00 | ug/L |
| 127-18-4 | Tetrachloroethene | 5.00 | U | 0.94 | 5.00 | ug/L |
| 100-41-4 | Ethyl Benzene | 5.00 | U | 0.73 | 5.00 | ug/L |
| 1330-20-7 | Total Xylenes | 15.0 | U | 2.52 | 15.0 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 5.00 | U | 0.95 | 5.00 | ug/L |
| **SURROGATES** | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 30.6 | | 91 - 110 | 102% | SPK: 30 |
| 2037-26-5 | Toluene-d8 | 29.7 | | 91 - 112 | 99% | SPK: 30 |
| 460-00-4 | 4-Bromofluorobenzene | 29.1 | | 63 - 112 | 97% | SPK: 30 |
| **INTERNAL STANDARDS** | | | | | | |
| 74-97-5 | Bromochloromethane | 15500 | 4.897 | | | |
| 540-36-3 | 1,4-Difluorobenzene | 88100 | 6.763 | | | |
| 3114-55-4 | Chlorobenzene-d5 | 81800 | 10.055 | | | |

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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# QC SUMMARY

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# Surrogate Summary

**SDG No.:** P1747

**Client:** LiRo Engineers, Inc.

**Analytical Method:** SW624.1

| Lab Sample ID | Client ID | Parameter | Spike | Result | RecoveryQual | Limits Low | Limits High |
|---|---|---|---|---|---|---|---|
| P1747-03 | MW-01 | 1,2-Dichloroethane-d4 | 30 | 30.6 | 102 | 91 | 110 |
| | | Toluene-d8 | 30 | 29.7 | 99 | 91 | 112 |
| | | 4-Bromofluorobenzene | 30 | 29.1 | 97 | 63 | 112 |
| VX0314WBL01 | VX0314WBL01 | 1,2-Dichloroethane-d4 | 30 | 30.4 | 101 | 91 | 110 |
| | | Toluene-d8 | 30 | 27.7 | 92 | 91 | 112 |
| | | 4-Bromofluorobenzene | 30 | 26.1 | 87 | 63 | 112 |
| VX0314WBS01 | VX0314WBS01 | 1,2-Dichloroethane-d4 | 30 | 29.8 | 99 | 91 | 110 |
| | | Toluene-d8 | 30 | 30.8 | 103 | 91 | 112 |
| | | 4-Bromofluorobenzene | 30 | 31.2 | 104 | 63 | 112 |
| VX0314WBSD0 | VX0314WBSD01 | 1,2-Dichloroethane-d4 | 30 | 27.6 | 92 | 91 | 110 |
| | | Toluene-d8 | 30 | 33.1 | 110 | 91 | 112 |
| | | 4-Bromofluorobenzene | 30 | 30.7 | 102 | 63 | 112 |

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**Laboratory Control Sample/Laboratory Control Sample Duplicate Summary**
**SW-846**

**SDG No.:** P1747

**Client:** LiRo Engineers, Inc.

**Analytical Method:** SW624.1 **Datafile :** VX040631.D

| Lab Sample ID | Parameter | Spike | Result | Unit | Rec | RPD | Qual | Limits Low | Limits High | RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| VX0314WBS01 | Methyl tert-butyl Ether | 20 | 18.8 | ug/L | 94 | | | 82 | 114 | |
| | Carbon Tetrachloride | 20 | 19.0 | ug/L | 95 | | | 70 | 130 | |
| | Chloroform | 20 | 19.1 | ug/L | 96 | | | 70 | 135 | |
| | 1,1,1-Trichloroethane | 20 | 18.8 | ug/L | 94 | | | 70 | 130 | |
| | Benzene | 20 | 18.8 | ug/L | 94 | | | 65 | 135 | |
| | Toluene | 20 | 19.9 | ug/L | 100 | | | 70 | 130 | |
| | Tetrachloroethene | 20 | 20.2 | ug/L | 101 | | | 70 | 130 | |
| | Ethyl Benzene | 20 | 20.1 | ug/L | 101 | | | 60 | 140 | |
| | m/p-Xylenes | 40 | 40.4 | ug/L | 101 | | | 87 | 111 | |
| | o-Xylene | 20 | 20.3 | ug/L | 102 | | | 87 | 111 | |
| | 1,4-Dichlorobenzene | 20 | 20.4 | ug/L | 102 | | | 65 | 135 | |

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**Laboratory Control Sample/Laboratory Control Sample Duplicate Summary**
**SW-846**

**SDG No.:** P1747

**Client:** LiRo Engineers, Inc.

**Analytical Method:** SW624.1 **Datafile :** VX040632.D

| Lab Sample ID | Parameter | Spike | Result | Unit | Rec | RPD | Qual | Limits Low | Limits High | Limits RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| VX0314WBSD01 | Methyl tert-butyl Ether | 20 | 19.4 | ug/L | 97 | 3 | | 82 | 114 | 20 |
| | Carbon Tetrachloride | 20 | 20.2 | ug/L | 101 | 6 | | 70 | 130 | 20 |
| | Chloroform | 20 | 19.7 | ug/L | 99 | 3 | | 70 | 135 | 20 |
| | 1,1,1-Trichloroethane | 20 | 19.9 | ug/L | 100 | 6 | | 70 | 130 | 20 |
| | Benzene | 20 | 18.3 | ug/L | 92 | 2 | | 65 | 135 | 20 |
| | Toluene | 20 | 21.2 | ug/L | 106 | 6 | | 70 | 130 | 20 |
| | Tetrachloroethene | 20 | 21.6 | ug/L | 108 | 7 | | 70 | 130 | 20 |
| | Ethyl Benzene | 20 | 19.4 | ug/L | 97 | 4 | | 60 | 140 | 20 |
| | m/p-Xylenes | 40 | 37.8 | ug/L | 95 | 6 | | 87 | 111 | 20 |
| | o-Xylene | 20 | 19.6 | ug/L | 98 | 4 | | 87 | 111 | 20 |
| | 1,4-Dichlorobenzene | 20 | 21.0 | ug/L | 105 | 3 | | 65 | 135 | 20 |

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# VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VX0314WBL01

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG NO.: P1747

Lab File ID: VX040633.D Lab Sample ID: VX0314WBL01

Date Analyzed: 03/14/2024 Time Analyzed: 11:06

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 |
|---|---|---|---|
| VX0314WBS01 | VX0314WBS01 | VX040631.D | 03/14/2024 |
| VX0314WBSD01 | VX0314WBSD01 | VX040632.D | 03/14/2024 |
| MW-01 | P1747-03 | VX040637.D | 03/14/2024 |

COMMENTS:

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# VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
## BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG NO.: P1747

Lab File ID: VX040578.D BFB Injection Date: 03/05/2024

Instrument ID: MSVOA_X BFB Injection Time: 08:37

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 | 22.1 |
| 75 | 30.0 - 60.0% of mass 95 | 56.7 |
| 95 | Base Peak, 100% relative abundance | 100 |
| 96 | 5.0 - 9.0% of mass 95 | 6.2 |
| 173 | Less than 2.0% of mass 174 | 0.8 ( 1 ) 1 |
| 174 | 50.0 - 100.0% of mass 95 | 76.2 |
| 175 | 5.0 - 9.0% of mass 174 | 5.5 ( 7.2 ) 1 |
| 176 | 95.0 - 101.0% of mass 174 | 73.2 ( 96.1 ) 1 |
| 177 | 5.0 - 9.0% of mass 176 | 5 ( 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 |
|---|---|---|---|---|
| VSTDICC005 | VSTDICC005 | VX040579.D | 03/05/2024 | 10:58 |
| VSTDICCC020 | VSTDICCC020 | VX040580.D | 03/05/2024 | 11:21 |
| VSTDICC050 | VSTDICC050 | VX040581.D | 03/05/2024 | 11:44 |
| VSTDICC100 | VSTDICC100 | VX040582.D | 03/05/2024 | 12:07 |
| VSTDICC150 | VSTDICC150 | VX040583.D | 03/05/2024 | 12:30 |

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# VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
## BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG NO.: P1747

Lab File ID: VX040629.D BFB Injection Date: 03/14/2024

Instrument ID: MSVOA_X BFB Injection Time: 09:03

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 | 23 |
| 75 | 30.0 - 60.0% of mass 95 | 58.6 |
| 95 | Base Peak, 100% relative abundance | 100 |
| 96 | 5.0 - 9.0% of mass 95 | 6.6 |
| 173 | Less than 2.0% of mass 174 | 0.6 ( 0.9 ) 1 |
| 174 | 50.0 - 100.0% of mass 95 | 71.7 |
| 175 | 5.0 - 9.0% of mass 174 | 5.6 ( 7.8 ) 1 |
| 176 | 95.0 - 101.0% of mass 174 | 70 ( 97.7 ) 1 |
| 177 | 5.0 - 9.0% of mass 176 | 4.8 ( 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 |
|---|---|---|---|---|
| VSTDCCC020 | VSTDCCC020 | VX040630.D | 03/14/2024 | 09:43 |
| VX0314WBS01 | VX0314WBS01 | VX040631.D | 03/14/2024 | 10:11 |
| VX0314WBSD01 | VX0314WBSD01 | VX040632.D | 03/14/2024 | 10:39 |
| VX0314WBL01 | VX0314WBL01 | VX040633.D | 03/14/2024 | 11:06 |
| MW-01 | P1747-03 | VX040637.D | 03/14/2024 | 12:46 |

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# VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG NO.: P1747

Lab File ID: VX040630.D Date Analyzed: 03/14/2024

Instrument ID: MSVOA_X Time Analyzed: 09:43

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 | 16791 | 4.89 | 101481 | 6.76 | 90514 | 10.05 |
| UPPER LIMIT | 33582 | 5.391 | 202962 | 7.257 | 181028 | 10.549 |
| LOWER LIMIT | 8395.5 | 4.391 | 50740.5 | 6.257 | 45257 | 9.549 |
| EPA SAMPLE NO. | | | | | | |
| MW-01 | 15477 | 4.90 | 88123 | 6.76 | 81835 | 10.06 |
| VX0314WBL01 | 15289 | 4.90 | 88714 | 6.76 | 81679 | 10.06 |
| VX0314WBS01 | 14121 | 4.89 | 80662 | 6.76 | 73806 | 10.05 |
| VX0314WBSD01 | 15443 | 4.90 | 83166 | 6.76 | 75172 | 10.06 |

IS1 = Bromochloromethane
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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# QC SAMPLE DATA

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | LiRo Engineers, Inc. | Date Collected: | |
| Project: | Walter Gladwin Recreation Center, Bronx, NY | Date Received: | |
| Client Sample ID: | VX0314WBL01 | SDG No.: | P1747 |
| Lab Sample ID: | VX0314WBL01 | Matrix: | Water |
| Analytical Method: | E624.1 | % Solid: | 0 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC-NYCD |
| GC Column: | DB-624UI ID : 0.18 | Level : | LOW |
| Prep Method : | | | |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VX040633.D | 1 | | 03/14/24 11:06 | VX031424 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| 1634-04-4 | Methyl tert-Butyl Ether | 5.00 | U | 0.83 | 5.00 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 5.00 | U | 0.91 | 5.00 | ug/L |
| 67-66-3 | Chloroform | 5.00 | U | 0.72 | 5.00 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 5.00 | U | 0.79 | 5.00 | ug/L |
| 71-43-2 | Benzene | 5.00 | U | 0.69 | 5.00 | ug/L |
| 108-88-3 | Toluene | 5.00 | U | 0.72 | 5.00 | ug/L |
| 127-18-4 | Tetrachloroethene | 5.00 | U | 0.94 | 5.00 | ug/L |
| 100-41-4 | Ethyl Benzene | 5.00 | U | 0.73 | 5.00 | ug/L |
| 1330-20-7 | Total Xylenes | 15.0 | U | 2.52 | 15.0 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 5.00 | U | 0.95 | 5.00 | ug/L |
| **SURROGATES** | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 30.4 | | 91 - 110 | 101% | SPK: 30 |
| 2037-26-5 | Toluene-d8 | 27.7 | | 91 - 112 | 92% | SPK: 30 |
| 460-00-4 | 4-Bromofluorobenzene | 26.1 | | 63 - 112 | 87% | SPK: 30 |
| **INTERNAL STANDARDS** | | | | | | |
| 74-97-5 | Bromochloromethane | 15300 | 4.897 | | | |
| 540-36-3 | 1,4-Difluorobenzene | 88700 | 6.763 | | | |
| 3114-55-4 | Chlorobenzene-d5 | 81700 | 10.055 | | | |

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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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | LiRo Engineers, Inc. | Date Collected: | |
| Project: | Walter Gladwin Recreation Center, Bronx, NY | Date Received: | |
| Client Sample ID: | VX0314WBS01 | SDG No.: | P1747 |
| Lab Sample ID: | VX0314WBS01 | Matrix: | Water |
| Analytical Method: | E624.1 | % Solid: | 0 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC-NYCD |
| GC Column: | DB-624UI ID : 0.18 | Level : | LOW |
| Prep Method : | | | |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VX040631.D | 1 | | 03/14/24 10:11 | VX031424 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| 1634-04-4 | Methyl tert-Butyl Ether | 18.8 | | 0.83 | 5.00 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 19.0 | | 0.91 | 5.00 | ug/L |
| 67-66-3 | Chloroform | 19.1 | | 0.72 | 5.00 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 18.8 | | 0.79 | 5.00 | ug/L |
| 71-43-2 | Benzene | 18.8 | | 0.69 | 5.00 | ug/L |
| 108-88-3 | Toluene | 19.9 | | 0.72 | 5.00 | ug/L |
| 127-18-4 | Tetrachloroethene | 20.2 | | 0.94 | 5.00 | ug/L |
| 100-41-4 | Ethyl Benzene | 20.1 | | 0.73 | 5.00 | ug/L |
| 1330-20-7 | Total Xylenes | 60.7 | | 2.52 | 15.0 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 20.4 | | 0.95 | 5.00 | ug/L |
| **SURROGATES** | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 29.8 | | 91 - 110 | 99% | SPK: 30 |
| 2037-26-5 | Toluene-d8 | 30.8 | | 91 - 112 | 103% | SPK: 30 |
| 460-00-4 | 4-Bromofluorobenzene | 31.2 | | 63 - 112 | 104% | SPK: 30 |
| **INTERNAL STANDARDS** | | | | | | |
| 74-97-5 | Bromochloromethane | 14100 | 4.891 | | | |
| 540-36-3 | 1,4-Difluorobenzene | 80700 | 6.757 | | | |
| 3114-55-4 | Chlorobenzene-d5 | 73800 | 10.049 | | | |

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

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | LiRo Engineers, Inc. | Date Collected: | |
| Project: | Walter Gladwin Recreation Center, Bronx, NY | Date Received: | |
| Client Sample ID: | VX0314WBSD01 | SDG No.: | P1747 |
| Lab Sample ID: | VX0314WBSD01 | Matrix: | Water |
| Analytical Method: | E624.1 | % Solid: | 0 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC-NYCD |
| GC Column: | DB-624UI ID : 0.18 | Level : | LOW |
| Prep Method : | | | |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VX040632.D | 1 | | 03/14/24 10:39 | VX031424 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| 1634-04-4 | Methyl tert-Butyl Ether | 19.4 | | 0.83 | 5.00 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 20.2 | | 0.91 | 5.00 | ug/L |
| 67-66-3 | Chloroform | 19.7 | | 0.72 | 5.00 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 19.9 | | 0.79 | 5.00 | ug/L |
| 71-43-2 | Benzene | 18.3 | | 0.69 | 5.00 | ug/L |
| 108-88-3 | Toluene | 21.2 | | 0.72 | 5.00 | ug/L |
| 127-18-4 | Tetrachloroethene | 21.6 | | 0.94 | 5.00 | ug/L |
| 100-41-4 | Ethyl Benzene | 19.4 | | 0.73 | 5.00 | ug/L |
| 1330-20-7 | Total Xylenes | 57.4 | | 2.52 | 15.0 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 21.0 | | 0.95 | 5.00 | ug/L |
| **SURROGATES** | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 27.6 | | 91 - 110 | 92% | SPK: 30 |
| 2037-26-5 | Toluene-d8 | 33.1 | | 91 - 112 | 110% | SPK: 30 |
| 460-00-4 | 4-Bromofluorobenzene | 30.7 | | 63 - 112 | 102% | SPK: 30 |
| **INTERNAL STANDARDS** | | | | | | |
| 74-97-5 | Bromochloromethane | 15400 | 4.897 | | | |
| 540-36-3 | 1,4-Difluorobenzene | 83200 | 6.763 | | | |
| 3114-55-4 | Chlorobenzene-d5 | 75200 | 10.055 | | | |

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

CHEMTECH

# CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG No.: P1747

Instrument ID: MSVOA_X Calibration Date(s): 03/05/2024 03/05/2024

Heated Purge: (Y/N) N Calibration Time(s): 10:58 12:30

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

LAB FILE ID: RRF005 = VX040579.D RRF020 = VX040580.D RRF050 = VX040581.D
RRF100 = VX040582.D RRF150 = VX040583.D RRF =

| COMPOUND | RRF005 | RRF020 | RRF050 | RRF100 | RRF150 | RRF | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|---|
| Methyl tert-Butyl Ether | 6.759 | 5.818 | 6.419 | 6.925 | 7.091 | | 6.602 | 7.6 |
| Carbon Tetrachloride | 0.565 | 0.506 | 0.545 | 0.567 | 0.568 | | 0.551 | 4.8 |
| Chloroform | 4.296 | 3.676 | 4.073 | 4.347 | 4.401 | | 4.158 | 7.1 |
| 1,1,1-Trichloroethane | 0.699 | 0.611 | 0.630 | 0.662 | 0.669 | | 0.654 | 5.3 |
| Benzene | 1.497 | 1.333 | 1.370 | 1.401 | 1.408 | | 1.402 | 4.3 |
| Toluene | 1.745 | 1.725 | 1.674 | 1.490 | 1.627 | | 1.652 | 6.1 |
| Tetrachloroethene | 0.392 | 0.370 | 0.368 | 0.313 | 0.338 | | 0.356 | 8.6 |
| Ethyl Benzene | 1.945 | 1.761 | 1.979 | 1.914 | 1.926 | | 1.905 | 4.4 |
| m/p-Xylenes | 0.698 | 0.651 | 0.736 | 0.717 | 0.715 | | 0.704 | 4.5 |
| o-Xylene | 0.635 | 0.638 | 0.711 | 0.699 | 0.703 | | 0.677 | 5.5 |
| 1,4-Dichlorobenzene | 0.817 | 0.782 | 0.876 | 0.881 | 0.954 | | 0.862 | 7.7 |
| 1,2-Dichloroethane-d4 | 2.970 | 2.805 | 2.931 | 3.131 | 3.145 | | 2.996 | 4.8 |
| Toluene-d8 | 1.288 | 1.478 | 1.338 | 1.223 | 1.302 | | 1.326 | 7.1 |
| 4-Bromofluorobenzene | 0.443 | 0.506 | 0.544 | 0.536 | 0.543 | | 0.515 | 8.3 |

* 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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# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG No.: P1747

Instrument ID: MSVOA_X Calibration Date/Time: 03/14/2024 09:43

Lab File ID: VX040630.D Init. Calib. Date(s): 03/05/2024 03/05/2024

Heated Purge: (Y/N) N Init. Calib. Time(s): 10:58 12:30

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

| COMPOUND | RRF | RRF020 | MIN RRF | %D | MAX%D |
|---|---|---|---|---|---|
| Methyl tert-Butyl Ether | 6.602 | 6.116 | | -7.36 | |
| Carbon Tetrachloride | 0.551 | 0.479 | 0.1 | -13.07 | |
| Chloroform | 4.158 | 3.929 | 0.2 | -5.51 | |
| 1,1,1-Trichloroethane | 0.654 | 0.584 | 0.1 | -10.7 | |
| Benzene | 1.402 | 1.224 | 0.5 | -12.7 | |
| Toluene | 1.652 | 1.432 | 0.4 | -13.32 | |
| Tetrachloroethene | 0.356 | 0.336 | 0.2 | -5.62 | |
| Ethyl Benzene | 1.905 | 1.799 | 0.1 | -5.56 | |
| m/p-Xylenes | 0.704 | 0.671 | 0.3 | -4.69 | |
| o-Xylene | 0.677 | 0.620 | 0.3 | -8.42 | |
| 1,4-Dichlorobenzene | 0.862 | 0.825 | 0.2 | -4.29 | |
| 1,2-Dichloroethane-d4 | 2.996 | 3.235 | 0.01 | 7.98 | |
| Toluene-d8 | 1.326 | 1.232 | 0.01 | -7.09 | |
| 4-Bromofluorobenzene | 0.515 | 0.520 | 0.2 | 0.97 | |

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