

DATA PACKAGE

SEMI-VOLATILE ORGANICS
VOLATILE ORGANICS

PROJECT NAME : RFK BRIDGE RMB-RANDALL ISLAND

LIRO ENGINEERS, INC.

690 Delaware Ave.

Buffalo, NY - 14209

Phone No: 716-882-5476

ORDER ID : Q2333

ATTENTION : Martin Wesolowski



Laboratory Certification ID # 20012



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Cover Page

Order ID : Q2333

Project ID : RFK Bridge RMB-Randall Island

Client : LiRo Engineers, Inc.

Lab Sample Number

Q2333-01
Q2333-02
Q2333-03
Q2333-04
Q2333-05
Q2333-06

Client Sample Number

MW-06
MW-08
MW-10
MW-11
MW-13
MW-12

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : _____

Date: 6/24/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

CASE NARRATIVE

LiRo Engineers, Inc.

Project Name: RFK Bridge RMB-Randall Island

Project # N/A

Order ID # Q2333

Test Name: VOCMS Group1

A. Number of Samples and Date of Receipt:

6 Water samples were received on 06/13/2025.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: SVOCMS Group1 and VOCMS Group1. This data package contains results for VOCMS Group1.

C. Analytical Techniques:

The analysis performed on instrument MSVOA_N were done using GC column Rxi-624SIL MS 30m, 0.25mm, 1.4 um, Cat. #13868. The analysis of VOCMS Group1 was based on method 8260D.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria.

The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The MS {Q2329-11MS} with File ID: VN087118.D recoveries met the requirements for all compounds except for Toluene[117%] due to matrix interference.

The MSD recoveries met the acceptable requirements .

The RPD met criteria .

The Blank Spike met requirements for all samples .

The Blank analysis did not indicate the presence of lab contamination.

The Initial Calibration met the requirements .

The Continuous Calibration met the requirements .

The Tuning criteria met requirements.

Samples MW-08, MW-12 were diluted due to high concentrations.

E. Additional Comments:

Samples for MS/MSD for VOC analysis were not provided with this set of samples therefore lab used from another project.

Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <20% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount



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

2
2.1

for all compounds using Linear Regression when the %RSD value for a compound is > 20% for the Initial Calibration curve for SW-846 analysis.

F. Manual Integration Comments:

Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

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Signature_____

CASE NARRATIVE

LiRo Engineers, Inc.

Project Name: RFK Bridge RMB-Randall Island

Project # N/A

Order ID # Q2333

Test Name: SVOCMS Group1

A. Number of Samples and Date of Receipt:

6 Water samples were received on 06/13/2025.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: SVOCMS Group1 and VOCMS Group1. This data package contains results for SVOCMS Group1.

C. Analytical Techniques:

The samples were analyzed on instrument BNA_F using GC Column DB-UI 8270D which is 20 meters, 0.18 mm ID, 0.36 um df. The samples were analyzed on instrument BNA_P using GC Column ZB-SemiVolatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GG. The analysis of SVOCMS Group1 was based on method 8270E and extraction was done based on method 3510.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria.

The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The RPD met criteria .

The Blank Spike met requirements for all samples .

The Blank Spike Duplicate met requirements for all samples .

The Blank analysis did not indicate the presence of lab contamination.

The Initial Calibration met the requirements .

The Continuous Calibration met the requirements .

The Tuning criteria met requirements.

E. Additional Comments:

The Form 6 is not included in the data package because the Initial Calibration was performed using 8 points.

Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <20% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 20% for the Initial Calibration curve for SW-846 analysis.



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F. Manual Integration Comments:

Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature_____

DATA REPORTING QUALIFIERS- ORGANIC

For reporting results, the following “ Results Qualifiers” are used:

Value	If the result is a value greater than or equal to the detection limit, report the value
U	Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. “10 U”. This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required.
ND	Indicates the analyte was analyzed for, but not detected
J	Indicates an estimated value. This flag is used: (1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.) (2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3 ug/L was calculated report as 3 J. This flag is used when similar situation arise on any organic parameter i.e. Pest, PCB and others.
B	Indicates the analyte was found in the blank as well as the sample report as “12 B”.
E	Indicates the analyte ‘s concentration exceeds the calibrated range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
P	This flag is used for Pesticide/PCB target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form 1 and flagged with a “P”.
N	This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used.
A	This flag indicates that a Tentatively Identified Compound is a suspected aldol-condensation product.
Q	Indicates the LCS did not meet the control limits requirements

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q2333

Completed

For thorough review, the report must have the following:

GENERAL:

Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)

✓

Check chain-of-custody for proper relinquish/return of samples

✓

Is the chain of custody signed and complete

✓

Check internal chain-of-custody for proper relinquish/return of samples /sample extracts

✓

Collect information for each project id from server. Were all requirements followed

✓

COVER PAGE:

Do numbers of samples correspond to the number of samples in the Chain of Custody on login page

✓

Do lab numbers and client Ids on cover page agree with the Chain of Custody

✓

CHAIN OF CUSTODY:

Do requested analyses on Chain of Custody agree with form I results

✓

Do requested analyses on Chain of Custody agree with the log-in page

✓

Were the correct method log-in for analysis according to the Analytical Request and Chain of Custody

✓

Were the samples received within hold time

✓

Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle

✓

ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: SOHIL JODHANI

Date: 06/24/2025

LAB CHRONICLE

OrderID:	Q2333	OrderDate:	6/13/2025 3:21:44 PM
Client:	LiRo Engineers, Inc.	Project:	RFK Bridge RMB-Randall Island
Contact:	Martin Wesolowski	Location:	D51,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q2333-01	MW-06	Water	VOCMS Group1	8260-Low	06/12/25		06/19/25	06/13/25
Q2333-02	MW-08	Water	VOCMS Group1	8260-Low	06/12/25		06/19/25	06/13/25
Q2333-02DL	MW-08DL	Water	VOCMS Group1	8260-Low	06/12/25		06/19/25	06/13/25
Q2333-03	MW-10	Water	VOCMS Group1	8260-Low	06/12/25		06/19/25	06/13/25
Q2333-04	MW-11	Water	VOCMS Group1	8260-Low	06/12/25		06/19/25	06/13/25
Q2333-05	MW-13	Water	VOCMS Group1	8260-Low	06/12/25		06/19/25	06/13/25
Q2333-06	MW-12	Water	VOCMS Group1	8260-Low	06/12/25		06/19/25	06/13/25
Q2333-06DL	MW-12DL	Water	VOCMS Group1	8260-Low	06/12/25		06/19/25	06/13/25

Hit Summary Sheet
SW-846

SDG No.: Q2333
Client: LiRo Engineers, Inc.

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID:	MW-06							
Q2333-01	MW-06	Water	Benzene	3.10		0.15	1.00	ug/L
Q2333-01	MW-06	Water	Ethyl Benzene	1.40		0.13	1.00	ug/L
Q2333-01	MW-06	Water	Total Xylenes	1.00	J	0.36	3.00	ug/L
Q2333-01	MW-06	Water	m/p-Xylenes	1.00	J	0.24	2.00	ug/L
Q2333-01	MW-06	Water	Isopropylbenzene	14.7		0.12	1.00	ug/L
Q2333-01	MW-06	Water	n-propylbenzene	36.4		0.13	1.00	ug/L
Q2333-01	MW-06	Water	sec-Butylbenzene	2.50		0.13	1.00	ug/L
Q2333-01	MW-06	Water	n-Butylbenzene	1.70		0.15	1.00	ug/L
Q2333-01	MW-06	Water	Naphthalene	23.0		0.20	1.00	ug/L
			Total Voc :	83.8				
			Total Concentration:	83.8				
Client ID:	MW-08							
Q2333-02	MW-08	Water	Benzene	88.5		0.15	1.00	ug/L
Q2333-02	MW-08	Water	Toluene	22.0		0.14	1.00	ug/L
Q2333-02	MW-08	Water	Ethyl Benzene	520	E	0.13	1.00	ug/L
Q2333-02	MW-08	Water	Total Xylenes	1770	E	0.36	3.00	ug/L
Q2333-02	MW-08	Water	m/p-Xylenes	1200	E	0.24	2.00	ug/L
Q2333-02	MW-08	Water	o-Xylene	570	E	0.12	1.00	ug/L
Q2333-02	MW-08	Water	Isopropylbenzene	38.1		0.12	1.00	ug/L
Q2333-02	MW-08	Water	n-propylbenzene	79.6		0.13	1.00	ug/L
Q2333-02	MW-08	Water	1,3,5-Trimethylbenzene	46.5		0.15	1.00	ug/L
Q2333-02	MW-08	Water	1,2,4-Trimethylbenzene	890	E	0.14	1.00	ug/L
Q2333-02	MW-08	Water	sec-Butylbenzene	3.60		0.13	1.00	ug/L
Q2333-02	MW-08	Water	p-Isopropyltoluene	2.80		0.13	1.00	ug/L
Q2333-02	MW-08	Water	n-Butylbenzene	3.40		0.15	1.00	ug/L
Q2333-02	MW-08	Water	Naphthalene	350	E	0.20	1.00	ug/L
			Total Voc :	3810				
			Total Concentration:	3810				
Client ID:	MW-08DL							
Q2333-02DL	MW-08DL	Water	Benzene	120	D	3.00	20.0	ug/L
Q2333-02DL	MW-08DL	Water	Toluene	27.0	D	2.80	20.0	ug/L
Q2333-02DL	MW-08DL	Water	Ethyl Benzene	630	D	2.60	20.0	ug/L
Q2333-02DL	MW-08DL	Water	Total Xylenes	2170	D	7.20	60.0	ug/L
Q2333-02DL	MW-08DL	Water	m/p-Xylenes	1500	D	4.80	40.0	ug/L
Q2333-02DL	MW-08DL	Water	o-Xylene	670	D	2.40	20.0	ug/L
Q2333-02DL	MW-08DL	Water	Isopropylbenzene	44.3	D	2.40	20.0	ug/L

Hit Summary Sheet SW-846

SDG No.: Q2333

Client: LiRo Engineers, Inc.

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Q2333-02DL	MW-08DL	Water	n-propylbenzene	92.2	D	2.60	20.0	ug/L
Q2333-02DL	MW-08DL	Water	1,3,5-Trimethylbenzene	50.0	D	3.00	20.0	ug/L
Q2333-02DL	MW-08DL	Water	1,2,4-Trimethylbenzene	1100	D	2.80	20.0	ug/L
Q2333-02DL	MW-08DL	Water	Naphthalene	400	D	4.00	20.0	ug/L
Total Voc :				4630				
Total Concentration:				4630				
Client ID:	MW-10							
Q2333-03	MW-10	Water	Ethyl Benzene	0.31	J	0.13	1.00	ug/L
Q2333-03	MW-10	Water	Total Xylenes	0.85	J	0.36	3.00	ug/L
Q2333-03	MW-10	Water	m/p-Xylenes	0.85	J	0.24	2.00	ug/L
Q2333-03	MW-10	Water	Isopropylbenzene	2.90		0.12	1.00	ug/L
Q2333-03	MW-10	Water	n-propylbenzene	0.86	J	0.13	1.00	ug/L
Q2333-03	MW-10	Water	tert-Butylbenzene	0.30	J	0.14	1.00	ug/L
Q2333-03	MW-10	Water	1,2,4-Trimethylbenzene	1.80		0.14	1.00	ug/L
Q2333-03	MW-10	Water	sec-Butylbenzene	0.93	J	0.13	1.00	ug/L
Total Voc :				7.95				
Total Concentration:				7.95				
Client ID:	MW-11							
Q2333-04	MW-11	Water	Ethyl Benzene	0.30	J	0.13	1.00	ug/L
Q2333-04	MW-11	Water	Total Xylenes	1.05	J	0.36	3.00	ug/L
Q2333-04	MW-11	Water	m/p-Xylenes	0.79	J	0.24	2.00	ug/L
Q2333-04	MW-11	Water	o-Xylene	0.26	J	0.12	1.00	ug/L
Q2333-04	MW-11	Water	1,2,4-Trimethylbenzene	1.70		0.14	1.00	ug/L
Q2333-04	MW-11	Water	Naphthalene	0.61	J	0.20	1.00	ug/L
Total Voc :				3.66				
Total Concentration:				3.66				
Client ID:	MW-13							
Q2333-05	MW-13	Water	Benzene	0.80	J	0.15	1.00	ug/L
Q2333-05	MW-13	Water	Ethyl Benzene	1.70		0.13	1.00	ug/L
Q2333-05	MW-13	Water	Total Xylenes	2.70	J	0.36	3.00	ug/L
Q2333-05	MW-13	Water	m/p-Xylenes	1.50	J	0.24	2.00	ug/L
Q2333-05	MW-13	Water	o-Xylene	1.20		0.12	1.00	ug/L
Q2333-05	MW-13	Water	1,2,4-Trimethylbenzene	0.71	J	0.14	1.00	ug/L
Q2333-05	MW-13	Water	Naphthalene	0.34	J	0.20	1.00	ug/L
Total Voc :				6.25				
Total Concentration:				6.25				
Client ID:	MW-12							
Q2333-06	MW-12	Water	Benzene	200	E	0.15	1.00	ug/L

Hit Summary Sheet SW-846

SDG No.: Q2333

Client: LiRo Engineers, Inc.

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Q2333-06	MW-12	Water	Toluene	58.0		0.14	1.00	ug/L
Q2333-06	MW-12	Water	Ethyl Benzene	730	E	0.13	1.00	ug/L
Q2333-06	MW-12	Water	Total Xylenes	540	E	0.36	3.00	ug/L
Q2333-06	MW-12	Water	m/p-Xylenes	370	E	0.24	2.00	ug/L
Q2333-06	MW-12	Water	o-Xylene	170	E	0.12	1.00	ug/L
Q2333-06	MW-12	Water	Isopropylbenzene	23.6		0.12	1.00	ug/L
Q2333-06	MW-12	Water	n-propylbenzene	49.1		0.13	1.00	ug/L
Q2333-06	MW-12	Water	1,3,5-Trimethylbenzene	4.50		0.15	1.00	ug/L
Q2333-06	MW-12	Water	1,2,4-Trimethylbenzene	480	E	0.14	1.00	ug/L
Q2333-06	MW-12	Water	sec-Butylbenzene	2.50		0.13	1.00	ug/L
Q2333-06	MW-12	Water	p-Isopropyltoluene	2.50		0.13	1.00	ug/L
Q2333-06	MW-12	Water	n-Butylbenzene	3.10		0.15	1.00	ug/L
Q2333-06	MW-12	Water	Naphthalene	140		0.20	1.00	ug/L
Total Voc :				2230				
Total Concentration:				2230				
Client ID:	MW-12DL							
Q2333-06DL	MW-12DL	Water	Benzene	210	D	1.50	10.0	ug/L
Q2333-06DL	MW-12DL	Water	Toluene	61.7	D	1.40	10.0	ug/L
Q2333-06DL	MW-12DL	Water	Ethyl Benzene	780	D	1.30	10.0	ug/L
Q2333-06DL	MW-12DL	Water	Total Xylenes	570	D	3.60	30.0	ug/L
Q2333-06DL	MW-12DL	Water	m/p-Xylenes	390	D	2.40	20.0	ug/L
Q2333-06DL	MW-12DL	Water	o-Xylene	180	D	1.20	10.0	ug/L
Q2333-06DL	MW-12DL	Water	Isopropylbenzene	23.2	D	1.20	10.0	ug/L
Q2333-06DL	MW-12DL	Water	n-propylbenzene	47.7	D	1.30	10.0	ug/L
Q2333-06DL	MW-12DL	Water	1,3,5-Trimethylbenzene	5.10	JD	1.50	10.0	ug/L
Q2333-06DL	MW-12DL	Water	1,2,4-Trimethylbenzene	500	D	1.40	10.0	ug/L
Q2333-06DL	MW-12DL	Water	sec-Butylbenzene	3.10	JD	1.30	10.0	ug/L
Q2333-06DL	MW-12DL	Water	p-Isopropyltoluene	2.80	JD	1.30	10.0	ug/L
Q2333-06DL	MW-12DL	Water	n-Butylbenzene	4.00	JD	1.50	10.0	ug/L
Q2333-06DL	MW-12DL	Water	Naphthalene	130	D	2.00	10.0	ug/L
Total Voc :				2340				
Total Concentration:				2340				



SAMPLE DATA

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-06	SDG No.:	Q2333
Lab Sample ID:	Q2333-01	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087106.D	1		06/19/25 13:17	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
1634-04-4	Methyl tert-butyl Ether	1.00	U	0.16	1.00	ug/L
71-43-2	Benzene	3.10		0.15	1.00	ug/L
108-88-3	Toluene	1.00	U	0.14	1.00	ug/L
100-41-4	Ethyl Benzene	1.40		0.13	1.00	ug/L
179601-23-1	m/p-Xylenes	1.00	J	0.24	2.00	ug/L
1330-20-7	Total Xylenes	1.00	J	0.36	3.00	ug/L
95-47-6	o-Xylene	1.00	U	0.12	1.00	ug/L
98-82-8	Isopropylbenzene	14.7		0.12	1.00	ug/L
103-65-1	n-propylbenzene	36.4		0.13	1.00	ug/L
108-67-8	1,3,5-Trimethylbenzene	1.00	U	0.15	1.00	ug/L
98-06-6	tert-Butylbenzene	1.00	U	0.14	1.00	ug/L
95-63-6	1,2,4-Trimethylbenzene	1.00	U	0.14	1.00	ug/L
135-98-8	sec-Butylbenzene	2.50		0.13	1.00	ug/L
99-87-6	p-Isopropyltoluene	1.00	U	0.13	1.00	ug/L
104-51-8	n-Butylbenzene	1.70		0.15	1.00	ug/L
91-20-3	Naphthalene	23.0		0.20	1.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	55.0		74 - 125	110%	SPK: 50
1868-53-7	Dibromofluoromethane	53.9		75 - 124	108%	SPK: 50
2037-26-5	Toluene-d8	50.6		86 - 113	101%	SPK: 50
460-00-4	4-Bromofluorobenzene	47.9		77 - 121	96%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	163000	8.23			
540-36-3	1,4-Difluorobenzene	328000	9.106			
3114-55-4	Chlorobenzene-d5	281000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	132000	13.788			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-06	SDG No.:	Q2333
Lab Sample ID:	Q2333-01	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5	Units:	mL
Soil Aliquot Vol:			uL
GC Column:	RXI-624	ID :	0.25
Prep Method :		Level :	LOW
		Final Vol:	5000 uL
		Test:	VOCMS Group1

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087106.D	1		06/19/25 13:17	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
------------	-----------	-------	-----------	-----	------------	-------

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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-08	SDG No.:	Q2333
Lab Sample ID:	Q2333-02	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087107.D	1		06/19/25 13:38	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
1634-04-4	Methyl tert-butyl Ether	1.00	U	0.16	1.00	ug/L
71-43-2	Benzene	88.5		0.15	1.00	ug/L
108-88-3	Toluene	22.0		0.14	1.00	ug/L
100-41-4	Ethyl Benzene	520	E	0.13	1.00	ug/L
179601-23-1	m/p-Xylenes	1200	E	0.24	2.00	ug/L
1330-20-7	Total Xylenes	1770	E	0.36	3.00	ug/L
95-47-6	o-Xylene	570	E	0.12	1.00	ug/L
98-82-8	Isopropylbenzene	38.1		0.12	1.00	ug/L
103-65-1	n-propylbenzene	79.6		0.13	1.00	ug/L
108-67-8	1,3,5-Trimethylbenzene	46.5		0.15	1.00	ug/L
98-06-6	tert-Butylbenzene	1.00	U	0.14	1.00	ug/L
95-63-6	1,2,4-Trimethylbenzene	890	E	0.14	1.00	ug/L
135-98-8	sec-Butylbenzene	3.60		0.13	1.00	ug/L
99-87-6	p-Isopropyltoluene	2.80		0.13	1.00	ug/L
104-51-8	n-Butylbenzene	3.40		0.15	1.00	ug/L
91-20-3	Naphthalene	350	E	0.20	1.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	52.3		74 - 125	105%	SPK: 50
1868-53-7	Dibromofluoromethane	51.4		75 - 124	103%	SPK: 50
2037-26-5	Toluene-d8	52.9		86 - 113	106%	SPK: 50
460-00-4	4-Bromofluorobenzene	47.2		77 - 121	94%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	261000	8.23			
540-36-3	1,4-Difluorobenzene	524000	9.106			
3114-55-4	Chlorobenzene-d5	470000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	202000	13.788			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-08	SDG No.:	Q2333
Lab Sample ID:	Q2333-02	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5	Units:	mL
Soil Aliquot Vol:			uL
GC Column:	RXI-624	ID :	0.25
Prep Method :		Level :	LOW
		Final Vol:	5000
		Test:	VOCMS Group1

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087107.D	1		06/19/25 13:38	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-08DL	SDG No.:	Q2333
Lab Sample ID:	Q2333-02DL	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087114.D	20		06/19/25 16:07	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
1634-04-4	Methyl tert-butyl Ether	20.0	UD	3.20	20.0	ug/L
71-43-2	Benzene	120	D	3.00	20.0	ug/L
108-88-3	Toluene	27.0	D	2.80	20.0	ug/L
100-41-4	Ethyl Benzene	630	D	2.60	20.0	ug/L
179601-23-1	m/p-Xylenes	1500	D	4.80	40.0	ug/L
1330-20-7	Total Xylenes	2170	D	7.20	60.0	ug/L
95-47-6	o-Xylene	670	D	2.40	20.0	ug/L
98-82-8	Isopropylbenzene	44.3	D	2.40	20.0	ug/L
103-65-1	n-propylbenzene	92.2	D	2.60	20.0	ug/L
108-67-8	1,3,5-Trimethylbenzene	50.0	D	3.00	20.0	ug/L
98-06-6	tert-Butylbenzene	20.0	UD	2.80	20.0	ug/L
95-63-6	1,2,4-Trimethylbenzene	1100	D	2.80	20.0	ug/L
135-98-8	sec-Butylbenzene	20.0	UD	2.60	20.0	ug/L
99-87-6	p-Isopropyltoluene	20.0	UD	2.60	20.0	ug/L
104-51-8	n-Butylbenzene	20.0	UD	3.00	20.0	ug/L
91-20-3	Naphthalene	400	D	4.00	20.0	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	54.1		74 - 125	108%	SPK: 50
1868-53-7	Dibromofluoromethane	51.8		75 - 124	104%	SPK: 50
2037-26-5	Toluene-d8	52.4		86 - 113	105%	SPK: 50
460-00-4	4-Bromofluorobenzene	49.8		77 - 121	100%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	183000	8.229			
540-36-3	1,4-Difluorobenzene	368000	9.106			
3114-55-4	Chlorobenzene-d5	333000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	162000	13.788			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-08DL	SDG No.:	Q2333
Lab Sample ID:	Q2333-02DL	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5	Units:	mL
Soil Aliquot Vol:			uL
GC Column:	RXI-624	ID :	0.25
Prep Method :		Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087114.D	20		06/19/25 16:07	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-10	SDG No.:	Q2333
Lab Sample ID:	Q2333-03	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087115.D	1		06/19/25 16:28	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
1634-04-4	Methyl tert-butyl Ether	1.00	U	0.16	1.00	ug/L
71-43-2	Benzene	1.00	U	0.15	1.00	ug/L
108-88-3	Toluene	1.00	U	0.14	1.00	ug/L
100-41-4	Ethyl Benzene	0.31	J	0.13	1.00	ug/L
179601-23-1	m/p-Xylenes	0.85	J	0.24	2.00	ug/L
1330-20-7	Total Xylenes	0.85	J	0.36	3.00	ug/L
95-47-6	o-Xylene	1.00	U	0.12	1.00	ug/L
98-82-8	Isopropylbenzene	2.90		0.12	1.00	ug/L
103-65-1	n-propylbenzene	0.86	J	0.13	1.00	ug/L
108-67-8	1,3,5-Trimethylbenzene	1.00	U	0.15	1.00	ug/L
98-06-6	tert-Butylbenzene	0.30	J	0.14	1.00	ug/L
95-63-6	1,2,4-Trimethylbenzene	1.80		0.14	1.00	ug/L
135-98-8	sec-Butylbenzene	0.93	J	0.13	1.00	ug/L
99-87-6	p-Isopropyltoluene	1.00	U	0.13	1.00	ug/L
104-51-8	n-Butylbenzene	1.00	U	0.15	1.00	ug/L
91-20-3	Naphthalene	1.00	U	0.20	1.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	55.0		74 - 125	110%	SPK: 50
1868-53-7	Dibromofluoromethane	51.8		75 - 124	104%	SPK: 50
2037-26-5	Toluene-d8	52.8		86 - 113	106%	SPK: 50
460-00-4	4-Bromofluorobenzene	49.5		77 - 121	99%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	175000	8.23			
540-36-3	1,4-Difluorobenzene	354000	9.106			
3114-55-4	Chlorobenzene-d5	321000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	152000	13.788			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-10	SDG No.:	Q2333
Lab Sample ID:	Q2333-03	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5	Units:	mL
Soil Aliquot Vol:			uL
GC Column:	RXI-624	ID :	0.25
Prep Method :		Level :	LOW
		Final Vol:	5000
		Test:	VOCMS Group1

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087115.D	1		06/19/25 16:28	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-11	SDG No.:	Q2333
Lab Sample ID:	Q2333-04	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087109.D	1		06/19/25 14:21	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
1634-04-4	Methyl tert-butyl Ether	1.00	U	0.16	1.00	ug/L
71-43-2	Benzene	1.00	U	0.15	1.00	ug/L
108-88-3	Toluene	1.00	U	0.14	1.00	ug/L
100-41-4	Ethyl Benzene	0.30	J	0.13	1.00	ug/L
179601-23-1	m/p-Xylenes	0.79	J	0.24	2.00	ug/L
1330-20-7	Total Xylenes	1.05	J	0.36	3.00	ug/L
95-47-6	o-Xylene	0.26	J	0.12	1.00	ug/L
98-82-8	Isopropylbenzene	1.00	U	0.12	1.00	ug/L
103-65-1	n-propylbenzene	1.00	U	0.13	1.00	ug/L
108-67-8	1,3,5-Trimethylbenzene	1.00	U	0.15	1.00	ug/L
98-06-6	tert-Butylbenzene	1.00	U	0.14	1.00	ug/L
95-63-6	1,2,4-Trimethylbenzene	1.70		0.14	1.00	ug/L
135-98-8	sec-Butylbenzene	1.00	U	0.13	1.00	ug/L
99-87-6	p-Isopropyltoluene	1.00	U	0.13	1.00	ug/L
104-51-8	n-Butylbenzene	1.00	U	0.15	1.00	ug/L
91-20-3	Naphthalene	0.61	J	0.20	1.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	52.7		74 - 125	105%	SPK: 50
1868-53-7	Dibromofluoromethane	51.5		75 - 124	103%	SPK: 50
2037-26-5	Toluene-d8	52.5		86 - 113	105%	SPK: 50
460-00-4	4-Bromofluorobenzene	50.0		77 - 121	100%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	204000	8.229			
540-36-3	1,4-Difluorobenzene	406000	9.106			
3114-55-4	Chlorobenzene-d5	369000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	175000	13.788			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-11	SDG No.:	Q2333
Lab Sample ID:	Q2333-04	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5	Units:	mL
Soil Aliquot Vol:			uL
GC Column:	RXI-624	ID :	0.25
Prep Method :		Level :	LOW
		Final Vol:	5000
		Test:	VOCMS Group1

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087109.D	1		06/19/25 14:21	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-13	SDG No.:	Q2333
Lab Sample ID:	Q2333-05	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087110.D	1		06/19/25 14:42	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
1634-04-4	Methyl tert-butyl Ether	1.00	U	0.16	1.00	ug/L
71-43-2	Benzene	0.80	J	0.15	1.00	ug/L
108-88-3	Toluene	1.00	U	0.14	1.00	ug/L
100-41-4	Ethyl Benzene	1.70		0.13	1.00	ug/L
179601-23-1	m/p-Xylenes	1.50	J	0.24	2.00	ug/L
1330-20-7	Total Xylenes	2.70	J	0.36	3.00	ug/L
95-47-6	o-Xylene	1.20		0.12	1.00	ug/L
98-82-8	Isopropylbenzene	1.00	U	0.12	1.00	ug/L
103-65-1	n-propylbenzene	1.00	U	0.13	1.00	ug/L
108-67-8	1,3,5-Trimethylbenzene	1.00	U	0.15	1.00	ug/L
98-06-6	tert-Butylbenzene	1.00	U	0.14	1.00	ug/L
95-63-6	1,2,4-Trimethylbenzene	0.71	J	0.14	1.00	ug/L
135-98-8	sec-Butylbenzene	1.00	U	0.13	1.00	ug/L
99-87-6	p-Isopropyltoluene	1.00	U	0.13	1.00	ug/L
104-51-8	n-Butylbenzene	1.00	U	0.15	1.00	ug/L
91-20-3	Naphthalene	0.34	J	0.20	1.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	51.0		74 - 125	102%	SPK: 50
1868-53-7	Dibromofluoromethane	51.4		75 - 124	103%	SPK: 50
2037-26-5	Toluene-d8	51.8		86 - 113	104%	SPK: 50
460-00-4	4-Bromofluorobenzene	49.3		77 - 121	99%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	201000	8.23			
540-36-3	1,4-Difluorobenzene	398000	9.106			
3114-55-4	Chlorobenzene-d5	356000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	169000	13.788			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-13	SDG No.:	Q2333
Lab Sample ID:	Q2333-05	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5	Units:	mL
Soil Aliquot Vol:			uL
GC Column:	RXI-624	ID :	0.25
Prep Method :		Level :	LOW
		Final Vol:	5000 uL
		Test:	VOCMS Group1

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087110.D	1		06/19/25 14:42	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-12	SDG No.:	Q2333
Lab Sample ID:	Q2333-06	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087111.D	1		06/19/25 15:03	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
1634-04-4	Methyl tert-butyl Ether	1.00	U	0.16	1.00	ug/L
71-43-2	Benzene	200	E	0.15	1.00	ug/L
108-88-3	Toluene	58.0		0.14	1.00	ug/L
100-41-4	Ethyl Benzene	730	E	0.13	1.00	ug/L
179601-23-1	m/p-Xylenes	370	E	0.24	2.00	ug/L
1330-20-7	Total Xylenes	540	E	0.36	3.00	ug/L
95-47-6	o-Xylene	170	E	0.12	1.00	ug/L
98-82-8	Isopropylbenzene	23.6		0.12	1.00	ug/L
103-65-1	n-propylbenzene	49.1		0.13	1.00	ug/L
108-67-8	1,3,5-Trimethylbenzene	4.50		0.15	1.00	ug/L
98-06-6	tert-Butylbenzene	1.00	U	0.14	1.00	ug/L
95-63-6	1,2,4-Trimethylbenzene	480	E	0.14	1.00	ug/L
135-98-8	sec-Butylbenzene	2.50		0.13	1.00	ug/L
99-87-6	p-Isopropyltoluene	2.50		0.13	1.00	ug/L
104-51-8	n-Butylbenzene	3.10		0.15	1.00	ug/L
91-20-3	Naphthalene	140		0.20	1.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	52.5		74 - 125	105%	SPK: 50
1868-53-7	Dibromofluoromethane	51.2		75 - 124	102%	SPK: 50
2037-26-5	Toluene-d8	51.9		86 - 113	104%	SPK: 50
460-00-4	4-Bromofluorobenzene	48.7		77 - 121	97%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	189000	8.23			
540-36-3	1,4-Difluorobenzene	380000	9.106			
3114-55-4	Chlorobenzene-d5	339000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	153000	13.788			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-12	SDG No.:	Q2333
Lab Sample ID:	Q2333-06	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5	Units:	mL
Soil Aliquot Vol:			uL
GC Column:	RXI-624	ID :	0.25
Prep Method :		Level :	LOW
		Final Vol:	5000 uL
		Test:	VOCMS Group1

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087111.D	1		06/19/25 15:03	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-12DL	SDG No.:	Q2333
Lab Sample ID:	Q2333-06DL	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087116.D	10		06/19/25 16:49	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
1634-04-4	Methyl tert-butyl Ether	10.0	UD	1.60	10.0	ug/L
71-43-2	Benzene	210	D	1.50	10.0	ug/L
108-88-3	Toluene	61.7	D	1.40	10.0	ug/L
100-41-4	Ethyl Benzene	780	D	1.30	10.0	ug/L
179601-23-1	m/p-Xylenes	390	D	2.40	20.0	ug/L
1330-20-7	Total Xylenes	570	D	3.60	30.0	ug/L
95-47-6	o-Xylene	180	D	1.20	10.0	ug/L
98-82-8	Isopropylbenzene	23.2	D	1.20	10.0	ug/L
103-65-1	n-propylbenzene	47.7	D	1.30	10.0	ug/L
108-67-8	1,3,5-Trimethylbenzene	5.10	JD	1.50	10.0	ug/L
98-06-6	tert-Butylbenzene	10.0	UD	1.40	10.0	ug/L
95-63-6	1,2,4-Trimethylbenzene	500	D	1.40	10.0	ug/L
135-98-8	sec-Butylbenzene	3.10	JD	1.30	10.0	ug/L
99-87-6	p-Isopropyltoluene	2.80	JD	1.30	10.0	ug/L
104-51-8	n-Butylbenzene	4.00	JD	1.50	10.0	ug/L
91-20-3	Naphthalene	130	D	2.00	10.0	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	52.9		74 - 125	106%	SPK: 50
1868-53-7	Dibromofluoromethane	51.0		75 - 124	102%	SPK: 50
2037-26-5	Toluene-d8	52.0		86 - 113	104%	SPK: 50
460-00-4	4-Bromofluorobenzene	49.8		77 - 121	100%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	200000	8.23			
540-36-3	1,4-Difluorobenzene	403000	9.106			
3114-55-4	Chlorobenzene-d5	361000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	175000	13.788			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-12DL	SDG No.:	Q2333
Lab Sample ID:	Q2333-06DL	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087116.D	10		06/19/25 16:49	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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

Surrogate Summary

SDG No.: Q2333

Client: LiRo Engineers, Inc.

Analytical Method: SW8260-Low

Lab Sample ID	Client ID	Parameter	Spike	Result	RecoveryQual	Limits	
						Low	High
Q2329-11MS	TT172S1-20250613MS	1,2-Dichloroethane-d4	50	50.0	100	74	125
		Dibromofluoromethane	50	55.6	111	75	124
		Toluene-d8	50	51.3	103	86	113
		4-Bromofluorobenzene	50	52.6	105	77	121
Q2329-12MSD	TT172S1-20250613MSD	1,2-Dichloroethane-d4	50	44.7	89	74	125
		Dibromofluoromethane	50	49.1	98	75	124
		Toluene-d8	50	45.9	92	86	113
		4-Bromofluorobenzene	50	46.6	93	77	121
Q2333-01	MW-06	1,2-Dichloroethane-d4	50	55.0	110	74	125
		Dibromofluoromethane	50	53.9	108	75	124
		Toluene-d8	50	50.6	101	86	113
		4-Bromofluorobenzene	50	47.9	96	77	121
Q2333-02	MW-08	1,2-Dichloroethane-d4	50	52.3	105	74	125
		Dibromofluoromethane	50	51.4	103	75	124
		Toluene-d8	50	52.9	106	86	113
		4-Bromofluorobenzene	50	47.2	94	77	121
Q2333-02DL	MW-08DL	1,2-Dichloroethane-d4	50	54.1	108	74	125
		Dibromofluoromethane	50	51.9	104	75	124
		Toluene-d8	50	52.4	105	86	113
		4-Bromofluorobenzene	50	49.8	100	77	121
Q2333-03	MW-10	1,2-Dichloroethane-d4	50	55.0	110	74	125
		Dibromofluoromethane	50	51.8	104	75	124
		Toluene-d8	50	52.8	106	86	113
		4-Bromofluorobenzene	50	49.5	99	77	121
Q2333-04	MW-11	1,2-Dichloroethane-d4	50	52.7	105	74	125
		Dibromofluoromethane	50	51.5	103	75	124
		Toluene-d8	50	52.5	105	86	113
		4-Bromofluorobenzene	50	50.0	100	77	121
Q2333-05	MW-13	1,2-Dichloroethane-d4	50	51.0	102	74	125
		Dibromofluoromethane	50	51.4	103	75	124
		Toluene-d8	50	51.8	104	86	113
		4-Bromofluorobenzene	50	49.3	99	77	121
Q2333-06	MW-12	1,2-Dichloroethane-d4	50	52.5	105	74	125
		Dibromofluoromethane	50	51.2	102	75	124
		Toluene-d8	50	51.9	104	86	113
		4-Bromofluorobenzene	50	48.7	97	77	121
Q2333-06DL	MW-12DL	1,2-Dichloroethane-d4	50	52.9	106	74	125
		Dibromofluoromethane	50	51.0	102	75	124
		Toluene-d8	50	52.0	104	86	113
		4-Bromofluorobenzene	50	49.8	100	77	121
VN0619WBL01	VN0619WBL01	1,2-Dichloroethane-d4	50	57.1	114	74	125
		Dibromofluoromethane	50	53.1	106	75	124
		Toluene-d8	50	53.8	108	86	113
		4-Bromofluorobenzene	50	48.9	98	77	121
VN0619WBS01	VN0619WBS01	1,2-Dichloroethane-d4	50	48.3	97	74	125
		Dibromofluoromethane	50	53.4	107	75	124
		Toluene-d8	50	49.9	100	86	113
		4-Bromofluorobenzene	50	50.3	101	77	121

Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: Q2333

Client: LiRo Engineers, Inc.

Analytical Method: SW8260-Low

Limits											
Parameter	Spike	Sample	Result	Units	Rec			RPD	Low	High	RPD
		Result			Rec	Qual	RPD	Qual			
Lab Sample ID :	Q2329-11MS	Client Sample ID :	TT172S1-20250613MS					Datafile :	VN087118.D		
Methyl tert-butyl Ether	50	0	56.2	ug/L	112				82	133	
Benzene	50	0	57.4	ug/L	115				81	128	
Toluene	50	0	58.6	ug/L	117	*			85	115	
Ethyl Benzene	50	0	55.6	ug/L	111				81	128	
m/p-Xylenes	100	0	120	ug/L	120				69	129	
o-Xylene	50	0	58.7	ug/L	117				75	127	
Isopropylbenzene	50	0	54.2	ug/L	108				76	121	
N-propylbenzene	50	0	52.4	ug/L	105				79	116	
1,3,5-Trimethylbenzene	50	0	54.3	ug/L	109				40	169	
tert-Butylbenzene	50	0	50.9	ug/L	102				80	116	
1,2,4-Trimethylbenzene	50	0.36	54.7	ug/L	109				81	116	
Sec-butylbenzene	50	0	49.6	ug/L	99				70	122	
p-Isopropyltoluene	50	0	50.6	ug/L	101				64	124	
n-Butylbenzene	50	0	45.3	ug/L	91				53	140	
Naphthalene	50	0	52.9	ug/L	106				79	124	

Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: Q2333

Client: LiRo Engineers, Inc.

Analytical Method: SW8260-Low

Limits											
Parameter	Spike	Sample Result	Result	Units	Rec		RPD		Limits		
					Rec	Qual	RPD	Qual	Low	High	RPD
Lab Sample ID :	Q2329-12MSD	Client Sample ID :	TT172S1-20250613MSD					Datafile :	VN087119.D		
Methyl tert-butyl Ether	50	0	52.3	ug/L	105		7		82	133	20
Benzene	50	0	53.1	ug/L	106		8		81	128	20
Toluene	50	0	53.7	ug/L	107		9		85	115	20
Ethyl Benzene	50	0	52.9	ug/L	106		5		81	128	20
m/p-Xylenes	100	0	110	ug/L	110		9		69	129	20
o-Xylene	50	0	55.9	ug/L	112		5		75	127	20
Isopropylbenzene	50	0	51.7	ug/L	103		5		76	121	20
N-propylbenzene	50	0	49.7	ug/L	99		5		79	116	20
1,3,5-Trimethylbenzene	50	0	51.1	ug/L	102		6		40	169	20
tert-Butylbenzene	50	0	48.4	ug/L	97		5		80	116	20
1,2,4-Trimethylbenzene	50	0.36	52.0	ug/L	103		6		81	116	20
Sec-butylbenzene	50	0	47.4	ug/L	95		5		70	122	20
p-Isopropyltoluene	50	0	47.8	ug/L	96		6		64	124	20
n-Butylbenzene	50	0	42.8	ug/L	86		6		53	140	20
Naphthalene	50	0	50.2	ug/L	100		5		79	124	20

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: Q2333

Client: LiRo Engineers, Inc.

Analytical Method: SW8260-Low

Datafile : VN087104.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Low	Limits High	RPD
VN0619WBS01	Methyl tert-butyl Ether	20	18.1	ug/L	91			78	114	
	Benzene	20	19.2	ug/L	96			82	109	
	Toluene	20	19.5	ug/L	98			82	110	
	Ethyl Benzene	20	18.6	ug/L	93			83	109	
	m/p-Xylenes	40	38.5	ug/L	96			82	110	
	o-Xylene	20	18.7	ug/L	94			83	109	
	Isopropylbenzene	20	18.1	ug/L	91			83	112	
	N-propylbenzene	20	17.7	ug/L	89			83	112	
	1,3,5-Trimethylbenzene	20	18.2	ug/L	91			85	112	
	tert-Butylbenzene	20	16.6	ug/L	83			83	112	
	1,2,4-Trimethylbenzene	20	18.1	ug/L	91			85	111	
	Sec-butylbenzene	20	16.4	ug/L	82			81	114	
	p-Isopropyltoluene	20	16.5	ug/L	83			78	116	
	n-Butylbenzene	20	15.1	ug/L	76			75	115	
	Naphthalene	20	16.4	ug/L	82			78	119	

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VN0619WBL01

Lab Name: CHEMTECH

Contract: LIRO01

Lab Code: CHEM Case No.: Q2333

SAS No.: Q2333 SDG NO.: Q2333

Lab File ID: VN087102.D

Lab Sample ID: VN0619WBL01

Date Analyzed: 06/19/2025

Time Analyzed: 10:26

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
VN0619WBS01	VN0619WBS01	VN087104.D	06/19/2025
MW-06	Q2333-01	VN087106.D	06/19/2025
MW-08	Q2333-02	VN087107.D	06/19/2025
MW-11	Q2333-04	VN087109.D	06/19/2025
MW-13	Q2333-05	VN087110.D	06/19/2025
MW-12	Q2333-06	VN087111.D	06/19/2025
MW-08DL	Q2333-02DL	VN087114.D	06/19/2025
MW-10	Q2333-03	VN087115.D	06/19/2025
MW-12DL	Q2333-06DL	VN087116.D	06/19/2025
TT172S1-20250613MS	Q2329-11MS	VN087118.D	06/19/2025
TT172S1-20250613MSD	Q2329-12MSD	VN087119.D	06/19/2025

COMMENTS: _____

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: LIR001
Lab Code: CHEM Case No.: Q2333 SAS No.: Q2333 SDG NO.: Q2333
Lab File ID: VN086861.D BFB Injection Date: 06/06/2025
Instrument ID: MSVOA_N BFB Injection Time: 07:59
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	17.3
75	30.0 - 60.0% of mass 95	48.1
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.4
173	Less than 2.0% of mass 174	0.7 (1) 1
174	50.0 - 100.0% of mass 95	66.6
175	5.0 - 9.0% of mass 174	4.7 (7.1) 1
176	95.0 - 101.0% of mass 174	65.3 (98.1) 1
177	5.0 - 9.0% of mass 176	4.4 (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
VSTDIC001	VSTDIC001	VN086862.D	06/06/2025	12:44
VSTDIC005	VSTDIC005	VN086863.D	06/06/2025	13:17
VSTDIC020	VSTDIC020	VN086864.D	06/06/2025	13:40
VSTDIC050	VSTDIC050	VN086865.D	06/06/2025	14:03
VSTDIC100	VSTDIC100	VN086866.D	06/06/2025	14:26
VSTDIC150	VSTDIC150	VN086867.D	06/06/2025	14:49

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: LIR001
Lab Code: CHEM Case No.: Q2333 SAS No.: Q2333 SDG NO.: Q2333
Lab File ID: VN087099.D BFB Injection Date: 06/19/2025
Instrument ID: MSVOA_N BFB Injection Time: 08:58
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	15.1
75	30.0 - 60.0% of mass 95	44.3
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	0.7 (1) 1
174	50.0 - 100.0% of mass 95	70.2
175	5.0 - 9.0% of mass 174	5 (7.1) 1
176	95.0 - 101.0% of mass 174	68.6 (97.7) 1
177	5.0 - 9.0% of mass 176	4.5 (6.5) 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	VN087100.D	06/19/2025	09:31
VN0619WBL01	VN0619WBL01	VN087102.D	06/19/2025	10:26
VN0619WBS01	VN0619WBS01	VN087104.D	06/19/2025	12:22
MW-06	Q2333-01	VN087106.D	06/19/2025	13:17
MW-08	Q2333-02	VN087107.D	06/19/2025	13:38
MW-11	Q2333-04	VN087109.D	06/19/2025	14:21
MW-13	Q2333-05	VN087110.D	06/19/2025	14:42
MW-12	Q2333-06	VN087111.D	06/19/2025	15:03
MW-08DL	Q2333-02DL	VN087114.D	06/19/2025	16:07
MW-10	Q2333-03	VN087115.D	06/19/2025	16:28
MW-12DL	Q2333-06DL	VN087116.D	06/19/2025	16:49
TT172S1-20250613MS	Q2329-11MS	VN087118.D	06/19/2025	17:31
TT172S1-20250613MSD	Q2329-12MSD	VN087119.D	06/19/2025	17:52

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: LIRO01
Lab Code: CHEM Case No.: Q2333 SAS No.: Q2333 SDG NO.: Q2333
Lab File ID: VN087100.D Date Analyzed: 06/19/2025
Instrument ID: MSVOA_N Time Analyzed: 09:31
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	157053	8.23	278046	9.11	245271	11.87
UPPER LIMIT	314106	8.729	556092	9.606	490542	12.365
LOWER LIMIT	78526.5	7.729	139023	8.606	122636	11.365
EPA SAMPLE NO.						
TT172S1-20250613MS	180737	8.23	323339	9.11	287602	11.87
TT172S1-20250613MSD	177485	8.23	324249	9.11	281966	11.87
MW-06	163392	8.23	328324	9.11	281009	11.87
MW-08	260611	8.23	524185	9.11	470225	11.87
MW-08DL	183164	8.23	368444	9.11	333195	11.87
MW-10	174663	8.23	354191	9.11	320832	11.87
MW-11	203941	8.23	406474	9.11	369075	11.87
MW-13	200534	8.23	398084	9.11	356355	11.87
MW-12	189269	8.23	379701	9.11	338791	11.87
MW-12DL	199848	8.23	402925	9.11	360708	11.87
VN0619WBL01	180966	8.23	368878	9.11	337249	11.87
VN0619WBS01	168651	8.23	300634	9.11	265368	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.

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: LIRO01
Lab Code: CHEM Case No.: Q2333 SAS No.: Q2333 SDG NO.: Q2333
Lab File ID: VN087100.D Date Analyzed: 06/19/2025
Instrument ID: MSVOA_N Time Analyzed: 09:31
GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	IS4 AREA #	RT #				
12 HOUR STD	126484	13.788				
UPPER LIMIT	252968	14.288				
LOWER LIMIT	63242	13.288				
EPA SAMPLE NO.						
TT172S1-20250613MS	145576	13.79				
TT172S1-20250613MSD	142178	13.79				
MW-06	131506	13.79				
MW-08	201938	13.79				
MW-08DL	162105	13.79				
MW-10	152345	13.79				
MW-11	174687	13.79				
MW-13	169301	13.79				
MW-12	153356	13.79				
MW-12DL	175112	13.79				
VN0619WBL01	156562	13.79				
VN0619WBS01	132931	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.



QC SAMPLE DATA

Report of Analysis

Client:	LiRo Engineers, Inc.		Date Collected:	
Project:	RFK Bridge RMB-Randall Island		Date Received:	
Client Sample ID:	VN0619WBL01		SDG No.:	Q2333
Lab Sample ID:	VN0619WBL01		Matrix:	Water
Analytical Method:	8260D		% Solid:	0
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1
GC Column:	RXI-624	ID : 0.25	Level :	LOW
Prep Method :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087102.D	1		06/19/25 10:26	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
1634-04-4	Methyl tert-butyl Ether	1.00	U	0.16	1.00	ug/L
71-43-2	Benzene	1.00	U	0.15	1.00	ug/L
108-88-3	Toluene	1.00	U	0.14	1.00	ug/L
100-41-4	Ethyl Benzene	1.00	U	0.13	1.00	ug/L
179601-23-1	m/p-Xylenes	2.00	U	0.24	2.00	ug/L
1330-20-7	Total Xylenes	3.00	U	0.36	3.00	ug/L
95-47-6	o-Xylene	1.00	U	0.12	1.00	ug/L
98-82-8	Isopropylbenzene	1.00	U	0.12	1.00	ug/L
103-65-1	n-propylbenzene	1.00	U	0.13	1.00	ug/L
108-67-8	1,3,5-Trimethylbenzene	1.00	U	0.15	1.00	ug/L
98-06-6	tert-Butylbenzene	1.00	U	0.14	1.00	ug/L
95-63-6	1,2,4-Trimethylbenzene	1.00	U	0.14	1.00	ug/L
135-98-8	sec-Butylbenzene	1.00	U	0.13	1.00	ug/L
99-87-6	p-Isopropyltoluene	1.00	U	0.13	1.00	ug/L
104-51-8	n-Butylbenzene	1.00	U	0.15	1.00	ug/L
91-20-3	Naphthalene	1.00	U	0.20	1.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	57.1		74 - 125	114%	SPK: 50
1868-53-7	Dibromofluoromethane	53.1		75 - 124	106%	SPK: 50
2037-26-5	Toluene-d8	53.8		86 - 113	108%	SPK: 50
460-00-4	4-Bromofluorobenzene	48.9		77 - 121	98%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	181000	8.23			
540-36-3	1,4-Difluorobenzene	369000	9.106			
3114-55-4	Chlorobenzene-d5	337000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	157000	13.788			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	RFK Bridge RMB-Randall Island	Date Received:	
Client Sample ID:	VN0619WBL01	SDG No.:	Q2333
Lab Sample ID:	VN0619WBL01	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087102.D	1		06/19/25 10:26	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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

Report of Analysis

Client:	LiRo Engineers, Inc.		Date Collected:	
Project:	RFK Bridge RMB-Randall Island		Date Received:	
Client Sample ID:	VN0619WBS01		SDG No.:	Q2333
Lab Sample ID:	VN0619WBS01		Matrix:	Water
Analytical Method:	8260D		% Solid:	0
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1
GC Column:	RXI-624	ID : 0.25	Level :	LOW
Prep Method :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087104.D	1		06/19/25 12:22	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
1634-04-4	Methyl tert-butyl Ether	18.1		0.16	1.00	ug/L
71-43-2	Benzene	19.2		0.15	1.00	ug/L
108-88-3	Toluene	19.5		0.14	1.00	ug/L
100-41-4	Ethyl Benzene	18.6		0.13	1.00	ug/L
179601-23-1	m/p-Xylenes	38.5		0.24	2.00	ug/L
1330-20-7	Total Xylenes	57.2		0.36	3.00	ug/L
95-47-6	o-Xylene	18.7		0.12	1.00	ug/L
98-82-8	Isopropylbenzene	18.1		0.12	1.00	ug/L
103-65-1	n-propylbenzene	17.7		0.13	1.00	ug/L
108-67-8	1,3,5-Trimethylbenzene	18.2		0.15	1.00	ug/L
98-06-6	tert-Butylbenzene	16.6		0.14	1.00	ug/L
95-63-6	1,2,4-Trimethylbenzene	18.1		0.14	1.00	ug/L
135-98-8	sec-Butylbenzene	16.4		0.13	1.00	ug/L
99-87-6	p-Isopropyltoluene	16.5		0.13	1.00	ug/L
104-51-8	n-Butylbenzene	15.1		0.15	1.00	ug/L
91-20-3	Naphthalene	16.4		0.20	1.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	48.3		74 - 125	97%	SPK: 50
1868-53-7	Dibromofluoromethane	53.3		75 - 124	107%	SPK: 50
2037-26-5	Toluene-d8	49.9		86 - 113	100%	SPK: 50
460-00-4	4-Bromofluorobenzene	50.3		77 - 121	101%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	169000	8.23			
540-36-3	1,4-Difluorobenzene	301000	9.106			
3114-55-4	Chlorobenzene-d5	265000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	133000	13.788			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	RFK Bridge RMB-Randall Island	Date Received:	
Client Sample ID:	VN0619WBS01	SDG No.:	Q2333
Lab Sample ID:	VN0619WBS01	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087104.D	1		06/19/25 12:22	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/13/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	TT172S1-20250613MS	SDG No.:	Q2333
Lab Sample ID:	Q2329-11MS	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087118.D	1		06/19/25 17:31	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
1634-04-4	Methyl tert-butyl Ether	56.2		0.16	1.00	ug/L
71-43-2	Benzene	57.4		0.15	1.00	ug/L
108-88-3	Toluene	58.6		0.14	1.00	ug/L
100-41-4	Ethyl Benzene	55.6		0.13	1.00	ug/L
179601-23-1	m/p-Xylenes	120		0.24	2.00	ug/L
1330-20-7	Total Xylenes	179		0.36	3.00	ug/L
95-47-6	o-Xylene	58.7		0.12	1.00	ug/L
98-82-8	Isopropylbenzene	54.2		0.12	1.00	ug/L
103-65-1	n-propylbenzene	52.4		0.13	1.00	ug/L
108-67-8	1,3,5-Trimethylbenzene	54.3		0.15	1.00	ug/L
98-06-6	tert-Butylbenzene	50.9		0.14	1.00	ug/L
95-63-6	1,2,4-Trimethylbenzene	54.7		0.14	1.00	ug/L
135-98-8	sec-Butylbenzene	49.6		0.13	1.00	ug/L
99-87-6	p-Isopropyltoluene	50.6		0.13	1.00	ug/L
104-51-8	n-Butylbenzene	45.3		0.15	1.00	ug/L
91-20-3	Naphthalene	52.9		0.20	1.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	50.0		74 - 125	100%	SPK: 50
1868-53-7	Dibromofluoromethane	55.7		75 - 124	111%	SPK: 50
2037-26-5	Toluene-d8	51.3		86 - 113	103%	SPK: 50
460-00-4	4-Bromofluorobenzene	52.6		77 - 121	105%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	181000	8.23			
540-36-3	1,4-Difluorobenzene	323000	9.106			
3114-55-4	Chlorobenzene-d5	288000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	146000	13.788			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/13/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	TT172S1-20250613MS	SDG No.:	Q2333
Lab Sample ID:	Q2329-11MS	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087118.D	1		06/19/25 17:31	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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U = Not Detected

LOQ = Limit of Quantitation

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Q = indicates LCS control criteria did not meet requirements

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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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/13/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	TT172S1-20250613MSD	SDG No.:	Q2333
Lab Sample ID:	Q2329-12MSD	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087119.D	1		06/19/25 17:52	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
1634-04-4	Methyl tert-butyl Ether	52.3		0.16	1.00	ug/L
71-43-2	Benzene	53.1		0.15	1.00	ug/L
108-88-3	Toluene	53.7		0.14	1.00	ug/L
100-41-4	Ethyl Benzene	52.9		0.13	1.00	ug/L
179601-23-1	m/p-Xylenes	110		0.24	2.00	ug/L
1330-20-7	Total Xylenes	166		0.36	3.00	ug/L
95-47-6	o-Xylene	55.9		0.12	1.00	ug/L
98-82-8	Isopropylbenzene	51.7		0.12	1.00	ug/L
103-65-1	n-propylbenzene	49.7		0.13	1.00	ug/L
108-67-8	1,3,5-Trimethylbenzene	51.1		0.15	1.00	ug/L
98-06-6	tert-Butylbenzene	48.4		0.14	1.00	ug/L
95-63-6	1,2,4-Trimethylbenzene	52.0		0.14	1.00	ug/L
135-98-8	sec-Butylbenzene	47.4		0.13	1.00	ug/L
99-87-6	p-Isopropyltoluene	47.8		0.13	1.00	ug/L
104-51-8	n-Butylbenzene	42.8		0.15	1.00	ug/L
91-20-3	Naphthalene	50.2		0.20	1.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	44.7		74 - 125	89%	SPK: 50
1868-53-7	Dibromofluoromethane	49.1		75 - 124	98%	SPK: 50
2037-26-5	Toluene-d8	45.9		86 - 113	92%	SPK: 50
460-00-4	4-Bromofluorobenzene	46.6		77 - 121	93%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	177000	8.23			
540-36-3	1,4-Difluorobenzene	324000	9.106			
3114-55-4	Chlorobenzene-d5	282000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	142000	13.788			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/13/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	TT172S1-20250613MSD	SDG No.:	Q2333
Lab Sample ID:	Q2329-12MSD	Matrix:	Water
Analytical Method:	8260D	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN087119.D	1		06/19/25 17:52	VN061925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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



CALIBRATION SUMMARY

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: Q2333 SAS No.: Q2333 SDG No.: Q2333

Instrument ID: MSVOA_N Calibration Date(s): 06/06/2025 06/06/2025

Heated Purge: (Y/N) N Calibration Time(s): 12:44 14:49

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

LAB FILE ID:		RRF001 = VN086862.D		RRF005 = VN086863.D		RRF020 = VN086864.D		
		RRF050 = VN086865.D		RRF100 = VN086866.D		RRF150 = VN086867.D		
COMPOUND	RRF001	RRF005	RRF020	RRF050	RRF100	RRF150	RRF	% RSD
Methyl tert-butyl Ether	2.120	2.038	2.051	1.933	2.021	1.926	2.015	3.7
Benzene	1.588	1.501	1.444	1.345	1.414	1.371	1.444	6.2
Toluene	0.918	0.914	0.885	0.835	0.883	0.859	0.882	3.6
Ethyl Benzene	1.989	1.975	1.907	1.796	1.913	1.816	1.900	4.2
m/p-Xylenes	0.730	0.751	0.741	0.701	0.736	0.703	0.727	2.8
o-Xylene	0.714	0.699	0.702	0.674	0.711	0.678	0.696	2.4
Isopropylbenzene	3.864	3.749	3.649	3.426	3.621	3.546	3.643	4.2
n-propylbenzene	4.530	4.627	4.449	4.211	4.424	4.317	4.427	3.3
1,3,5-Trimethylbenzene	3.004	3.091	3.035	2.898	3.064	2.953	3.007	2.4
tert-Butylbenzene	2.942	2.810	2.736	2.617	2.745	2.668	2.753	4.1
1,2,4-Trimethylbenzene	2.952	3.122	3.063	2.914	3.075	2.968	3.016	2.7
sec-Butylbenzene	4.114	4.126	4.037	3.829	4.018	3.861	3.998	3.1
p-Isopropyltoluene	3.305	3.425	3.321	3.184	3.366	3.227	3.305	2.7
n-Butylbenzene	3.473	3.292	3.140	3.059	3.188	3.054	3.201	5
Naphthalene	3.820	3.727	3.761	3.600	3.839	3.772	3.753	2.3
1,2-Dichloroethane-d4		0.732	0.707	0.500	0.656	0.751	0.669	15.1
Dibromofluoromethane		0.303	0.310	0.219	0.298	0.351	0.296	16.2
Toluene-d8		1.245	1.203	0.861	1.178	1.377	1.173	16.2
4-Bromofluorobenzene		0.441	0.446	0.325	0.446	0.521	0.436	16.2

* 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.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: Q2333 SAS No.: Q2333 SDG No.: Q2333

Instrument ID: MSVOA_N Calibration Date/Time: 06/19/2025 09:31

Lab File ID: VN087100.D Init. Calib. Date(s): 06/06/2025 06/06/2025

Heated Purge: (Y/N) N Init. Calib. Time(s): 12:44 14:49

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

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
Methyl tert-butyl Ether	2.015	2.213		9.83	20
Benzene	1.444	1.656		14.68	20
Toluene	0.882	1.023		15.99	20
Ethyl Benzene	1.900	2.140		12.63	20
m/p-Xylenes	0.727	0.852		17.19	20
o-Xylene	0.696	0.807		15.95	20
Isopropylbenzene	3.643	3.878		6.45	20
n-propylbenzene	4.427	4.633		4.65	20
1,3,5-Trimethylbenzene	3.007	3.222		7.15	20
tert-Butylbenzene	2.753	2.715		-1.38	20
1,2,4-Trimethylbenzene	3.016	3.240		7.43	20
sec-Butylbenzene	3.998	3.893		-2.63	20
p-Isopropyltoluene	3.305	3.279		-0.79	20
n-Butylbenzene	3.201	2.886		-9.84	20
Naphthalene	3.753	3.758		0.13	20
1,2-Dichloroethane-d4	0.669	0.604		-9.72	20
Dibromofluoromethane	0.296	0.296		0	20
Toluene-d8	1.173	1.094		-6.74	20
4-Bromofluorobenzene	0.436	0.411		-5.73	20

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

LAB CHRONICLE

OrderID:	Q2333	OrderDate:	6/13/2025 3:21:44 PM
Client:	LiRo Engineers, Inc.	Project:	RFK Bridge RMB-Randall Island
Contact:	Martin Wesolowski	Location:	D51,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q2333-01	MW-06	Water	SVOCMS Group1	8270E	06/12/25	06/17/25	06/18/25	06/13/25
Q2333-02	MW-08	Water	SVOCMS Group1	8270E	06/12/25	06/17/25	06/18/25	06/13/25
Q2333-03	MW-10	Water	SVOCMS Group1	8270E	06/12/25	06/17/25	06/18/25	06/13/25
Q2333-04	MW-11	Water	SVOCMS Group1	8270E	06/12/25	06/17/25	06/18/25	06/13/25
Q2333-05	MW-13	Water	SVOCMS Group1	8270E	06/12/25	06/17/25	06/18/25	06/13/25
Q2333-06	MW-12	Water	SVOCMS Group1	8270E	06/12/25	06/17/25	06/18/25	06/13/25



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

Hit Summary Sheet SW-846

SDG No.: Q2333
Client: LiRo Engineers, Inc.

Sample ID	Client ID	Parameter	Concentration	C	MDL	RDL	Units
Client ID : MW-06							
Q2333-01	MW-06	WATER	Acenaphthene	2.800	J 0.55	5	ug/L
Q2333-01	MW-06	WATER	Fluoranthene	2.300	J 0.82	5	ug/L
Total Svoc :				5.10			
Total Concentration:				5.10			



SAMPLE DATA

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-06	SDG No.:	Q2333
Lab Sample ID:	Q2333-01	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF142776.D	1	06/17/25 09:25	06/18/25 13:49	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
208-96-8	Acenaphthylene	5.00	U	0.75	5.00	ug/L
83-32-9	Acenaphthene	2.80	J	0.55	5.00	ug/L
86-73-7	Fluorene	5.00	U	0.63	5.00	ug/L
85-01-8	Phenanthrene	5.00	U	0.50	5.00	ug/L
120-12-7	Anthracene	5.00	U	0.61	5.00	ug/L
206-44-0	Fluoranthene	2.30	J	0.82	5.00	ug/L
129-00-0	Pyrene	5.00	U	0.50	5.00	ug/L
56-55-3	Benzo(a)anthracene	5.00	U	0.45	5.00	ug/L
218-01-9	Chrysene	5.00	U	0.44	5.00	ug/L
205-99-2	Benzo(b)fluoranthene	5.00	U	0.49	5.00	ug/L
207-08-9	Benzo(k)fluoranthene	5.00	U	0.48	5.00	ug/L
50-32-8	Benzo(a)pyrene	5.00	U	0.55	5.00	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	5.00	U	0.59	5.00	ug/L
53-70-3	Dibenzo(a,h)anthracene	5.00	U	0.67	5.00	ug/L
191-24-2	Benzo(g,h,i)perylene	5.00	U	0.69	5.00	ug/L
SURROGATES						
4165-60-0	Nitrobenzene-d5	89.1		67 - 132	89%	SPK: 100
321-60-8	2-Fluorobiphenyl	84.0		52 - 132	84%	SPK: 100
1718-51-0	Terphenyl-d14	70.2		42 - 152	70%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	72700	6.881			
1146-65-2	Naphthalene-d8	277000	8.163			
15067-26-2	Acenaphthene-d10	148000	9.922			
1517-22-2	Phenanthrene-d10	244000	11.41			
1719-03-5	Chrysene-d12	167000	14.057			
1520-96-3	Perylene-d12	173000	15.545			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-06	SDG No.:	Q2333
Lab Sample ID:	Q2333-01	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF142776.D	1	06/17/25 09:25	06/18/25 13:49	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-08	SDG No.:	Q2333
Lab Sample ID:	Q2333-02	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP025000.D	1	06/17/25 09:25	06/18/25 18:53	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
208-96-8	Acenaphthylene	5.10	U	0.77	5.10	ug/L
83-32-9	Acenaphthene	5.10	U	0.56	5.10	ug/L
86-73-7	Fluorene	5.10	U	0.64	5.10	ug/L
85-01-8	Phenanthrene	5.10	U	0.51	5.10	ug/L
120-12-7	Anthracene	5.10	U	0.62	5.10	ug/L
206-44-0	Fluoranthene	5.10	U	0.84	5.10	ug/L
129-00-0	Pyrene	5.10	U	0.51	5.10	ug/L
56-55-3	Benzo(a)anthracene	5.10	U	0.46	5.10	ug/L
218-01-9	Chrysene	5.10	U	0.45	5.10	ug/L
205-99-2	Benzo(b)fluoranthene	5.10	U	0.50	5.10	ug/L
207-08-9	Benzo(k)fluoranthene	5.10	U	0.49	5.10	ug/L
50-32-8	Benzo(a)pyrene	5.10	U	0.56	5.10	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	5.10	U	0.60	5.10	ug/L
53-70-3	Dibenzo(a,h)anthracene	5.10	U	0.68	5.10	ug/L
191-24-2	Benzo(g,h,i)perylene	5.10	U	0.70	5.10	ug/L
SURROGATES						
4165-60-0	Nitrobenzene-d5	87.7		67 - 132	88%	SPK: 100
321-60-8	2-Fluorobiphenyl	79.7		52 - 132	80%	SPK: 100
1718-51-0	Terphenyl-d14	81.7		42 - 152	82%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	285000	7.602			
1146-65-2	Naphthalene-d8	1180000	10.372			
15067-26-2	Acenaphthene-d10	819000	14.254			
1517-22-2	Phenanthrene-d10	1530000	17.06			
1719-03-5	Chrysene-d12	1580000	21.495			
1520-96-3	Perylene-d12	1800000	24.777			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-08	SDG No.:	Q2333
Lab Sample ID:	Q2333-02	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP025000.D	1	06/17/25 09:25	06/18/25 18:53	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-10	SDG No.:	Q2333
Lab Sample ID:	Q2333-03	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	990 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF142777.D	1	06/17/25 09:25	06/18/25 14:19	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
208-96-8	Acenaphthylene	5.10	U	0.76	5.10	ug/L
83-32-9	Acenaphthene	5.10	U	0.56	5.10	ug/L
86-73-7	Fluorene	5.10	U	0.64	5.10	ug/L
85-01-8	Phenanthrene	5.10	U	0.51	5.10	ug/L
120-12-7	Anthracene	5.10	U	0.62	5.10	ug/L
206-44-0	Fluoranthene	5.10	U	0.83	5.10	ug/L
129-00-0	Pyrene	5.10	U	0.51	5.10	ug/L
56-55-3	Benzo(a)anthracene	5.10	U	0.45	5.10	ug/L
218-01-9	Chrysene	5.10	U	0.44	5.10	ug/L
205-99-2	Benzo(b)fluoranthene	5.10	U	0.49	5.10	ug/L
207-08-9	Benzo(k)fluoranthene	5.10	U	0.48	5.10	ug/L
50-32-8	Benzo(a)pyrene	5.10	U	0.56	5.10	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	5.10	U	0.60	5.10	ug/L
53-70-3	Dibenzo(a,h)anthracene	5.10	U	0.68	5.10	ug/L
191-24-2	Benzo(g,h,i)perylene	5.10	U	0.70	5.10	ug/L
SURROGATES						
4165-60-0	Nitrobenzene-d5	87.3		67 - 132	87%	SPK: 100
321-60-8	2-Fluorobiphenyl	81.9		52 - 132	82%	SPK: 100
1718-51-0	Terphenyl-d14	69.4		42 - 152	69%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	75500	6.881			
1146-65-2	Naphthalene-d8	280000	8.163			
15067-26-2	Acenaphthene-d10	151000	9.922			
1517-22-2	Phenanthrene-d10	249000	11.41			
1719-03-5	Chrysene-d12	179000	14.057			
1520-96-3	Perylene-d12	176000	15.545			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-10	SDG No.:	Q2333
Lab Sample ID:	Q2333-03	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	990 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF142777.D	1	06/17/25 09:25	06/18/25 14:19	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-11	SDG No.:	Q2333
Lab Sample ID:	Q2333-04	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF142778.D	1	06/17/25 09:25	06/18/25 14:49	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
208-96-8	Acenaphthylene	5.00	U	0.75	5.00	ug/L
83-32-9	Acenaphthene	5.00	U	0.55	5.00	ug/L
86-73-7	Fluorene	5.00	U	0.63	5.00	ug/L
85-01-8	Phenanthrene	5.00	U	0.50	5.00	ug/L
120-12-7	Anthracene	5.00	U	0.61	5.00	ug/L
206-44-0	Fluoranthene	5.00	U	0.82	5.00	ug/L
129-00-0	Pyrene	5.00	U	0.50	5.00	ug/L
56-55-3	Benzo(a)anthracene	5.00	U	0.45	5.00	ug/L
218-01-9	Chrysene	5.00	U	0.44	5.00	ug/L
205-99-2	Benzo(b)fluoranthene	5.00	U	0.49	5.00	ug/L
207-08-9	Benzo(k)fluoranthene	5.00	U	0.48	5.00	ug/L
50-32-8	Benzo(a)pyrene	5.00	U	0.55	5.00	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	5.00	U	0.59	5.00	ug/L
53-70-3	Dibenzo(a,h)anthracene	5.00	U	0.67	5.00	ug/L
191-24-2	Benzo(g,h,i)perylene	5.00	U	0.69	5.00	ug/L
SURROGATES						
4165-60-0	Nitrobenzene-d5	91.5		67 - 132	91%	SPK: 100
321-60-8	2-Fluorobiphenyl	84.9		52 - 132	85%	SPK: 100
1718-51-0	Terphenyl-d14	68.3		42 - 152	68%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	73000	6.881			
1146-65-2	Naphthalene-d8	285000	8.163			
15067-26-2	Acenaphthene-d10	155000	9.922			
1517-22-2	Phenanthrene-d10	263000	11.41			
1719-03-5	Chrysene-d12	182000	14.057			
1520-96-3	Perylene-d12	179000	15.545			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-11	SDG No.:	Q2333
Lab Sample ID:	Q2333-04	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF142778.D	1	06/17/25 09:25	06/18/25 14:49	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-13	SDG No.:	Q2333
Lab Sample ID:	Q2333-05	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	970 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP024998.D	1	06/17/25 09:25	06/18/25 17:30	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
208-96-8	Acenaphthylene	5.20	U	0.77	5.20	ug/L
83-32-9	Acenaphthene	5.20	U	0.57	5.20	ug/L
86-73-7	Fluorene	5.20	U	0.65	5.20	ug/L
85-01-8	Phenanthrene	5.20	U	0.52	5.20	ug/L
120-12-7	Anthracene	5.20	U	0.63	5.20	ug/L
206-44-0	Fluoranthene	5.20	U	0.85	5.20	ug/L
129-00-0	Pyrene	5.20	U	0.52	5.20	ug/L
56-55-3	Benzo(a)anthracene	5.20	U	0.46	5.20	ug/L
218-01-9	Chrysene	5.20	U	0.45	5.20	ug/L
205-99-2	Benzo(b)fluoranthene	5.20	U	0.51	5.20	ug/L
207-08-9	Benzo(k)fluoranthene	5.20	U	0.49	5.20	ug/L
50-32-8	Benzo(a)pyrene	5.20	U	0.57	5.20	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	5.20	U	0.61	5.20	ug/L
53-70-3	Dibenzo(a,h)anthracene	5.20	U	0.69	5.20	ug/L
191-24-2	Benzo(g,h,i)perylene	5.20	U	0.71	5.20	ug/L
SURROGATES						
4165-60-0	Nitrobenzene-d5	87.3		67 - 132	87%	SPK: 100
321-60-8	2-Fluorobiphenyl	84.8		52 - 132	85%	SPK: 100
1718-51-0	Terphenyl-d14	81.3		42 - 152	81%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	278000	7.607			
1146-65-2	Naphthalene-d8	1100000	10.378			
15067-26-2	Acenaphthene-d10	687000	14.254			
1517-22-2	Phenanthrene-d10	1380000	17.066			
1719-03-5	Chrysene-d12	1450000	21.495			
1520-96-3	Perylene-d12	1600000	24.759			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-13	SDG No.:	Q2333
Lab Sample ID:	Q2333-05	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	970 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP024998.D	1	06/17/25 09:25	06/18/25 17:30	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-12	SDG No.:	Q2333
Lab Sample ID:	Q2333-06	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP024999.D	1	06/17/25 09:25	06/18/25 18:12	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
208-96-8	Acenaphthylene	5.00	U	0.75	5.00	ug/L
83-32-9	Acenaphthene	5.00	U	0.55	5.00	ug/L
86-73-7	Fluorene	5.00	U	0.63	5.00	ug/L
85-01-8	Phenanthrene	5.00	U	0.50	5.00	ug/L
120-12-7	Anthracene	5.00	U	0.61	5.00	ug/L
206-44-0	Fluoranthene	5.00	U	0.82	5.00	ug/L
129-00-0	Pyrene	5.00	U	0.50	5.00	ug/L
56-55-3	Benzo(a)anthracene	5.00	U	0.45	5.00	ug/L
218-01-9	Chrysene	5.00	U	0.44	5.00	ug/L
205-99-2	Benzo(b)fluoranthene	5.00	U	0.49	5.00	ug/L
207-08-9	Benzo(k)fluoranthene	5.00	U	0.48	5.00	ug/L
50-32-8	Benzo(a)pyrene	5.00	U	0.55	5.00	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	5.00	U	0.59	5.00	ug/L
53-70-3	Dibenzo(a,h)anthracene	5.00	U	0.67	5.00	ug/L
191-24-2	Benzo(g,h,i)perylene	5.00	U	0.69	5.00	ug/L
SURROGATES						
4165-60-0	Nitrobenzene-d5	78.8		67 - 132	79%	SPK: 100
321-60-8	2-Fluorobiphenyl	74.6		52 - 132	75%	SPK: 100
1718-51-0	Terphenyl-d14	75.2		42 - 152	75%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	259000	7.602			
1146-65-2	Naphthalene-d8	1020000	10.378			
15067-26-2	Acenaphthene-d10	715000	14.26			
1517-22-2	Phenanthrene-d10	1280000	17.072			
1719-03-5	Chrysene-d12	1390000	21.513			
1520-96-3	Perylene-d12	1590000	24.777			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	06/12/25
Project:	RFK Bridge RMB-Randall Island	Date Received:	06/13/25
Client Sample ID:	MW-12	SDG No.:	Q2333
Lab Sample ID:	Q2333-06	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP024999.D	1	06/17/25 09:25	06/18/25 18:12	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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

Surrogate Summary

SW-846

SDG No.: Q2333

Client: LiRo Engineers, Inc.

Analytical Method: 8270E

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%)	
							Low	High
PB168509BL	PB168509BL	Nitrobenzene-d5	100	84.1	84		67	132
		2-Fluorobiphenyl	100	81.5	81		52	132
		Terphenyl-d14	100	84.2	84		42	152
PB168509BS	PB168509BS	Nitrobenzene-d5	100	84.7	85		67	132
		2-Fluorobiphenyl	100	85.5	86		52	132
		Terphenyl-d14	100	88.9	89		42	152
PB168509BSD	PB168509BSD	Nitrobenzene-d5	100	79.6	80		67	132
		2-Fluorobiphenyl	100	77.8	78		52	132
		Terphenyl-d14	100	85.9	86		42	152
Q2333-01	MW-06	Nitrobenzene-d5	100	89.1	89		67	132
		2-Fluorobiphenyl	100	84.0	84		52	132
		Terphenyl-d14	100	70.2	70		42	152
Q2333-02	MW-08	Nitrobenzene-d5	100	87.7	88		67	132
		2-Fluorobiphenyl	100	79.7	80		52	132
		Terphenyl-d14	100	81.7	82		42	152
Q2333-03	MW-10	Nitrobenzene-d5	100	87.3	87		67	132
		2-Fluorobiphenyl	100	81.9	82		52	132
		Terphenyl-d14	100	69.4	69		42	152
Q2333-04	MW-11	Nitrobenzene-d5	100	91.5	91		67	132
		2-Fluorobiphenyl	100	84.9	85		52	132
		Terphenyl-d14	100	68.3	68		42	152
Q2333-05	MW-13	Nitrobenzene-d5	100	87.3	87		67	132
		2-Fluorobiphenyl	100	84.8	85		52	132
		Terphenyl-d14	100	81.3	81		42	152
Q2333-06	MW-12	Nitrobenzene-d5	100	78.8	79		67	132
		2-Fluorobiphenyl	100	74.6	75		52	132
		Terphenyl-d14	100	75.2	75		42	152

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: Q2333

Client: LiRo Engineers, Inc.

Analytical Method: 8270E

DataFile: BP024989.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD	Limits		RPD
								Qual	Low	High	
PB168509BS	Acenaphthylene	50	49.0	ug/L	98				79	103	
	Acenaphthene	50	48.5	ug/L	97				59	113	
	Fluorene	50	48.5	ug/L	97				64	107	
	Phenanthrene	50	47.9	ug/L	96				62	109	
	Anthracene	50	48.9	ug/L	98				65	110	
	Fluoranthene	50	47.8	ug/L	96				64	110	
	Pyrene	50	50.5	ug/L	101				71	103	
	Benzo(a)anthracene	50	49.9	ug/L	100				62	107	
	Chrysene	50	49.8	ug/L	100				61	108	
	Benzo(b)fluoranthene	50	48.3	ug/L	97				77	113	
	Benzo(k)fluoranthene	50	49.9	ug/L	100				77	105	
	Benzo(a)pyrene	50	49.3	ug/L	99				72	131	
	Indeno(1,2,3-cd)pyrene	50	48.5	ug/L	97				72	105	
	Dibenz(a,h)anthracene	50	48.9	ug/L	98				78	115	
	Benzo(g,h,i)perylene	50	47.7	ug/L	95				75	118	

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: Q2333

Client: LiRo Engineers, Inc.

Analytical Method: 8270E

DataFile: BP024990.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	RPD		Limits		RPD
							Qual	Qual	Low	High	
PB168509BSD	Acenaphthylene	50	45.4	ug/L	91	8			79	103	20
	Acenaphthene	50	45.0	ug/L	90	7			59	113	20
	Fluorene	50	44.9	ug/L	90	8			64	107	20
	Phenanthrene	50	46.2	ug/L	92	4			62	109	20
	Anthracene	50	46.6	ug/L	93	5			65	110	20
	Fluoranthene	50	45.7	ug/L	91	4			64	110	20
	Pyrene	50	50.1	ug/L	100	1			71	103	20
	Benzo(a)anthracene	50	47.6	ug/L	95	5			62	107	20
	Chrysene	50	46.0	ug/L	92	8			61	108	20
	Benzo(b)fluoranthene	50	47.7	ug/L	95	1			77	113	20
	Benzo(k)fluoranthene	50	46.5	ug/L	93	7			77	105	20
	Benzo(a)pyrene	50	47.8	ug/L	96	3			72	131	20
	Indeno(1,2,3-cd)pyrene	50	48.2	ug/L	96	1			72	105	20
	Dibenz(a,h)anthracene	50	48.6	ug/L	97	1			78	115	20
	Benzo(g,h,i)perylene	50	48.0	ug/L	96	1			75	118	20

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB168509BL

Lab Name: CHEMTECH

Contract: LIRO01

Lab Code: CHEM Case No.: Q2333

SAS No.: Q2333 SDG NO.: Q2333

Lab File ID: BP024988.D

Lab Sample ID: PB168509BL

Instrument ID: BNA_P

Date Extracted: 06/17/2025

Matrix: (soil/water) Water

Date Analyzed: 06/18/2025

Level: (low/med) LOW

Time Analyzed: 10:36

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
PB168509BS	PB168509BS	BP024989.D	06/18/2025
PB168509BSD	PB168509BSD	BP024990.D	06/18/2025
MW-13	Q2333-05	BP024998.D	06/18/2025
MW-12	Q2333-06	BP024999.D	06/18/2025
MW-08	Q2333-02	BP025000.D	06/18/2025
MW-06	Q2333-01	BF142776.D	06/18/2025
MW-10	Q2333-03	BF142777.D	06/18/2025
MW-11	Q2333-04	BF142778.D	06/18/2025

COMMENTS: _____

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: LIR001

Lab Code: CHEM

SAS No.: Q2333 SDG NO.: Q2333

Lab File ID: BF142710.D

DFTPP Injection Date: 06/10/2025

Instrument ID: BNA_F

DFTPP Injection Time: 15:42

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
68	Less than 2.0% of mass 69	0.5 (1.7) 1
69	Mass 69 relative abundance	28.7
70	Less than 2.0% of mass 69	0.1 (0.2) 1
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	5.9
365	Greater than 1% of mass 198	3.3
441	Present, but less than mass 443	15.6
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	19 (19) 2

1-Value is % mass 69

2-Value is % mass 442

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
SSTDICC2.5	SSTDICC2.5	BF142712.D	06/10/2025	16:54
SSTDICC005	SSTDICC005	BF142713.D	06/10/2025	17:24
SSTDICC010	SSTDICC010	BF142714.D	06/10/2025	17:53
SSTDICC020	SSTDICC020	BF142715.D	06/10/2025	18:22
SSTDICCC040	SSTDICCC040	BF142716.D	06/10/2025	18:52
SSTDICC050	SSTDICC050	BF142717.D	06/10/2025	19:21
SSTDICC060	SSTDICC060	BF142718.D	06/10/2025	19:50
SSTDICC080	SSTDICC080	BF142719.D	06/10/2025	20:19

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: LIRO01

Lab Code: CHEM

SAS No.: Q2333 SDG NO.: Q2333

Lab File ID: BF142771.D

DFTPP Injection Date: 06/18/2025

Instrument ID: BNA_F

DFTPP Injection Time: 11:19

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
68	Less than 2.0% of mass 69	0.6 (1.8) 1
69	Mass 69 relative abundance	34.5
70	Less than 2.0% of mass 69	0.2 (0.5) 1
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.8
365	Greater than 1% of mass 198	3.4
441	Present, but less than mass 443	15.5
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	19.2 (19.2) 2

1-Value is % mass 69

2-Value is % mass 442

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
SSTDCCC040	SSTDCCC040	BF142772.D	06/18/2025	11:48
MW-06	Q2333-01	BF142776.D	06/18/2025	13:49
MW-10	Q2333-03	BF142777.D	06/18/2025	14:19
MW-11	Q2333-04	BF142778.D	06/18/2025	14:49

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: LIR001

Lab Code: CHEM

SAS No.: Q2333 SDG NO.: Q2333

Lab File ID: BP024859.D

DFTPP Injection Date: 06/06/2025

Instrument ID: BNA_P

DFTPP Injection Time: 09:49

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
68	Less than 2.0% of mass 69	0.7 (1.9) 1
69	Mass 69 relative abundance	36.9
70	Less than 2.0% of mass 69	0.2 (0.6) 1
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.6
365	Greater than 1% of mass 198	4.6
441	Present, but less than mass 443	13.1
442	Greater than 50% of mass 198	84
443	15.0 - 24.0% of mass 442	16.1 (19.2) 2

1-Value is % mass 69

2-Value is % mass 442

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
SSTDICC2.5	SSTDICC2.5	BP024860.D	06/06/2025	10:30
SSTDICC005	SSTDICC005	BP024861.D	06/06/2025	11:11
SSTDICC010	SSTDICC010	BP024862.D	06/06/2025	11:52
SSTDICC020	SSTDICC020	BP024863.D	06/06/2025	12:33
SSTDICCC040	SSTDICCC040	BP024864.D	06/06/2025	13:14
SSTDICC050	SSTDICC050	BP024865.D	06/06/2025	13:56
SSTDICC060	SSTDICC060	BP024866.D	06/06/2025	14:37
SSTDICC080	SSTDICC080	BP024867.D	06/06/2025	15:18

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: LIRO01

Lab Code: CHEM

SAS No.: Q2333 SDG NO.: Q2333

Lab File ID: BP024986.D

DFTPP Injection Date: 06/18/2025

Instrument ID: BNA_P

DFTPP Injection Time: 09:15

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
68	Less than 2.0% of mass 69	0.5 (1.5) 1
69	Mass 69 relative abundance	35.1
70	Less than 2.0% of mass 69	0.2 (0.5) 1
197	Less than 2.0% of mass 198	0.1
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.8
365	Greater than 1% of mass 198	4.1
441	Present, but less than mass 443	11.8
442	Greater than 50% of mass 198	76.3
443	15.0 - 24.0% of mass 442	14.6 (19.1) 2

1-Value is % mass 69

2-Value is % mass 442

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
SSTDCCC040	SSTDCCC040	BP024987.D	06/18/2025	09:55
PB168509BL	PB168509BL	BP024988.D	06/18/2025	10:36
PB168509BS	PB168509BS	BP024989.D	06/18/2025	11:17
PB168509BSD	PB168509BSD	BP024990.D	06/18/2025	11:58
MW-13	Q2333-05	BP024998.D	06/18/2025	17:30
MW-12	Q2333-06	BP024999.D	06/18/2025	18:12
MW-08	Q2333-02	BP025000.D	06/18/2025	18:53

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: Q2333 SAS No.: Q2333 SDG NO.: Q2333

EPA Sample No.: SSTDCCC040 Date Analyzed: 06/18/2025

Lab File ID: BF142772.D Time Analyzed: 11:48

Instrument ID: BNA_F GC Column: DB-UI ID: 0.18 (mm)

	IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
12 HOUR STD	81687	6.887	316375	8.17	173519	9.93
UPPER LIMIT	163374	7.387	632750	8.669	347038	10.428
LOWER LIMIT	40843.5	6.387	158188	7.669	86759.5	9.428
EPA SAMPLE NO.						
01 MW-06	72728	6.88	276703	8.16	148072	9.92
02 MW-10	75516	6.88	279917	8.16	151116	9.92
03 MW-11	72977	6.88	285294	8.16	155201	9.92

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

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 UPPER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: Q2333 SAS No.: Q2333 SDG NO.: Q2333

EPA Sample No.: SSTDCCC040 Date Analyzed: 06/18/2025

Lab File ID: BF142772.D Time Analyzed: 11:48

Instrument ID: BNA_F GC Column: DB-UI ID: 0.18 (mm)

	IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
12 HOUR STD	303610	11.416	189006	14.063	179702	15.551
UPPER LIMIT	607220	11.916	378012	14.563	359404	16.051
LOWER LIMIT	151805	10.916	94503	13.563	89851	15.051
EPA SAMPLE NO.						
01 MW-06	243522	11.41	167055	14.06	173007	15.55
02 MW-10	248862	11.41	179367	14.06	176221	15.55
03 MW-11	263148	11.41	182331	14.06	179027	15.55

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

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 UPPER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: Q2333 SAS No.: Q2333 SDG NO.: Q2333

EPA Sample No.: SSTDCCC040 Date Analyzed: 06/18/2025

Lab File ID: BP024987.D Time Analyzed: 09:55

Instrument ID: BNA_P GC Column: ZB-GR ID: 0.25 (mm)

	IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
12 HOUR STD	287169	7.607	1150640	10.38	726300	14.26
UPPER LIMIT	574338	8.107	2301280	10.878	1452600	14.76
LOWER LIMIT	143585	7.107	575320	9.878	363150	13.76
EPA SAMPLE NO.						
01 MW-08	284799	7.60	1178300	10.37	818800	14.25
02 MW-13	277507	7.61	1098580	10.38	686732	14.25
03 MW-12	259382	7.60	1022680	10.38	715185	14.26
04 PB168509BL	278843	7.61	1046610	10.38	632257	14.26
05 PB168509BS	309420	7.61	1193310	10.38	709072	14.25
06 PB168509BSD	299910	7.60	1166190	10.37	733128	14.25

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

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 UPPER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: Q2333 SAS No.: Q2333 SDG NO.: Q2333

EPA Sample No.: SSTDCCC040 Date Analyzed: 06/18/2025

Lab File ID: BP024987.D Time Analyzed: 09:55

Instrument ID: BNA_P GC Column: ZB-GR ID: 0.25 (mm)

	IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
12 HOUR STD	1437450	17.06	1478430	21.501	1736640	24.765
UPPER LIMIT	2874900	17.56	2956860	22.001	3473280	25.265
LOWER LIMIT	718725	16.56	739215	21.001	868320	24.265
EPA SAMPLE NO.						
01 MW-08	1525740	17.06	1584670	21.50	1801580	24.78
02 MW-13	1378050	17.07	1454710	21.50	1598180	24.76
03 MW-12	1282200	17.07	1386220	21.51	1591860	24.78
04 PB168509BL	1245800	17.07	1328390	21.50	1595370	24.77
05 PB168509BS	1338630	17.07	1331590	21.50	1579120	24.78
06 PB168509BSD	1403510	17.07	1366570	21.51	1569190	24.77

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

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 UPPER 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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	RFK Bridge RMB-Randall Island	Date Received:	
Client Sample ID:	PB168509BL	SDG No.:	Q2333
Lab Sample ID:	PB168509BL	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP024988.D	1	06/17/25 09:25	06/18/25 10:36	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
208-96-8	Acenaphthylene	5.00	U	0.75	5.00	ug/L
83-32-9	Acenaphthene	5.00	U	0.55	5.00	ug/L
86-73-7	Fluorene	5.00	U	0.63	5.00	ug/L
85-01-8	Phenanthrene	5.00	U	0.50	5.00	ug/L
120-12-7	Anthracene	5.00	U	0.61	5.00	ug/L
206-44-0	Fluoranthene	5.00	U	0.82	5.00	ug/L
129-00-0	Pyrene	5.00	U	0.50	5.00	ug/L
56-55-3	Benzo(a)anthracene	5.00	U	0.45	5.00	ug/L
218-01-9	Chrysene	5.00	U	0.44	5.00	ug/L
205-99-2	Benzo(b)fluoranthene	5.00	U	0.49	5.00	ug/L
207-08-9	Benzo(k)fluoranthene	5.00	U	0.48	5.00	ug/L
50-32-8	Benzo(a)pyrene	5.00	U	0.55	5.00	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	5.00	U	0.59	5.00	ug/L
53-70-3	Dibenzo(a,h)anthracene	5.00	U	0.67	5.00	ug/L
191-24-2	Benzo(g,h,i)perylene	5.00	U	0.69	5.00	ug/L
SURROGATES						
4165-60-0	Nitrobenzene-d5	84.1		67 - 132	84%	SPK: 100
321-60-8	2-Fluorobiphenyl	81.5		52 - 132	81%	SPK: 100
1718-51-0	Terphenyl-d14	84.2		42 - 152	84%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	279000	7.608			
1146-65-2	Naphthalene-d8	1050000	10.378			
15067-26-2	Acenaphthene-d10	632000	14.26			
1517-22-2	Phenanthrene-d10	1250000	17.072			
1719-03-5	Chrysene-d12	1330000	21.501			
1520-96-3	Perylene-d12	1600000	24.771			

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	RFK Bridge RMB-Randall Island	Date Received:	
Client Sample ID:	PB168509BL	SDG No.:	Q2333
Lab Sample ID:	PB168509BL	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP024988.D	1	06/17/25 09:25	06/18/25 10:36	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	RFK Bridge RMB-Randall Island	Date Received:	
Client Sample ID:	PB168509BS	SDG No.:	Q2333
Lab Sample ID:	PB168509BS	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP024989.D	1	06/17/25 09:25	06/18/25 11:17	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
208-96-8	Acenaphthylene	49.0		0.75	5.00	ug/L
83-32-9	Acenaphthene	48.5		0.55	5.00	ug/L
86-73-7	Fluorene	48.5		0.63	5.00	ug/L
85-01-8	Phenanthrene	47.9		0.50	5.00	ug/L
120-12-7	Anthracene	48.9		0.61	5.00	ug/L
206-44-0	Fluoranthene	47.8		0.82	5.00	ug/L
129-00-0	Pyrene	50.5		0.50	5.00	ug/L
56-55-3	Benzo(a)anthracene	49.9		0.45	5.00	ug/L
218-01-9	Chrysene	49.8		0.44	5.00	ug/L
205-99-2	Benzo(b)fluoranthene	48.3		0.49	5.00	ug/L
207-08-9	Benzo(k)fluoranthene	49.9		0.48	5.00	ug/L
50-32-8	Benzo(a)pyrene	49.3		0.55	5.00	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	48.5		0.59	5.00	ug/L
53-70-3	Dibenzo(a,h)anthracene	48.9		0.67	5.00	ug/L
191-24-2	Benzo(g,h,i)perylene	47.7		0.69	5.00	ug/L
SURROGATES						
4165-60-0	Nitrobenzene-d5	84.7		67 - 132	85%	SPK: 100
321-60-8	2-Fluorobiphenyl	85.5		52 - 132	86%	SPK: 100
1718-51-0	Terphenyl-d14	88.9		42 - 152	89%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	309000		7.608		
1146-65-2	Naphthalene-d8	1190000		10.378		
15067-26-2	Acenaphthene-d10	709000		14.254		
1517-22-2	Phenanthrene-d10	1340000		17.066		
1719-03-5	Chrysene-d12	1330000		21.495		
1520-96-3	Perylene-d12	1580000		24.777		

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	RFK Bridge RMB-Randall Island	Date Received:	
Client Sample ID:	PB168509BS	SDG No.:	Q2333
Lab Sample ID:	PB168509BS	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP024989.D	1	06/17/25 09:25	06/18/25 11:17	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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U = Not Detected
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 D = Dilution
 () = Laboratory InHouse Limit
 A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	RFK Bridge RMB-Randall Island	Date Received:	
Client Sample ID:	PB168509BSD	SDG No.:	Q2333
Lab Sample ID:	PB168509BSD	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP024990.D	1	06/17/25 09:25	06/18/25 11:58	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
208-96-8	Acenaphthylene	45.4		0.75	5.00	ug/L
83-32-9	Acenaphthene	45.0		0.55	5.00	ug/L
86-73-7	Fluorene	44.9		0.63	5.00	ug/L
85-01-8	Phenanthrene	46.2		0.50	5.00	ug/L
120-12-7	Anthracene	46.6		0.61	5.00	ug/L
206-44-0	Fluoranthene	45.7		0.82	5.00	ug/L
129-00-0	Pyrene	50.1		0.50	5.00	ug/L
56-55-3	Benzo(a)anthracene	47.6		0.45	5.00	ug/L
218-01-9	Chrysene	46.0		0.44	5.00	ug/L
205-99-2	Benzo(b)fluoranthene	47.7		0.49	5.00	ug/L
207-08-9	Benzo(k)fluoranthene	46.5		0.48	5.00	ug/L
50-32-8	Benzo(a)pyrene	47.8		0.55	5.00	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	48.2		0.59	5.00	ug/L
53-70-3	Dibenzo(a,h)anthracene	48.6		0.67	5.00	ug/L
191-24-2	Benzo(g,h,i)perylene	48.0		0.69	5.00	ug/L
SURROGATES						
4165-60-0	Nitrobenzene-d5	79.6		67 - 132	80%	SPK: 100
321-60-8	2-Fluorobiphenyl	77.8		52 - 132	78%	SPK: 100
1718-51-0	Terphenyl-d14	85.9		42 - 152	86%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	300000		7.602		
1146-65-2	Naphthalene-d8	1170000		10.372		
15067-26-2	Acenaphthene-d10	733000		14.254		
1517-22-2	Phenanthrene-d10	1400000		17.066		
1719-03-5	Chrysene-d12	1370000		21.507		
1520-96-3	Perylene-d12	1570000		24.766		

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	RFK Bridge RMB-Randall Island	Date Received:	
Client Sample ID:	PB168509BSD	SDG No.:	Q2333
Lab Sample ID:	PB168509BSD	Matrix:	Water
Analytical Method:	8270E	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP024990.D	1	06/17/25 09:25	06/18/25 11:58	PB168509

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
------------	-----------	-------	-----------	-----	------------	-------

U = Not Detected
 LOQ = Limit of Quantitation
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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



CALIBRATION SUMMARY

Method Path : Z:\svoasrv\HPCHEM1\BNA_F\Methods\
 Method File : 8270-BF061125.M
 Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
 Last Update : Wed Jun 11 05:56:09 2025
 Response Via : Initial Calibration

Calibration Files

2.5 =BF142712.D 5.0 =BF142713.D 10 =BF142714.D 20 =BF142715.D 40 =BF142716.D 50 =BF142717.D 60 =BF142718.D 80 =BF142719.D

Compound	2.5	5.0	10	20	40	50	60	80	Avg	%RSD

1) I 1,4-Dichlorobenzen...	-----ISTD-----									
2) 1,4-Dioxane	0.499	0.448	0.472	0.455	0.481	0.460	0.439	0.465		4.40
3) Pyridine	1.172	1.129	1.159	1.160	1.222	1.193	1.122	1.165		3.00
4) n-Nitrosodimet...		0.558	0.590	0.591	0.633	0.617	0.588	0.596		4.36
5) S 2-Fluorophenol	1.238	1.170	1.199	1.161	1.220	1.156	1.075	1.174		4.55
6) Aniline	1.866	1.788	1.894	1.848	1.955	1.861	1.736	1.850		3.83
7) S Phenol-d6	1.434	1.339	1.400	1.376	1.446	1.377	1.302	1.382		3.67
8) 2-Chlorophenol	1.288	1.254	1.300	1.290	1.347	1.286	1.219	1.283		3.09
9) Benzaldehyde		0.943	0.950	0.839	0.839	0.708		0.856		11.52
10) C Phenol	1.550	1.503	1.577	1.522	1.607	1.547	1.446	1.536		3.42
11) bis(2-Chloroet...	1.222	1.118	1.149	1.130	1.202	1.131	1.079	1.147		4.29
12) 1,3-Dichlorobe...	1.557	1.483	1.504	1.451	1.513	1.411	1.333	1.465		5.08
13) C 1,4-Dichlorobe...	1.596	1.483	1.519	1.454	1.528	1.431	1.349	1.480		5.34
14) 1,2-Dichlorobe...	1.554	1.418	1.444	1.401	1.457	1.375	1.282	1.419		5.83
15) Benzyl Alcohol		0.970	1.049	1.059	1.121	1.061	1.007	1.045		4.95
16) 2,2'-oxybis(1-...	1.957	1.812	1.840	1.806	1.875	1.746	1.609	1.806		6.03
17) 2-Methylphenol	0.978	0.950	0.995	0.992	1.043	0.995	0.933	0.984		3.61
18) Hexachloroethane	0.562	0.521	0.545	0.524	0.552	0.522	0.488	0.530		4.69
19) P n-Nitroso-di-n...	0.885	0.912	0.870	0.886	0.878	0.921	0.863	0.823	0.880	3.43
20) 3+4-Methylphenols		1.261	1.285	1.246	1.299	1.218	1.134	1.240		4.80

21) I Naphthalene-d8	-----ISTD-----									
22) Acetophenone	0.475	0.451	0.458	0.435	0.454	0.433	0.408	0.445		4.79
23) S Nitrobenzene-d5	0.381	0.363	0.369	0.358	0.378	0.363	0.346	0.365		3.24
24) Nitrobenzene	0.338	0.313	0.326	0.320	0.335	0.327	0.312	0.324		3.10
25) Isophorone	0.657	0.621	0.628	0.603	0.630	0.606	0.585	0.619		3.77
26) C 2-Nitrophenol	0.172	0.174	0.183	0.181	0.192	0.187	0.178	0.181		3.92
27) 2,4-Dimethylph...	0.318	0.303	0.311	0.304	0.321	0.308	0.292	0.308		3.14
28) bis(2-Chloroet...	0.408	0.381	0.392	0.377	0.397	0.378	0.356	0.384		4.31
29) C 2,4-Dichloroph...	0.284	0.281	0.292	0.280	0.300	0.285	0.269	0.284		3.51
30) 1,2,4-Trichlor...	0.337	0.313	0.322	0.306	0.322	0.307	0.294	0.314		4.42
31) Naphthalene	1.065	0.997	1.021	0.972	1.008	0.958	0.903	0.989		5.20
32) Benzoic acid		0.137	0.162	0.174	0.192	0.190	0.186	0.174		12.16
33) 4-Chloroaniline	0.429	0.389	0.399	0.399	0.408	0.386	0.370	0.397		4.68
34) C Hexachlorobuta...	0.210	0.204	0.206	0.197	0.205	0.196	0.184	0.200		4.41
35) Caprolactam		0.077	0.079	0.075	0.079	0.077	0.074	0.077		2.82
36) C 4-Chloro-3-met...	0.317	0.299	0.303	0.289	0.301	0.287	0.273	0.296		4.76
37) 2-Methylnaphth...	0.674	0.649	0.641	0.618	0.636	0.599	0.565	0.626		5.72
38) 1-Methylnaphth...	0.727	0.666	0.669	0.629	0.650	0.619	0.580	0.649		7.16

Method Path : Z:\svoasrv\HPCHEM1\BNA_F\Methods\
 Method File : 8270-BF061125.M

39) I	Acenaphthene-d10	-----ISTD-----									
40)	1,2,4,5-Tetrac...	0.585	0.592	0.589	0.568	0.618	0.570	0.531	0.579	4.64	
41) P	Hexachlorocycl...		0.297	0.348	0.375	0.414	0.400	0.396	0.372	11.64	
42) S	2,4,6-Tribromo...	0.236	0.223	0.224	0.213	0.226	0.210	0.202	0.219	5.28	
43) C	2,4,6-Trichlor...	0.349	0.373	0.383	0.373	0.405	0.380	0.359	0.375	4.79	
44)	2,4,5-Trichlor...	0.404	0.404	0.413	0.400	0.431	0.399	0.383	0.405	3.61	
45) S	2-Fluorobiphenyl	1.690	1.610	1.569	1.444	1.535	1.402	1.289	1.505	9.04	
46)	1,1'-Biphenyl	1.630	1.617	1.587	1.506	1.622	1.500	1.409	1.553	5.39	
47)	2-Chloronaphth...	1.190	1.172	1.178	1.117	1.197	1.108	1.047	1.144	4.82	
48)	2-Nitroaniline	0.320	0.321	0.333	0.323	0.345	0.325	0.311	0.325	3.38	
49)	Acenaphthylene	2.053	1.986	2.003	1.881	1.991	1.847	1.744	1.929	5.65	
50)	Dimethylphthalate	1.444	1.368	1.359	1.291	1.379	1.273	1.234	1.336	5.42	
51)	2,6-Dinitrotol...	0.307	0.283	0.295	0.285	0.299	0.283	0.268	0.289	4.49	
52) C	Acenaphthene	1.266	1.222	1.224	1.170	1.237	1.155	1.099	1.196	4.80	
53)	3-Nitroaniline	0.334	0.313	0.316	0.307	0.322	0.304	0.295	0.313	4.08	
54) P	2,4-Dinitrophenol		0.123	0.154	0.157	0.176	0.170	0.169	0.158	12.18	
55)	Dibenzofuran	1.855	1.777	1.783	1.643	1.741	1.607	1.517	1.703	6.93	
56) P	4-Nitrophenol		0.203	0.219	0.210	0.222	0.212	0.208	0.212	3.42	
57)	2,4-Dinitrotol...	0.396	0.383	0.399	0.377	0.396	0.372	0.348	0.382	4.73	
58)	Fluorene	1.547	1.429	1.397	1.279	1.357	1.240	1.167	1.345	9.49	
59)	2,3,4,6-Tetrac...	0.364	0.339	0.357	0.327	0.354	0.332	0.311	0.340	5.58	
60)	Diethylphthalate	1.508	1.392	1.372	1.256	1.332	1.246	1.164	1.324	8.55	
61)	4-Chlorophenyl...	0.748	0.692	0.680	0.633	0.663	0.610	0.571	0.657	8.84	
62)	4-Nitroaniline	0.297	0.281	0.294	0.270	0.283	0.275	0.261	0.280	4.58	
63)	Azobenzene	1.290	1.186	1.178	1.115	1.187	1.094	1.045	1.157	6.89	
64) I	Phenanthrene-d10	-----ISTD-----									
65)	4,6-Dinitro-2-...		0.104	0.123	0.125	0.137	0.133	0.129	0.125	9.17	
66) c	n-Nitrosodiphe...	0.710	0.679	0.693	0.672	0.722	0.685	0.651	0.687	3.45	
67)	4-Bromophenyl-...	0.240	0.229	0.238	0.231	0.252	0.236	0.227	0.236	3.52	
68)	Hexachlorobenzene	0.270	0.261	0.263	0.255	0.275	0.260	0.251	0.262	3.17	
69)	Atrazine	0.185	0.174	0.188	0.179	0.191	0.188	0.178	0.183	3.33	
70) C	Pentachlorophenol		0.118	0.133	0.139	0.148	0.144	0.142	0.137	7.80	
71)	Phenanthrene	1.165	1.100	1.094	1.036	1.091	1.035	0.978	1.071	5.61	
72)	Anthracene	1.203	1.145	1.140	1.064	1.132	1.072	1.004	1.108	5.96	
73)	Carbazole	1.003	0.960	0.968	0.898	0.931	0.903	0.832	0.928	6.07	
74)	Di-n-butylphth...	1.105	1.048	1.072	1.005	1.053	1.017	0.953	1.036	4.76	
75) C	Fluoranthene	1.184	1.083	1.081	0.965	0.988	0.953	0.878	1.019	10.08	
76) I	Chrysene-d12	-----ISTD-----									
77)	Benzidine		0.711	0.772	0.799	0.754	0.684	0.553	0.712	12.40	
78)	Pyrene	2.014	1.918	1.928	1.883	1.878	1.753	1.635	1.859	6.75	
79) S	Terphenyl-d14	1.609	1.562	1.556	1.462	1.430	1.327	1.247	1.456	9.11	
80)	Butylbenzylphth...	0.435	0.486	0.526	0.581	0.626	0.605	0.588	0.550	12.67	
81)	Benzo(a)anthra...	1.367	1.273	1.284	1.350	1.400	1.340	1.263	1.325	3.94	
82)	3,3'-Dichlorob...		0.370	0.403	0.442	0.473	0.459	0.418	0.427	8.88	
83)	Chrysene	1.298	1.208	1.245	1.172	1.250	1.222	1.170	1.224	3.72	
84)	Bis(2-ethylhex...	0.616	0.709	0.756	0.895	0.977	0.926	0.896	0.825	16.02	
85) c	Di-n-octyl pht...		1.284	1.385	1.677	1.816	1.680	1.654	1.582	12.84	

Method Path : Z:\svoasrv\HPCHEM1\BNA_F\Methods\
Method File : 8270-BF061125.M

86) I	Perylene-d12	-----ISTD-----								
87)	Indeno(1,2,3-c...	1.438	1.406	1.458	1.498	1.602	1.514	1.460	1.482	4.31
88)	Benzo(b)fluora...	1.256	1.094	1.112	1.162	1.230	1.251	1.139	1.178	5.71
89)	Benzo(k)fluora...	1.236	1.178	1.245	1.076	1.189	1.035	1.039	1.143	7.94
90) C	Benzo(a)pyrene	1.164	1.085	1.122	1.104	1.184	1.111	1.068	1.120	3.70
91)	Dibenzo(a,h)an...	1.134	1.176	1.214	1.236	1.318	1.222	1.172	1.210	4.87
92)	Benzo(g,h,i)pe...	1.201	1.164	1.178	1.216	1.295	1.207	1.163	1.203	3.77

(#) = Out of Range

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
 Method File : 8270E-BP060625.M
 Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
 Last Update : Fri Jun 06 16:20:27 2025
 Response Via : Initial Calibration

Calibration Files

2.5 =BP024860.D 5 =BP024861.D 10 =BP024862.D 20 =BP024863.D 40 =BP024864.D 50 =BP024865.D 60 =BP024866.D 80 =BP024867.D

Compound	2.5	5	10	20	40	50	60	80	Avg	%RSD

1) I 1,4-Dichlorobenzen...	-----ISTD-----									
2) 1,4-Dioxane	0.564	0.529	0.524	0.495	0.546	0.515	0.517	0.527	0.527	4.21
3) Pyridine	1.151	1.183	1.265	1.226	1.370	1.367	1.315	1.268	1.268	6.84
4) n-Nitrosodimet...		0.478	0.509	0.502	0.542	0.554	0.525	0.518	0.518	5.36
5) S 2-Fluorophenol	1.127	1.139	1.207	1.163	1.283	1.253	1.215	1.198	1.198	4.85
6) Aniline	1.917	1.892	2.016	1.978	2.145	2.182	2.031	2.023	2.023	5.37
7) S Phenol-d6	1.507	1.528	1.588	1.545	1.676	1.689	1.564	1.585	1.585	4.49
8) 2-Chlorophenol	1.336	1.290	1.346	1.314	1.453	1.422	1.348	1.358	1.358	4.29
9) Benzaldehyde		1.038	1.071	0.873	0.985	0.869	0.646	0.914	0.914	16.98
10) C Phenol	1.560	1.564	1.616	1.587	1.725	1.759	1.629	1.634	1.634	4.78
11) bis(2-Chloroet...	1.222	1.277	1.334	1.234	1.363	1.322	1.246	1.285	1.285	4.26
12) 1,3-Dichlorobe...	1.570	1.515	1.537	1.425	1.571	1.519	1.471	1.515	1.515	3.49
13) C 1,4-Dichlorobe...	1.596	1.507	1.535	1.439	1.604	1.534	1.488	1.529	1.529	3.82
14) 1,2-Dichlorobe...	1.529	1.637	1.488	1.401	1.540	1.492	1.422	1.501	1.501	5.25
15) Benzyl Alcohol		1.137	1.185	1.170	1.289	1.309	1.211	1.217	1.217	5.63
16) 2,2'-oxybis(1-...	1.748	1.732	1.722	1.583	1.751	1.667	1.574	1.682	1.682	4.54
17) 2-Methylphenol	1.053	1.149	1.138	1.106	1.210	1.211	1.121	1.141	1.141	4.94
18) Hexachloroethane	0.591	0.565	0.581	0.545	0.611	0.574	0.562	0.576	0.576	3.73
19) P n-Nitroso-di-n...	0.984	1.101	1.105	1.107	1.043	1.141	1.113	1.029	1.078	4.93
20) 3+4-Methylphenols		1.507	1.548	1.493	1.631	1.648	1.515	1.557	1.557	4.29

21) I Naphthalene-d8	-----ISTD-----									
22) Acetophenone	0.506	0.521	0.511	0.491	0.535	0.510	0.463	0.505	0.505	4.58
23) S Nitrobenzene-d5	0.407	0.397	0.423	0.404	0.444	0.423	0.383	0.412	0.412	4.89
24) Nitrobenzene	0.366	0.351	0.375	0.360	0.392	0.376	0.339	0.366	0.366	4.81
25) Isophorone	0.704	0.678	0.724	0.694	0.764	0.726	0.704	0.713	0.713	3.91
26) C 2-Nitrophenol	0.154	0.157	0.178	0.180	0.201	0.195	0.198	0.180	0.180	10.62
27) 2,4-Dimethylph...	0.294	0.286	0.310	0.303	0.331	0.320	0.318	0.309	0.309	5.12
28) bis(2-Chloroet...	0.414	0.408	0.438	0.414	0.465	0.423	0.416	0.426	0.426	4.70
29) C 2,4-Dichloroph...	0.246	0.272	0.300	0.292	0.327	0.313	0.323	0.296	0.296	9.81
30) 1,2,4-Trichlor...	0.335	0.319	0.335	0.317	0.352	0.330	0.351	0.334	0.334	4.16
31) Naphthalene	1.071	1.022	1.044	0.989	1.079	1.035	0.935	1.025	1.025	4.86
32) Benzoic acid		0.159	0.181	0.204	0.230	0.235	0.243	0.209	0.209	16.01
33) 4-Chloroaniline	0.397	0.401	0.435	0.426	0.471	0.463	0.414	0.429	0.429	6.72
34) C Hexachlorobuta...	0.203	0.199	0.208	0.194	0.218	0.198	0.189	0.201	0.201	4.76
35) Caprolactam		0.098	0.109	0.110	0.118	0.116	0.104	0.109	0.109	6.91
36) C 4-Chloro-3-met...	0.312	0.322	0.351	0.341	0.374	0.363	0.329	0.342	0.342	6.58
37) 2-Methylnaphth...	0.659	0.638	0.659	0.633	0.696	0.664	0.602	0.650	0.650	4.54
38) 1-Methylnaphth...	0.720	0.680	0.718	0.671	0.741	0.693	0.643	0.695	0.695	4.86

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
 Method File : 8270E-BP060625.M

39) I	Acenaphthene-d10	-----ISTD-----								
40)	1,2,4,5-Tetrac...	0.568	0.561	0.568	0.538	0.601	0.574	0.562	0.568	3.31
41) P	Hexachlorocycl...	0.259	0.315	0.337	0.404	0.369	0.394	0.346		15.74
42) S	2,4,6-Tribromo...	0.256	0.264	0.279	0.267	0.298	0.286	0.285	0.277	5.26
43) C	2,4,6-Trichlor...	0.342	0.352	0.386	0.375	0.411	0.404	0.396	0.381	6.86
44)	2,4,5-Trichlor...	0.349	0.379	0.414	0.405	0.448	0.436	0.426	0.408	8.44
45) S	2-Fluorobiphenyl	1.542	1.507	1.517	1.390	1.563	1.464	1.409	1.485	4.44
46)	1,1'-Biphenyl	1.477	1.456	1.485	1.386	1.509	1.458	1.403	1.453	3.05
47)	2-Chloronaphth...	1.123	1.104	1.135	1.069	1.171	1.136	1.081	1.117	3.16
48)	2-Nitroaniline	0.289	0.324	0.344	0.346	0.371	0.374	0.355	0.343	8.59
49)	Acenaphthylene	1.880	1.851	1.892	1.768	1.939	1.904	1.805	1.863	3.19
50)	Dimethylphthalate	1.515	1.450	1.501	1.400	1.550	1.473	1.438	1.475	3.45
51)	2,6-Dinitrotol...	0.299	0.301	0.326	0.312	0.339	0.333	0.317	0.318	4.86
52) C	Acenaphthene	1.106	1.064	1.090	1.020	1.087	1.069	1.036	1.067	2.86
53)	3-Nitroaniline	0.263	0.292	0.337	0.338	0.367	0.364	0.349	0.330	11.74
54) P	2,4-Dinitrophenol	0.117	0.155	0.179	0.203	0.208	0.205	0.178		20.23
55)	Dibenzofuran	1.815	1.721	1.756	1.627	1.757	1.702	1.615	1.713	4.22
56) P	4-Nitrophenol	0.142	0.213	0.248	0.276	0.281	0.275	0.239		22.62
57)	2,4-Dinitrotol...	0.390	0.416	0.457	0.437	0.487	0.470	0.458	0.445	7.45
58)	Fluorene	1.437	1.394	1.420	1.304	1.434	1.370	1.329	1.384	3.77
59)	2,3,4,6-Tetrac...	0.343	0.350	0.360	0.354	0.395	0.381	0.370	0.365	5.04
60)	Diethylphthalate	1.501	1.474	1.487	1.393	1.545	1.444	1.449	1.470	3.27
61)	4-Chlorophenyl...	0.711	0.668	0.689	0.637	0.709	0.665	0.658	0.677	4.06
62)	4-Nitroaniline	0.239	0.235	0.307	0.311	0.336	0.333	0.334	0.299	14.69
63)	Azobenzene	1.346	1.334	1.394	1.300	1.425	1.335	1.307	1.349	3.37
64) I	Phenanthrene-d10	-----ISTD-----								
65)	4,6-Dinitro-2-...	0.102	0.125	0.130	0.147	0.143	0.142	0.131		12.78
66) c	n-Nitrosodiphe...	0.627	0.608	0.633	0.597	0.659	0.622	0.594	0.620	3.68
67)	4-Bromophenyl-...	0.224	0.215	0.226	0.213	0.246	0.229	0.226	0.226	4.83
68)	Hexachlorobenzene	0.278	0.268	0.272	0.260	0.290	0.275	0.272	0.274	3.31
69)	Atrazine	0.213	0.212	0.231	0.217	0.244	0.228	0.228	0.225	5.16
70) C	Pentachlorophenol	0.105	0.131	0.139	0.162	0.153	0.159	0.142		15.21
71)	Phenanthrene	1.158	1.108	1.110	1.056	1.161	1.102	1.041	1.105	4.12
72)	Anthracene	1.129	1.093	1.137	1.072	1.188	1.133	1.083	1.119	3.58
73)	Carbazole	1.023	1.013	1.057	0.998	1.112	1.052	1.007	1.038	3.83
74)	Di-n-butylphth...	1.178	1.245	1.326	1.272	1.421	1.273	1.284	1.285	5.81
75) C	Fluoranthene	1.300	1.287	1.307	1.223	1.344	1.268	1.238	1.281	3.25
76) I	Chrysene-d12	-----ISTD-----								
77)	Benzidine	0.512	0.669	0.653	0.690	0.663	0.529	0.619		12.54
78)	Pyrene	1.307	1.195	1.261	1.184	1.322	1.272	1.206	1.249	4.41
79) S	Terphenyl-d14	1.178	1.073	1.146	1.089	1.164	1.120	1.039	1.116	4.57
80)	Butylbenzylpht...	0.508	0.529	0.581	0.561	0.641	0.596	0.589	0.572	7.74
81)	Benzo(a)anthra...	1.312	1.234	1.288	1.219	1.347	1.310	1.243	1.279	3.73
82)	3,3'-Dichlorob...	0.468	0.513	0.493	0.542	0.531	0.501	0.508		5.29
83)	Chrysene	1.252	1.174	1.229	1.144	1.279	1.238	1.168	1.212	4.13
84)	Bis(2-ethylhex...	0.715	0.780	0.846	0.797	0.921	0.831	0.850	0.820	7.87
85) c	Di-n-octyl pht...	1.320	1.438	1.384	1.587	1.470	1.473	1.445		6.25

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
Method File : 8270E-BP060625.M

86) I	Perylene-d12	-----ISTD-----								
87)	Indeno(1,2,3-c...	1.427	1.402	1.469	1.412	1.559	1.510	1.436	1.459	3.92
88)	Benzo(b)fluora...	1.103	1.104	1.133	1.127	1.232	1.180	1.133	1.145	4.06
89)	Benzo(k)fluora...	1.165	1.144	1.180	1.106	1.259	1.158	1.144	1.165	4.05
90) C	Benzo(a)pyrene	1.096	1.069	1.127	1.070	1.214	1.136	1.113	1.118	4.46
91)	Dibenzo(a,h)an...	1.151	1.143	1.202	1.143	1.279	1.224	1.172	1.188	4.25
92)	Benzo(g,h,i)pe...	1.172	1.127	1.183	1.136	1.261	1.214	1.157	1.179	3.95

(#) = Out of Range

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: Q2333 SAS No.: Q2333 SDG No.: Q2333

Instrument ID: BNA_F Calibration Date/Time: 06/18/2025 11:48

Lab File ID: BF142772.D Init. Calib. Date(s): 06/10/2025 06/10/2025

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 16:54 20:19

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

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.174	1.170		-0.3	
Phenol-d6	1.382	1.385		0.2	
Nitrobenzene-d5	0.365	0.356		-2.5	
2-Fluorobiphenyl	1.505	1.389		-7.7	
Acenaphthylene	1.929	1.853		-3.9	
Acenaphthene	1.196	1.138		-4.8	20.0
Fluorene	1.345	1.278		-5.0	
2,4,6-Tribromophenol	0.219	0.206		-5.9	
Phenanthrene	1.071	1.018		-4.9	
Anthracene	1.108	1.043		-5.9	
Fluoranthene	1.019	1.030		1.1	20.0
Pyrene	1.859	1.665		-10.4	
Terphenyl-d14	1.456	1.259		-13.5	
Benzo (a) anthracene	1.325	1.285		-3.0	
Chrysene	1.224	1.148		-6.2	
Benzo (b) fluoranthene	1.178	1.205		2.3	
Benzo (k) fluoranthene	1.143	1.050		-8.1	
Benzo (a) pyrene	1.120	1.081		-3.5	20.0
Indeno (1,2,3-cd) pyrene	1.482	1.312		-11.5	
Dibenzo (a,h) anthracene	1.210	1.075		-11.2	
Benzo (g,h,i) perylene	1.203	1.047		-13.0	

All other compounds must meet a minimum RRF of 0.010.

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: Q2333 SAS No.: Q2333 SDG No.: Q2333

Instrument ID: BNA_P Calibration Date/Time: 06/18/2025 09:55

Lab File ID: BP024987.D Init. Calib. Date(s): 06/06/2025 06/06/2025

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:30 15:18

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.198	1.233		2.9	
Phenol-d6	1.585	1.551		-2.1	
Nitrobenzene-d5	0.412	0.408		-1.0	
2-Fluorobiphenyl	1.485	1.412		-4.9	
Acenaphthylene	1.863	1.810		-2.8	
Acenaphthene	1.067	1.036		-2.9	20.0
Fluorene	1.384	1.336		-3.5	
2,4,6-Tribromophenol	0.277	0.268		-3.2	
Phenanthrene	1.105	1.039		-6.0	
Anthracene	1.119	1.072		-4.2	
Fluoranthene	1.281	1.220		-4.8	20.0
Pyrene	1.249	1.224		-2.0	
Terphenyl-d14	1.116	1.080		-3.2	
Benzo (a) anthracene	1.279	1.252		-2.1	
Chrysene	1.212	1.156		-4.6	
Benzo (b) fluoranthene	1.145	1.079		-5.8	
Benzo (k) fluoranthene	1.165	1.122		-3.7	
Benzo (a) pyrene	1.118	1.070		-4.3	20.0
Indeno (1,2,3-cd) pyrene	1.459	1.404		-3.8	
Dibenzo (a,h) anthracene	1.188	1.130		-4.9	
Benzo (g,h,i) perylene	1.179	1.124		-4.7	

All other compounds must meet a minimum RRF of 0.010.



SHIPPING DOCUMENTS

CHEMTECH CHAIN OF CUSTODY RECORD		284 Sheffield Street, Mountainside, NJ 07092 (908) 789-8900 Fax: (908) 78-8922 www.chemtech.net		Chemtech Project Number: Q2333																					
COC Number:																									
CLIENT INFORMATION		PROJECT INFORMATION		BILLING INFORMATION																					
COMPANY: Liro Environmental Inc.		PROJECT NAME: RMB, RFK Bridge Randall's Island		BILL TO: Same PO#																					
ADDRESS: 690 Delaware Ave		PROJECT #: RMB-2023 LOCATION: NY		ADDRESS: Same																					
CITY: Buffalo STATE: NY ZIP: 14209		PROJECT MANAGER: Martin Wesolowski		CITY: Same STATE: ZIP:																					
ATTENTION: Martin Wesolowski		E-MAIL: Wesolowskim@liro.com		ATTENTION: Same PHONE:																					
PHONE: 716.970.4273 FAX: 716.882.9640		PHONE: 716-970-9640 FAX: 716-882-9640																							
DATA TURNAROUND INFORMATION		DATA DELIVERABLE INFORMATION		ANALYSIS																					
FAX: _____ DAYS* HARD COPY: _____ DAYS* EDD _____ DAYS* * TO BE APPROVED BY CHEMTECH STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS		☐ RESULTS ONLY ☐ USEPA CLP ☐ RESULTS + QC ☐ New York State ASP "B" ☐ New Jersey REDUCED ☐ New York State ASP "A" ☐ New Jersey CLP ☐ Other _____ ☐ EDD Format		<table border="1"><tr><td>CP-51 VOCs</td><td>CP-51 SVOCs</td><td>Tables 2 & 3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td></td></tr></table>		CP-51 VOCs	CP-51 SVOCs	Tables 2 & 3								1	2	3	4	5	6	7	8	9	
CP-51 VOCs	CP-51 SVOCs	Tables 2 & 3																							
1	2	3	4	5	6	7	8	9																	
CHEMTECH SAMPLE ID		PROJECT SAMPLE IDENTIFICATION		SAMPLE MATRIX		SAMPLE TYPE		SAMPLE COLLECTION		# of Bottles		PRESERVATIVES		COMMENTS											
						COMP GRAB		DATE TIME				A Ice		Specify Preservatives A-HCl B-HNO3 C-H2SO4 D-NaOH E-ICE F-Other											
												1 2 3 4 5 6 7 8 9													
1. MW-06		GW				X		6/12/25 8:55		5		X X X													
2. MW-08		GW				X		6/12/25 9:30		5		X X X													
3. MW-10		GW				X		6/12/25 11:45		5		X X X													
4. MW-11		GW				X		6/12/25 12:20		5		X X X													
5. MW-13		GW				X		6/12/25 13:15		5		X X X													
6. MW-12		GW				X		6/12/25 12:50		5		X X X													
7.																									
8.																									
9.																									
10.																									
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY																									
RELINQUISHED BY SAMPLER		DATE/TIME		RECEIVED BY		1500		Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non Compliant ☐ Cooler Temp 3.8°C MeOH extraction requires an additional 4oz. Jar for percent solid ☐ Ice in Cooler?: _____																	
1. <i>Esther S. Long</i>		6-13-25		1. <i>[Signature]</i>		6-13-25		Comments:																	
RELINQUISHED BY		DATE/TIME		RECEIVED BY																					
2. <i>[Signature]</i>		6-13-25		2. <i>[Signature]</i>																					
RELINQUISHED BY		DATE/TIME		RECEIVED FOR LAB BY																					
3. <i>[Signature]</i>		6-13-25		3. <i>[Signature]</i>																					
Page _____ of _____				SHIPPED VIA: CLIENT: ☐ Hand Delivered ☐ Overnight				CHEMTECH: ☐ Picked Up ☐ Overnight				Shipment Complete ☐ YES ☐ NO													
WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY																									

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q2333	LIRO01	Order Date : 6/13/2025 3:21:44 PM	Project Mgr :
Client Name : LiRo Engineers, Inc.		Project Name : RFK Bridge RMB-Randall	Report Type : NYS ASPA
Client Contact : Martin Wesolowski		Receive Date/Time : 6/13/2025 12:00:00 AM <i>18:45 on</i>	EDD Type : Excel NY
Invoice Name : LiRo Engineers, Inc.		Purchase Order :	Hard Copy Date :
Invoice Contact : Martin Wesolowski		<i>18:55</i>	Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q2333-01	MW-06	Water	06/12/2025	08:55					
					VOCMS Group1		8260-Low	10 Bus. Days	
Q2333-02	MW-08	Water	06/12/2025	09:30					
					VOCMS Group1		8260-Low	10 Bus. Days	
Q2333-03	MW-10	Water	06/12/2025	11:45					
					VOCMS Group1		8260-Low	10 Bus. Days	
Q2333-04	MW-11	Water	06/12/2025	12:20					
					VOCMS Group1		8260-Low	10 Bus. Days	
Q2333-05	MW-13	Water	06/12/2025	13:15					
					VOCMS Group1		8260-Low	10 Bus. Days	
Q2333-06	MW-12	Water	06/12/2025	12:50					
					VOCMS Group1		8260-Low	10 Bus. Days	

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q2333 LIRO01

Order Date : 6/13/2025 3:21:44 PM

Project Mgr :

Client Name : LiRo Engineers, Inc.

Project Name : RFK Bridge RMB-Randall

Report Type : NYS ASPA

Client Contact : Martin Wesolowski

Receive DateTime : 6/13/2025 ~~12:00:00 AM~~ 18:55 *al*

EDD Type : Excel NY

Invoice Name : LiRo Engineers, Inc.

Purchase Order :

Hard Copy Date :

Invoice Contact : Martin Wesolowski

Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
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Relinquished By : *[Signature]*

Date / Time : 6/16/25 0900

SAMPLES RECEIVED ON 6/13/25 @ 1855
PLACED IN SM-REF-2

Received By : *[Signature]*

Date / Time : 06/16/25 9:00

Rg H 4

Storage Area : VOA Refridgerator Room