CHEMTECH

284 Sheffield Street, Mountainside, New Jersey - 07092

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

LAB CHRONICLE

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

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P1747-01	**MW-01**	**Water**			**03/12/24**			**03/13/24**
			SVOC-TCL BNA -20	8270E		03/14/24	03/14/24	
P1747-02	**MW-01-DUP**	**Water**			**03/12/24**			**03/13/24**
			SVOC-TCL BNA -20	8270E		03/14/24	03/14/24	
P1747-04	**MW-02**	**Water**			**03/12/24**			**03/13/24**
			SVOC-TCL BNA -20	8270E		03/14/24	03/14/24	
P1747-05	**MW-04**	**Water**			**03/12/24**			**03/13/24**
			SVOC-TCL BNA -20	8270E		03/14/24	03/14/24	

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Hit Summary Sheet
SW-846

SDG No.: P1747

Client: LiRo Engineers, Inc.

Sample ID	Client ID		Parameter		Concentration	C	MDL	RDL	Units
Client ID : MW-01									
P1747-01	MW-01	WATER	1-Heptacosanol	*	2.500	J	0	0	ug/L
P1747-01	MW-01	WATER	2-(Methylmercapto)benzothiazole	*	13.900	J	0	0	ug/L
P1747-01	MW-01	WATER	3,5-Dichloro-6-cyanopyridin-2-yl	*	4.900	J	0	0	ug/L
P1747-01	MW-01	WATER	Diethyltoluamide	*	9.000	J	0	0	ug/L
P1747-01	MW-01	WATER	N-Cyclohexyl-N-methylurea, N-m	*	3.500	J	0	0	ug/L
P1747-01	MW-01	WATER	n-Hexadecanoic acid	*	2.200	J	0	0	ug/L
P1747-01	MW-01	WATER	unknown17.582	*	2.800	J	0	0	ug/L
			Total Tics :				**38.80**		
			Total Concentration:				**38.80**		
Client ID : MW-01-DUP									
P1747-02	MW-01-DUP	WATER	2-(Methylmercapto)benzothiazole	*	14.400	J	0	0	ug/L
P1747-02	MW-01-DUP	WATER	Benzamide, 3-methyl-N-methyl-N	*	9.300	J	0	0	ug/L
P1747-02	MW-01-DUP	WATER	N-Cyclohexyl-N-methylurea, N-m	*	3.400	J	0	0	ug/L
P1747-02	MW-01-DUP	WATER	n-Hexadecanoic acid	*	2.200	J	0	0	ug/L
P1747-02	MW-01-DUP	WATER	Pentadecafluorooctanoic acid, octa	*	2.100	J	0	0	ug/L
P1747-02	MW-01-DUP	WATER	unknown12.413	*	5.100	J	0	0	ug/L
P1747-02	MW-01-DUP	WATER	unknown17.853	*	3.000	J	0	0	ug/L
			Total Tics :				**39.50**		
			Total Concentration:				**39.50**		
Client ID : MW-02									
P1747-04	MW-02	WATER	n-Hexadecanoic acid	*	2.500	J	0	0	ug/L
			Total Tics :				**2.50**		
			Total Concentration:				**2.50**		
Client ID : MW-04									
P1747-05	MW-04	WATER	unknown16.374	*	2.200	J	0	0	ug/L
			Total Tics :				**2.20**		
			Total Concentration:				**2.20**		

CHEMTECH

SAMPLE DATA

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01	SDG No.:	P1747
Lab Sample ID:	P1747-01	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060643.D	1	03/14/24 10:06	03/14/24 17:55	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
100-52-7	Benzaldehyde	10.2	U	4.10	10.2	ug/L
108-95-2	Phenol	5.10	U	0.95	5.10	ug/L
111-44-4	bis(2-Chloroethyl)ether	5.10	U	1.20	5.10	ug/L
95-57-8	2-Chlorophenol	5.10	U	0.72	5.10	ug/L
95-48-7	2-Methylphenol	5.10	U	1.20	5.10	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	5.10	U	1.40	5.10	ug/L
98-86-2	Acetophenone	5.10	U	1.10	5.10	ug/L
65794-96-9	3+4-Methylphenols	10.2	U	1.20	10.2	ug/L
621-64-7	n-Nitroso-di-n-propylamine	2.60	U	1.50	2.60	ug/L
67-72-1	Hexachloroethane	5.10	U	1.00	5.10	ug/L
98-95-3	Nitrobenzene	5.10	U	1.30	5.10	ug/L
78-59-1	Isophorone	5.10	U	1.20	5.10	ug/L
88-75-5	2-Nitrophenol	5.10	U	2.00	5.10	ug/L
105-67-9	2,4-Dimethylphenol	5.10	U	1.50	5.10	ug/L
111-91-1	bis(2-Chloroethoxy)methane	5.10	U	1.00	5.10	ug/L
120-83-2	2,4-Dichlorophenol	5.10	U	0.90	5.10	ug/L
91-20-3	Naphthalene	5.10	U	1.00	5.10	ug/L
106-47-8	4-Chloroaniline	5.10	U	1.30	5.10	ug/L
87-68-3	Hexachlorobutadiene	5.10	U	1.30	5.10	ug/L
105-60-2	Caprolactam	10.2	U	1.70	10.2	ug/L
59-50-7	4-Chloro-3-methylphenol	5.10	U	0.86	5.10	ug/L
91-57-6	2-Methylnaphthalene	5.10	U	1.20	5.10	ug/L
77-47-4	Hexachlorocyclopentadiene	10.2	U	5.10	10.2	ug/L
88-06-2	2,4,6-Trichlorophenol	5.10	U	0.91	5.10	ug/L
95-95-4	2,4,5-Trichlorophenol	5.10	U	1.00	5.10	ug/L
92-52-4	1,1-Biphenyl	5.10	U	0.93	5.10	ug/L
91-58-7	2-Chloronaphthalene	5.10	U	0.99	5.10	ug/L
88-74-4	2-Nitroaniline	5.10	U	1.40	5.10	ug/L
131-11-3	Dimethylphthalate	5.10	U	0.95	5.10	ug/L
208-96-8	Acenaphthylene	5.10	U	1.10	5.10	ug/L
606-20-2	2,6-Dinitrotoluene	5.10	U	1.30	5.10	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01	SDG No.:	P1747
Lab Sample ID:	P1747-01	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060643.D	1	03/14/24 10:06	03/14/24 17:55	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
99-09-2	3-Nitroaniline	5.10	U	1.40	5.10	ug/L
83-32-9	Acenaphthene	5.10	U	0.83	5.10	ug/L
51-28-5	2,4-Dinitrophenol	10.2	U	6.60	10.2	ug/L
100-02-7	4-Nitrophenol	10.2	U	2.00	10.2	ug/L
132-64-9	Dibenzofuran	5.10	U	0.95	5.10	ug/L
121-14-2	2,4-Dinitrotoluene	5.10	U	1.60	5.10	ug/L
84-66-2	Diethylphthalate	5.10	U	1.10	5.10	ug/L
7005-72-3	4-Chlorophenyl-phenylether	5.10	U	1.00	5.10	ug/L
86-73-7	Fluorene	5.10	U	0.98	5.10	ug/L
100-01-6	4-Nitroaniline	5.10	U	2.10	5.10	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	10.2	U	3.10	10.2	ug/L
86-30-6	n-Nitrosodiphenylamine	5.10	U	0.91	5.10	ug/L
101-55-3	4-Bromophenyl-phenylether	5.10	U	0.97	5.10	ug/L
118-74-1	Hexachlorobenzene	5.10	U	1.20	5.10	ug/L
1912-24-9	Atrazine	5.10	U	1.30	5.10	ug/L
87-86-5	Pentachlorophenol	10.2	U	1.90	10.2	ug/L
85-01-8	Phenanthrene	5.10	U	0.91	5.10	ug/L
120-12-7	Anthracene	5.10	U	1.10	5.10	ug/L
86-74-8	Carbazole	5.10	U	1.20	5.10	ug/L
84-74-2	Di-n-butylphthalate	5.10	U	1.50	5.10	ug/L
206-44-0	Fluoranthene	5.10	U	1.30	5.10	ug/L
129-00-0	Pyrene	5.10	U	1.10	5.10	ug/L
85-68-7	Butylbenzylphthalate	5.10	U	2.10	5.10	ug/L
91-94-1	3,3-Dichlorobenzidine	10.2	U	1.30	10.2	ug/L
56-55-3	Benzo(a)anthracene	5.10	U	0.96	5.10	ug/L
218-01-9	Chrysene	5.10	U	0.88	5.10	ug/L
117-81-7	Bis(2-ethylhexyl)phthalate	5.10	U	1.90	5.10	ug/L
117-84-0	Di-n-octyl phthalate	10.2	U	2.60	10.2	ug/L
205-99-2	Benzo(b)fluoranthene	5.10	U	1.20	5.10	ug/L
207-08-9	Benzo(k)fluoranthene	5.10	U	1.20	5.10	ug/L
50-32-8	Benzo(a)pyrene	5.10	U	1.70	5.10	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	5.10	U	1.00	5.10	ug/L
53-70-3	Dibenzo(a,h)anthracene	5.10	U	1.20	5.10	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01	SDG No.:	P1747
Lab Sample ID:	P1747-01	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060643.D	1	03/14/24 10:06	03/14/24 17:55	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
191-24-2	Benzo(g,h,i)perylene	5.10	U	1.20	5.10	ug/L
95-94-3	1,2,4,5-Tetrachlorobenzene	5.10	U	1.10	5.10	ug/L
123-91-1	1,4-Dioxane	5.10	U	1.30	5.10	ug/L
58-90-2	2,3,4,6-Tetrachlorophenol	5.10	U	0.81	5.10	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	63.7		10 - 139	42%	SPK: 150
13127-88-3	Phenol-d6	38.1		10 - 134	25%	SPK: 150
4165-60-0	Nitrobenzene-d5	93.5		49 - 133	93%	SPK: 100
321-60-8	2-Fluorobiphenyl	90.6		52 - 132	91%	SPK: 100
118-79-6	2,4,6-Tribromophenol	149		32 - 145	99%	SPK: 150
1718-51-0	Terphenyl-d14	92.3		36 - 145	92%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	87900	8.322			
1146-65-2	Naphthalene-d8	407000	11.166			
15067-26-2	Acenaphthene-d10	278000	14.95			
1517-22-2	Phenanthrene-d10	593000	17.693			
1719-03-5	Chrysene-d12	504000	22.012			
1520-96-3	Perylene-d12	579000	25.567			
TENTATIVE IDENTIFIED COMPOUNDS						
1000305-58-3	3,5-Dichloro-6-cyanopyridin-2-yl d	4.90	J		12.4	ug/L
031468-12-9	N-Cyclohexyl-N-methylurea, N-met	3.50	J		15.1	ug/L
000134-62-3	Diethyltoluamide	9.00	J		15.7	ug/L
000615-22-5	2-(Methylmercapto)benzothiazole	13.9	J		16.2	ug/L
	unknown17.582	2.80	J		17.9	ug/L
000057-10-3	n-Hexadecanoic acid	2.20	J		18.5	ug/L
002004-39-9	1-Heptacosanol	2.50	J		23.1	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01	SDG No.:	P1747
Lab Sample ID:	P1747-01	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060643.D	1	03/14/24 10:06	03/14/24 17:55	PB159586

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

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01-DUP	SDG No.:	P1747
Lab Sample ID:	P1747-02	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060644.D	1	03/14/24 10:06	03/14/24 18:36	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
100-52-7	Benzaldehyde	10.2	U	4.10	10.2	ug/L
108-95-2	Phenol	5.10	U	0.95	5.10	ug/L
111-44-4	bis(2-Chloroethyl)ether	5.10	U	1.20	5.10	ug/L
95-57-8	2-Chlorophenol	5.10	U	0.72	5.10	ug/L
95-48-7	2-Methylphenol	5.10	U	1.20	5.10	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	5.10	U	1.40	5.10	ug/L
98-86-2	Acetophenone	5.10	U	1.10	5.10	ug/L
65794-96-9	3+4-Methylphenols	10.2	U	1.20	10.2	ug/L
621-64-7	n-Nitroso-di-n-propylamine	2.60	U	1.50	2.60	ug/L
67-72-1	Hexachloroethane	5.10	U	1.00	5.10	ug/L
98-95-3	Nitrobenzene	5.10	U	1.30	5.10	ug/L
78-59-1	Isophorone	5.10	U	1.20	5.10	ug/L
88-75-5	2-Nitrophenol	5.10	U	2.00	5.10	ug/L
105-67-9	2,4-Dimethylphenol	5.10	U	1.50	5.10	ug/L
111-91-1	bis(2-Chloroethoxy)methane	5.10	U	1.00	5.10	ug/L
120-83-2	2,4-Dichlorophenol	5.10	U	0.90	5.10	ug/L
91-20-3	Naphthalene	5.10	U	1.00	5.10	ug/L
106-47-8	4-Chloroaniline	5.10	U	1.30	5.10	ug/L
87-68-3	Hexachlorobutadiene	5.10	U	1.30	5.10	ug/L
105-60-2	Caprolactam	10.2	U	1.70	10.2	ug/L
59-50-7	4-Chloro-3-methylphenol	5.10	U	0.86	5.10	ug/L
91-57-6	2-Methylnaphthalene	5.10	U	1.20	5.10	ug/L
77-47-4	Hexachlorocyclopentadiene	10.2	U	5.10	10.2	ug/L
88-06-2	2,4,6-Trichlorophenol	5.10	U	0.91	5.10	ug/L
95-95-4	2,4,5-Trichlorophenol	5.10	U	1.00	5.10	ug/L
92-52-4	1,1-Biphenyl	5.10	U	0.93	5.10	ug/L
91-58-7	2-Chloronaphthalene	5.10	U	0.99	5.10	ug/L
88-74-4	2-Nitroaniline	5.10	U	1.40	5.10	ug/L
131-11-3	Dimethylphthalate	5.10	U	0.95	5.10	ug/L
208-96-8	Acenaphthylene	5.10	U	1.10	5.10	ug/L
606-20-2	2,6-Dinitrotoluene	5.10	U	1.30	5.10	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01-DUP	SDG No.:	P1747
Lab Sample ID:	P1747-02	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060644.D	1	03/14/24 10:06	03/14/24 18:36	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
99-09-2	3-Nitroaniline	5.10	U	1.40	5.10	ug/L
83-32-9	Acenaphthene	5.10	U	0.83	5.10	ug/L
51-28-5	2,4-Dinitrophenol	10.2	U	6.60	10.2	ug/L
100-02-7	4-Nitrophenol	10.2	U	2.00	10.2	ug/L
132-64-9	Dibenzofuran	5.10	U	0.95	5.10	ug/L
121-14-2	2,4-Dinitrotoluene	5.10	U	1.60	5.10	ug/L
84-66-2	Diethylphthalate	5.10	U	1.10	5.10	ug/L
7005-72-3	4-Chlorophenyl-phenylether	5.10	U	1.00	5.10	ug/L
86-73-7	Fluorene	5.10	U	0.98	5.10	ug/L
100-01-6	4-Nitroaniline	5.10	U	2.10	5.10	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	10.2	U	3.10	10.2	ug/L
86-30-6	n-Nitrosodiphenylamine	5.10	U	0.91	5.10	ug/L
101-55-3	4-Bromophenyl-phenylether	5.10	U	0.97	5.10	ug/L
118-74-1	Hexachlorobenzene	5.10	U	1.20	5.10	ug/L
1912-24-9	Atrazine	5.10	U	1.30	5.10	ug/L
87-86-5	Pentachlorophenol	10.2	U	1.90	10.2	ug/L
85-01-8	Phenanthrene	5.10	U	0.91	5.10	ug/L
120-12-7	Anthracene	5.10	U	1.10	5.10	ug/L
86-74-8	Carbazole	5.10	U	1.20	5.10	ug/L
84-74-2	Di-n-butylphthalate	5.10	U	1.50	5.10	ug/L
206-44-0	Fluoranthene	5.10	U	1.30	5.10	ug/L
129-00-0	Pyrene	5.10	U	1.10	5.10	ug/L
85-68-7	Butylbenzylphthalate	5.10	U	2.10	5.10	ug/L
91-94-1	3,3-Dichlorobenzidine	10.2	U	1.30	10.2	ug/L
56-55-3	Benzo(a)anthracene	5.10	U	0.96	5.10	ug/L
218-01-9	Chrysene	5.10	U	0.88	5.10	ug/L
117-81-7	Bis(2-ethylhexyl)phthalate	5.10	U	1.90	5.10	ug/L
117-84-0	Di-n-octyl phthalate	10.2	U	2.60	10.2	ug/L
205-99-2	Benzo(b)fluoranthene	5.10	U	1.20	5.10	ug/L
207-08-9	Benzo(k)fluoranthene	5.10	U	1.20	5.10	ug/L
50-32-8	Benzo(a)pyrene	5.10	U	1.70	5.10	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	5.10	U	1.00	5.10	ug/L
53-70-3	Dibenzo(a,h)anthracene	5.10	U	1.20	5.10	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01-DUP	SDG No.:	P1747
Lab Sample ID:	P1747-02	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060644.D	1	03/14/24 10:06	03/14/24 18:36	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
191-24-2	Benzo(g,h,i)perylene	5.10	U	1.20	5.10	ug/L
95-94-3	1,2,4,5-Tetrachlorobenzene	5.10	U	1.10	5.10	ug/L
123-91-1	1,4-Dioxane	5.10	U	1.30	5.10	ug/L
58-90-2	2,3,4,6-Tetrachlorophenol	5.10	U	0.81	5.10	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	60.5		10 - 139	40%	SPK: 150
13127-88-3	Phenol-d6	35.7		10 - 134	24%	SPK: 150
4165-60-0	Nitrobenzene-d5	92.7		49 - 133	93%	SPK: 100
321-60-8	2-Fluorobiphenyl	90.1		52 - 132	90%	SPK: 100
118-79-6	2,4,6-Tribromophenol	137		32 - 145	92%	SPK: 150
1718-51-0	Terphenyl-d14	86.1		36 - 145	86%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	95400	8.323			
1146-65-2	Naphthalene-d8	446000	11.167			
15067-26-2	Acenaphthene-d10	305000	14.945			
1517-22-2	Phenanthrene-d10	669000	17.695			
1719-03-5	Chrysene-d12	584000	22.007			
1520-96-3	Perylene-d12	663000	25.562			
TENTATIVE IDENTIFIED COMPOUNDS						
	unknown12.413	5.10	J		12.4	ug/L
031468-12-9	N-Cyclohexyl-N-methylurea, N-met	3.40	J		15.1	ug/L
1000421-46-2	Benzamide, 3-methyl-N-methyl-N-pr(	9.30	J		15.7	ug/L
000615-22-5	2-(Methylmercapto)benzothiazole	14.4	J		16.2	ug/L
	unknown17.853	3.00	J		17.9	ug/L
000057-10-3	n-Hexadecanoic acid	2.20	J		18.5	ug/L
1000406-04-8	Pentadecafluorooctanoic acid, octa	2.10	J		23.1	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01-DUP	SDG No.:	P1747
Lab Sample ID:	P1747-02	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060644.D	1	03/14/24 10:06	03/14/24 18:36	PB159586

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

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-02	SDG No.:	P1747
Lab Sample ID:	P1747-04	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	990 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060645.D	1	03/14/24 10:06	03/14/24 19:17	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
100-52-7	Benzaldehyde	10.1	U	4.00	10.1	ug/L
108-95-2	Phenol	5.10	U	0.94	5.10	ug/L
111-44-4	bis(2-Chloroethyl)ether	5.10	U	1.20	5.10	ug/L
95-57-8	2-Chlorophenol	5.10	U	0.72	5.10	ug/L
95-48-7	2-Methylphenol	5.10	U	1.10	5.10	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	5.10	U	1.40	5.10	ug/L
98-86-2	Acetophenone	5.10	U	1.10	5.10	ug/L
65794-96-9	3+4-Methylphenols	10.1	U	1.20	10.1	ug/L
621-64-7	n-Nitroso-di-n-propylamine	2.50	U	1.50	2.50	ug/L
67-72-1	Hexachloroethane	5.10	U	1.00	5.10	ug/L
98-95-3	Nitrobenzene	5.10	U	1.30	5.10	ug/L
78-59-1	Isophorone	5.10	U	1.20	5.10	ug/L
88-75-5	2-Nitrophenol	5.10	U	2.00	5.10	ug/L
105-67-9	2,4-Dimethylphenol	5.10	U	1.50	5.10	ug/L
111-91-1	bis(2-Chloroethoxy)methane	5.10	U	1.00	5.10	ug/L
120-83-2	2,4-Dichlorophenol	5.10	U	0.89	5.10	ug/L
91-20-3	Naphthalene	5.10	U	1.00	5.10	ug/L
106-47-8	4-Chloroaniline	5.10	U	1.30	5.10	ug/L
87-68-3	Hexachlorobutadiene	5.10	U	1.30	5.10	ug/L
105-60-2	Caprolactam	10.1	U	1.70	10.1	ug/L
59-50-7	4-Chloro-3-methylphenol	5.10	U	0.85	5.10	ug/L
91-57-6	2-Methylnaphthalene	5.10	U	1.10	5.10	ug/L
77-47-4	Hexachlorocyclopentadiene	10.1	U	5.10	10.1	ug/L
88-06-2	2,4,6-Trichlorophenol	5.10	U	0.90	5.10	ug/L
95-95-4	2,4,5-Trichlorophenol	5.10	U	1.00	5.10	ug/L
92-52-4	1,1-Biphenyl	5.10	U	0.92	5.10	ug/L
91-58-7	2-Chloronaphthalene	5.10	U	0.98	5.10	ug/L
88-74-4	2-Nitroaniline	5.10	U	1.40	5.10	ug/L
131-11-3	Dimethylphthalate	5.10	U	0.94	5.10	ug/L
208-96-8	Acenaphthylene	5.10	U	1.10	5.10	ug/L
606-20-2	2,6-Dinitrotoluene	5.10	U	1.30	5.10	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-02	SDG No.:	P1747
Lab Sample ID:	P1747-04	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	990 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060645.D	1	03/14/24 10:06	03/14/24 19:17	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
99-09-2	3-Nitroaniline	5.10	U	1.40	5.10	ug/L
83-32-9	Acenaphthene	5.10	U	0.82	5.10	ug/L
51-28-5	2,4-Dinitrophenol	10.1	U	6.50	10.1	ug/L
100-02-7	4-Nitrophenol	10.1	U	2.00	10.1	ug/L
132-64-9	Dibenzofuran	5.10	U	0.94	5.10	ug/L
121-14-2	2,4-Dinitrotoluene	5.10	U	1.50	5.10	ug/L
84-66-2	Diethylphthalate	5.10	U	1.10	5.10	ug/L
7005-72-3	4-Chlorophenyl-phenylether	5.10	U	0.99	5.10	ug/L
86-73-7	Fluorene	5.10	U	0.97	5.10	ug/L
100-01-6	4-Nitroaniline	5.10	U	2.10	5.10	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	10.1	U	3.10	10.1	ug/L
86-30-6	n-Nitrosodiphenylamine	5.10	U	0.90	5.10	ug/L
101-55-3	4-Bromophenyl-phenylether	5.10	U	0.96	5.10	ug/L
118-74-1	Hexachlorobenzene	5.10	U	1.20	5.10	ug/L
1912-24-9	Atrazine	5.10	U	1.30	5.10	ug/L
87-86-5	Pentachlorophenol	10.1	U	1.90	10.1	ug/L
85-01-8	Phenanthrene	5.10	U	0.90	5.10	ug/L
120-12-7	Anthracene	5.10	U	1.10	5.10	ug/L
86-74-8	Carbazole	5.10	U	1.20	5.10	ug/L
84-74-2	Di-n-butylphthalate	5.10	U	1.50	5.10	ug/L
206-44-0	Fluoranthene	5.10	U	1.30	5.10	ug/L
129-00-0	Pyrene	5.10	U	1.10	5.10	ug/L
85-68-7	Butylbenzylphthalate	5.10	U	2.10	5.10	ug/L
91-94-1	3,3-Dichlorobenzidine	10.1	U	1.30	10.1	ug/L
56-55-3	Benzo(a)anthracene	5.10	U	0.95	5.10	ug/L
218-01-9	Chrysene	5.10	U	0.87	5.10	ug/L
117-81-7	Bis(2-ethylhexyl)phthalate	5.10	U	1.90	5.10	ug/L
117-84-0	Di-n-octyl phthalate	10.1	U	2.50	10.1	ug/L
205-99-2	Benzo(b)fluoranthene	5.10	U	1.20	5.10	ug/L
207-08-9	Benzo(k)fluoranthene	5.10	U	1.20	5.10	ug/L
50-32-8	Benzo(a)pyrene	5.10	U	1.70	5.10	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	5.10	U	1.00	5.10	ug/L
53-70-3	Dibenzo(a,h)anthracene	5.10	U	1.20	5.10	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-02	SDG No.:	P1747
Lab Sample ID:	P1747-04	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	990 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060645.D	1	03/14/24 10:06	03/14/24 19:17	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
191-24-2	Benzo(g,h,i)perylene	5.10	U	1.20	5.10	ug/L
95-94-3	1,2,4,5-Tetrachlorobenzene	5.10	U	1.10	5.10	ug/L
123-91-1	1,4-Dioxane	5.10	U	1.30	5.10	ug/L
58-90-2	2,3,4,6-Tetrachlorophenol	5.10	U	0.80	5.10	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	49.2		10 - 139	33%	SPK: 150
13127-88-3	Phenol-d6	28.4		10 - 134	19%	SPK: 150
4165-60-0	Nitrobenzene-d5	90.1		49 - 133	90%	SPK: 100
321-60-8	2-Fluorobiphenyl	85.2		52 - 132	85%	SPK: 100
118-79-6	2,4,6-Tribromophenol	103		32 - 145	69%	SPK: 150
1718-51-0	Terphenyl-d14	90.3		36 - 145	90%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	92600	8.322			
1146-65-2	Naphthalene-d8	433000	11.166			
15067-26-2	Acenaphthene-d10	306000	14.944			
1517-22-2	Phenanthrene-d10	647000	17.694			
1719-03-5	Chrysene-d12	547000	22.012			
1520-96-3	Perylene-d12	624000	25.561			
TENTATIVE IDENTIFIED COMPOUNDS						
000057-10-3	n-Hexadecanoic acid	2.50	J		18.5	ug/L

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

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

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-04	SDG No.:	P1747
Lab Sample ID:	P1747-05	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060646.D	1	03/14/24 10:06	03/14/24 19:57	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
100-52-7	Benzaldehyde	10.2	U	4.10	10.2	ug/L
108-95-2	Phenol	5.10	U	0.95	5.10	ug/L
111-44-4	bis(2-Chloroethyl)ether	5.10	U	1.20	5.10	ug/L
95-57-8	2-Chlorophenol	5.10	U	0.72	5.10	ug/L
95-48-7	2-Methylphenol	5.10	U	1.20	5.10	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	5.10	U	1.40	5.10	ug/L
98-86-2	Acetophenone	5.10	U	1.10	5.10	ug/L
65794-96-9	3+4-Methylphenols	10.2	U	1.20	10.2	ug/L
621-64-7	n-Nitroso-di-n-propylamine	2.60	U	1.50	2.60	ug/L
67-72-1	Hexachloroethane	5.10	U	1.00	5.10	ug/L
98-95-3	Nitrobenzene	5.10	U	1.30	5.10	ug/L
78-59-1	Isophorone	5.10	U	1.20	5.10	ug/L
88-75-5	2-Nitrophenol	5.10	U	2.00	5.10	ug/L
105-67-9	2,4-Dimethylphenol	5.10	U	1.50	5.10	ug/L
111-91-1	bis(2-Chloroethoxy)methane	5.10	U	1.00	5.10	ug/L
120-83-2	2,4-Dichlorophenol	5.10	U	0.90	5.10	ug/L
91-20-3	Naphthalene	5.10	U	1.00	5.10	ug/L
106-47-8	4-Chloroaniline	5.10	U	1.30	5.10	ug/L
87-68-3	Hexachlorobutadiene	5.10	U	1.30	5.10	ug/L
105-60-2	Caprolactam	10.2	U	1.70	10.2	ug/L
59-50-7	4-Chloro-3-methylphenol	5.10	U	0.86	5.10	ug/L
91-57-6	2-Methylnaphthalene	5.10	U	1.20	5.10	ug/L
77-47-4	Hexachlorocyclopentadiene	10.2	U	5.10	10.2	ug/L
88-06-2	2,4,6-Trichlorophenol	5.10	U	0.91	5.10	ug/L
95-95-4	2,4,5-Trichlorophenol	5.10	U	1.00	5.10	ug/L
92-52-4	1,1-Biphenyl	5.10	U	0.93	5.10	ug/L
91-58-7	2-Chloronaphthalene	5.10	U	0.99	5.10	ug/L
88-74-4	2-Nitroaniline	5.10	U	1.40	5.10	ug/L
131-11-3	Dimethylphthalate	5.10	U	0.95	5.10	ug/L
208-96-8	Acenaphthylene	5.10	U	1.10	5.10	ug/L
606-20-2	2,6-Dinitrotoluene	5.10	U	1.30	5.10	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-04	SDG No.:	P1747
Lab Sample ID:	P1747-05	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060646.D	1	03/14/24 10:06	03/14/24 19:57	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
99-09-2	3-Nitroaniline	5.10	U	1.40	5.10	ug/L
83-32-9	Acenaphthene	5.10	U	0.83	5.10	ug/L
51-28-5	2,4-Dinitrophenol	10.2	U	6.60	10.2	ug/L
100-02-7	4-Nitrophenol	10.2	U	2.00	10.2	ug/L
132-64-9	Dibenzofuran	5.10	U	0.95	5.10	ug/L
121-14-2	2,4-Dinitrotoluene	5.10	U	1.60	5.10	ug/L
84-66-2	Diethylphthalate	5.10	U	1.10	5.10	ug/L
7005-72-3	4-Chlorophenyl-phenylether	5.10	U	1.00	5.10	ug/L
86-73-7	Fluorene	5.10	U	0.98	5.10	ug/L
100-01-6	4-Nitroaniline	5.10	U	2.10	5.10	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	10.2	U	3.10	10.2	ug/L
86-30-6	n-Nitrosodiphenylamine	5.10	U	0.91	5.10	ug/L
101-55-3	4-Bromophenyl-phenylether	5.10	U	0.97	5.10	ug/L
118-74-1	Hexachlorobenzene	5.10	U	1.20	5.10	ug/L
1912-24-9	Atrazine	5.10	U	1.30	5.10	ug/L
87-86-5	Pentachlorophenol	10.2	U	1.90	10.2	ug/L
85-01-8	Phenanthrene	5.10	U	0.91	5.10	ug/L
120-12-7	Anthracene	5.10	U	1.10	5.10	ug/L
86-74-8	Carbazole	5.10	U	1.20	5.10	ug/L
84-74-2	Di-n-butylphthalate	5.10	U	1.50	5.10	ug/L
206-44-0	Fluoranthene	5.10	U	1.30	5.10	ug/L
129-00-0	Pyrene	5.10	U	1.10	5.10	ug/L
85-68-7	Butylbenzylphthalate	5.10	U	2.10	5.10	ug/L
91-94-1	3,3-Dichlorobenzidine	10.2	U	1.30	10.2	ug/L
56-55-3	Benzo(a)anthracene	5.10	U	0.96	5.10	ug/L
218-01-9	Chrysene	5.10	U	0.88	5.10	ug/L
117-81-7	Bis(2-ethylhexyl)phthalate	5.10	U	1.90	5.10	ug/L
117-84-0	Di-n-octyl phthalate	10.2	U	2.60	10.2	ug/L
205-99-2	Benzo(b)fluoranthene	5.10	U	1.20	5.10	ug/L
207-08-9	Benzo(k)fluoranthene	5.10	U	1.20	5.10	ug/L
50-32-8	Benzo(a)pyrene	5.10	U	1.70	5.10	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	5.10	U	1.00	5.10	ug/L
53-70-3	Dibenzo(a,h)anthracene	5.10	U	1.20	5.10	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-04	SDG No.:	P1747
Lab Sample ID:	P1747-05	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060646.D	1	03/14/24 10:06	03/14/24 19:57	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
191-24-2	Benzo(g,h,i)perylene	5.10	U	1.20	5.10	ug/L
95-94-3	1,2,4,5-Tetrachlorobenzene	5.10	U	1.10	5.10	ug/L
123-91-1	1,4-Dioxane	5.10	U	1.30	5.10	ug/L
58-90-2	2,3,4,6-Tetrachlorophenol	5.10	U	0.81	5.10	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	60.7		10 - 139	40%	SPK: 150
13127-88-3	Phenol-d6	35.4		10 - 134	24%	SPK: 150
4165-60-0	Nitrobenzene-d5	94.5		49 - 133	94%	SPK: 100
321-60-8	2-Fluorobiphenyl	89.7		52 - 132	90%	SPK: 100
118-79-6	2,4,6-Tribromophenol	126		32 - 145	84%	SPK: 150
1718-51-0	Terphenyl-d14	88.3		36 - 145	88%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	92400	8.325			
1146-65-2	Naphthalene-d8	426000	11.169			
15067-26-2	Acenaphthene-d10	303000	14.947			
1517-22-2	Phenanthrene-d10	646000	17.69			
1719-03-5	Chrysene-d12	578000	22.009			
1520-96-3	Perylene-d12	656000	25.564			
TENTATIVE IDENTIFIED COMPOUNDS						
	unknown16.374	2.20	J		16.4	ug/L

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

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

CHEMTECH

QC SUMMARY

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Surrogate Summary

SW-846

SDG No.: P1747

Client: LiRo Engineers, Inc.

Analytical Method: 8270E

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%) Low	High
P1747-01	MW-01	2-Fluorophenol	150	63.7	42		10	139
		Phenol-d6	150	38.1	25		10	134
		Nitrobenzene-d5	100	93.5	93		49	133
		2-Fluorobiphenyl	100	90.6	91		52	132
		2,4,6-Tribromophenol	150	149	99		32	145
		Terphenyl-d14	100	92.3	92		36	145
P1747-02	MW-01-DUP	2-Fluorophenol	150	60.5	40		10	139
		Phenol-d6	150	35.7	24		10	134
		Nitrobenzene-d5	100	92.7	93		49	133
		2-Fluorobiphenyl	100	90.1	90		52	132
		2,4,6-Tribromophenol	150	137	92		32	145
		Terphenyl-d14	100	86.1	86		36	145
P1747-04	MW-02	2-Fluorophenol	150	49.2	33		10	139
		Phenol-d6	150	28.4	19		10	134
		Nitrobenzene-d5	100	90.1	90		49	133
		2-Fluorobiphenyl	100	85.2	85		52	132
		2,4,6-Tribromophenol	150	103	69		32	145
		Terphenyl-d14	100	90.3	90		36	145
P1747-05	MW-04	2-Fluorophenol	150	60.7	40		10	139
		Phenol-d6	150	35.4	24		10	134
		Nitrobenzene-d5	100	94.5	94		49	133
		2-Fluorobiphenyl	100	89.7	90		52	132
		2,4,6-Tribromophenol	150	126	84		32	145
		Terphenyl-d14	100	88.3	88		36	145
PB159586BL	PB159586BL	2-Fluorophenol	150	147	98		10	139
		Phenol-d6	150	138	92		10	134
		Nitrobenzene-d5	100	86.8	87		49	133
		2-Fluorobiphenyl	100	84.9	85		52	132
		2,4,6-Tribromophenol	150	135	90		32	145
		Terphenyl-d14	100	86.7	87		36	145
PB159586BS	PB159586BS	2-Fluorophenol	150	148	99		10	139
		Phenol-d6	150	139	93		10	134
		Nitrobenzene-d5	100	85.3	85		49	133
		2-Fluorobiphenyl	100	86.9	87		52	132
		2,4,6-Tribromophenol	150	141	94		32	145
		Terphenyl-d14	100	82.6	83		36	145
PB159586BSD	PB159586BSD	2-Fluorophenol	150	144	96		10	139
		Phenol-d6	150	136	91		10	134
		Nitrobenzene-d5	100	84.3	84		49	133
		2-Fluorobiphenyl	100	84.1	84		52	132
		2,4,6-Tribromophenol	150	139	92		32	145
		Terphenyl-d14	100	82.2	82		36	145

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

SDG No.: P1747

Client: LiRo Engineers, Inc.

Analytical Method: 8270E **DataFile:** BG060651.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB159586BS	Benzaldehyde	50	47.7	ug/L	95				15	121	
	Phenol	50	50.3	ug/L	101				66	118	
	bis(2-Chloroethyl)ether	50	45.0	ug/L	90				62	103	
	2-Chlorophenol	50	51.2	ug/L	102				70	117	
	2-Methylphenol	50	45.2	ug/L	90				69	109	
	2,2-oxybis(1-Chloropropane)	50	44.0	ug/L	88				52	103	
	Acetophenone	50	43.9	ug/L	88				60	104	
	3+4-Methylphenols	50	45.6	ug/L	91				67	106	
	N-Nitroso-di-n-propylamine	50	44.6	ug/L	89				57	107	
	Hexachloroethane	50	46.0	ug/L	92				76	118	
	Nitrobenzene	50	44.6	ug/L	89				58	106	
	Isophorone	50	44.7	ug/L	89				61	102	
	2-Nitrophenol	50	46.1	ug/L	92				70	115	
	2,4-Dimethylphenol	50	39.7	ug/L	79				67	130	
	bis(2-Chloroethoxy)methane	50	44.8	ug/L	90				58	109	
	2,4-Dichlorophenol	50	49.4	ug/L	99				66	115	
	Naphthalene	50	43.6	ug/L	87				64	107	
	4-Chloroaniline	50	14.9	ug/L	30				10	85	
	Hexachlorobutadiene	50	43.3	ug/L	87				69	101	
	Caprolactam	50	46.6	ug/L	93				58	128	
	4-Chloro-3-methylphenol	50	47.0	ug/L	94				65	114	
	2-Methylnaphthalene	50	42.7	ug/L	85				64	107	
	Hexachlorocyclopentadiene	100	100	ug/L	100				36	160	
	2,4,6-Trichlorophenol	50	49.7	ug/L	99				61	110	
	2,4,5-Trichlorophenol	50	44.4	ug/L	89				70	106	
	1,1-Biphenyl	50	46.2	ug/L	92				72	98	
	2-Chloronaphthalene	50	47.6	ug/L	95				59	106	
	2-Nitroaniline	50	49.3	ug/L	99				58	107	
	Dimethylphthalate	50	45.9	ug/L	92				64	103	
	Acenaphthylene	50	48.4	ug/L	97				65	108	
	2,6-Dinitrotoluene	50	50.2	ug/L	100				64	110	
	3-Nitroaniline	50	30.7	ug/L	61				28	100	
	Acenaphthene	50	44.6	ug/L	89				59	113	
	2,4-Dinitrophenol	100	98.9	ug/L	99				64	132	
	4-Nitrophenol	100	100	ug/L	100				68	116	
	Dibenzofuran	50	44.8	ug/L	90				65	106	
	2,4-Dinitrotoluene	50	53.1	ug/L	106				60	115	
	Diethylphthalate	50	45.5	ug/L	91				63	105	
	4-Chlorophenyl-phenylether	50	44.3	ug/L	89				61	104	
	Fluorene	50	45.5	ug/L	91				64	107	
	4-Nitroaniline	50	46.7	ug/L	93				69	112	
	4,6-Dinitro-2-methylphenol	50	47.2	ug/L	94				62	132	
	N-Nitrosodiphenylamine	50	43.9	ug/L	88				61	109	
	4-Bromophenyl-phenylether	50	44.6	ug/L	89				73	103	
	Hexachlorobenzene	50	46.8	ug/L	94				73	106	
	Atrazine	50	40.6	ug/L	81				76	120	

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

SDG No.: P1747

Client: LiRo Engineers, Inc.

Analytical Method: 8270E **DataFile:** BG060651.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB159586BS	Pentachlorophenol	100	91.1	ug/L	91				47	114	
	Phenanthrene	50	43.6	ug/L	87				62	109	
	Anthracene	50	43.9	ug/L	88				65	110	
	Carbazole	50	45.1	ug/L	90				62	106	
	Di-n-butylphthalate	50	45.4	ug/L	91				64	106	
	Fluoranthene	50	43.8	ug/L	88				64	110	
	Pyrene	50	44.3	ug/L	89				71	103	
	Butylbenzylphthalate	50	48.1	ug/L	96				61	105	
	3,3-Dichlorobenzidine	50	33.8	ug/L	68				43	108	
	Benzo(a)anthracene	50	45.4	ug/L	91				62	107	
	Chrysene	50	43.9	ug/L	88				61	108	
	bis(2-Ethylhexyl)phthalate	50	47.7	ug/L	95				59	110	
	Di-n-octyl phthalate	50	49.2	ug/L	98				67	126	
	Benzo(b)fluoranthene	50	51.2	ug/L	102				77	113	
	Benzo(k)fluoranthene	50	48.5	ug/L	97				64	113	
	Benzo(a)pyrene	50	47.2	ug/L	94				72	131	
	Indeno(1,2,3-cd)pyrene	50	50.7	ug/L	101				72	105	
	Dibenz(a,h)anthracene	50	49.4	ug/L	99				78	115	
	Benzo(g,h,i)perylene	50	48.0	ug/L	96				75	118	
	1,2,4,5-Tetrachlorobenzene	50	46.3	ug/L	93				72	101	
	1,4-Dioxane	50	33.6	ug/L	67				38	125	
	2,3,4,6-Tetrachlorophenol	50	48.5	ug/L	97				63	116	

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

SDG No.: P1747

Client: LiRo Engineers, Inc.

Analytical Method: 8270E **DataFile:** BG060652.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB159586BSD	Benzaldehyde	50	47.5	ug/L	95	0			15	121	20
	Phenol	50	49.9	ug/L	100	1			66	118	20
	bis(2-Chloroethyl)ether	50	43.0	ug/L	86	5			62	103	20
	2-Chlorophenol	50	50.6	ug/L	101	1			70	117	20
	2-Methylphenol	50	45.1	ug/L	90	0			69	109	20
	2,2-oxybis(1-Chloropropane)	50	42.8	ug/L	86	3			52	103	20
	Acetophenone	50	42.9	ug/L	86	2			60	104	20
	3+4-Methylphenols	50	45.3	ug/L	91	1			67	106	20
	N-Nitroso-di-n-propylamine	50	43.2	ug/L	86	3			57	107	20
	Hexachloroethane	50	45.3	ug/L	91	2			76	118	20
	Nitrobenzene	50	43.5	ug/L	87	2			58	106	20
	Isophorone	50	43.4	ug/L	87	3			61	102	20
	2-Nitrophenol	50	46.8	ug/L	94	2			70	115	20
	2,4-Dimethylphenol	50	39.0	ug/L	78	2			67	130	20
	bis(2-Chloroethoxy)methane	50	43.4	ug/L	87	3			58	109	20
	2,4-Dichlorophenol	50	48.1	ug/L	96	3			66	115	20
	Naphthalene	50	42.4	ug/L	85	3			64	107	20
	4-Chloroaniline	50	14.6	ug/L	29	2			10	85	20
	Hexachlorobutadiene	50	42.7	ug/L	85	1			69	101	20
	Caprolactam	50	46.1	ug/L	92	1			58	128	20
	4-Chloro-3-methylphenol	50	46.1	ug/L	92	2			65	114	20
	2-Methylnaphthalene	50	41.1	ug/L	82	4			64	107	20
	Hexachlorocyclopentadiene	100	100	ug/L	100	0			36	160	20
	2,4,6-Trichlorophenol	50	48.9	ug/L	98	2			61	110	20
	2,4,5-Trichlorophenol	50	43.8	ug/L	88	1			70	106	20
	1,1-Biphenyl	50	45.0	ug/L	90	3			72	98	20
	2-Chloronaphthalene	50	46.0	ug/L	92	3			59	106	20
	2-Nitroaniline	50	48.9	ug/L	98	1			58	107	20
	Dimethylphthalate	50	44.6	ug/L	89	3			64	103	20
	Acenaphthylene	50	47.2	ug/L	94	3			65	108	20
	2,6-Dinitrotoluene	50	49.8	ug/L	100	1			64	110	20
	3-Nitroaniline	50	28.9	ug/L	58	6			28	100	20
	Acenaphthene	50	44.2	ug/L	88	1			59	113	20
	2,4-Dinitrophenol	100	99.5	ug/L	100	1			64	132	20
	4-Nitrophenol	100	100	ug/L	100	0			68	116	20
	Dibenzofuran	50	44.3	ug/L	89	1			65	106	20
	2,4-Dinitrotoluene	50	51.9	ug/L	104	2			60	115	20
	Diethylphthalate	50	44.6	ug/L	89	2			63	105	20
	4-Chlorophenyl-phenylether	50	44.0	ug/L	88	1			61	104	20
	Fluorene	50	44.9	ug/L	90	1			64	107	20
	4-Nitroaniline	50	46.1	ug/L	92	1			69	112	20
	4,6-Dinitro-2-methylphenol	50	47.1	ug/L	94	0			62	132	20
	N-Nitrosodiphenylamine	50	43.1	ug/L	86	2			61	109	20
	4-Bromophenyl-phenylether	50	42.7	ug/L	85	4			73	103	20
	Hexachlorobenzene	50	45.1	ug/L	90	4			73	106	20
	Atrazine	50	40.4	ug/L	81	0			76	120	20

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

SDG No.: P1747

Client: LiRo Engineers, Inc.

Analytical Method: 8270E **DataFile:** BG060652.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB159586BSD	Pentachlorophenol	100	88.7	ug/L	89	3			47	114	20
	Phenanthrene	50	43.0	ug/L	86	1			62	109	20
	Anthracene	50	42.7	ug/L	85	3			65	110	20
	Carbazole	50	43.8	ug/L	88	3			62	106	20
	Di-n-butylphthalate	50	44.6	ug/L	89	2			64	106	20
	Fluoranthene	50	43.1	ug/L	86	2			64	110	20
	Pyrene	50	44.2	ug/L	88	0			71	103	20
	Butylbenzylphthalate	50	47.8	ug/L	96	1			61	105	20
	3,3-Dichlorobenzidine	50	32.7	ug/L	65	3			43	108	20
	Benzo(a)anthracene	50	44.6	ug/L	89	2			62	107	20
	Chrysene	50	43.4	ug/L	87	1			61	108	20
	bis(2-Ethylhexyl)phthalate	50	47.4	ug/L	95	1			59	110	20
	Di-n-octyl phthalate	50	48.8	ug/L	98	1			67	126	20
	Benzo(b)fluoranthene	50	49.5	ug/L	99	3			77	113	20
	Benzo(k)fluoranthene	50	47.5	ug/L	95	2			64	113	20
	Benzo(a)pyrene	50	46.0	ug/L	92	3			72	131	20
	Indeno(1,2,3-cd)pyrene	50	49.7	ug/L	99	2			72	105	20
	Dibenz(a,h)anthracene	50	48.4	ug/L	97	2			78	115	20
	Benzo(g,h,i)perylene	50	47.4	ug/L	95	1			75	118	20
	1,2,4,5-Tetrachlorobenzene	50	45.8	ug/L	92	1			72	101	20
	1,4-Dioxane	50	33.1	ug/L	66	1			38	125	20
	2,3,4,6-Tetrachlorophenol	50	47.5	ug/L	95	2			63	116	20

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4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB159586BL

Lab Name: CHEMTECH Contract: LIRO01

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

Lab File ID: BG060650.D Lab Sample ID: PB159586BL

Instrument ID: BNA_G Date Extracted: 03/14/2024

Matrix: (soil/water) Water Date Analyzed: 03/14/2024

Level: (low/med) LOW Time Analyzed: 23:20

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
PB159586BS	PB159586BS	BG060651.D	03/15/2024
PB159586BSD	PB159586BSD	BG060652.D	03/15/2024
MW-01	P1747-01	BG060643.D	03/14/2024
MW-01-DUP	P1747-02	BG060644.D	03/14/2024
MW-02	P1747-04	BG060645.D	03/14/2024
MW-04	P1747-05	BG060646.D	03/14/2024

COMMENTS:

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: LIRO01

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

Lab File ID: BG060620.D DFTPP Injection Date: 03/13/2024

Instrument ID: BNA_G DFTPP Injection Time: 10:02

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	47.4
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	37
70	Less than 2.0% of mass 69	0.2 (0.5) 1
127	10.0 - 80.0% of mass 198	43.8
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	6.9
275	10.0 - 60.0% of mass 198	27.8
365	Greater than 1% of mass 198	4.3
441	Present, but less than mass 443	13.8
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	16.3 (18.9) 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	BG060621.D	03/13/2024	10:44
SSTDICC005	SSTDICC005	BG060622.D	03/13/2024	11:24
SSTDICC010	SSTDICC010	BG060623.D	03/13/2024	12:04
SSTDICC020	SSTDICC020	BG060624.D	03/13/2024	12:45
SSTDICCC040	SSTDICCC040	BG060625.D	03/13/2024	13:26
SSTDICC050	SSTDICC050	BG060626.D	03/13/2024	14:06
SSTDICC060	SSTDICC060	BG060627.D	03/13/2024	14:47
SSTDICC080	SSTDICC080	BG060628.D	03/13/2024	15:27

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: LIRO01

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

Lab File ID: BG060631.D DFTPP Injection Date: 03/14/2024

Instrument ID: BNA_G DFTPP Injection Time: 09:44

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	47
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	36.6
70	Less than 2.0% of mass 69	0.2 (0.6) 1
127	10.0 - 80.0% of mass 198	44.1
197	Less than 2.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 60.0% of mass 198	29.6
365	Greater than 1% of mass 198	4.2
441	Present, but less than mass 443	15.1
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	17.2 (18.6) 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	BG060632.D	03/14/2024	10:25
MW-01	P1747-01	BG060643.D	03/14/2024	17:55
MW-01-DUP	P1747-02	BG060644.D	03/14/2024	18:36
MW-02	P1747-04	BG060645.D	03/14/2024	19:17
MW-04	P1747-05	BG060646.D	03/14/2024	19:57

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: LIRO01

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

Lab File ID: BG060648.D DFTPP Injection Date: 03/14/2024

Instrument ID: BNA_G DFTPP Injection Time: 21:59

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	46.7
68	Less than 2.0% of mass 69	0.2 (0.6) 1
69	Mass 69 relative abundance	37.9
70	Less than 2.0% of mass 69	0.2 (0.5) 1
127	10.0 - 80.0% of mass 198	45.2
197	Less than 2.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	29.3
365	Greater than 1% of mass 198	4.6
441	Present, but less than mass 443	14.6
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	17.2 (18.9) 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	BG060649.D	03/14/2024	22:39
PB159586BL	PB159586BL	BG060650.D	03/14/2024	23:20
PB159586BS	PB159586BS	BG060651.D	03/15/2024	00:00
PB159586BSD	PB159586BSD	BG060652.D	03/15/2024	00:41

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

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

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/14/2024

Lab File ID: BG060632.D Time Analyzed: 10:25

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

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	100214	8.322	455197	11.17	300034	14.95
	UPPER LIMIT	200428	8.822	910394	11.666	600068	15.45
	LOWER LIMIT	50107	7.822	227599	10.666	150017	14.45
	EPA SAMPLE NO.						
01	MW-01	87894	8.32	407330	11.17	278240	14.95
02	MW-01-DUP	95427	8.32	445954	11.17	304535	14.95
03	MW-02	92610	8.32	433473	11.17	306273	14.94
04	MW-04	92415	8.33	426428	11.17	303077	14.95

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.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

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

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/14/2024

Lab File ID: BG060632.D Time Analyzed: 10:25

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

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	621112	17.694	570870	22.018	652588	25.567
	UPPER LIMIT	1242220	18.194	1141740	22.518	1305180	26.067
	LOWER LIMIT	310556	17.194	285435	21.518	326294	25.067
	EPA SAMPLE NO.						
01	MW-01	593395	17.69	503937	22.01	579316	25.57
02	MW-01-DUP	669477	17.70	584480	22.01	662527	25.56
03	MW-02	646742	17.69	546831	22.01	624053	25.56
04	MW-04	645630	17.69	577543	22.01	656048	25.56

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.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

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

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/14/2024

Lab File ID: BG060649.D Time Analyzed: 22:39

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

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	96079	8.323	434457	11.17	283666	14.95
	UPPER LIMIT	192158	8.823	868914	11.667	567332	15.451
	LOWER LIMIT	48039.5	7.823	217229	10.667	141833	14.451
	EPA SAMPLE NO.						
01	PB159586BL	87880	8.32	398324	11.17	273634	14.95
02	PB159586BS	109222	8.33	513453	11.17	325000	14.95
03	PB159586BSD	104909	8.32	497758	11.17	316713	14.95

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.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

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

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/14/2024

Lab File ID: BG060649.D Time Analyzed: 22:39

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

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	613917	17.695	559496	22.019	646720	25.568
	UPPER LIMIT	1227830	18.195	1118990	22.519	1293440	26.068
	LOWER LIMIT	306959	17.195	279748	21.519	323360	25.068
	EPA SAMPLE NO.						
01	PB159586BL	611698	17.70	536075	22.01	604634	25.56
02	PB159586BS	699724	17.70	611265	22.02	651311	25.57
03	PB159586BSD	689764	17.70	597115	22.01	646404	25.57

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.

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QC SAMPLE DATA

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BL	SDG No.:	P1747
Lab Sample ID:	PB159586BL	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060650.D	1	03/14/24 10:06	03/14/24 23:20	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
100-52-7	Benzaldehyde	10.0	U	4.00	10.0	ug/L
108-95-2	Phenol	5.00	U	0.93	5.00	ug/L
111-44-4	bis(2-Chloroethyl)ether	5.00	U	1.20	5.00	ug/L
95-57-8	2-Chlorophenol	5.00	U	0.71	5.00	ug/L
95-48-7	2-Methylphenol	5.00	U	1.10	5.00	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	5.00	U	1.40	5.00	ug/L
98-86-2	Acetophenone	5.00	U	1.10	5.00	ug/L
65794-96-9	3+4-Methylphenols	10.0	U	1.20	10.0	ug/L
621-64-7	n-Nitroso-di-n-propylamine	2.50	U	1.50	2.50	ug/L
67-72-1	Hexachloroethane	5.00	U	1.00	5.00	ug/L
98-95-3	Nitrobenzene	5.00	U	1.30	5.00	ug/L
78-59-1	Isophorone	5.00	U	1.10	5.00	ug/L
88-75-5	2-Nitrophenol	5.00	U	2.00	5.00	ug/L
105-67-9	2,4-Dimethylphenol	5.00	U	1.50	5.00	ug/L
111-91-1	bis(2-Chloroethoxy)methane	5.00	U	1.00	5.00	ug/L
120-83-2	2,4-Dichlorophenol	5.00	U	0.88	5.00	ug/L
91-20-3	Naphthalene	5.00	U	1.00	5.00	ug/L
106-47-8	4-Chloroaniline	5.00	U	1.30	5.00	ug/L
87-68-3	Hexachlorobutadiene	5.00	U	1.30	5.00	ug/L
105-60-2	Caprolactam	10.0	U	1.70	10.0	ug/L
59-50-7	4-Chloro-3-methylphenol	5.00	U	0.84	5.00	ug/L
91-57-6	2-Methylnaphthalene	5.00	U	1.10	5.00	ug/L
77-47-4	Hexachlorocyclopentadiene	10.0	U	5.00	10.0	ug/L
88-06-2	2,4,6-Trichlorophenol	5.00	U	0.89	5.00	ug/L
95-95-4	2,4,5-Trichlorophenol	5.00	U	1.00	5.00	ug/L
92-52-4	1,1-Biphenyl	5.00	U	0.91	5.00	ug/L
91-58-7	2-Chloronaphthalene	5.00	U	0.97	5.00	ug/L
88-74-4	2-Nitroaniline	5.00	U	1.40	5.00	ug/L
131-11-3	Dimethylphthalate	5.00	U	0.93	5.00	ug/L
208-96-8	Acenaphthylene	5.00	U	1.00	5.00	ug/L
606-20-2	2,6-Dinitrotoluene	5.00	U	1.20	5.00	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BL	SDG No.:	P1747
Lab Sample ID:	PB159586BL	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060650.D	1	03/14/24 10:06	03/14/24 23:20	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
99-09-2	3-Nitroaniline	5.00	U	1.40	5.00	ug/L
83-32-9	Acenaphthene	5.00	U	0.81	5.00	ug/L
51-28-5	2,4-Dinitrophenol	10.0	U	6.40	10.0	ug/L
100-02-7	4-Nitrophenol	10.0	U	2.00	10.0	ug/L
132-64-9	Dibenzofuran	5.00	U	0.93	5.00	ug/L
121-14-2	2,4-Dinitrotoluene	5.00	U	1.50	5.00	ug/L
84-66-2	Diethylphthalate	5.00	U	1.00	5.00	ug/L
7005-72-3	4-Chlorophenyl-phenylether	5.00	U	0.98	5.00	ug/L
86-73-7	Fluorene	5.00	U	0.96	5.00	ug/L
100-01-6	4-Nitroaniline	5.00	U	2.00	5.00	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	10.0	U	3.10	10.0	ug/L
86-30-6	n-Nitrosodiphenylamine	5.00	U	0.89	5.00	ug/L
101-55-3	4-Bromophenyl-phenylether	5.00	U	0.95	5.00	ug/L
118-74-1	Hexachlorobenzene	5.00	U	1.10	5.00	ug/L
1912-24-9	Atrazine	5.00	U	1.30	5.00	ug/L
87-86-5	Pentachlorophenol	10.0	U	1.90	10.0	ug/L
85-01-8	Phenanthrene	5.00	U	0.89	5.00	ug/L
120-12-7	Anthracene	5.00	U	1.10	5.00	ug/L
86-74-8	Carbazole	5.00	U	1.20	5.00	ug/L
84-74-2	Di-n-butylphthalate	5.00	U	1.50	5.00	ug/L
206-44-0	Fluoranthene	5.00	U	1.30	5.00	ug/L
129-00-0	Pyrene	5.00	U	1.10	5.00	ug/L
85-68-7	Butylbenzylphthalate	5.00	U	2.10	5.00	ug/L
91-94-1	3,3-Dichlorobenzidine	10.0	U	1.30	10.0	ug/L
56-55-3	Benzo(a)anthracene	5.00	U	0.94	5.00	ug/L
218-01-9	Chrysene	5.00	U	0.86	5.00	ug/L
117-81-7	Bis(2-ethylhexyl)phthalate	5.00	U	1.90	5.00	ug/L
117-84-0	Di-n-octyl phthalate	10.0	U	2.50	10.0	ug/L
205-99-2	Benzo(b)fluoranthene	5.00	U	1.10	5.00	ug/L
207-08-9	Benzo(k)fluoranthene	5.00	U	1.20	5.00	ug/L
50-32-8	Benzo(a)pyrene	5.00	U	1.70	5.00	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	5.00	U	1.00	5.00	ug/L
53-70-3	Dibenzo(a,h)anthracene	5.00	U	1.20	5.00	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BL	SDG No.:	P1747
Lab Sample ID:	PB159586BL	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060650.D	1	03/14/24 10:06	03/14/24 23:20	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
191-24-2	Benzo(g,h,i)perylene	5.00	U	1.20	5.00	ug/L
95-94-3	1,2,4,5-Tetrachlorobenzene	5.00	U	1.10	5.00	ug/L
123-91-1	1,4-Dioxane	5.00	U	1.30	5.00	ug/L
58-90-2	2,3,4,6-Tetrachlorophenol	5.00	U	0.79	5.00	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	147		10 - 139	98%	SPK: 150
13127-88-3	Phenol-d6	138		10 - 134	92%	SPK: 150
4165-60-0	Nitrobenzene-d5	86.8		49 - 133	87%	SPK: 100
321-60-8	2-Fluorobiphenyl	84.9		52 - 132	85%	SPK: 100
118-79-6	2,4,6-Tribromophenol	135		32 - 145	90%	SPK: 150
1718-51-0	Terphenyl-d14	86.7		36 - 145	87%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	87900	8.319			
1146-65-2	Naphthalene-d8	398000	11.169			
15067-26-2	Acenaphthene-d10	274000	14.947			
1517-22-2	Phenanthrene-d10	612000	17.697			
1719-03-5	Chrysene-d12	536000	22.009			
1520-96-3	Perylene-d12	605000	25.564			

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

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

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BS	SDG No.:	P1747
Lab Sample ID:	PB159586BS	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060651.D	1	03/14/24 10:06	03/15/24 00:00	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
100-52-7	Benzaldehyde	47.7		4.00	10.0	ug/L
108-95-2	Phenol	50.3		0.93	5.00	ug/L
111-44-4	bis(2-Chloroethyl)ether	45.0		1.20	5.00	ug/L
95-57-8	2-Chlorophenol	51.2		0.71	5.00	ug/L
95-48-7	2-Methylphenol	45.2		1.10	5.00	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	44.0		1.40	5.00	ug/L
98-86-2	Acetophenone	43.9		1.10	5.00	ug/L
65794-96-9	3+4-Methylphenols	45.6		1.20	10.0	ug/L
621-64-7	n-Nitroso-di-n-propylamine	44.6		1.50	2.50	ug/L
67-72-1	Hexachloroethane	46.0		1.00	5.00	ug/L
98-95-3	Nitrobenzene	44.6		1.30	5.00	ug/L
78-59-1	Isophorone	44.7		1.10	5.00	ug/L
88-75-5	2-Nitrophenol	46.1		2.00	5.00	ug/L
105-67-9	2,4-Dimethylphenol	39.7		1.50	5.00	ug/L
111-91-1	bis(2-Chloroethoxy)methane	44.8		1.00	5.00	ug/L
120-83-2	2,4-Dichlorophenol	49.4		0.88	5.00	ug/L
91-20-3	Naphthalene	43.6		1.00	5.00	ug/L
106-47-8	4-Chloroaniline	14.9		1.30	5.00	ug/L
87-68-3	Hexachlorobutadiene	43.3		1.30	5.00	ug/L
105-60-2	Caprolactam	46.6		1.70	10.0	ug/L
59-50-7	4-Chloro-3-methylphenol	47.0		0.84	5.00	ug/L
91-57-6	2-Methylnaphthalene	42.7		1.10	5.00	ug/L
77-47-4	Hexachlorocyclopentadiene	100	E	5.00	10.0	ug/L
88-06-2	2,4,6-Trichlorophenol	49.7		0.89	5.00	ug/L
95-95-4	2,4,5-Trichlorophenol	44.4		1.00	5.00	ug/L
92-52-4	1,1-Biphenyl	46.2		0.91	5.00	ug/L
91-58-7	2-Chloronaphthalene	47.6		0.97	5.00	ug/L
88-74-4	2-Nitroaniline	49.3		1.40	5.00	ug/L
131-11-3	Dimethylphthalate	45.9		0.93	5.00	ug/L
208-96-8	Acenaphthylene	48.4		1.00	5.00	ug/L
606-20-2	2,6-Dinitrotoluene	50.2		1.20	5.00	ug/L

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

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BS	SDG No.:	P1747
Lab Sample ID:	PB159586BS	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060651.D	1	03/14/24 10:06	03/15/24 00:00	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
99-09-2	3-Nitroaniline	30.7		1.40	5.00	ug/L
83-32-9	Acenaphthene	44.6		0.81	5.00	ug/L
51-28-5	2,4-Dinitrophenol	98.9	E	6.40	10.0	ug/L
100-02-7	4-Nitrophenol	100	E	2.00	10.0	ug/L
132-64-9	Dibenzofuran	44.8		0.93	5.00	ug/L
121-14-2	2,4-Dinitrotoluene	53.1		1.50	5.00	ug/L
84-66-2	Diethylphthalate	45.5		1.00	5.00	ug/L
7005-72-3	4-Chlorophenyl-phenylether	44.3		0.98	5.00	ug/L
86-73-7	Fluorene	45.5		0.96	5.00	ug/L
100-01-6	4-Nitroaniline	46.7		2.00	5.00	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	47.2		3.10	10.0	ug/L
86-30-6	n-Nitrosodiphenylamine	43.9		0.89	5.00	ug/L
101-55-3	4-Bromophenyl-phenylether	44.6		0.95	5.00	ug/L
118-74-1	Hexachlorobenzene	46.8		1.10	5.00	ug/L
1912-24-9	Atrazine	40.6		1.30	5.00	ug/L
87-86-5	Pentachlorophenol	91.1	E	1.90	10.0	ug/L
85-01-8	Phenanthrene	43.6		0.89	5.00	ug/L
120-12-7	Anthracene	43.9		1.10	5.00	ug/L
86-74-8	Carbazole	45.1		1.20	5.00	ug/L
84-74-2	Di-n-butylphthalate	45.4		1.50	5.00	ug/L
206-44-0	Fluoranthene	43.8		1.30	5.00	ug/L
129-00-0	Pyrene	44.3		1.10	5.00	ug/L
85-68-7	Butylbenzylphthalate	48.1		2.10	5.00	ug/L
91-94-1	3,3-Dichlorobenzidine	33.8		1.30	10.0	ug/L
56-55-3	Benzo(a)anthracene	45.4		0.94	5.00	ug/L
218-01-9	Chrysene	43.9		0.86	5.00	ug/L
117-81-7	Bis(2-ethylhexyl)phthalate	47.7		1.90	5.00	ug/L
117-84-0	Di-n-octyl phthalate	49.2		2.50	10.0	ug/L
205-99-2	Benzo(b)fluoranthene	51.2		1.10	5.00	ug/L
207-08-9	Benzo(k)fluoranthene	48.5		1.20	5.00	ug/L
50-32-8	Benzo(a)pyrene	47.2		1.70	5.00	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	50.7		1.00	5.00	ug/L
53-70-3	Dibenzo(a,h)anthracene	49.4		1.20	5.00	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BS	SDG No.:	P1747
Lab Sample ID:	PB159586BS	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060651.D	1	03/14/24 10:06	03/15/24 00:00	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
191-24-2	Benzo(g,h,i)perylene	48.0		1.20	5.00	ug/L
95-94-3	1,2,4,5-Tetrachlorobenzene	46.3		1.10	5.00	ug/L
123-91-1	1,4-Dioxane	33.6		1.30	5.00	ug/L
58-90-2	2,3,4,6-Tetrachlorophenol	48.5		0.79	5.00	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	148		10 - 139	99%	SPK: 150
13127-88-3	Phenol-d6	139		10 - 134	93%	SPK: 150
4165-60-0	Nitrobenzene-d5	85.3		49 - 133	85%	SPK: 100
321-60-8	2-Fluorobiphenyl	86.9		52 - 132	87%	SPK: 100
118-79-6	2,4,6-Tribromophenol	141		32 - 145	94%	SPK: 150
1718-51-0	Terphenyl-d14	82.6		36 - 145	83%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	109000	8.327			
1146-65-2	Naphthalene-d8	513000	11.171			
15067-26-2	Acenaphthene-d10	325000	14.948			
1517-22-2	Phenanthrene-d10	700000	17.698			
1719-03-5	Chrysene-d12	611000	22.017			
1520-96-3	Perylene-d12	651000	25.571			

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

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

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BSD	SDG No.:	P1747
Lab Sample ID:	PB159586BSD	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060652.D	1	03/14/24 10:06	03/15/24 00:41	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
100-52-7	Benzaldehyde	47.5		4.00	10.0	ug/L
108-95-2	Phenol	49.9		0.93	5.00	ug/L
111-44-4	bis(2-Chloroethyl)ether	43.0		1.20	5.00	ug/L
95-57-8	2-Chlorophenol	50.6		0.71	5.00	ug/L
95-48-7	2-Methylphenol	45.1		1.10	5.00	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	42.8		1.40	5.00	ug/L
98-86-2	Acetophenone	42.9		1.10	5.00	ug/L
65794-96-9	3+4-Methylphenols	45.3		1.20	10.0	ug/L
621-64-7	n-Nitroso-di-n-propylamine	43.2		1.50	2.50	ug/L
67-72-1	Hexachloroethane	45.3		1.00	5.00	ug/L
98-95-3	Nitrobenzene	43.5		1.30	5.00	ug/L
78-59-1	Isophorone	43.4		1.10	5.00	ug/L
88-75-5	2-Nitrophenol	46.8		2.00	5.00	ug/L
105-67-9	2,4-Dimethylphenol	39.0		1.50	5.00	ug/L
111-91-1	bis(2-Chloroethoxy)methane	43.4		1.00	5.00	ug/L
120-83-2	2,4-Dichlorophenol	48.1		0.88	5.00	ug/L
91-20-3	Naphthalene	42.4		1.00	5.00	ug/L
106-47-8	4-Chloroaniline	14.6		1.30	5.00	ug/L
87-68-3	Hexachlorobutadiene	42.7		1.30	5.00	ug/L
105-60-2	Caprolactam	46.1		1.70	10.0	ug/L
59-50-7	4-Chloro-3-methylphenol	46.1		0.84	5.00	ug/L
91-57-6	2-Methylnaphthalene	41.1		1.10	5.00	ug/L
77-47-4	Hexachlorocyclopentadiene	100	E	5.00	10.0	ug/L
88-06-2	2,4,6-Trichlorophenol	48.9		0.89	5.00	ug/L
95-95-4	2,4,5-Trichlorophenol	43.8		1.00	5.00	ug/L
92-52-4	1,1-Biphenyl	45.0		0.91	5.00	ug/L
91-58-7	2-Chloronaphthalene	46.0		0.97	5.00	ug/L
88-74-4	2-Nitroaniline	48.9		1.40	5.00	ug/L
131-11-3	Dimethylphthalate	44.6		0.93	5.00	ug/L
208-96-8	Acenaphthylene	47.2		1.00	5.00	ug/L
606-20-2	2,6-Dinitrotoluene	49.8		1.20	5.00	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BSD	SDG No.:	P1747
Lab Sample ID:	PB159586BSD	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060652.D	1	03/14/24 10:06	03/15/24 00:41	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
99-09-2	3-Nitroaniline	28.9		1.40	5.00	ug/L
83-32-9	Acenaphthene	44.2		0.81	5.00	ug/L
51-28-5	2,4-Dinitrophenol	99.5	E	6.40	10.0	ug/L
100-02-7	4-Nitrophenol	100	E	2.00	10.0	ug/L
132-64-9	Dibenzofuran	44.3		0.93	5.00	ug/L
121-14-2	2,4-Dinitrotoluene	51.9		1.50	5.00	ug/L
84-66-2	Diethylphthalate	44.6		1.00	5.00	ug/L
7005-72-3	4-Chlorophenyl-phenylether	44.0		0.98	5.00	ug/L
86-73-7	Fluorene	44.9		0.96	5.00	ug/L
100-01-6	4-Nitroaniline	46.1		2.00	5.00	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	47.1		3.10	10.0	ug/L
86-30-6	n-Nitrosodiphenylamine	43.1		0.89	5.00	ug/L
101-55-3	4-Bromophenyl-phenylether	42.7		0.95	5.00	ug/L
118-74-1	Hexachlorobenzene	45.1		1.10	5.00	ug/L
1912-24-9	Atrazine	40.4		1.30	5.00	ug/L
87-86-5	Pentachlorophenol	88.7	E	1.90	10.0	ug/L
85-01-8	Phenanthrene	43.0		0.89	5.00	ug/L
120-12-7	Anthracene	42.7		1.10	5.00	ug/L
86-74-8	Carbazole	43.8		1.20	5.00	ug/L
84-74-2	Di-n-butylphthalate	44.6		1.50	5.00	ug/L
206-44-0	Fluoranthene	43.1		1.30	5.00	ug/L
129-00-0	Pyrene	44.2		1.10	5.00	ug/L
85-68-7	Butylbenzylphthalate	47.8		2.10	5.00	ug/L
91-94-1	3,3-Dichlorobenzidine	32.7		1.30	10.0	ug/L
56-55-3	Benzo(a)anthracene	44.6		0.94	5.00	ug/L
218-01-9	Chrysene	43.4		0.86	5.00	ug/L
117-81-7	Bis(2-ethylhexyl)phthalate	47.4		1.90	5.00	ug/L
117-84-0	Di-n-octyl phthalate	48.8		2.50	10.0	ug/L
205-99-2	Benzo(b)fluoranthene	49.5		1.10	5.00	ug/L
207-08-9	Benzo(k)fluoranthene	47.5		1.20	5.00	ug/L
50-32-8	Benzo(a)pyrene	46.0		1.70	5.00	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	49.7		1.00	5.00	ug/L
53-70-3	Dibenzo(a,h)anthracene	48.4		1.20	5.00	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BSD	SDG No.:	P1747
Lab Sample ID:	PB159586BSD	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
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
BG060652.D	1	03/14/24 10:06	03/15/24 00:41	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
191-24-2	Benzo(g,h,i)perylene	47.4		1.20	5.00	ug/L
95-94-3	1,2,4,5-Tetrachlorobenzene	45.8		1.10	5.00	ug/L
123-91-1	1,4-Dioxane	33.1		1.30	5.00	ug/L
58-90-2	2,3,4,6-Tetrachlorophenol	47.5		0.79	5.00	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	144		10 - 139	96%	SPK: 150
13127-88-3	Phenol-d6	136		10 - 134	91%	SPK: 150
4165-60-0	Nitrobenzene-d5	84.3		49 - 133	84%	SPK: 100
321-60-8	2-Fluorobiphenyl	84.1		52 - 132	84%	SPK: 100
118-79-6	2,4,6-Tribromophenol	139		32 - 145	92%	SPK: 150
1718-51-0	Terphenyl-d14	82.2		36 - 145	82%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	105000	8.324			
1146-65-2	Naphthalene-d8	498000	11.168			
15067-26-2	Acenaphthene-d10	317000	14.951			
1517-22-2	Phenanthrene-d10	690000	17.695			
1719-03-5	Chrysene-d12	597000	22.014			
1520-96-3	Perylene-d12	646000	25.568			

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

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

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CALIBRATION SUMMARY

Response Factor Report GC/MS Ins

Method Path : Z:\svoasrv\HPCHEM1\BNA_G\Methods\
Method File : 8270-BG031324.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Thu Mar 14 00:45:22 2024
Response Via : Initial Calibration

Calibration Files
2.5 =BG060621.D 5 =BG060622.D 10 =BG060623.D 20 =BG060624.D 40 =BG060625.D 50 =BG060626.D 60 =BG060627.D 80 =BG0606
28.D

		Compound	2.5	5	10	20	40	50	60	80	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	----------	ISTD	----------							
2)		1,4-Dioxane		0.574	0.543	0.583	0.521	0.514	0.519	0.474	0.533	7.08
3)		Pyridine		1.589	1.575	1.626	1.587	1.551	1.566	1.523	1.574	2.06
4)		n-Nitrosodimet...		0.789	0.750	0.812	0.776	0.759	0.781	0.738	0.772	3.23
5)	S	2-Fluorophenol		1.257	1.230	1.334	1.299	1.283	1.274	1.229	1.272	2.96
6)		Aniline		2.137	2.220	2.319	2.328	2.299	2.285	2.199	2.255	3.16
7)	S	Phenol-d6		1.710	1.816	1.952	1.917	1.867	1.870	1.787	1.846	4.42
8)		2-Chlorophenol		1.336	1.359	1.445	1.431	1.395	1.404	1.365	1.391	2.83
9)		Benzaldehyde		1.091	1.076	1.168	1.084	0.998	0.959	0.857	1.033	9.96
10)	C	Phenol		1.797	1.778	1.943	1.932	1.851	1.886	1.776	1.852	3.83
11)		bis(2-Chloroet...		1.483	1.488	1.524	1.516	1.432	1.486	1.405	1.476	2.93
12)		1,3-Dichlorobe...		1.506	1.477	1.590	1.500	1.490	1.498	1.436	1.500	3.09
13)	C	1,4-Dichlorobe...		1.520	1.477	1.590	1.557	1.520	1.511	1.467	1.520	2.83
14)		1,2-Dichlorobe...		1.513	1.529	1.559	1.521	1.487	1.521	1.440	1.510	2.49
15)		Benzyl Alcohol		1.340	1.384	1.495	1.549	1.475	1.514	1.456	1.459	5.04
16)		2,2'-oxybis(1-...		2.752	2.810	3.040	2.934	2.837	2.916	2.773	2.866	3.58
17)		2-Methylphenol		1.306	1.350	1.499	1.496	1.428	1.461	1.414	1.422	5.10
18)		Hexachloroethane		0.481	0.506	0.552	0.526	0.519	0.536	0.515	0.519	4.37
19)	P	n-Nitroso-di-n...	1.264	1.142	1.268	1.350	1.341	1.272	1.323	1.274	1.279	5.13
20)		3+4-Methylphenols		1.786	1.826	1.984	2.023	1.927	1.982	1.897	1.918	4.57
21)	I	Naphthalene-d8	----------	ISTD	----------							
22)		Acetophenone		0.527	0.523	0.559	0.548	0.535	0.545	0.516	0.536	2.85
23)	S	Nitrobenzene-d5		0.343	0.349	0.397	0.398	0.399	0.410	0.394	0.384	6.94
24)		Nitrobenzene		0.348	0.351	0.398	0.401	0.393	0.406	0.392	0.384	6.28
25)		Isophorone		0.727	0.741	0.793	0.788	0.777	0.796	0.762	0.769	3.47
26)	C	2-Nitrophenol		0.106	0.114	0.145	0.153	0.155	0.163	0.156	0.142	15.91
27)		2,4-Dimethylph...		0.380	0.332	0.349	0.337	0.329	0.336	0.319	0.340	5.79
28)		bis(2-Chloroet...		0.456	0.461	0.482	0.466	0.450	0.469	0.444	0.461	2.76
29)	C	2,4-Dichloroph...		0.285	0.295	0.310	0.316	0.310	0.318	0.305	0.306	3.89
30)		1,2,4-Trichlor...		0.324	0.329	0.336	0.322	0.318	0.331	0.311	0.324	2.62
31)		Naphthalene		1.140	1.123	1.164	1.113	1.107	1.120	1.053	1.117	3.05
32)		Benzoic acid			0.113	0.170	0.217	0.221	0.237	0.234	0.199	24.53
33)		4-Chloroaniline		0.438	0.472	0.492	0.481	0.472	0.480	0.462	0.471	3.69
34)	C	Hexachlorobuta...		0.219	0.219	0.231	0.221	0.222	0.225	0.212	0.221	2.63
35)		Caprolactam		0.087	0.101	0.108	0.106	0.105	0.108	0.105	0.103	6.92
36)	C	4-Chloro-3-met...		0.349	0.362	0.390	0.385	0.379	0.385	0.371	0.374	3.91
37)		2-Methylnaphth...		0.788	0.767	0.817	0.773	0.760	0.766	0.729	0.772	3.49
38)		1-Methylnaphth...		0.740	0.719	0.764	0.732	0.712	0.722	0.681	0.724	3.53

Method Path : Z:\svoasrv\HPCHEM1\BNA_G\Methods\
Method File : 8270-BG031324.M

39)	I	Acenaphthene-d10	----------ISTD----------								
40)		1,2,4,5-Tetrac...	0.590	0.611	0.639	0.613	0.619	0.631	0.597	0.614	2.83
41)	P	Hexachlorocycl...	0.245	0.254	0.304	0.315	0.321	0.345	0.331	0.302	12.70
42)	S	2,4,6-Tribromo...	0.178	0.218	0.234	0.245	0.248	0.254	0.245	0.232	11.46
43)	C	2,4,6-Trichlor...	0.352	0.366	0.406	0.405	0.408	0.421	0.403	0.394	6.45
44)		2,4,5-Trichlor...	0.402	0.436	0.485	0.484	0.484	0.498	0.477	0.467	7.37
45)	S	2-Fluorobiphenyl	1.509	1.518	1.596	1.471	1.459	1.461	1.340	1.479	5.26
46)		1,1'-Biphenyl	1.523	1.534	1.593	1.520	1.499	1.529	1.444	1.520	2.92
47)		2-Chloronaphth...	1.089	1.148	1.203	1.169	1.137	1.174	1.112	1.147	3.39
48)		2-Nitroaniline	0.277	0.327	0.376	0.411	0.416	0.428	0.415	0.379	14.98
49)		Acenaphthylene	1.813	1.868	1.957	1.881	1.882	1.897	1.785	1.869	3.00
50)		Dimethylphthalate	1.434	1.504	1.571	1.522	1.499	1.531	1.439	1.500	3.30
51)		2,6-Dinitrotol...	0.204	0.251	0.286	0.295	0.293	0.307	0.298	0.276	13.26
52)	C	Acenaphthene	1.120	1.111	1.184	1.113	1.096	1.120	1.074	1.117	3.03
53)		3-Nitroaniline	0.264	0.289	0.331	0.332	0.337	0.344	0.331	0.318	9.29
54)	P	2,4-Dinitrophenol		0.077	0.099	0.123	0.126	0.140	0.144	0.118	21.55
55)		Dibenzofuran	1.845	1.826	1.903	1.804	1.792	1.800	1.688	1.808	3.61
56)	P	4-Nitrophenol		0.195	0.226	0.246	0.251	0.257	0.249	0.237	9.85
57)		2,4-Dinitrotol...	0.255	0.302	0.351	0.373	0.380	0.389	0.383	0.348	14.57
58)		Fluorene	1.413	1.464	1.532	1.453	1.436	1.468	1.361	1.447	3.65
59)		2,3,4,6-Tetrac...	0.320	0.376	0.394	0.406	0.411	0.415	0.402	0.389	8.53
60)		Diethylphthalate	1.496	1.559	1.617	1.554	1.538	1.565	1.473	1.543	3.08
61)		4-Chlorophenyl...	0.725	0.741	0.776	0.729	0.724	0.736	0.699	0.733	3.15
62)		4-Nitroaniline	0.252	0.307	0.338	0.347	0.344	0.350	0.342	0.326	10.90
63)		Azobenzene	1.524	1.600	1.696	1.621	1.589	1.614	1.537	1.597	3.58
64)	I	Phenanthrene-d10	----------ISTD----------								
65)		4,6-Dinitro-2-...		0.057	0.076	0.087	0.087	0.096	0.094	0.083	17.56
66)	c	n-Nitrosodiphe...	0.605	0.616	0.674	0.631	0.621	0.639	0.596	0.626	4.11
67)		4-Bromophenyl-...	0.209	0.204	0.229	0.213	0.215	0.226	0.214	0.216	4.08
68)		Hexachlorobenzene	0.241	0.248	0.260	0.247	0.245	0.254	0.241	0.248	2.74
69)		Atrazine	0.192	0.207	0.224	0.214	0.209	0.213	0.206	0.209	4.78
70)	C	Pentachlorophenol		0.119	0.153	0.170	0.170	0.176	0.176	0.161	13.61
71)		Phenanthrene	1.100	1.098	1.162	1.071	1.048	1.074	0.989	1.077	4.90
72)		Anthracene	1.082	1.102	1.158	1.092	1.075	1.101	1.015	1.089	3.89
73)		Carbazole	0.896	0.961	1.017	0.954	0.950	0.957	0.895	0.947	4.42
74)		Di-n-butylphth...	1.044	1.139	1.244	1.198	1.172	1.186	1.097	1.154	5.82
75)	C	Fluoranthene	1.170	1.192	1.283	1.212	1.194	1.190	1.101	1.192	4.52
76)	I	Chrysene-d12	----------ISTD----------								
77)		Benzidine	0.414	0.407	0.436	0.545	0.520	0.581	0.522	0.489	14.13
78)		Pyrene	1.385	1.423	1.489	1.414	1.375	1.398	1.286	1.396	4.37
79)	S	Terphenyl-d14	1.201	1.204	1.244	1.096	1.065	1.028	0.907	1.106	10.77
80)		Butylbenzylpht...	0.436	0.477	0.542	0.557	0.560	0.575	0.547	0.528	9.69
81)		Benzo(a)anthra...	1.342	1.372	1.434	1.402	1.382	1.394	1.314	1.377	2.88
82)		3,3'-Dichlorob...	0.410	0.430	0.475	0.494	0.478	0.495	0.468	0.464	6.98
83)		Chrysene	1.344	1.335	1.385	1.346	1.320	1.359	1.271	1.337	2.66
84)		Bis(2-ethylhex...	0.668	0.705	0.795	0.826	0.815	0.847	0.800	0.779	8.52
85)	c	Di-n-octyl pht...	1.039	1.134	1.296	1.375	1.368	1.425	1.348	1.283	11.10

Method Path : Z:\svoasrv\HPCHEM1\BNA_G\Methods\
Method File : 8270-BG031324.M

86)	I	Perylene-d12	----------ISTD----------							
87)		Indeno(1,2,3-c...	1.240	1.273	1.400	1.396	1.403	1.450	1.387	1.364	5.62
88)		Benzo(b)fluora...	1.030	1.059	1.149	1.137	1.097	1.148	1.082	1.100	4.22
89)		Benzo(k)fluora...	1.112	1.106	1.207	1.164	1.174	1.189	1.140	1.156	3.29
90)	C	Benzo(a)pyrene	1.013	1.002	1.121	1.101	1.098	1.137	1.079	1.079	4.84
91)		Dibenzo(a,h)an...	1.087	1.078	1.184	1.182	1.175	1.225	1.176	1.158	4.69
92)		Benzo(g,h,i)pe...	1.019	1.059	1.152	1.154	1.146	1.182	1.137	1.121	5.26

(#) = Out of Range

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: LIRO01

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

Instrument ID: BNA_G Calibration Date/Time: 03/14/2024 10:25

Lab File ID: BG060632.D Init. Calib. Date(s): 03/13/2024 03/13/2024

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:44 15:27

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

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.272	1.299		2.1	
Benzaldehyde	1.033	1.042		0.9	
Phenol-d6	1.846	1.897		2.8	
Phenol	1.852	1.891		2.1	20.0
bis(2-Chloroethyl)ether	1.476	1.478		0.1	
2-Chlorophenol	1.391	1.423		2.3	
2-Methylphenol	1.422	1.427		0.4	
2,2-oxybis(1-Chloropropane)	2.866	2.809		-2.0	
Acetophenone	0.536	0.557		3.9	
3+4-Methylphenols	1.918	1.954		1.9	
n-Nitroso-di-n-propylamine	1.279	1.276	0.050	-0.2	
Nitrobenzene-d5	0.384	0.404		5.2	
Hexachloroethane	0.519	0.548		5.6	
Nitrobenzene	0.384	0.402		4.7	
Isophorone	0.769	0.794		3.3	
2-Nitrophenol	0.142	0.151		6.3	20.0
2,4-Dimethylphenol	0.340	0.337		-0.9	
bis(2-Chloroethoxy)methane	0.461	0.467		1.3	
2,4-Dichlorophenol	0.306	0.316		3.3	20.0
Naphthalene	1.117	1.130		1.2	
4-Chloroaniline	0.471	0.478		1.5	
Hexachlorobutadiene	0.221	0.223		0.9	20.0
Caprolactam	0.103	0.105		1.9	
4-Chloro-3-methylphenol	0.374	0.379		1.3	20.0
2-Methylnaphthalene	0.772	0.772		0.0	
Hexachlorocyclopentadiene	0.302	0.303	0.050	0.3	
2,4,6-Trichlorophenol	0.394	0.404		2.5	20.0
2-Fluorobiphenyl	1.479	1.464		-1.0	
2,4,5-Trichlorophenol	0.467	0.480		2.8	
1,1-Biphenyl	1.520	1.515		-0.3	
2-Chloronaphthalene	1.147	1.146		-0.1	
2-Nitroaniline	0.379	0.390		2.9	
Dimethylphthalate	1.500	1.516		1.1	
Acenaphthylene	1.869	1.881		0.6	
2,6-Dinitrotoluene	0.276	0.290		5.1	
3-Nitroaniline	0.318	0.328		3.1	
Acenaphthene	1.117	1.103		-1.3	20.0
2,4-Dinitrophenol	0.118	0.114	0.050	-3.4	
4-Nitrophenol	0.237	0.244	0.050	3.0	
Dibenzofuran	1.808	1.785		-1.3	
2,4-Dinitrotoluene	0.348	0.370		6.3	

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: LIRO01

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

Instrument ID: BNA_G Calibration Date/Time: 03/14/2024 10:25

Lab File ID: BG060632.D Init. Calib. Date(s): 03/13/2024 03/13/2024

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:44 15:27

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

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.543	1.539		-0.3	
4-Chlorophenyl-phenylether	0.733	0.721		-1.6	
Fluorene	1.447	1.454		0.5	
4-Nitroaniline	0.326	0.349		7.1	
4,6-Dinitro-2-methylphenol	0.083	0.082		-1.2	
n-Nitrosodiphenylamine	0.626	0.643		2.7	20.0
2,4,6-Tribromophenol	0.232	0.242		4.3	
4-Bromophenyl-phenylether	0.216	0.222		2.8	
Hexachlorobenzene	0.248	0.253		2.0	
Atrazine	0.209	0.212		1.4	
Pentachlorophenol	0.161	0.170		5.6	20.0
Phenanthrene	1.077	1.089		1.1	
Anthracene	1.089	1.122		3.0	
Carbazole	0.947	0.977		3.2	
Di-n-butylphthalate	1.154	1.230		6.6	
Fluoranthene	1.192	1.249		4.8	20.0
Pyrene	1.396	1.403		0.5	
Terphenyl-d14	1.106	1.099		-0.6	
Butylbenzylphthalate	0.528	0.566		7.2	
3,3-Dichlorobenzidine	0.464	0.485		4.5	
Benzo(a)anthracene	1.377	1.389		0.9	
Chrysene	1.337	1.353		1.2	
Bis(2-ethylhexyl)phthalate	0.779	0.835		7.2	
Di-n-octyl phthalate	1.283	1.389		8.3	20.0
Benzo(b)fluoranthene	1.100	1.121		1.9	
Benzo(k)fluoranthene	1.156	1.200		3.8	
Benzo(a)pyrene	1.079	1.112		3.1	20.0
Indeno(1,2,3-cd)pyrene	1.364	1.412		3.5	
Dibenzo(a,h)anthracene	1.158	1.195		3.2	
Benzo(g,h,i)perylene	1.121	1.146		2.2	
1,2,4,5-Tetrachlorobenzene	0.614	0.617		0.5	
1,4-Dioxane	0.533	0.550		3.2	20.0
2,3,4,6-Tetrachlorophenol	0.389	0.397		2.1	

All other compounds must meet a minimum RRF of 0.010.

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: LIRO01

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

Instrument ID: BNA_G Calibration Date/Time: 03/14/2024 22:39

Lab File ID: BG060649.D Init. Calib. Date(s): 03/13/2024 03/13/2024

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:44 15:27

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

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.272	1.260		-0.9	
Benzaldehyde	1.033	0.984		-4.7	
Phenol-d6	1.846	1.824		-1.2	
Phenol	1.852	1.801		-2.8	20.0
bis(2-Chloroethyl)ether	1.476	1.411		-4.4	
2-Chlorophenol	1.391	1.366		-1.8	
2-Methylphenol	1.422	1.370		-3.7	
2,2-oxybis(1-Chloropropane)	2.866	2.624		-8.4	
Acetophenone	0.536	0.514		-4.1	
3+4-Methylphenols	1.918	1.833		-4.4	
n-Nitroso-di-n-propylamine	1.279	1.189	0.050	-7.0	
Nitrobenzene-d5	0.384	0.384		0.0	
Hexachloroethane	0.519	0.511		-1.5	
Nitrobenzene	0.384	0.383		-0.3	
Isophorone	0.769	0.730		-5.1	
2-Nitrophenol	0.142	0.153		7.7	20.0
2,4-Dimethylphenol	0.340	0.330		-2.9	
bis(2-Chloroethoxy)methane	0.461	0.438		-5.0	
2,4-Dichlorophenol	0.306	0.303		-1.0	20.0
Naphthalene	1.117	1.055		-5.6	
4-Chloroaniline	0.471	0.458		-2.8	
Hexachlorobutadiene	0.221	0.206		-6.8	20.0
Caprolactam	0.103	0.103		0.0	
4-Chloro-3-methylphenol	0.374	0.365		-2.4	20.0
2-Methylnaphthalene	0.772	0.714		-7.5	
Hexachlorocyclopentadiene	0.302	0.293	0.050	-3.0	
2,4,6-Trichlorophenol	0.394	0.395		0.3	20.0
2-Fluorobiphenyl	1.479	1.421		-3.9	
2,4,5-Trichlorophenol	0.467	0.468		0.2	
1,1-Biphenyl	1.520	1.451		-4.5	
2-Chloronaphthalene	1.147	1.097		-4.4	
2-Nitroaniline	0.379	0.391		3.2	
Dimethylphthalate	1.500	1.467		-2.2	
Acenaphthylene	1.869	1.818		-2.7	
2,6-Dinitrotoluene	0.276	0.297		7.6	
3-Nitroaniline	0.318	0.328		3.1	
Acenaphthene	1.117	1.092		-2.2	20.0
2,4-Dinitrophenol	0.118	0.121	0.050	2.5	
4-Nitrophenol	0.237	0.248	0.050	4.6	
Dibenzofuran	1.808	1.748		-3.3	
2,4-Dinitrotoluene	0.348	0.376		8.0	

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: LIRO01

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

Instrument ID: BNA_G Calibration Date/Time: 03/14/2024 22:39

Lab File ID: BG060649.D Init. Calib. Date(s): 03/13/2024 03/13/2024

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:44 15:27

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

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.543	1.502		-2.7	
4-Chlorophenyl-phenylether	0.733	0.704		-4.0	
Fluorene	1.447	1.418		-2.0	
4-Nitroaniline	0.326	0.338		3.7	
4,6-Dinitro-2-methylphenol	0.083	0.086		3.6	
n-Nitrosodiphenylamine	0.626	0.594		-5.1	20.0
2,4,6-Tribromophenol	0.232	0.231		-0.4	
4-Bromophenyl-phenylether	0.216	0.194		-10.2	
Hexachlorobenzene	0.248	0.232		-6.5	
Atrazine	0.209	0.206		-1.4	
Pentachlorophenol	0.161	0.164		1.9	20.0
Phenanthrene	1.077	1.029		-4.5	
Anthracene	1.089	1.062		-2.5	
Carbazole	0.947	0.926		-2.2	
Di-n-butylphthalate	1.154	1.160		0.5	
Fluoranthene	1.192	1.170		-1.8	20.0
Pyrene	1.396	1.349		-3.4	
Terphenyl-d14	1.106	1.051		-5.0	
Butylbenzylphthalate	0.528	0.541		2.5	
3,3-Dichlorobenzidine	0.464	0.467		0.6	
Benzo(a)anthracene	1.377	1.316		-4.4	
Chrysene	1.337	1.286		-3.8	
Bis(2-ethylhexyl)phthalate	0.779	0.798		2.4	
Di-n-octyl phthalate	1.283	1.327		3.4	20.0
Benzo(b)fluoranthene	1.100	1.060		-3.6	
Benzo(k)fluoranthene	1.156	1.108		-4.2	
Benzo(a)pyrene	1.079	1.045		-3.2	20.0
Indeno(1,2,3-cd)pyrene	1.364	1.330		-2.5	
Dibenzo(a,h)anthracene	1.158	1.121		-3.2	
Benzo(g,h,i)perylene	1.121	1.082		-3.5	
1,2,4,5-Tetrachlorobenzene	0.614	0.580		-5.5	
1,4-Dioxane	0.533	0.540		1.3	20.0
2,3,4,6-Tetrachlorophenol	0.389	0.392		0.8	

All other compounds must meet a minimum RRF of 0.010.