



284 Sheffield Street, Mountainside, New Jersey - 07092

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

LAB CHRONICLE

OrderID: O1233
Client: Louis Berger U.S., Inc., A WSP Company
Contact: Jonathan Ganz

OrderDate: 1/19/2023 1:53:00 PM
Project: NYCDDC Phase II SCI Arthur Kill Road CEQR
Location: N11,VOA Ref. #2 Soil,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1233-02	B-P34A	SOIL	SVOC-TCL BNA -20	8270E	01/18/23	01/20/23	01/20/23	01/19/23
O1233-03	B-P34B	SOIL	SVOC-TCL BNA -20	8270E	01/18/23	01/20/23	01/21/23	01/19/23
O1233-04	B-P36A	SOIL	SVOC-TCL BNA -20	8270E	01/18/23	01/20/23	01/21/23	01/19/23
O1233-05	B-P36B	SOIL	SVOC-TCL BNA -20	8270E	01/18/23	01/20/23	01/21/23	01/19/23
O1233-06	B-P37A	SOIL	SVOC-TCL BNA -20	8270E	01/18/23	01/20/23	01/23/23	01/19/23
O1233-07	B-P37B	SOIL	SVOC-TCL BNA -20	8270E	01/18/23	01/20/23	01/20/23	01/19/23
O1233-08	B-38A	SOIL	SVOC-TCL BNA -20	8270E	01/18/23	01/20/23	01/23/23	01/19/23
O1233-09	B-P38B	SOIL	SVOC-TCL BNA -20	8270E	01/18/23	01/20/23	01/21/23	01/19/23
O1233-10	WC-38	SOIL	SVOC-PAH SVOC-TCL BNA -20	8270E 8270E	01/18/23	01/20/23 01/20/23	01/24/23 01/24/23	01/19/23
O1233-11	B-P38C	SOIL	SVOC-TCL BNA -20	8270E	01/18/23	01/20/23	01/21/23	01/19/23
O1233-11DL	B-P38CDL	SOIL	SVOC-TCL BNA -20	8270E	01/18/23	01/20/23	01/25/23	01/19/23



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Hit Summary Sheet
SW-846

SDG No.: O1233

Client: Louis Berger U.S., Inc., A WSP Company

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID :	WC-38							
O1233-10	WC-38	SOIL	Naphthalene	1,700.000		86.8	200	ug/Kg
			Total Svoc :		1,700.00			
			Total Concentration:		1,700.00			

SAMPLE DATA

A

B

C

D

E

F

G

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	WC-38	SDG No.:	O1233
Lab Sample ID:	O1233-10	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	84.9
Sample Wt/Vol:	30.07 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-PAH
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013565.D	1	01/20/23 12:30	01/24/23 11:43	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
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TARGETS

91-20-3	Naphthalene	1700		86.8	200	ug/Kg
208-96-8	Acenaphthylene	80.7	U	80.7	200	ug/Kg
83-32-9	Acenaphthene	92.7	U	92.7	200	ug/Kg
86-73-7	Fluorene	92.6	U	92.6	200	ug/Kg
85-01-8	Phenanthrene	98.2	U	98.2	200	ug/Kg
120-12-7	Anthracene	98.7	U	98.7	200	ug/Kg
206-44-0	Fluoranthene	93.8	U	93.8	200	ug/Kg
129-00-0	Pyrene	87.2	U	87.2	200	ug/Kg
56-55-3	Benzo(a)anthracene	100	U	100	200	ug/Kg
218-01-9	Chrysene	100	U	100	200	ug/Kg
205-99-2	Benzo(b)fluoranthene	81.1	U	81.1	200	ug/Kg
207-08-9	Benzo(k)fluoranthene	86.5	U	86.5	200	ug/Kg
50-32-8	Benzo(a)pyrene	79.6	U	79.6	200	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	120	U	120	200	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	120	U	120	200	ug/Kg
191-24-2	Benzo(g,h,i)perylene	110	U	110	200	ug/Kg

SURROGATES

4165-60-0	Nitrobenzene-d5	85.3		27 - 109	85%	SPK: 100
321-60-8	2-Fluorobiphenyl	66.8		30 - 103	67%	SPK: 100
1718-51-0	Terphenyl-d14	63.7		21 - 107	64%	SPK: 100

INTERNAL STANDARDS

3855-82-1	1,4-Dichlorobenzene-d4	254000	8.164
1146-65-2	Naphthalene-d8	973000	10.993
15067-26-2	Acenaphthene-d10	545000	14.793
1517-22-2	Phenanthrene-d10	1080000	17.545
1719-03-5	Chrysene-d12	971000	21.622
1520-96-3	Perylene-d12	1160000	24.21

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company		Date Collected:	01/18/23	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR		Date Received:	01/19/23	
Client Sample ID:	WC-38		SDG No.:	O1233	
Lab Sample ID:	O1233-10		Matrix:	SOIL	
Analytical Method:	SW8270		% Solid:	84.9	
Sample Wt/Vol:	30.07	Units: g	Final Vol:	1000	uL
Soil Aliquot Vol:		uL	Test:	SVOC-PAH	
Extraction Type :		Decanted : N	Level :	LOW	
Injection Volume :		GPC Factor : 1.0	GPC Cleanup :	N	PH :
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013565.D	1	01/20/23 12:30	01/24/23 11:43	PB150378

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.: O1233
Client: Louis Berger U.S., Inc., A WSP Company
Analytical Method: 8270E

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%)	
							Low	High
O1233-02MS	B-P34AMS	Nitrobenzene-d5	100	81.4	81		27	109
		2-Fluorobiphenyl	100	65.7	66		30	103
		Terphenyl-d14	100	73.6	74		21	107
O1233-02MSD	B-P34AMSD	Nitrobenzene-d5	100	82.3	82		27	109
		2-Fluorobiphenyl	100	66.1	66		30	103
		Terphenyl-d14	100	74.4	74		21	107
O1233-10	WC-38	Nitrobenzene-d5	100	85.3	85		27	109
		2-Fluorobiphenyl	100	66.8	67		30	103
		Terphenyl-d14	100	63.7	64		21	107
PB150378BL	PB150378BL	Nitrobenzene-d5	100	78.9	79		27	109
		2-Fluorobiphenyl	100	67.6	68		30	103
		Terphenyl-d14	100	70.3	70		21	107
PB150378BS	PB150378BS	Nitrobenzene-d5	100	90.3	90		27	109
		2-Fluorobiphenyl	100	85.2	85		30	103
		Terphenyl-d14	100	103	103		21	107



Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: O1233

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: SW8270E

Parameter	Spike	Sample		Units	Rec	Rec	RPD		Limits		RPD
		Result	Result			Qual	RPD	Qual	Low	High	
Lab Sample ID:	O1233-02MS	Client Sample ID:		B-P34AMS		DataFile:		BF132171.D			
Naphthalene	2000	0	1600	ug/Kg	80				72	110	
Acenaphthylene	2000	0	1600	ug/Kg	80				79	118	
Acenaphthene	2000	0	1800	ug/Kg	90				70	121	
Fluorene	2000	0	1600	ug/Kg	80				68	116	
Phenanthrene	2000	0	1500	ug/Kg	75				72	113	
Anthracene	2000	0	1500	ug/Kg	75				62	124	
Fluoranthene	2000	0	1700	ug/Kg	85				59	125	
Pyrene	2000	0	1600	ug/Kg	80				52	128	
Benzo(a)anthracene	2000	0	1700	ug/Kg	85				71	114	
Chrysene	2000	0	1600	ug/Kg	80				57	121	
Benzo(b)fluoranthene	2000	0	1800	ug/Kg	90				67	121	
Benzo(k)fluoranthene	2000	0	1700	ug/Kg	85				74	114	
Benzo(a)pyrene	2000	0	1600	ug/Kg	80				70	142	
Indeno(1,2,3-cd)pyrene	2000	0	1500	ug/Kg	75				61	125	
Dibenz(a,h)anthracene	2000	0	1700	ug/Kg	85				67	130	
Benzo(g,h,i)perylene	2000	0	1500	ug/Kg	75				53	140	



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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: O1233

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: SW8270E

Parameter	Spike	Sample		Units	Rec	Rec		RPD		Limits	
		Result	Result			Qual	RPD	Qual	Low	High	RPD
Lab Sample ID:	O1233-02MSD	Client Sample ID:	B-P34AMSD					DataFile:	BF132172.D		
Naphthalene	1900	0	1600	ug/Kg	84	5			72	110	20
Acenaphthylene	1900	0	1600	ug/Kg	84	5			79	118	20
Acenaphthene	1900	0	1800	ug/Kg	95	5			70	121	20
Fluorene	1900	0	1600	ug/Kg	84	5			68	116	20
Phenanthrene	1900	0	1500	ug/Kg	79	5			72	113	20
Anthracene	1900	0	1500	ug/Kg	79	5			62	124	20
Fluoranthene	1900	0	1700	ug/Kg	89	5			59	125	20
Pyrene	1900	0	1600	ug/Kg	84	5			52	128	20
Benzo(a)anthracene	1900	0	1600	ug/Kg	84	1			71	114	20
Chrysene	1900	0	1600	ug/Kg	84	5			57	121	20
Benzo(b)fluoranthene	1900	0	1800	ug/Kg	95	5			67	121	20
Benzo(k)fluoranthene	1900	0	1700	ug/Kg	89	5			74	114	20
Benzo(a)pyrene	1900	0	1600	ug/Kg	84	5			70	142	20
Indeno(1,2,3-cd)pyrene	1900	0	1500	ug/Kg	79	5			61	125	20
Dibenz(a,h)anthracene	1900	0	1600	ug/Kg	84	1			67	130	20
Benzo(g,h,i)perylene	1900	0	1500	ug/Kg	79	5			53	140	20



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

SDG No.: O1233

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: 8270E DataFile: BP013684.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD	Limits		RPD
								Qual	Low	High	
PB150378BS	Naphthalene	1700	1400	ug/Kg	82				62	100	
	Acenaphthylene	1700	1400	ug/Kg	82				63	101	
	Acenaphthene	1700	1600	ug/Kg	94				57	104	
	Fluorene	1700	1400	ug/Kg	82				61	101	
	Phenanthrene	1700	1400	ug/Kg	82				59	103	
	Anthracene	1700	1400	ug/Kg	82				61	105	
	Fluoranthene	1700	1400	ug/Kg	82				57	107	
	Pyrene	1700	1600	ug/Kg	94				59	103	
	Benzo(a)anthracene	1700	1500	ug/Kg	88				60	102	
	Chrysene	1700	1400	ug/Kg	82				59	101	
	Benzo(b)fluoranthene	1700	1700	ug/Kg	100				62	109	
	Benzo(k)fluoranthene	1700	1600	ug/Kg	94				62	109	
	Benzo(a)pyrene	1700	1400	ug/Kg	82				63	103	
	Indeno(1,2,3-cd)pyrene	1700	1300	ug/Kg	76				63	101	
	Dibenz(a,h)anthracene	1700	1300	ug/Kg	76				61	112	
	Benzo(g,h,i)perylene	1700	1200	ug/Kg	71				57	116	



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4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB150378BL

Lab Name: CHEMTECH

Contract: loui01

Lab Code: CHEM Case No.: 01233

SAS No.: 01233 SDG NO.: 01233

Lab File ID: BP013572.D

Lab Sample ID: PB150378BL

Instrument ID: BNA_P

Date Extracted: 01/20/2023

Matrix: (soil/water) SOIL

Date Analyzed: 01/24/2023

Level: (low/med) LOW

Time Analyzed: 15:50

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
PB150378BS	PB150378BS	BP013684.D	01/31/2023
B-P34AMS	01233-02MS	BF132171.D	01/20/2023
B-P34AMSD	01233-02MSD	BF132172.D	01/20/2023
WC-38	01233-10	BP013565.D	01/24/2023

COMMENTS:



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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: loui01

Lab Code: CHEM

SAS No.: 01233 SDG NO.: 01233

Lab File ID: BF132139.D

DFTPP Injection Date: 01/19/2023

Instrument ID: BNA_F

DFTPP Injection Time: 10:46

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	40.6
68	Less than 2.0% of mass 69	0.7 (1.8) 1
69	Mass 69 relative abundance	37.4
70	Less than 2.0% of mass 69	0.2 (0.5) 1
127	10.0 - 80.0% of mass 198	48.4
197	Less than 2.0% of mass 198	0.7
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	28.2
365	Greater than 1% of mass 198	3.9
441	Present, but less than mass 443	12.5
442	Greater than 50% of mass 198	100.0
443	15.0 - 24.0% of mass 442	16 (19.3) 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	BF132140.D	01/19/2023	11:21
SSTDICC005	SSTDICC005	BF132141.D	01/19/2023	11:53
SSTDICC010	SSTDICC010	BF132142.D	01/19/2023	12:26
SSTDICC020	SSTDICC020	BF132143.D	01/19/2023	12:59
SSTDICCC040	SSTDICCC040	BF132144.D	01/19/2023	13:32
SSTDICC050	SSTDICC050	BF132145.D	01/19/2023	14:05
SSTDICC060	SSTDICC060	BF132146.D	01/19/2023	14:38
SSTDICC080	SSTDICC080	BF132147.D	01/19/2023	15:11



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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: loui01

Lab Code: CHEM

SAS No.: O1233 SDG NO.: O1233

Lab File ID: BF132163.D

DFTPP Injection Date: 01/20/2023

Instrument ID: BNA_F

DFTPP Injection Time: 16:08

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	38.5
68	Less than 2.0% of mass 69	0.7 (1.9) 1
69	Mass 69 relative abundance	36
70	Less than 2.0% of mass 69	0.2 (0.5) 1
127	10.0 - 80.0% of mass 198	46.9
197	Less than 2.0% of mass 198	0.7
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	28.3
365	Greater than 1% of mass 198	4.3
441	Present, but less than mass 443	13.9
442	Greater than 50% of mass 198	100.0
443	15.0 - 24.0% of mass 442	17.6 (19.7) 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	BF132164.D	01/20/2023	16:40
B-P34AMS	O1233-02MS	BF132171.D	01/20/2023	20:35
B-P34AMSD	O1233-02MSD	BF132172.D	01/20/2023	21:08



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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: loui01

Lab Code: CHEM

SAS No.: 01233 SDG NO.: 01233

Lab File ID: BP013544.D

DFTPP Injection Date: 01/23/2023

Instrument ID: BNA_P

DFTPP Injection Time: 10:51

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	38.2
68	Less than 2.0% of mass 69	0.6 (1.7) 1
69	Mass 69 relative abundance	34.1
70	Less than 2.0% of mass 69	0.2 (0.6) 1
127	10.0 - 80.0% of mass 198	46.8
197	Less than 2.0% of mass 198	0.6
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	26.5
365	Greater than 1% of mass 198	3.4
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	19.9 (19.9) 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	BP013545.D	01/23/2023	11:25
SSTDICC005	SSTDICC005	BP013546.D	01/23/2023	12:00
SSTDICC010	SSTDICC010	BP013547.D	01/23/2023	12:34
SSTDICC020	SSTDICC020	BP013548.D	01/23/2023	13:08
SSTDICCC040	SSTDICCC040	BP013549.D	01/23/2023	13:42
SSTDICC050	SSTDICC050	BP013550.D	01/23/2023	14:17
SSTDICC060	SSTDICC060	BP013551.D	01/23/2023	14:51
SSTDICC080	SSTDICC080	BP013552.D	01/23/2023	16:01



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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: loui01

Lab Code: CHEM

SAS No.: 01233

SDG NO.: 01233

Lab File ID: BP013561.D

DFTPP Injection Date: 01/24/2023

Instrument ID: BNA_P

DFTPP Injection Time: 09:20

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	28.8
68	Less than 2.0% of mass 69	0.4 (1.6) 1
69	Mass 69 relative abundance	27.3
70	Less than 2.0% of mass 69	0.1 (0.5) 1
127	10.0 - 80.0% of mass 198	39.7
197	Less than 2.0% of mass 198	0.5
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.1
275	10.0 - 60.0% of mass 198	24.3
365	Greater than 1% of mass 198	3.3
441	Present, but less than mass 443	15.3
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	19.5 (19.5) 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	BP013562.D	01/24/2023	09:53
WC-38	O1233-10	BP013565.D	01/24/2023	11:43

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: loui01

Lab Code: CHEM

SAS No.: 01233 SDG NO.: 01233

Lab File ID: BP013570.D

DFTPP Injection Date: 01/24/2023

Instrument ID: BNA_P

DFTPP Injection Time: 14:38

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	33.8
68	Less than 2.0% of mass 69	0.5 (1.7) 1
69	Mass 69 relative abundance	32.2
70	Less than 2.0% of mass 69	0.2 (0.5) 1
127	10.0 - 80.0% of mass 198	44.7
197	Less than 2.0% of mass 198	0.3
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	25.6
365	Greater than 1% of mass 198	3.3
441	Present, but less than mass 443	15.4
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	19.5 (19.5) 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	BP013571.D	01/24/2023	15:13
PB150378BL	PB150378BL	BP013572.D	01/24/2023	15:50



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

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: loui01

Lab Code: CHEM

SAS No.: 01233 SDG NO.: 01233

Lab File ID: BP013668.D

DFTPP Injection Date: 01/31/2023

Instrument ID: BNA_P

DFTPP Injection Time: 10:47

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	24
68	Less than 2.0% of mass 69	0.5 (1.8) 1
69	Mass 69 relative abundance	27.1
70	Less than 2.0% of mass 69	0.2 (0.6) 1
127	10.0 - 80.0% of mass 198	34.4
197	Less than 2.0% of mass 198	0.5
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.3
275	10.0 - 60.0% of mass 198	27.4
365	Greater than 1% of mass 198	3.7
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	19.5 (19.5) 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	BP013669.D	01/31/2023	11:21
SSTDICC005	SSTDICC005	BP013670.D	01/31/2023	11:55
SSTDICC010	SSTDICC010	BP013671.D	01/31/2023	12:30
SSTDICC020	SSTDICC020	BP013672.D	01/31/2023	13:04
SSTDICCC040	SSTDICCC040	BP013673.D	01/31/2023	13:38
SSTDICC050	SSTDICC050	BP013674.D	01/31/2023	14:12
SSTDICC060	SSTDICC060	BP013675.D	01/31/2023	14:47
SSTDICC080	SSTDICC080	BP013676.D	01/31/2023	15:56
PB150378BS	PB150378BS	BP013684.D	01/31/2023	21:04

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH
 Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233
 EPA Sample No.: SSTDCCC040 Date Analyzed: 01/20/2023
 Lab File ID: BF132164.D Time Analyzed: 16:40
 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	175584	7.09	590884	8.38	314145	10.14
UPPER LIMIT	351168	7.59	1181770	8.878	628290	10.642
LOWER LIMIT	87792	6.59	295442	7.878	157073	9.642
EPA SAMPLE NO.						
01 B-P34AMS	184212	7.09	674454	8.38	369043	10.14
02 B-P34AMSD	185010	7.09	669898	8.38	363370	10.14

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.: O1233 SAS No.: O1233 SDG NO.: O1233

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/20/2023

Lab File ID: BF132164.D Time Analyzed: 16:40

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	631542	11.642	364265	14.307	316916	15.901
UPPER LIMIT	1263080	12.142	728530	14.807	633832	16.401
LOWER LIMIT	315771	11.142	182133	13.807	158458	15.401
EPA SAMPLE NO.						
01 B-P34AMS	748390	11.64	455426	14.31	405760	15.90
02 B-P34AMSD	736982	11.64	439968	14.31	406965	15.90

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.: O1233 SAS No.: O1233 SDG NO.: O1233

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/24/2023

Lab File ID: BP013562.D Time Analyzed: 09:53

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	306826	8.164	1252680	10.99	763071	14.80
UPPER LIMIT	613652	8.664	2505360	11.493	1526140	15.299
LOWER LIMIT	153413	7.664	626340	10.493	381536	14.299
EPA SAMPLE NO.						
01 WC-38	253707	8.16	972664	10.99	544889	14.79

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.: O1233 SAS No.: O1233 SDG NO.: O1233

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/24/2023

Lab File ID: BP013562.D Time Analyzed: 09:53

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	1590580	17.551	1270420	21.628	1120190	24.216
UPPER LIMIT	3181160	18.051	2540840	22.128	2240380	24.716
LOWER LIMIT	795290	17.051	635210	21.128	560095	23.716
EPA SAMPLE NO.						
01 WC-38	1077800	17.55	971180	21.62	1162670	24.21

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.: O1233 SAS No.: O1233 SDG NO.: O1233

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/24/2023

Lab File ID: BP013571.D Time Analyzed: 15:13

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	306718	8.163	1319960	10.99	845480	14.80
UPPER LIMIT	613436	8.663	2639920	11.493	1690960	15.298
LOWER LIMIT	153359	7.663	659980	10.493	422740	14.298
EPA SAMPLE NO.						
01 PB150378BL	291029	8.16	1295640	10.99	837908	14.80

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.: O1233 SAS No.: O1233 SDG NO.: O1233

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/24/2023

Lab File ID: BP013571.D Time Analyzed: 15:13

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	1830850	17.551	1775330	21.627	1903850	24.215
UPPER LIMIT	3661700	18.051	3550660	22.127	3807700	24.715
LOWER LIMIT	915425	17.051	887665	21.127	951925	23.715
EPA SAMPLE NO.						
01 PB150378BL	1910080	17.55	1883140	21.63	2131870	24.22

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.: O1233 SAS No.: O1233 SDG NO.: O1233

EPA Sample No.: SSTDICCC040 Date Analyzed: 01/31/2023

Lab File ID: BP013673.D Time Analyzed: 13:38

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	222064	8.14	832306	10.97	549003	14.78
UPPER LIMIT	444128	8.64	1664610	11.469	1098010	15.281
LOWER LIMIT	111032	7.64	416153	10.469	274502	14.281
EPA SAMPLE NO.						
01 PB150378BS	297815	8.14	1192600	10.97	801024	14.78

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.: O1233 SAS No.: O1233 SDG NO.: O1233

EPA Sample No.: SSTDICCC040 Date Analyzed: 01/31/2023

Lab File ID: BP013673.D Time Analyzed: 13:38

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	1258360	17.533	1280890	21.61	1494510	24.186
UPPER LIMIT	2516720	18.033	2561780	22.11	2989020	24.686
LOWER LIMIT	629180	17.033	640445	21.11	747255	23.686
EPA SAMPLE NO.						
01 PB150378BS	1851080	17.53	1639740	21.61	1453640	24.18

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

A

B

C

D

E

F

G

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company		Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR		Date Received:	
Client Sample ID:	PB150378BL		SDG No.:	O1233
Lab Sample ID:	PB150378BL		Matrix:	SOIL
Analytical Method:	SW8270		% Solid:	100
Sample Wt/Vol:	30.01	Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:		uL	Test:	SVOC-PAH
Extraction Type :		Decanted : N	Level :	LOW
Injection Volume :		GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013572.D	1	01/20/23 12:30	01/24/23 15:50	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
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TARGETS

91-20-3	Naphthalene	73.9	U	73.9	170	ug/Kg
208-96-8	Acenaphthylene	68.7	U	68.7	170	ug/Kg
83-32-9	Acenaphthene	78.9	U	78.9	170	ug/Kg
86-73-7	Fluorene	78.8	U	78.8	170	ug/Kg
85-01-8	Phenanthrene	83.6	U	83.6	170	ug/Kg
120-12-7	Anthracene	84.0	U	84.0	170	ug/Kg
206-44-0	Fluoranthene	79.8	U	79.8	170	ug/Kg
129-00-0	Pyrene	74.2	U	74.2	170	ug/Kg
56-55-3	Benzo(a)anthracene	86.8	U	86.8	170	ug/Kg
218-01-9	Chrysene	85.5	U	85.5	170	ug/Kg
205-99-2	Benzo(b)fluoranthene	69.0	U	69.0	170	ug/Kg
207-08-9	Benzo(k)fluoranthene	73.6	U	73.6	170	ug/Kg
50-32-8	Benzo(a)pyrene	67.7	U	67.7	170	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	100	U	100	170	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	100	U	100	170	ug/Kg
191-24-2	Benzo(g,h,i)perylene	96.9	U	96.9	170	ug/Kg

SURROGATES

4165-60-0	Nitrobenzene-d5	78.9		27 - 109	79%	SPK: 100
321-60-8	2-Fluorobiphenyl	67.6		30 - 103	68%	SPK: 100
1718-51-0	Terphenyl-d14	70.3		21 - 107	70%	SPK: 100

INTERNAL STANDARDS

3855-82-1	1,4-Dichlorobenzene-d4	291000	8.163
1146-65-2	Naphthalene-d8	1300000	10.993
15067-26-2	Acenaphthene-d10	838000	14.798
1517-22-2	Phenanthrene-d10	1910000	17.551
1719-03-5	Chrysene-d12	1880000	21.627
1520-96-3	Perylene-d12	2130000	24.216

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company		Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR		Date Received:	
Client Sample ID:	PB150378BL		SDG No.:	O1233
Lab Sample ID:	PB150378BL		Matrix:	SOIL
Analytical Method:	SW8270		% Solid:	100
Sample Wt/Vol:	30.01	Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:		uL	Test:	SVOC-PAH
Extraction Type :		Decanted : N	Level :	LOW
Injection Volume :		GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013572.D	1	01/20/23 12:30	01/24/23 15:50	PB150378

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:	Louis Berger U.S., Inc., A WSP Company		Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR		Date Received:	
Client Sample ID:	PB150378BS		SDG No.:	O1233
Lab Sample ID:	PB150378BS		Matrix:	SOIL
Analytical Method:	SW8270		% Solid:	100
Sample Wt/Vol:	30.02	Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:		uL	Test:	SVOC-PAH
Extraction Type :		Decanted : N	Level :	LOW
Injection Volume :		GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013684.D	1	01/20/23 12:30	01/31/23 21:04	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
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TARGETS

91-20-3	Naphthalene	1400		73.9	170	ug/Kg
208-96-8	Acenaphthylene	1400		68.7	170	ug/Kg
83-32-9	Acenaphthene	1600		78.8	170	ug/Kg
86-73-7	Fluorene	1400		78.7	170	ug/Kg
85-01-8	Phenanthrene	1400		83.5	170	ug/Kg
120-12-7	Anthracene	1400		83.9	170	ug/Kg
206-44-0	Fluoranthene	1400		79.7	170	ug/Kg
129-00-0	Pyrene	1600		74.2	170	ug/Kg
56-55-3	Benzo(a)anthracene	1500		86.7	170	ug/Kg
218-01-9	Chrysene	1400		85.4	170	ug/Kg
205-99-2	Benzo(b)fluoranthene	1700		69.0	170	ug/Kg
207-08-9	Benzo(k)fluoranthene	1600		73.6	170	ug/Kg
50-32-8	Benzo(a)pyrene	1400		67.7	170	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1300		100	170	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1300		100	170	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1200		96.8	170	ug/Kg

SURROGATES

4165-60-0	Nitrobenzene-d5	90.3		27 - 109	90%	SPK: 100
321-60-8	2-Fluorobiphenyl	85.2		30 - 103	85%	SPK: 100
1718-51-0	Terphenyl-d14	103		21 - 107	103%	SPK: 100

INTERNAL STANDARDS

3855-82-1	1,4-Dichlorobenzene-d4	298000	8.14
1146-65-2	Naphthalene-d8	1190000	10.969
15067-26-2	Acenaphthene-d10	801000	14.775
1517-22-2	Phenanthrene-d10	1850000	17.528
1719-03-5	Chrysene-d12	1640000	21.61
1520-96-3	Perylene-d12	1450000	24.18

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company		Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR		Date Received:	
Client Sample ID:	PB150378BS		SDG No.:	O1233
Lab Sample ID:	PB150378BS		Matrix:	SOIL
Analytical Method:	SW8270		% Solid:	100
Sample Wt/Vol:	30.02	Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:		uL	Test:	SVOC-PAH
Extraction Type :		Decanted : N	Level :	LOW
Injection Volume :		GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013684.D	1	01/20/23 12:30	01/31/23 21:04	PB150378

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:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMS	SDG No.:	O1233
Lab Sample ID:	O1233-02MS	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
Sample Wt/Vol:	30.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-PAH
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132171.D	1	01/20/23 12:30	01/20/23 20:35	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
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TARGETS

91-20-3	Naphthalene	1600		86.5	200	ug/Kg
208-96-8	Acenaphthylene	1600		80.4	200	ug/Kg
83-32-9	Acenaphthene	1800		92.3	200	ug/Kg
86-73-7	Fluorene	1600		92.2	200	ug/Kg
85-01-8	Phenanthrene	1500		97.8	200	ug/Kg
120-12-7	Anthracene	1500		98.3	200	ug/Kg
206-44-0	Fluoranthene	1700		93.4	200	ug/Kg
129-00-0	Pyrene	1600		86.8	200	ug/Kg
56-55-3	Benzo(a)anthracene	1700		100	200	ug/Kg
218-01-9	Chrysene	1600		100	200	ug/Kg
205-99-2	Benzo(b)fluoranthene	1800		80.8	200	ug/Kg
207-08-9	Benzo(k)fluoranthene	1700		86.1	200	ug/Kg
50-32-8	Benzo(a)pyrene	1600		79.2	200	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1500		120	200	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1700		120	200	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1500		110	200	ug/Kg

SURROGATES

4165-60-0	Nitrobenzene-d5	81.4		27 - 109	81%	SPK: 100
321-60-8	2-Fluorobiphenyl	65.7		30 - 103	66%	SPK: 100
1718-51-0	Terphenyl-d14	73.6		21 - 107	74%	SPK: 100

INTERNAL STANDARDS

3855-82-1	1,4-Dichlorobenzene-d4	184000	7.09
1146-65-2	Naphthalene-d8	674000	8.378
15067-26-2	Acenaphthene-d10	369000	10.142
1517-22-2	Phenanthrene-d10	748000	11.642
1719-03-5	Chrysene-d12	455000	14.307
1520-96-3	Perylene-d12	406000	15.901

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMS	SDG No.:	O1233
Lab Sample ID:	O1233-02MS	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
Sample Wt/Vol:	30.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-PAH
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132171.D	1	01/20/23 12:30	01/20/23 20:35	PB150378

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:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMSD	SDG No.:	O1233
Lab Sample ID:	O1233-02MSD	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
Sample Wt/Vol:	30.07 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-PAH
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132172.D	1	01/20/23 12:30	01/20/23 21:08	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
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TARGETS

91-20-3	Naphthalene	1600		86.4	200	ug/Kg
208-96-8	Acenaphthylene	1600		80.4	200	ug/Kg
83-32-9	Acenaphthene	1800		92.3	200	ug/Kg
86-73-7	Fluorene	1600		92.2	200	ug/Kg
85-01-8	Phenanthrene	1500		97.8	200	ug/Kg
120-12-7	Anthracene	1500		98.2	200	ug/Kg
206-44-0	Fluoranthene	1700		93.3	200	ug/Kg
129-00-0	Pyrene	1600		86.8	200	ug/Kg
56-55-3	Benzo(a)anthracene	1600		100	200	ug/Kg
218-01-9	Chrysene	1600		100	200	ug/Kg
205-99-2	Benzo(b)fluoranthene	1800		80.7	200	ug/Kg
207-08-9	Benzo(k)fluoranthene	1700		86.1	200	ug/Kg
50-32-8	Benzo(a)pyrene	1600		79.2	200	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1500		120	200	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1600		120	200	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1500		110	200	ug/Kg

SURROGATES

4165-60-0	Nitrobenzene-d5	82.3		27 - 109	82%	SPK: 100
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INTERNAL STANDARDS

3855-82-1	1,4-Dichlorobenzene-d4	185000	7.089
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1517-22-2	Phenanthrene-d10	737000	11.642
1719-03-5	Chrysene-d12	440000	14.307
1520-96-3	Perylene-d12	407000	15.901

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMSD	SDG No.:	O1233
Lab Sample ID:	O1233-02MSD	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
Sample Wt/Vol:	30.07 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-PAH
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132172.D	1	01/20/23 12:30	01/20/23 21:08	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
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* = Values outside of QC limits

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A = Aldol-Condensation Reaction Products

CALIBRATION SUMMARY

Method Path : Z:\svoasrv\HPCHEM1\BNA_F\Methods\
 Method File : 8270-BF011923.M
 Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
 Last Update : Fri Jan 20 00:50:42 2023
 Response Via : Initial Calibration

Calibration Files

2.5 =BF132140.D 5 =BF132141.D 10 =BF132142.D 20 =BF132143.D 40 =BF132144.D 50 =BF132145.D 60 =BF132146.D 80 =BF132147.D

	Compound	2.5	5	10	20	40	50	60	80	Avg	%RSD
1) I	1,4-Dichlorobenzen...	-----ISTD-----									
2)	1,4-Dioxane	0.624	0.591	0.586	0.580	0.553	0.575	0.553	0.580	4.24	
3)	Pyridine	1.663	1.539	1.599	1.567	1.496	1.554	1.480	1.557	3.98	
4)	n-Nitrosodimet...	0.731	0.705	0.733	0.730	0.724	0.761	0.742	0.732	2.31	
5) S	2-Fluorophenol	1.301	1.246	1.204	1.116	1.063	1.077	1.009	1.145	9.35	
6)	Aniline	2.241	2.090	2.044	1.937	1.865	1.940	1.857	1.996	6.91	
7) S	Phenol-d6	1.696	1.541	1.516	1.404	1.325	1.352	1.254	1.441	10.54	
8)	2-Chlorophenol	1.351	1.306	1.286	1.183	1.129	1.136	1.034	1.203	9.50	
9)	Benzaldehyde		1.086	1.022	0.903	0.814	0.812		0.927	13.33	
10) C	Phenol	1.733	1.636	1.580	1.468	1.375	1.408	1.303	1.500	10.29	
11)	bis(2-Chloroet...	1.461	1.341	1.325	1.236	1.178	1.219	1.131	1.270	8.87	
12)	1,3-Dichlorobe...	1.556	1.458	1.406	1.312	1.242	1.269	1.174	1.345	9.97	
13) C	1,4-Dichlorobe...	1.544	1.451	1.419	1.314	1.238	1.266	1.163	1.342	9.99	
14)	1,2-Dichlorobe...	1.495	1.391	1.326	1.200	1.128	1.134	1.014	1.241	13.62	
15)	Benzyl Alcohol	1.128	1.103	1.125	1.106	1.090	1.105	1.060	1.102	2.07	
16)	2,2'-oxybis(1-...	2.119	1.959	1.937	1.815	1.731	1.743	1.617	1.846	9.20	
17)	2-Methylphenol	1.172	1.098	1.104	1.042	0.990	1.019	0.955	1.054	7.08	
18)	Hexachloroethane	0.503	0.486	0.495	0.489	0.466	0.485	0.449	0.482	3.82	
19) P	n-Nitroso-di-n...	0.922	1.015	0.971	0.921	0.847	0.797	0.814	0.776	0.883	9.86
20)	3+4-Methylphenols		1.509	1.435	1.426	1.317	1.235	1.258	1.119	1.328	10.25
21) I	Naphthalene-d8	-----ISTD-----									
22)	Acetophenone	0.579	0.528	0.504	0.462	0.431	0.442	0.419	0.481	12.18	
23) S	Nitrobenzene-d5	0.363	0.366	0.383	0.383	0.371	0.388	0.381	0.376	2.54	
24)	Nitrobenzene	0.397	0.392	0.410	0.406	0.388	0.406	0.391	0.399	2.20	
25)	Isophorone	0.767	0.740	0.738	0.719	0.711	0.739	0.743	0.737	2.45	
26) C	2-Nitrophenol	0.099	0.105	0.128	0.148	0.154			0.127	19.49	
27)	2,4-Dimethylph...	0.334	0.330	0.324	0.322	0.308	0.313	0.300	0.319	3.82	
28)	bis(2-Chloroet...	0.497	0.471	0.461	0.430	0.407	0.421	0.406	0.442	7.97	
29) C	2,4-Dichloroph...	0.303	0.298	0.313	0.309	0.294	0.305	0.296	0.303	2.28	
30)	1,2,4-Trichlor...	0.388	0.360	0.355	0.338	0.320	0.328	0.316	0.344	7.49	
31)	Naphthalene	1.185	1.119	1.075	0.998	0.942	0.965	0.907	1.027	9.89	
32)	Benzoic acid		0.118	0.151	0.188	0.200	0.228	0.235	0.187	24.10	
33)	4-Chloroaniline	0.496	0.474	0.458	0.437	0.411	0.410	0.390	0.440	8.72	
34) C	Hexachlorobuta...	0.252	0.234	0.234	0.227	0.220	0.230	0.220	0.231	4.75	
35)	Caprolactam	0.075	0.081	0.086	0.090	0.089	0.090	0.089	0.086	6.65	
36) C	4-Chloro-3-met...	0.299	0.305	0.314	0.309	0.305	0.302	0.298	0.305	1.80	
37)	2-Methylnaphth...	0.828	0.783	0.739	0.684	0.643	0.655	0.619	0.707	11.04	
38)	1-Methylnaphth...	0.774	0.719	0.690	0.638	0.599	0.609	0.577	0.658	10.93	

Method Path : Z:\svoasrv\HPCHEM1\BNA_F\Methods\
 Method File : 8270-BF011923.M

39) I	Acenaphthene-d10	-----ISTD-----									
40)	1,2,4,5-Tetrac...	0.789	0.737	0.719	0.684	0.641	0.667	0.634	0.696	8.04	
41) P	Hexachlorocycl...	0.306	0.342	0.390	0.389	0.422	0.428	0.380		12.43	
42) S	2,4,6-Tribromo...	0.197	0.207	0.222	0.221	0.217	0.219	0.212	0.214	4.25	
43) C	2,4,6-Trichlor...	0.392	0.414	0.445	0.448	0.437	0.451	0.436	0.432	4.95	
44)	2,4,5-Trichlor...	0.475	0.487	0.519	0.523	0.504	0.524	0.504	0.505	3.69	
45) S	2-Fluorobiphenyl	1.669	1.529	1.407	1.250	1.162	1.197		1.369	14.76	
46)	1,1'-Biphenyl	1.813	1.710	1.657	1.537	1.450	1.490	1.388	1.578	9.70	
47)	2-Chloronaphth...	1.372	1.294	1.270	1.195	1.131	1.167	1.110	1.220	7.81	
48)	2-Nitroaniline	0.245	0.288	0.354	0.380	0.391	0.405	0.395	0.351	17.42	
49)	Acenaphthylene	2.180	2.078	2.033	1.912	1.834	1.851	1.771	1.951	7.63	
50)	Dimethylphthalate	1.562	1.520	1.519	1.435	1.369	1.396	1.338	1.449	5.95	
51)	2,6-Dinitrotol...	0.224	0.253	0.286	0.301	0.300	0.307	0.296	0.281	10.95	
52) C	Acenaphthene	1.315	1.269	1.214	1.141	1.085	1.123	1.070	1.174	8.01	
53)	3-Nitroaniline	0.256	0.289	0.318	0.322	0.319	0.307	0.291	0.300	7.88	
54) P	2,4-Dinitrophenol	0.078	0.097	0.111	0.124	0.131		0.108		19.86	
55)	Dibenzofuran	2.079	1.971	1.883	1.771	1.692	1.707	1.594	1.814	9.44	
56) P	4-Nitrophenol	0.172	0.191	0.221	0.232	0.242	0.239	0.233	0.218	12.18	
57)	2,4-Dinitrotol...	0.266	0.281	0.340	0.355	0.372	0.379	0.366	0.337	13.46	
58)	Fluorene	1.619	1.504	1.416	1.282	1.219	1.221	1.148	1.344	12.87	
59)	2,3,4,6-Tetrac...	0.344	0.366	0.400	0.405	0.393	0.399	0.382	0.384	5.77	
60)	Diethylphthalate	1.495	1.493	1.485	1.423	1.389	1.362	1.296	1.420	5.37	
61)	4-Chlorophenyl...	0.838	0.783	0.750	0.704	0.664	0.673	0.625	0.720	10.37	
62)	4-Nitroaniline	0.258	0.275	0.293	0.282	0.290	0.283	0.276	0.279	4.12	
63)	Azobenzene	1.594	1.515	1.498	1.401	1.349	1.354	1.268	1.426	8.00	
64) I	Phenanthrene-d10	-----ISTD-----									
65)	4,6-Dinitro-2-...	0.058	0.072	0.085	0.094	0.103	0.109	0.087		22.26	
66) c	n-Nitrosodiphe...	0.705	0.681	0.655	0.614	0.598	0.628	0.601	0.641	6.46	
67)	4-Bromophenyl-...	0.260	0.253	0.247	0.237	0.230	0.244	0.236	0.244	4.25	
68)	Hexachlorobenzene	0.260	0.248	0.243	0.235	0.229	0.242	0.237	0.242	4.22	
69)	Atrazine	0.204	0.202	0.203	0.197	0.190	0.198	0.190	0.198	2.96	
70) C	Pentachlorophenol	0.123	0.136	0.156	0.162	0.167	0.174	0.172	0.156	12.45	
71)	Phenanthrene	1.231	1.134	1.083	0.997	0.960	1.003	0.939	1.050	10.02	
72)	Anthracene	1.244	1.150	1.104	1.007	0.965	1.006	0.956	1.062	10.15	
73)	Carbazole	1.046	0.997	0.952	0.865	0.829	0.852	0.808	0.907	10.07	
74)	Di-n-butylphth...	1.021	1.052	1.071	0.990	0.977	1.001	0.955	1.010	4.07	
75) C	Fluoranthene	1.297	1.190	1.123	1.008	0.979	1.002	0.949	1.078	11.96	
76) I	Chrysene-d12	-----ISTD-----									
77)	Benzydine	0.607	0.635	0.615	0.682	0.569	0.574	0.521	0.600	8.60	
78)	Pyrene	1.905	1.890	1.961	1.847	1.820	1.833	1.646	1.843	5.41	
79) S	Terphenyl-d14	1.378	1.298	1.274	1.157	1.116	1.127	1.007	1.194	10.71	
80)	Butylbenzylpht...	0.360	0.428	0.535	0.582	0.598	0.624	0.612	0.534	19.03	
81)	Benzo(a)anthra...	1.454	1.419	1.446	1.403	1.402	1.471	1.406	1.429	1.95	
82)	3,3'-Dichlorob...	0.310	0.345	0.403	0.422	0.418	0.456	0.430	0.398	12.91	
83)	Chrysene	1.457	1.365	1.351	1.331	1.310	1.380	1.325	1.360	3.62	
84)	Bis(2-ethylhex...	0.472	0.547	0.691	0.768	0.788	0.841	0.830	0.705	20.44	
85) c	Di-n-octyl pht...	0.595	0.816	1.093	1.187	1.360	1.445	1.083		30.01#	

Method Path : Z:\svoasrv\HPCHEM1\BNA_F\Methods\
Method File : 8270-BF011923.M

86) I	Perylene-d12	-----ISTD-----								
87)	Indeno(1,2,3-c...	1.093	1.197	1.461	1.579	1.556	1.661	1.613	1.451	15.17
88)	Benzo(b)fluora...	1.288	1.234	1.181	1.230	1.164	1.212	1.214	1.218	3.28
89)	Benzo(k)fluora...	1.336	1.302	1.303	1.211	1.157	1.208	1.177	1.242	5.66
90) C	Benzo(a)pyrene	1.124	1.102	1.157	1.195	1.167	1.243	1.212	1.171	4.23
91)	Dibenzo(a,h)an...	0.926	1.009	1.215	1.294	1.249	1.323	1.268	1.184	12.94
92)	Benzo(g,h,i)pe...	0.925	1.038	1.267	1.354	1.328	1.422	1.385	1.246	15.21

(#) = Out of Range

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
 Method File : 8270E-BP012323.M
 Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
 Last Update : Tue Jan 24 04:44:15 2023
 Response Via : Initial Calibration

Calibration Files

2.5 =BP013545.D 5 =BP013546.D 10 =BP013547.D 20 =BP013548.D 40 =BP013549.D 50 =BP013550.D 60 =BP013551.D 80 =BP013552.D

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

1) I 1,4-Dichlorobenzen...	-----ISTD-----									
2) 1,4-Dioxane		0.496	0.484	0.477	0.495	0.475	0.451	0.417	0.471	5.98
3) Pyridine		1.435	1.372	1.356	1.479	1.425	1.385	1.327	1.397	3.73
4) n-Nitrosodimet...		0.665	0.639	0.646	0.662	0.634	0.607	0.569	0.632	5.34
5) S 2-Fluorophenol		1.214	1.132	1.167	1.231	1.185	1.153	1.090	1.167	4.12
6) Aniline		2.143	2.087	2.149	2.168	2.121	2.080	2.027	2.110	2.32
7) S Phenol-d6		1.602	1.516	1.588	1.626	1.590	1.559	1.517	1.571	2.69
8) 2-Chlorophenol		1.272	1.247	1.312	1.334	1.311	1.285	1.254	1.288	2.52
9) Benzaldehyde		1.173	1.061	1.015	0.916	0.809			0.995	13.95
10) C Phenol		1.647	1.588	1.649	1.678	1.650	1.615	1.567	1.628	2.42
11) bis(2-Chloroet...		1.406	1.327	1.359	1.360	1.327	1.285	1.253	1.331	3.81
12) 1,3-Dichlorobe...		1.507	1.421	1.454	1.479	1.419	1.374	1.318	1.424	4.49
13) C 1,4-Dichlorobe...		1.534	1.462	1.461	1.496	1.434	1.390	1.333	1.444	4.62
14) 1,2-Dichlorobe...		1.496	1.415	1.424	1.440	1.386	1.345	1.283	1.399	4.94
15) Benzyl Alcohol		1.139	1.068	1.135	1.139	1.137	1.127	1.114	1.122	2.29
16) 2,2'-oxybis(1-...		1.981	1.864	1.888	1.837	1.785	1.729	1.674	1.822	5.64
17) 2-Methylphenol		1.194	1.152	1.210	1.208	1.194	1.171	1.146	1.182	2.19
18) Hexachloroethane		0.479	0.468	0.485	0.506	0.495	0.480	0.467	0.483	2.93
19) P n-Nitroso-di-n...	0.854	1.090	1.050	1.084	1.023	1.017	0.998	0.978	1.012	7.40
20) 3+4-Methylphenols		1.531	1.497	1.574	1.582	1.587	1.561	1.559	1.556	2.05
21) I Naphthalene-d8	-----ISTD-----									
22) Acetophenone		0.519	0.502	0.520	0.532	0.524	0.510	0.485	0.513	3.08
23) S Nitrobenzene-d5		0.231	0.255	0.297	0.330	0.340	0.337	0.331	0.303	14.54
24) Nitrobenzene		0.267	0.285	0.324	0.351	0.356	0.353	0.345	0.326	11.09
25) Isophorone		0.730	0.700	0.727	0.718	0.726	0.716	0.712	0.719	1.46
26) C 2-Nitrophenol		0.057	0.064	0.085	0.106	0.122	0.130		0.094	32.19#
27) 2,4-Dimethylph...		0.291	0.292	0.312	0.321	0.323	0.319	0.312	0.310	4.29
28) bis(2-Chloroet...		0.436	0.416	0.437	0.439	0.443	0.434	0.426	0.433	2.11
29) C 2,4-Dichloroph...		0.247	0.260	0.282	0.298	0.303	0.303	0.305	0.285	8.26
30) 1,2,4-Trichlor...		0.325	0.311	0.324	0.336	0.335	0.329	0.320	0.326	2.64
31) Naphthalene		1.084	1.044	1.078	1.108	1.103	1.075	1.035	1.075	2.56
32) Benzoic acid			0.077	0.106	0.131	0.155	0.166	0.196	0.138	31.08
33) 4-Chloroaniline		0.475	0.456	0.476	0.482	0.486	0.478	0.477	0.476	1.98
34) C Hexachlorobuta...		0.189	0.183	0.189	0.198	0.194	0.189	0.184	0.189	2.76
35) Caprolactam		0.085	0.081	0.091	0.091	0.094	0.097	0.110	0.093	9.99
36) C 4-Chloro-3-met...		0.283	0.281	0.315	0.314	0.325	0.323	0.334	0.311	6.68
37) 2-Methylnaphth...		0.770	0.744	0.769	0.772	0.778	0.762	0.755	0.764	1.48
38) 1-Methylnaphth...		0.731	0.701	0.727	0.717	0.728	0.715	0.707	0.718	1.57

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
 Method File : 8270E-BP012323.M

39) I	Acenaphthene-d10	-----ISTD-----									
40)	1,2,4,5-Tetrac...	0.594	0.591	0.604	0.652	0.653	0.627	0.590	0.616	4.55	
41) P	Hexachlorocycl...	0.218	0.252	0.302	0.325	0.325	0.317	0.290		15.30	
42) S	2,4,6-Tribromo...	0.167	0.172	0.199	0.213	0.226	0.227		0.201	13.18	
43) C	2,4,6-Trichlor...	0.289	0.310	0.351	0.381	0.401	0.396	0.395	0.360	12.51	
44)	2,4,5-Trichlor...	0.337	0.369	0.415	0.453	0.474	0.467	0.465	0.426	12.70	
45) S	2-Fluorobiphenyl	1.472	1.448	1.468	1.532	1.524	1.454	1.302	1.457	5.22	
46)	1,1'-Biphenyl	1.616	1.566	1.596	1.677	1.672	1.614	1.503	1.606	3.76	
47)	2-Chloronaphth...	1.202	1.171	1.201	1.253	1.251	1.209	1.137	1.203	3.45	
48)	2-Nitroaniline	0.125	0.152	0.213	0.263	0.295	0.305	0.332	0.241	33.07	
49)	Acenaphthylene	1.931	1.901	1.972	2.038	2.042	1.989	1.903	1.968	3.00	
50)	Dimethylphthalate	1.492	1.429	1.487	1.499	1.518	1.477	1.506	1.487	1.93	
51)	2,6-Dinitrotol...	0.125	0.165	0.233	0.264	0.287	0.291	0.315	0.240	29.36	
52) C	Acenaphthene	1.197	1.165	1.200	1.251	1.263	1.229	1.205	1.216	2.80	
53)	3-Nitroaniline	0.154	0.194	0.260	0.301	0.323	0.328	0.366	0.275	27.92	
54) P	2,4-Dinitrophenol	0.033	0.038	0.051	0.065	0.078	0.087		0.058	37.60	
55)	Dibenzofuran	1.905	1.832	1.863	1.902	1.911	1.840	1.797	1.864	2.34	
56) P	4-Nitrophenol	0.145	0.195	0.229	0.241	0.249			0.212	20.07	
57)	2,4-Dinitrotol...	0.133	0.175	0.263	0.313	0.351	0.362		0.266	35.50	
58)	Fluorene	1.523	1.445	1.503	1.509	1.513	1.456	1.420	1.482	2.71	
59)	2,3,4,6-Tetrac...	0.273	0.284	0.318	0.337	0.348	0.352	0.377	0.327	11.49	
60)	Diethylphthalate	1.471	1.383	1.460	1.450	1.458	1.427	1.516	1.452	2.79	
61)	4-Chlorophenyl...	0.745	0.705	0.732	0.736	0.744	0.723	0.714	0.729	2.06	
62)	4-Nitroaniline	0.168	0.198	0.267	0.311	0.323	0.323		0.265	25.44	
63)	Azobenzene	1.474	1.388	1.432	1.420	1.417	1.372	1.373	1.411	2.58	
64) I	Phenanthrene-d10	-----ISTD-----									
65)	4,6-Dinitro-2-...	0.027	0.040	0.053	0.065	0.072	0.090	0.058		39.19	
66) c	n-Nitrosodiphe...	0.634	0.631	0.663	0.675	0.686	0.672	0.604	0.652	4.54	
67)	4-Bromophenyl-...	0.214	0.210	0.220	0.226	0.233	0.233	0.216	0.222	4.15	
68)	Hexachlorobenzene	0.235	0.227	0.237	0.243	0.250	0.248	0.235	0.239	3.44	
69)	Atrazine	0.174	0.171	0.189	0.199	0.194	0.191	0.189	0.187	5.42	
70) C	Pentachlorophenol	0.099	0.127	0.143	0.151	0.153	0.163	0.139		16.51	
71)	Phenanthrene	1.134	1.075	1.111	1.151	1.145	1.121	1.053	1.113	3.29	
72)	Anthracene	1.115	1.085	1.132	1.181	1.167	1.151	1.075	1.129	3.56	
73)	Carbazole	1.018	0.962	1.001	1.066	1.042	1.014	1.002	1.015	3.25	
74)	Di-n-butylphth...	1.055	0.996	1.116	1.186	1.186	1.165	1.204	1.130	6.94	
75) C	Fluoranthene	1.200	1.090	1.134	1.255	1.206	1.174	1.224	1.183	4.75	
76) I	Chrysene-d12	-----ISTD-----									
77)	Benzidine	0.546	0.523	0.502	0.528	0.458	0.476	0.488	0.503	6.22	
78)	Pyrene	1.598	1.534	1.636	1.482	1.539	1.498	1.418	1.529	4.75	
79) S	Terphenyl-d14	1.183	1.124	1.204	1.112	1.126	1.093	0.940	1.112	7.67	
80)	Butylbenzylpht...	0.404	0.407	0.487	0.527	0.545	0.552		0.487	13.72	
81)	Benzo(a)anthra...	1.403	1.336	1.388	1.431	1.430	1.410	1.355	1.393	2.62	
82)	3,3'-Dichlorob...	0.392	0.390	0.439	0.482	0.487	0.486	0.466	0.449	9.51	
83)	Chrysene	1.337	1.294	1.343	1.376	1.366	1.338	1.275	1.333	2.74	
84)	Bis(2-ethylhex...	0.691	0.677	0.751	0.814	0.821	0.820	0.881	0.779	9.65	
85) c	Di-n-octyl pht...	1.022	1.041	1.144	1.362	1.374	1.380	1.472	1.256	14.56	

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
Method File : 8270E-BP012323.M

86) I	Perylene-d12	-----ISTD-----								
87)	Indeno(1,2,3-c...	1.332	1.396	1.481	1.589	1.607	1.584	1.324	1.473	8.39
88)	Benzo(b)fluora...	1.203	1.148	1.199	1.268	1.267	1.244	1.283	1.230	3.96
89)	Benzo(k)fluora...	1.250	1.198	1.250	1.263	1.266	1.243	1.314	1.255	2.75
90) C	Benzo(a)pyrene	1.154	1.118	1.177	1.240	1.242	1.219	1.204	1.194	3.86
91)	Dibenzo(a,h)an...	1.101	1.171	1.240	1.331	1.355	1.335	1.118	1.236	8.70
92)	Benzo(g,h,i)pe...	1.097	1.162	1.219	1.297	1.319	1.293	1.056	1.206	8.63

(#) = Out of Range

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
 Method File : 8270E-BP013123.M
 Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
 Last Update : Wed Feb 01 03:43:48 2023
 Response Via : Initial Calibration

Calibration Files

2.5 =BP013669.D 5 =BP013670.D 10 =BP013671.D 20 =BP013672.D 40 =BP013673.D 50 =BP013674.D 60 =BP013675.D 80 =BP013676.D

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

1) I 1,4-Dichlorobenzen...	-----ISTD-----									
2) 1,4-Dioxane	0.540	0.526	0.508	0.501	0.486	0.470	0.433	0.495	7.29	
3) Pyridine	1.486	1.425	1.438	1.500	1.456	1.353	1.317	1.425	4.73	
4) n-Nitrosodimet...	0.524	0.509	0.519	0.526	0.518	0.497	0.485	0.511	3.02	
5) S 2-Fluorophenol	1.265	1.187	1.186	1.213	1.160	1.117	1.060	1.170	5.68	
6) Aniline	2.056	2.015	2.068	2.094	2.105	1.949	1.937	2.032	3.32	
7) S Phenol-d6	1.648	1.553	1.571	1.610	1.589	1.488	1.452	1.559	4.39	
8) 2-Chlorophenol	1.283	1.244	1.252	1.271	1.250	1.181	1.141	1.232	4.17	
9) Benzaldehyde	1.148	1.020	0.949	0.840	0.747	0.668		0.895	19.92	
10) C Phenol	1.684	1.624	1.644	1.685	1.679	1.554	1.528	1.628	3.94	
11) bis(2-Chloroet...	1.389	1.317	1.310	1.328	1.316	1.236	1.210	1.301	4.60	
12) 1,3-Dichlorobe...	1.501	1.431	1.411	1.420	1.373	1.314	1.263	1.387	5.70	
13) C 1,4-Dichlorobe...	1.503	1.432	1.439	1.437	1.399	1.338	1.279	1.404	5.28	
14) 1,2-Dichlorobe...	1.461	1.362	1.370	1.383	1.353	1.270	1.205	1.343	6.16	
15) Benzyl Alcohol	1.054	1.042	1.087	1.151	1.194	1.101	1.097	1.104	4.82	
16) 2,2'-oxybis(1-...	1.631	1.535	1.545	1.557	1.547	1.428	1.390	1.519	5.41	
17) 2-Methylphenol	1.152	1.112	1.159	1.188	1.203	1.098	1.075	1.141	4.18	
18) Hexachloroethane	0.485	0.461	0.460	0.467	0.471	0.458	0.439	0.463	3.02	
19) P n-Nitroso-di-n...	0.859	0.984	0.973	1.003	1.033	1.073	0.957	0.942	0.978	6.54
20) 3+4-Methylphenols	1.528	1.513	1.576	1.621	1.660	1.502	1.496	1.557	4.11	

21) I Naphthalene-d8	-----ISTD-----									
22) Acetophenone	0.530	0.508	0.529	0.531	0.540	0.522	0.492	0.522	3.13	
23) S Nitrobenzene-d5	0.290	0.302	0.339	0.360	0.383	0.377	0.357	0.344	10.38	
24) Nitrobenzene	0.331	0.337	0.372	0.387	0.409	0.400	0.374	0.373	7.94	
25) Isophorone	0.746	0.730	0.764	0.778	0.814	0.767	0.736	0.762	3.78	
26) C 2-Nitrophenol	0.121	0.129	0.147	0.163	0.180	0.176	0.176	0.156	15.31	
27) 2,4-Dimethylph...	0.296	0.296	0.308	0.317	0.324	0.311	0.300	0.308	3.47	
28) bis(2-Chloroet...	0.465	0.450	0.461	0.456	0.477	0.457	0.431	0.457	3.11	
29) C 2,4-Dichloroph...	0.318	0.319	0.334	0.341	0.356	0.347	0.328	0.335	4.28	
30) 1,2,4-Trichlor...	0.382	0.367	0.373	0.372	0.380	0.374	0.353	0.371	2.56	
31) Naphthalene	1.097	1.040	1.066	1.060	1.077	1.033	0.989	1.052	3.33	
32) Benzoic acid		0.170	0.207	0.232	0.260	0.250	0.253	0.229	15.14	
33) 4-Chloroaniline	0.450	0.445	0.464	0.472	0.492	0.464	0.447	0.462	3.59	
34) C Hexachlorobuta...	0.242	0.232	0.234	0.233	0.240	0.241	0.228	0.236	2.17	
35) Caprolactam	0.103	0.099	0.107	0.112	0.123	0.113	0.113	0.110	7.07	
36) C 4-Chloro-3-met...	0.328	0.324	0.352	0.358	0.387	0.361	0.355	0.352	5.97	
37) 2-Methylnaphth...	0.808	0.762	0.801	0.792	0.824	0.788	0.759	0.791	2.98	
38) 1-Methylnaphth...	0.757	0.723	0.753	0.743	0.775	0.738	0.710	0.743	2.94	

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
 Method File : 8270E-BP013123.M

39) I	Acenaphthene-d10	-----ISTD-----								
40)	1,2,4,5-Tetrac...	0.659	0.652	0.685	0.695	0.702	0.705	0.681	0.683	3.03
41) P	Hexachlorocycl...	0.240	0.274	0.311	0.335	0.353	0.357	0.312		14.91
42) S	2,4,6-Tribromo...	0.273	0.279	0.295	0.306	0.323	0.313	0.311	0.300	6.16
43) C	2,4,6-Trichlor...	0.409	0.410	0.450	0.466	0.478	0.473	0.462	0.450	6.43
44)	2,4,5-Trichlor...	0.480	0.476	0.527	0.543	0.562	0.553	0.543	0.526	6.60
45) S	2-Fluorobiphenyl	1.473	1.429	1.477	1.458	1.438	1.414	1.316	1.429	3.85
46)	1,1'-Biphenyl	1.545	1.486	1.551	1.539	1.535	1.509	1.430	1.513	2.88
47)	2-Chloronaphth...	1.181	1.143	1.198	1.191	1.188	1.173	1.115	1.170	2.56
48)	2-Nitroaniline	0.164	0.179	0.227	0.267	0.303	0.300	0.309	0.250	24.21
49)	Acenaphthylene	1.892	1.815	1.924	1.922	1.938	1.901	1.815	1.887	2.71
50)	Dimethylphthalate	1.558	1.482	1.571	1.570	1.609	1.542	1.496	1.547	2.87
51)	2,6-Dinitrotol...	0.167	0.208	0.274	0.306	0.332	0.324	0.325	0.276	23.48
52) C	Acenaphthene	1.225	1.184	1.210	1.225	1.246	1.231	1.181	1.215	2.01
53)	3-Nitroaniline	0.204	0.247	0.297	0.327	0.352	0.343	0.340	0.302	18.60
54) P	2,4-Dinitrophenol	0.102	0.131	0.169	0.201	0.197	0.210	0.168		25.88
55)	Dibenzofuran	1.959	1.911	1.935	1.903	1.926	1.884	1.789	1.901	2.88
56) P	4-Nitrophenol	0.211	0.249	0.276	0.300	0.287	0.286	0.268		12.20
57)	2,4-Dinitrotol...	0.214	0.262	0.342	0.400	0.446	0.436	0.441	0.363	25.76
58)	Fluorene	1.549	1.492	1.547	1.505	1.506	1.463	1.384	1.492	3.78
59)	2,3,4,6-Tetrac...	0.430	0.428	0.453	0.466	0.489	0.472	0.465	0.458	4.85
60)	Diethylphthalate	1.499	1.450	1.496	1.494	1.544	1.473	1.425	1.483	2.59
61)	4-Chlorophenyl...	0.844	0.807	0.812	0.813	0.831	0.807	0.776	0.813	2.65
62)	4-Nitroaniline	0.195	0.236	0.298	0.329	0.352	0.343	0.344	0.299	20.47
63)	Azobenzene	1.344	1.335	1.411	1.395	1.421	1.372	1.311	1.370	3.03
64) I	Phenanthrene-d10	-----ISTD-----								
65)	4,6-Dinitro-2-...	0.069	0.088	0.107	0.120	0.119	0.124	0.104		20.90
66) c	n-Nitrosodiphe...	0.597	0.602	0.591	0.584	0.581	0.575	0.543	0.582	3.37
67)	4-Bromophenyl-...	0.224	0.221	0.230	0.230	0.238	0.234	0.228	0.229	2.52
68)	Hexachlorobenzene	0.259	0.247	0.252	0.251	0.259	0.257	0.250	0.254	1.90
69)	Atrazine	0.184	0.188	0.195	0.201	0.194	0.187	0.178	0.189	4.12
70) C	Pentachlorophenol	0.162	0.168	0.185	0.195	0.203	0.200	0.198	0.187	8.87
71)	Phenanthrene	1.125	1.080	1.097	1.075	1.071	1.058	0.998	1.072	3.64
72)	Anthracene	1.102	1.080	1.101	1.101	1.095	1.080	1.017	1.082	2.80
73)	Carbazole	0.990	1.002	1.006	0.999	0.994	0.972	0.917	0.983	3.17
74)	Di-n-butylphth...	1.044	1.055	1.085	1.097	1.117	1.091	1.039	1.075	2.74
75) C	Fluoranthene	1.358	1.328	1.355	1.346	1.356	1.337	1.262	1.335	2.53
76) I	Chrysene-d12	-----ISTD-----								
77)	Benzidine	0.446	0.468	0.411	0.471	0.421	0.392	0.415	0.432	6.98
78)	Pyrene	1.361	1.313	1.355	1.378	1.373	1.355	1.284	1.346	2.55
79) S	Terphenyl-d14	1.050	1.020	1.043	1.034	1.021	0.995	0.887	1.007	5.55
80)	Butylbenzylphth...	0.321	0.321	0.347	0.378	0.403	0.398	0.403	0.367	10.08
81)	Benzo(a)anthra...	1.414	1.353	1.399	1.417	1.421	1.394	1.326	1.389	2.60
82)	3,3'-Dichlorob...	0.398	0.405	0.447	0.463	0.465	0.452	0.443	0.439	6.10
83)	Chrysene	1.370	1.311	1.336	1.342	1.334	1.324	1.247	1.324	2.90
84)	Bis(2-ethylhex...	0.584	0.576	0.608	0.643	0.666	0.653	0.647	0.625	5.71
85) c	Di-n-octyl pht...	1.069	1.047	1.108	1.173	1.220	1.198	1.180	1.142	5.88

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
Method File : 8270E-BP013123.M

86) I	Perylene-d12	-----ISTD-----									
87)	Indeno(1,2,3-c...	1.562	1.482	1.517	1.530	1.549	1.531	1.476	1.521	2.11	
88)	Benzo(b)fluora...	1.187	1.140	1.231	1.201	1.262	1.228	1.165	1.202	3.47	
89)	Benzo(k)fluora...	1.243	1.138	1.216	1.248	1.208	1.200	1.174	1.204	3.19	
90) C	Benzo(a)pyrene	1.194	1.153	1.199	1.207	1.223	1.208	1.168	1.193	2.06	
91)	Dibenzo(a,h)an...	1.290	1.236	1.263	1.274	1.288	1.271	1.215	1.263	2.18	
92)	Benzo(g,h,i)pe...	1.297	1.221	1.249	1.258	1.274	1.258	1.221	1.254	2.19	

(#) = Out of Range



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

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG No.: O1233

Instrument ID: BNA_F Calibration Date/Time: 01/20/2023 16:40

Lab File ID: BF132164.D Init. Calib. Date(s): 01/19/2023 01/19/2023

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 11:21 15:11

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

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.145	1.115		-2.6	
Phenol-d6	1.441	1.412		-2.0	
Nitrobenzene-d5	0.376	0.393		4.5	
Naphthalene	1.027	1.008		-1.9	
2-Fluorobiphenyl	1.369	1.224		-10.6	
Acenaphthylene	1.951	1.915		-1.8	
Acenaphthene	1.174	1.145		-2.5	20.0
Fluorene	1.344	1.292		-3.9	
2,4,6-Tribromophenol	0.214	0.231		7.9	
Phenanthrene	1.050	1.000		-4.8	
Anthracene	1.062	1.012		-4.7	
Fluoranthene	1.078	1.118		3.7	20.0
Pyrene	1.843	1.942		5.4	
Terphenyl-d14	1.194	1.203		0.8	
Benzo (a) anthracene	1.429	1.449		1.4	
Chrysene	1.360	1.334		-1.9	
Benzo (b) fluoranthene	1.218	1.276		4.8	
Benzo (k) fluoranthene	1.242	1.197		-3.6	
Benzo (a) pyrene	1.171	1.185		1.2	20.0
Indeno (1,2,3-cd) pyrene	1.451	1.547		6.6	
Dibenzo (a,h) anthracene	1.184	1.248		5.4	
Benzo (g,h,i) perylene	1.246	1.338		7.4	

All other compounds must meet a minimum RRF of 0.010.



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

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG No.: O1233

Instrument ID: BNA_P Calibration Date/Time: 01/24/2023 09:53

Lab File ID: BP013562.D Init. Calib. Date(s): 01/23/2023 01/23/2023

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 11:25 16:01

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

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.167	1.219		4.5	
Phenol-d6	1.571	1.646		4.8	
Nitrobenzene-d5	0.303	0.350		15.5	
Naphthalene	1.075	1.106		2.9	
2-Fluorobiphenyl	1.457	1.460		0.2	
Acenaphthylene	1.968	2.011		2.2	
Acenaphthene	1.216	1.264		3.9	20.0
Fluorene	1.482	1.533		3.4	
2,4,6-Tribromophenol	0.201	0.225		11.9	
Phenanthrene	1.113	1.138		2.2	
Anthracene	1.129	1.148		1.7	
Fluoranthene	1.183	1.258		6.3	20.0
Pyrene	1.529	1.627		6.4	
Terphenyl-d14	1.112	1.205		8.4	
Benzo (a) anthracene	1.393	1.436		3.1	
Chrysene	1.333	1.354		1.6	
Benzo (b) fluoranthene	1.230	1.312		6.7	
Benzo (k) fluoranthene	1.255	1.399		11.5	
Benzo (a) pyrene	1.194	1.252		4.9	20.0
Indeno (1,2,3-cd) pyrene	1.473	1.497		1.6	
Dibenzo (a,h) anthracene	1.236	1.268		2.6	
Benzo (g,h,i) perylene	1.206	1.225		1.6	

All other compounds must meet a minimum RRF of 0.010.



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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG No.: O1233

Instrument ID: BNA_P Calibration Date/Time: 01/24/2023 15:13

Lab File ID: BP013571.D Init. Calib. Date(s): 01/23/2023 01/23/2023

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 11:25 16:01

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

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.167	1.147		-1.7	
Phenol-d6	1.571	1.597		1.7	
Nitrobenzene-d5	0.303	0.333		9.9	
Naphthalene	1.075	1.033		-3.9	
2-Fluorobiphenyl	1.457	1.331		-8.6	
Acenaphthylene	1.968	1.875		-4.7	
Acenaphthene	1.216	1.183		-2.7	20.0
Fluorene	1.482	1.443		-2.6	
2,4,6-Tribromophenol	0.201	0.241		19.9	
Phenanthrene	1.113	1.061		-4.7	
Anthracene	1.129	1.078		-4.5	
Fluoranthene	1.183	1.251		5.7	20.0
Pyrene	1.529	1.345		-12.0	
Terphenyl-d14	1.112	1.000		-10.1	
Benzo (a) anthracene	1.393	1.340		-3.8	
Chrysene	1.333	1.268		-4.9	
Benzo (b) fluoranthene	1.230	1.204		-2.1	
Benzo (k) fluoranthene	1.255	1.230		-2.0	
Benzo (a) pyrene	1.194	1.155		-3.3	20.0
Indeno (1,2,3-cd) pyrene	1.473	1.333		-9.5	
Dibenzo (a,h) anthracene	1.236	1.129		-8.7	
Benzo (g,h,i) perylene	1.206	1.048		-13.1	

All other compounds must meet a minimum RRF of 0.010.