Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

CERTIFICATIONS

Project: 09217186.02/Ludlam
Pace Project No.: 35411163

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

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SAMPLE SUMMARY

Project: 09217186.02/Ludlam
Pace Project No.: 35411163

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35411163001	**SBA-149A(0-0.5)**	Solid	08/15/18 13:41	08/15/18 17:45
35411163002	**SBA-149B(0-0.5)**	Solid	08/15/18 13:48	08/15/18 17:45

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: 09217186.02/Ludlam
Pace Project No.: 35411163

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35411163001	**SBA-149A(0-0.5)**	EPA 8270	TWB	21	PASI-O
		ASTM D2974-87	MLO	1	PASI-O
35411163002	**SBA-149B(0-0.5)**	EPA 8270	TWB	21	PASI-O
		ASTM D2974-87	MLO	1	PASI-O

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PROJECT NARRATIVE

Project: 09217186.02/Ludlam
Pace Project No.: 35411163

Method: **EPA 8270**
Description: 8270 MSSV Short List Microwave
Client: SCS Engineers
Date: August 16, 2018

General Information:
2 samples were analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlam
Pace Project No.: 35411163

Sample: SBA-149A(0-0.5) **Lab ID: 35411163001** Collected: 08/15/18 13:41 Received: 08/15/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.013 U**	mg/kg	0.041	0.013	1	08/16/18 06:49	08/16/18 14:55	83-32-9	
Acenaphthylene	**0.048**	mg/kg	0.038	0.012	1	08/16/18 06:49	08/16/18 14:55	208-96-8	
Anthracene	**0.051**	mg/kg	0.041	0.013	1	08/16/18 06:49	08/16/18 14:55	120-12-7	
Benzo(a)anthracene	**0.11**	mg/kg	0.038	0.011	1	08/16/18 06:49	08/16/18 14:55	56-55-3	
Benzo(a)pyrene	**0.12**	mg/kg	0.038	0.0095	1	08/16/18 06:49	08/16/18 14:55	50-32-8	
Benzo(b)fluoranthene	**0.24**	mg/kg	0.038	0.010	1	08/16/18 06:49	08/16/18 14:55	205-99-2	
Benzo(g,h,i)perylene	**0.065**	mg/kg	0.038	0.0096	1	08/16/18 06:49	08/16/18 14:55	191-24-2	
Benzo(k)fluoranthene	**0.098**	mg/kg	0.038	0.010	1	08/16/18 06:49	08/16/18 14:55	207-08-9	
Chrysene	**0.15**	mg/kg	0.038	0.012	1	08/16/18 06:49	08/16/18 14:55	218-01-9	
Dibenz(a,h)anthracene	**0.019 I**	mg/kg	0.038	0.0088	1	08/16/18 06:49	08/16/18 14:55	53-70-3	
Fluoranthene	**0.14**	mg/kg	0.038	0.013	1	08/16/18 06:49	08/16/18 14:55	206-44-0	
Fluorene	**0.014 U**	mg/kg	0.042	0.014	1	08/16/18 06:49	08/16/18 14:55	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.057**	mg/kg	0.038	0.0087	1	08/16/18 06:49	08/16/18 14:55	193-39-5	
1-Methylnaphthalene	**0.015 U**	mg/kg	0.045	0.015	1	08/16/18 06:49	08/16/18 14:55	90-12-0	
2-Methylnaphthalene	**0.015 U**	mg/kg	0.044	0.015	1	08/16/18 06:49	08/16/18 14:55	91-57-6	
Naphthalene	**0.013 U**	mg/kg	0.039	0.013	1	08/16/18 06:49	08/16/18 14:55	91-20-3	
Phenanthrene	**0.030 I**	mg/kg	0.038	0.013	1	08/16/18 06:49	08/16/18 14:55	85-01-8	
Pyrene	**0.16**	mg/kg	0.038	0.012	1	08/16/18 06:49	08/16/18 14:55	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	36	%	16-123		1	08/16/18 06:49	08/16/18 14:55	4165-60-0	
2-Fluorobiphenyl (S)	42	%	32-129		1	08/16/18 06:49	08/16/18 14:55	321-60-8	
p-Terphenyl-d14 (S)	49	%	38-138		1	08/16/18 06:49	08/16/18 14:55	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**11.1**	%	0.10	0.10	1		08/16/18 09:24		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlam
Pace Project No.: 35411163

Sample: SBA-149B(0-0.5) **Lab ID: 35411163002** Collected: 08/15/18 13:48 Received: 08/15/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.013 U**	mg/kg	0.040	0.013	1	08/16/18 06:49	08/16/18 15:20	83-32-9	
Acenaphthylene	**0.043**	mg/kg	0.038	0.012	1	08/16/18 06:49	08/16/18 15:20	208-96-8	
Anthracene	**0.042**	mg/kg	0.040	0.013	1	08/16/18 06:49	08/16/18 15:20	120-12-7	
Benzo(a)anthracene	**0.097**	mg/kg	0.038	0.011	1	08/16/18 06:49	08/16/18 15:20	56-55-3	
Benzo(a)pyrene	**0.11**	mg/kg	0.038	0.0093	1	08/16/18 06:49	08/16/18 15:20	50-32-8	
Benzo(b)fluoranthene	**0.21**	mg/kg	0.038	0.010	1	08/16/18 06:49	08/16/18 15:20	205-99-2	
Benzo(g,h,i)perylene	**0.053**	mg/kg	0.038	0.0094	1	08/16/18 06:49	08/16/18 15:20	191-24-2	
Benzo(k)fluoranthene	**0.077**	mg/kg	0.038	0.010	1	08/16/18 06:49	08/16/18 15:20	207-08-9	
Chrysene	**0.11**	mg/kg	0.038	0.012	1	08/16/18 06:49	08/16/18 15:20	218-01-9	
Dibenz(a,h)anthracene	**0.018 I**	mg/kg	0.038	0.0086	1	08/16/18 06:49	08/16/18 15:20	53-70-3	
Fluoranthene	**0.10**	mg/kg	0.038	0.012	1	08/16/18 06:49	08/16/18 15:20	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.041	0.013	1	08/16/18 06:49	08/16/18 15:20	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.050**	mg/kg	0.038	0.0086	1	08/16/18 06:49	08/16/18 15:20	193-39-5	
1-Methylnaphthalene	**0.015 U**	mg/kg	0.044	0.015	1	08/16/18 06:49	08/16/18 15:20	90-12-0	
2-Methylnaphthalene	**0.014 U**	mg/kg	0.043	0.014	1	08/16/18 06:49	08/16/18 15:20	91-57-6	
Naphthalene	**0.013 U**	mg/kg	0.039	0.013	1	08/16/18 06:49	08/16/18 15:20	91-20-3	
Phenanthrene	**0.012 U**	mg/kg	0.038	0.012	1	08/16/18 06:49	08/16/18 15:20	85-01-8	
Pyrene	**0.13**	mg/kg	0.038	0.012	1	08/16/18 06:49	08/16/18 15:20	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	43	%	16-123		1	08/16/18 06:49	08/16/18 15:20	4165-60-0	
2-Fluorobiphenyl (S)	44	%	32-129		1	08/16/18 06:49	08/16/18 15:20	321-60-8	
p-Terphenyl-d14 (S)	60	%	38-138		1	08/16/18 06:49	08/16/18 15:20	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**8.7**	%	0.10	0.10	1		08/16/18 09:24		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlam
Pace Project No.: 35411163

QC Batch: 469685 Analysis Method: EPA 8270
QC Batch Method: EPA 3546 Analysis Description: 8270 Solid MSSV Microwave Short Spike
Associated Lab Samples: 35411163001, 35411163002

METHOD BLANK: 2538830 Matrix: Solid
Associated Lab Samples: 35411163001, 35411163002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	mg/kg	0.013 U	0.040	0.013	08/16/18 14:30	
2-Methylnaphthalene	mg/kg	0.013 U	0.039	0.013	08/16/18 14:30	
Acenaphthene	mg/kg	0.012 U	0.036	0.012	08/16/18 14:30	
Acenaphthylene	mg/kg	0.011 U	0.034	0.011	08/16/18 14:30	
Anthracene	mg/kg	0.012 U	0.036	0.012	08/16/18 14:30	
Benzo(a)anthracene	mg/kg	0.0097 U	0.034	0.0097	08/16/18 14:30	
Benzo(a)pyrene	mg/kg	0.0084 U	0.034	0.0084	08/16/18 14:30	
Benzo(b)fluoranthene	mg/kg	0.0090 U	0.034	0.0090	08/16/18 14:30	
Benzo(g,h,i)perylene	mg/kg	0.0085 U	0.034	0.0085	08/16/18 14:30	
Benzo(k)fluoranthene	mg/kg	0.0091 U	0.034	0.0091	08/16/18 14:30	
Chrysene	mg/kg	0.011 U	0.034	0.011	08/16/18 14:30	
Dibenz(a,h)anthracene	mg/kg	0.0078 U	0.034	0.0078	08/16/18 14:30	
Fluoranthene	mg/kg	0.011 U	0.034	0.011	08/16/18 14:30	
Fluorene	mg/kg	0.012 U	0.037	0.012	08/16/18 14:30	
Indeno(1,2,3-cd)pyrene	mg/kg	0.0078 U	0.034	0.0078	08/16/18 14:30	
Naphthalene	mg/kg	0.012 U	0.035	0.012	08/16/18 14:30	
Phenanthrene	mg/kg	0.011 U	0.034	0.011	08/16/18 14:30	
Pyrene	mg/kg	0.011 U	0.034	0.011	08/16/18 14:30	
2-Fluorobiphenyl (S)	%	69	32-129		08/16/18 14:30	
Nitrobenzene-d5 (S)	%	66	16-123		08/16/18 14:30	
p-Terphenyl-d14 (S)	%	78	38-138		08/16/18 14:30	

LABORATORY CONTROL SAMPLE: 2538831

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	mg/kg	1.7	1.4	86	27-123	
2-Methylnaphthalene	mg/kg	1.7	1.5	89	16-137	
Acenaphthene	mg/kg	1.7	1.5	91	37-120	
Acenaphthylene	mg/kg	1.7	1.7	101	41-120	
Anthracene	mg/kg	1.7	1.6	95	45-120	
Benzo(a)anthracene	mg/kg	1.7	1.7	101	44-120	
Benzo(a)pyrene	mg/kg	1.7	1.7	101	44-123	
Benzo(b)fluoranthene	mg/kg	1.7	1.6	97	37-124	
Benzo(g,h,i)perylene	mg/kg	1.7	1.6	93	42-125	
Benzo(k)fluoranthene	mg/kg	1.7	1.8	106	44-126	
Chrysene	mg/kg	1.7	1.7	102	45-120	
Dibenz(a,h)anthracene	mg/kg	1.7	1.6	96	43-124	
Fluoranthene	mg/kg	1.7	1.7	102	45-120	
Fluorene	mg/kg	1.7	1.6	95	42-120	
Indeno(1,2,3-cd)pyrene	mg/kg	1.7	1.6	96	43-123	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 09217186.02/Ludlam
Pace Project No.: 35411163

LABORATORY CONTROL SAMPLE: 2538831

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	mg/kg	1.7	1.4	86	40-120	
Phenanthrene	mg/kg	1.7	1.6	97	36-125	
Pyrene	mg/kg	1.7	1.7	105	41-123	
2-Fluorobiphenyl (S)	%			71	32-129	
Nitrobenzene-d5 (S)	%			68	16-123	
p-Terphenyl-d14 (S)	%			81	38-138	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2539730 2539731

Parameter	Units	35409214002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	mg/kg	0.014 U	1.8	1.8	1.2	1.3	70	75	27-123	7	40	
2-Methylnaphthalene	mg/kg	0.013 U	1.8	1.8	1.2	1.3	72	77	16-137	7	40	
Acenaphthene	mg/kg	0.012 U	1.8	1.8	1.3	1.4	74	79	37-120	7	40	
Acenaphthylene	mg/kg	0.011 U	1.8	1.8	1.4	1.5	83	87	41-120	6	40	
Anthracene	mg/kg	0.012 U	1.8	1.8	1.3	1.4	76	83	45-120	10	40	
Benzo(a)anthracene	mg/kg	0.065	1.8	1.8	1.4	1.6	79	88	44-120	11	40	
Benzo(a)pyrene	mg/kg	0.13	1.8	1.8	1.5	1.8	79	98	44-123	20	40	
Benzo(b)fluoranthene	mg/kg	0.22	1.8	1.8	1.5	2.2	75	114	37-124	37	40	
Benzo(g,h,i)perylene	mg/kg	0.098	1.8	1.8	1.2	1.2	62	62	42-125	0	40	
Benzo(k)fluoranthene	mg/kg	0.069	1.8	1.8	1.6	1.8	86	102	44-126	16	40	
Chrysene	mg/kg	0.11	1.8	1.8	1.5	1.7	79	90	45-120	13	40	
Dibenz(a,h)anthracene	mg/kg	0.023 I	1.8	1.8	1.2	1.1	66	61	43-124	7	40	
Fluoranthene	mg/kg	0.096	1.8	1.8	1.5	1.6	81	86	45-120	7	40	
Fluorene	mg/kg	0.013 U	1.8	1.8	1.3	1.4	78	79	42-120	2	40	
Indeno(1,2,3-cd)pyrene	mg/kg	0.098	1.8	1.8	1.2	1.3	66	70	43-123	5	40	
Naphthalene	mg/kg	0.012 U	1.8	1.8	1.2	1.3	71	76	40-120	8	40	
Phenanthrene	mg/kg	0.017 I	1.8	1.8	1.4	1.4	78	82	36-125	6	40	
Pyrene	mg/kg	0.10	1.8	1.8	1.6	1.7	84	92	41-123	9	40	
2-Fluorobiphenyl (S)	%						60	64	32-129			
Nitrobenzene-d5 (S)	%						55	60	16-123			
p-Terphenyl-d14 (S)	%						63	66	38-138			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlam
Pace Project No.: 35411163

QC Batch: 469813 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 35411163001, 35411163002

SAMPLE DUPLICATE: 2539945

Parameter	Units	35409234002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	5.8	7.0	19	5	J(D6)

SAMPLE DUPLICATE: 2539946

Parameter	Units	35409628010 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.6	11.6	9	5	J(D6)

SAMPLE DUPLICATE: 2539947

Parameter	Units	35409895004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	14.0	14.1	1	5	

SAMPLE DUPLICATE: 2539948

Parameter	Units	35409994001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	21.4	21.6	1	5	

SAMPLE DUPLICATE: 2539949

Parameter	Units	35410108004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	0.89	0.94	5	5	

SAMPLE DUPLICATE: 2539950

Parameter	Units	35410139002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	22.3	22.4	1	5	

SAMPLE DUPLICATE: 2539951

Parameter	Units	35410199001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.4	3.5	21	5	J(D6)

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlam
Pace Project No.: 35411163

SAMPLE DUPLICATE: 2539952

Parameter	Units	35410322002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	17.6	18.4	4	5	

SAMPLE DUPLICATE: 2539953

Parameter	Units	35410734004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	17.6	17.7	1	5	

SAMPLE DUPLICATE: 2539954

Parameter	Units	35410808009 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	11.4	11.9	4	5	

SAMPLE DUPLICATE: 2539955

Parameter	Units	35411156003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.7	14.6	13	5	J(D6)

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 09217186.02/Ludlam
Pace Project No.: 35411163

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Compound was analyzed for but not detected.
J(D6)	Estimated Value. The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 09217186.02/Ludlam
Pace Project No.: 35411163

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35411163001	**SBA-149A(0-0.5)**	EPA 3546	469685	EPA 8270	469901
35411163002	**SBA-149B(0-0.5)**	EPA 3546	469685	EPA 8270	469901
35411163001	**SBA-149A(0-0.5)**	ASTM D2974-87	469813		
35411163002	**SBA-149B(0-0.5)**	ASTM D2974-87	469813		

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WO# : 35411163

35411163

CORD

_____ Page___of___

Company Name: SCS Engineers PO#

Address: 7700 N Kendall Drive

City: Miami State: FL Zip: 33156

Attn: Fax#

email: Fzhang@scsengineers.com Phone: (786) 999-5522

Project Name Ludlum Proj # 09217136.02 T12

Sampler Signature Erick Castillo

Circle One Event: Daily Weekly Monthly Quartely Semi-Annual Annual N/A

LAB ANALYSIS

Sample #	Sample ID	Collect Date	Collect Time	Matrix Code*	Field Filtered	Integrity OK(Y/N)	Total # of containers	Parameters	Sample	TRC	pH	Pres Codes	EXAMPLE Diss. Lead 6010
								PAHs				A	
								# of Containers Size/Type					1 16ozP
1	SBA-149A(0-0.5)	8/15/18	1341	GL			1		☒	☐	☐	☐	☐
2	SBA-149B(0-0.5)	8/15/18	1348	GL			1		☒	☐	☐	☐	☐
3									☐	☐	☐	☐	☐
4									☐	☐	☐	☐	☐
5									☐	☐	☐	☐	☐
6									☐	☐	☐	☐	☐
7									☐	☐	☐	☐	☐
8									☐	☐	☐	☐	☐
9									☐	☐	☐	☐	☐
10									☐	☐	☐	☐	☐

Circle T.A.T. REQUEST (Rush Fees Approved)
Standard: Y N
RUSH: Today 1D 2D 3D 4D 5D ___

Short Hold: Y____ N____

Circle QA/QC Report Level: 1 2 3 4 CLP AFCEE QAPP Other____

EDD (Fees May Apply): ADaPT SEDD ERPIMS TSV CSV Other____

COC Condition: OK Incomplete

Required State Certification: FL GA SC NC NJ PA LA TX IL ___

Item	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1	MC	SCS	8/15/18	2:45				1458
2			8/15/18	1745			8/15/18	1745
3								
4								

Pompano Lab 954-582-4300

Revision: F•ALL•C•007- Rev.00

C.O.C. Serial # 145018

Container Type Codes

AV	Amber Vial	ES	Encore Sampler
CV	Clear Vial	PPV	Prepreserved vial
P	Plastic	PL C	Plastic container
AL	Amber Liter	PL J	Plastic Jar
CL	Clear Liter	Z	Ziploc bag
AP	Amber Plastic	TB	Tedlar bag
AG	Amber Glass	WP	Whirl pak
SJ	Soil Jar	G	Gallon Jug
Other____		TC	Terra-core

PPV Prepreserved vial
Size(s): 2oz, 4oz, 8oz, 16oz, 32oz or 1L, other____ 40ml 500ml 250ml 125 ml
Example: 4ozP = 4oz Plastic, 8ozSJ= 8oz Soil Jar

Matrix Codes

SD	Solid Waste	OL	Oil
GW	Ground Water	SL	Sludge
EFF	Effluent	SO	Soil Sediment
AFW	Analyte Free H20	AQ	Aqueous
WW	Waste Water	NA	Nonaqueous
DW	Drinking Water	PE	Petroleum
SW	Surface Water	O	Other____ (Please specify)
ML	Misc. Liquid		

Preservative Type Codes

A. None	E. HCL	I. Ice
B. HNO_3	F. MeOH	J. MCAA
C. H_2SO_4	G. $Na_2S_2O_3$	K. Zn Acetate
D. NaOH	H. $NaHSO_4$	O. Other

REMARKS

Coolers #'s - Temp °C: 1___ 2___ 3___ 4___ 5___

Lab Use Only	YES	NO	N/A
Non-Conformance Found?			
Samples INTACT upon arrival?			
Received on Wet Ice?			
Proper Preservatives Indicated?			
Received within holding time?			
Custody seals Intact?			
Volatiles rec'd without headspace?			
Proper Containers Used?			

Pace Analytical Florida Laboratory	Document Name: Sample Condition Upon Receipt Form Document No.: F-FL-C-007 rev. 13	Document Revised: May 30, 2018 Issuing Authority: Pace Florida Quality Office

WO#: 35411163

(SCUR)

PM: CTR Due Date: 08/17/18

CLIENT: 36-ESCON

Project #

Project Manager

Client:

Date and Initials of person:

Examining contents: _____

Label: _____

Deliver: _____

pH: _____

Thermometer Used: T-350 Date: 8/15/18 Time: 1745 Initials: _____

State of Origin: _____ ☐ For WV projects, all containers verified to ≤6 °C

Cooler #1 Temp.°C 2.8	**(Visual)** 0.0	**(Correction Factor)** 2.8	**(Actual)**	☐ Samples on ice, cooling process has begun
Cooler #2 Temp.°C _____	**(Visual)** _____	**(Correction Factor)** _____	**(Actual)**	☐ Samples on ice, cooling process has begun
Cooler #3 Temp.°C _____	**(Visual)** _____	**(Correction Factor)** _____	**(Actual)**	☐ Samples on ice, cooling process has begun
Cooler #4 Temp.°C _____	**(Visual)** _____	**(Correction Factor)** _____	**(Actual)**	☐ Samples on ice, cooling process has begun
Cooler #5 Temp.°C _____	**(Visual)** _____	**(Correction Factor)** _____	**(Actual)**	☐ Samples on ice, cooling process has begun
Cooler #6 Temp.°C _____	**(Visual)** _____	**(Correction Factor)** _____	**(Actual)**	☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other _____

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ International Priority ☐ Other _____

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking # _____

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No **Seals intact:** ☐ Yes ☐ No **Ice:** Wet Blue Dry None

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Samples shorted to lab (If Yes, complete) Shorted Date: _____ Shorted Time: _____ Qty: _____

		Comments:
Chain of Custody Present	☑ Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☑ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☑ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☑ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☑ No ☐ N/A	
Sufficient Volume	☑ Yes ☐ No ☐ N/A	
Correct Containers Used	☑ Yes ☐ No ☐ N/A	
Containers Intact	☑ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked. All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: VOA, Coliform, TOC, O&G, Carbamates	☐ Yes ☐ No ☑ N/A ☐ Yes ☐ No ☑ N/A	Preservation Information: Preservative: _____ Lot #/Trace #: _____ Date: _____ Time: _____ Initials: _____
Headspace in VOA Vials? (>6mm):	☐ Yes ☐ No ☐ N/A	
Trip Blank Present:	☐ Yes ☐ No ☑ N/A	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution (use back for additional comments): _____

Project Manager Review: _____ Date: _____

Pace Analytical Services, LLC
3610 Park Central Blvd N
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September 24, 2018

Fangmei Zhang
SCS ES Consultants, Inc.
7700 N. Kendall Dr.
Suite #607
Miami, FL 33156

RE: Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Dear Fangmei Zhang:
Enclosed are the analytical results for sample(s) received by the laboratory on September 18, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised September 24, 2018. PAH has been added to samples on hold.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christina Raschke
christina.raschke@pacelabs.com
(954)582-4300
Project Manager

Enclosures

cc: Karinne Bedosky, SCS Engineers
Alexis Nielsen, SCS Engineers
Anthony Pezzotti, SCS ES Consultants

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CERTIFICATIONS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

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SAMPLE SUMMARY

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35418418001	**SBA-150 (0.5-2)**	Solid	09/18/18 08:50	09/18/18 17:45
35418418002	**SBA-151 (0-0.5)**	Solid	09/18/18 09:00	09/18/18 17:45
35418418003	**SBA-152 (0.5-2)**	Solid	09/18/18 09:15	09/18/18 17:45
35418418004	**SBA-153 (0-0.5)**	Solid	09/18/18 09:30	09/18/18 17:45
35418418005	**SBA-153 (0.5-2)**	Solid	09/18/18 09:35	09/18/18 17:45
35418418006	**SBA-154 (0-0.5)**	Solid	09/18/18 09:40	09/18/18 17:45
35418418007	**SBA-154 (0.5-2)**	Solid	09/18/18 09:45	09/18/18 17:45
35418418008	**SBA-155 (0-0.5)**	Solid	09/18/18 09:50	09/18/18 17:45
35418418009	**SBA-155 (0.5-2)**	Solid	09/18/18 09:52	09/18/18 17:45
35418418010	**SBA-156 (0-0.5)**	Solid	09/18/18 09:55	09/18/18 17:45
35418418011	**SBA-156 (0.5-2)**	Solid	09/18/18 09:58	09/18/18 17:45
35418418012	**SBA-157 (0-0.5)**	Solid	09/18/18 10:03	09/18/18 17:45
35418418013	**SBA-157 (0.5-2)**	Solid	09/18/18 10:06	09/18/18 17:45
35418418014	**SBA-158 (0-0.5)**	Solid	09/18/18 10:30	09/18/18 17:45
35418418015	**SBA-159 (0-0.5)**	Solid	09/18/18 10:35	09/18/18 17:45
35418418016	**SBA-160 (0-0.5)**	Solid	09/18/18 10:45	09/18/18 17:45
35418418017	**SBA-161 (0-0.5)**	Solid	09/18/18 10:50	09/18/18 17:45
35418418018	**SBA-162 (0-0.5)**	Solid	09/18/18 10:55	09/18/18 17:45
35418418019	**SBA-163 (0-0.5)**	Solid	09/18/18 11:15	09/18/18 17:45
35418418020	**SBA-163 (0.5-1)**	Solid	09/18/18 11:20	09/18/18 17:45
35418418021	**SBA-164 (0-0.5)**	Solid	09/18/18 12:00	09/18/18 17:45
35418418022	**SBA-164 (0.5-1)**	Solid	09/18/18 12:05	09/18/18 17:45
35418418023	**SBA-165 (0-0.5)**	Solid	09/18/18 12:40	09/18/18 17:45
35418418024	**SBA-165 (0.5-1)**	Solid	09/18/18 12:45	09/18/18 17:45
35418418025	**SBA-166 (0-0.5)**	Solid	09/18/18 12:52	09/18/18 17:45
35418418026	**SBA-167 (0-0.5)**	Solid	09/18/18 13:20	09/18/18 17:45
35418418027	**CS-7 (0-0.5)**	Solid	09/18/18 17:00	09/18/18 17:45
35418418028	**CS-7 (0.5-2)**	Solid	09/18/18 17:00	09/18/18 17:45
35418418029	**CS-6 (0-0.5)**	Solid	09/18/18 17:00	09/18/18 17:45

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
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954-582-4300

SAMPLE ANALYTE COUNT

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35418418001	**SBA-150 (0.5-2)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418002	**SBA-151 (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418003	**SBA-152 (0.5-2)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418004	**SBA-153 (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418006	**SBA-154 (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418008	**SBA-155 (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418010	**SBA-156 (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418012	**SBA-157 (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418019	**SBA-163 (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418020	**SBA-163 (0.5-1)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418021	**SBA-164 (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418022	**SBA-164 (0.5-1)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418023	**SBA-165 (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418024	**SBA-165 (0.5-1)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418025	**SBA-166 (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418026	**SBA-167 (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418027	**CS-7 (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418028	**CS-7 (0.5-2)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418418029	**CS-6 (0-0.5)**	EPA 8270	CB1	21	PASI-O

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SAMPLE ANALYTE COUNT

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		ASTM D2974-87	RAK	1	PASI-O

Pace Analytical Services, LLC
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PROJECT NARRATIVE

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Method: **EPA 8270**
Description: 8270 MSSV Short List Microwave
Client: SCS Engineers
Date: September 24, 2018

General Information:
19 samples were analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: 479264

J(S5): Estimated Value. Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

- SBA-157 (0-0.5) (Lab ID: 35418418012)
  - p-Terphenyl-d14 (S)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 478533

1p: Due to the extract's physical characteristics, the analysis was performed at dilution.

- SBA-163 (0-0.5) (Lab ID: 35418418019)
  - 1-Methylnaphthalene

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PROJECT NARRATIVE

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Method: **EPA 8270**
Description: 8270 MSSV Short List Microwave
Client: SCS Engineers
Date: September 24, 2018

Analyte Comments:

QC Batch: 478533

1p: Due to the extract's physical characteristics, the analysis was performed at dilution.

- SBA-163 (0-0.5) (Lab ID: 35418418019)
  - 2-Methylnaphthalene
  - Acenaphthene
  - Acenaphthylene
  - Anthracene
  - Benzo(k)fluoranthene
  - Benzo(g,h,i)perylene
  - Benzo(a)anthracene
  - Benzo(b)fluoranthene
  - Benzo(a)pyrene
  - Chrysene
  - Dibenz(a,h)anthracene
  - Fluorene
  - Fluoranthene
  - Indeno(1,2,3-cd)pyrene
  - Naphthalene
  - Phenanthrene
  - Pyrene
- SBA-163 (0.5-1) (Lab ID: 35418418020)
  - 1-Methylnaphthalene
  - 2-Methylnaphthalene
  - Acenaphthene
  - Acenaphthylene
  - Anthracene
  - Benzo(k)fluoranthene
  - Benzo(g,h,i)perylene
  - Benzo(a)anthracene
  - Benzo(b)fluoranthene
  - Benzo(a)pyrene
  - Chrysene
  - Dibenz(a,h)anthracene
  - Fluorene
  - Fluoranthene
  - Indeno(1,2,3-cd)pyrene
  - Naphthalene
  - Phenanthrene
  - Pyrene
- SBA-164 (0.5-1) (Lab ID: 35418418022)
  - 1-Methylnaphthalene
  - 2-Methylnaphthalene
  - Acenaphthene
  - Acenaphthylene
  - Anthracene

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

PROJECT NARRATIVE

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Method: **EPA 8270**
Description: 8270 MSSV Short List Microwave
Client: SCS Engineers
Date: September 24, 2018

Analyte Comments:

QC Batch: 478533

1p: Due to the extract's physical characteristics, the analysis was performed at dilution.

- SBA-164 (0.5-1) (Lab ID: 35418418022)
  - Benzo(k)fluoranthene
  - Benzo(g,h,i)perylene
  - Benzo(a)anthracene
  - Benzo(b)fluoranthene
  - Benzo(a)pyrene
  - Chrysene
  - Dibenz(a,h)anthracene
  - Fluorene
  - Fluoranthene
  - Indeno(1,2,3-cd)pyrene
  - Naphthalene
  - Phenanthrene
  - Pyrene

QC Batch: 479264

1p: Due to the extract's physical characteristics, the analysis was performed at dilution.

- SBA-156 (0-0.5) (Lab ID: 35418418010)
  - 1-Methylnaphthalene
  - 2-Methylnaphthalene
  - Acenaphthene
  - Acenaphthylene
  - Anthracene
  - Benzo(k)fluoranthene
  - Benzo(g,h,i)perylene
  - Benzo(a)anthracene
  - Benzo(b)fluoranthene
  - Benzo(a)pyrene
  - Chrysene
  - Dibenz(a,h)anthracene
  - Fluorene
  - Fluoranthene
  - Indeno(1,2,3-cd)pyrene
  - Naphthalene
  - Phenanthrene
  - Pyrene
- SBA-157 (0-0.5) (Lab ID: 35418418012)
  - 1-Methylnaphthalene
  - 2-Methylnaphthalene
  - Acenaphthene
  - Acenaphthylene
  - Anthracene
  - Benzo(k)fluoranthene

Pace Analytical Services, LLC
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954-582-4300

PROJECT NARRATIVE

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Method: **EPA 8270**
Description: 8270 MSSV Short List Microwave
Client: SCS Engineers
Date: September 24, 2018

Analyte Comments:

QC Batch: 479264

1p: Due to the extract's physical characteristics, the analysis was performed at dilution.

- SBA-157 (0-0.5) (Lab ID: 35418418012)
  - Benzo(g,h,i)perylene
  - Benzo(a)anthracene
  - Benzo(b)fluoranthene
  - Benzo(a)pyrene
  - Chrysene
  - Dibenz(a,h)anthracene
  - Fluorene
  - Fluoranthene
  - Indeno(1,2,3-cd)pyrene
  - Naphthalene
  - Phenanthrene
  - Pyrene

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: SBA-150 (0.5-2) **Lab ID: 35418418001** Collected: 09/18/18 08:50 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.013 U**	mg/kg	0.040	0.013	1	09/19/18 06:51	09/19/18 12:55	83-32-9	
Acenaphthylene	**0.012 U**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 12:55	208-96-8	
Anthracene	**0.013 U**	mg/kg	0.040	0.013	1	09/19/18 06:51	09/19/18 12:55	120-12-7	
Benzo(a)anthracene	**0.011 U**	mg/kg	0.037	0.011	1	09/19/18 06:51	09/19/18 12:55	56-55-3	
Benzo(a)pyrene	**0.0092 U**	mg/kg	0.037	0.0092	1	09/19/18 06:51	09/19/18 12:55	50-32-8	
Benzo(b)fluoranthene	**0.0099 U**	mg/kg	0.037	0.0099	1	09/19/18 06:51	09/19/18 12:55	205-99-2	
Benzo(g,h,i)perylene	**0.0093 U**	mg/kg	0.037	0.0093	1	09/19/18 06:51	09/19/18 12:55	191-24-2	
Benzo(k)fluoranthene	**0.0099 U**	mg/kg	0.037	0.0099	1	09/19/18 06:51	09/19/18 12:55	207-08-9	
Chrysene	**0.012 U**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 12:55	218-01-9	
Dibenz(a,h)anthracene	**0.0086 U**	mg/kg	0.037	0.0086	1	09/19/18 06:51	09/19/18 12:55	53-70-3	
Fluoranthene	**0.012 U**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 12:55	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.041	0.013	1	09/19/18 06:51	09/19/18 12:55	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.0085 U**	mg/kg	0.037	0.0085	1	09/19/18 06:51	09/19/18 12:55	193-39-5	
1-Methylnaphthalene	**0.015 U**	mg/kg	0.044	0.015	1	09/19/18 06:51	09/19/18 12:55	90-12-0	
2-Methylnaphthalene	**0.014 U**	mg/kg	0.043	0.014	1	09/19/18 06:51	09/19/18 12:55	91-57-6	
Naphthalene	**0.013 U**	mg/kg	0.038	0.013	1	09/19/18 06:51	09/19/18 12:55	91-20-3	
Phenanthrene	**0.012 U**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 12:55	85-01-8	
Pyrene	**0.012 U**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 12:55	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	72	%	16-123		1	09/19/18 06:51	09/19/18 12:55	4165-60-0	
2-Fluorobiphenyl (S)	74	%	32-129		1	09/19/18 06:51	09/19/18 12:55	321-60-8	
p-Terphenyl-d14 (S)	92	%	38-138		1	09/19/18 06:51	09/19/18 12:55	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**8.4**	%	0.10	0.10	1		09/20/18 11:15		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: SBA-151 (0-0.5) **Lab ID: 35418418002** Collected: 09/18/18 09:00 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.013 U**	mg/kg	0.041	0.013	1	09/19/18 06:51	09/19/18 13:20	83-32-9	
Acenaphthylene	**0.012 U**	mg/kg	0.039	0.012	1	09/19/18 06:51	09/19/18 13:20	208-96-8	
Anthracene	**0.014 U**	mg/kg	0.041	0.014	1	09/19/18 06:51	09/19/18 13:20	120-12-7	
Benzo(a)anthracene	**0.011 I**	mg/kg	0.039	0.011	1	09/19/18 06:51	09/19/18 13:20	56-55-3	
Benzo(a)pyrene	**0.010 I**	mg/kg	0.039	0.0095	1	09/19/18 06:51	09/19/18 13:20	50-32-8	
Benzo(b)fluoranthene	**0.016 I**	mg/kg	0.039	0.010	1	09/19/18 06:51	09/19/18 13:20	205-99-2	
Benzo(g,h,i)perylene	**0.010 I**	mg/kg	0.039	0.0097	1	09/19/18 06:51	09/19/18 13:20	191-24-2	
Benzo(k)fluoranthene	**0.010 U**	mg/kg	0.039	0.010	1	09/19/18 06:51	09/19/18 13:20	207-08-9	
Chrysene	**0.012 U**	mg/kg	0.039	0.012	1	09/19/18 06:51	09/19/18 13:20	218-01-9	
Dibenz(a,h)anthracene	**0.0089 U**	mg/kg	0.039	0.0089	1	09/19/18 06:51	09/19/18 13:20	53-70-3	
Fluoranthene	**0.013 I**	mg/kg	0.039	0.013	1	09/19/18 06:51	09/19/18 13:20	206-44-0	
Fluorene	**0.014 U**	mg/kg	0.042	0.014	1	09/19/18 06:51	09/19/18 13:20	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.0089 I**	mg/kg	0.039	0.0088	1	09/19/18 06:51	09/19/18 13:20	193-39-5	
1-Methylnaphthalene	**0.015 U**	mg/kg	0.045	0.015	1	09/19/18 06:51	09/19/18 13:20	90-12-0	
2-Methylnaphthalene	**0.015 U**	mg/kg	0.044	0.015	1	09/19/18 06:51	09/19/18 13:20	91-57-6	
Naphthalene	**0.013 U**	mg/kg	0.040	0.013	1	09/19/18 06:51	09/19/18 13:20	91-20-3	
Phenanthrene	**0.013 U**	mg/kg	0.039	0.013	1	09/19/18 06:51	09/19/18 13:20	85-01-8	
Pyrene	**0.012 U**	mg/kg	0.039	0.012	1	09/19/18 06:51	09/19/18 13:20	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	65	%	16-123		1	09/19/18 06:51	09/19/18 13:20	4165-60-0	
2-Fluorobiphenyl (S)	70	%	32-129		1	09/19/18 06:51	09/19/18 13:20	321-60-8	
p-Terphenyl-d14 (S)	74	%	38-138		1	09/19/18 06:51	09/19/18 13:20	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**11.5**	%	0.10	0.10	1		09/20/18 11:15		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: SBA-152 (0.5-2) **Lab ID: 35418418003** Collected: 09/18/18 09:15 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.013 U**	mg/kg	0.040	0.013	1	09/19/18 06:51	09/19/18 13:45	83-32-9	
Acenaphthylene	**0.012 U**	mg/kg	0.038	0.012	1	09/19/18 06:51	09/19/18 13:45	208-96-8	
Anthracene	**0.013 U**	mg/kg	0.040	0.013	1	09/19/18 06:51	09/19/18 13:45	120-12-7	
Benzo(a)anthracene	**0.011 U**	mg/kg	0.038	0.011	1	09/19/18 06:51	09/19/18 13:45	56-55-3	
Benzo(a)pyrene	**0.0093 U**	mg/kg	0.038	0.0093	1	09/19/18 06:51	09/19/18 13:45	50-32-8	
Benzo(b)fluoranthene	**0.010 U**	mg/kg	0.038	0.010	1	09/19/18 06:51	09/19/18 13:45	205-99-2	
Benzo(g,h,i)perylene	**0.0094 U**	mg/kg	0.038	0.0094	1	09/19/18 06:51	09/19/18 13:45	191-24-2	
Benzo(k)fluoranthene	**0.010 U**	mg/kg	0.038	0.010	1	09/19/18 06:51	09/19/18 13:45	207-08-9	
Chrysene	**0.012 U**	mg/kg	0.038	0.012	1	09/19/18 06:51	09/19/18 13:45	218-01-9	
Dibenz(a,h)anthracene	**0.0086 U**	mg/kg	0.038	0.0086	1	09/19/18 06:51	09/19/18 13:45	53-70-3	
Fluoranthene	**0.012 U**	mg/kg	0.038	0.012	1	09/19/18 06:51	09/19/18 13:45	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.041	0.013	1	09/19/18 06:51	09/19/18 13:45	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.0086 U**	mg/kg	0.038	0.0086	1	09/19/18 06:51	09/19/18 13:45	193-39-5	
1-Methylnaphthalene	**0.015 U**	mg/kg	0.044	0.015	1	09/19/18 06:51	09/19/18 13:45	90-12-0	
2-Methylnaphthalene	**0.014 U**	mg/kg	0.043	0.014	1	09/19/18 06:51	09/19/18 13:45	91-57-6	
Naphthalene	**0.013 U**	mg/kg	0.039	0.013	1	09/19/18 06:51	09/19/18 13:45	91-20-3	
Phenanthrene	**0.012 U**	mg/kg	0.038	0.012	1	09/19/18 06:51	09/19/18 13:45	85-01-8	
Pyrene	**0.012 U**	mg/kg	0.038	0.012	1	09/19/18 06:51	09/19/18 13:45	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	68	%	16-123		1	09/19/18 06:51	09/19/18 13:45	4165-60-0	
2-Fluorobiphenyl (S)	71	%	32-129		1	09/19/18 06:51	09/19/18 13:45	321-60-8	
p-Terphenyl-d14 (S)	91	%	38-138		1	09/19/18 06:51	09/19/18 13:45	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**9.1**	%	0.10	0.10	1		09/20/18 11:15		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: SBA-153 (0-0.5) **Lab ID: 35418418004** Collected: 09/18/18 09:30 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.013 U**	mg/kg	0.039	0.013	1	09/21/18 03:05	09/21/18 14:16	83-32-9	
Acenaphthylene	**0.011 U**	mg/kg	0.036	0.011	1	09/21/18 03:05	09/21/18 14:16	208-96-8	
Anthracene	**0.013 U**	mg/kg	0.039	0.013	1	09/21/18 03:05	09/21/18 14:16	120-12-7	
Benzo(a)anthracene	**0.020 I**	mg/kg	0.036	0.010	1	09/21/18 03:05	09/21/18 14:16	56-55-3	
Benzo(a)pyrene	**0.024 I**	mg/kg	0.036	0.0090	1	09/21/18 03:05	09/21/18 14:16	50-32-8	
Benzo(b)fluoranthene	**0.047**	mg/kg	0.036	0.0097	1	09/21/18 03:05	09/21/18 14:16	205-99-2	
Benzo(g,h,i)perylene	**0.013 I**	mg/kg	0.036	0.0091	1	09/21/18 03:05	09/21/18 14:16	191-24-2	
Benzo(k)fluoranthene	**0.015 I**	mg/kg	0.036	0.0097	1	09/21/18 03:05	09/21/18 14:16	207-08-9	
Chrysene	**0.026 I**	mg/kg	0.036	0.011	1	09/21/18 03:05	09/21/18 14:16	218-01-9	
Dibenz(a,h)anthracene	**0.0084 U**	mg/kg	0.036	0.0084	1	09/21/18 03:05	09/21/18 14:16	53-70-3	
Fluoranthene	**0.031 I**	mg/kg	0.036	0.012	1	09/21/18 03:05	09/21/18 14:16	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.040	0.013	1	09/21/18 03:05	09/21/18 14:16	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.012 I**	mg/kg	0.036	0.0083	1	09/21/18 03:05	09/21/18 14:16	193-39-5	
1-Methylnaphthalene	**0.014 U**	mg/kg	0.043	0.014	1	09/21/18 03:05	09/21/18 14:16	90-12-0	
2-Methylnaphthalene	**0.014 U**	mg/kg	0.042	0.014	1	09/21/18 03:05	09/21/18 14:16	91-57-6	
Naphthalene	**0.012 U**	mg/kg	0.038	0.012	1	09/21/18 03:05	09/21/18 14:16	91-20-3	
Phenanthrene	**0.012 U**	mg/kg	0.036	0.012	1	09/21/18 03:05	09/21/18 14:16	85-01-8	
Pyrene	**0.035 I**	mg/kg	0.036	0.011	1	09/21/18 03:05	09/21/18 14:16	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	56	%	16-123		1	09/21/18 03:05	09/21/18 14:16	4165-60-0	
2-Fluorobiphenyl (S)	59	%	32-129		1	09/21/18 03:05	09/21/18 14:16	321-60-8	
p-Terphenyl-d14 (S)	44	%	38-138		1	09/21/18 03:05	09/21/18 14:16	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**6.2**	%	0.10	0.10	1		09/21/18 08:52		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: SBA-154 (0-0.5) **Lab ID: 35418418006** Collected: 09/18/18 09:40 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.013 U**	mg/kg	0.039	0.013	1	09/21/18 03:05	09/21/18 14:39	83-32-9	
Acenaphthylene	**0.066**	mg/kg	0.037	0.012	1	09/21/18 03:05	09/21/18 14:39	208-96-8	
Anthracene	**0.063**	mg/kg	0.039	0.013	1	09/21/18 03:05	09/21/18 14:39	120-12-7	
Benzo(a)anthracene	**0.27**	mg/kg	0.037	0.011	1	09/21/18 03:05	09/21/18 14:39	56-55-3	
Benzo(a)pyrene	**0.35**	mg/kg	0.037	0.0091	1	09/21/18 03:05	09/21/18 14:39	50-32-8	
Benzo(b)fluoranthene	**0.62**	mg/kg	0.037	0.0098	1	09/21/18 03:05	09/21/18 14:39	205-99-2	
Benzo(g,h,i)perylene	**0.17**	mg/kg	0.037	0.0092	1	09/21/18 03:05	09/21/18 14:39	191-24-2	
Benzo(k)fluoranthene	**0.21**	mg/kg	0.037	0.0098	1	09/21/18 03:05	09/21/18 14:39	207-08-9	
Chrysene	**0.29**	mg/kg	0.037	0.012	1	09/21/18 03:05	09/21/18 14:39	218-01-9	
Dibenz(a,h)anthracene	**0.050**	mg/kg	0.037	0.0085	1	09/21/18 03:05	09/21/18 14:39	53-70-3	
Fluoranthene	**0.42**	mg/kg	0.037	0.012	1	09/21/18 03:05	09/21/18 14:39	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.040	0.013	1	09/21/18 03:05	09/21/18 14:39	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.18**	mg/kg	0.037	0.0084	1	09/21/18 03:05	09/21/18 14:39	193-39-5	
1-Methylnaphthalene	**0.014 U**	mg/kg	0.043	0.014	1	09/21/18 03:05	09/21/18 14:39	90-12-0	
2-Methylnaphthalene	**0.014 U**	mg/kg	0.042	0.014	1	09/21/18 03:05	09/21/18 14:39	91-57-6	
Naphthalene	**0.013 U**	mg/kg	0.038	0.013	1	09/21/18 03:05	09/21/18 14:39	91-20-3	
Phenanthrene	**0.069**	mg/kg	0.037	0.012	1	09/21/18 03:05	09/21/18 14:39	85-01-8	
Pyrene	**0.47**	mg/kg	0.037	0.012	1	09/21/18 03:05	09/21/18 14:39	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	44	%	16-123		1	09/21/18 03:05	09/21/18 14:39	4165-60-0	
2-Fluorobiphenyl (S)	46	%	32-129		1	09/21/18 03:05	09/21/18 14:39	321-60-8	
p-Terphenyl-d14 (S)	39	%	38-138		1	09/21/18 03:05	09/21/18 14:39	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**7.2**	%	0.10	0.10	1		09/21/18 08:52		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: SBA-155 (0-0.5) **Lab ID: 35418418008** Collected: 09/18/18 09:50 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.012 U**	mg/kg	0.038	0.012	1	09/21/18 03:05	09/21/18 15:02	83-32-9	
Acenaphthylene	**0.050**	mg/kg	0.036	0.011	1	09/21/18 03:05	09/21/18 15:02	208-96-8	
Anthracene	**0.050**	mg/kg	0.038	0.013	1	09/21/18 03:05	09/21/18 15:02	120-12-7	
Benzo(a)anthracene	**0.18**	mg/kg	0.036	0.010	1	09/21/18 03:05	09/21/18 15:02	56-55-3	
Benzo(a)pyrene	**0.26**	mg/kg	0.036	0.0090	1	09/21/18 03:05	09/21/18 15:02	50-32-8	
Benzo(b)fluoranthene	**0.46**	mg/kg	0.036	0.0096	1	09/21/18 03:05	09/21/18 15:02	205-99-2	
Benzo(g,h,i)perylene	**0.11**	mg/kg	0.036	0.0091	1	09/21/18 03:05	09/21/18 15:02	191-24-2	
Benzo(k)fluoranthene	**0.16**	mg/kg	0.036	0.0097	1	09/21/18 03:05	09/21/18 15:02	207-08-9	
Chrysene	**0.19**	mg/kg	0.036	0.011	1	09/21/18 03:05	09/21/18 15:02	218-01-9	
Dibenz(a,h)anthracene	**0.032 I**	mg/kg	0.036	0.0083	1	09/21/18 03:05	09/21/18 15:02	53-70-3	
Fluoranthene	**0.29**	mg/kg	0.036	0.012	1	09/21/18 03:05	09/21/18 15:02	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.040	0.013	1	09/21/18 03:05	09/21/18 15:02	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.12**	mg/kg	0.036	0.0083	1	09/21/18 03:05	09/21/18 15:02	193-39-5	
1-Methylnaphthalene	**0.014 U**	mg/kg	0.043	0.014	1	09/21/18 03:05	09/21/18 15:02	90-12-0	
2-Methylnaphthalene	**0.014 U**	mg/kg	0.042	0.014	1	09/21/18 03:05	09/21/18 15:02	91-57-6	
Naphthalene	**0.012 U**	mg/kg	0.037	0.012	1	09/21/18 03:05	09/21/18 15:02	91-20-3	
Phenanthrene	**0.056**	mg/kg	0.036	0.012	1	09/21/18 03:05	09/21/18 15:02	85-01-8	
Pyrene	**0.32**	mg/kg	0.036	0.011	1	09/21/18 03:05	09/21/18 15:02	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	48	%	16-123		1	09/21/18 03:05	09/21/18 15:02	4165-60-0	
2-Fluorobiphenyl (S)	52	%	32-129		1	09/21/18 03:05	09/21/18 15:02	321-60-8	
p-Terphenyl-d14 (S)	39	%	38-138		1	09/21/18 03:05	09/21/18 15:02	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**5.7**	%	0.10	0.10	1		09/21/18 08:52		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: SBA-156 (0-0.5) **Lab ID: 35418418010** Collected: 09/18/18 09:55 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.025 U**	mg/kg	0.077	0.025	2	09/21/18 03:05	09/21/18 15:25	83-32-9	1p
Acenaphthylene	**0.023 U**	mg/kg	0.072	0.023	2	09/21/18 03:05	09/21/18 15:25	208-96-8	1p
Anthracene	**0.025 U**	mg/kg	0.077	0.025	2	09/21/18 03:05	09/21/18 15:25	120-12-7	1p
Benzo(a)anthracene	**0.022 I**	mg/kg	0.072	0.021	2	09/21/18 03:05	09/21/18 15:25	56-55-3	1p
Benzo(a)pyrene	**0.029 I**	mg/kg	0.072	0.018	2	09/21/18 03:05	09/21/18 15:25	50-32-8	1p
Benzo(b)fluoranthene	**0.057 I**	mg/kg	0.072	0.019	2	09/21/18 03:05	09/21/18 15:25	205-99-2	1p
Benzo(g,h,i)perylene	**0.018 U**	mg/kg	0.072	0.018	2	09/21/18 03:05	09/21/18 15:25	191-24-2	1p
Benzo(k)fluoranthene	**0.019 U**	mg/kg	0.072	0.019	2	09/21/18 03:05	09/21/18 15:25	207-08-9	1p
Chrysene	**0.040 I**	mg/kg	0.072	0.023	2	09/21/18 03:05	09/21/18 15:25	218-01-9	1p
Dibenz(a,h)anthracene	**0.017 U**	mg/kg	0.072	0.017	2	09/21/18 03:05	09/21/18 15:25	53-70-3	1p
Fluoranthene	**0.047 I**	mg/kg	0.072	0.024	2	09/21/18 03:05	09/21/18 15:25	206-44-0	1p
Fluorene	**0.026 U**	mg/kg	0.079	0.026	2	09/21/18 03:05	09/21/18 15:25	86-73-7	1p
Indeno(1,2,3-cd)pyrene	**0.016 U**	mg/kg	0.072	0.016	2	09/21/18 03:05	09/21/18 15:25	193-39-5	1p
1-Methylnaphthalene	**0.028 U**	mg/kg	0.085	0.028	2	09/21/18 03:05	09/21/18 15:25	90-12-0	1p
2-Methylnaphthalene	**0.027 U**	mg/kg	0.083	0.027	2	09/21/18 03:05	09/21/18 15:25	91-57-6	1p
Naphthalene	**0.025 U**	mg/kg	0.075	0.025	2	09/21/18 03:05	09/21/18 15:25	91-20-3	1p
Phenanthrene	**0.024 U**	mg/kg	0.072	0.024	2	09/21/18 03:05	09/21/18 15:25	85-01-8	1p
Pyrene	**0.051 I**	mg/kg	0.072	0.023	2	09/21/18 03:05	09/21/18 15:25	129-00-0	1p
Surrogates									
Nitrobenzene-d5 (S)	47	%	16-123		2	09/21/18 03:05	09/21/18 15:25	4165-60-0	
2-Fluorobiphenyl (S)	52	%	32-129		2	09/21/18 03:05	09/21/18 15:25	321-60-8	
p-Terphenyl-d14 (S)	40	%	38-138		2	09/21/18 03:05	09/21/18 15:25	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**5.1**	%	0.10	0.10	1		09/21/18 08:52		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: SBA-157 (0-0.5) **Lab ID: 35418418012** Collected: 09/18/18 10:03 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.025 U**	mg/kg	0.077	0.025	2	09/21/18 03:05	09/21/18 15:49	83-32-9	1p
Acenaphthylene	**0.023 U**	mg/kg	0.073	0.023	2	09/21/18 03:05	09/21/18 15:49	208-96-8	1p
Anthracene	**0.026 U**	mg/kg	0.077	0.026	2	09/21/18 03:05	09/21/18 15:49	120-12-7	1p
Benzo(a)anthracene	**0.048 I**	mg/kg	0.073	0.021	2	09/21/18 03:05	09/21/18 15:49	56-55-3	1p
Benzo(a)pyrene	**0.063 I**	mg/kg	0.073	0.018	2	09/21/18 03:05	09/21/18 15:49	50-32-8	1p
Benzo(b)fluoranthene	**0.13**	mg/kg	0.073	0.019	2	09/21/18 03:05	09/21/18 15:49	205-99-2	1p
Benzo(g,h,i)perylene	**0.034 I**	mg/kg	0.073	0.018	2	09/21/18 03:05	09/21/18 15:49	191-24-2	1p
Benzo(k)fluoranthene	**0.041 I**	mg/kg	0.073	0.019	2	09/21/18 03:05	09/21/18 15:49	207-08-9	1p
Chrysene	**0.060 I**	mg/kg	0.073	0.023	2	09/21/18 03:05	09/21/18 15:49	218-01-9	1p
Dibenz(a,h)anthracene	**0.017 U**	mg/kg	0.073	0.017	2	09/21/18 03:05	09/21/18 15:49	53-70-3	1p
Fluoranthene	**0.097**	mg/kg	0.073	0.024	2	09/21/18 03:05	09/21/18 15:49	206-44-0	1p
Fluorene	**0.026 U**	mg/kg	0.080	0.026	2	09/21/18 03:05	09/21/18 15:49	86-73-7	1p
Indeno(1,2,3-cd)pyrene	**0.027 I**	mg/kg	0.073	0.017	2	09/21/18 03:05	09/21/18 15:49	193-39-5	1p
1-Methylnaphthalene	**0.029 U**	mg/kg	0.086	0.029	2	09/21/18 03:05	09/21/18 15:49	90-12-0	1p
2-Methylnaphthalene	**0.028 U**	mg/kg	0.084	0.028	2	09/21/18 03:05	09/21/18 15:49	91-57-6	1p
Naphthalene	**0.025 U**	mg/kg	0.075	0.025	2	09/21/18 03:05	09/21/18 15:49	91-20-3	1p
Phenanthrene	**0.043 I**	mg/kg	0.073	0.024	2	09/21/18 03:05	09/21/18 15:49	85-01-8	1p
Pyrene	**0.082**	mg/kg	0.073	0.023	2	09/21/18 03:05	09/21/18 15:49	129-00-0	1p
Surrogates									
Nitrobenzene-d5 (S)	35	%	16-123		2	09/21/18 03:05	09/21/18 15:49	4165-60-0	
2-Fluorobiphenyl (S)	44	%	32-129		2	09/21/18 03:05	09/21/18 15:49	321-60-8	
p-Terphenyl-d14 (S)	37	%	38-138		2	09/21/18 03:05	09/21/18 15:49	1718-51-0	J(S5)
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**6.6**	%	0.10	0.10	1		09/21/18 08:52		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: SBA-163 (0-0.5) **Lab ID: 35418418019** Collected: 09/18/18 11:15 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.058 I**	mg/kg	0.081	0.026	2	09/19/18 06:51	09/19/18 14:10	83-32-9	1p
Acenaphthylene	**0.061 I**	mg/kg	0.077	0.024	2	09/19/18 06:51	09/19/18 14:10	208-96-8	1p
Anthracene	**0.23**	mg/kg	0.081	0.027	2	09/19/18 06:51	09/19/18 14:10	120-12-7	1p
Benzo(a)anthracene	**1.9**	mg/kg	0.077	0.022	2	09/19/18 06:51	09/19/18 14:10	56-55-3	1p
Benzo(a)pyrene	**2.4**	mg/kg	0.077	0.019	2	09/19/18 06:51	09/19/18 14:10	50-32-8	1p
Benzo(b)fluoranthene	**3.7**	mg/kg	0.077	0.020	2	09/19/18 06:51	09/19/18 14:10	205-99-2	1p
Benzo(g,h,i)perylene	**2.1**	mg/kg	0.077	0.019	2	09/19/18 06:51	09/19/18 14:10	191-24-2	1p
Benzo(k)fluoranthene	**1.4**	mg/kg	0.077	0.020	2	09/19/18 06:51	09/19/18 14:10	207-08-9	1p
Chrysene	**2.5**	mg/kg	0.077	0.024	2	09/19/18 06:51	09/19/18 14:10	218-01-9	1p
Dibenz(a,h)anthracene	**0.44**	mg/kg	0.077	0.018	2	09/19/18 06:51	09/19/18 14:10	53-70-3	1p
Fluoranthene	**4.9**	mg/kg	0.077	0.025	2	09/19/18 06:51	09/19/18 14:10	206-44-0	1p
Fluorene	**0.039 I**	mg/kg	0.084	0.027	2	09/19/18 06:51	09/19/18 14:10	86-73-7	1p
Indeno(1,2,3-cd)pyrene	**1.6**	mg/kg	0.077	0.017	2	09/19/18 06:51	09/19/18 14:10	193-39-5	1p
1-Methylnaphthalene	**0.068 I**	mg/kg	0.090	0.030	2	09/19/18 06:51	09/19/18 14:10	90-12-0	1p
2-Methylnaphthalene	**0.076 I**	mg/kg	0.088	0.029	2	09/19/18 06:51	09/19/18 14:10	91-57-6	1p
Naphthalene	**0.032 I**	mg/kg	0.079	0.026	2	09/19/18 06:51	09/19/18 14:10	91-20-3	1p
Phenanthrene	**2.2**	mg/kg	0.077	0.025	2	09/19/18 06:51	09/19/18 14:10	85-01-8	1p
Pyrene	**4.1**	mg/kg	0.077	0.024	2	09/19/18 06:51	09/19/18 14:10	129-00-0	1p
Surrogates									
Nitrobenzene-d5 (S)	33	%	16-123		2	09/19/18 06:51	09/19/18 14:10	4165-60-0	
2-Fluorobiphenyl (S)	38	%	32-129		2	09/19/18 06:51	09/19/18 14:10	321-60-8	
p-Terphenyl-d14 (S)	41	%	38-138		2	09/19/18 06:51	09/19/18 14:10	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**11.1**	%	0.10	0.10	1		09/20/18 11:15		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: SBA-163 (0.5-1) **Lab ID: 35418418020** Collected: 09/18/18 11:20 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.11**	mg/kg	0.081	0.026	2	09/19/18 06:51	09/19/18 14:35	83-32-9	1p
Acenaphthylene	**0.10**	mg/kg	0.077	0.024	2	09/19/18 06:51	09/19/18 14:35	208-96-8	1p
Anthracene	**0.44**	mg/kg	0.081	0.027	2	09/19/18 06:51	09/19/18 14:35	120-12-7	1p
Benzo(a)anthracene	**3.4**	mg/kg	0.077	0.022	2	09/19/18 06:51	09/19/18 14:35	56-55-3	1p
Benzo(a)pyrene	**4.2**	mg/kg	0.077	0.019	2	09/19/18 06:51	09/19/18 14:35	50-32-8	1p
Benzo(b)fluoranthene	**6.6**	mg/kg	0.077	0.020	2	09/19/18 06:51	09/19/18 14:35	205-99-2	1p
Benzo(g,h,i)perylene	**2.9**	mg/kg	0.077	0.019	2	09/19/18 06:51	09/19/18 14:35	191-24-2	1p
Benzo(k)fluoranthene	**2.4**	mg/kg	0.077	0.020	2	09/19/18 06:51	09/19/18 14:35	207-08-9	1p
Chrysene	**4.4**	mg/kg	0.077	0.024	2	09/19/18 06:51	09/19/18 14:35	218-01-9	1p
Dibenz(a,h)anthracene	**0.68**	mg/kg	0.077	0.018	2	09/19/18 06:51	09/19/18 14:35	53-70-3	1p
Fluoranthene	**9.3**	mg/kg	0.19	0.062	5	09/19/18 06:51	09/20/18 08:09	206-44-0	1p
Fluorene	**0.074 I**	mg/kg	0.083	0.027	2	09/19/18 06:51	09/19/18 14:35	86-73-7	1p
Indeno(1,2,3-cd)pyrene	**2.6**	mg/kg	0.077	0.017	2	09/19/18 06:51	09/19/18 14:35	193-39-5	1p
1-Methylnaphthalene	**0.070 I**	mg/kg	0.090	0.030	2	09/19/18 06:51	09/19/18 14:35	90-12-0	1p
2-Methylnaphthalene	**0.071 I**	mg/kg	0.088	0.029	2	09/19/18 06:51	09/19/18 14:35	91-57-6	1p
Naphthalene	**0.035 I**	mg/kg	0.079	0.026	2	09/19/18 06:51	09/19/18 14:35	91-20-3	1p
Phenanthrene	**3.7**	mg/kg	0.077	0.025	2	09/19/18 06:51	09/19/18 14:35	85-01-8	1p
Pyrene	**7.8**	mg/kg	0.19	0.060	5	09/19/18 06:51	09/20/18 08:09	129-00-0	1p
Surrogates									
Nitrobenzene-d5 (S)	51	%	16-123		2	09/19/18 06:51	09/19/18 14:35	4165-60-0	
2-Fluorobiphenyl (S)	58	%	32-129		2	09/19/18 06:51	09/19/18 14:35	321-60-8	
p-Terphenyl-d14 (S)	73	%	38-138		2	09/19/18 06:51	09/19/18 14:35	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**11.1**	%	0.10	0.10	1		09/20/18 11:15		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: SBA-164 (0-0.5) **Lab ID: 35418418021** Collected: 09/18/18 12:00 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.012 U**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 15:00	83-32-9	
Acenaphthylene	**0.011 U**	mg/kg	0.035	0.011	1	09/19/18 06:51	09/19/18 15:00	208-96-8	
Anthracene	**0.012 U**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 15:00	120-12-7	
Benzo(a)anthracene	**0.010 U**	mg/kg	0.035	0.010	1	09/19/18 06:51	09/19/18 15:00	56-55-3	
Benzo(a)pyrene	**0.0087 U**	mg/kg	0.035	0.0087	1	09/19/18 06:51	09/19/18 15:00	50-32-8	
Benzo(b)fluoranthene	**0.0094 U**	mg/kg	0.035	0.0094	1	09/19/18 06:51	09/19/18 15:00	205-99-2	
Benzo(g,h,i)perylene	**0.0088 U**	mg/kg	0.035	0.0088	1	09/19/18 06:51	09/19/18 15:00	191-24-2	
Benzo(k)fluoranthene	**0.0094 U**	mg/kg	0.035	0.0094	1	09/19/18 06:51	09/19/18 15:00	207-08-9	
Chrysene	**0.011 U**	mg/kg	0.035	0.011	1	09/19/18 06:51	09/19/18 15:00	218-01-9	
Dibenz(a,h)anthracene	**0.0081 U**	mg/kg	0.035	0.0081	1	09/19/18 06:51	09/19/18 15:00	53-70-3	
Fluoranthene	**0.012 U**	mg/kg	0.035	0.012	1	09/19/18 06:51	09/19/18 15:00	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.038	0.013	1	09/19/18 06:51	09/19/18 15:00	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.0080 U**	mg/kg	0.035	0.0080	1	09/19/18 06:51	09/19/18 15:00	193-39-5	
1-Methylnaphthalene	**0.014 U**	mg/kg	0.041	0.014	1	09/19/18 06:51	09/19/18 15:00	90-12-0	
2-Methylnaphthalene	**0.013 U**	mg/kg	0.040	0.013	1	09/19/18 06:51	09/19/18 15:00	91-57-6	
Naphthalene	**0.012 U**	mg/kg	0.036	0.012	1	09/19/18 06:51	09/19/18 15:00	91-20-3	
Phenanthrene	**0.012 U**	mg/kg	0.035	0.012	1	09/19/18 06:51	09/19/18 15:00	85-01-8	
Pyrene	**0.011 U**	mg/kg	0.035	0.011	1	09/19/18 06:51	09/19/18 15:00	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	50	%	16-123		1	09/19/18 06:51	09/19/18 15:00	4165-60-0	
2-Fluorobiphenyl (S)	56	%	32-129		1	09/19/18 06:51	09/19/18 15:00	321-60-8	
p-Terphenyl-d14 (S)	72	%	38-138		1	09/19/18 06:51	09/19/18 15:00	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**2.6**	%	0.10	0.10	1		09/20/18 11:15		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: SBA-164 (0.5-1) **Lab ID: 35418418022** Collected: 09/18/18 12:05 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.024 U**	mg/kg	0.074	0.024	2	09/19/18 06:51	09/19/18 15:25	83-32-9	1p
Acenaphthylene	**0.022 U**	mg/kg	0.070	0.022	2	09/19/18 06:51	09/19/18 15:25	208-96-8	1p
Anthracene	**0.025 U**	mg/kg	0.074	0.025	2	09/19/18 06:51	09/19/18 15:25	120-12-7	1p
Benzo(a)anthracene	**0.020 U**	mg/kg	0.070	0.020	2	09/19/18 06:51	09/19/18 15:25	56-55-3	1p
Benzo(a)pyrene	**0.017 U**	mg/kg	0.070	0.017	2	09/19/18 06:51	09/19/18 15:25	50-32-8	1p
Benzo(b)fluoranthene	**0.019 U**	mg/kg	0.070	0.019	2	09/19/18 06:51	09/19/18 15:25	205-99-2	1p
Benzo(g,h,i)perylene	**0.018 U**	mg/kg	0.070	0.018	2	09/19/18 06:51	09/19/18 15:25	191-24-2	1p
Benzo(k)fluoranthene	**0.019 U**	mg/kg	0.070	0.019	2	09/19/18 06:51	09/19/18 15:25	207-08-9	1p
Chrysene	**0.022 U**	mg/kg	0.070	0.022	2	09/19/18 06:51	09/19/18 15:25	218-01-9	1p
Dibenz(a,h)anthracene	**0.016 U**	mg/kg	0.070	0.016	2	09/19/18 06:51	09/19/18 15:25	53-70-3	1p
Fluoranthene	**0.023 U**	mg/kg	0.070	0.023	2	09/19/18 06:51	09/19/18 15:25	206-44-0	1p
Fluorene	**0.025 U**	mg/kg	0.076	0.025	2	09/19/18 06:51	09/19/18 15:25	86-73-7	1p
Indeno(1,2,3-cd)pyrene	**0.016 U**	mg/kg	0.070	0.016	2	09/19/18 06:51	09/19/18 15:25	193-39-5	1p
1-Methylnaphthalene	**0.027 U**	mg/kg	0.083	0.027	2	09/19/18 06:51	09/19/18 15:25	90-12-0	1p
2-Methylnaphthalene	**0.027 U**	mg/kg	0.081	0.027	2	09/19/18 06:51	09/19/18 15:25	91-57-6	1p
Naphthalene	**0.024 U**	mg/kg	0.072	0.024	2	09/19/18 06:51	09/19/18 15:25	91-20-3	1p
Phenanthrene	**0.023 U**	mg/kg	0.070	0.023	2	09/19/18 06:51	09/19/18 15:25	85-01-8	1p
Pyrene	**0.022 U**	mg/kg	0.070	0.022	2	09/19/18 06:51	09/19/18 15:25	129-00-0	1p
Surrogates									
Nitrobenzene-d5 (S)	55	%	16-123		2	09/19/18 06:51	09/19/18 15:25	4165-60-0	
2-Fluorobiphenyl (S)	67	%	32-129		2	09/19/18 06:51	09/19/18 15:25	321-60-8	
p-Terphenyl-d14 (S)	79	%	38-138		2	09/19/18 06:51	09/19/18 15:25	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**2.3**	%	0.10	0.10	1		09/20/18 11:15		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
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954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: SBA-165 (0-0.5) **Lab ID: 35418418023** Collected: 09/18/18 12:40 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.012 U**	mg/kg	0.038	0.012	1	09/19/18 06:51	09/19/18 15:50	83-32-9	
Acenaphthylene	**0.011 U**	mg/kg	0.036	0.011	1	09/19/18 06:51	09/19/18 15:50	208-96-8	
Anthracene	**0.044**	mg/kg	0.038	0.013	1	09/19/18 06:51	09/19/18 15:50	120-12-7	
Benzo(a)anthracene	**0.23**	mg/kg	0.036	0.010	1	09/19/18 06:51	09/19/18 15:50	56-55-3	
Benzo(a)pyrene	**0.21**	mg/kg	0.036	0.0089	1	09/19/18 06:51	09/19/18 15:50	50-32-8	
Benzo(b)fluoranthene	**0.33**	mg/kg	0.036	0.0095	1	09/19/18 06:51	09/19/18 15:50	205-99-2	
Benzo(g,h,i)perylene	**0.12**	mg/kg	0.036	0.0090	1	09/19/18 06:51	09/19/18 15:50	191-24-2	
Benzo(k)fluoranthene	**0.13**	mg/kg	0.036	0.0096	1	09/19/18 06:51	09/19/18 15:50	207-08-9	
Chrysene	**0.26**	mg/kg	0.036	0.011	1	09/19/18 06:51	09/19/18 15:50	218-01-9	
Dibenz(a,h)anthracene	**0.033 I**	mg/kg	0.036	0.0082	1	09/19/18 06:51	09/19/18 15:50	53-70-3	
Fluoranthene	**0.54**	mg/kg	0.036	0.012	1	09/19/18 06:51	09/19/18 15:50	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.039	0.013	1	09/19/18 06:51	09/19/18 15:50	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.11**	mg/kg	0.036	0.0082	1	09/19/18 06:51	09/19/18 15:50	193-39-5	
1-Methylnaphthalene	**0.014 U**	mg/kg	0.042	0.014	1	09/19/18 06:51	09/19/18 15:50	90-12-0	
2-Methylnaphthalene	**0.014 U**	mg/kg	0.041	0.014	1	09/19/18 06:51	09/19/18 15:50	91-57-6	
Naphthalene	**0.012 U**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 15:50	91-20-3	
Phenanthrene	**0.28**	mg/kg	0.036	0.012	1	09/19/18 06:51	09/19/18 15:50	85-01-8	
Pyrene	**0.47**	mg/kg	0.036	0.011	1	09/19/18 06:51	09/19/18 15:50	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	58	%	16-123		1	09/19/18 06:51	09/19/18 15:50	4165-60-0	
2-Fluorobiphenyl (S)	66	%	32-129		1	09/19/18 06:51	09/19/18 15:50	321-60-8	
p-Terphenyl-d14 (S)	82	%	38-138		1	09/19/18 06:51	09/19/18 15:50	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**5.1**	%	0.10	0.10	1		09/20/18 11:15		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: SBA-165 (0.5-1) **Lab ID: 35418418024** Collected: 09/18/18 12:45 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.012 U**	mg/kg	0.038	0.012	1	09/19/18 06:51	09/19/18 16:15	83-32-9	
Acenaphthylene	**0.011 U**	mg/kg	0.036	0.011	1	09/19/18 06:51	09/19/18 16:15	208-96-8	
Anthracene	**0.014 I**	mg/kg	0.038	0.013	1	09/19/18 06:51	09/19/18 16:15	120-12-7	
Benzo(a)anthracene	**0.047**	mg/kg	0.036	0.010	1	09/19/18 06:51	09/19/18 16:15	56-55-3	
Benzo(a)pyrene	**0.040**	mg/kg	0.036	0.0089	1	09/19/18 06:51	09/19/18 16:15	50-32-8	
Benzo(b)fluoranthene	**0.057**	mg/kg	0.036	0.0096	1	09/19/18 06:51	09/19/18 16:15	205-99-2	
Benzo(g,h,i)perylene	**0.023 I**	mg/kg	0.036	0.0090	1	09/19/18 06:51	09/19/18 16:15	191-24-2	
Benzo(k)fluoranthene	**0.025 I**	mg/kg	0.036	0.0096	1	09/19/18 06:51	09/19/18 16:15	207-08-9	
Chrysene	**0.049**	mg/kg	0.036	0.011	1	09/19/18 06:51	09/19/18 16:15	218-01-9	
Dibenz(a,h)anthracene	**0.0082 U**	mg/kg	0.036	0.0082	1	09/19/18 06:51	09/19/18 16:15	53-70-3	
Fluoranthene	**0.091**	mg/kg	0.036	0.012	1	09/19/18 06:51	09/19/18 16:15	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.039	0.013	1	09/19/18 06:51	09/19/18 16:15	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.021 I**	mg/kg	0.036	0.0082	1	09/19/18 06:51	09/19/18 16:15	193-39-5	
1-Methylnaphthalene	**0.014 U**	mg/kg	0.042	0.014	1	09/19/18 06:51	09/19/18 16:15	90-12-0	
2-Methylnaphthalene	**0.014 U**	mg/kg	0.041	0.014	1	09/19/18 06:51	09/19/18 16:15	91-57-6	
Naphthalene	**0.012 U**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 16:15	91-20-3	
Phenanthrene	**0.058**	mg/kg	0.036	0.012	1	09/19/18 06:51	09/19/18 16:15	85-01-8	
Pyrene	**0.082**	mg/kg	0.036	0.011	1	09/19/18 06:51	09/19/18 16:15	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	69	%	16-123		1	09/19/18 06:51	09/19/18 16:15	4165-60-0	
2-Fluorobiphenyl (S)	78	%	32-129		1	09/19/18 06:51	09/19/18 16:15	321-60-8	
p-Terphenyl-d14 (S)	99	%	38-138		1	09/19/18 06:51	09/19/18 16:15	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**4.8**	%	0.10	0.10	1		09/20/18 11:15		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: SBA-166 (0-0.5) **Lab ID: 35418418025** Collected: 09/18/18 12:52 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.013 U**	mg/kg	0.041	0.013	1	09/19/18 06:51	09/19/18 16:40	83-32-9	
Acenaphthylene	**0.042**	mg/kg	0.038	0.012	1	09/19/18 06:51	09/19/18 16:40	208-96-8	
Anthracene	**0.084**	mg/kg	0.041	0.013	1	09/19/18 06:51	09/19/18 16:40	120-12-7	
Benzo(a)anthracene	**0.58**	mg/kg	0.038	0.011	1	09/19/18 06:51	09/19/18 16:40	56-55-3	
Benzo(a)pyrene	**0.61**	mg/kg	0.038	0.0095	1	09/19/18 06:51	09/19/18 16:40	50-32-8	
Benzo(b)fluoranthene	**1.0**	mg/kg	0.038	0.010	1	09/19/18 06:51	09/19/18 16:40	205-99-2	
Benzo(g,h,i)perylene	**0.34**	mg/kg	0.038	0.0096	1	09/19/18 06:51	09/19/18 16:40	191-24-2	
Benzo(k)fluoranthene	**0.37**	mg/kg	0.038	0.010	1	09/19/18 06:51	09/19/18 16:40	207-08-9	
Chrysene	**0.71**	mg/kg	0.038	0.012	1	09/19/18 06:51	09/19/18 16:40	218-01-9	
Dibenz(a,h)anthracene	**0.10**	mg/kg	0.038	0.0088	1	09/19/18 06:51	09/19/18 16:40	53-70-3	
Fluoranthene	**1.2**	mg/kg	0.038	0.013	1	09/19/18 06:51	09/19/18 16:40	206-44-0	
Fluorene	**0.014 U**	mg/kg	0.042	0.014	1	09/19/18 06:51	09/19/18 16:40	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.34**	mg/kg	0.038	0.0087	1	09/19/18 06:51	09/19/18 16:40	193-39-5	
1-Methylnaphthalene	**0.015 U**	mg/kg	0.045	0.015	1	09/19/18 06:51	09/19/18 16:40	90-12-0	
2-Methylnaphthalene	**0.015 U**	mg/kg	0.044	0.015	1	09/19/18 06:51	09/19/18 16:40	91-57-6	
Naphthalene	**0.013 U**	mg/kg	0.039	0.013	1	09/19/18 06:51	09/19/18 16:40	91-20-3	
Phenanthrene	**0.32**	mg/kg	0.038	0.013	1	09/19/18 06:51	09/19/18 16:40	85-01-8	
Pyrene	**1.0**	mg/kg	0.038	0.012	1	09/19/18 06:51	09/19/18 16:40	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	48	%	16-123		1	09/19/18 06:51	09/19/18 16:40	4165-60-0	
2-Fluorobiphenyl (S)	54	%	32-129		1	09/19/18 06:51	09/19/18 16:40	321-60-8	
p-Terphenyl-d14 (S)	64	%	38-138		1	09/19/18 06:51	09/19/18 16:40	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**11.0**	%	0.10	0.10	1		09/20/18 11:15		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
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954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: SBA-167 (0-0.5) **Lab ID: 35418418026** Collected: 09/18/18 13:20 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.013 U**	mg/kg	0.041	0.013	1	09/19/18 06:51	09/19/18 17:05	83-32-9	
Acenaphthylene	**0.012 U**	mg/kg	0.039	0.012	1	09/19/18 06:51	09/19/18 17:05	208-96-8	
Anthracene	**0.014 U**	mg/kg	0.041	0.014	1	09/19/18 06:51	09/19/18 17:05	120-12-7	
Benzo(a)anthracene	**0.011 U**	mg/kg	0.039	0.011	1	09/19/18 06:51	09/19/18 17:05	56-55-3	
Benzo(a)pyrene	**0.011 I**	mg/kg	0.039	0.0095	1	09/19/18 06:51	09/19/18 17:05	50-32-8	
Benzo(b)fluoranthene	**0.020 I**	mg/kg	0.039	0.010	1	09/19/18 06:51	09/19/18 17:05	205-99-2	
Benzo(g,h,i)perylene	**0.012 I**	mg/kg	0.039	0.0096	1	09/19/18 06:51	09/19/18 17:05	191-24-2	
Benzo(k)fluoranthene	**0.010 U**	mg/kg	0.039	0.010	1	09/19/18 06:51	09/19/18 17:05	207-08-9	
Chrysene	**0.012 I**	mg/kg	0.039	0.012	1	09/19/18 06:51	09/19/18 17:05	218-01-9	
Dibenz(a,h)anthracene	**0.0088 U**	mg/kg	0.039	0.0088	1	09/19/18 06:51	09/19/18 17:05	53-70-3	
Fluoranthene	**0.017 I**	mg/kg	0.039	0.013	1	09/19/18 06:51	09/19/18 17:05	206-44-0	
Fluorene	**0.014 U**	mg/kg	0.042	0.014	1	09/19/18 06:51	09/19/18 17:05	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.010 I**	mg/kg	0.039	0.0088	1	09/19/18 06:51	09/19/18 17:05	193-39-5	
1-Methylnaphthalene	**0.015 U**	mg/kg	0.045	0.015	1	09/19/18 06:51	09/19/18 17:05	90-12-0	
2-Methylnaphthalene	**0.015 U**	mg/kg	0.044	0.015	1	09/19/18 06:51	09/19/18 17:05	91-57-6	
Naphthalene	**0.013 U**	mg/kg	0.040	0.013	1	09/19/18 06:51	09/19/18 17:05	91-20-3	
Phenanthrene	**0.013 U**	mg/kg	0.039	0.013	1	09/19/18 06:51	09/19/18 17:05	85-01-8	
Pyrene	**0.015 I**	mg/kg	0.039	0.012	1	09/19/18 06:51	09/19/18 17:05	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	37	%	16-123		1	09/19/18 06:51	09/19/18 17:05	4165-60-0	
2-Fluorobiphenyl (S)	43	%	32-129		1	09/19/18 06:51	09/19/18 17:05	321-60-8	
p-Terphenyl-d14 (S)	54	%	38-138		1	09/19/18 06:51	09/19/18 17:05	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**11.2**	%	0.10	0.10	1		09/20/18 11:15		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: CS-7 (0-0.5) **Lab ID: 35418418027** Collected: 09/18/18 17:00 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.013 U**	mg/kg	0.039	0.013	1	09/19/18 06:51	09/19/18 17:30	83-32-9	
Acenaphthylene	**0.057**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 17:30	208-96-8	
Anthracene	**0.052**	mg/kg	0.039	0.013	1	09/19/18 06:51	09/19/18 17:30	120-12-7	
Benzo(a)anthracene	**0.22**	mg/kg	0.037	0.011	1	09/19/18 06:51	09/19/18 17:30	56-55-3	
Benzo(a)pyrene	**0.25**	mg/kg	0.037	0.0092	1	09/19/18 06:51	09/19/18 17:30	50-32-8	
Benzo(b)fluoranthene	**0.43**	mg/kg	0.037	0.0098	1	09/19/18 06:51	09/19/18 17:30	205-99-2	
Benzo(g,h,i)perylene	**0.14**	mg/kg	0.037	0.0093	1	09/19/18 06:51	09/19/18 17:30	191-24-2	
Benzo(k)fluoranthene	**0.15**	mg/kg	0.037	0.0099	1	09/19/18 06:51	09/19/18 17:30	207-08-9	
Chrysene	**0.24**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 17:30	218-01-9	
Dibenz(a,h)anthracene	**0.032 I**	mg/kg	0.037	0.0085	1	09/19/18 06:51	09/19/18 17:30	53-70-3	
Fluoranthene	**0.34**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 17:30	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.040	0.013	1	09/19/18 06:51	09/19/18 17:30	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.13**	mg/kg	0.037	0.0084	1	09/19/18 06:51	09/19/18 17:30	193-39-5	
1-Methylnaphthalene	**0.014 U**	mg/kg	0.044	0.014	1	09/19/18 06:51	09/19/18 17:30	90-12-0	
2-Methylnaphthalene	**0.014 U**	mg/kg	0.043	0.014	1	09/19/18 06:51	09/19/18 17:30	91-57-6	
Naphthalene	**0.013 U**	mg/kg	0.038	0.013	1	09/19/18 06:51	09/19/18 17:30	91-20-3	
Phenanthrene	**0.092**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 17:30	85-01-8	
Pyrene	**0.36**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 17:30	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	59	%	16-123		1	09/19/18 06:51	09/19/18 17:30	4165-60-0	
2-Fluorobiphenyl (S)	66	%	32-129		1	09/19/18 06:51	09/19/18 17:30	321-60-8	
p-Terphenyl-d14 (S)	76	%	38-138		1	09/19/18 06:51	09/19/18 17:30	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**7.2**	%	0.10	0.10	1		09/20/18 11:15		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: CS-7 (0.5-2) **Lab ID: 35418418028** Collected: 09/18/18 17:00 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.013 U**	mg/kg	0.039	0.013	1	09/19/18 06:51	09/19/18 17:55	83-32-9	
Acenaphthylene	**0.012 U**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 17:55	208-96-8	
Anthracene	**0.013 U**	mg/kg	0.039	0.013	1	09/19/18 06:51	09/19/18 17:55	120-12-7	
Benzo(a)anthracene	**0.030 I**	mg/kg	0.037	0.011	1	09/19/18 06:51	09/19/18 17:55	56-55-3	
Benzo(a)pyrene	**0.031 I**	mg/kg	0.037	0.0091	1	09/19/18 06:51	09/19/18 17:55	50-32-8	
Benzo(b)fluoranthene	**0.050**	mg/kg	0.037	0.0098	1	09/19/18 06:51	09/19/18 17:55	205-99-2	
Benzo(g,h,i)perylene	**0.019 I**	mg/kg	0.037	0.0093	1	09/19/18 06:51	09/19/18 17:55	191-24-2	
Benzo(k)fluoranthene	**0.021 I**	mg/kg	0.037	0.0099	1	09/19/18 06:51	09/19/18 17:55	207-08-9	
Chrysene	**0.041**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 17:55	218-01-9	
Dibenz(a,h)anthracene	**0.0085 U**	mg/kg	0.037	0.0085	1	09/19/18 06:51	09/19/18 17:55	53-70-3	
Fluoranthene	**0.066**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 17:55	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.040	0.013	1	09/19/18 06:51	09/19/18 17:55	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.018 I**	mg/kg	0.037	0.0084	1	09/19/18 06:51	09/19/18 17:55	193-39-5	
1-Methylnaphthalene	**0.014 U**	mg/kg	0.044	0.014	1	09/19/18 06:51	09/19/18 17:55	90-12-0	
2-Methylnaphthalene	**0.014 U**	mg/kg	0.042	0.014	1	09/19/18 06:51	09/19/18 17:55	91-57-6	
Naphthalene	**0.013 U**	mg/kg	0.038	0.013	1	09/19/18 06:51	09/19/18 17:55	91-20-3	
Phenanthrene	**0.025 I**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 17:55	85-01-8	
Pyrene	**0.062**	mg/kg	0.037	0.012	1	09/19/18 06:51	09/19/18 17:55	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	51	%	16-123		1	09/19/18 06:51	09/19/18 17:55	4165-60-0	
2-Fluorobiphenyl (S)	56	%	32-129		1	09/19/18 06:51	09/19/18 17:55	321-60-8	
p-Terphenyl-d14 (S)	78	%	38-138		1	09/19/18 06:51	09/19/18 17:55	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**8.0**	%	0.10	0.10	1		09/20/18 11:15		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Sample: CS-6 (0-0.5) **Lab ID: 35418418029** Collected: 09/18/18 17:00 Received: 09/18/18 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.026 U**	mg/kg	0.080	0.026	2	09/19/18 06:51	09/19/18 18:20	83-32-9	
Acenaphthylene	**0.023 U**	mg/kg	0.075	0.023	2	09/19/18 06:51	09/19/18 18:20	208-96-8	
Anthracene	**0.027 U**	mg/kg	0.080	0.027	2	09/19/18 06:51	09/19/18 18:20	120-12-7	
Benzo(a)anthracene	**0.046 I**	mg/kg	0.075	0.021	2	09/19/18 06:51	09/19/18 18:20	56-55-3	
Benzo(a)pyrene	**0.055 I**	mg/kg	0.075	0.019	2	09/19/18 06:51	09/19/18 18:20	50-32-8	
Benzo(b)fluoranthene	**0.10**	mg/kg	0.075	0.020	2	09/19/18 06:51	09/19/18 18:20	205-99-2	
Benzo(g,h,i)perylene	**0.044 I**	mg/kg	0.075	0.019	2	09/19/18 06:51	09/19/18 18:20	191-24-2	
Benzo(k)fluoranthene	**0.039 I**	mg/kg	0.075	0.020	2	09/19/18 06:51	09/19/18 18:20	207-08-9	
Chrysene	**0.059 I**	mg/kg	0.075	0.024	2	09/19/18 06:51	09/19/18 18:20	218-01-9	
Dibenz(a,h)anthracene	**0.017 U**	mg/kg	0.075	0.017	2	09/19/18 06:51	09/19/18 18:20	53-70-3	
Fluoranthene	**0.064 I**	mg/kg	0.075	0.025	2	09/19/18 06:51	09/19/18 18:20	206-44-0	
Fluorene	**0.027 U**	mg/kg	0.082	0.027	2	09/19/18 06:51	09/19/18 18:20	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.036 I**	mg/kg	0.075	0.017	2	09/19/18 06:51	09/19/18 18:20	193-39-5	
1-Methylnaphthalene	**0.029 U**	mg/kg	0.089	0.029	2	09/19/18 06:51	09/19/18 18:20	90-12-0	
2-Methylnaphthalene	**0.029 U**	mg/kg	0.086	0.029	2	09/19/18 06:51	09/19/18 18:20	91-57-6	
Naphthalene	**0.026 U**	mg/kg	0.078	0.026	2	09/19/18 06:51	09/19/18 18:20	91-20-3	
Phenanthrene	**0.025 U**	mg/kg	0.075	0.025	2	09/19/18 06:51	09/19/18 18:20	85-01-8	
Pyrene	**0.078**	mg/kg	0.075	0.024	2	09/19/18 06:51	09/19/18 18:20	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	48	%	16-123		2	09/19/18 06:51	09/19/18 18:20	4165-60-0	
2-Fluorobiphenyl (S)	57	%	32-129		2	09/19/18 06:51	09/19/18 18:20	321-60-8	
p-Terphenyl-d14 (S)	71	%	38-138		2	09/19/18 06:51	09/19/18 18:20	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**9.7**	%	0.10	0.10	1		09/20/18 11:16		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALITY CONTROL DATA

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

QC Batch: 478533 Analysis Method: EPA 8270
QC Batch Method: EPA 3546 Analysis Description: 8270 Solid MSSV Microwave Short Spike
Associated Lab Samples: 35418418001, 35418418002, 35418418003, 35418418019, 35418418020, 35418418021, 35418418022, 35418418023, 35418418024, 35418418025, 35418418026, 35418418027, 35418418028, 35418418029

METHOD BLANK: 2591952 Matrix: Solid
Associated Lab Samples: 35418418001, 35418418002, 35418418003, 35418418019, 35418418020, 35418418021, 35418418022, 35418418023, 35418418024, 35418418025, 35418418026, 35418418027, 35418418028, 35418418029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	mg/kg	0.013 U	0.040	0.013	09/19/18 11:15	
2-Methylnaphthalene	mg/kg	0.013 U	0.039	0.013	09/19/18 11:15	
Acenaphthene	mg/kg	0.012 U	0.036	0.012	09/19/18 11:15	
Acenaphthylene	mg/kg	0.011 U	0.034	0.011	09/19/18 11:15	
Anthracene	mg/kg	0.012 U	0.036	0.012	09/19/18 11:15	
Benzo(a)anthracene	mg/kg	0.0097 U	0.034	0.0097	09/19/18 11:15	
Benzo(a)pyrene	mg/kg	0.0084 U	0.034	0.0084	09/19/18 11:15	
Benzo(b)fluoranthene	mg/kg	0.0091 U	0.034	0.0091	09/19/18 11:15	
Benzo(g,h,i)perylene	mg/kg	0.0085 U	0.034	0.0085	09/19/18 11:15	
Benzo(k)fluoranthene	mg/kg	0.0091 U	0.034	0.0091	09/19/18 11:15	
Chrysene	mg/kg	0.011 U	0.034	0.011	09/19/18 11:15	
Dibenz(a,h)anthracene	mg/kg	0.0078 U	0.034	0.0078	09/19/18 11:15	
Fluoranthene	mg/kg	0.011 U	0.034	0.011	09/19/18 11:15	
Fluorene	mg/kg	0.012 U	0.037	0.012	09/19/18 11:15	
Indeno(1,2,3-cd)pyrene	mg/kg	0.0078 U	0.034	0.0078	09/19/18 11:15	
Naphthalene	mg/kg	0.012 U	0.035	0.012	09/19/18 11:15	
Phenanthrene	mg/kg	0.011 U	0.034	0.011	09/19/18 11:15	
Pyrene	mg/kg	0.011 U	0.034	0.011	09/19/18 11:15	
2-Fluorobiphenyl (S)	%	85	32-129		09/19/18 11:15	
Nitrobenzene-d5 (S)	%	84	16-123		09/19/18 11:15	
p-Terphenyl-d14 (S)	%	89	38-138		09/19/18 11:15	

LABORATORY CONTROL SAMPLE: 2591953

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	mg/kg	1.7	1.6	96	27-123	
2-Methylnaphthalene	mg/kg	1.7	1.6	96	16-137	
Acenaphthene	mg/kg	1.7	1.7	105	37-120	
Acenaphthylene	mg/kg	1.7	1.8	108	41-120	
Anthracene	mg/kg	1.7	1.8	108	45-120	
Benzo(a)anthracene	mg/kg	1.7	1.9	112	44-120	
Benzo(a)pyrene	mg/kg	1.7	1.8	109	44-123	
Benzo(b)fluoranthene	mg/kg	1.7	1.9	112	37-124	
Benzo(g,h,i)perylene	mg/kg	1.7	1.7	105	42-125	
Benzo(k)fluoranthene	mg/kg	1.7	1.9	117	44-126	
Chrysene	mg/kg	1.7	1.9	112	45-120	
Dibenz(a,h)anthracene	mg/kg	1.7	1.8	106	43-124	
Fluoranthene	mg/kg	1.7	1.8	111	45-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALITY CONTROL DATA

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

LABORATORY CONTROL SAMPLE: 2591953

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluorene	mg/kg	1.7	1.8	107	42-120	
Indeno(1,2,3-cd)pyrene	mg/kg	1.7	1.8	107	43-123	
Naphthalene	mg/kg	1.7	1.6	98	40-120	
Phenanthrene	mg/kg	1.7	1.9	112	36-125	
Pyrene	mg/kg	1.7	1.9	113	41-123	
2-Fluorobiphenyl (S)	%			85	32-129	
Nitrobenzene-d5 (S)	%			81	16-123	
p-Terphenyl-d14 (S)	%			94	38-138	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2591956 2591957

Parameter	Units	35417638001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	mg/kg	0.38	1.9	1.9	1.9	1.7	80	72	27-123	9	40	
2-Methylnaphthalene	mg/kg	0.69	1.9	1.9	2.2	2.2	84	80	16-137	3	40	
Acenaphthene	mg/kg	0.013 U	1.9	1.9	1.5	1.2	81	65	37-120	22	40	
Acenaphthylene	mg/kg	0.012 U	1.9	1.9	1.5	1.3	83	69	41-120	19	40	
Anthracene	mg/kg	0.013 U	1.9	1.9	1.5	1.3	80	71	45-120	13	40	
Benzo(a)anthracene	mg/kg	0.011 U	1.9	1.9	1.5	1.3	81	71	44-120	13	40	
Benzo(a)pyrene	mg/kg	0.0093 U	1.9	1.9	1.4	1.3	77	69	44-123	12	40	
Benzo(b)fluoranthene	mg/kg	0.010 U	1.9	1.9	1.5	1.3	79	68	37-124	15	40	
Benzo(g,h,i)perylene	mg/kg	0.0094 U	1.9	1.9	1.5	1.3	82	68	42-125	19	40	
Benzo(k)fluoranthene	mg/kg	0.010 U	1.9	1.9	1.6	1.3	84	70	44-126	17	40	
Chrysene	mg/kg	0.012 U	1.9	1.9	1.5	1.3	83	72	45-120	14	40	
Dibenz(a,h)anthracene	mg/kg	0.0086 U	1.9	1.9	1.5	1.3	82	69	43-124	18	40	
Fluoranthene	mg/kg	0.012 U	1.9	1.9	1.5	1.4	83	73	45-120	13	40	
Fluorene	mg/kg	0.013 U	1.9	1.9	1.5	1.2	82	67	42-120	21	40	
Indeno(1,2,3-cd)pyrene	mg/kg	0.0086 U	1.9	1.9	1.5	1.3	83	70	43-123	16	40	
Naphthalene	mg/kg	0.59	1.9	1.9	2.1	2.1	82	79	40-120	3	40	
Phenanthrene	mg/kg	0.012 U	1.9	1.9	1.5	1.3	83	70	36-125	16	40	
Pyrene	mg/kg	0.012 U	1.9	1.9	1.5	1.3	82	69	41-123	17	40	
2-Fluorobiphenyl (S)	%						66	60	32-129			
Nitrobenzene-d5 (S)	%						66	60	16-123			
p-Terphenyl-d14 (S)	%						68	63	38-138			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALITY CONTROL DATA

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

QC Batch: 479264 Analysis Method: EPA 8270
QC Batch Method: EPA 3546 Analysis Description: 8270 Solid MSSV Microwave Short Spike
Associated Lab Samples: 35418418004, 35418418006, 35418418008, 35418418010, 35418418012

METHOD BLANK: 2595781 Matrix: Solid
Associated Lab Samples: 35418418004, 35418418006, 35418418008, 35418418010, 35418418012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	mg/kg	0.013 U	0.040	0.013	09/21/18 09:37	
2-Methylnaphthalene	mg/kg	0.013 U	0.039	0.013	09/21/18 09:37	
Acenaphthene	mg/kg	0.012 U	0.036	0.012	09/21/18 09:37	
Acenaphthylene	mg/kg	0.011 U	0.034	0.011	09/21/18 09:37	
Anthracene	mg/kg	0.012 U	0.036	0.012	09/21/18 09:37	
Benzo(a)anthracene	mg/kg	0.0098 U	0.034	0.0098	09/21/18 09:37	
Benzo(a)pyrene	mg/kg	0.0085 U	0.034	0.0085	09/21/18 09:37	
Benzo(b)fluoranthene	mg/kg	0.0091 U	0.034	0.0091	09/21/18 09:37	
Benzo(g,h,i)perylene	mg/kg	0.0086 U	0.034	0.0086	09/21/18 09:37	
Benzo(k)fluoranthene	mg/kg	0.0091 U	0.034	0.0091	09/21/18 09:37	
Chrysene	mg/kg	0.011 U	0.034	0.011	09/21/18 09:37	
Dibenz(a,h)anthracene	mg/kg	0.0079 U	0.034	0.0079	09/21/18 09:37	
Fluoranthene	mg/kg	0.011 U	0.034	0.011	09/21/18 09:37	
Fluorene	mg/kg	0.012 U	0.037	0.012	09/21/18 09:37	
Indeno(1,2,3-cd)pyrene	mg/kg	0.0078 U	0.034	0.0078	09/21/18 09:37	
Naphthalene	mg/kg	0.012 U	0.035	0.012	09/21/18 09:37	
Phenanthrene	mg/kg	0.011 U	0.034	0.011	09/21/18 09:37	
Pyrene	mg/kg	0.011 U	0.034	0.011	09/21/18 09:37	
2-Fluorobiphenyl (S)	%	68	32-129		09/21/18 09:37	
Nitrobenzene-d5 (S)	%	67	16-123		09/21/18 09:37	
p-Terphenyl-d14 (S)	%	52	38-138		09/21/18 09:37	

LABORATORY CONTROL SAMPLE: 2595782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	mg/kg	1.7	1.2	71	27-123	
2-Methylnaphthalene	mg/kg	1.7	1.2	71	16-137	
Acenaphthene	mg/kg	1.7	1.2	69	37-120	
Acenaphthylene	mg/kg	1.7	1.2	69	41-120	
Anthracene	mg/kg	1.7	1.2	72	45-120	
Benzo(a)anthracene	mg/kg	1.7	1.3	75	44-120	
Benzo(a)pyrene	mg/kg	1.7	1.3	75	44-123	
Benzo(b)fluoranthene	mg/kg	1.7	1.4	81	37-124	
Benzo(g,h,i)perylene	mg/kg	1.7	1.3	78	42-125	
Benzo(k)fluoranthene	mg/kg	1.7	1.3	75	44-126	
Chrysene	mg/kg	1.7	1.2	72	45-120	
Dibenz(a,h)anthracene	mg/kg	1.7	1.3	76	43-124	
Fluoranthene	mg/kg	1.7	1.3	80	45-120	
Fluorene	mg/kg	1.7	1.2	72	42-120	
Indeno(1,2,3-cd)pyrene	mg/kg	1.7	1.3	78	43-123	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALITY CONTROL DATA

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

LABORATORY CONTROL SAMPLE: 2595782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	mg/kg	1.7	1.1	68	40-120	
Phenanthrene	mg/kg	1.7	1.2	73	36-125	
Pyrene	mg/kg	1.7	1.3	80	41-123	
2-Fluorobiphenyl (S)	%			73	32-129	
Nitrobenzene-d5 (S)	%			70	16-123	
p-Terphenyl-d14 (S)	%			56	38-138	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2595785 2595786

Parameter	Units	35417371002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	mg/kg	0.015 U	1.9	1.9	0.98	1.1	53	58	27-123	7	40	
2-Methylnaphthalene	mg/kg	0.014 U	1.9	1.9	0.98	1.0	53	57	16-137	6	40	
Acenaphthene	mg/kg	0.013 U	1.9	1.9	0.95	1.0	52	55	37-120	6	40	
Acenaphthylene	mg/kg	0.012 U	1.9	1.9	0.94	1.0	51	55	41-120	7	40	
Anthracene	mg/kg	0.013 U	1.9	1.9	0.99	1.0	54	57	45-120	5	40	
Benzo(a)anthracene	mg/kg	0.011 U	1.9	1.9	1.0	1.0	55	57	44-120	2	40	
Benzo(a)pyrene	mg/kg	0.0092 U	1.9	1.9	1.0	1.0	56	56	44-123	0	40	
Benzo(b)fluoranthene	mg/kg	0.0099 U	1.9	1.9	1.1	1.1	58	58	37-124	1	40	
Benzo(g,h,i)perylene	mg/kg	0.0093 U	1.9	1.9	1.1	1.1	59	60	42-125	0	40	
Benzo(k)fluoranthene	mg/kg	0.0099 U	1.9	1.9	1.1	1.1	59	60	44-126	1	40	
Chrysene	mg/kg	0.012 U	1.9	1.9	0.96	0.99	52	54	45-120	3	40	
Dibenz(a,h)anthracene	mg/kg	0.0085 U	1.9	1.9	1.1	1.1	59	59	43-124	0	40	
Fluoranthene	mg/kg	0.012 U	1.9	1.9	1.1	1.1	59	60	45-120	2	40	
Fluorene	mg/kg	0.013 U	1.9	1.9	0.99	1.0	54	57	42-120	5	40	
Indeno(1,2,3-cd)pyrene	mg/kg	0.0085 U	1.9	1.9	1.1	1.1	59	60	43-123	0	40	
Naphthalene	mg/kg	0.013 U	1.9	1.9	0.94	1.0	51	55	40-120	6	40	
Phenanthrene	mg/kg	0.012 U	1.9	1.9	1.0	1.0	54	57	36-125	3	40	
Pyrene	mg/kg	0.012 U	1.9	1.9	1.1	1.1	59	62	41-123	3	40	
2-Fluorobiphenyl (S)	%						55	59	32-129			
Nitrobenzene-d5 (S)	%						51	55	16-123			
p-Terphenyl-d14 (S)	%						41	42	38-138			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALITY CONTROL DATA

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

QC Batch: 479014 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 35418418001, 35418418002, 35418418003, 35418418019, 35418418020, 35418418021, 35418418022, 35418418023, 35418418024, 35418418025, 35418418026, 35418418027, 35418418028, 35418418029

SAMPLE DUPLICATE: 2594478

Parameter	Units	35416941001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.8	10.5	3	5	

SAMPLE DUPLICATE: 2594479

Parameter	Units	35417203001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	84.6	83.0	2	5	

SAMPLE DUPLICATE: 2594480

Parameter	Units	35417209008 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.7	13.6	7	5	J(D6)

SAMPLE DUPLICATE: 2594481

Parameter	Units	35417798006 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.7	7.7	48	5	J(D6)

SAMPLE DUPLICATE: 2594482

Parameter	Units	35418418021 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	2.6	2.5	3	5	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALITY CONTROL DATA

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

QC Batch: 479340 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 35418418004, 35418418006, 35418418008, 35418418010, 35418418012

SAMPLE DUPLICATE: 2596223

Parameter	Units	35397083005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	23.0	21.5	7	5	J(D6),Q

SAMPLE DUPLICATE: 2596224

Parameter	Units	35418925005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	5.7	5.6	1	5	

SAMPLE DUPLICATE: 2596225

Parameter	Units	35418925014 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	9.1	9.1	0	5	

SAMPLE DUPLICATE: 2596226

Parameter	Units	35418925023 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	8.4	8.0	4	5	

SAMPLE DUPLICATE: 2596227

Parameter	Units	35418925032 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.5	10.9	14	5	J(D6)

SAMPLE DUPLICATE: 2596228

Parameter	Units	35419017002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	24.2	25.2	4	5	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALIFIERS

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Compound was analyzed for but not detected.
1p	Due to the extract's physical characteristics, the analysis was performed at dilution.
J(D6)	Estimated Value. The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
J(S5)	Estimated Value. Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).
Q	Sample held beyond the accepted holding time.

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 09217186.02 Task 2/Ludlam
Pace Project No.: 35418418

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35418418001	**SBA-150 (0.5-2)**	EPA 3546	478533	EPA 8270	478620
35418418002	**SBA-151 (0-0.5)**	EPA 3546	478533	EPA 8270	478620
35418418003	**SBA-152 (0.5-2)**	EPA 3546	478533	EPA 8270	478620
35418418004	**SBA-153 (0-0.5)**	EPA 3546	479264	EPA 8270	479318
35418418006	**SBA-154 (0-0.5)**	EPA 3546	479264	EPA 8270	479318
35418418008	**SBA-155 (0-0.5)**	EPA 3546	479264	EPA 8270	479318
35418418010	**SBA-156 (0-0.5)**	EPA 3546	479264	EPA 8270	479318
35418418012	**SBA-157 (0-0.5)**	EPA 3546	479264	EPA 8270	479318
35418418019	**SBA-163 (0-0.5)**	EPA 3546	478533	EPA 8270	478620
35418418020	**SBA-163 (0.5-1)**	EPA 3546	478533	EPA 8270	478620
35418418021	**SBA-164 (0-0.5)**	EPA 3546	478533	EPA 8270	478620
35418418022	**SBA-164 (0.5-1)**	EPA 3546	478533	EPA 8270	478620
35418418023	**SBA-165 (0-0.5)**	EPA 3546	478533	EPA 8270	478620
35418418024	**SBA-165 (0.5-1)**	EPA 3546	478533	EPA 8270	478620
35418418025	**SBA-166 (0-0.5)**	EPA 3546	478533	EPA 8270	478620
35418418026	**SBA-167 (0-0.5)**	EPA 3546	478533	EPA 8270	478620
35418418027	**CS-7 (0-0.5)**	EPA 3546	478533	EPA 8270	478620
35418418028	**CS-7 (0.5-2)**	EPA 3546	478533	EPA 8270	478620
35418418029	**CS-6 (0-0.5)**	EPA 3546	478533	EPA 8270	478620
35418418001	**SBA-150 (0.5-2)**	ASTM D2974-87	479014		
35418418002	**SBA-151 (0-0.5)**	ASTM D2974-87	479014		
35418418003	**SBA-152 (0.5-2)**	ASTM D2974-87	479014		
35418418004	**SBA-153 (0-0.5)**	ASTM D2974-87	479340		
35418418006	**SBA-154 (0-0.5)**	ASTM D2974-87	479340		
35418418008	**SBA-155 (0-0.5)**	ASTM D2974-87	479340		
35418418010	**SBA-156 (0-0.5)**	ASTM D2974-87	479340		
35418418012	**SBA-157 (0-0.5)**	ASTM D2974-87	479340		
35418418019	**SBA-163 (0-0.5)**	ASTM D2974-87	479014		
35418418020	**SBA-163 (0.5-1)**	ASTM D2974-87	479014		
35418418021	**SBA-164 (0-0.5)**	ASTM D2974-87	479014		
35418418022	**SBA-164 (0.5-1)**	ASTM D2974-87	479014		
35418418023	**SBA-165 (0-0.5)**	ASTM D2974-87	479014		
35418418024	**SBA-165 (0.5-1)**	ASTM D2974-87	479014		
35418418025	**SBA-166 (0-0.5)**	ASTM D2974-87	479014		
35418418026	**SBA-167 (0-0.5)**	ASTM D2974-87	479014		
35418418027	**CS-7 (0-0.5)**	ASTM D2974-87	479014		
35418418028	**CS-7 (0.5-2)**	ASTM D2974-87	479014		
35418418029	**CS-6 (0-0.5)**	ASTM D2974-87	479014		

REPORT OF LABORATORY ANALYSIS

Pace Analytical
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WO# : 35418418

35418418

Analytical Request Document

NT. All relevant fields must be completed accurately.

Page: 1 of 2

Section A Required Client Information:	Section B Required Project Information:	Invoice Information:
Company: SCS Engineers	Report To: Fangmei Zhang	Attention:
Address: 7700 N Kendall Drive Suite 300	Copy To:	Company Name:
Miami, FL, 33156		Address:
Email To: fzhang@scsengineers.com	Purchase Order No.:	Pace Quote Reference:
Phone: 786-792-5364 Fax:	Project Name: Ludlam	Pace Project Manager:
Requested Due Date/TAT: 24 hours	Project Number: 09217186.02 Task 12	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER_____

SITE LOCATION ☐ GA ☐ IL ☐ IN ☐ MI ☐ NC ☐ OH ☐ SC ☐ WI ☐ OTHER____

Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

ITEM #	Section D Required Client Information — SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	#OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Requested Analysis: PAHs	Residual Chlorine (Y/N)	Pace Project Number Lab I.D.
1	SBA-150(0.5-2)	SL	G			9/18/2018	0850		1	X									X		
2	SBA-151(0-0.5)	SL	G			9/18/2018	0900		1	X									X		
3	SBA-152(0.5-2)	SL	G			9/18/2018	0915		1	X									X		
4	SBA-153(0-0.5)**	SL	G			9/18/2018	0930		1	X									X		CS-7(0-0.5)
5	SBA-153(0.5-2)**	SL	G			9/18/2018	0935		1	X									X		CS-7(0.5-2)
6	SBA-154(0-0.5)**	SL	G			9/18/2018	0940		1	X									X		CS-7(0-0.5)
7	SBA-154(0.5-2)**	SL	G			9/18/2018	0945		1	X									X		CS-7(0.5-2)
8	SBA-155(0-0.5)**	SL	G			9/18/2018	0950		1	X									X		CS-7(0-0.5)
9	SBA-155(0.5-2)**	SL	G			9/18/2018	0952		1	X									X		CS-7(0.5-2)
10	SBA-156(0-0.5)**	SL	G			9/18/2018	0955		1	X									X		CS-7(0-0.5)
11	SBA-156(0.5-2)**	SL	G			9/18/2018	0958		1	X									X		CS-7(0.5-2)
12	SBA-157(0-0.5)**	SL	G			9/18/2018	1103		1	X									X		CS-7(0-0.5)

Additional Comments:

** Lab logged as CS-7(0-0.5) and (0.5-2), HOLD discretes SBA 153-157

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	9/18/18	1330			
	9/18/18	1743		9/18/18	1745

SAMPLE CONDITIONS

	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Alexis Nichols

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 9/18/18

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 3

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCS Engineers	Report To: Fangmei Zhang	Attention:
Address: 7700 N Kendall Drive Suite 300	Copy To:	Company Name:
Miami, FL, 33156		Address:
Email To: fzhang@scsengineers.com	Purchase Order No.:	Pace Quote Reference:
Phone: 786-792-5364 Fax:	Project Name: Ludlam	Pace Project Manager:
Requested Due Date/TAT: 24 hours	Project Number: 09217186.02 Task 12	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER_____

SITE LOCATION ☐ GA ☐ IL ☐ IN ☐ MI ☐ NC ☐ OH ☐ SC ☐ WI ☐ OTHER____

Filtered (Y/N)

Requested Analysis:

Section D Required Client Information

SAMPLE ID
One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL WP
WIPE	AR
AIR	OT
OTHER	TS
TISSUE	

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	#OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	PAHs	Residual Chlorine (Y/N)	Pace Project Number Lab I.D.
1	SBA-157(0.5-2)**	SL	G			9/18/2018	1006		1	X								X		CS7(0.5-2)
2	SBA-158(0-0.5)*	SL	G			9/18/2018	1030		1	X								X		CS6(0-0.5)
3	SBA-159(0-0.5)*	SL	G			9/18/2018	1035		1	X								X		CS6(0-0.5)
4	SBA-160(0-0.5)*	SL	G			9/18/2018	1045		1	X								X		CS6(0-0.5)
5	SBA-161(0-0.5)*	SL	G			9/18/2018	1050		1	X								X		CS6(0-0.5)
6	SBA-162(0-0.5)*	SL	G			9/18/2018	1055		1	X								X		CS6(0-0.5)
7	SBA-163(0-0.5)	SL	G			9/18/2018	1115		1	X								X		
8	SBA-163(0.5-1)	SL	G			9/18/2018	1120		1	X								X		
9	SBA-164(0-0.5)	SL	G			9/18/2018	1200		1	X								X		
10	SBA-164(0.5-1)	SL	G			9/18/2018	1205		1	X								X		
11	SBA-165(0-0.5)	SL	G			9/18/2018	1240		1	X								X		
12	SBA-165(0.5-1)	SL	G			9/18/2018	1245		1	X								X		

Additional Comments:

* Run as composite sample CS-6(0-0.5). HOLD Discretes SBA-158-162.

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	9/18/18	1330		9/18/18	1330
	9/18/18	1745		9/18/18	1745

SAMPLE CONDITIONS

Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Allen Nielsen

SIGNATURE of SAMPLER:

DATE Signed (MM / DD / YY): 9/18/18

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 3 of 3

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCS Engineers	Report To: Fangmei Zhang	Attention:
Address: 7700 N Kendall Drive Suite 300	Copy To:	Company Name:
Miami, FL, 33156		Address:
Email To: fzhang@scsengineers.com	Purchase Order No.:	Pace Quote Reference:
Phone: 786-792-5364 Fax:	Project Name: Ludlam	Pace Project Manager:
Requested Due Date/TAT: 24 hours	Project Number: 09217186.02 Task 12	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER_____

SITE LOCATION ☐ GA ☐ IL ☐ IN ☐ MI ☐ NC ☐ OH ☐ SC ☐ WI ☐ OTHER____

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL WP
WIPE	AR
AIR	OT
OTHER	TS
TISSUE	

ITEM #	Samples	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	#OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Requested Analysis: PAHs	Residual Chlorine (Y/N)	Pace Project Number Lab I.D.
1	SBA- 166 (0-0.5)	SL	G			9/18/2018	1252		1	X									X		
2	SBA- 166 and 167 (0-0.5)	SL	G			9/18/2018	1320		1	X									X		
3	SBA-	SL	G			9/18/2018			1	X									X		
4	SBA-	SL	G			9/18/2018			1	X									X		
5	SBA-	SL	G			9/18/2018			1	X									X		
6	SBA-	SL	G			9/18/2018			1	X									X		
7	SBA-	SL	G			9/18/2018			1	X									X		
8	SBA-	SL	G			9/18/2018			1	X									X		
9	SBA-	SL	G			9/18/2018			1	X									X		
10	SBA-	SL	G			9/18/2018			1	X									X		
11	SBA-	SL	G			9/18/2018			1	X									X		
12	SBA-	SL	G			9/18/2018			1	X									X		

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	9/18/18	1330		9/18/18	1335
	9/18/18	1745		9/18/18	1745

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Alex N. Nelson

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 9/18/18

SAMPLE CONDITIONS

Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

Pace Analytical Florida Laboratory	Document Name: Sample Condition Upon Receipt Form	Document Revised: May 30, 2018
	Document No.: F-FL-C-007 rev. 13	Issuing Authority: Pace Florida Quality Office

WO#: 35418418 (SCUR)

Project # PM: CTR Due Date: 09/20/18
Project Manager: CLIENT: 36-ESCON
Client:

Date and Initials of person:
Examining contents:
Label:
Deliver: DMF
pH:

Thermometer Used: T-330 Date: 9/18/18 Time: 1745 Initials: DMF

State of Origin: FL ☐ For WV projects, all containers verified to ≤6 °C

Cooler #1 Temp.°C	11.3 (Visual)	0.0 (Correction Factor)	11.3 (Actual)	☑ Samples on ice, cooling process has begun
Cooler #2 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐ Samples on ice, cooling process has begun
Cooler #3 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐ Samples on ice, cooling process has begun
Cooler #4 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐ Samples on ice, cooling process has begun
Cooler #5 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐ Samples on ice, cooling process has begun
Cooler #6 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ International Priority ☐ Other

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☑ Unknown

Tracking #

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No **Seals intact:** ☐ Yes ☑ No **Ice:** (Wet) Blue Dry None

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Samples shorted to lab (If Yes, complete) Shorted Date: NA Shorted Time: NA Qty: NA

		Comments:
Chain of Custody Present	☑ Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☑ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☑ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☑ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☑ Yes ☐ No ☐ N/A	24 TAT
Sufficient Volume	☑ Yes ☐ No ☐ N/A	
Correct Containers Used	☑ Yes ☐ No ☐ N/A	
Containers Intact	☑ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☐ Yes ☐ No ☑ N/A	Preservation Information:
All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: VOA, Coliform, TOC, O&G, Carbamates	☐ Yes ☐ No ☑ N/A	Preservative: Lot #/Trace #: Date: Time: Initials:
Headspace in VOA Vials? (>6mm):	☐ Yes ☐ No ☑ N/A	
Trip Blank Present:	☐ Yes ☐ No ☑ N/A	

Client Notification/ Resolution:
Person Contacted: Date/Time:

Comments/ Resolution (use back for additional comments):

Project Manager Review: Date:

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

September 21, 2018

Fangmei Zhang
SCS ES Consultants, Inc.
7700 N. Kendall Dr.
Suite #607
Miami, FL 33156

RE: Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

Dear Fangmei Zhang:
Enclosed are the analytical results for sample(s) received by the laboratory on September 19, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christina Raschke
christina.raschke@pacelabs.com
(954)582-4300
Project Manager

Enclosures

cc: Karinne Bedosky, SCS Engineers
Alexis Nielsen, SCS Engineers
Anthony Pezzotti, SCS ES Consultants

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
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CERTIFICATIONS

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

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SAMPLE SUMMARY

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35418596001	**SBA 168 (0-0.5)**	Solid	09/18/18 15:25	09/19/18 17:35
35418596002	**SBA 169 (0-0.5)**	Solid	09/18/18 15:35	09/19/18 17:35
35418596003	**SBA 20B (0-0.5)**	Solid	09/18/18 14:50	09/19/18 17:35
35418596004	**SBA 20B (0.5-1)**	Solid	09/18/18 14:52	09/19/18 17:35
35418596005	**SBA 20A (0-0.5)**	Solid	09/18/18 14:55	09/19/18 17:35
35418596006	**SBA 20A (0.5-1)**	Solid	09/18/18 15:00	09/19/18 17:35
35418596007	**SBA 139B (0-0.5)**	Solid	09/18/18 14:05	09/19/18 17:35
35418596008	**SBA 139A (0-0.5)**	Solid	09/18/18 14:10	09/19/18 17:35
35418596009	**SBA-170 (0-0.5)**	Solid	09/18/18 15:45	09/19/18 17:30

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SAMPLE ANALYTE COUNT

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35418596001	**SBA 168 (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418596002	**SBA 169 (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418596003	**SBA 20B (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418596004	**SBA 20B (0.5-1)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418596005	**SBA 20A (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418596006	**SBA 20A (0.5-1)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418596007	**SBA 139B (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418596008	**SBA 139A (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35418596009	**SBA-170 (0-0.5)**	EPA 8270	CB1	21	PASI-O
		ASTM D2974-87	RAK	1	PASI-O

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PROJECT NARRATIVE

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

Method: **EPA 8270**
Description: 8270 MSSV Short List Microwave
Client: SCS Engineers
Date: September 21, 2018

General Information:
9 samples were analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

QC Batch: 478992

P1: Routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
- SBA 139B (0-0.5) (Lab ID: 35418596007)

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: 478992

J(S0): Estimated Value. Surrogate recovery outside laboratory control limits.
- MSD (Lab ID: 2594474)
  - 2-Fluorobiphenyl (S)
  - Nitrobenzene-d5 (S)
  - p-Terphenyl-d14 (S)

QC Batch: 479264

J(S0): Estimated Value. Surrogate recovery outside laboratory control limits.
- SBA 20A (0.5-1) (Lab ID: 35418596006)
  - p-Terphenyl-d14 (S)
- SBA 20B (0-0.5) (Lab ID: 35418596003)
  - p-Terphenyl-d14 (S)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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PROJECT NARRATIVE

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

Method: **EPA 8270**
Description: 8270 MSSV Short List Microwave
Client: SCS Engineers
Date: September 21, 2018

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 478992

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 35417575022

J(M1): Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 2594474)
  - 1-Methylnaphthalene
  - 2-Methylnaphthalene
  - Acenaphthene
  - Acenaphthylene
  - Fluorene
  - Naphthalene

J(R1): Estimated Value. RPD value was outside control limits.

- MSD (Lab ID: 2594474)
  - 1-Methylnaphthalene
  - 2-Methylnaphthalene
  - Acenaphthene
  - Acenaphthylene
  - Anthracene
  - Benzo(a)anthracene
  - Benzo(a)pyrene
  - Benzo(b)fluoranthene
  - Benzo(g,h,i)perylene
  - Benzo(k)fluoranthene
  - Dibenz(a,h)anthracene
  - Fluoranthene
  - Fluorene
  - Indeno(1,2,3-cd)pyrene
  - Naphthalene
  - Phenanthrene
  - Pyrene

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

Sample: SBA 168 (0-0.5) **Lab ID: 35418596001** Collected: 09/18/18 15:25 Received: 09/19/18 17:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.014 U**	mg/kg	0.042	0.014	1	09/21/18 03:05	09/21/18 11:56	83-32-9	
Acenaphthylene	**0.012 U**	mg/kg	0.040	0.012	1	09/21/18 03:05	09/21/18 11:56	208-96-8	
Anthracene	**0.020 I**	mg/kg	0.042	0.014	1	09/21/18 03:05	09/21/18 11:56	120-12-7	
Benzo(a)anthracene	**0.070**	mg/kg	0.040	0.011	1	09/21/18 03:05	09/21/18 11:56	56-55-3	
Benzo(a)pyrene	**0.081**	mg/kg	0.040	0.0098	1	09/21/18 03:05	09/21/18 11:56	50-32-8	
Benzo(b)fluoranthene	**0.12**	mg/kg	0.040	0.011	1	09/21/18 03:05	09/21/18 11:56	205-99-2	
Benzo(g,h,i)perylene	**0.063**	mg/kg	0.040	0.0099	1	09/21/18 03:05	09/21/18 11:56	191-24-2	
Benzo(k)fluoranthene	**0.046**	mg/kg	0.040	0.011	1	09/21/18 03:05	09/21/18 11:56	207-08-9	
Chrysene	**0.086**	mg/kg	0.040	0.013	1	09/21/18 03:05	09/21/18 11:56	218-01-9	
Dibenz(a,h)anthracene	**0.018 I**	mg/kg	0.040	0.0091	1	09/21/18 03:05	09/21/18 11:56	53-70-3	
Fluoranthene	**0.17**	mg/kg	0.040	0.013	1	09/21/18 03:05	09/21/18 11:56	206-44-0	
Fluorene	**0.014 U**	mg/kg	0.043	0.014	1	09/21/18 03:05	09/21/18 11:56	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.056**	mg/kg	0.040	0.0090	1	09/21/18 03:05	09/21/18 11:56	193-39-5	
1-Methylnaphthalene	**0.016 U**	mg/kg	0.047	0.016	1	09/21/18 03:05	09/21/18 11:56	90-12-0	
2-Methylnaphthalene	**0.015 U**	mg/kg	0.046	0.015	1	09/21/18 03:05	09/21/18 11:56	91-57-6	
Naphthalene	**0.014 U**	mg/kg	0.041	0.014	1	09/21/18 03:05	09/21/18 11:56	91-20-3	
Phenanthrene	**0.11**	mg/kg	0.040	0.013	1	09/21/18 03:05	09/21/18 11:56	85-01-8	
Pyrene	**0.14**	mg/kg	0.040	0.012	1	09/21/18 03:05	09/21/18 11:56	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	58	%	16-123		1	09/21/18 03:05	09/21/18 11:56	4165-60-0	
2-Fluorobiphenyl (S)	61	%	32-129		1	09/21/18 03:05	09/21/18 11:56	321-60-8	
p-Terphenyl-d14 (S)	46	%	38-138		1	09/21/18 03:05	09/21/18 11:56	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**13.6**	%	0.10	0.10	1		09/20/18 10:11		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

Sample: SBA 169 (0-0.5) **Lab ID: 35418596002** Collected: 09/18/18 15:35 Received: 09/19/18 17:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.013 U**	mg/kg	0.040	0.013	1	09/20/18 11:04	09/20/18 15:28	83-32-9	
Acenaphthylene	**0.012 U**	mg/kg	0.038	0.012	1	09/20/18 11:04	09/20/18 15:28	208-96-8	
Anthracene	**0.016 I**	mg/kg	0.040	0.013	1	09/20/18 11:04	09/20/18 15:28	120-12-7	
Benzo(a)anthracene	**0.26**	mg/kg	0.038	0.011	1	09/20/18 11:04	09/20/18 15:28	56-55-3	
Benzo(a)pyrene	**0.37**	mg/kg	0.038	0.0094	1	09/20/18 11:04	09/20/18 15:28	50-32-8	
Benzo(b)fluoranthene	**0.55**	mg/kg	0.038	0.010	1	09/20/18 11:04	09/20/18 15:28	205-99-2	
Benzo(g,h,i)perylene	**0.39**	mg/kg	0.038	0.0095	1	09/20/18 11:04	09/20/18 15:28	191-24-2	
Benzo(k)fluoranthene	**0.22**	mg/kg	0.038	0.010	1	09/20/18 11:04	09/20/18 15:28	207-08-9	
Chrysene	**0.38**	mg/kg	0.038	0.012	1	09/20/18 11:04	09/20/18 15:28	218-01-9	
Dibenz(a,h)anthracene	**0.080**	mg/kg	0.038	0.0087	1	09/20/18 11:04	09/20/18 15:28	53-70-3	
Fluoranthene	**0.46**	mg/kg	0.038	0.012	1	09/20/18 11:04	09/20/18 15:28	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.041	0.013	1	09/20/18 11:04	09/20/18 15:28	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.31**	mg/kg	0.038	0.0086	1	09/20/18 11:04	09/20/18 15:28	193-39-5	
1-Methylnaphthalene	**0.015 U**	mg/kg	0.045	0.015	1	09/20/18 11:04	09/20/18 15:28	90-12-0	
2-Methylnaphthalene	**0.014 U**	mg/kg	0.044	0.014	1	09/20/18 11:04	09/20/18 15:28	91-57-6	
Naphthalene	**0.013 U**	mg/kg	0.039	0.013	1	09/20/18 11:04	09/20/18 15:28	91-20-3	
Phenanthrene	**0.087**	mg/kg	0.038	0.012	1	09/20/18 11:04	09/20/18 15:28	85-01-8	
Pyrene	**0.39**	mg/kg	0.038	0.012	1	09/20/18 11:04	09/20/18 15:28	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	36	%	16-123		1	09/20/18 11:04	09/20/18 15:28	4165-60-0	
2-Fluorobiphenyl (S)	46	%	32-129		1	09/20/18 11:04	09/20/18 15:28	321-60-8	
p-Terphenyl-d14 (S)	51	%	38-138		1	09/20/18 11:04	09/20/18 15:28	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**9.2**	%	0.10	0.10	1		09/20/18 10:11		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

Sample: SBA 20B (0-0.5) **Lab ID: 35418596003** Collected: 09/18/18 14:50 Received: 09/19/18 17:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.013 U**	mg/kg	0.039	0.013	1	09/21/18 03:05	09/21/18 12:19	83-32-9	
Acenaphthylene	**0.033 I**	mg/kg	0.037	0.012	1	09/21/18 03:05	09/21/18 12:19	208-96-8	
Anthracene	**0.026 I**	mg/kg	0.039	0.013	1	09/21/18 03:05	09/21/18 12:19	120-12-7	
Benzo(a)anthracene	**0.098**	mg/kg	0.037	0.011	1	09/21/18 03:05	09/21/18 12:19	56-55-3	
Benzo(a)pyrene	**0.13**	mg/kg	0.037	0.0091	1	09/21/18 03:05	09/21/18 12:19	50-32-8	
Benzo(b)fluoranthene	**0.24**	mg/kg	0.037	0.0098	1	09/21/18 03:05	09/21/18 12:19	205-99-2	
Benzo(g,h,i)perylene	**0.10**	mg/kg	0.037	0.0092	1	09/21/18 03:05	09/21/18 12:19	191-24-2	
Benzo(k)fluoranthene	**0.084**	mg/kg	0.037	0.0098	1	09/21/18 03:05	09/21/18 12:19	207-08-9	
Chrysene	**0.15**	mg/kg	0.037	0.012	1	09/21/18 03:05	09/21/18 12:19	218-01-9	
Dibenz(a,h)anthracene	**0.027 I**	mg/kg	0.037	0.0085	1	09/21/18 03:05	09/21/18 12:19	53-70-3	
Fluoranthene	**0.22**	mg/kg	0.037	0.012	1	09/21/18 03:05	09/21/18 12:19	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.040	0.013	1	09/21/18 03:05	09/21/18 12:19	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.090**	mg/kg	0.037	0.0084	1	09/21/18 03:05	09/21/18 12:19	193-39-5	
1-Methylnaphthalene	**0.014 U**	mg/kg	0.044	0.014	1	09/21/18 03:05	09/21/18 12:19	90-12-0	
2-Methylnaphthalene	**0.014 U**	mg/kg	0.042	0.014	1	09/21/18 03:05	09/21/18 12:19	91-57-6	
Naphthalene	**0.013 U**	mg/kg	0.038	0.013	1	09/21/18 03:05	09/21/18 12:19	91-20-3	
Phenanthrene	**0.052**	mg/kg	0.037	0.012	1	09/21/18 03:05	09/21/18 12:19	85-01-8	
Pyrene	**0.21**	mg/kg	0.037	0.012	1	09/21/18 03:05	09/21/18 12:19	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	42	%	16-123		1	09/21/18 03:05	09/21/18 12:19	4165-60-0	
2-Fluorobiphenyl (S)	45	%	32-129		1	09/21/18 03:05	09/21/18 12:19	321-60-8	
p-Terphenyl-d14 (S)	33	%	38-138		1	09/21/18 03:05	09/21/18 12:19	1718-51-0	J(S0), S8
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**6.8**	%	0.10	0.10	1		09/20/18 10:11		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

Sample: SBA 20B (0.5-1) **Lab ID: 35418596004** Collected: 09/18/18 14:52 Received: 09/19/18 17:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.013 U**	mg/kg	0.039	0.013	1	09/20/18 11:04	09/20/18 16:17	83-32-9	
Acenaphthylene	**0.062**	mg/kg	0.037	0.011	1	09/20/18 11:04	09/20/18 16:17	208-96-8	
Anthracene	**0.045**	mg/kg	0.039	0.013	1	09/20/18 11:04	09/20/18 16:17	120-12-7	
Benzo(a)anthracene	**0.15**	mg/kg	0.037	0.010	1	09/20/18 11:04	09/20/18 16:17	56-55-3	
Benzo(a)pyrene	**0.16**	mg/kg	0.037	0.0091	1	09/20/18 11:04	09/20/18 16:17	50-32-8	
Benzo(b)fluoranthene	**0.28**	mg/kg	0.037	0.0098	1	09/20/18 11:04	09/20/18 16:17	205-99-2	
Benzo(g,h,i)perylene	**0.15**	mg/kg	0.037	0.0092	1	09/20/18 11:04	09/20/18 16:17	191-24-2	
Benzo(k)fluoranthene	**0.10**	mg/kg	0.037	0.0098	1	09/20/18 11:04	09/20/18 16:17	207-08-9	
Chrysene	**0.18**	mg/kg	0.037	0.012	1	09/20/18 11:04	09/20/18 16:17	218-01-9	
Dibenz(a,h)anthracene	**0.037 I**	mg/kg	0.037	0.0084	1	09/20/18 11:04	09/20/18 16:17	53-70-3	
Fluoranthene	**0.25**	mg/kg	0.037	0.012	1	09/20/18 11:04	09/20/18 16:17	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.040	0.013	1	09/20/18 11:04	09/20/18 16:17	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.12**	mg/kg	0.037	0.0084	1	09/20/18 11:04	09/20/18 16:17	193-39-5	
1-Methylnaphthalene	**0.014 U**	mg/kg	0.043	0.014	1	09/20/18 11:04	09/20/18 16:17	90-12-0	
2-Methylnaphthalene	**0.014 U**	mg/kg	0.042	0.014	1	09/20/18 11:04	09/20/18 16:17	91-57-6	
Naphthalene	**0.013 U**	mg/kg	0.038	0.013	1	09/20/18 11:04	09/20/18 16:17	91-20-3	
Phenanthrene	**0.072**	mg/kg	0.037	0.012	1	09/20/18 11:04	09/20/18 16:17	85-01-8	
Pyrene	**0.25**	mg/kg	0.037	0.012	1	09/20/18 11:04	09/20/18 16:17	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	39	%	16-123		1	09/20/18 11:04	09/20/18 16:17	4165-60-0	
2-Fluorobiphenyl (S)	42	%	32-129		1	09/20/18 11:04	09/20/18 16:17	321-60-8	
p-Terphenyl-d14 (S)	39	%	38-138		1	09/20/18 11:04	09/20/18 16:17	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**8.2**	%	0.10	0.10	1		09/20/18 10:11		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

Sample: SBA 20A (0-0.5) **Lab ID: 35418596005** Collected: 09/18/18 14:55 Received: 09/19/18 17:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.013 U**	mg/kg	0.039	0.013	1	09/21/18 03:05	09/21/18 12:43	83-32-9	
Acenaphthylene	**0.066**	mg/kg	0.037	0.011	1	09/21/18 03:05	09/21/18 12:43	208-96-8	
Anthracene	**0.043**	mg/kg	0.039	0.013	1	09/21/18 03:05	09/21/18 12:43	120-12-7	
Benzo(a)anthracene	**0.14**	mg/kg	0.037	0.010	1	09/21/18 03:05	09/21/18 12:43	56-55-3	
Benzo(a)pyrene	**0.19**	mg/kg	0.037	0.0091	1	09/21/18 03:05	09/21/18 12:43	50-32-8	
Benzo(b)fluoranthene	**0.35**	mg/kg	0.037	0.0098	1	09/21/18 03:05	09/21/18 12:43	205-99-2	
Benzo(g,h,i)perylene	**0.11**	mg/kg	0.037	0.0092	1	09/21/18 03:05	09/21/18 12:43	191-24-2	
Benzo(k)fluoranthene	**0.12**	mg/kg	0.037	0.0098	1	09/21/18 03:05	09/21/18 12:43	207-08-9	
Chrysene	**0.19**	mg/kg	0.037	0.012	1	09/21/18 03:05	09/21/18 12:43	218-01-9	
Dibenz(a,h)anthracene	**0.032 I**	mg/kg	0.037	0.0084	1	09/21/18 03:05	09/21/18 12:43	53-70-3	
Fluoranthene	**0.27**	mg/kg	0.037	0.012	1	09/21/18 03:05	09/21/18 12:43	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.040	0.013	1	09/21/18 03:05	09/21/18 12:43	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.11**	mg/kg	0.037	0.0084	1	09/21/18 03:05	09/21/18 12:43	193-39-5	
1-Methylnaphthalene	**0.014 U**	mg/kg	0.043	0.014	1	09/21/18 03:05	09/21/18 12:43	90-12-0	
2-Methylnaphthalene	**0.014 U**	mg/kg	0.042	0.014	1	09/21/18 03:05	09/21/18 12:43	91-57-6	
Naphthalene	**0.013 U**	mg/kg	0.038	0.013	1	09/21/18 03:05	09/21/18 12:43	91-20-3	
Phenanthrene	**0.036 I**	mg/kg	0.037	0.012	1	09/21/18 03:05	09/21/18 12:43	85-01-8	
Pyrene	**0.29**	mg/kg	0.037	0.012	1	09/21/18 03:05	09/21/18 12:43	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	47	%	16-123		1	09/21/18 03:05	09/21/18 12:43	4165-60-0	
2-Fluorobiphenyl (S)	51	%	32-129		1	09/21/18 03:05	09/21/18 12:43	321-60-8	
p-Terphenyl-d14 (S)	39	%	38-138		1	09/21/18 03:05	09/21/18 12:43	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**7.1**	%	0.10	0.10	1		09/20/18 10:11		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

Sample: SBA 20A (0.5-1) **Lab ID: 35418596006** Collected: 09/18/18 15:00 Received: 09/19/18 17:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.012 U**	mg/kg	0.038	0.012	1	09/21/18 03:05	09/21/18 13:06	83-32-9	
Acenaphthylene	**0.052**	mg/kg	0.036	0.011	1	09/21/18 03:05	09/21/18 13:06	208-96-8	
Anthracene	**0.033 I**	mg/kg	0.038	0.013	1	09/21/18 03:05	09/21/18 13:06	120-12-7	
Benzo(a)anthracene	**0.11**	mg/kg	0.036	0.010	1	09/21/18 03:05	09/21/18 13:06	56-55-3	
Benzo(a)pyrene	**0.14**	mg/kg	0.036	0.0089	1	09/21/18 03:05	09/21/18 13:06	50-32-8	
Benzo(b)fluoranthene	**0.26**	mg/kg	0.036	0.0096	1	09/21/18 03:05	09/21/18 13:06	205-99-2	
Benzo(g,h,i)perylene	**0.078**	mg/kg	0.036	0.0091	1	09/21/18 03:05	09/21/18 13:06	191-24-2	
Benzo(k)fluoranthene	**0.10**	mg/kg	0.036	0.0096	1	09/21/18 03:05	09/21/18 13:06	207-08-9	
Chrysene	**0.15**	mg/kg	0.036	0.011	1	09/21/18 03:05	09/21/18 13:06	218-01-9	
Dibenz(a,h)anthracene	**0.023 I**	mg/kg	0.036	0.0083	1	09/21/18 03:05	09/21/18 13:06	53-70-3	
Fluoranthene	**0.21**	mg/kg	0.036	0.012	1	09/21/18 03:05	09/21/18 13:06	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.039	0.013	1	09/21/18 03:05	09/21/18 13:06	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.075**	mg/kg	0.036	0.0082	1	09/21/18 03:05	09/21/18 13:06	193-39-5	
1-Methylnaphthalene	**0.014 U**	mg/kg	0.043	0.014	1	09/21/18 03:05	09/21/18 13:06	90-12-0	
2-Methylnaphthalene	**0.014 U**	mg/kg	0.042	0.014	1	09/21/18 03:05	09/21/18 13:06	91-57-6	
Naphthalene	**0.012 U**	mg/kg	0.037	0.012	1	09/21/18 03:05	09/21/18 13:06	91-20-3	
Phenanthrene	**0.026 I**	mg/kg	0.036	0.012	1	09/21/18 03:05	09/21/18 13:06	85-01-8	
Pyrene	**0.23**	mg/kg	0.036	0.011	1	09/21/18 03:05	09/21/18 13:06	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	44	%	16-123		1	09/21/18 03:05	09/21/18 13:06	4165-60-0	
2-Fluorobiphenyl (S)	48	%	32-129		1	09/21/18 03:05	09/21/18 13:06	321-60-8	
p-Terphenyl-d14 (S)	36	%	38-138		1	09/21/18 03:05	09/21/18 13:06	1718-51-0	J(S0), S8
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**5.8**	%	0.10	0.10	1		09/20/18 10:11		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

Sample: SBA 139B (0-0.5) **Lab ID: 35418596007** Collected: 09/18/18 14:05 Received: 09/19/18 17:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.028 U**	mg/kg	0.085	0.028	1	09/20/18 11:04	09/20/18 15:23	83-32-9	P1
Acenaphthylene	**0.025 U**	mg/kg	0.080	0.025	1	09/20/18 11:04	09/20/18 15:23	208-96-8	P1
Anthracene	**0.028 U**	mg/kg	0.085	0.028	1	09/20/18 11:04	09/20/18 15:23	120-12-7	P1
Benzo(a)anthracene	**0.057 I**	mg/kg	0.080	0.023	1	09/20/18 11:04	09/20/18 15:23	56-55-3	P1
Benzo(a)pyrene	**0.070 I**	mg/kg	0.080	0.020	1	09/20/18 11:04	09/20/18 15:23	50-32-8	P1
Benzo(b)fluoranthene	**0.12**	mg/kg	0.080	0.021	1	09/20/18 11:04	09/20/18 15:23	205-99-2	P1
Benzo(g,h,i)perylene	**0.053 I**	mg/kg	0.080	0.020	1	09/20/18 11:04	09/20/18 15:23	191-24-2	P1
Benzo(k)fluoranthene	**0.044 I**	mg/kg	0.080	0.021	1	09/20/18 11:04	09/20/18 15:23	207-08-9	P1
Chrysene	**0.081**	mg/kg	0.080	0.025	1	09/20/18 11:04	09/20/18 15:23	218-01-9	P1
Dibenz(a,h)anthracene	**0.018 U**	mg/kg	0.080	0.018	1	09/20/18 11:04	09/20/18 15:23	53-70-3	P1
Fluoranthene	**0.089**	mg/kg	0.080	0.026	1	09/20/18 11:04	09/20/18 15:23	206-44-0	P1
Fluorene	**0.029 U**	mg/kg	0.087	0.029	1	09/20/18 11:04	09/20/18 15:23	86-73-7	P1
Indeno(1,2,3-cd)pyrene	**0.046 I**	mg/kg	0.080	0.018	1	09/20/18 11:04	09/20/18 15:23	193-39-5	P1
1-Methylnaphthalene	**0.031 U**	mg/kg	0.094	0.031	1	09/20/18 11:04	09/20/18 15:23	90-12-0	P1
2-Methylnaphthalene	**0.030 U**	mg/kg	0.092	0.030	1	09/20/18 11:04	09/20/18 15:23	91-57-6	P1
Naphthalene	**0.027 U**	mg/kg	0.083	0.027	1	09/20/18 11:04	09/20/18 15:23	91-20-3	P1
Phenanthrene	**0.026 U**	mg/kg	0.080	0.026	1	09/20/18 11:04	09/20/18 15:23	85-01-8	P1
Pyrene	**0.084**	mg/kg	0.080	0.025	1	09/20/18 11:04	09/20/18 15:23	129-00-0	P1
Surrogates									
Nitrobenzene-d5 (S)	50	%	16-123		1	09/20/18 11:04	09/20/18 15:23	4165-60-0	
2-Fluorobiphenyl (S)	61	%	32-129		1	09/20/18 11:04	09/20/18 15:23	321-60-8	
p-Terphenyl-d14 (S)	61	%	38-138		1	09/20/18 11:04	09/20/18 15:23	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**15.6**	%	0.10	0.10	1		09/20/18 10:11		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

Sample: SBA 139A (0-0.5) **Lab ID: 35418596008** Collected: 09/18/18 14:10 Received: 09/19/18 17:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.013 U**	mg/kg	0.041	0.013	1	09/20/18 11:04	09/20/18 15:48	83-32-9	
Acenaphthylene	**0.012 U**	mg/kg	0.039	0.012	1	09/20/18 11:04	09/20/18 15:48	208-96-8	
Anthracene	**0.014 U**	mg/kg	0.041	0.014	1	09/20/18 11:04	09/20/18 15:48	120-12-7	
Benzo(a)anthracene	**0.037 I**	mg/kg	0.039	0.011	1	09/20/18 11:04	09/20/18 15:48	56-55-3	
Benzo(a)pyrene	**0.049**	mg/kg	0.039	0.0096	1	09/20/18 11:04	09/20/18 15:48	50-32-8	
Benzo(b)fluoranthene	**0.095**	mg/kg	0.039	0.010	1	09/20/18 11:04	09/20/18 15:48	205-99-2	
Benzo(g,h,i)perylene	**0.024 I**	mg/kg	0.039	0.0097	1	09/20/18 11:04	09/20/18 15:48	191-24-2	
Benzo(k)fluoranthene	**0.033 I**	mg/kg	0.039	0.010	1	09/20/18 11:04	09/20/18 15:48	207-08-9	
Chrysene	**0.050**	mg/kg	0.039	0.012	1	09/20/18 11:04	09/20/18 15:48	218-01-9	
Dibenz(a,h)anthracene	**0.0089 U**	mg/kg	0.039	0.0089	1	09/20/18 11:04	09/20/18 15:48	53-70-3	
Fluoranthene	**0.054**	mg/kg	0.039	0.013	1	09/20/18 11:04	09/20/18 15:48	206-44-0	
Fluorene	**0.014 U**	mg/kg	0.042	0.014	1	09/20/18 11:04	09/20/18 15:48	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.022 I**	mg/kg	0.039	0.0089	1	09/20/18 11:04	09/20/18 15:48	193-39-5	
1-Methylnaphthalene	**0.015 U**	mg/kg	0.046	0.015	1	09/20/18 11:04	09/20/18 15:48	90-12-0	
2-Methylnaphthalene	**0.015 U**	mg/kg	0.045	0.015	1	09/20/18 11:04	09/20/18 15:48	91-57-6	
Naphthalene	**0.013 U**	mg/kg	0.040	0.013	1	09/20/18 11:04	09/20/18 15:48	91-20-3	
Phenanthrene	**0.013 U**	mg/kg	0.039	0.013	1	09/20/18 11:04	09/20/18 15:48	85-01-8	
Pyrene	**0.054**	mg/kg	0.039	0.012	1	09/20/18 11:04	09/20/18 15:48	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	48	%	16-123		1	09/20/18 11:04	09/20/18 15:48	4165-60-0	
2-Fluorobiphenyl (S)	51	%	32-129		1	09/20/18 11:04	09/20/18 15:48	321-60-8	
p-Terphenyl-d14 (S)	54	%	38-138		1	09/20/18 11:04	09/20/18 15:48	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**11.9**	%	0.10	0.10	1		09/20/18 10:11		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

Sample: SBA-170 (0-0.5) **Lab ID: 35418596009** Collected: 09/18/18 15:45 Received: 09/19/18 17:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.012 U**	mg/kg	0.037	0.012	1	09/20/18 11:04	09/20/18 16:14	83-32-9	
Acenaphthylene	**0.011 U**	mg/kg	0.035	0.011	1	09/20/18 11:04	09/20/18 16:14	208-96-8	
Anthracene	**0.012 U**	mg/kg	0.037	0.012	1	09/20/18 11:04	09/20/18 16:14	120-12-7	
Benzo(a)anthracene	**0.010 I**	mg/kg	0.035	0.010	1	09/20/18 11:04	09/20/18 16:14	56-55-3	
Benzo(a)pyrene	**0.012 I**	mg/kg	0.035	0.0087	1	09/20/18 11:04	09/20/18 16:14	50-32-8	
Benzo(b)fluoranthene	**0.021 I**	mg/kg	0.035	0.0093	1	09/20/18 11:04	09/20/18 16:14	205-99-2	
Benzo(g,h,i)perylene	**0.017 I**	mg/kg	0.035	0.0088	1	09/20/18 11:04	09/20/18 16:14	191-24-2	
Benzo(k)fluoranthene	**0.0093 U**	mg/kg	0.035	0.0093	1	09/20/18 11:04	09/20/18 16:14	207-08-9	
Chrysene	**0.018 I**	mg/kg	0.035	0.011	1	09/20/18 11:04	09/20/18 16:14	218-01-9	
Dibenz(a,h)anthracene	**0.0080 U**	mg/kg	0.035	0.0080	1	09/20/18 11:04	09/20/18 16:14	53-70-3	
Fluoranthene	**0.015 I**	mg/kg	0.035	0.011	1	09/20/18 11:04	09/20/18 16:14	206-44-0	
Fluorene	**0.012 U**	mg/kg	0.038	0.012	1	09/20/18 11:04	09/20/18 16:14	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.010 I**	mg/kg	0.035	0.0080	1	09/20/18 11:04	09/20/18 16:14	193-39-5	
1-Methylnaphthalene	**0.014 U**	mg/kg	0.041	0.014	1	09/20/18 11:04	09/20/18 16:14	90-12-0	
2-Methylnaphthalene	**0.013 U**	mg/kg	0.040	0.013	1	09/20/18 11:04	09/20/18 16:14	91-57-6	
Naphthalene	**0.012 U**	mg/kg	0.036	0.012	1	09/20/18 11:04	09/20/18 16:14	91-20-3	
Phenanthrene	**0.011 U**	mg/kg	0.035	0.011	1	09/20/18 11:04	09/20/18 16:14	85-01-8	
Pyrene	**0.013 I**	mg/kg	0.035	0.011	1	09/20/18 11:04	09/20/18 16:14	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	47	%	16-123		1	09/20/18 11:04	09/20/18 16:14	4165-60-0	
2-Fluorobiphenyl (S)	51	%	32-129		1	09/20/18 11:04	09/20/18 16:14	321-60-8	
p-Terphenyl-d14 (S)	51	%	38-138		1	09/20/18 11:04	09/20/18 16:14	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**2.5**	%	0.10	0.10	1		09/20/18 10:12		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALITY CONTROL DATA

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

QC Batch: 478992 Analysis Method: EPA 8270
QC Batch Method: EPA 3546 Analysis Description: 8270 Solid MSSV Microwave Short Spike
Associated Lab Samples: 35418596002, 35418596004, 35418596007, 35418596008, 35418596009

METHOD BLANK: 2594406 Matrix: Solid
Associated Lab Samples: 35418596002, 35418596004, 35418596007, 35418596008, 35418596009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	mg/kg	0.013 U	0.040	0.013	09/20/18 14:38	
2-Methylnaphthalene	mg/kg	0.013 U	0.039	0.013	09/20/18 14:38	
Acenaphthene	mg/kg	0.012 U	0.036	0.012	09/20/18 14:38	
Acenaphthylene	mg/kg	0.011 U	0.034	0.011	09/20/18 14:38	
Anthracene	mg/kg	0.012 U	0.036	0.012	09/20/18 14:38	
Benzo(a)anthracene	mg/kg	0.0097 U	0.034	0.0097	09/20/18 14:38	
Benzo(a)pyrene	mg/kg	0.0084 U	0.034	0.0084	09/20/18 14:38	
Benzo(b)fluoranthene	mg/kg	0.0090 U	0.034	0.0090	09/20/18 14:38	
Benzo(g,h,i)perylene	mg/kg	0.0085 U	0.034	0.0085	09/20/18 14:38	
Benzo(k)fluoranthene	mg/kg	0.0090 U	0.034	0.0090	09/20/18 14:38	
Chrysene	mg/kg	0.011 U	0.034	0.011	09/20/18 14:38	
Dibenz(a,h)anthracene	mg/kg	0.0078 U	0.034	0.0078	09/20/18 14:38	
Fluoranthene	mg/kg	0.011 U	0.034	0.011	09/20/18 14:38	
Fluorene	mg/kg	0.012 U	0.037	0.012	09/20/18 14:38	
Indeno(1,2,3-cd)pyrene	mg/kg	0.0077 U	0.034	0.0077	09/20/18 14:38	
Naphthalene	mg/kg	0.012 U	0.035	0.012	09/20/18 14:38	
Phenanthrene	mg/kg	0.011 U	0.034	0.011	09/20/18 14:38	
Pyrene	mg/kg	0.011 U	0.034	0.011	09/20/18 14:38	
2-Fluorobiphenyl (S)	%	79	32-129		09/20/18 14:38	
Nitrobenzene-d5 (S)	%	78	16-123		09/20/18 14:38	
p-Terphenyl-d14 (S)	%	55	38-138		09/20/18 14:38	

LABORATORY CONTROL SAMPLE: 2594407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	mg/kg	1.7	1.6	94	27-123	
2-Methylnaphthalene	mg/kg	1.7	1.6	95	16-137	
Acenaphthene	mg/kg	1.7	1.7	103	37-120	
Acenaphthylene	mg/kg	1.7	1.8	105	41-120	
Anthracene	mg/kg	1.7	1.8	105	45-120	
Benzo(a)anthracene	mg/kg	1.7	1.8	107	44-120	
Benzo(a)pyrene	mg/kg	1.7	1.7	101	44-123	
Benzo(b)fluoranthene	mg/kg	1.7	1.7	103	37-124	
Benzo(g,h,i)perylene	mg/kg	1.7	1.8	109	42-125	
Benzo(k)fluoranthene	mg/kg	1.7	1.9	111	44-126	
Chrysene	mg/kg	1.7	1.8	107	45-120	
Dibenz(a,h)anthracene	mg/kg	1.7	1.8	108	43-124	
Fluoranthene	mg/kg	1.7	1.8	109	45-120	
Fluorene	mg/kg	1.7	1.8	106	42-120	
Indeno(1,2,3-cd)pyrene	mg/kg	1.7	1.8	109	43-123	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALITY CONTROL DATA

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

LABORATORY CONTROL SAMPLE: 2594407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	mg/kg	1.7	1.6	96	40-120	
Phenanthrene	mg/kg	1.7	1.8	108	36-125	
Pyrene	mg/kg	1.7	1.7	101	41-123	
2-Fluorobiphenyl (S)	%			81	32-129	
Nitrobenzene-d5 (S)	%			76	16-123	
p-Terphenyl-d14 (S)	%			53	38-138	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2594473 2594474

Parameter	Units	35417575022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	mg/kg	0.039 U	3.4	3.3	2.8	0.22	83	7	27-123	171	40	J(M1), J(R1)
2-Methylnaphthalene	mg/kg	0.038 U	3.4	3.3	2.8	0.18	82	5	16-137	176	40	J(M1), J(R1)
Acenaphthene	mg/kg	0.035 U	3.4	3.3	2.9	0.63	86	19	37-120	129	40	J(M1), J(R1)
Acenaphthylene	mg/kg	0.031 U	3.4	3.3	3.0	0.64	89	19	41-120	130	40	J(M1), J(R1)
Anthracene	mg/kg	0.035 U	3.4	3.3	2.8	1.8	82	53	45-120	44	40	J(R1)
Benzo(a)anthracene	mg/kg	0.029 U	3.4	3.3	2.7	1.7	80	52	44-120	43	40	J(R1)
Benzo(a)pyrene	mg/kg	0.025 U	3.4	3.3	2.6	1.6	76	48	44-123	46	40	J(R1)
Benzo(b)fluoranthene	mg/kg	0.027 U	3.4	3.3	2.6	1.6	78	49	37-124	48	40	J(R1)
Benzo(g,h,i)perylene	mg/kg	0.025 U	3.4	3.3	2.8	1.7	82	51	42-125	48	40	J(R1)
Benzo(k)fluoranthene	mg/kg	0.027 U	3.4	3.3	2.7	1.7	79	53	44-126	41	40	J(R1)
Chrysene	mg/kg	0.032 U	3.4	3.3	2.7	1.8	81	55	45-120	39	40	
Dibenz(a,h)anthracene	mg/kg	0.023 U	3.4	3.3	2.8	1.7	83	52	43-124	47	40	J(R1)
Fluoranthene	mg/kg	0.033 U	3.4	3.3	2.8	1.7	82	51	45-120	48	40	J(R1)
Fluorene	mg/kg	0.036 U	3.4	3.3	2.9	1.0	84	30	42-120	96	40	J(M1), J(R1)
Indeno(1,2,3-cd)pyrene	mg/kg	0.023 U	3.4	3.3	2.8	1.7	83	52	43-123	48	40	J(R1)
Naphthalene	mg/kg	0.034 U	3.4	3.3	2.9	0.13	86	4	40-120	183	40	J(M1), J(R1)
Phenanthrene	mg/kg	0.033 U	3.4	3.3	2.8	1.4	84	42	36-125	67	40	J(R1)
Pyrene	mg/kg	0.032 U	3.4	3.3	2.6	1.6	76	48	41-123	46	40	J(R1)
2-Fluorobiphenyl (S)	%						65	5	32-129			J(S0)
Nitrobenzene-d5 (S)	%						64	10	16-123			J(S0)
p-Terphenyl-d14 (S)	%						53	27	38-138			J(S0)

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALITY CONTROL DATA

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

QC Batch: 479264 Analysis Method: EPA 8270
QC Batch Method: EPA 3546 Analysis Description: 8270 Solid MSSV Microwave Short Spike
Associated Lab Samples: 35418596001, 35418596003, 35418596005, 35418596006

METHOD BLANK: 2595781 Matrix: Solid
Associated Lab Samples: 35418596001, 35418596003, 35418596005, 35418596006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	mg/kg	0.013 U	0.040	0.013	09/21/18 09:37	
2-Methylnaphthalene	mg/kg	0.013 U	0.039	0.013	09/21/18 09:37	
Acenaphthene	mg/kg	0.012 U	0.036	0.012	09/21/18 09:37	
Acenaphthylene	mg/kg	0.011 U	0.034	0.011	09/21/18 09:37	
Anthracene	mg/kg	0.012 U	0.036	0.012	09/21/18 09:37	
Benzo(a)anthracene	mg/kg	0.0098 U	0.034	0.0098	09/21/18 09:37	
Benzo(a)pyrene	mg/kg	0.0085 U	0.034	0.0085	09/21/18 09:37	
Benzo(b)fluoranthene	mg/kg	0.0091 U	0.034	0.0091	09/21/18 09:37	
Benzo(g,h,i)perylene	mg/kg	0.0086 U	0.034	0.0086	09/21/18 09:37	
Benzo(k)fluoranthene	mg/kg	0.0091 U	0.034	0.0091	09/21/18 09:37	
Chrysene	mg/kg	0.011 U	0.034	0.011	09/21/18 09:37	
Dibenz(a,h)anthracene	mg/kg	0.0079 U	0.034	0.0079	09/21/18 09:37	
Fluoranthene	mg/kg	0.011 U	0.034	0.011	09/21/18 09:37	
Fluorene	mg/kg	0.012 U	0.037	0.012	09/21/18 09:37	
Indeno(1,2,3-cd)pyrene	mg/kg	0.0078 U	0.034	0.0078	09/21/18 09:37	
Naphthalene	mg/kg	0.012 U	0.035	0.012	09/21/18 09:37	
Phenanthrene	mg/kg	0.011 U	0.034	0.011	09/21/18 09:37	
Pyrene	mg/kg	0.011 U	0.034	0.011	09/21/18 09:37	
2-Fluorobiphenyl (S)	%	68	32-129		09/21/18 09:37	
Nitrobenzene-d5 (S)	%	67	16-123		09/21/18 09:37	
p-Terphenyl-d14 (S)	%	52	38-138		09/21/18 09:37	

LABORATORY CONTROL SAMPLE: 2595782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	mg/kg	1.7	1.2	71	27-123	
2-Methylnaphthalene	mg/kg	1.7	1.2	71	16-137	
Acenaphthene	mg/kg	1.7	1.2	69	37-120	
Acenaphthylene	mg/kg	1.7	1.2	69	41-120	
Anthracene	mg/kg	1.7	1.2	72	45-120	
Benzo(a)anthracene	mg/kg	1.7	1.3	75	44-120	
Benzo(a)pyrene	mg/kg	1.7	1.3	75	44-123	
Benzo(b)fluoranthene	mg/kg	1.7	1.4	81	37-124	
Benzo(g,h,i)perylene	mg/kg	1.7	1.3	78	42-125	
Benzo(k)fluoranthene	mg/kg	1.7	1.3	75	44-126	
Chrysene	mg/kg	1.7	1.2	72	45-120	
Dibenz(a,h)anthracene	mg/kg	1.7	1.3	76	43-124	
Fluoranthene	mg/kg	1.7	1.3	80	45-120	
Fluorene	mg/kg	1.7	1.2	72	42-120	
Indeno(1,2,3-cd)pyrene	mg/kg	1.7	1.3	78	43-123	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALITY CONTROL DATA

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

LABORATORY CONTROL SAMPLE: 2595782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	mg/kg	1.7	1.1	68	40-120	
Phenanthrene	mg/kg	1.7	1.2	73	36-125	
Pyrene	mg/kg	1.7	1.3	80	41-123	
2-Fluorobiphenyl (S)	%			73	32-129	
Nitrobenzene-d5 (S)	%			70	16-123	
p-Terphenyl-d14 (S)	%			56	38-138	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2595785 2595786

Parameter	Units	35417371002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	mg/kg	0.015 U	1.9	1.9	0.98	1.1	53	58	27-123	7	40	
2-Methylnaphthalene	mg/kg	0.014 U	1.9	1.9	0.98	1.0	53	57	16-137	6	40	
Acenaphthene	mg/kg	0.013 U	1.9	1.9	0.95	1.0	52	55	37-120	6	40	
Acenaphthylene	mg/kg	0.012 U	1.9	1.9	0.94	1.0	51	55	41-120	7	40	
Anthracene	mg/kg	0.013 U	1.9	1.9	0.99	1.0	54	57	45-120	5	40	
Benzo(a)anthracene	mg/kg	0.011 U	1.9	1.9	1.0	1.0	55	57	44-120	2	40	
Benzo(a)pyrene	mg/kg	0.0092 U	1.9	1.9	1.0	1.0	56	56	44-123	0	40	
Benzo(b)fluoranthene	mg/kg	0.0099 U	1.9	1.9	1.1	1.1	58	58	37-124	1	40	
Benzo(g,h,i)perylene	mg/kg	0.0093 U	1.9	1.9	1.1	1.1	59	60	42-125	0	40	
Benzo(k)fluoranthene	mg/kg	0.0099 U	1.9	1.9	1.1	1.1	59	60	44-126	1	40	
Chrysene	mg/kg	0.012 U	1.9	1.9	0.96	0.99	52	54	45-120	3	40	
Dibenz(a,h)anthracene	mg/kg	0.0085 U	1.9	1.9	1.1	1.1	59	59	43-124	0	40	
Fluoranthene	mg/kg	0.012 U	1.9	1.9	1.1	1.1	59	60	45-120	2	40	
Fluorene	mg/kg	0.013 U	1.9	1.9	0.99	1.0	54	57	42-120	5	40	
Indeno(1,2,3-cd)pyrene	mg/kg	0.0085 U	1.9	1.9	1.1	1.1	59	60	43-123	0	40	
Naphthalene	mg/kg	0.013 U	1.9	1.9	0.94	1.0	51	55	40-120	6	40	
Phenanthrene	mg/kg	0.012 U	1.9	1.9	1.0	1.0	54	57	36-125	3	40	
Pyrene	mg/kg	0.012 U	1.9	1.9	1.1	1.1	59	62	41-123	3	40	
2-Fluorobiphenyl (S)	%						55	59	32-129			
Nitrobenzene-d5 (S)	%						51	55	16-123			
p-Terphenyl-d14 (S)	%						41	42	38-138			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALITY CONTROL DATA

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

QC Batch: 479009 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 35418596001, 35418596002, 35418596003, 35418596004, 35418596005, 35418596006, 35418596007, 35418596008, 35418596009

SAMPLE DUPLICATE: 2594468

Parameter	Units	35418544007 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	15.2	15.5	2	5	

SAMPLE DUPLICATE: 2594469

Parameter	Units	35418596003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	6.8	7.2	5	5	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALIFIERS

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Compound was analyzed for but not detected.
J(M1)	Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
J(R1)	Estimated Value. RPD value was outside control limits.
J(S0)	Estimated Value. Surrogate recovery outside laboratory control limits.
P1	Routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
S8	Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-extraction and/or re-analysis)

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 09217185.02 Task 3/Ludlam
Pace Project No.: 35418596

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35418596001	**SBA 168 (0-0.5)**	EPA 3546	479264	EPA 8270	479318
35418596002	**SBA 169 (0-0.5)**	EPA 3546	478992	EPA 8270	479105
35418596003	**SBA 20B (0-0.5)**	EPA 3546	479264	EPA 8270	479318
35418596004	**SBA 20B (0.5-1)**	EPA 3546	478992	EPA 8270	479105
35418596005	**SBA 20A (0-0.5)**	EPA 3546	479264	EPA 8270	479318
35418596006	**SBA 20A (0.5-1)**	EPA 3546	479264	EPA 8270	479318
35418596007	**SBA 139B (0-0.5)**	EPA 3546	478992	EPA 8270	479105
35418596008	**SBA 139A (0-0.5)**	EPA 3546	478992	EPA 8270	479105
35418596009	**SBA-170 (0-0.5)**	EPA 3546	478992	EPA 8270	479105
35418596001	**SBA 168 (0-0.5)**	ASTM D2974-87	479009		
35418596002	**SBA 169 (0-0.5)**	ASTM D2974-87	479009		
35418596003	**SBA 20B (0-0.5)**	ASTM D2974-87	479009		
35418596004	**SBA 20B (0.5-1)**	ASTM D2974-87	479009		
35418596005	**SBA 20A (0-0.5)**	ASTM D2974-87	479009		
35418596006	**SBA 20A (0.5-1)**	ASTM D2974-87	479009		
35418596007	**SBA 139B (0-0.5)**	ASTM D2974-87	479009		
35418596008	**SBA 139A (0-0.5)**	ASTM D2974-87	479009		
35418596009	**SBA-170 (0-0.5)**	ASTM D2974-87	479009		

Pace Analytical
www.pacelabs.com

WO# : 35418596

35418596

TODY / Analytical Request Document

GAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information:	Section B Required Project Information:	Invoice Information:
Company: SCS Engineers	Report To: Fangmei Zhang	Attention:
Address: 7700 N Kendall Drive Suite 300	Copy To:	Company Name:
Miami, FL, 33156		Address:
Email To: fzhang@scsengineers.com	Purchase Order No.:	Pace Quote Reference:
Phone: 786-792-5364 Fax:	Project Name: Ludlam	Pace Project Manager:
Requested Due Date/TAT: 24 hours	Project Number: 09217186.02 Task 12	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER_____

SITE LOCATION ☐ GA ☐ IL ☐ IN ☐ MI ☐ NC ☐ OH ☐ SC ☐ WI ☐ OTHER_____

Filtered (Y/N)

Requested Analysis:

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL WP
WIPE	AR
AIR	OT
OTHER	TS
TISSUE	

ITEM #	Section D Required Client Information — SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G+GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	#OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	PAHs	Residual Chlorine (Y/N)	Pace Project Number Lab I.D.
1	SBA- 168 (0-0.5)	SL	G			9/18/2018	1525		1	X								X		
2	SBA- 169 (0-0.5)	SL	G			9/18/2018	1535		1	X								X		
3	SBA- 20B (0-0.5)	SL	G			9/18/2018	1450		1	X								X		
4	SBA- 20B (0.5-1)	SL	G			9/18/2018	1452		1	X								X		
5	SBA- 20A (0-0.5)	SL	G			9/18/2018	1455		1	X								X		
6	SBA- 20A (0.5-1)	SL	G			9/18/2018	1500		1	X								X		
7	SBA- 139B (0-0.5)	SL	G			9/18/2018	1405		1	X								X		
8	SBA- 139A (0-0.5)	SL	G			9/18/2018	1410		1	X								X		
9	SBA-	SL	G			9/18/2018			1	X								X		
10	SBA-	SL	G			9/18/2018			1	X								X		
11	SBA-	SL	G			9/18/2018			1	X								X		
12	SBA-	SL	G			9/18/2018			1	X								X		

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	9/19/18	12			
	9/19/18	1733		9/19/18	1733

SAMPLE CONDITIONS

	Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Alexis Nielsen

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 9/18/18

Pace Analytical Florida Laboratory	Document Name: Sample Condition Upon Receipt Form	Document Revised: May 30, 2018
	Document No.: F-FL-C-007 rev. 13	Issuing Authority: Pace Florida Quality Office

WO# : 35418596

PM: CTR Due Date: 09/20/18

CLIENT: 36-ESCON

Sample Condition Upon Receipt (SCUR)

Project #

Project Manager:

Client:

Date and Initials of person:

Examining contents: _____

Label: _____

Deliver: _____

pH: _____

Thermometer Used: T-330 Date: 9/19/18 Time: 1618 Initials: _____

State of Origin: _____ ☐ For WV projects, all containers verified to ≤6 °C

Cooler #1 Temp.°C	6.1 **(Visual)**	0.0 **(Correction Factor)**	6.1 **(Actual)**	☐ Samples on ice, cooling process has begun
Cooler #2 Temp.°C	_____ **(Visual)**	_____ **(Correction Factor)**	_____ **(Actual)**	☐ Samples on ice, cooling process has begun
Cooler #3 Temp.°C	_____ **(Visual)**	_____ **(Correction Factor)**	_____ **(Actual)**	☐ Samples on ice, cooling process has begun
Cooler #4 Temp.°C	_____ **(Visual)**	_____ **(Correction Factor)**	_____ **(Actual)**	☐ Samples on ice, cooling process has begun
Cooler #5 Temp.°C	_____ **(Visual)**	_____ **(Correction Factor)**	_____ **(Actual)**	☐ Samples on ice, cooling process has begun
Cooler #6 Temp.°C	_____ **(Visual)**	_____ **(Correction Factor)**	_____ **(Actual)**	☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other_____

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ International Priority ☐ Other_____

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking # _____

Custody Seal on Cooler/Box Present: ☐Yes ☑No **Seals intact:** ☐ Yes ☑ No **Ice:** (Wet) Blue Dry None

Packing Material: ☐Bubble Wrap ☐ Bubble Bags ☐None ☐Other_____

Samples shorted to lab (If Yes, complete) Shorted Date:_____ Shorted Time:_____ Qty:_____

		Comments:
Chain of Custody Present	☑Yes ☐ No ☐N/A	
Chain of Custody Filled Out	☑Yes ☐ No ☐N/A	
Relinquished Signature & Sampler Name COC	☑Yes ☐ No ☐N/A	
Samples Arrived within Hold Time	☑Yes ☐ No ☐N/A	
Rush TAT requested on COC	☐Yes ☑ No ☐N/A	1539/18/10
Sufficient Volume	☑Yes ☐ No ☐N/A	
Correct Containers Used	☑Yes ☐ No ☐N/A	
Containers Intact	☑Yes ☐ No ☐N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑Yes ☐ No ☐N/A	
All containers needing acid/base preservation have been checked.	☐Yes ☐ No ☑N/A	Preservation Information:
All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: VOA, Coliform, TOC, O&G, Carbamates	☐Yes ☐ No ☑N/A	Preservative:_____ Lot #/Trace #:_____ Date:_____ Time:_____ Initials:_____
Headspace in VOA Vials? (>6mm):	☐Yes ☐ No ☑N/A	
Trip Blank Present:	☐Yes ☐ No ☑N/A	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution (use back for additional comments): _____

Project Manager Review: _____ Date: _____

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

August 16, 2018

Fangmei Zhang
SCS ES Consultants, Inc.
7700 N. Kendall Dr.
Suite #607
Miami, FL 33156

RE: Project: 09217186.02/Ludlam-Revised Report
Pace Project No.: 35411158

Dear Fangmei Zhang:
Enclosed are the analytical results for sample(s) received by the laboratory on August 15, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised August 16, 2018. Sample ID MW-9W-2I has been changed to MW-9W-2S.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christina Raschke
christina.raschke@pacelabs.com
(954)582-4300
Project Manager

Enclosures

cc: Karinne Bedosky, SCS Engineers
Anthony Pezzotti, SCS ES Consultants

Pace Analytical Services, LLC
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Pompano Beach, FL 33064
954-582-4300

CERTIFICATIONS

Project: 09217186.02/Ludlam-Revised Report
Pace Project No.: 35411158

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

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954-582-4300

SAMPLE SUMMARY

Project: 09217186.02/Ludlam-Revised Report
Pace Project No.: 35411158

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35411158001	**MW-9W-2S**	Water	08/15/18 11:42	08/15/18 17:45
35411158002	**MW-9W-I**	Water	08/15/18 10:48	08/15/18 17:45
35411158003	**MW-9D**	Water	08/15/18 13:42	08/15/18 17:45
35411158004	**MW-9I**	Water	08/15/18 14:26	08/15/18 17:45

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

SAMPLE ANALYTE COUNT

Project: 09217186.02/Ludlam-Revised Report
Pace Project No.: 35411158

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35411158001	**MW-9W-2S**	EPA 6020	KPP	1	PASI-O
35411158002	**MW-9W-I**	EPA 6020	KPP	1	PASI-O
35411158003	**MW-9D**	EPA 6020	KPP	1	PASI-O
35411158004	**MW-9I**	EPA 6020	KPP	1	PASI-O

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PROJECT NARRATIVE

Project: 09217186.02/Ludlam-Revised Report
Pace Project No.: 35411158

Method: **EPA 6020**
Description: 6020 MET ICPMS
Client: SCS Engineers
Date: August 16, 2018

General Information:
4 samples were analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02/Ludlam-Revised Report
Pace Project No.: 35411158

Sample: MW-9W-2S **Lab ID: 35411158001** Collected: 08/15/18 11:42 Received: 08/15/18 17:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**2.4**	ug/L	1.0	0.50	1	08/16/18 05:25	08/16/18 10:48	7440-38-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02/Ludlam-Revised Report
Pace Project No.: 35411158

Sample: MW-9W-I **Lab ID: 35411158002** Collected: 08/15/18 10:48 Received: 08/15/18 17:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**0.50 U**	ug/L	1.0	0.50	1	08/16/18 05:25	08/16/18 10:55	7440-38-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02/Ludlam-Revised Report
Pace Project No.: 35411158

Sample: MW-9D **Lab ID: 35411158003** Collected: 08/15/18 13:42 Received: 08/15/18 17:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**2.2**	ug/L	1.0	0.50	1	08/16/18 05:25	08/16/18 10:56	7440-38-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

ANALYTICAL RESULTS

Project: 09217186.02/Ludlam-Revised Report
Pace Project No.: 35411158

Sample: MW-9I **Lab ID: 35411158004** Collected: 08/15/18 14:26 Received: 08/15/18 17:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**145**	ug/L	1.0	0.50	1	08/16/18 05:25	08/16/18 10:58	7440-38-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALITY CONTROL DATA

Project: 09217186.02/Ludlam-Revised Report
Pace Project No.: 35411158

QC Batch: 469755 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 35411158001, 35411158002, 35411158003, 35411158004

METHOD BLANK: 2539738 Matrix: Water
Associated Lab Samples: 35411158001, 35411158002, 35411158003, 35411158004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	0.50 U	1.0	0.50	08/16/18 10:45	

LABORATORY CONTROL SAMPLE: 2539739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	50	51.5	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2539740 2539741

Parameter	Units	35411158001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	2.4	50	50	52.5	52.5	100	100	75-125	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALIFIERS

Project: 09217186.02/Ludlam-Revised Report
Pace Project No.: 35411158

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

U	Compound was analyzed for but not detected.

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
954-582-4300

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 09217186.02/Ludlam-Revised Report
Pace Project No.: 35411158

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35411158001	**MW-9W-2S**	EPA 3010	469755	EPA 6020	469824
35411158002	**MW-9W-I**	EPA 3010	469755	EPA 6020	469824
35411158003	**MW-9D**	EPA 3010	469755	EPA 6020	469824
35411158004	**MW-9I**	EPA 3010	469755	EPA 6020	469824

Pace Analytical

WO# : 35411158

35411158

quest Document

int fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:			
Company:	SCS Engineers	Report To:	Fangmei Zhang	Company Name:	Regulatory Agency
Address:	7700 N. Kendall Dr.	Copy To:		Address:	
	Miami, FL 33156			Pace Quote:	
Email:	fzhang@scsengineers.com	Purchase Order #:		Pace Project Manager:	christina.raschke@pacelabs.com,
Phone:	(305)412-8185 Fax	Project Name:	Ludlam	Pace Profile #:	3422
Requested Due Date:	16 Aug 18	Project #:	09217186.02		State / Location FL

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: 6020 As	Residual Chlorine (Y/N)
1	MW-9W-2I					8-15-18	11:42												X	
2	MW-9W-I						10:48												X	
3	MW-9D						13:42												X	
4	MW-9I						14:26												X	
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
24 hr TAT		8/15/18	2:45		8/15/18	14:45	
		8/15/18	17:45		8/15/18	17:45	

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:					
SIGNATURE of SAMPLER:	DATE Signed:				

Pace Analytical Florida Laboratory	Document Name: Sample Condition Upon Receipt Form	Document Revised: May 30, 2018
	WO#: 35411158	Issuing Authority: Pace Florida Quality Office

PM: CTR Due Date: 08/16/18 (CUR)

CLIENT: 36-ESCON

Project #

Project Manager:

Client:

Date and Initials of person:
Examining contents:
Label:
Deliver:
pH:

Thermometer Used: T-330 Date: 8/15/18 Time: 1745 Initials:

State of Origin: ☐ For WV projects, all containers verified to ≤6 °C

Cooler #1 Temp.°C 2.8 **(Visual)** 0.0 **(Correction Factor)** 2.8 **(Actual)** ☐ Samples on ice, cooling process has begun

Cooler #2 Temp.°C _____ **(Visual)** _____ **(Correction Factor)** _____ **(Actual)** ☐ Samples on ice, cooling process has begun

Cooler #3 Temp.°C _____ **(Visual)** _____ **(Correction Factor)** _____ **(Actual)** ☐ Samples on ice, cooling process has begun

Cooler #4 Temp.°C _____ **(Visual)** _____ **(Correction Factor)** _____ **(Actual)** ☐ Samples on ice, cooling process has begun

Cooler #5 Temp.°C _____ **(Visual)** _____ **(Correction Factor)** _____ **(Actual)** ☐ Samples on ice, cooling process has begun

Cooler #6 Temp.°C _____ **(Visual)** _____ **(Correction Factor)** _____ **(Actual)** ☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other_____

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ International Priority ☐ Other_____

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking # _____

Custody Seal on Cooler/Box Present: ☐Yes ☐No **Seals intact:** ☐ Yes ☐ No **Ice:** Wet Blue Dry None

Packing Material: ☐Bubble Wrap ☐ Bubble Bags ☐None ☐Other_____

Samples shorted to lab (If Yes, complete) Shorted Date:_____ Shorted Time:_____ Qty:_____

		Comments:
Chain of Custody Present	☑Yes ☐ No ☐N/A	
Chain of Custody Filled Out	☑Yes ☐ No ☐N/A	
Relinquished Signature & Sampler Name COC	☑Yes ☐ No ☐N/A	
Samples Arrived within Hold Time	☑Yes ☐ No ☐N/A	
Rush TAT requested on COC	☑Yes ☐ No ☐N/A	
Sufficient Volume	☑Yes ☐ No ☐N/A	
Correct Containers Used	☑Yes ☐ No ☐N/A	
Containers Intact	☑Yes ☐ No ☐N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑Yes ☐ No ☐N/A	
All containers needing acid/base preservation have been checked.	☑Yes ☐ No ☐N/A	Preservation Information:
All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: VOA, Coliform, TOC, O&G, Carbamates	☑Yes ☐ No ☐N/A	Preservative:_____ Lot #/Trace #:_____ Date:_____ Time:_____ Initials:_____
Headspace in VOA Vials? (>6mm):	☐Yes ☐ No ☑N/A	
Trip Blank Present:	☐Yes ☐ No ☑N/A	

Client Notification/ Resolution:
Person Contacted:_____ Date/Time:_____

Comments/ Resolution (use back for additional comments):_____

Project Manager Review:_____ Date:_____

Attachment F

Benzo(a)pyrene Equivalent Calculations

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-1 (0-0.5')
Sample Date 08/07/2018 08:55
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.006	1.0	0.0056
Benzo(a)anthracene	0.003	0.1	0.0003
Benzo(b)fluoranthene	0.008	0.1	0.0008
Benzo(k)fluoranthene	0.003	0.01	0.0000
Chrysene	0.005	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.003	0.1	0.0003

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-1 (0.5-2')
Sample Date 08/07/2018 09:00
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.001	1.0	0.0006
Benzo(a)anthracene	0.000	0.1	0.0000
Benzo(b)fluoranthene	0.000	0.1	0.0000
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-3 (0-0.5')
Sample Date 08/07/2018 09:46
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.033	1.0	0.0330
Benzo(a)anthracene	0.031	0.1	0.0031
Benzo(b)fluoranthene	0.000	0.1	0.0000
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.033	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.014	0.1	0.0014

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.04

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-4 (0-0.5')
Sample Date 08/07/2018 09:43
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.110	1.0	0.1100
Benzo(a)anthracene	0.098	0.1	0.0098
Benzo(b)fluoranthene	0.150	0.1	0.0150
Benzo(k)fluoranthene	0.062	0.01	0.0006
Chrysene	0.095	0.001	0.0001
Dibenz(a,h)anthracene	0.005	1.0	0.0050
Indeno(1,2,3-cd)pyrene	0.051	0.1	0.0051

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.15

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-5 (0-0.5')
Sample Date 08/07/2018 09:40
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.340	1.0	0.3400
Benzo(a)anthracene	0.300	0.1	0.0300
Benzo(b)fluoranthene	0.470	0.1	0.0470
Benzo(k)fluoranthene	0.170	0.01	0.0017
Chrysene	0.300	0.001	0.0003
Dibenz(a,h)anthracene	0.016	1.0	0.0160
Indeno(1,2,3-cd)pyrene	0.160	0.1	0.0160

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.45

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-6 (0-0.5')
Sample Date 08/07/2018 09:37
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.086	1.0	0.0860
Benzo(a)anthracene	0.083	0.1	0.0083
Benzo(b)fluoranthene	0.110	0.1	0.0110
Benzo(k)fluoranthene	0.045	0.01	0.0005
Chrysene	0.083	0.001	0.0001
Dibenz(a,h)anthracene	0.004	1.0	0.0036
Indeno(1,2,3-cd)pyrene	0.037	0.1	0.0037

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.11

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-2 (0-0.5')
Sample Date 08/07/2018 09:49
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.020	1.0	0.0200
Benzo(a)anthracene	0.018	0.1	0.0018
Benzo(b)fluoranthene	0.000	0.1	0.0000
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.017	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.008	0.1	0.0008

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.02

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-8 (0-0.5')
Sample Date 08/07/2018 10:22
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.004	1.0	0.0043
Benzo(a)anthracene	0.003	0.1	0.0003
Benzo(b)fluoranthene	0.006	0.1	0.0006
Benzo(k)fluoranthene	0.002	0.01	0.0000
Chrysene	0.004	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-8 (0.5-2')
Sample Date 08/07/2018 10:30
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.002	1.0	0.0024
Benzo(a)anthracene	0.002	0.1	0.0002
Benzo(b)fluoranthene	0.004	0.1	0.0004
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.003	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-8 (2-4')
Sample Date 08/07/2018 10:33
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.004	1.0	0.0039
Benzo(a)anthracene	0.003	0.1	0.0003
Benzo(b)fluoranthene	0.006	0.1	0.0006
Benzo(k)fluoranthene	0.003	0.01	0.0000
Chrysene	0.004	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0011
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-9 (0-0.5')
Sample Date 08/07/2018 10:45
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.036	1.0	0.0360
Benzo(a)anthracene	0.030	0.1	0.0030
Benzo(b)fluoranthene	0.045	0.1	0.0045
Benzo(k)fluoranthene	0.018	0.01	0.0002
Chrysene	0.033	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.017	0.1	0.0017

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-9 (0.5-2')
Sample Date 08/07/2018 10:47
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.099	1.0	0.0990
Benzo(a)anthracene	0.093	0.1	0.0093
Benzo(b)fluoranthene	0.120	0.1	0.0120
Benzo(k)fluoranthene	0.041	0.01	0.0004
Chrysene	0.110	0.001	0.0001
Dibenz(a,h)anthracene	0.005	1.0	0.0049
Indeno(1,2,3-cd)pyrene	0.049	0.1	0.0049

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.1

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-9 (2-4')
Sample Date 08/07/2018 10:49
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.002	1.0	0.0016
Benzo(a)anthracene	0.001	0.1	0.0001
Benzo(b)fluoranthene	0.001	0.1	0.0001
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-10 (0-0.5')
Sample Date 08/07/2018 10:55
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.051	1.0	0.0510
Benzo(a)anthracene	0.048	0.1	0.0048
Benzo(b)fluoranthene	0.089	0.1	0.0089
Benzo(k)fluoranthene	0.034	0.01	0.0003
Chrysene	0.050	0.001	0.0001
Dibenz(a,h)anthracene	0.009	1.0	0.0091
Indeno(1,2,3-cd)pyrene	0.025	0.1	0.0025

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.1

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-10 (0.5-2')
Sample Date 08/07/2018 10:57
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.026	1.0	0.0260
Benzo(a)anthracene	0.024	0.1	0.0024
Benzo(b)fluoranthene	0.036	0.1	0.0036
Benzo(k)fluoranthene	0.014	0.01	0.0001
Chrysene	0.022	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.011	0.1	0.0011

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-10 (2-4')
Sample Date 08/07/2018 10:59
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.001	1.0	0.0006
Benzo(a)anthracene	0.001	0.1	0.0001
Benzo(b)fluoranthene	0.002	0.1	0.0002
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-11 (0-0.5')
Sample Date 08/07/2018 11:11
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.045	1.0	0.0450
Benzo(a)anthracene	0.033	0.1	0.0033
Benzo(b)fluoranthene	0.060	0.1	0.0060
Benzo(k)fluoranthene	0.020	0.01	0.0002
Chrysene	0.033	0.001	0.0000
Dibenz(a,h)anthracene	0.005	1.0	0.0050
Indeno(1,2,3-cd)pyrene	0.020	0.1	0.0020

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.1**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-11 (0.5-2')
Sample Date 08/07/2018 11:13
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.110	1.0	0.1100
Benzo(a)anthracene	0.073	0.1	0.0073
Benzo(b)fluoranthene	0.150	0.1	0.0150
Benzo(k)fluoranthene	0.050	0.01	0.0005
Chrysene	0.079	0.001	0.0001
Dibenz(a,h)anthracene	0.008	1.0	0.0075
Indeno(1,2,3-cd)pyrene	0.049	0.1	0.0049

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.1

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-11 (2-4')
Sample Date 08/07/2018 11:15
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.001	1.0	0.0006
Benzo(a)anthracene	0.000	0.1	0.0000
Benzo(b)fluoranthene	0.000	0.1	0.0000
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-7 (0-0.5')
Sample Date 08/07/2018 10:13
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.004	1.0	0.0044
Benzo(a)anthracene	0.004	0.1	0.0004
Benzo(b)fluoranthene	0.007	0.1	0.0007
Benzo(k)fluoranthene	0.003	0.01	0.0000
Chrysene	0.005	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.001	0.1	0.0001

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-7 (0.5-2')
Sample Date 08/07/2018 10:16
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.130	1.0	0.1300
Benzo(a)anthracene	0.200	0.1	0.0200
Benzo(b)fluoranthene	0.210	0.1	0.0210
Benzo(k)fluoranthene	0.068	0.01	0.0007
Chrysene	0.220	0.001	0.0002
Dibenz(a,h)anthracene	0.010	1.0	0.0095
Indeno(1,2,3-cd)pyrene	0.051	0.1	0.0051

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.2

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-7 (2-4')
Sample Date 08/07/2018 10:19
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.004	1.0	0.0037
Benzo(a)anthracene	0.003	0.1	0.0003
Benzo(b)fluoranthene	0.005	0.1	0.0005
Benzo(k)fluoranthene	0.002	0.01	0.0000
Chrysene	0.004	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-CS1 (0-0.5')
Sample Date 08/07/2018 12:55
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.110	1.0	0.1100
Benzo(a)anthracene	0.120	0.1	0.0120
Benzo(b)fluoranthene	0.180	0.1	0.0180
Benzo(k)fluoranthene	0.079	0.01	0.0008
Chrysene	0.100	0.001	0.0001
Dibenz(a,h)anthracene	0.005	1.0	0.0049
Indeno(1,2,3-cd)pyrene	0.048	0.1	0.0048

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.2

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-CS1 (0.5-2')
Sample Date 08/07/2018 12:58
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.025	1.0	0.0250
Benzo(a)anthracene	0.028	0.1	0.0028
Benzo(b)fluoranthene	0.039	0.1	0.0039
Benzo(k)fluoranthene	0.015	0.01	0.0002
Chrysene	0.026	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.010	0.1	0.0010

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-CS1 (2-4')
Sample Date 08/07/2018 13:01
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.001	1.0	0.0006
Benzo(a)anthracene	0.000	0.1	0.0000
Benzo(b)fluoranthene	0.001	0.1	0.0001
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-21 (0-0.5')
Sample Date 08/07/2018 13:20
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.003	1.0	0.0030
Benzo(a)anthracene	0.002	0.1	0.0002
Benzo(b)fluoranthene	0.005	0.1	0.0005
Benzo(k)fluoranthene	0.002	0.01	0.0000
Chrysene	0.003	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-21 (0.5-2')
Sample Date 08/07/2018 13:22
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.001	1.0	0.0006
Benzo(a)anthracene	0.000	0.1	0.0000
Benzo(b)fluoranthene	0.001	0.1	0.0001
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-20 (0-0.5')
Sample Date 08/07/2018 13:08
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.470	1.0	0.4700
Benzo(a)anthracene	0.500	0.1	0.0500
Benzo(b)fluoranthene	0.710	0.1	0.0710
Benzo(k)fluoranthene	0.300	0.01	0.0030
Chrysene	0.470	0.001	0.0005
Dibenz(a,h)anthracene	0.026	1.0	0.0260
Indeno(1,2,3-cd)pyrene	0.250	0.1	0.0250

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.6**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-20 (0.5-2')
Sample Date 08/07/2018 13:10
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.220	1.0	0.2200
Benzo(a)anthracene	0.220	0.1	0.0220
Benzo(b)fluoranthene	0.350	0.1	0.0350
Benzo(k)fluoranthene	0.130	0.01	0.0013
Chrysene	0.200	0.001	0.0002
Dibenz(a,h)anthracene	0.011	1.0	0.0110
Indeno(1,2,3-cd)pyrene	0.100	0.1	0.0100

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.3

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-33 (0-0.5')
Sample Date 08/08/2018 12:25
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.059	1.0	0.0590
Benzo(a)anthracene	0.045	0.1	0.0045
Benzo(b)fluoranthene	0.072	0.1	0.0072
Benzo(k)fluoranthene	0.024	0.01	0.0002
Chrysene	0.046	0.001	0.0000
Dibenz(a,h)anthracene	0.009	1.0	0.0088
Indeno(1,2,3-cd)pyrene	0.032	0.1	0.0032

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.1

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-34 (0-0.5')
Sample Date 08/08/2018 12:31
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.340	1.0	0.3400
Benzo(a)anthracene	0.350	0.1	0.0350
Benzo(b)fluoranthene	0.360	0.1	0.0360
Benzo(k)fluoranthene	0.150	0.01	0.0015
Chrysene	0.280	0.001	0.0003
Dibenz(a,h)anthracene	0.013	1.0	0.0130
Indeno(1,2,3-cd)pyrene	0.130	0.1	0.0130

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.4**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-35 (0-0.5')
Sample Date 08/08/2018 12:34
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.340	1.0	0.3400
Benzo(a)anthracene	0.440	0.1	0.0440
Benzo(b)fluoranthene	0.370	0.1	0.0370
Benzo(k)fluoranthene	0.130	0.01	0.0013
Chrysene	0.380	0.001	0.0004
Dibenz(a,h)anthracene	0.014	1.0	0.0140
Indeno(1,2,3-cd)pyrene	0.140	0.1	0.0140

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.5

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-36 (0-0.5')
Sample Date 08/08/2018 12:39
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.260	1.0	0.2600
Benzo(a)anthracene	0.210	0.1	0.0210
Benzo(b)fluoranthene	0.310	0.1	0.0310
Benzo(k)fluoranthene	0.110	0.01	0.0011
Chrysene	0.220	0.001	0.0002
Dibenz(a,h)anthracene	0.011	1.0	0.0110
Indeno(1,2,3-cd)pyrene	0.150	0.1	0.0150

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.3

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-37 (0-0.5')
Sample Date 08/08/2018 12:45
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.260	1.0	0.2600
Benzo(a)anthracene	0.190	0.1	0.0190
Benzo(b)fluoranthene	0.330	0.1	0.0330
Benzo(k)fluoranthene	0.140	0.01	0.0014
Chrysene	0.220	0.001	0.0002
Dibenz(a,h)anthracene	0.013	1.0	0.0130
Indeno(1,2,3-cd)pyrene	0.130	0.1	0.0130

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.3**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-32 (0-0.5')
Sample Date 08/07/2018 15:25
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.001	1.0	0.0006
Benzo(a)anthracene	0.000	0.1	0.0000
Benzo(b)fluoranthene	0.000	0.1	0.0000
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0009
Indeno(1,2,3-cd)pyrene	0.001	0.1	0.0001

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-23 (0-0.5')
Sample Date 08/07/2018 14:23
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.008	1.0	0.0077
Benzo(a)anthracene	0.008	0.1	0.0008
Benzo(b)fluoranthene	0.013	0.1	0.0013
Benzo(k)fluoranthene	0.004	0.01	0.0000
Chrysene	0.007	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.005	0.1	0.0005

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-23 (0.5-2')
Sample Date 08/07/2018 14:25
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.011	1.0	0.0110
Benzo(a)anthracene	0.010	0.1	0.0010
Benzo(b)fluoranthene	0.020	0.1	0.0020
Benzo(k)fluoranthene	0.006	0.01	0.0001
Chrysene	0.011	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.007	0.1	0.0007

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-24 (0-0.5')
Sample Date 08/07/2018 14:31
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.053	1.0	0.0530
Benzo(a)anthracene	0.059	0.1	0.0059
Benzo(b)fluoranthene	0.087	0.1	0.0087
Benzo(k)fluoranthene	0.035	0.01	0.0004
Chrysene	0.053	0.001	0.0001
Dibenz(a,h)anthracene	0.009	1.0	0.0086
Indeno(1,2,3-cd)pyrene	0.025	0.1	0.0025

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.1

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-24 (0.5-2')
Sample Date 08/07/2018 14:33
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.059	1.0	0.0590
Benzo(a)anthracene	0.045	0.1	0.0045
Benzo(b)fluoranthene	0.094	0.1	0.0094
Benzo(k)fluoranthene	0.038	0.01	0.0004
Chrysene	0.046	0.001	0.0000
Dibenz(a,h)anthracene	0.003	1.0	0.0028
Indeno(1,2,3-cd)pyrene	0.031	0.1	0.0031

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.1

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-25 (0-0.5')
Sample Date 08/07/2018 14:35
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.004	1.0	0.0038
Benzo(a)anthracene	0.003	0.1	0.0003
Benzo(b)fluoranthene	0.006	0.1	0.0006
Benzo(k)fluoranthene	0.003	0.01	0.0000
Chrysene	0.004	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0011
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-25 (0.5-2')
Sample Date 08/07/2018 14:40
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.001	1.0	0.0006
Benzo(a)anthracene	0.000	0.1	0.0000
Benzo(b)fluoranthene	0.000	0.1	0.0000
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.001	0.1	0.0001

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-26 (0-0.5')
Sample Date 08/07/2018 14:45
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.140	1.0	0.1400
Benzo(a)anthracene	0.081	0.1	0.0081
Benzo(b)fluoranthene	0.210	0.1	0.0210
Benzo(k)fluoranthene	0.073	0.01	0.0007
Chrysene	0.092	0.001	0.0001
Dibenz(a,h)anthracene	0.006	1.0	0.0063
Indeno(1,2,3-cd)pyrene	0.068	0.1	0.0068

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.2

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-26 (0.5-2')
Sample Date 08/07/2018 14:47
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.001	1.0	0.0006
Benzo(a)anthracene	0.000	0.1	0.0000
Benzo(b)fluoranthene	0.001	0.1	0.0001
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.001	0.1	0.0001

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-27 (0-0.5')
Sample Date 08/07/2018 14:50
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.006	1.0	0.0063
Benzo(a)anthracene	0.005	0.1	0.0005
Benzo(b)fluoranthene	0.009	0.1	0.0009
Benzo(k)fluoranthene	0.003	0.01	0.0000
Chrysene	0.005	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.003	0.1	0.0003

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-27 (0.5-2')
Sample Date 08/07/2018 14:53
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.001	1.0	0.0006
Benzo(a)anthracene	0.000	0.1	0.0000
Benzo(b)fluoranthene	0.000	0.1	0.0000
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0009
Indeno(1,2,3-cd)pyrene	0.001	0.1	0.0001

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-28 (0-0.5')
Sample Date 08/07/2018 15:05
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.016	1.0	0.0160
Benzo(a)anthracene	0.016	0.1	0.0016
Benzo(b)fluoranthene	0.028	0.1	0.0028
Benzo(k)fluoranthene	0.010	0.01	0.0001
Chrysene	0.015	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.009	0.1	0.0009

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-28 (0.5-2')
Sample Date 08/07/2018 15:07
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.003	1.0	0.0029
Benzo(a)anthracene	0.003	0.1	0.0003
Benzo(b)fluoranthene	0.005	0.1	0.0005
Benzo(k)fluoranthene	0.002	0.01	0.0000
Chrysene	0.003	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0009
Indeno(1,2,3-cd)pyrene	0.001	0.1	0.0001

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-29 (0-0.5')
Sample Date 08/07/2018 15:10
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.055	1.0	0.0550
Benzo(a)anthracene	0.049	0.1	0.0049
Benzo(b)fluoranthene	0.093	0.1	0.0093
Benzo(k)fluoranthene	0.034	0.01	0.0003
Chrysene	0.047	0.001	0.0000
Dibenz(a,h)anthracene	0.003	1.0	0.0029
Indeno(1,2,3-cd)pyrene	0.033	0.1	0.0033

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.1**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-29 (0.5-2')
Sample Date 08/07/2018 15:12
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.013	1.0	0.0130
Benzo(a)anthracene	0.010	0.1	0.0010
Benzo(b)fluoranthene	0.022	0.1	0.0022
Benzo(k)fluoranthene	0.008	0.01	0.0001
Chrysene	0.010	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.008	0.1	0.0008

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-30 (0-0.5')
Sample Date 08/07/2018 15:15
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.750	1.0	0.7500
Benzo(a)anthracene	0.730	0.1	0.0730
Benzo(b)fluoranthene	1.700	0.1	0.1700
Benzo(k)fluoranthene	0.470	0.01	0.0047
Chrysene	0.710	0.001	0.0007
Dibenz(a,h)anthracene	0.029	1.0	0.0290
Indeno(1,2,3-cd)pyrene	0.370	0.1	0.0370

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 1.1

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-30 (0.5-2')
Sample Date 08/07/2018 15:17
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.047	1.0	0.0470
Benzo(a)anthracene	0.039	0.1	0.0039
Benzo(b)fluoranthene	0.085	0.1	0.0085
Benzo(k)fluoranthene	0.033	0.01	0.0003
Chrysene	0.044	0.001	0.0000
Dibenz(a,h)anthracene	0.002	1.0	0.0022
Indeno(1,2,3-cd)pyrene	0.028	0.1	0.0028

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.1**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-31 (0-0.5')
Sample Date 08/07/2018 15:20
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.330	1.0	0.3300
Benzo(a)anthracene	0.320	0.1	0.0320
Benzo(b)fluoranthene	0.520	0.1	0.0520
Benzo(k)fluoranthene	0.190	0.01	0.0019
Chrysene	0.300	0.001	0.0003
Dibenz(a,h)anthracene	0.013	1.0	0.0130
Indeno(1,2,3-cd)pyrene	0.150	0.1	0.0150

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.4**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-31 (0.5-2')
Sample Date 08/07/2018 15:22
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.001	1.0	0.0006
Benzo(a)anthracene	0.000	0.1	0.0000
Benzo(b)fluoranthene	0.001	0.1	0.0001
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-22 (0-0.5')
Sample Date 08/07/2018 14:15
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.001	1.0	0.0006
Benzo(a)anthracene	0.000	0.1	0.0000
Benzo(b)fluoranthene	0.000	0.1	0.0000
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.001	0.1	0.0001

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-22 (0.5-2')
Sample Date 08/07/2018 14:17
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.009	1.0	0.0087
Benzo(a)anthracene	0.014	0.1	0.0014
Benzo(b)fluoranthene	0.016	0.1	0.0016
Benzo(k)fluoranthene	0.006	0.01	0.0001
Chrysene	0.014	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-CS2 (0-0.5')
Sample Date 08/08/2018 10:00
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.008	1.0	0.0078
Benzo(a)anthracene	0.005	0.1	0.0005
Benzo(b)fluoranthene	0.009	0.1	0.0009
Benzo(k)fluoranthene	0.003	0.01	0.0000
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-CS2 (0.5-1')
Sample Date 08/08/2018 10:05
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.009	1.0	0.0088
Benzo(a)anthracene	0.007	0.1	0.0007
Benzo(b)fluoranthene	0.010	0.1	0.0010
Benzo(k)fluoranthene	0.004	0.01	0.0000
Chrysene	0.007	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.005	0.1	0.0005

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-CS3 (0-0.5')
Sample Date 08/08/2018 11:45
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.190	1.0	0.1900
Benzo(a)anthracene	0.160	0.1	0.0160
Benzo(b)fluoranthene	0.220	0.1	0.0220
Benzo(k)fluoranthene	0.085	0.01	0.0009
Chrysene	0.170	0.001	0.0002
Dibenz(a,h)anthracene	0.008	1.0	0.0082
Indeno(1,2,3-cd)pyrene	0.110	0.1	0.0110

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.2**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-CS3 (0.5-1')
Sample Date 08/08/2018 11:50
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.110	1.0	0.1100
Benzo(a)anthracene	0.093	0.1	0.0093
Benzo(b)fluoranthene	0.120	0.1	0.0120
Benzo(k)fluoranthene	0.046	0.01	0.0005
Chrysene	0.085	0.001	0.0001
Dibenz(a,h)anthracene	0.005	1.0	0.0053
Indeno(1,2,3-cd)pyrene	0.068	0.1	0.0068

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.1

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-CS4 (0-0.5')
Sample Date 08/08/2018 12:10
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.570	1.0	0.5700
Benzo(a)anthracene	0.450	0.1	0.0450
Benzo(b)fluoranthene	0.610	0.1	0.0610
Benzo(k)fluoranthene	0.250	0.01	0.0025
Chrysene	0.460	0.001	0.0005
Dibenz(a,h)anthracene	0.027	1.0	0.0270
Indeno(1,2,3-cd)pyrene	0.340	0.1	0.0340

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.7

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-CS4 (0.5-1')
Sample Date 08/08/2018 12:15
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.450	1.0	0.4500
Benzo(a)anthracene	0.390	0.1	0.0390
Benzo(b)fluoranthene	0.570	0.1	0.0570
Benzo(k)fluoranthene	0.210	0.01	0.0021
Chrysene	0.360	0.001	0.0004
Dibenz(a,h)anthracene	0.074	1.0	0.0740
Indeno(1,2,3-cd)pyrene	0.260	0.1	0.0260

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.6**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-43 (0-0.5')
Sample Date 08/08/2018 10:20
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	2.200	1.0	2.2000
Benzo(a)anthracene	1.800	0.1	0.1800
Benzo(b)fluoranthene	2.700	0.1	0.2700
Benzo(k)fluoranthene	0.780	0.01	0.0078
Chrysene	1.700	0.001	0.0017
Dibenz(a,h)anthracene	0.370	1.0	0.3700
Indeno(1,2,3-cd)pyrene	1.400	0.1	0.1400

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 3.2

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-44 (0-0.5')
Sample Date 08/08/2018 10:30
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.080	1.0	0.0800
Benzo(a)anthracene	0.066	0.1	0.0066
Benzo(b)fluoranthene	0.110	0.1	0.0110
Benzo(k)fluoranthene	0.052	0.01	0.0005
Chrysene	0.065	0.001	0.0001
Dibenz(a,h)anthracene	0.011	1.0	0.0110
Indeno(1,2,3-cd)pyrene	0.045	0.1	0.0045

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.1

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-45 (0-0.5')
Sample Date 08/08/2018 10:45
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.340	1.0	0.3400
Benzo(a)anthracene	0.250	0.1	0.0250
Benzo(b)fluoranthene	0.610	0.1	0.0610
Benzo(k)fluoranthene	0.230	0.01	0.0023
Chrysene	0.250	0.001	0.0003
Dibenz(a,h)anthracene	0.062	1.0	0.0620
Indeno(1,2,3-cd)pyrene	0.230	0.1	0.0230

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.5

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-46 (0-0.5')
Sample Date 08/08/2018 10:55
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.020	1.0	0.0200
Benzo(a)anthracene	0.015	0.1	0.0015
Benzo(b)fluoranthene	0.031	0.1	0.0031
Benzo(k)fluoranthene	0.012	0.01	0.0001
Chrysene	0.016	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0037
Indeno(1,2,3-cd)pyrene	0.013	0.1	0.0013

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-47 (0-0.5')
Sample Date 08/08/2018 11:02
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.013	1.0	0.0130
Benzo(a)anthracene	0.010	0.1	0.0010
Benzo(b)fluoranthene	0.022	0.1	0.0022
Benzo(k)fluoranthene	0.008	0.01	0.0001
Chrysene	0.011	0.001	0.0000
Dibenz(a,h)anthracene	0.003	1.0	0.0027
Indeno(1,2,3-cd)pyrene	0.010	0.1	0.0010

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-48 (0-0.5')
Sample Date 08/08/2018 11:25
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.011	1.0	0.0110
Benzo(a)anthracene	0.010	0.1	0.0010
Benzo(b)fluoranthene	0.019	0.1	0.0019
Benzo(k)fluoranthene	0.006	0.01	0.0001
Chrysene	0.011	0.001	0.0000
Dibenz(a,h)anthracene	0.002	1.0	0.0024
Indeno(1,2,3-cd)pyrene	0.008	0.1	0.0008

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-49 (0-0.5')
Sample Date 08/08/2018 11:35
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	3.100	1.0	3.1000
Benzo(a)anthracene	2.400	0.1	0.2400
Benzo(b)fluoranthene	3.800	0.1	0.3800
Benzo(k)fluoranthene	1.600	0.01	0.0160
Chrysene	2.900	0.001	0.0029
Dibenz(a,h)anthracene	0.500	1.0	0.5000
Indeno(1,2,3-cd)pyrene	1.700	0.1	0.1700

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 4.4

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-50 (0-0.5')
Sample Date 08/08/2018 11:50
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	2.200	1.0	2.2000
Benzo(a)anthracene	1.800	0.1	0.1800
Benzo(b)fluoranthene	2.500	0.1	0.2500
Benzo(k)fluoranthene	1.000	0.01	0.0100
Chrysene	1.700	0.001	0.0017
Dibenz(a,h)anthracene	0.360	1.0	0.3600
Indeno(1,2,3-cd)pyrene	1.200	0.1	0.1200

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **3.1**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-50 (0.5-1')
Sample Date 08/08/2018 11:55
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	2.400	1.0	2.4000
Benzo(a)anthracene	2.100	0.1	0.2100
Benzo(b)fluoranthene	2.700	0.1	0.2700
Benzo(k)fluoranthene	1.200	0.01	0.0120
Chrysene	1.900	0.001	0.0019
Dibenz(a,h)anthracene	0.410	1.0	0.4100
Indeno(1,2,3-cd)pyrene	1.400	0.1	0.1400

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **3.4**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-51 (0-0.5')
Sample Date 08/08/2018 12:01
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	1.500	1.0	1.5000
Benzo(a)anthracene	1.300	0.1	0.1300
Benzo(b)fluoranthene	1.800	0.1	0.1800
Benzo(k)fluoranthene	0.530	0.01	0.0053
Chrysene	1.300	0.001	0.0013
Dibenz(a,h)anthracene	0.270	1.0	0.2700
Indeno(1,2,3-cd)pyrene	0.880	0.1	0.0880

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 2.2

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-51 (0.5-1')
Sample Date 08/08/2018 12:03
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	2.600	1.0	2.6000
Benzo(a)anthracene	2.100	0.1	0.2100
Benzo(b)fluoranthene	3.300	0.1	0.3300
Benzo(k)fluoranthene	1.200	0.01	0.0120
Chrysene	2.400	0.001	0.0024
Dibenz(a,h)anthracene	0.110	1.0	0.1100
Indeno(1,2,3-cd)pyrene	1.400	0.1	0.1400

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **3.4**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-52 (0-0.5')
Sample Date 08/08/2018 12:10
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	1.400	1.0	1.4000
Benzo(a)anthracene	1.300	0.1	0.1300
Benzo(b)fluoranthene	1.700	0.1	0.1700
Benzo(k)fluoranthene	0.670	0.01	0.0067
Chrysene	1.100	0.001	0.0011
Dibenz(a,h)anthracene	0.220	1.0	0.2200
Indeno(1,2,3-cd)pyrene	0.730	0.1	0.0730

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 2.0

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-52 (0.5-1')
Sample Date 08/08/2018 12:15
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.760	1.0	0.7600
Benzo(a)anthracene	0.610	0.1	0.0610
Benzo(b)fluoranthene	0.890	0.1	0.0890
Benzo(k)fluoranthene	0.330	0.01	0.0033
Chrysene	0.590	0.001	0.0006
Dibenz(a,h)anthracene	0.034	1.0	0.0340
Indeno(1,2,3-cd)pyrene	0.410	0.1	0.0410

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 1.0

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-61 (0-0.5')
Sample Date 08/08/2018 15:50
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.580	1.0	0.5800
Benzo(a)anthracene	0.430	0.1	0.0430
Benzo(b)fluoranthene	1.000	0.1	0.1000
Benzo(k)fluoranthene	0.350	0.01	0.0035
Chrysene	0.530	0.001	0.0005
Dibenz(a,h)anthracene	0.088	1.0	0.0880
Indeno(1,2,3-cd)pyrene	0.310	0.1	0.0310

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.8

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-61 (0.5-2')
Sample Date 08/08/2018 15:55
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.190	1.0	0.1900
Benzo(a)anthracene	0.140	0.1	0.0140
Benzo(b)fluoranthene	0.330	0.1	0.0330
Benzo(k)fluoranthene	0.130	0.01	0.0013
Chrysene	0.170	0.001	0.0002
Dibenz(a,h)anthracene	0.033	1.0	0.0330
Indeno(1,2,3-cd)pyrene	0.120	0.1	0.0120

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.3**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-62 (0-0.5')
Sample Date 08/08/2018 15:40
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.150	1.0	0.1500
Benzo(a)anthracene	0.099	0.1	0.0099
Benzo(b)fluoranthene	0.280	0.1	0.0280
Benzo(k)fluoranthene	0.096	0.01	0.0010
Chrysene	0.170	0.001	0.0002
Dibenz(a,h)anthracene	0.023	1.0	0.0230
Indeno(1,2,3-cd)pyrene	0.085	0.1	0.0085

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.2

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-62 (0.5-2')
Sample Date 08/08/2018 15:45
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.130	1.0	0.1300
Benzo(a)anthracene	0.090	0.1	0.0090
Benzo(b)fluoranthene	0.250	0.1	0.0250
Benzo(k)fluoranthene	0.087	0.01	0.0009
Chrysene	0.150	0.001	0.0002
Dibenz(a,h)anthracene	0.020	1.0	0.0200
Indeno(1,2,3-cd)pyrene	0.072	0.1	0.0072

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.2

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-63 (0-0.5')
Sample Date 08/08/2018 15:25
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	4.400	1.0	4.4000
Benzo(a)anthracene	3.600	0.1	0.3600
Benzo(b)fluoranthene	7.700	0.1	0.7700
Benzo(k)fluoranthene	3.400	0.01	0.0340
Chrysene	4.000	0.001	0.0040
Dibenz(a,h)anthracene	0.590	1.0	0.5900
Indeno(1,2,3-cd)pyrene	1.900	0.1	0.1900

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **6.3**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	Concentration Reported	Data Qualifier	Enter
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-63 (0.5-1')
Sample Date 08/08/2018 15:30
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	2.000	1.0	2.0000
Benzo(a)anthracene	2.300	0.1	0.2300
Benzo(b)fluoranthene	3.900	0.1	0.3900
Benzo(k)fluoranthene	1.700	0.01	0.0170
Chrysene	2.200	0.001	0.0022
Dibenz(a,h)anthracene	0.250	1.0	0.2500
Indeno(1,2,3-cd)pyrene	0.850	0.1	0.0850

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 3.0

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-64 (0-0.5')
Sample Date 08/08/2018 16:40
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.034	1.0	0.0340
Benzo(a)anthracene	0.021	0.1	0.0021
Benzo(b)fluoranthene	0.063	0.1	0.0063
Benzo(k)fluoranthene	0.026	0.01	0.0003
Chrysene	0.038	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0042
Indeno(1,2,3-cd)pyrene	0.017	0.1	0.0017

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-65 (0-0.5')
Sample Date 08/08/2018 16:42
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.082	1.0	0.0820
Benzo(a)anthracene	0.051	0.1	0.0051
Benzo(b)fluoranthene	0.160	0.1	0.0160
Benzo(k)fluoranthene	0.063	0.01	0.0006
Chrysene	0.092	0.001	0.0001
Dibenz(a,h)anthracene	0.009	1.0	0.0085
Indeno(1,2,3-cd)pyrene	0.036	0.1	0.0036

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.1

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-66 (0-0.5')
Sample Date 08/08/2018 16:44
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.380	1.0	0.3800
Benzo(a)anthracene	0.260	0.1	0.0260
Benzo(b)fluoranthene	0.850	0.1	0.0850
Benzo(k)fluoranthene	0.310	0.01	0.0031
Chrysene	0.430	0.001	0.0004
Dibenz(a,h)anthracene	0.085	1.0	0.0850
Indeno(1,2,3-cd)pyrene	0.170	0.1	0.0170

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.6

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-67 (0-0.5')
Sample Date 08/08/2018 16:46
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.770	1.0	0.7700
Benzo(a)anthracene	0.570	0.1	0.0570
Benzo(b)fluoranthene	1.500	0.1	0.1500
Benzo(k)fluoranthene	0.650	0.01	0.0065
Chrysene	0.640	0.001	0.0006
Dibenz(a,h)anthracene	0.095	1.0	0.0950
Indeno(1,2,3-cd)pyrene	0.290	0.1	0.0290

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 1.1

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-68 (0-0.5')
Sample Date 08/08/2018 16:48
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.058	1.0	0.0580
Benzo(a)anthracene	0.048	0.1	0.0048
Benzo(b)fluoranthene	0.120	0.1	0.0120
Benzo(k)fluoranthene	0.046	0.01	0.0005
Chrysene	0.064	0.001	0.0001
Dibenz(a,h)anthracene	0.015	1.0	0.0145
Indeno(1,2,3-cd)pyrene	0.015	0.1	0.0015

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.1

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-CS5 (0-0.5')
Sample Date 08/08/2018 15:00
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.013	1.0	0.0130
Benzo(a)anthracene	0.005	0.1	0.0005
Benzo(b)fluoranthene	0.028	0.1	0.0028
Benzo(k)fluoranthene	0.005	0.01	0.0000
Chrysene	0.014	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0040
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-CS5 (0.5-1.5')
Sample Date 08/08/2018 15:05
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.005	1.0	0.0047
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.015	0.1	0.0015
Benzo(k)fluoranthene	0.005	0.01	0.0001
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0043
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-70(0-0.5')
Sample Date 08/10/2018 09:20
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.005	1.0	0.0054
Benzo(a)anthracene	0.005	0.1	0.0005
Benzo(b)fluoranthene	0.010	0.1	0.0010
Benzo(k)fluoranthene	0.003	0.01	0.0000
Chrysene	0.005	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-71(0-0.5')
Sample Date 08/10/2018 09:13
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.009	1.0	0.0091
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.015	0.1	0.0015
Benzo(k)fluoranthene	0.006	0.01	0.0001
Chrysene	0.008	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0011
Indeno(1,2,3-cd)pyrene	0.006	0.1	0.0006

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-72(0-0.5')
Sample Date 08/10/2018 09:10
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.013	1.0	0.0130
Benzo(a)anthracene	0.012	0.1	0.0012
Benzo(b)fluoranthene	0.023	0.1	0.0023
Benzo(k)fluoranthene	0.007	0.01	0.0001
Chrysene	0.013	0.001	0.0000
Dibenz(a,h)anthracene	0.002	1.0	0.0024
Indeno(1,2,3-cd)pyrene	0.007	0.1	0.0007

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-73(0-0.5')
Sample Date 08/10/2018 09:01
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.005	1.0	0.0049
Benzo(a)anthracene	0.004	0.1	0.0004
Benzo(b)fluoranthene	0.009	0.1	0.0009
Benzo(k)fluoranthene	0.003	0.01	0.0000
Chrysene	0.005	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0011
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-74(0-0.5')
Sample Date 08/10/2018 09:02
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.001	1.0	0.0008
Benzo(a)anthracene	0.000	0.1	0.0000
Benzo(b)fluoranthene	0.000	0.1	0.0000
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0013
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-75(0-0.5')
Sample Date 08/10/2018 08:53
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.006	1.0	0.0056
Benzo(a)anthracene	0.004	0.1	0.0004
Benzo(b)fluoranthene	0.009	0.1	0.0009
Benzo(k)fluoranthene	0.004	0.01	0.0000
Chrysene	0.005	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0012
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-76(0-0.5')
Sample Date 08/10/2018 08:52
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.013	1.0	0.0130
Benzo(a)anthracene	0.010	0.1	0.0010
Benzo(b)fluoranthene	0.022	0.1	0.0022
Benzo(k)fluoranthene	0.009	0.01	0.0001
Chrysene	0.012	0.001	0.0000
Dibenz(a,h)anthracene	0.003	1.0	0.0025
Indeno(1,2,3-cd)pyrene	0.007	0.1	0.0007

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-77(0-0.5')
Sample Date 08/10/2018 08:52
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.023	1.0	0.0230
Benzo(a)anthracene	0.023	0.1	0.0023
Benzo(b)fluoranthene	0.035	0.1	0.0035
Benzo(k)fluoranthene	0.014	0.01	0.0001
Chrysene	0.019	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0038
Indeno(1,2,3-cd)pyrene	0.012	0.1	0.0012

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-78(0-0.5')
Sample Date 08/10/2018 08:44
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.007	1.0	0.0073
Benzo(a)anthracene	0.005	0.1	0.0005
Benzo(b)fluoranthene	0.012	0.1	0.0012
Benzo(k)fluoranthene	0.005	0.01	0.0000
Chrysene	0.007	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-79(0-0.5')
Sample Date 08/10/2018 07:58
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.001	1.0	0.0007
Benzo(a)anthracene	0.000	0.1	0.0000
Benzo(b)fluoranthene	0.001	0.1	0.0001
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0012
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-80(0-0.5')
Sample Date 08/10/2018 10:00
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.042	1.0	0.0420
Benzo(a)anthracene	0.061	0.1	0.0061
Benzo(b)fluoranthene	0.075	0.1	0.0075
Benzo(k)fluoranthene	0.023	0.01	0.0002
Chrysene	0.046	0.001	0.0000
Dibenz(a,h)anthracene	0.007	1.0	0.0070
Indeno(1,2,3-cd)pyrene	0.018	0.1	0.0018

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.1**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-69(0-0.5')
Sample Date 08/10/2018 09:23
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.009	1.0	0.0088
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.013	0.1	0.0013
Benzo(k)fluoranthene	0.005	0.01	0.0001
Chrysene	0.008	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-81(0-0.5')
Sample Date 08/10/2018 09:52
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.006	1.0	0.0059
Benzo(a)anthracene	0.004	0.1	0.0004
Benzo(b)fluoranthene	0.010	0.1	0.0010
Benzo(k)fluoranthene	0.004	0.01	0.0000
Chrysene	0.005	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0011
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-82(0-0.5')
Sample Date 08/10/2018 09:50
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.001	1.0	0.0014
Benzo(a)anthracene	0.001	0.1	0.0001
Benzo(b)fluoranthene	0.002	0.1	0.0002
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-83(0-0.5')
Sample Date 08/10/2018 09:44
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.004	1.0	0.0044
Benzo(a)anthracene	0.003	0.1	0.0003
Benzo(b)fluoranthene	0.007	0.1	0.0007
Benzo(k)fluoranthene	0.003	0.01	0.0000
Chrysene	0.004	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0012
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-84(0-0.5')
Sample Date 08/10/2018 09:40
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.019	1.0	0.0190
Benzo(a)anthracene	0.017	0.1	0.0017
Benzo(b)fluoranthene	0.029	0.1	0.0029
Benzo(k)fluoranthene	0.010	0.01	0.0001
Chrysene	0.021	0.001	0.0000
Dibenz(a,h)anthracene	0.003	1.0	0.0026
Indeno(1,2,3-cd)pyrene	0.009	0.1	0.0009

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-85(0-0.5')
Sample Date 08/10/2018 10:18
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.008	1.0	0.0078
Benzo(a)anthracene	0.009	0.1	0.0009
Benzo(b)fluoranthene	0.020	0.1	0.0020
Benzo(k)fluoranthene	0.007	0.01	0.0001
Chrysene	0.014	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-86(0-0.5')
Sample Date 08/10/2018 10:18
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.036	1.0	0.0360
Benzo(a)anthracene	0.032	0.1	0.0032
Benzo(b)fluoranthene	0.050	0.1	0.0050
Benzo(k)fluoranthene	0.021	0.01	0.0002
Chrysene	0.037	0.001	0.0000
Dibenz(a,h)anthracene	0.005	1.0	0.0054
Indeno(1,2,3-cd)pyrene	0.017	0.1	0.0017

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.1**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-87(0-0.5')
Sample Date 08/10/2018 10:29
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.014	1.0	0.0140
Benzo(a)anthracene	0.010	0.1	0.0010
Benzo(b)fluoranthene	0.019	0.1	0.0019
Benzo(k)fluoranthene	0.008	0.01	0.0001
Chrysene	0.013	0.001	0.0000
Dibenz(a,h)anthracene	0.002	1.0	0.0024
Indeno(1,2,3-cd)pyrene	0.008	0.1	0.0008

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-88(0-0.5')
Sample Date 08/10/2018 10:28
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.020	1.0	0.0200
Benzo(a)anthracene	0.020	0.1	0.0020
Benzo(b)fluoranthene	0.030	0.1	0.0030
Benzo(k)fluoranthene	0.011	0.01	0.0001
Chrysene	0.019	0.001	0.0000
Dibenz(a,h)anthracene	0.003	1.0	0.0029
Indeno(1,2,3-cd)pyrene	0.010	0.1	0.0010

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-89(0-0.5')
Sample Date 08/10/2018 11:19
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.015	1.0	0.0150
Benzo(a)anthracene	0.015	0.1	0.0015
Benzo(b)fluoranthene	0.031	0.1	0.0031
Benzo(k)fluoranthene	0.011	0.01	0.0001
Chrysene	0.016	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0037
Indeno(1,2,3-cd)pyrene	0.010	0.1	0.0010

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-90(0-0.5')
Sample Date 08/10/2018 11:15
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.003	1.0	0.0032
Benzo(a)anthracene	0.003	0.1	0.0003
Benzo(b)fluoranthene	0.007	0.1	0.0007
Benzo(k)fluoranthene	0.003	0.01	0.0000
Chrysene	0.004	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0011
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-91(0-0.5')
Sample Date 08/10/2018 11:05
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.007	1.0	0.0073
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.012	0.1	0.0012
Benzo(k)fluoranthene	0.005	0.01	0.0000
Chrysene	0.008	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0011
Indeno(1,2,3-cd)pyrene	0.005	0.1	0.0005

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-92(0-0.5')
Sample Date 08/10/2018 11:08
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.006	1.0	0.0061
Benzo(a)anthracene	0.007	0.1	0.0007
Benzo(b)fluoranthene	0.009	0.1	0.0009
Benzo(k)fluoranthene	0.004	0.01	0.0000
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0011
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-93(0-0.5')
Sample Date 08/10/2018 10:59
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.003	1.0	0.0025
Benzo(a)anthracene	0.002	0.1	0.0002
Benzo(b)fluoranthene	0.004	0.1	0.0004
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.002	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-94(0-0.5')
Sample Date 08/10/2018 11:00
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.001	1.0	0.0014
Benzo(a)anthracene	0.001	0.1	0.0001
Benzo(b)fluoranthene	0.004	0.1	0.0004
Benzo(k)fluoranthene	0.003	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-95(0-0.5')
Sample Date 08/10/2018 10:52
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.006	1.0	0.0058
Benzo(a)anthracene	0.004	0.1	0.0004
Benzo(b)fluoranthene	0.009	0.1	0.0009
Benzo(k)fluoranthene	0.004	0.01	0.0000
Chrysene	0.005	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-96(0-0.5')
Sample Date 08/10/2018 10:50
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.006	1.0	0.0060
Benzo(a)anthracene	0.004	0.1	0.0004
Benzo(b)fluoranthene	0.011	0.1	0.0011
Benzo(k)fluoranthene	0.004	0.01	0.0000
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0012
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-97(0-0.5')
Sample Date 08/10/2018 10:43
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.022	1.0	0.0220
Benzo(a)anthracene	0.018	0.1	0.0018
Benzo(b)fluoranthene	0.041	0.1	0.0041
Benzo(k)fluoranthene	0.015	0.01	0.0002
Chrysene	0.022	0.001	0.0000
Dibenz(a,h)anthracene	0.005	1.0	0.0049
Indeno(1,2,3-cd)pyrene	0.015	0.1	0.0015

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-98(0-0.5')
Sample Date 08/10/2018 10:40
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.003	1.0	0.0032
Benzo(a)anthracene	0.002	0.1	0.0002
Benzo(b)fluoranthene	0.006	0.1	0.0006
Benzo(k)fluoranthene	0.002	0.01	0.0000
Chrysene	0.004	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0011
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-99(0-0.5')
Sample Date 08/10/2018 11:38
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.075	1.0	0.0750
Benzo(a)anthracene	0.077	0.1	0.0077
Benzo(b)fluoranthene	0.130	0.1	0.0130
Benzo(k)fluoranthene	0.057	0.01	0.0006
Chrysene	0.093	0.001	0.0001
Dibenz(a,h)anthracene	0.004	1.0	0.0039
Indeno(1,2,3-cd)pyrene	0.040	0.1	0.0040

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.1**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-100(0-0.5')
Sample Date 08/10/2018 11:40
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.065	1.0	0.0650
Benzo(a)anthracene	0.066	0.1	0.0066
Benzo(b)fluoranthene	0.140	0.1	0.0140
Benzo(k)fluoranthene	0.045	0.01	0.0005
Chrysene	0.069	0.001	0.0001
Dibenz(a,h)anthracene	0.013	1.0	0.0130
Indeno(1,2,3-cd)pyrene	0.038	0.1	0.0038

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.1**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-101(0-0.5')
Sample Date 08/10/2018 11:59
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.020	1.0	0.0200
Benzo(a)anthracene	0.015	0.1	0.0015
Benzo(b)fluoranthene	0.033	0.1	0.0033
Benzo(k)fluoranthene	0.012	0.01	0.0001
Chrysene	0.021	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0012
Indeno(1,2,3-cd)pyrene	0.012	0.1	0.0012

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-102(0-0.5')
Sample Date 08/10/2018 12:00
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.001	1.0	0.0008
Benzo(a)anthracene	0.001	0.1	0.0001
Benzo(b)fluoranthene	0.000	0.1	0.0000
Benzo(k)fluoranthene	0.001	0.01	0.0000
Chrysene	0.001	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0013
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-103(0-0.5')
Sample Date 08/10/2018 12:11
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.005	1.0	0.0052
Benzo(a)anthracene	0.003	0.1	0.0003
Benzo(b)fluoranthene	0.008	0.1	0.0008
Benzo(k)fluoranthene	0.003	0.01	0.0000
Chrysene	0.005	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-104(0-0.5')
Sample Date 08/10/2018 12:10
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.008	1.0	0.0075
Benzo(a)anthracene	0.005	0.1	0.0005
Benzo(b)fluoranthene	0.010	0.1	0.0010
Benzo(k)fluoranthene	0.003	0.01	0.0000
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0010
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-105(0-0.5')
Sample Date 08/10/2018 12:17
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.005	1.0	0.0053
Benzo(a)anthracene	0.004	0.1	0.0004
Benzo(b)fluoranthene	0.008	0.1	0.0008
Benzo(k)fluoranthene	0.003	0.01	0.0000
Chrysene	0.005	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0011
Indeno(1,2,3-cd)pyrene	0.002	0.1	0.0002

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-106(0-0.5')
Sample Date 08/10/2018 12:20
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.009	1.0	0.0093
Benzo(a)anthracene	0.007	0.1	0.0007
Benzo(b)fluoranthene	0.015	0.1	0.0015
Benzo(k)fluoranthene	0.006	0.01	0.0001
Chrysene	0.009	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0011
Indeno(1,2,3-cd)pyrene	0.005	0.1	0.0005

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-107(0-0.5')
Sample Date 08/10/2018 12:26
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.010	1.0	0.0098
Benzo(a)anthracene	0.007	0.1	0.0007
Benzo(b)fluoranthene	0.014	0.1	0.0014
Benzo(k)fluoranthene	0.005	0.01	0.0001
Chrysene	0.009	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0012
Indeno(1,2,3-cd)pyrene	0.005	0.1	0.0005

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-108(0-0.5')
Sample Date 08/10/2018 12:24
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.007	1.0	0.0073
Benzo(a)anthracene	0.005	0.1	0.0005
Benzo(b)fluoranthene	0.010	0.1	0.0010
Benzo(k)fluoranthene	0.004	0.01	0.0000
Chrysene	0.007	0.001	0.0000
Dibenz(a,h)anthracene	0.001	1.0	0.0012
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-109(0-0.5')
Sample Date 08/10/2018 12:28
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.018	1.0	0.0180
Benzo(a)anthracene	0.011	0.1	0.0011
Benzo(b)fluoranthene	0.034	0.1	0.0034
Benzo(k)fluoranthene	0.010	0.01	0.0001
Chrysene	0.012	0.001	0.0000
Dibenz(a,h)anthracene	0.009	1.0	0.0085
Indeno(1,2,3-cd)pyrene	0.009	0.1	0.0009

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-110(0-0.5')
Sample Date 08/10/2018 14:09
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.015	1.0	0.0150
Benzo(a)anthracene	0.012	0.1	0.0012
Benzo(b)fluoranthene	0.026	0.1	0.0026
Benzo(k)fluoranthene	0.005	0.01	0.0000
Chrysene	0.018	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0041
Indeno(1,2,3-cd)pyrene	0.013	0.1	0.0013

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-111(0-0.5')
Sample Date 08/10/2018 14:06
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.028	1.0	0.0280
Benzo(a)anthracene	0.027	0.1	0.0027
Benzo(b)fluoranthene	0.051	0.1	0.0051
Benzo(k)fluoranthene	0.019	0.01	0.0002
Chrysene	0.031	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0044
Indeno(1,2,3-cd)pyrene	0.018	0.1	0.0018

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-112(0-0.5')
Sample Date 08/10/2018 14:17
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.012	1.0	0.0120
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.019	0.1	0.0019
Benzo(k)fluoranthene	0.005	0.01	0.0001
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0044
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-113(0-0.5')
Sample Date 08/10/2018 14:12
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.010	1.0	0.0100
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.018	0.1	0.0018
Benzo(k)fluoranthene	0.005	0.01	0.0001
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0044
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-114(0-0.5')
Sample Date 08/10/2018 14:51
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.012	1.0	0.0120
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.024	0.1	0.0024
Benzo(k)fluoranthene	0.005	0.01	0.0000
Chrysene	0.016	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0043
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-115(0-0.5')
Sample Date 08/10/2018 14:50
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.005	1.0	0.0049
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.017	0.1	0.0017
Benzo(k)fluoranthene	0.005	0.01	0.0001
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.005	1.0	0.0045
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-116(0-0.5')
Sample Date 08/10/2018 15:00
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.005	1.0	0.0048
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.015	0.1	0.0015
Benzo(k)fluoranthene	0.005	0.01	0.0001
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0045
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-117(0-0.5')
Sample Date 08/10/2018 14:58
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.005	1.0	0.0049
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.016	0.1	0.0016
Benzo(k)fluoranthene	0.005	0.01	0.0001
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.005	1.0	0.0045
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-118(0-0.5')
Sample Date 08/10/2018 15:09
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.010	1.0	0.0100
Benzo(a)anthracene	0.005	0.1	0.0005
Benzo(b)fluoranthene	0.018	0.1	0.0018
Benzo(k)fluoranthene	0.005	0.01	0.0000
Chrysene	0.012	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0041
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-119(0-0.5')
Sample Date 08/10/2018 15:06
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.015	1.0	0.0150
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.024	0.1	0.0024
Benzo(k)fluoranthene	0.011	0.01	0.0001
Chrysene	0.017	0.001	0.0000
Dibenz(a,h)anthracene	0.005	1.0	0.0047
Indeno(1,2,3-cd)pyrene	0.010	0.1	0.0010

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-120(0-0.5')
Sample Date 08/10/2018 15:13
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.012	1.0	0.0120
Benzo(a)anthracene	0.005	0.1	0.0005
Benzo(b)fluoranthene	0.020	0.1	0.0020
Benzo(k)fluoranthene	0.005	0.01	0.0000
Chrysene	0.013	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0042
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-121(0-0.5')
Sample Date 08/10/2018 15:10
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.010	1.0	0.0095
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.016	0.1	0.0016
Benzo(k)fluoranthene	0.005	0.01	0.0000
Chrysene	0.012	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0043
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-122(0-0.5')
Sample Date 08/10/2018 15:19
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.005	1.0	0.0050
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.013	0.1	0.0013
Benzo(k)fluoranthene	0.006	0.01	0.0001
Chrysene	0.007	0.001	0.0000
Dibenz(a,h)anthracene	0.005	1.0	0.0046
Indeno(1,2,3-cd)pyrene	0.005	0.1	0.0005

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-123(0-0.5')
Sample Date 08/10/2018 15:14
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.011	1.0	0.0110
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.022	0.1	0.0022
Benzo(k)fluoranthene	0.005	0.01	0.0001
Chrysene	0.014	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0044
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-124(0-0.5')
Sample Date 08/10/2018 15:20
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.094	1.0	0.0940
Benzo(a)anthracene	0.100	0.1	0.0100
Benzo(b)fluoranthene	0.130	0.1	0.0130
Benzo(k)fluoranthene	0.072	0.01	0.0007
Chrysene	0.110	0.001	0.0001
Dibenz(a,h)anthracene	0.023	1.0	0.0230
Indeno(1,2,3-cd)pyrene	0.059	0.1	0.0059

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.1**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-125 (0-0.5')
Sample Date 08/10/2018 16:25
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.020	1.0	0.0200
Benzo(a)anthracene	0.023	0.1	0.0023
Benzo(b)fluoranthene	0.022	0.1	0.0022
Benzo(k)fluoranthene	0.022	0.01	0.0002
Chrysene	0.026	0.001	0.0000
Dibenz(a,h)anthracene	0.019	1.0	0.0185
Indeno(1,2,3-cd)pyrene	0.019	0.1	0.0019

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-126 (0-0.5')
Sample Date 08/10/2018 16:34
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.093	1.0	0.0930
Benzo(a)anthracene	0.084	0.1	0.0084
Benzo(b)fluoranthene	0.150	0.1	0.0150
Benzo(k)fluoranthene	0.026	0.01	0.0003
Chrysene	0.110	0.001	0.0001
Dibenz(a,h)anthracene	0.022	1.0	0.0220
Indeno(1,2,3-cd)pyrene	0.072	0.1	0.0072

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.1

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-127 (0-0.5')
Sample Date 08/10/2018 16:38
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.026	1.0	0.0260
Benzo(a)anthracene	0.013	0.1	0.0013
Benzo(b)fluoranthene	0.041	0.1	0.0041
Benzo(k)fluoranthene	0.019	0.01	0.0002
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.005	1.0	0.0045
Indeno(1,2,3-cd)pyrene	0.017	0.1	0.0017

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-128 (0-0.5')
Sample Date 08/10/2018 16:42
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.018	1.0	0.0180
Benzo(a)anthracene	0.015	0.1	0.0015
Benzo(b)fluoranthene	0.034	0.1	0.0034
Benzo(k)fluoranthene	0.019	0.01	0.0002
Chrysene	0.008	0.001	0.0000
Dibenz(a,h)anthracene	0.006	1.0	0.0060
Indeno(1,2,3-cd)pyrene	0.015	0.1	0.0015

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-129 (0-0.5')
Sample Date 08/10/2018 16:48
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.020	1.0	0.0200
Benzo(a)anthracene	0.017	0.1	0.0017
Benzo(b)fluoranthene	0.033	0.1	0.0033
Benzo(k)fluoranthene	0.011	0.01	0.0001
Chrysene	0.024	0.001	0.0000
Dibenz(a,h)anthracene	0.005	1.0	0.0046
Indeno(1,2,3-cd)pyrene	0.012	0.1	0.0012

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-130 (0-0.5')
Sample Date 08/10/2018 16:56
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.005	1.0	0.0047
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.005	0.1	0.0005
Benzo(k)fluoranthene	0.005	0.01	0.0001
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0043
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-131 (0-0.5')
Sample Date 08/10/2018 17:00
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.110	1.0	0.1100
Benzo(a)anthracene	0.079	0.1	0.0079
Benzo(b)fluoranthene	0.170	0.1	0.0170
Benzo(k)fluoranthene	0.061	0.01	0.0006
Chrysene	0.093	0.001	0.0001
Dibenz(a,h)anthracene	0.020	1.0	0.0200
Indeno(1,2,3-cd)pyrene	0.078	0.1	0.0078

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.2**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-132 (0-0.5')
Sample Date 08/10/2018 17:08
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.006	1.0	0.0055
Benzo(a)anthracene	0.007	0.1	0.0007
Benzo(b)fluoranthene	0.016	0.1	0.0016
Benzo(k)fluoranthene	0.006	0.01	0.0001
Chrysene	0.007	0.001	0.0000
Dibenz(a,h)anthracene	0.005	1.0	0.0050
Indeno(1,2,3-cd)pyrene	0.005	0.1	0.0005

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-133 (0-0.5')
Sample Date 08/10/2018 17:21
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.019	1.0	0.0190
Benzo(a)anthracene	0.022	0.1	0.0022
Benzo(b)fluoranthene	0.021	0.1	0.0021
Benzo(k)fluoranthene	0.021	0.01	0.0002
Chrysene	0.024	0.001	0.0000
Dibenz(a,h)anthracene	0.018	1.0	0.0175
Indeno(1,2,3-cd)pyrene	0.018	0.1	0.0018

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-134 (0-0.5')
Sample Date 08/10/2018 17:16
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.030	1.0	0.0300
Benzo(a)anthracene	0.025	0.1	0.0025
Benzo(b)fluoranthene	0.046	0.1	0.0046
Benzo(k)fluoranthene	0.018	0.01	0.0002
Chrysene	0.033	0.001	0.0000
Dibenz(a,h)anthracene	0.005	1.0	0.0050
Indeno(1,2,3-cd)pyrene	0.017	0.1	0.0017

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-135 (0-0.5')
Sample Date 08/10/2018 17:25
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.006	1.0	0.0055
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.006	0.1	0.0006
Benzo(k)fluoranthene	0.006	0.01	0.0001
Chrysene	0.007	0.001	0.0000
Dibenz(a,h)anthracene	0.005	1.0	0.0050
Indeno(1,2,3-cd)pyrene	0.005	0.1	0.0005

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-136 (0-0.5')
Sample Date 08/10/2018 17:20
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.140	1.0	0.1400
Benzo(a)anthracene	0.120	0.1	0.0120
Benzo(b)fluoranthene	0.240	0.1	0.0240
Benzo(k)fluoranthene	0.094	0.01	0.0009
Chrysene	0.160	0.001	0.0002
Dibenz(a,h)anthracene	0.028	1.0	0.0280
Indeno(1,2,3-cd)pyrene	0.086	0.1	0.0086

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.2**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-137 (0-0.5')
Sample Date 08/10/2018 17:24
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.078	1.0	0.0780
Benzo(a)anthracene	0.063	0.1	0.0063
Benzo(b)fluoranthene	0.130	0.1	0.0130
Benzo(k)fluoranthene	0.047	0.01	0.0005
Chrysene	0.078	0.001	0.0001
Dibenz(a,h)anthracene	0.014	1.0	0.0140
Indeno(1,2,3-cd)pyrene	0.049	0.1	0.0049

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.1**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-138 (0-0.5')
Sample Date 08/10/2018 17:50
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.035	1.0	0.0350
Benzo(a)anthracene	0.027	0.1	0.0027
Benzo(b)fluoranthene	0.072	0.1	0.0072
Benzo(k)fluoranthene	0.020	0.01	0.0002
Chrysene	0.040	0.001	0.0000
Dibenz(a,h)anthracene	0.005	1.0	0.0050
Indeno(1,2,3-cd)pyrene	0.027	0.1	0.0027

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.1**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-139 (0-0.5')
Sample Date 08/10/2018 17:53
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.340	1.0	0.3400
Benzo(a)anthracene	0.260	0.1	0.0260
Benzo(b)fluoranthene	0.540	0.1	0.0540
Benzo(k)fluoranthene	0.240	0.01	0.0024
Chrysene	0.320	0.001	0.0003
Dibenz(a,h)anthracene	0.049	1.0	0.0490
Indeno(1,2,3-cd)pyrene	0.190	0.1	0.0190

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.5**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-140 (0-0.5')
Sample Date 08/10/2018 17:44
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.023	1.0	0.0230
Benzo(a)anthracene	0.014	0.1	0.0014
Benzo(b)fluoranthene	0.039	0.1	0.0039
Benzo(k)fluoranthene	0.014	0.01	0.0001
Chrysene	0.024	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0044
Indeno(1,2,3-cd)pyrene	0.016	0.1	0.0016

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-141 (0-0.5')
Sample Date 08/10/2018 17:43
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.060	1.0	0.0600
Benzo(a)anthracene	0.046	0.1	0.0046
Benzo(b)fluoranthene	0.110	0.1	0.0110
Benzo(k)fluoranthene	0.043	0.01	0.0004
Chrysene	0.068	0.001	0.0001
Dibenz(a,h)anthracene	0.012	1.0	0.0120
Indeno(1,2,3-cd)pyrene	0.035	0.1	0.0035

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.1**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SB-142 (0-0.5')
Sample Date 08/10/2018 17:36
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.005	1.0	0.0046
Benzo(a)anthracene	0.005	0.1	0.0005
Benzo(b)fluoranthene	0.010	0.1	0.0010
Benzo(k)fluoranthene	0.005	0.01	0.0000
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0042
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-143 (0-0.5)
Sample Date 08/13/2018 07:30
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.040	1.0	0.0400
Benzo(a)anthracene	0.029	0.1	0.0029
Benzo(b)fluoranthene	0.054	0.1	0.0054
Benzo(k)fluoranthene	0.024	0.01	0.0002
Chrysene	0.045	0.001	0.0000
Dibenz(a,h)anthracene	0.005	1.0	0.0046
Indeno(1,2,3-cd)pyrene	0.027	0.1	0.0027

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.06**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-144 (0-0.5)
Sample Date 08/13/2018 07:40
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.005	1.0	0.0046
Benzo(a)anthracene	0.005	0.1	0.0005
Benzo(b)fluoranthene	0.005	0.1	0.0005
Benzo(k)fluoranthene	0.005	0.01	0.0000
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0042
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-145 (0-0.5)
Sample Date 08/13/2018 07:45
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.030	1.0	0.0300
Benzo(a)anthracene	0.022	0.1	0.0022
Benzo(b)fluoranthene	0.043	0.1	0.0043
Benzo(k)fluoranthene	0.019	0.01	0.0002
Chrysene	0.032	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0044
Indeno(1,2,3-cd)pyrene	0.020	0.1	0.0020

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-146 (0-0.5)
Sample Date 08/13/2018 07:53
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.024	1.0	0.0240
Benzo(a)anthracene	0.019	0.1	0.0019
Benzo(b)fluoranthene	0.035	0.1	0.0035
Benzo(k)fluoranthene	0.016	0.01	0.0002
Chrysene	0.027	0.001	0.0000
Dibenz(a,h)anthracene	0.005	1.0	0.0047
Indeno(1,2,3-cd)pyrene	0.014	0.1	0.0014

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-147 (0-0.5)
Sample Date 08/13/2018 08:00
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.230	1.0	0.2300
Benzo(a)anthracene	0.200	0.1	0.0200
Benzo(b)fluoranthene	0.340	0.1	0.0340
Benzo(k)fluoranthene	0.150	0.01	0.0015
Chrysene	0.230	0.001	0.0002
Dibenz(a,h)anthracene	0.039	1.0	0.0390
Indeno(1,2,3-cd)pyrene	0.130	0.1	0.0130

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.3**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-148 (0-0.5)
Sample Date 08/13/2018 08:30
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.039	1.0	0.0390
Benzo(a)anthracene	0.016	0.1	0.0016
Benzo(b)fluoranthene	0.075	0.1	0.0075
Benzo(k)fluoranthene	0.015	0.01	0.0001
Chrysene	0.040	0.001	0.0000
Dibenz(a,h)anthracene	0.013	1.0	0.0125
Indeno(1,2,3-cd)pyrene	0.035	0.1	0.0035

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.1**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-149 (0-0.5)
Sample Date 08/13/2018 08:35
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.300	1.0	0.3000
Benzo(a)anthracene	0.260	0.1	0.0260
Benzo(b)fluoranthene	0.590	0.1	0.0590
Benzo(k)fluoranthene	0.230	0.01	0.0023
Chrysene	0.350	0.001	0.0004
Dibenz(a,h)anthracene	0.059	1.0	0.0590
Indeno(1,2,3-cd)pyrene	0.210	0.1	0.0210

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.5**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-149A(0-0.5)
Sample Date 08/15/2018 13:41
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.120	1.0	0.1200
Benzo(a)anthracene	0.110	0.1	0.0110
Benzo(b)fluoranthene	0.240	0.1	0.0240
Benzo(k)fluoranthene	0.098	0.01	0.0010
Chrysene	0.150	0.001	0.0002
Dibenz(a,h)anthracene	0.019	1.0	0.0190
Indeno(1,2,3-cd)pyrene	0.057	0.1	0.0057

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.2**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-149B(0-0.5)
Sample Date 08/15/2018 13:48
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.110	1.0	0.1100
Benzo(a)anthracene	0.097	0.1	0.0097
Benzo(b)fluoranthene	0.210	0.1	0.0210
Benzo(k)fluoranthene	0.077	0.01	0.0008
Chrysene	0.110	0.001	0.0001
Dibenz(a,h)anthracene	0.018	1.0	0.0180
Indeno(1,2,3-cd)pyrene	0.050	0.1	0.0050

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.2

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-151 (0-0.5)
Sample Date 09/18/2018 09:00
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.010	1.0	0.0100
Benzo(a)anthracene	0.011	0.1	0.0011
Benzo(b)fluoranthene	0.016	0.1	0.0016
Benzo(k)fluoranthene	0.005	0.01	0.0001
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0045
Indeno(1,2,3-cd)pyrene	0.009	0.1	0.0009

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-152 (0.5-2)
Sample Date 09/18/2018 09:15
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.005	1.0	0.0047
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.005	0.1	0.0005
Benzo(k)fluoranthene	0.005	0.01	0.0001
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0043
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-153 (0-0.5)
Sample Date 09/18/2018 09:30
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.024	1.0	0.0240
Benzo(a)anthracene	0.020	0.1	0.0020
Benzo(b)fluoranthene	0.047	0.1	0.0047
Benzo(k)fluoranthene	0.015	0.01	0.0002
Chrysene	0.026	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0042
Indeno(1,2,3-cd)pyrene	0.012	0.1	0.0012

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-154 (0-0.5)
Sample Date 09/18/2018 09:40
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.350	1.0	0.3500
Benzo(a)anthracene	0.270	0.1	0.0270
Benzo(b)fluoranthene	0.620	0.1	0.0620
Benzo(k)fluoranthene	0.210	0.01	0.0021
Chrysene	0.290	0.001	0.0003
Dibenz(a,h)anthracene	0.050	1.0	0.0500
Indeno(1,2,3-cd)pyrene	0.180	0.1	0.0180

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.5

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-155 (0-0.5)
Sample Date 09/18/2018 09:50
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.260	1.0	0.2600
Benzo(a)anthracene	0.180	0.1	0.0180
Benzo(b)fluoranthene	0.460	0.1	0.0460
Benzo(k)fluoranthene	0.160	0.01	0.0016
Chrysene	0.190	0.001	0.0002
Dibenz(a,h)anthracene	0.032	1.0	0.0320
Indeno(1,2,3-cd)pyrene	0.120	0.1	0.0120

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.4

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-156 (0-0.5)
Sample Date 09/18/2018 09:55
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.029	1.0	0.0290
Benzo(a)anthracene	0.022	0.1	0.0022
Benzo(b)fluoranthene	0.057	0.1	0.0057
Benzo(k)fluoranthene	0.010	0.01	0.0001
Chrysene	0.040	0.001	0.0000
Dibenz(a,h)anthracene	0.009	1.0	0.0085
Indeno(1,2,3-cd)pyrene	0.008	0.1	0.0008

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-157 (0-0.5)
Sample Date 09/18/2018 10:03
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.063	1.0	0.0630
Benzo(a)anthracene	0.048	0.1	0.0048
Benzo(b)fluoranthene	0.130	0.1	0.0130
Benzo(k)fluoranthene	0.041	0.01	0.0004
Chrysene	0.060	0.001	0.0001
Dibenz(a,h)anthracene	0.009	1.0	0.0085
Indeno(1,2,3-cd)pyrene	0.027	0.1	0.0027

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.1

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-163 (0-0.5)
Sample Date 09/18/2018 11:15
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	2.400	1.0	2.4000
Benzo(a)anthracene	1.900	0.1	0.1900
Benzo(b)fluoranthene	3.700	0.1	0.3700
Benzo(k)fluoranthene	1.400	0.01	0.0140
Chrysene	2.500	0.001	0.0025
Dibenz(a,h)anthracene	0.440	1.0	0.4400
Indeno(1,2,3-cd)pyrene	1.600	0.1	0.1600

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 3.6

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-163 (0.5-1)
Sample Date 09/18/2018 11:20
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	4.200	1.0	4.2000
Benzo(a)anthracene	3.400	0.1	0.3400
Benzo(b)fluoranthene	6.600	0.1	0.6600
Benzo(k)fluoranthene	2.400	0.01	0.0240
Chrysene	4.400	0.001	0.0044
Dibenz(a,h)anthracene	0.680	1.0	0.6800
Indeno(1,2,3-cd)pyrene	2.600	0.1	0.2600

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 6.2

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-164 (0-0.5)
Sample Date 09/18/2018 12:00
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.004	1.0	0.0044
Benzo(a)anthracene	0.005	0.1	0.0005
Benzo(b)fluoranthene	0.005	0.1	0.0005
Benzo(k)fluoranthene	0.005	0.01	0.0000
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0041
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-164 (0.5-1)
Sample Date 09/18/2018 12:05
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.009	1.0	0.0085
Benzo(a)anthracene	0.010	0.1	0.0010
Benzo(b)fluoranthene	0.010	0.1	0.0010
Benzo(k)fluoranthene	0.010	0.01	0.0001
Chrysene	0.011	0.001	0.0000
Dibenz(a,h)anthracene	0.008	1.0	0.0080
Indeno(1,2,3-cd)pyrene	0.008	0.1	0.0008

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-165 (0-0.5)
Sample Date 09/18/2018 12:40
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.210	1.0	0.2100
Benzo(a)anthracene	0.230	0.1	0.0230
Benzo(b)fluoranthene	0.330	0.1	0.0330
Benzo(k)fluoranthene	0.130	0.01	0.0013
Chrysene	0.260	0.001	0.0003
Dibenz(a,h)anthracene	0.033	1.0	0.0330
Indeno(1,2,3-cd)pyrene	0.110	0.1	0.0110

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.3

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-165 (0.5-1)
Sample Date 09/18/2018 12:45
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.040	1.0	0.0400
Benzo(a)anthracene	0.047	0.1	0.0047
Benzo(b)fluoranthene	0.057	0.1	0.0057
Benzo(k)fluoranthene	0.025	0.01	0.0003
Chrysene	0.049	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0041
Indeno(1,2,3-cd)pyrene	0.021	0.1	0.0021

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.1**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-166 (0-0.5)
Sample Date 09/18/2018 12:52
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.610	1.0	0.6100
Benzo(a)anthracene	0.580	0.1	0.0580
Benzo(b)fluoranthene	1.000	0.1	0.1000
Benzo(k)fluoranthene	0.370	0.01	0.0037
Chrysene	0.710	0.001	0.0007
Dibenz(a,h)anthracene	0.100	1.0	0.1000
Indeno(1,2,3-cd)pyrene	0.340	0.1	0.0340

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.9

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-167 (0-0.5)
Sample Date 09/18/2018 13:20
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.011	1.0	0.0110
Benzo(a)anthracene	0.006	0.1	0.0006
Benzo(b)fluoranthene	0.020	0.1	0.0020
Benzo(k)fluoranthene	0.005	0.01	0.0001
Chrysene	0.012	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0044
Indeno(1,2,3-cd)pyrene	0.010	0.1	0.0010

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. CS-7 (0-0.5)
Sample Date 09/18/2018 17:00
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.250	1.0	0.2500
Benzo(a)anthracene	0.220	0.1	0.0220
Benzo(b)fluoranthene	0.430	0.1	0.0430
Benzo(k)fluoranthene	0.150	0.01	0.0015
Chrysene	0.240	0.001	0.0002
Dibenz(a,h)anthracene	0.032	1.0	0.0320
Indeno(1,2,3-cd)pyrene	0.130	0.1	0.0130

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.4

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. CS-7 (0.5-2)
Sample Date 09/18/2018 17:00
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.031	1.0	0.0310
Benzo(a)anthracene	0.030	0.1	0.0030
Benzo(b)fluoranthene	0.050	0.1	0.0050
Benzo(k)fluoranthene	0.021	0.01	0.0002
Chrysene	0.041	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0043
Indeno(1,2,3-cd)pyrene	0.018	0.1	0.0018

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217186.02 Task 2/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. CS-6 (0-0.5)
Sample Date 09/18/2018 17:00
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.055	1.0	0.0550
Benzo(a)anthracene	0.046	0.1	0.0046
Benzo(b)fluoranthene	0.100	0.1	0.0100
Benzo(k)fluoranthene	0.039	0.01	0.0004
Chrysene	0.059	0.001	0.0001
Dibenz(a,h)anthracene	0.009	1.0	0.0085
Indeno(1,2,3-cd)pyrene	0.036	0.1	0.0036

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.1

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217185.02 Task 3/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA 168 (0-0.5)
Sample Date 09/18/2018 15:25
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.081	1.0	0.0810
Benzo(a)anthracene	0.070	0.1	0.0070
Benzo(b)fluoranthene	0.120	0.1	0.0120
Benzo(k)fluoranthene	0.046	0.01	0.0005
Chrysene	0.086	0.001	0.0001
Dibenz(a,h)anthracene	0.018	1.0	0.0180
Indeno(1,2,3-cd)pyrene	0.056	0.1	0.0056

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.1

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217185.02 Task 3/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA 169 (0-0.5)
Sample Date 09/18/2018 15:35
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.370	1.0	0.3700
Benzo(a)anthracene	0.260	0.1	0.0260
Benzo(b)fluoranthene	0.550	0.1	0.0550
Benzo(k)fluoranthene	0.220	0.01	0.0022
Chrysene	0.380	0.001	0.0004
Dibenz(a,h)anthracene	0.080	1.0	0.0800
Indeno(1,2,3-cd)pyrene	0.310	0.1	0.0310

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.6**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217185.02 Task 3/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA 20B (0-0.5)
Sample Date 09/18/2018 14:50
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.130	1.0	0.1300
Benzo(a)anthracene	0.098	0.1	0.0098
Benzo(b)fluoranthene	0.240	0.1	0.0240
Benzo(k)fluoranthene	0.084	0.01	0.0008
Chrysene	0.150	0.001	0.0002
Dibenz(a,h)anthracene	0.027	1.0	0.0270
Indeno(1,2,3-cd)pyrene	0.090	0.1	0.0090

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.2**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217185.02 Task 3/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA 20B (0.5-1)
Sample Date 09/18/2018 14:52
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.160	1.0	0.1600
Benzo(a)anthracene	0.150	0.1	0.0150
Benzo(b)fluoranthene	0.280	0.1	0.0280
Benzo(k)fluoranthene	0.100	0.01	0.0010
Chrysene	0.180	0.001	0.0002
Dibenz(a,h)anthracene	0.037	1.0	0.0370
Indeno(1,2,3-cd)pyrene	0.120	0.1	0.0120

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.3

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217185.02 Task 3/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA 20A (0-0.5)
Sample Date 09/18/2018 14:55
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.190	1.0	0.1900
Benzo(a)anthracene	0.140	0.1	0.0140
Benzo(b)fluoranthene	0.350	0.1	0.0350
Benzo(k)fluoranthene	0.120	0.01	0.0012
Chrysene	0.190	0.001	0.0002
Dibenz(a,h)anthracene	0.032	1.0	0.0320
Indeno(1,2,3-cd)pyrene	0.110	0.1	0.0110

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.3**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217185.02 Task 3/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA 20A (0.5-1)
Sample Date 09/18/2018 15:00
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.140	1.0	0.1400
Benzo(a)anthracene	0.110	0.1	0.0110
Benzo(b)fluoranthene	0.260	0.1	0.0260
Benzo(k)fluoranthene	0.100	0.01	0.0010
Chrysene	0.150	0.001	0.0002
Dibenz(a,h)anthracene	0.023	1.0	0.0230
Indeno(1,2,3-cd)pyrene	0.075	0.1	0.0075

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.2**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217185.02 Task 3/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA 139B (0-0.5)
Sample Date 09/18/2018 14:05
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.070	1.0	0.0700
Benzo(a)anthracene	0.057	0.1	0.0057
Benzo(b)fluoranthene	0.120	0.1	0.0120
Benzo(k)fluoranthene	0.044	0.01	0.0004
Chrysene	0.081	0.001	0.0001
Dibenz(a,h)anthracene	0.009	1.0	0.0090
Indeno(1,2,3-cd)pyrene	0.046	0.1	0.0046

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.1

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217185.02 Task 3/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA 139A (0-0.5)
Sample Date 09/18/2018 14:10
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.049	1.0	0.0490
Benzo(a)anthracene	0.037	0.1	0.0037
Benzo(b)fluoranthene	0.095	0.1	0.0095
Benzo(k)fluoranthene	0.033	0.01	0.0003
Chrysene	0.050	0.001	0.0001
Dibenz(a,h)anthracene	0.004	1.0	0.0045
Indeno(1,2,3-cd)pyrene	0.022	0.1	0.0022

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.1

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: 09217185.02 Task 3/Ludlam
Location:
Facility/Site ID No.:

Soil Sample No. SBA-170 (0-0.5)
Sample Date 09/18/2018 15:45
Location:
Depth (ft):

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.012	1.0	0.0120
Benzo(a)anthracene	0.010	0.1	0.0010
Benzo(b)fluoranthene	0.021	0.1	0.0021
Benzo(k)fluoranthene	0.005	0.01	0.0000
Chrysene	0.018	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0040
Indeno(1,2,3-cd)pyrene	0.010	0.1	0.0010

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

Attachment F

Statistical Summary

Summary of Residential Data Used in Population Comparison

Sampling Unit	Sample Location	BaPE (mg/kg)
DU1	SBA-69 (0-0.5')	0.01
	SBA-70 (0-0.5')	0.01
	SBA-71 (0-0.5')	0.01
	SBA-72 (0-0.5')	0.02
	SBA-73 (0-0.5')	0.01
	SBA-74 (0-0.5')	0.00
	SBA-75 (0-0.5')	0.01
	SBA-76 (0-0.5')	0.02
	SBA-77 (0-0.5')	0.03
	SBA-78 (0-0.5')	0.01
DU4	SBA-79 (0-0.5')	0.00
	SBA-80 (0-0.5')	0.07
	SBA-81 (0-0.5')	0.01
	SBA-82 (0-0.5')	0.00
	SBA-83 (0-0.5')	0.01
	SBA-84 (0-0.5')	0.03
	SBA-85 (0-0.5')	0.01
	SBA-86 (0-0.5')	0.05
	SBA-87 (0-0.5')	0.02
	SBA-88 (0-0.5')	0.03
DU6	SBA-89 (0-0.5')	0.02
	SBA-90 (0-0.5')	0.01
	SBA-91 (0-0.5')	0.01
	SBA-92 (0-0.5')	0.01
	SBA-93 (0-0.5')	0.00
	SBA-94 (0-0.5')	0.00
	SBA-95 (0-0.5')	0.01
	SBA-96 (0-0.5')	0.01
	SBA-97 (0-0.5')	0.03
	SBA-98 (0-0.5')	0.01
DU7	SBA-1 (0-0.5')	0.01
DU10	SBA-99 (0-0.5')	0.10
	SBA-100 (0-0.5')	0.10
DU11	SBA-6 (0-0.5')	0.11
	SBA-168 (0-0.5)	0.12
	SBA-169 (0-0.5)	0.56

Summary of Residential Data Used in Population Comparison

Sampling Unit	Sample Location	BaPE (mg/kg)
DU13	SBA-101 (0-0.5')	0.03
	SBA-102 (0-0.5')	0.00
	SBA-103 (0-0.5')	0.01
	SBA-104 (0-0.5')	0.01
	SBA-105 (0-0.5')	0.01
	SBA-106 (0-0.5')	0.01
	SBA-107 (0-0.5')	0.01
	SBA-108 (0-0.5')	0.01
	SBA-109 (0-0.5')	0.03
DU14	SBA-7 (0-0.5')	0.01
	SBA-8 (0-0.5')	0.01
	SBA-9 (0-0.5')	0.05
	SBA-10 (0-0.5')	0.08
	SBA-11 (0-0.5')	0.06
DU15A	SBA-151 (0-0.5)	0.02
DU17	SBA-61 (0-0.5')	0.85
	SBA-62 (0-0.5')	0.22
DU19A	SBA-111 (0-0.5')	0.04
	SBA-112 (0-0.5')	0.02
	SBA-113 (0-0.5')	0.02
	SBA-148 (0-0.5)	0.06
	SBA-149 (0-0.5)	0.47
	SBA-149A (0-0.5')	0.20
	SBA-149B (0-0.5')	0.20
DU20	SBA-167 (0-0.5)	0.02
DU21	SBA-114 (0-0.5')	0.02
	SBA-115 (0-0.5')	0.01
	SBA-116 (0-0.5')	0.01
	SBA-117 (0-0.5')	0.01
	SBA-118 (0-0.5')	0.02
	SBA-119 (0-0.5')	0.02
	SBA-120 (0-0.5')	0.02
	SBA-121 (0-0.5')	0.02
	SBA-122 (0-0.5')	0.01
	SBA-123 (0-0.5')	0.02
	SBA-124 (0-0.5')	0.10
DU22	SBA-44 (0-0.5')	0.11
	SBA-45 (0-0.5')	0.51
	SBA-46 (0-0.5')	0.03
	SBA-47 (0-0.5')	0.02
	SBA-48 (0-0.5')	0.02

Summary of Residential Data Used in Population Comparison

Sampling Unit	Sample Location	BaPE (mg/kg)
DU23	SB-125 (0-0.5')	0.05
	SB-126 (0-0.5')	0.15
	SB-127 (0-0.5')	0.04
	SB-128 (0-0.5')	0.03
	SB-129 (0-0.5')	0.03
	SB-130 (0-0.5')	0.01
	SB-131 (0-0.5')	0.16
	SB-132 (0-0.5')	0.01
DU25	SB-133 (0-0.5')	0.04
	SB-134 (0-0.5')	0.04
	SB-135 (0-0.5')	0.01
	SB-136 (0-0.5')	0.21
	SB-137 (0-0.5')	0.12
	SB-138 (0-0.5')	0.05
	SB-139 (0-0.5')	0.49
	SBA-139A (0-0.5')	0.07
	SBA-139B (0-0.5')	0.10
	SB-140 (0-0.5')	0.03
	SB-141 (0-0.5')	0.09
	SB-142 (0-0.5')	0.01
DU27	SBA-110 (0-0.5')	0.02
	SBA-143 (0-0.5')	0.06
	SBA-144 (0-0.5')	0.01
	SBA-145 (0-0.5')	0.04
	SBA-146 (0-0.5')	0.04
	SBA-147 (0-0.5')	0.34
DU30	SBA-64 (0-0.5')	0.05
	SBA-164 (0-0.5')	0.01

Notes:

-mg/kg = milligram/kilogram

- Only discrete samples were used in population comparison

- BaPE = Total benzo(a)pyrene equivalents

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.110/9/2018 9:12:08 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Ludlam Residential 0-0.5

Sample 2 Data: Background 0-0.5'

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	105	143
Number of Distinct Observations	24	40
Minimum	0	0
Maximum	0.85	1.38
Mean	0.0684	0.13
Median	0.02	0.05
SD	0.131	0.212
SE of Mean	0.0127	0.0178

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	10842
Standardized WMW U-Stat	-4.034
Mean (U)	7508
SD(U) - Adj ties	553.1
Approximate U-Stat Critical Value (0.05)	1.645
P-Value (Adjusted for Ties)	1

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

P-Value >= alpha (0.05)

Summary of Commercial/Industrial Data Used in Population Comparison

Sampling Unit	Sample Location	BaPE (mg/kg)
CS1	SBA-170 (0-0.5')	0.00
DU15B	SBA-153 (0-0.5)	0.04
	SBA-154 (0-0.5)	0.51
	SBA-155 (0-0.5)	0.37
	SBA-156 (0-0.5)	0.05
	SBA-157 (0-0.5)	0.09
DU16	SBA-33 (0-0.5')	0.08
DU28	SBA-20 (0-0.5')	0.65
	SBA 20A (0-0.5)	0.28
	SBA 20B (0-0.5)	0.20
	SBA-21 (0-0.5')	0.00
	SBA-22 (0-0.5')	0.00
	SBA-27 (0-0.5')	0.01
DU29	SBA-165 (0-0.5)	0.31
DU30	SBA-166 (0-0.5)	0.91
	SBA-32 (0-0.5')	0.00

Notes:

-mg/kg = milligram/kilogram

- Only discrete samples were used in population comparison

- BaPE = Total benzo(a)pyrene equivalents

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.110/18/2018 5:52:32 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Commercial Industrial PAHs_0-0.5

Sample 2 Data: Background PAHs_0-0.5

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	16	143
Number of Distinct Observations	13	40
Minimum	0	0
Maximum	0.91	1.38
Mean	0.219	0.13
Median	0.085	0.05
SD	0.273	0.212
SE of Mean	0.0682	0.0178

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	1377
Standardized WMW U-Stat	0.555
Mean (U)	1144
SD(U) - Adj ties	174
Approximate U-Stat Critical Value (0.05)	1.645
P-Value (Adjusted for Ties)	0.29

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

P-Value >= alpha (0.05)

September 9, 2019
File No. 09217186.02

Mr. Wilbur Mayorga, P.E., Chief
Department of Regulatory and Economic Resources
Division of Environmental Resources Management
701 NW 1st Court, 4th Floor
Miami, Florida 33136-3912

Subject: Response to DERM's March 4, 2019 Correspondence
Ludlam Corridor Properties 'All Green Trail'
Former 1-Mile and 5-Mile Railroad Corridors
Between NW 7th and SW 80th Streets
Miami, Florida
DERM HWR-836

Dear Mr. Mayorga:

On behalf of LR 13-18, LLC and FECI LT I, LLC (Previous Owner), SCS Engineers (SCS) is pleased to submit this response to the March 4, 2019 Department of Environmental Resources Management (DERM) review letter for the above-referenced site. The relevant DERM correspondences are included as **Attachment A**.

In the March 4, 2019 DERM letter, it is stated that "none of the observations provided in the report account for the difference in the results" (i.e., the CS-8 and SBA-163 sample results), and, as a result, additional discrete testing is required to further evaluate the CS-8 sampling unit. However, in lieu of additional analytical testing, SCS offers the following additional documentation, which lends support to the adjacent off-site parking lot being the source of the elevated Polynuclear Aromatic Hydrocarbons (PAHs) and further accounts for the differences in the CS-8 and SBA-163 results.

On May 29, 2019, SCS revisited the Site and advanced three soil borings for visual observation in the vicinity of SBA-163, which is located within 1 foot of the property boundary. The three borings were advanced to approximately 8-inches to 1 ft. below ground surface (bgs), where refusal was encountered, similar to SBA-163. SCS observed asphalt pieces and burnt wood at various depths from ground surface to approximately 10 inches bgs (see **Attachment B** for photographic logs). As PAH concentrations are quite sensitive to the presence of even very small (barely visible) asphalt fragments, it is possible that a larger fragment was included in the 0.5-1 ft. interval, accounting for the higher concentration reported at that interval. The presence of burnt wood within this interval could also contribute to the elevated PAH results; although, as discussed below, the results appear to be more closely related to asphalt.

As presented in our previous submittals, the topography of the CS-8 segment, which consists of a swale between the property boundary and center rail track (between Station [STA] 100+00 and STA 105+00, as shown in **Attachment C**), provides support that the SBA-163 area received runoff from the off-site asphalt parking lot. This apparent runoff pattern is further supported in that the CS-8 sample results, which were collected 5 ft. from the property boundary, are lower than the SBA-163 results, which are within 1 ft. of the boundary, demonstrating an increasing concentration gradient toward the boundary.

To lend further to support to the adjacent parking lot being the primary source of the PAH impacts, SCS evaluated the ratios of fluoranthene to pyrene and benzo(a)anthracene to chrysene to serve as indicators of potential PAHs sources[1]. The ratios of the on-site data suggest that the PAH sources for SBA-163 differ from CS-8. SCS calculated the ratios based on available data[2], the results are depicted on the chart in **Attachment D**. The data points in blue include the samples collected adjacent to asphalt parking lots, including SBA-163, SBA-16, SBA-20B, SBA-78, SBA-168, SBA-101, SBA-62, and SBA-49; while, the orange points include data from the remainder of the trail. The locations of CS-8 and SBA-163 are pointed out on the chart. SBA-163 falls within the asphalt grouping; whereas, CS-8 falls into the group with the remainder of the data, which may have multiple PAH-related sources. Although additional data are necessary to identify the specific sources for each group, the data distribution suggests that the source(s) for the two groups likely differ.

In summary, SCS offers the following documentation to account for the differences in concentrations between CS-8 and SBA-163 and to further support that the adjacent offsite parking lot is the primary source of PAHs in the CS-8/SBA-163 sampling unit (though likely not the only source for CS-8):

- Visual evidence of PAH-containing solid waste at various intervals from ground surface to at least 10 inches bgs,
- Topography, which indicates that the adjacent parking lot drains stormwater towards the site,
- Concentration gradient, which increases towards the property boundary, and
- PAH ratios, which indicate that the CS-8 and SBA-163 source(s) differ and that asphalt is the likely source for SBA-163.

Given that the remainder of CS-8 abuts the same parking lot, it is reasonable to assume that results similar to SBA-163 would be found throughout the majority of the CS-8 segment, with the magnitude of concentrations likely varying widely depending upon the inadvertent presence of asphalt fragments in the samples and distance of the sampling location from the property boundary.

Based on the above, SCS respectfully requests DERM's concurrence that offsite parking lot is the source of the elevated PAHs and, therefore, no additional testing is warranted.

---

[1] *Examination of the Sources of Polycyclic Aromatic Hydrocarbon (PAH) in Urban Background Soil,* Electric Power Research Institute, Interim Report, December 2008.

[2] Only the detected results were used for calculations. In addition, SCS requested the laboratory to include additional PAH compound for calculations for CS-8 samples. Revised laboratory report is included in Attachment D.

Please do not hesitate to contact us with questions or comments.

Sincerely,

Yudex A. Hasbun, P.E.
Senior Project Manager
SCS Engineers

Lisa Smith
Senior Technical Advisor
SCS Engineers

cc: Lorna Bucknor, Caroline Wright, Becky Varley – DERM
Jose Gonzalez, Kolleen Cobb – LR 13 – 18 LLC and FECI LT 1 LLC
Howard Nelson – Bilzin Sumberg
Eddy Smith, Robert Speed – SCS Engineers

Enclosures:
Attachment A – Correspondence
Attachment B – Photographic Logs
Attachment C – Site Plan and Cross Sections
Attachment D - PAH Rations and Revised Analytical Reports

Attachment A

DERM Correspondences

MIAMI-DADE COUNTY
Carlos A. Gimenez, Mayor

Department of Regulatory and Economic Resources
Environmental Resources Management
701 NW 1st Court, 4th Floor
Miami, Florida 33136-3912
T 305-372-6700 F 305-372-6982
miamidade.gov

March 4, 2019

Kolleen Cobb
LR 13-18 LLC and FECI LT 1 LLC
117 NE 1st Ave, 11th Floor
Miami, FL 33132

CERTIFIED MAIL NO. 7017 0530 0000 6627 9063
RETURN RECEIPT REQUESTED

RE: Response to DERM's December 10, 2018 Correspondence Ludlam Corridor Properties 'All Green Trail' Former 1-Mile and 5-Mile Railroad Corridors ("the Site"), located in portions between NW 7 Street and SW 80 Street and between 69 Avenue and 70 Avenue, (folio numbers: 30-3052-000-0020, 30-4002-000-0111, 30-4011-018-0040, 30-4011-018-0080, 30-4011-000-0050, 30-4011-019-0690, 30-4014-000-0070, 30-4023-000-0500, 30-4026-000-0190, 30-4035-000-0210, 3040-110-19-1100, 30-403-5000-1330, 30-4035-000-1440, and 30-4035-000-1280), Miami-Dade County, Florida (HWR-836).

Dear Ms. Cobb:

The Department of Regulatory and Economic Resources – Division of Environmental Resources Management (DERM) has reviewed the above referenced document received and dated January 11, 2019 and offers the following comment:

The analytical results for benzo (a) pyrene equivalents at SBA-163 indicate that the deeper sample (6"-24") is higher than the shallow sample (0-6"). Since the parking lot was re-paved adjacent to the sample locations, the results for the shallow sample would be expected to be higher as were the results for CS-8. Also, both sampling events for CS-8 and SBA-163 were conducted after the re-paving within 4-5' of each other. As a result, none of the observations provided in the report account for the difference in the results.

Be advised, the requested discrete sampling in the letter dated December 10, 2018 shall be performed.

Based on the above, and pursuant to Section 24-44 of the Code of Miami-Dade County (the Code) you are hereby ordered to submit to this office for review, within thirty (30) days of receipt of this letter, two copies of a Site Assessment Report Addendum (SARA) addressing the above comments. In accordance with Section 24-44(2)(j)(iv) of the Code, submit a paper copy and an electronic copy (on CD) of the required report along with the associated review fee of $675 plus the 7.5% RER Surcharge of $50.63.

Be advised that the vertical and horizontal extent of the contaminant plume(s) shall be fully delineated. DERM has the option to split any samples deemed necessary with the consultant or laboratory at the subject site. The consultant collecting the samples shall perform field sampling work in accordance with the Standard Operating Procedures provided in Chapter 62-160, Florida Administrative Code (FAC), as amended. The laboratory analyzing the samples shall perform laboratory analyses pursuant

to the National Environmental Laboratory Accreditation Program (NELAP) certification requirements. If the data submitted exhibits a substantial variance from DERM split sample analysis, a complete resampling using two independent certified laboratories will be required.

DERM shall be notified in writing a minimum of three (3) working days prior to the implementation of any sampling or field activities. Email notifications shall be directed to DERMPCD@miamidade.gov. Please include the DERM file number on all correspondence.

Failure to adhere to the items and timeframes stipulated above may result in enforcement action for this site.

Any person aggrieved by any action or decision of the DERM Director may appeal said action or decision to the Environmental Quality Control Board (EQCB) by filing a written notice of appeal along with submittal of the applicable fee, to the Code Coordination and Public Hearings Section of DERM within fifteen (15) days of the date of the action or decision by DERM.

If you have any questions concerning the above, please contact me at Wilbur.Mayorga@miamidade.gov or (305) 372-6700.

Sincerely,

Wilbur Mayorga, P.E., Chief
Environmental Monitoring & Restoration Division

RSV

ec: Lee N. Hefty, RER Assistant Director, Division of Environmental Resources Management
Maria I. Nardi, Director, Parks, Recreation and Open Spaces
Matilda Reyes, Assistant Director, Parks, Recreation and Open Spaces
Jose M. Gonzalez, FEC Industries, jose.gonzalez@feci.com
Fangmei Zhang, P.E., PhD, SCS Engineers, fzhang@scsengineers.com
Lisa Smith, SCS Engineers, lsmith@scsengineers.com
Howard Nelson, Bilzin Sumberg, hnelson@bilzin.com
HWR-836

MIAMI-DADE COUNTY
Carlos A. Gimenez, Mayor

Department of Regulatory and Economic Resources
Environmental Resources Management
701 NW 1st Court, 4th Floor
Miami, Florida 33136-3912
T 305-372-6700 F 305-372-6982

miamidade.gov

December 10, 2018

Kolleen Cobb
LR 13-18 LLC and FECI LT 1 LLC
117 NE 1st Ave, 11th Floor
Miami, FL 33132

CERTIFIED MAIL NO. 7018 1830 0001 0909 6391
RETURN RECEIPT REQUESTED

RE: Site Assessment Report Addendum (SARA) – Boundary Soil Sampling Report Addendum submittal dated October 23, 2018 for the Ludlam Corridor Properties 'All Green Trail' Former 1-Mile and 5-Mile Railroad Corridors ("the Site"), located in portions between NW 7 Street and SW 80 Street and between 69 Avenue and 70 Avenue, (folio numbers: 30-3052-000-0020, 30-4002-000-0111, 30-4011-018-0040, 30-4011-018-0080, 30-4011-000-0050, 30-4011-019-0690, 30-4014-000-0070, 30-4023-000-0500, 30-4026-000-0190, 30-4035-000-0210, 3040-110-19-1100, 30-403-5000-1330, 30-4035-000-1440, and 30-4035-000-1280), Miami-Dade County, Florida (HWR-836).

Dear Ms. Cobb:

The Department of Regulatory and Economic Resources-Division of Environmental Resources Management (DERM) has reviewed the above referenced document received October 24, 2018 and offers the following comment:

> Due to the significant difference in benzo(a)pyrene equivalents (BaPE) concentration between the discrete confirmation sample SBA-163 at CS-8 (3.6 mg/kg at the 0-6" interval and 6.2 mg/kg at 6-24" interval) compared to the original boundary samples CS-8 (1.7 from the 0-6" interval and 0.8 mg/kg at the 6-24"), additional discrete samples shall be collected from each subsample locations in CS-8. Soil samples shall be collected from the 0-6" and 6-24" interval and analyzed for polycyclic aromatic hydrocarbons (PAHs).

Based on the above, and pursuant to Section 24-44 of the Code of Miami Dade County (the Code) you are hereby ordered to submit to this office for review, within thirty (30) days of receipt of this letter, two copies of a Site Assessment Report Addendum (SARA) addressing the above comments. In accordance with Section 24-44(2)(j)(iv) of the Code, submit a paper copy and an electronic copy (on CD) of the required report along with the associated review fee of $3628.14 ($675 review fee plus the 7.5% RER surcharge of $50.63 along with the past due fee of $2902.51).

Be advised that the vertical and horizontal extent of the contaminant plume(s) shall be fully delineated. DERM has the option to split any samples deemed necessary with the consultant or laboratory at the subject site. The consultant collecting the samples shall perform field sampling work in accordance with the Standard Operating Procedures provided in Chapter 62-160, Florida Administrative Code (FAC), as amended. The laboratory analyzing the samples shall perform laboratory analyses pursuant to the National Environmental Laboratory Accreditation Program (NELAP) certification requirements. If

the data submitted exhibits a substantial variance from DERM split sample analysis, a complete resampling using two independent certified laboratories will be required.

DERM shall be notified in writing a minimum of three (3) working days prior to the implementation of any sampling or field activities. Email notifications shall be directed to DERMPCD@miamidade.gov. Please include the DERM file number on all correspondence.

Failure to adhere to the items and timeframes stipulated above may result in enforcement action for this site.

Any person aggrieved by any action or decision of the DERM Director may appeal said action or decision to the Environmental Quality Control Board (EQCB) by filing a written notice of appeal along with submittal of the applicable fee, to the Code Coordination and Public Hearings Section of DERM within fifteen (15) days of the date of the action or decision by DERM.

If you have any questions concerning the above, please contact me at Wilbur.Mayorga@miamidade.gov or (305) 372-6700.

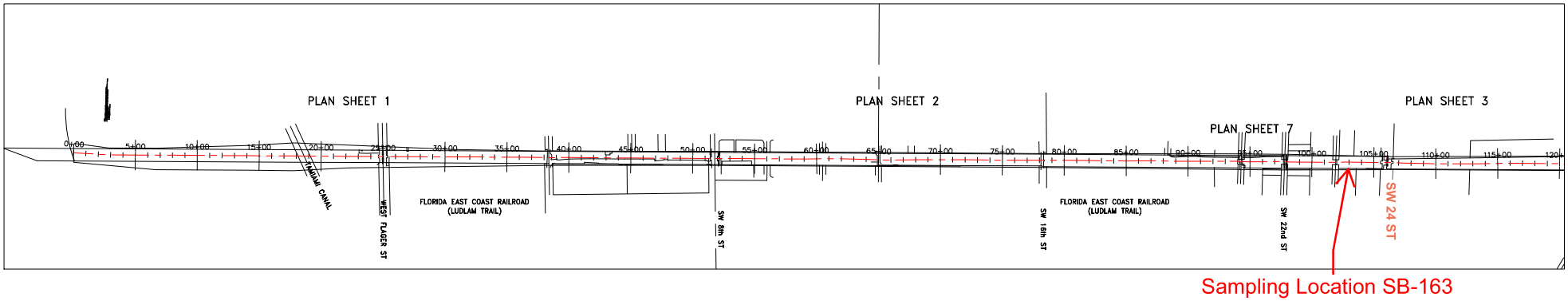
Sincerely,

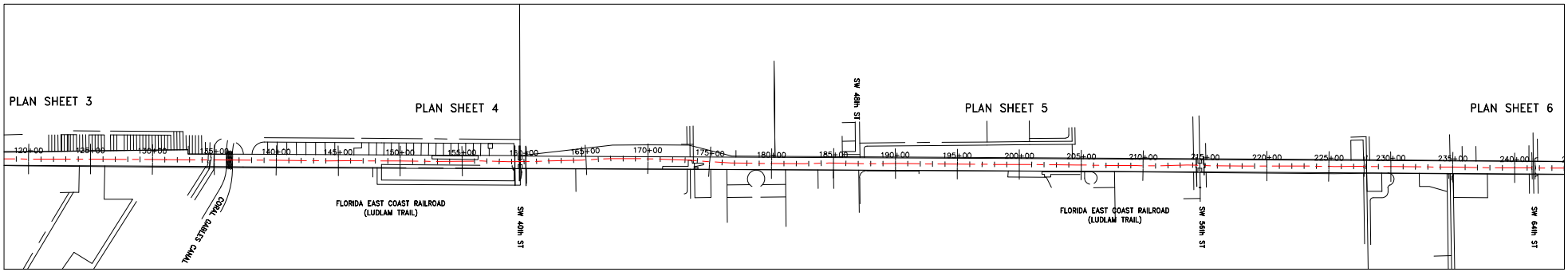
Wilbur Mayorga, P.E., Chief
Environmental Monitoring & Restoration Division

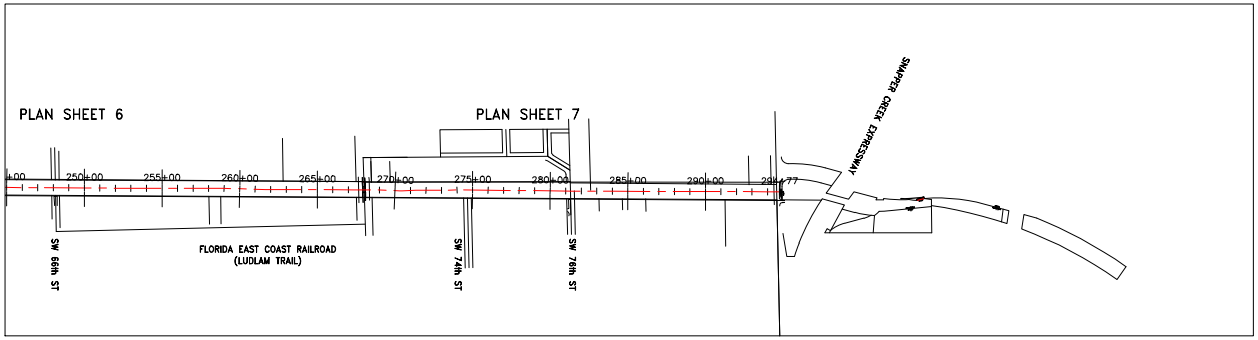
cw
ec: Lee N. Hefty, RER Assistant Director, Division of Environmental Resources Management
Maria I. Nardi, Director, Parks, Recreation and Open Spaces
Matilda Reyes, Assistant Director, Parks, Recreation and Open Spaces
Jose M. Gonzalez, FEC Industries, jose.gonzalez@feci.com
Fangmei Zhang, P.E., PhD, SCS Engineers, fzhang@scsengineers.com
Lisa Smith, SCS Engineers, lsmith@scsengineers.com
Howard Nelson, Bilzin Sumberg, hnelson@bilzin.com
Becky Varley – DERM
HWR-836

Attachment B

Cross Sections





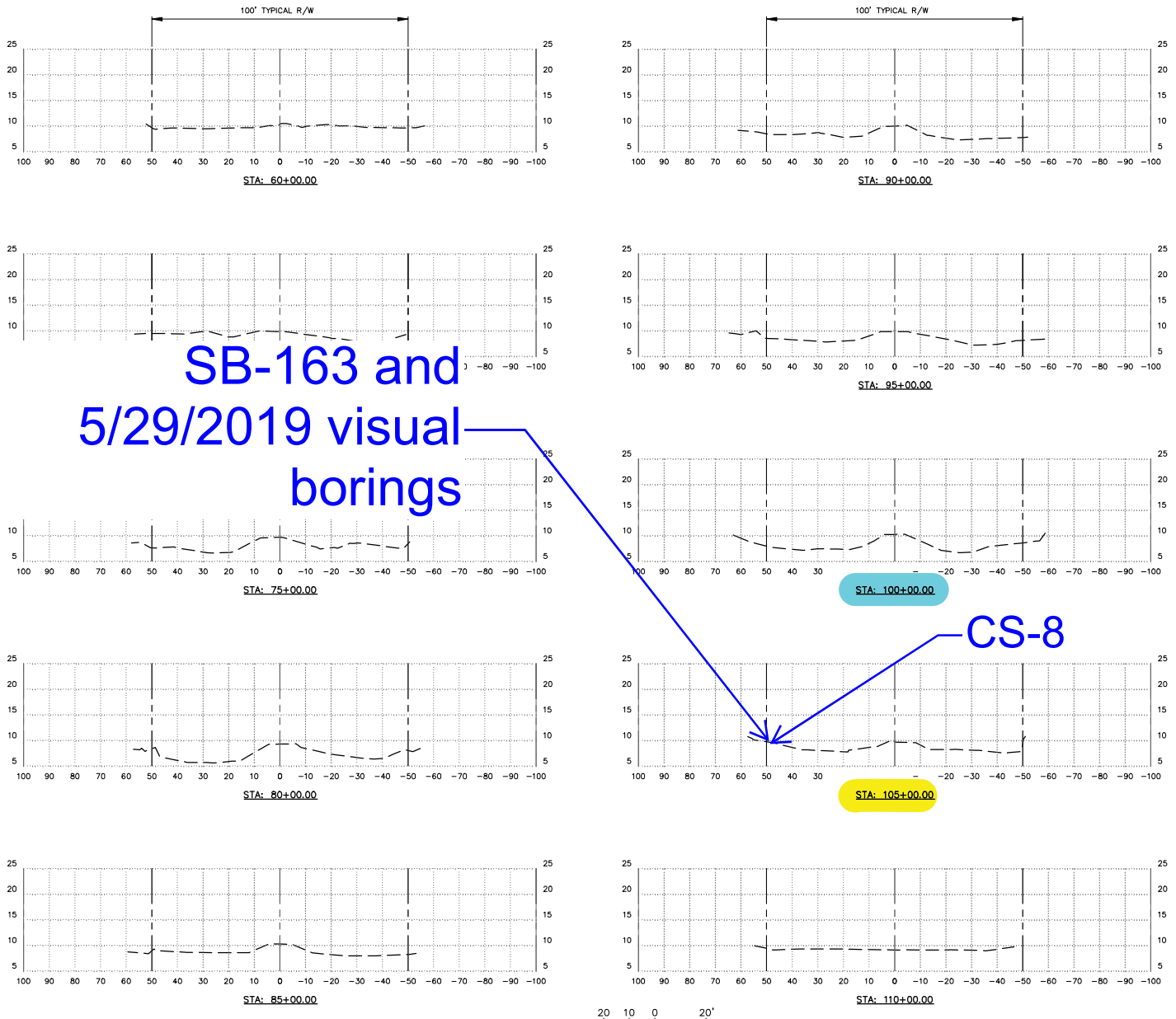


1"=400'-0"

400 200 0 400'

Nova Consulting
10486 NW 31st Terrace, Miami, Florida, 33172
Florida Certification No. 7256

LUDLAM TRAIL	
DATE: 08/01/18	OVERALL SITE PLAN



Nova Consulting
10486 NW 31st Terrace, Miami, Florida, 33172
Florida Certification No. 7256

LUDLAM TRAIL	
DATE: 08/01/18	CROSS SECTIONS SHEET 2

Attachment C

Photographic Logs

Description	Asphalt pieces eroded from the off-site asphalt parking lot on the surface, 5/29/2019	**SCS Project No. 09217186.02**	**1**
Property	Ludlam Corridor Properties 'All Green Trail'		

Description	Asphalt pieces in a boring (approximately 6 inches bgs), 5/29/2019	**SCS Project No. 09217186.02**	**2**
Property	Ludlam Corridor Properties 'All Green Trail'		

Description	Burnt wood pieces in a boring (approximately 10 inches bgs), 5/29/109	**SCS Project No. 09217186.02**	**3**
Property	Ludlam Corridor Properties 'All Green Trail'		

Description	Asphalt piece in a boring (approximately 6 inches bgs), 5/29/2109	**SCS Project No. 09217186.02**	**4**
Property	Ludlam Corridor Properties 'All Green Trail'		

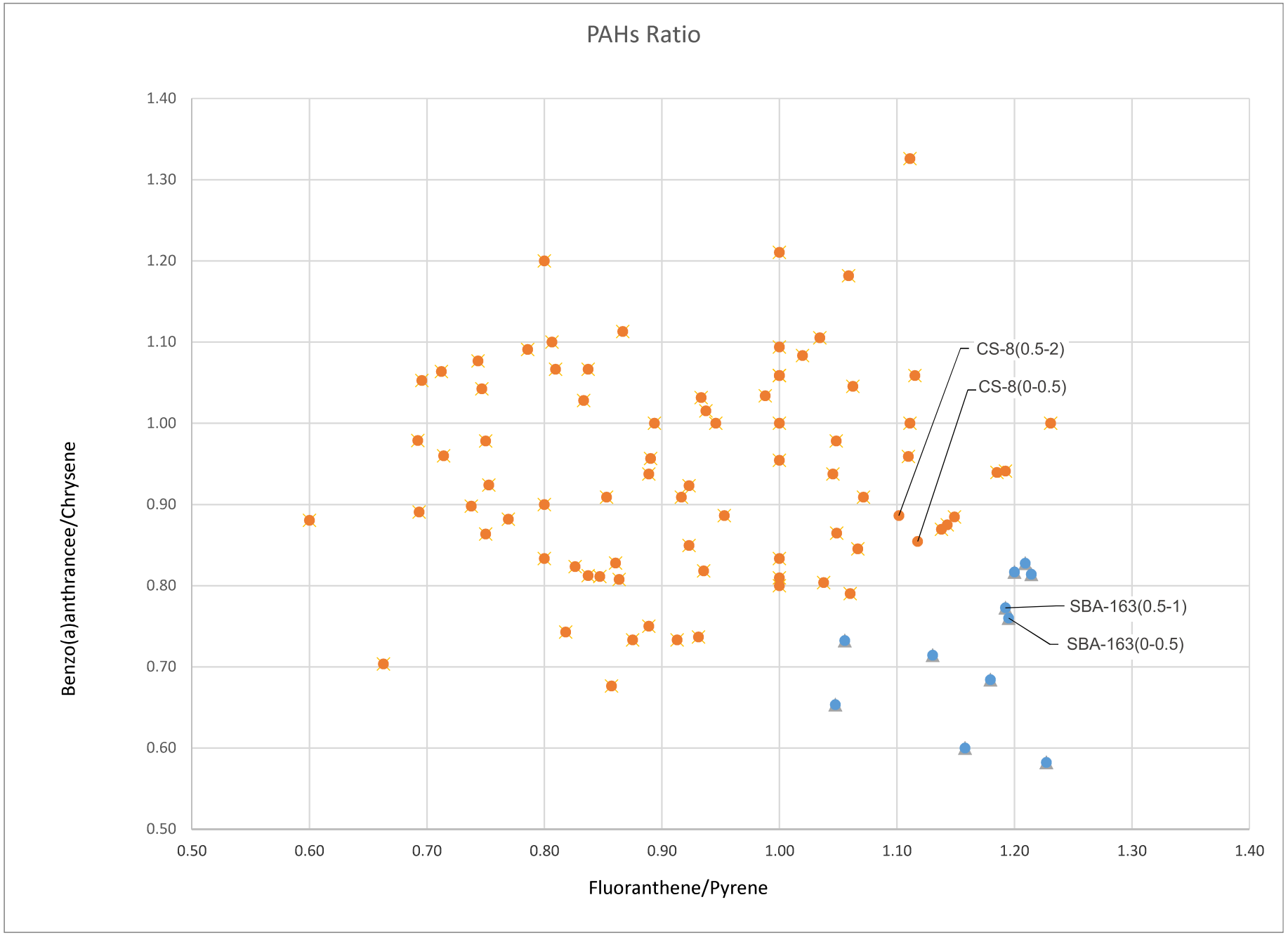
Attachment D

PAHs Ratios and Revised Laboratory Report

Table 1 - PAHs Ratio
Ludlam Trail

	Benzo(a)anthracene/Chrysene	Fluoranthene/Pyrene
SBA-166 (0-0.5)	0.82	1.20
SBA-163(0-0.5')	**0.76**	**1.20**
SBA-163 (0.5-1')	**0.77**	**1.19**
SBA 20B(0-0.5)	0.65	1.05
SBA-78(0-0.5')	0.73	1.06
SBA-168(0-0.5)	0.81	1.21
SBA-169(0-0.5)	0.68	1.18
SBA-101(0-0.5')	0.71	1.13
SBA-62(0-0.5')	0.58	1.23
SBA-62(0.5-1')	0.60	1.16
SBA-49(0-0.5')	0.83	1.21
CS-8(0-0.5)	**0.85**	**1.12**
CS-80.5-2)	**0.89**	**1.10**
SBA-36(0-0.5')	0.95	1.00
SBA-37(0-0.5')	0.86	0.75
SBA-20(0-0.5')	1.06	0.71
SBA-20(0.5-2')	1.10	0.81
SBA 20A(0-0.5)	0.74	0.93
SBA 20A(0.5-1)	0.73	0.91
SBA 20B (0.5-1)	0.83	1.00
SBA-22(0.5-2')	1.00	1.00
SBA-24(0-0.5')	1.11	0.87
SBA-24(0.5-2')	0.98	0.75
SBA-26(0-0.5')	0.88	0.60
SBA-28(0-0.5')	1.07	0.81
SBA-29(0-0.5')	1.04	0.75
SBA-30(0-0.5')	1.03	0.83
SBA-30(0.5-2')	0.89	0.95
SBA-31(0-0.5')	1.07	0.84
SBA-63(0-0.5')	0.90	0.80
SBA-63(0.5-1')	1.05	1.06
SBA-165(0-0.5)	0.88	1.15
SBA-165(0.5-1)	0.96	1.11
SBA-69(0-0.5')	0.70	0.66
SBA-70(0-0.5')	0.98	0.69
SBA-71(0-0.5')	0.79	1.06
SBA-72(0-0.5')	0.92	0.92
SBA-73(0-0.5')	0.80	1.00
SBA-75(0-0.5')	0.80	1.04
SBA-76(0-0.5')	0.83	0.80
SBA-77(0-0.5')	1.21	1.00
SBA-80(0-0.5')	1.33	1.11
SBA-81(0-0.5')	0.90	0.74
SBA-84(0-0.5')	0.81	1.00
SBA-86(0-0.5')	0.86	1.05
SBA-88(0-0.5')	1.05	0.70
SBA-89(0-0.5')	0.94	0.89
SBA-97(0-0.5')	0.82	0.94
SBA-99(0-0.5')	0.83	0.86
SBA-100(0-0.5')	0.96	0.89
SBA-2\(0-0.5')	1.06	1.12

	Benzo(a)anthracene/Chrysene	Fluoranthene/Pyrene
SBA-3\(0-0.5')	0.94	1.19
SBA-4\(0-0.5')	1.03	0.93
SBA-5\(0-0.5')	1.00	0.89
SBA-6(0-0.5')	1.00	1.23
SBA-CS1(0-0.5')	1.20	0.80
SBA-CS1(0.5-2')	1.08	0.74
SBA-7(0.5-2')	0.91	0.92
SBA-9(0-0.5')	0.91	0.85
SBA-9(0.5-2')	0.85	1.07
SBA-10\(0-0.5')	0.96	0.71
SBA-10(0.5-2')	1.09	0.79
SBA-11(0.5-2')	0.92	0.75
SBA-61(0-0.5')	0.81	0.85
SBA-61(0.5-1')	0.82	0.83
SBA-149(0-0.5)	0.74	0.82
SBA-149A(0-0.5')	0.73	0.88
SBA-149B(0-0.5')	0.88	0.77
SBA-CS3(0-0.5')	0.94	1.19
SBA-CS3(0.5-1')	1.09	1.00
SBA-43(0-0.5')	1.06	1.00
SBA-44(0-0.5')	1.02	0.94
SBA-45(0-0.5')	1.00	0.95
SBA-46(0-0.5')	0.94	1.05
SBA-47(0-0.5')	0.91	1.07
SBA-CS4(0-0.5')	0.98	1.05
SBA-CS4(0.5-1')	1.08	1.02
SBA-50(0-0.5')	1.06	1.00
SBA-50(0.5-1')	1.11	1.03
SBA-51(0-0.5')	1.00	1.11
SBA-51(0.5-1')	0.88	1.14
SBA-52(0-0.5')	1.18	1.06
SBA-52(0.5-1')	1.03	0.99
SB-131(0-0.5')	0.85	0.92
SB-136(0-0.5')	0.75	0.89
SB-137(0-0.5')	0.81	0.86
SB-139(0-0.5')	0.81	0.84
SB-141(0-0.5')	0.68	0.86
SBA-147(0-0.5')	0.87	1.14
SBA-67(0-0.5')	0.89	0.69


PAHs Ratio
Benzo(a)anthrancee/Chrysene
Fluoranthene/Pyrene
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.50
0.60
0.70
0.80
0.90
1.00
1.10
1.20
1.30
1.40
CS-8(0.5-2)
CS-8(0-0.5)
SBA-163(0.5-1)
SBA-163(0-0.5)

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-92915-1
Client Project/Site: Ludlam Trail
Revision: 1

For:
SCS Engineers
7700 North Kendall Drive
Suite 300
Miami, Florida 33156

Attn: Fangmei Zhang

Authorized for release by:
5/17/2019 12:15:03 PM

Opal Johnson, Project Manager II
(330)966-9279
opal.johnson@testamericainc.com

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Definitions/Glossary

Client: SCS Engineers
Project/Site: Ludlam Trail

Job ID: 240-92915-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 240-92915-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: SCS Engineers

Project: Ludlam Trail

Report Number: 240-92915-1

Revision I

Revision I: Additional PAH compounds addd to the Semivolatile results.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 3/17/2018 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.7º C and 2.7º C.

SEMIVOLATILE ORGANIC COMPOUNDS (GCMS)

Samples CS-8 (0-0.5) (240-92915-1), CS-8 (0.5-2) (240-92915-2) and CS-8 (2-4) (240-92915-3) were analyzed for semivolatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8270D. The samples were prepared on 03/20/2018 and 03/22/2018 and analyzed on 03/22/2018 and 03/24/2018.

Sample CS-8 (0-0.5) (240-92915-1)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Due to the matrix, the following sample could not be concentrated to the final method required volume: CS-8 (0-0.5) (240-92915-1). The reporting limits (RLs) are elevated proportionately.

Job ID: 240-92915-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICPMS)

Samples CS-8 (0-0.5) (240-92915-1), CS-8 (0.5-2) (240-92915-2) and CS-8 (2-4) (240-92915-3) were analyzed for metals (ICPMS) in accordance with EPA SW-846 Methods 6020A. The samples were prepared on 03/19/2018 and analyzed on 03/20/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples CS-8 (0-0.5) (240-92915-1), CS-8 (0.5-2) (240-92915-2) and CS-8 (2-4) (240-92915-3) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 03/20/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: SCS Engineers
Project/Site: Ludlam Trail

Job ID: 240-92915-1

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
3050B	Preparation, Metals	SW846	TAL CAN
3540C	Soxhlet Extraction	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Sample Summary

Client: SCS Engineers
Project/Site: Ludlam Trail

Job ID: 240-92915-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-92915-1	CS-8 (0-0.5)	Solid	03/16/18 14:16	03/17/18 09:30
240-92915-2	CS-8 (0.5-2)	Solid	03/16/18 14:17	03/17/18 09:30
240-92915-3	CS-8 (2-4)	Solid	03/16/18 14:18	03/17/18 09:30

Detection Summary

Client: SCS Engineers
Project/Site: Ludlam Trail

Job ID: 240-92915-1

Client Sample ID: CS-8 (0-0.5) — Lab Sample ID: 240-92915-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	940		21	2.0	ug/Kg	2	☼	8270D	Total/NA
Benzo[a]pyrene	1300		21	2.1	ug/Kg	2	☼	8270D	Total/NA
Benzo[b]fluoranthene	2500		21	1.9	ug/Kg	2	☼	8270D	Total/NA
Benzo[k]fluoranthene	940		21	2.2	ug/Kg	2	☼	8270D	Total/NA
Chrysene	1100		21	3.5	ug/Kg	2	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	640		21	1.1	ug/Kg	2	☼	8270D	Total/NA
Fluorene	23		21	1.7	ug/Kg	2	☼	8270D	Total/NA
Acenaphthylene	190		21	1.1	ug/Kg	2	☼	8270D	Total/NA
Benzo[g,h,i]perylene	680		21	1.1	ug/Kg	2	☼	8270D	Total/NA
Phenanthrene	560		21	2.4	ug/Kg	2	☼	8270D	Total/NA
Anthracene	150		21	2.5	ug/Kg	2	☼	8270D	Total/NA
Pyrene	1700		21	1.4	ug/Kg	2	☼	8270D	Total/NA
Naphthalene	280		21	2.6	ug/Kg	2	☼	8270D	Total/NA
Fluoranthene	1900		21	1.8	ug/Kg	2	☼	8270D	Total/NA
Acenaphthene	23		21	2.4	ug/Kg	2	☼	8270D	Total/NA
Arsenic	7.4		0.91	0.055	mg/Kg	2	☼	6020A	Total/NA

Client Sample ID: CS-8 (0.5-2) — Lab Sample ID: 240-92915-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	390		7.3	0.69	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	540		7.3	0.70	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	860		7.3	0.65	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	290		7.3	0.75	ug/Kg	1	☼	8270D	Total/NA
Chrysene	440		7.3	1.2	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	100		7.3	0.72	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	380		7.3	0.38	ug/Kg	1	☼	8270D	Total/NA
Fluorene	8.1		7.3	0.58	ug/Kg	1	☼	8270D	Total/NA
Acenaphthylene	130		7.3	0.38	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	380		7.3	0.38	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	210		7.3	0.80	ug/Kg	1	☼	8270D	Total/NA
Anthracene	110		7.3	0.86	ug/Kg	1	☼	8270D	Total/NA
Pyrene	590		7.3	0.48	ug/Kg	1	☼	8270D	Total/NA
Naphthalene	7.7		7.3	0.90	ug/Kg	1	☼	8270D	Total/NA
Fluoranthene	650		7.3	0.60	ug/Kg	1	☼	8270D	Total/NA
Acenaphthene	8.4		7.3	0.83	ug/Kg	1	☼	8270D	Total/NA
Arsenic	2.6		0.90	0.054	mg/Kg	2	☼	6020A	Total/NA

Client Sample ID: CS-8 (2-4) — Lab Sample ID: 240-92915-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	130		7.8	0.74	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	190		7.8	0.75	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	340		7.8	0.69	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	110		7.8	0.80	ug/Kg	1	☼	8270D	Total/NA
Chrysene	150		7.8	1.3	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	37		7.8	0.77	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	140		7.8	0.41	ug/Kg	1	☼	8270D	Total/NA
Acenaphthylene	41		7.8	0.41	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	130		7.8	0.41	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	67		7.8	0.86	ug/Kg	1	☼	8270D	Total/NA
Anthracene	39		7.8	0.91	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CS-8 (2-4) (Continued)

Lab Sample ID: 240-92915-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Pyrene	210		7.8	0.52	ug/Kg	1	☼	8270D	Total/NA
Naphthalene	4.0	J	7.8	0.96	ug/Kg	1	☼	8270D	Total/NA
Fluoranthene	240		7.8	0.64	ug/Kg	1	☼	8270D	Total/NA
Arsenic	1.5		1.0	0.062	mg/Kg	2	☼	6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CS-8 (0-0.5)

Date Collected: 03/16/18 14:16
Date Received: 03/17/18 09:30

Lab Sample ID: 240-92915-1

Matrix: Solid
Percent Solids: 93.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	940		21	2.0	ug/Kg	☼	03/22/18 13:27	03/24/18 13:13	2
Benzo[a]pyrene	1300		21	2.1	ug/Kg	☼	03/22/18 13:27	03/24/18 13:13	2
Benzo[b]fluoranthene	2500		21	1.9	ug/Kg	☼	03/22/18 13:27	03/24/18 13:13	2
Benzo[k]fluoranthene	940		21	2.2	ug/Kg	☼	03/22/18 13:27	03/24/18 13:13	2
Chrysene	1100		21	3.5	ug/Kg	☼	03/22/18 13:27	03/24/18 13:13	2
Dibenz(a,h)anthracene	21	U	21	2.1	ug/Kg	☼	03/22/18 13:27	03/24/18 13:13	2
Indeno[1,2,3-cd]pyrene	640		21	1.1	ug/Kg	☼	03/22/18 13:27	03/24/18 13:13	2
Fluorene	23		21	1.7	ug/Kg	☼	03/22/18 13:27	03/24/18 13:13	2
Acenaphthylene	190		21	1.1	ug/Kg	☼	03/22/18 13:27	03/24/18 13:13	2
Benzo[g,h,i]perylene	680		21	1.1	ug/Kg	☼	03/22/18 13:27	03/24/18 13:13	2
Phenanthrene	560		21	2.4	ug/Kg	☼	03/22/18 13:27	03/24/18 13:13	2
Anthracene	150		21	2.5	ug/Kg	☼	03/22/18 13:27	03/24/18 13:13	2
Pyrene	1700		21	1.4	ug/Kg	☼	03/22/18 13:27	03/24/18 13:13	2
Naphthalene	280		21	2.6	ug/Kg	☼	03/22/18 13:27	03/24/18 13:13	2
Fluoranthene	1900		21	1.8	ug/Kg	☼	03/22/18 13:27	03/24/18 13:13	2
Acenaphthene	23		21	2.4	ug/Kg	☼	03/22/18 13:27	03/24/18 13:13	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*68*		*41 - 120*	*03/22/18 13:27*	*03/24/18 13:13*	*2*
Phenol-d5 (Surr)	*79*		*29 - 120*	*03/22/18 13:27*	*03/24/18 13:13*	*2*
Nitrobenzene-d5 (Surr)	*69*		*30 - 120*	*03/22/18 13:27*	*03/24/18 13:13*	*2*
2-Fluorophenol (Surr)	*73*		*29 - 120*	*03/22/18 13:27*	*03/24/18 13:13*	*2*
2-Fluorobiphenyl (Surr)	*70*		*32 - 120*	*03/22/18 13:27*	*03/24/18 13:13*	*2*
2,4,6-Tribromophenol (Surr)	*71*		*10 - 120*	*03/22/18 13:27*	*03/24/18 13:13*	*2*

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.4		0.91	0.055	mg/Kg	☼	03/19/18 14:00	03/20/18 16:53	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93.2		0.1	0.1	%			03/20/18 12:12	1
Percent Moisture	6.8		0.1	0.1	%			03/20/18 12:12	1

Client Sample ID: CS-8 (0.5-2)

Date Collected: 03/16/18 14:17
Date Received: 03/17/18 09:30

Lab Sample ID: 240-92915-2

Matrix: Solid
Percent Solids: 90.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	390		7.3	0.69	ug/Kg	☼	03/20/18 09:46	03/22/18 15:08	1
Benzo[a]pyrene	540		7.3	0.70	ug/Kg	☼	03/20/18 09:46	03/22/18 15:08	1
Benzo[b]fluoranthene	860		7.3	0.65	ug/Kg	☼	03/20/18 09:46	03/22/18 15:08	1
Benzo[k]fluoranthene	290		7.3	0.75	ug/Kg	☼	03/20/18 09:46	03/22/18 15:08	1
Chrysene	440		7.3	1.2	ug/Kg	☼	03/20/18 09:46	03/22/18 15:08	1
Dibenz(a,h)anthracene	100		7.3	0.72	ug/Kg	☼	03/20/18 09:46	03/22/18 15:08	1
Indeno[1,2,3-cd]pyrene	380		7.3	0.38	ug/Kg	☼	03/20/18 09:46	03/22/18 15:08	1
Fluorene	8.1		7.3	0.58	ug/Kg	☼	03/20/18 09:46	03/22/18 15:08	1
Acenaphthylene	130		7.3	0.38	ug/Kg	☼	03/20/18 09:46	03/22/18 15:08	1
Benzo[g,h,i]perylene	380		7.3	0.38	ug/Kg	☼	03/20/18 09:46	03/22/18 15:08	1
Phenanthrene	210		7.3	0.80	ug/Kg	☼	03/20/18 09:46	03/22/18 15:08	1
Anthracene	110		7.3	0.86	ug/Kg	☼	03/20/18 09:46	03/22/18 15:08	1
Pyrene	590		7.3	0.48	ug/Kg	☼	03/20/18 09:46	03/22/18 15:08	1
Naphthalene	7.7		7.3	0.90	ug/Kg	☼	03/20/18 09:46	03/22/18 15:08	1
Fluoranthene	650		7.3	0.60	ug/Kg	☼	03/20/18 09:46	03/22/18 15:08	1
Acenaphthene	8.4		7.3	0.83	ug/Kg	☼	03/20/18 09:46	03/22/18 15:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*68*		*41 - 120*	*03/20/18 09:46*	*03/22/18 15:08*	*1*
Phenol-d5 (Surr)	*58*		*29 - 120*	*03/20/18 09:46*	*03/22/18 15:08*	*1*
Nitrobenzene-d5 (Surr)	*45*		*30 - 120*	*03/20/18 09:46*	*03/22/18 15:08*	*1*
2-Fluorophenol (Surr)	*48*		*29 - 120*	*03/20/18 09:46*	*03/22/18 15:08*	*1*
2-Fluorobiphenyl (Surr)	*60*		*32 - 120*	*03/20/18 09:46*	*03/22/18 15:08*	*1*
2,4,6-Tribromophenol (Surr)	*71*		*10 - 120*	*03/20/18 09:46*	*03/22/18 15:08*	*1*

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.6		0.90	0.054	mg/Kg	☼	03/19/18 14:00	03/20/18 16:58	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.1		0.1	0.1	%			03/20/18 12:12	1
Percent Moisture	9.9		0.1	0.1	%			03/20/18 12:12	1

Client: SCS Engineers
Project/Site: Ludlam Trail

Job ID: 240-92915-1

Client Sample ID: CS-8 (2-4)

Date Collected: 03/16/18 14:18
Date Received: 03/17/18 09:30

Lab Sample ID: 240-92915-3

Matrix: Solid
Percent Solids: 86.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	130		7.8	0.74	ug/Kg	☼	03/20/18 09:46	03/22/18 15:32	1
Benzo[a]pyrene	190		7.8	0.75	ug/Kg	☼	03/20/18 09:46	03/22/18 15:32	1
Benzo[b]fluoranthene	340		7.8	0.69	ug/Kg	☼	03/20/18 09:46	03/22/18 15:32	1
Benzo[k]fluoranthene	110		7.8	0.80	ug/Kg	☼	03/20/18 09:46	03/22/18 15:32	1
Chrysene	150		7.8	1.3	ug/Kg	☼	03/20/18 09:46	03/22/18 15:32	1
Dibenz(a,h)anthracene	37		7.8	0.77	ug/Kg	☼	03/20/18 09:46	03/22/18 15:32	1
Indeno[1,2,3-cd]pyrene	140		7.8	0.41	ug/Kg	☼	03/20/18 09:46	03/22/18 15:32	1
Fluorene	7.8	U	7.8	0.62	ug/Kg	☼	03/20/18 09:46	03/22/18 15:32	1
Acenaphthylene	41		7.8	0.41	ug/Kg	☼	03/20/18 09:46	03/22/18 15:32	1
Benzo[g,h,i]perylene	130		7.8	0.41	ug/Kg	☼	03/20/18 09:46	03/22/18 15:32	1
Phenanthrene	67		7.8	0.86	ug/Kg	☼	03/20/18 09:46	03/22/18 15:32	1
Anthracene	39		7.8	0.91	ug/Kg	☼	03/20/18 09:46	03/22/18 15:32	1
Pyrene	210		7.8	0.52	ug/Kg	☼	03/20/18 09:46	03/22/18 15:32	1
Naphthalene	4.0	J	7.8	0.96	ug/Kg	☼	03/20/18 09:46	03/22/18 15:32	1
Fluoranthene	240		7.8	0.64	ug/Kg	☼	03/20/18 09:46	03/22/18 15:32	1
Acenaphthene	7.8	U	7.8	0.89	ug/Kg	☼	03/20/18 09:46	03/22/18 15:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*73*		*41 - 120*	*03/20/18 09:46*	*03/22/18 15:32*	*1*
Phenol-d5 (Surr)	*61*		*29 - 120*	*03/20/18 09:46*	*03/22/18 15:32*	*1*
Nitrobenzene-d5 (Surr)	*59*		*30 - 120*	*03/20/18 09:46*	*03/22/18 15:32*	*1*
2-Fluorophenol (Surr)	*55*		*29 - 120*	*03/20/18 09:46*	*03/22/18 15:32*	*1*
2-Fluorobiphenyl (Surr)	*66*		*32 - 120*	*03/20/18 09:46*	*03/22/18 15:32*	*1*
2,4,6-Tribromophenol (Surr)	*68*		*10 - 120*	*03/20/18 09:46*	*03/22/18 15:32*	*1*

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.5		1.0	0.062	mg/Kg	☼	03/19/18 14:00	03/20/18 17:02	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86.1		0.1	0.1	%			03/20/18 12:12	1
Percent Moisture	13.9		0.1	0.1	%			03/20/18 12:12	1

Surrogate Summary

Client: SCS Engineers
Project/Site: Ludlam Trail

Job ID: 240-92915-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TPHL (41-120)	PHL (29-120)	NBZ (30-120)	2FP (29-120)	FBP (32-120)	TBP (10-120)		
240-92915-1	CS-8 (0-0.5)	68	79	69	73	70	71		
240-92915-2	CS-8 (0.5-2)	68	58	45	48	60	71		
240-92915-3	CS-8 (2-4)	73	61	59	55	66	68		
LCS 240-319250/17-A	Lab Control Sample	87	85	85	79	86	81		
LCS 240-319660/13-A	Lab Control Sample	97	86	84	83	86	77		
MB 240-319250/16-A	Method Blank	76	75	72	69	77	71		
MB 240-319660/12-A	Method Blank	89	68	62	63	70	66		

Surrogate Legend

TPHL = Terphenyl-d14 (Surr)
PHL = Phenol-d5 (Surr)
NBZ = Nitrobenzene-d5 (Surr)
2FP = 2-Fluorophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-319250/16-A
Matrix: Solid
Analysis Batch: 319439

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 319250

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	6.7	U	6.7	0.63	ug/Kg		03/20/18 09:46	03/21/18 12:58	1
Benzo[a]pyrene	6.7	U	6.7	0.64	ug/Kg		03/20/18 09:46	03/21/18 12:58	1
Benzo[b]fluoranthene	6.7	U	6.7	0.59	ug/Kg		03/20/18 09:46	03/21/18 12:58	1
Benzo[k]fluoranthene	6.7	U	6.7	0.68	ug/Kg		03/20/18 09:46	03/21/18 12:58	1
Chrysene	6.7	U	6.7	1.1	ug/Kg		03/20/18 09:46	03/21/18 12:58	1
Dibenz(a,h)anthracene	6.7	U	6.7	0.66	ug/Kg		03/20/18 09:46	03/21/18 12:58	1
Indeno[1,2,3-cd]pyrene	6.7	U	6.7	0.35	ug/Kg		03/20/18 09:46	03/21/18 12:58	1
Fluorene	6.7	U	6.7	0.53	ug/Kg		03/20/18 09:46	03/21/18 12:58	1
Acenaphthylene	6.7	U	6.7	0.35	ug/Kg		03/20/18 09:46	03/21/18 12:58	1
Benzo[g,h,i]perylene	6.7	U	6.7	0.35	ug/Kg		03/20/18 09:46	03/21/18 12:58	1
Phenanthrene	6.7	U	6.7	0.73	ug/Kg		03/20/18 09:46	03/21/18 12:58	1
Anthracene	6.7	U	6.7	0.78	ug/Kg		03/20/18 09:46	03/21/18 12:58	1
Pyrene	6.7	U	6.7	0.44	ug/Kg		03/20/18 09:46	03/21/18 12:58	1
Naphthalene	6.7	U	6.7	0.82	ug/Kg		03/20/18 09:46	03/21/18 12:58	1
Fluoranthene	6.7	U	6.7	0.55	ug/Kg		03/20/18 09:46	03/21/18 12:58	1
Acenaphthene	6.7	U	6.7	0.76	ug/Kg		03/20/18 09:46	03/21/18 12:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*76*		*41 - 120*	*03/20/18 09: 46*	*03/21/1812: 58*	*1*
Phenol-d5 (Surr)	*75*		*29 - 120*	*03/20/1809: 46*	*03/21/1812: 58*	*1*
Nitrobenzene-d5 (Surr)	*72*		*30 - 120*	*03/20/1809: 46*	*03/21/1812: 58*	*1*
2-Fluorophenol (Surr)	*69*		*29 - 120*	*03/20/1809: 46*	*03/21/1812: 58*	*1*
2-Fluorobiphenyl (Surr)	*77*		*32 - 120*	*03/20/1809: 46*	*03/21/1812: 58*	*1*
2,4,6-Tribromophenol (Surr)	*71*		*10 - 120*	*03/20/1809: 46*	*03/21/1812: 58*	*1*

Lab Sample ID: LCS 240-319250/17-A
Matrix: Solid
Analysis Batch: 319439

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 319250

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	667	550		ug/Kg		82	53 - 120
Benzo[a]pyrene	667	665		ug/Kg		100	50 - 120
Benzo[b]fluoranthene	667	662		ug/Kg		99	48 - 120
Benzo[k]fluoranthene	667	624		ug/Kg		94	51 - 120
Chrysene	667	525		ug/Kg		79	54 - 120
Dibenz(a,h)anthracene	667	653		ug/Kg		98	48 - 120
Indeno[1,2,3-cd]pyrene	667	668		ug/Kg		100	49 - 120
Fluorene	667	566		ug/Kg		85	50 - 120
Acenaphthylene	667	561		ug/Kg		84	46 - 120
Benzo[g,h,i]perylene	667	608		ug/Kg		91	50 - 120
Phenanthrene	667	558		ug/Kg		84	52 - 120
Anthracene	667	587		ug/Kg		88	51 - 120
Pyrene	667	535		ug/Kg		80	55 - 120
Naphthalene	667	561		ug/Kg		84	48 - 120
Fluoranthene	667	602		ug/Kg		90	53 - 120
Acenaphthene	667	574		ug/Kg		86	48 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-319250/17-A
Matrix: Solid
Analysis Batch: 319439

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 319250

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14 (Surr)	87		41 - 120
Phenol-d5 (Surr)	85		29 - 120
Nitrobenzene-d5 (Surr)	85		30 - 120
2-Fluorophenol (Surr)	79		29 - 120
2-Fluorobiphenyl (Surr)	86		32 - 120
2,4,6-Tribromophenol (Surr)	81		10 - 120

Lab Sample ID: MB 240-319660/12-A
Matrix: Solid
Analysis Batch: 319922

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 319660

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	6.7	U	6.7	0.63	ug/Kg		03/22/18 10:38	03/24/18 10:05	1
Benzo[a]pyrene	6.7	U	6.7	0.64	ug/Kg		03/22/18 10:38	03/24/18 10:05	1
Benzo[b]fluoranthene	6.7	U	6.7	0.59	ug/Kg		03/22/18 10:38	03/24/18 10:05	1
Benzo[k]fluoranthene	6.7	U	6.7	0.68	ug/Kg		03/22/18 10:38	03/24/18 10:05	1
Chrysene	6.7	U	6.7	1.1	ug/Kg		03/22/18 10:38	03/24/18 10:05	1
Dibenz(a,h)anthracene	6.7	U	6.7	0.66	ug/Kg		03/22/18 10:38	03/24/18 10:05	1
Indeno[1,2,3-cd]pyrene	6.7	U	6.7	0.35	ug/Kg		03/22/18 10:38	03/24/18 10:05	1
Fluorene	6.7	U	6.7	0.53	ug/Kg		03/22/18 10:38	03/24/18 10:05	1
Acenaphthylene	6.7	U	6.7	0.35	ug/Kg		03/22/18 10:38	03/24/18 10:05	1
Benzo[g,h,i]perylene	6.7	U	6.7	0.35	ug/Kg		03/22/18 10:38	03/24/18 10:05	1
Phenanthrene	6.7	U	6.7	0.73	ug/Kg		03/22/18 10:38	03/24/18 10:05	1
Anthracene	6.7	U	6.7	0.78	ug/Kg		03/22/18 10:38	03/24/18 10:05	1
Pyrene	6.7	U	6.7	0.44	ug/Kg		03/22/18 10:38	03/24/18 10:05	1
Naphthalene	6.7	U	6.7	0.82	ug/Kg		03/22/18 10:38	03/24/18 10:05	1
Fluoranthene	6.7	U	6.7	0.55	ug/Kg		03/22/18 10:38	03/24/18 10:05	1
Acenaphthene	6.7	U	6.7	0.76	ug/Kg		03/22/18 10:38	03/24/18 10:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	89		41 - 120	03/22/18 10: 38	03/24/1810: 05	1
Phenol-d5 (Surr)	68		29 - 120	03/22/1810: 38	03/24/1810: 05	1
Nitrobenzene-d5 (Surr)	62		30 - 120	03/22/1810: 38	03/24/1810: 05	1
2-Fluorophenol (Surr)	63		29 - 120	03/22/1810: 38	03/24/1810: 05	1
2-Fluorobiphenyl (Surr)	70		32 - 120	03/22/1810: 38	03/24/1810: 05	1
2,4,6-Tribromophenol (Surr)	66		10 - 120	03/22/1810: 38	03/24/1810: 05	1

Lab Sample ID: LCS 240-319660/13-A
Matrix: Solid
Analysis Batch: 319922

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 319660

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	667	602		ug/Kg		90	53 - 120
Benzo[a]pyrene	667	715		ug/Kg		107	50 - 120
Benzo[b]fluoranthene	667	671		ug/Kg		101	48 - 120
Benzo[k]fluoranthene	667	682		ug/Kg		102	51 - 120
Chrysene	667	573		ug/Kg		86	54 - 120
Dibenz(a,h)anthracene	667	697		ug/Kg		105	48 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-319660/13-A
Matrix: Solid
Analysis Batch: 319922

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 319660

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Indeno[1,2,3-cd]pyrene			667	728		ug/Kg		109	49 - 120		
Fluorene			667	592		ug/Kg		89	50 - 120		
Acenaphthylene			667	571		ug/Kg		86	46 - 120		
Benzo[g,h,i]perylene			667	706		ug/Kg		106	50 - 120		
Phenanthrene			667	595		ug/Kg		89	52 - 120		
Anthracene			667	625		ug/Kg		94	51 - 120		
Pyrene			667	631		ug/Kg		95	55 - 120		
Naphthalene			667	506		ug/Kg		76	48 - 120		
Fluoranthene			667	686		ug/Kg		103	53 - 120		
Acenaphthene			667	545		ug/Kg		82	48 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Terphenyl-d14 (Surr)	*97*		*41 - 120*
Phenol-d5 (Surr)	*86*		*29 - 120*
Nitrobenzene-d5 (Surr)	*84*		*30 - 120*
2-Fluorophenol (Surr)	*83*		*29 - 120*
2-Fluorobiphenyl (Surr)	*86*		*32 - 120*
2,4,6-Tribromophenol (Surr)	*77*		*10 - 120*

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-319113/1-A ^2
Matrix: Solid
Analysis Batch: 319429

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 319113

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.0	U	1.0	0.060	mg/Kg		03/19/18 14:00	03/20/18 16:00	2

Lab Sample ID: LCS 240-319113/2-A ^2
Matrix: Solid
Analysis Batch: 319429

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 319113

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			100	88.7		mg/Kg		89	80 - 120		

QC Association Summary

Client: SCS Engineers
Project/Site: Ludlam Trail

Job ID: 240-92915-1

GC/MS Semi VOA

Prep Batch: 319250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92915-2	CS-8 (0.5-2)	Total/NA	Solid	3540C	
240-92915-3	CS-8 (2-4)	Total/NA	Solid	3540C	
MB 240-319250/16-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-319250/17-A	Lab Control Sample	Total/NA	Solid	3540C	

Analysis Batch: 319439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-319250/16-A	Method Blank	Total/NA	Solid	8270D	319250
LCS 240-319250/17-A	Lab Control Sample	Total/NA	Solid	8270D	319250

Analysis Batch: 319613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92915-2	CS-8 (0.5-2)	Total/NA	Solid	8270D	319250
240-92915-3	CS-8 (2-4)	Total/NA	Solid	8270D	319250

Prep Batch: 319660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92915-1	CS-8 (0-0.5)	Total/NA	Solid	3540C	
MB 240-319660/12-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-319660/13-A	Lab Control Sample	Total/NA	Solid	3540C	

Analysis Batch: 319922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92915-1	CS-8 (0-0.5)	Total/NA	Solid	8270D	319660
MB 240-319660/12-A	Method Blank	Total/NA	Solid	8270D	319660
LCS 240-319660/13-A	Lab Control Sample	Total/NA	Solid	8270D	319660

Metals

Prep Batch: 319113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92915-1	CS-8 (0-0.5)	Total/NA	Solid	3050B	
240-92915-2	CS-8 (0.5-2)	Total/NA	Solid	3050B	
240-92915-3	CS-8 (2-4)	Total/NA	Solid	3050B	
MB 240-319113/1-A ^2	Method Blank	Total/NA	Solid	3050B	
LCS 240-319113/2-A ^2	Lab Control Sample	Total/NA	Solid	3050B	

Analysis Batch: 319429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92915-1	CS-8 (0-0.5)	Total/NA	Solid	6020A	319113
240-92915-2	CS-8 (0.5-2)	Total/NA	Solid	6020A	319113
240-92915-3	CS-8 (2-4)	Total/NA	Solid	6020A	319113
MB 240-319113/1-A ^2	Method Blank	Total/NA	Solid	6020A	319113
LCS 240-319113/2-A ^2	Lab Control Sample	Total/NA	Solid	6020A	319113

General Chemistry

Analysis Batch: 319287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92915-1	CS-8 (0-0.5)	Total/NA	Solid	Moisture	
240-92915-2	CS-8 (0.5-2)	Total/NA	Solid	Moisture	
240-92915-3	CS-8 (2-4)	Total/NA	Solid	Moisture	

Client Sample ID: CS-8 (0-0.5)
Date Collected: 03/16/18 14:16
Date Received: 03/17/18 09:30

Lab Sample ID: 240-92915-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319287	03/20/18 12:12	JWW	TAL CAN

Client Sample ID: CS-8 (0-0.5)
Date Collected: 03/16/18 14:16
Date Received: 03/17/18 09:30

Lab Sample ID: 240-92915-1
Matrix: Solid
Percent Solids: 93.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			319660	03/22/18 13:27	AMT	TAL CAN
Total/NA	Analysis	8270D		2	319922	03/24/18 13:13	TMH	TAL CAN
Total/NA	Prep	3050B			319113	03/19/18 14:00	DEE	TAL CAN
Total/NA	Analysis	6020A		2	319429	03/20/18 16:53	DSH	TAL CAN

Client Sample ID: CS-8 (0.5-2)
Date Collected: 03/16/18 14:17
Date Received: 03/17/18 09:30

Lab Sample ID: 240-92915-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319287	03/20/18 12:12	JWW	TAL CAN

Client Sample ID: CS-8 (0.5-2)
Date Collected: 03/16/18 14:17
Date Received: 03/17/18 09:30

Lab Sample ID: 240-92915-2
Matrix: Solid
Percent Solids: 90.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			319250	03/20/18 09:46	SDE	TAL CAN
Total/NA	Analysis	8270D		1	319613	03/22/18 15:08	JMG	TAL CAN
Total/NA	Prep	3050B			319113	03/19/18 14:00	DEE	TAL CAN
Total/NA	Analysis	6020A		2	319429	03/20/18 16:58	DSH	TAL CAN

Client Sample ID: CS-8 (2-4)
Date Collected: 03/16/18 14:18
Date Received: 03/17/18 09:30

Lab Sample ID: 240-92915-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319287	03/20/18 12:12	JWW	TAL CAN

Client Sample ID: CS-8 (2-4)
Date Collected: 03/16/18 14:18
Date Received: 03/17/18 09:30

Lab Sample ID: 240-92915-3
Matrix: Solid
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			319250	03/20/18 09:46	SDE	TAL CAN
Total/NA	Analysis	8270D		1	319613	03/22/18 15:32	JMG	TAL CAN
Total/NA	Prep	3050B			319113	03/19/18 14:00	DEE	TAL CAN
Total/NA	Analysis	6020A		2	319429	03/20/18 17:02	DSH	TAL CAN

Lab Chronicle

Client: SCS Engineers
Project/Site: Ludlam Trail

Job ID: 240-92915-1

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Ludlam Trail

Job ID: 240-92915-1

Laboratory: Eurofins TestAmerica, Canton

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Florida	NELAP	4	E87225	06-30-19 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Canton
4101 Shuffel Street, N. W.
North Canton, OH 44720
phone 330.497.9396 fax 330.497.0772

1.6/C1.7
2.6/C2.7

Chain of Custody Record

680325- Ft Lauderdale

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Opal Johnson	Site Contact:	Date:	COC No:
SCS Engineers	Tel/Fax:	Lab Contact:	Carrier:	_____ of _____ COCs
7700 N Kendall Drive, Suite 300	Analysis Turnaround Time			For Lab Use Only:
Miami, FL 33156	Calendar (C) or Work Days (W) _____			Walk-in Client:
(786) 792-5364	TAT if different from Below ___See comments_____			Lab Sampling:
(xxx) xxx-xxxx FAX	☐ 2 weeks			
Project Name: Ludlam Trail (Proj. Num. 09217186.02)	☐ 1 week			Job / SDG No.:
Site: Ludlam Trail	☐ 2 days			
P O #	☐ 1 day			Sampler:

Sample Identification	Start Date	Start Time	End Date	End Time	Sample Type	Matrix	# of Cont.	Filtered Sample (Y / N)	Composite = C / Grab = G	8270 - ISM, PAH	6020 - ISM, Arsenic Only	8270 - Composite, PAH	6020 - Composite, Arsenic Only
CS-8 (0-0.5)	3/16/18	14:16			C	S	1					X	X
CS-8 (0.5-2)	3/16/18	14:17			C	S	1					X	X
CS-8 (2-4)	3/16/18	14:18			C	S	1					X	X

Sample Specific Notes:
Project # 240-19853

240-92915 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments: Turnaround time for analysis of sample is 3 days

Relinquished by:		Company: SCS	Date/Time: 3/16/18 16:15	Received by:	Company: Florida Exp	Date/Time: 3/16 4:45 pm
Relinquished by:		Company: TA	Date/Time: 3.16.18 2000	Received by:	Company: TAL	Date/Time: 3/17/18 930
Relinquished by:		Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4, dated 10/25/2012

TestAmerica Canton Sample Receipt Form/Narrative **Login # : 29915**

Canton Facility

Client SCS Site Name

Cooler Received on 3/17/18 Opened on 3/17/18

Cooler unpacked by: OD

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt — ☒ See Multiple Cooler Form

IR GUN# IR-8 (CF +0.1 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

IR GUN #36 (CF +0.3°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

~~IR GUN # 627 (CF -1.3°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C~~

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 each	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels be reconciled with the COC?	Yes	No
9. Were correct bottle(s) used for the test(s) indicated?	Yes	No
10. Sufficient quantity received to perform indicated analyses?	Yes	No
11. Are these work share samples?	Yes	No
If yes, Questions 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA
13. Were VOAs on the COC?	Yes	No
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #	Yes	No
16. Was a LL Hg or Me Hg trip blank present?	Yes	No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

pH Strip Lot# HC732776

Contacted PM Date by via Verbal Voice Mail Other

Concerning

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

17. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.

Sample(s) were received in a broken container.

Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

18. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

Time preserved: Preservative(s) added/Lot number(s):

TestAmerica Multiple Cooler Receipt Form/Narrative
Canton Facility

Login # : 92915

Cooler #	IR Gun #	Observed Temp °C	Corrected Temp °C	Coolant
Client	8	1.6	1.7	Ice
b	b	2.6	2.7	D