

Arthur D. Little, Inc.

Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - DUP - PAH

Field ID	98-0-F1-02-00-PHC-S
Lab ID	98D2118
SDG	SDGS002
File	DY0526.D
Sample Type	N
Matrix	Sediment
Sample Size	25.2 g
Weight Basis	DRY
Associated Blank	BV-S-83PB
Field Date	7/4/1998
Extract Date	9/14/1998
Analysis Date	9/22/1998
Min Reporting Limit	0.5
Units	ug/Kg

PAH	
Naphthalene	2.5
C1-Naphthalenes	4.8
C2-Naphthalenes	12
C3-Naphthalenes	9.5
C4-Naphthalenes	12
Acenaphthylene	0.25 J
Acenaphthene	0.85
Biphenyl	2
Fluorene	3.6
C1-Fluorenes	3.7
C2-Fluorenes	5.8
C3-Fluorenes	8.2
Anthracene	1.1
Phenanthrene	9.3
C1-Phenanthrenes/anthracenes	12
C2-Phenanthrenes/anthracenes	11
C3-Phenanthrenes/anthracenes	5.7
C4-Phenanthrenes/anthracenes	4.7
Dibenzothiophene	1.4
C1-Dibenzothiophenes	1.9
C2-Dibenzothiophenes	2.9
C3-Dibenzothiophenes	1.9
Fluoranthene	7.4
Pyrene	9.3
C1-Fluoranthenes/pyrenes	9.3
C2-Fluoranthenes/pyrenes	7.6
C3-Fluoranthenes/pyrenes	4.7
Benzo[a]anthracene	1.8
Chrysene	3.2
C1-Chrysenes	3.3
C2-Chrysenes	3.8
C3-Chrysenes	1.7
C4-Chrysenes	1.8
Benzo[b]fluoranthene	3.4
Benzo[k]fluoranthene	0.46 J
Benzo[e]pyrene	2.5
Benzo[a]pyrene	1.1
Perylene	56
Indeno[1,2,3,-c,d]pyrene	1.4
Dibenzo[a,h]anthracene	0.49 J
Benzo[g,h,i]perylene	10

Total PAH	250
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d8-Naphthalene	80
d10-Acenaphthene	87
d10-Phenanthrene	93
d12-Benzo[a]pyrene	91

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1997 Final Data (Surrogate Corrected) - DUP - PAH

Field ID	98-0-F1-02-00-PHC-S
Lab ID	98D2118DUP
SDG	SDGS002
File	DY0527.D
Sample Type	N
Matrix	Sediment
Sample Size	25.4 g
Weight Basis	DRY
Associated Blank	BV-S-83PB
Field Date	7/4/1998
Extract Date	9/14/1998
Analysis Date	9/22/1998
Min Reporting Limit	0.49
Units	ug/Kg

PAH	
Naphthalene	2.6
C1-Naphthalenes	4.9
C2-Naphthalenes	12
C3-Naphthalenes	10
C4-Naphthalenes	12
Acenaphthylene	0.27 J
Acenaphthene	0.9
Biphenyl	2
Fluorene	3.5
C1-Fluorenes	3.5
C2-Fluorenes	5.5
C3-Fluorenes	9.1
Anthracene	1.4
Phenanthrene	9.4
C1-Phenanthrenes/anthracenes	12
C2-Phenanthrenes/anthracenes	11
C3-Phenanthrenes/anthracenes	5.9
C4-Phenanthrenes/anthracenes	4.1
Dibenzothiophene	1.4
C1-Dibenzothiophenes	2.5
C2-Dibenzothiophenes	2.7
C3-Dibenzothiophenes	2.2
Fluoranthene	7
Pyrene	8.8
C1-Fluoranthenes/pyrenes	9.1
C2-Fluoranthenes/pyrenes	7.3
C3-Fluoranthenes/pyrenes	4.7
Benzo[a]anthracene	1.7
Chrysene	3.7
C1-Chrysenes	3.4
C2-Chrysenes	4.4
C3-Chrysenes	2
C4-Chrysenes	2.1
Benzo[b]fluoranthene	3.2
Benzo[k]fluoranthene	0.41 J
Benzo[e]pyrene	2.3
Benzo[a]pyrene	1.1
Perylene	57
Indeno[1,2,3,-c,d]pyrene	1.4
Dibenzo[a,h]anthracene	0.39 J
Benzo[g,h,i]perylene	9.9

Total PAH	250
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d8-Naphthalene	81
d10-Acenaphthene	89
d10-Phenanthrene	93
d12-Benzo[a]pyrene	92

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Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - DUP - PAH

Field ID	98-1-23-01-00-PHC-S
Lab ID	98D2150
SDG	SDGS004
File	DY0630.D
Sample Type	N
Matrix	Sediment
Sample Size	30.4 g
Weight Basis	DRY
Associated Blank	BV-S-97PB
Field Date	7/2/1998
Extract Date	9/25/1998
Analysis Date	10/6/1998
Min Reporting Limit	0.41
Units	ug/Kg

PAH	
Naphthalene	4.5
C1-Naphthalenes	9.3
C2-Naphthalenes	16
C3-Naphthalenes	13
C4-Naphthalenes	12
Acenaphthylene	0.15 J
Acenaphthene	0.37 J
Biphenyl	2.3
Fluorene	1.7
C1-Fluorenes	3.1
C2-Fluorenes	5
C3-Fluorenes	7.5
Anthracene	0.41
Phenanthrene	8
C1-Phenanthrenes/anthracenes	11
C2-Phenanthrenes/anthracenes	12
C3-Phenanthrenes/anthracenes	7.9
C4-Phenanthrenes/anthracenes	8.1
Dibenzothiophene	0.96
C1-Dibenzothiophenes	1.3
C2-Dibenzothiophenes	1.9
C3-Dibenzothiophenes	ND
Fluoranthene	2.2
Pyrene	2.4
C1-Fluoranthenes/pyrenes	5
C2-Fluoranthenes/pyrenes	5.8
C3-Fluoranthenes/pyrenes	4.9
Benzo[a]anthracene	0.86
Chrysene	2.2
C1-Chrysenes	2.7
C2-Chrysenes	3.2
C3-Chrysenes	2
C4-Chrysenes	1.9
Benzo[b]fluoranthene	1.8
Benzo[k]fluoranthene	0.24 J
Benzo[e]pyrene	1.4
Benzo[a]pyrene	0.58
Perylene	10
Indeno[1,2,3,-c,d]pyrene	0.46
Dibenzo[a,h]anthracene	0.26 J
Benzo[g,h,i]perylene	2

Total PAH	180
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d8-Naphthalene	74
d10-Acenaphthene	78
d10-Phenanthrene	81
d12-Benzo[a]pyrene	82

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Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - DUP - PAH

Field ID	98-1-23-01-00-PHC-S
Lab ID	98D2150DUP
SDG	SDGS004
File	DY0631.D
Sample Type	N
Matrix	Sediment
Sample Size	30.3 g
Weight Basis	DRY
Associated Blank	BV-S-97PB
Field Date	7/2/1998
Extract Date	9/25/1998
Analysis Date	10/6/1998
Min Reporting Limit	0.41
Units	ug/Kg

PAH	
Naphthalene	4.8
C1-Naphthalenes	9.2
C2-Naphthalenes	16
C3-Naphthalenes	13
C4-Naphthalenes	13
Acenaphthylene	0.17 J
Acenaphthene	0.28 J
Biphenyl	2.2
Fluorene	1.8
C1-Fluorenes	3.3
C2-Fluorenes	4.6
C3-Fluorenes	8.3
Anthracene	0.37 J
Phenanthrene	8.1
C1-Phenanthrenes/anthracenes	11
C2-Phenanthrenes/anthracenes	12
C3-Phenanthrenes/anthracenes	7.2
C4-Phenanthrenes/anthracenes	8.6
Dibenzothiophene	1
C1-Dibenzothiophenes	1.4
C2-Dibenzothiophenes	1.9
C3-Dibenzothiophenes	1.2
Fluoranthene	2.1
Pyrene	2.5
C1-Fluoranthenes/pyrenes	5.2
C2-Fluoranthenes/pyrenes	5.9
C3-Fluoranthenes/pyrenes	4.8
Benzo[a]anthracene	0.98
Chrysene	2.1
C1-Chrysenes	2.8
C2-Chrysenes	3.2
C3-Chrysenes	2.3
C4-Chrysenes	1.8
Benzo[b]fluoranthene	1.8
Benzo[k]fluoranthene	0.27 J
Benzo[e]pyrene	1.5
Benzo[a]pyrene	0.62
Perylene	10
Indeno[1,2,3,-c,d]pyrene	0.49
Dibenzo[a,h]anthracene	0.32 J
Benzo[g,h,i]perylene	2

Total PAH	180
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d8-Naphthalene	69
d10-Acenaphthene	76
d10-Phenanthrene	79
d12-Benzo[a]pyrene	78

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Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - DUP - PAH

Field ID	98-3-F1-01-00-PHC-S
Lab ID	98D2247
SDG	SDGS006
File	DY0703.D
Sample Type	N
Matrix	Sediment
Sample Size	22.3 g
Weight Basis	DRY
Associated Blank	BW-S-41PB
Field Date	6/30/1998
Extract Date	10/6/1998
Analysis Date	10/18/1998
Min Reporting Limit	0.56
Units	ug/Kg

PAH	
Naphthalene	9
C1-Naphthalenes	27
C2-Naphthalenes	54
C3-Naphthalenes	40
C4-Naphthalenes	35
Acenaphthylene	0.3 J
Acenaphthene	1.1
Biphenyl	6.9
Fluorene	6.8
C1-Fluorenes	13
C2-Fluorenes	17
C3-Fluorenes	19
Anthracene	1.1
Phenanthrene	24
C1-Phenanthrenes/anthracenes	35
C2-Phenanthrenes/anthracenes	34
C3-Phenanthrenes/anthracenes	26
C4-Phenanthrenes/anthracenes	12
Dibenzothiophene	3.3
C1-Dibenzothiophenes	5
C2-Dibenzothiophenes	5.9
C3-Dibenzothiophenes	4.2
Fluoranthene	5.5
Pyrene	4.8
C1-Fluoranthenes/pyrenes	17
C2-Fluoranthenes/pyrenes	18
C3-Fluoranthenes/pyrenes	15
Benzo[a]anthracene	2.2
Chrysene	6.5
C1-Chrysenes	8.2
C2-Chrysenes	7.4
C3-Chrysenes	5.5
C4-Chrysenes	4.8
Benzo[b]fluoranthene	4.1
Benzo[k]fluoranthene	0.57
Benzo[e]pyrene	3.6
Benzo[a]pyrene	1.3
Perylene	18
Indeno[1,2,3,-c,d]pyrene	1.2
Dibenzo[a,h]anthracene	0.8
Benzo[g,h,i]perylene	3.5

Total PAH	510
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d8-Naphthalene	60
d10-Acenaphthene	60
d10-Phenanthrene	63
d12-Benzo[a]pyrene	64

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Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - DUP - PAH

Field ID	98-3-F1-01-00-PHC-S
Lab ID	98D2247DUP
SDG	SDGS006
File	DY0704.D
Sample Type	N
Matrix	Sediment
Sample Size	22.3 g
Weight Basis	DRY
Associated Blank	BW-S-41PB
Field Date	6/30/1998
Extract Date	10/6/1998
Analysis Date	10/18/1998
Min Reporting Limit	0.56
Units	ug/Kg

PAH	
Naphthalene	8.9
C1-Naphthalenes	28
C2-Naphthalenes	54
C3-Naphthalenes	40
C4-Naphthalenes	35
Acenaphthylene	0.28 J
Acenaphthene	1.2
Biphenyl	6.8
Fluorene	6.7
C1-Fluorenes	14
C2-Fluorenes	17
C3-Fluorenes	21
Anthracene	1.2
Phenanthrene	24
C1-Phenanthrenes/anthracenes	35
C2-Phenanthrenes/anthracenes	33
C3-Phenanthrenes/anthracenes	27
C4-Phenanthrenes/anthracenes	11
Dibenzothiophene	2.9
C1-Dibenzothiophenes	5.2
C2-Dibenzothiophenes	6
C3-Dibenzothiophenes	4.6
Fluoranthene	5.8
Pyrene	4.2
C1-Fluoranthenes/pyrenes	17
C2-Fluoranthenes/pyrenes	17
C3-Fluoranthenes/pyrenes	14
Benzo[a]anthracene	2.1
Chrysene	6.4
C1-Chrysenes	8.7
C2-Chrysenes	7.3
C3-Chrysenes	5.8
C4-Chrysenes	4.2
Benzo[b]fluoranthene	4.3
Benzo[k]fluoranthene	0.38 J
Benzo[e]pyrene	3.7
Benzo[a]pyrene	1.4
Perylene	18
Indeno[1,2,3,-c,d]pyrene	1.2
Dibenzo[a,h]anthracene	0.83
Benzo[g,h,i]perylene	3.8

Total PAH	510
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d8-Naphthalene	65
d10-Acenaphthene	63
d10-Phenanthrene	68
d12-Benzo[a]pyrene	69

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Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - DUP - PAH

Field ID	98-3-1A-01-00-PHC-T
	PC
Lab ID	98D2204 RE
SDG	SDGT003
File	DX1785.D
Sample Type	N
Matrix	Liver Composite
Sample Size	3.87 g
Weight Basis	DRY
Associated Blank	CJ-S-04PB
Field Date	6/29/1998
Extract Date	4/30/1999
Analysis Date	5/14/1999
Min Reporting Limit	6.4
Units	ug/Kg

PAH	
Naphthalene	4 JB
C1-Naphthalenes	ND
C2-Naphthalenes	ND
C3-Naphthalenes	ND
C4-Naphthalenes	ND
Acenaphthylene	3.5 J
Acenaphthene	0.8 J
Biphenyl	2.5 J
Fluorene	1.7 JB
C1-Fluorenes	ND
C2-Fluorenes	ND
C3-Fluorenes	ND
Anthracene	1.8 J
Phenanthrene	3.9 JB
C1-Phenanthrenes/anthracenes	ND
C2-Phenanthrenes/anthracenes	ND
C3-Phenanthrenes/anthracenes	ND
C4-Phenanthrenes/anthracenes	ND
Dibenzothiophene	ND
C1-Dibenzothiophenes	ND
C2-Dibenzothiophenes	ND
C3-Dibenzothiophenes	ND
Fluoranthene	1.5 JB
Pyrene	0.66 JB
C1-Fluoranthenes/pyrenes	ND
C2-Fluoranthenes/pyrenes	ND
C3-Fluoranthenes/pyrenes	ND
Benzo[a]anthracene	ND
Chrysene	ND
C1-Chrysenes	ND
C2-Chrysenes	ND
C3-Chrysenes	ND
C4-Chrysenes	ND
Benzo[b]fluoranthene	ND
Benzo[k]fluoranthene	ND
Benzo[e]pyrene	ND
Benzo[a]pyrene	ND
Perylene	ND
Indeno[1,2,3,-c,d]pyrene	ND
Dibenzo[a,h]anthracene	ND
Benzo[g,h,i]perylene	2 JB

Total PAH 22

d8-Naphthalene	97
d10-Acenaphthene	94
d10-Phenanthrene	93
d12-Benzo[a]pyrene	24 &

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Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - DUP - PAH

Field ID	98-3-1A-01-00-PHC-T
PC	
Lab ID	98D2204DUP RE
SDG	SDGT003
File	DX1786.D
Sample Type	N
Matrix	Liver Composite
Sample Size	3.8 g
Weight Basis	DRY
Associated Blank	CJ-S-04PB
Field Date	6/29/1998
Extract Date	4/30/1999
Analysis Date	5/14/1999
Min Reporting Limit	6.6
Units	ug/Kg

PAH	
Naphthalene	3.1 JB
C1-Naphthalenes	ND
C2-Naphthalenes	ND
C3-Naphthalenes	ND
C4-Naphthalenes	ND
Acenaphthylene	3 J
Acenaphthene	0.72 J
Biphenyl	2.3 J
Fluorene	2 JB
C1-Fluorenes	ND
C2-Fluorenes	ND
C3-Fluorenes	ND
Anthracene	2.2 J
Phenanthrene	3.9 JB
C1-Phenanthrenes/anthracenes	ND
C2-Phenanthrenes/anthracenes	ND
C3-Phenanthrenes/anthracenes	ND
C4-Phenanthrenes/anthracenes	ND
Dibenzothiophene	ND
C1-Dibenzothiophenes	ND
C2-Dibenzothiophenes	ND
C3-Dibenzothiophenes	ND
Fluoranthene	1.6 JB
Pyrene	0.74 JB
C1-Fluoranthenes/pyrenes	ND
C2-Fluoranthenes/pyrenes	ND
C3-Fluoranthenes/pyrenes	ND
Benzo[a]anthracene	ND
Chrysene	ND
C1-Chrysenes	ND
C2-Chrysenes	ND
C3-Chrysenes	ND
C4-Chrysenes	ND
Benzo[b]fluoranthene	ND
Benzo[k]fluoranthene	ND
Benzo[e]pyrene	ND
Benzo[a]pyrene	ND
Perylene	ND
Indeno[1,2,3,-c,d]pyrene	2.4 JB
Dibenzo[a,h]anthracene	ND
Benzo[g,h,i]perylene	2.1 JB

Total PAH	24
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d8-Naphthalene	84
d10-Acenaphthene	83
d10-Phenanthrene	83
d12-Benzo[a]pyrene	21 &