

Arthur D. Little, Inc.

Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - Source Samples - PAH

Field ID	AUGUSTINE IS.	CLC-1	CR-5	HOMER COAL
Lab ID	98D2090	98D1406	98D1439	98D2275
SDG	SDGS001	SDGO001	SDGS001	SDGO001
File	DZ6157.D	DX1396.D	DZ6155.D	DX1401.D
Sample Type	SAMP	SAMP	SAMP	SAMP
Matrix	Sediment	Coal	Sediment	Coal
Sample Size	26.8 g	4.73 g	37.1 g	4.18 g
Weight Basis	DRY	DRY	DRY	DRY
Associated Blank	BV-S-80PB	BX-S-29PB	BV-S-80PB	BX-S-29PB
Field Date	7/4/1998	5/16/1998	5/16/1998	7/7/1998
Extract Date	9/10/1998	10/21/1998	9/10/1998	10/21/1998
Analysis Date	9/19/1998	4/22/1999	9/19/1998	4/22/1999
Min Reporting Limit	0.47	5.3	0.34	6
Units	ug/g	ug/g	ug/g	ug/g
PAH				
Naphthalene	0.0054	2.2 L	0.0026	0.021 B
C1-Naphthalenes	0.0099	3.4	0.0039	0.22
C2-Naphthalenes	0.015	3.6	0.0047	0.26
C3-Naphthalenes	0.011	2.6	0.0036	0.46
C4-Naphthalenes	0.0087	1.9	0.0032	0.31
Acenaphthylene	0.00016 J	ND	0.000064 J	ND
Acenaphthene	0.0004 J	0.0072	0.00011 J	0.056
Biphenyl	0.0024	0.033	0.00091	0.0045 J
Fluorene	0.0018	0.019	0.00048	0.028
C1-Fluorenes	0.0029	0.034	0.00073	0.037
C2-Fluorenes	0.0048	0.073	0.0013	0.052
C3-Fluorenes	0.0068	0.068	0.0017	0.04
Anthracene	0.00049	0.12	0.00017 J	ND
Phenanthrene	0.0089	0.2	0.0028	0.032
C1-Phenanthrenes/anthracenes	0.011	1	0.003	0.17
C2-Phenanthrenes/anthracenes	0.012	2.9	0.0033	0.14
C3-Phenanthrenes/anthracenes	0.0076	1.5	0.0019	0.089
C4-Phenanthrenes/anthracenes	0.0056	1.9	0.0017	0.13
Dibenzothiophene	0.0011	0.011	0.00035	0.0067
C1-Dibenzothiophenes	0.0016	0.032	0.00032 J	0.0051 J
C2-Dibenzothiophenes	0.0018	0.068	0.00061	0.015
C3-Dibenzothiophenes	0.0012	0.043	0.00033 J	0.0092
Fluoranthene	0.0025	0.014	0.00042 B	0.0052 J
Pyrene	0.0026	0.039	0.00065	0.012
C1-Fluoranthenes/pyrenes	0.0048	0.21	0.0014	0.019
C2-Fluoranthenes/pyrenes	0.0056	0.21	0.0014	0.012
C3-Fluoranthenes/pyrenes	0.0047	0.16	0.0017	0.01
Benzo[a]anthracene	0.00083	0.031	0.00022 J	0.0015 J
Chrysene	0.0024	0.017	0.00073	0.0042 J
C1-Chrysenes	0.0031	0.062	0.0014	ND
C2-Chrysenes	0.0039	0.16	0.0021	ND
C3-Chrysenes	0.0018	0.098	0.00062	ND
C4-Chrysenes	0.0016	0.059	0.00076	ND
Benzo[b]fluoranthene	0.0017	0.01	0.00046	ND
Benzo[k]fluoranthene	0.00023 J	0.0011 J	0.000093 J	ND
Benzo[e]pyrene	0.0015	0.00026 J	0.00054	ND
Benzo[a]pyrene	0.00066	0.03	0.00017 J	ND
Perylene	0.012	0.0098	0.0098	0.25
Indeno[1,2,3,-c,d]pyrene	0.00061	ND	0.00015 J	ND
Dibenzo[a,h]anthracene	ND	ND	0.00012 J	0.0014 J
Benzo[g,h,i]perylene	0.0018	0.0031 J	0.00051	0.007
Total PAH	0.17	23	0.061	2.4
d8-Naphthalene	78	82	85	83
d10-Acenaphthene	80	87	82	106
d10-Phenanthrene	82	96	78	115
d12-Benzo[a]pyrene	83	74	75	101

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1997 Final Data (Surrogate Corrected) - Source Samples - PAH

Field ID	Matanuska River	MC-1	Ninilchik Coal	SSCOAL 4
Lab ID	98D1438	98D1407	98D2276	98D2315
SDG	SDGS001	SDGO001	SDGO001	SDGO001
File	DZ6154.D	DX1397.D	DX1402.D	DX1403.D
Sample Type	SAMP	SAMP	SAMP	SAMP
Matrix	Sediment	Coal	Coal	Coal
Sample Size	31.3 g	4.86 g	3.62 g	3.66 g
Weight Basis	DRY	DRY	DRY	DRY
Associated Blank	BV-S-80PB	BX-S-29PB	BX-S-29PB	BX-S-29PB
Field Date	5/13/1998	5/16/1998	7/7/1998	6/22/1998
Extract Date	9/10/1998	10/21/1998	10/21/1998	10/21/1998
Analysis Date	9/19/1998	4/22/1999	4/22/1999	4/22/1999
Min Reporting Limit	0.4	5.1	6.9	6.8
Units	ug/g	ug/g	ug/g	ug/g
PAH				
Naphthalene	0.011	2.3 L	0.0076 B	0.0087 B
C1-Naphthalenes	0.02	5	0.0032 JB	0.0044 JB
C2-Naphthalenes	0.026	7.3	0.016	0.0077
C3-Naphthalenes	0.016	8.3	0.055	0.015
C4-Naphthalenes	0.011	6.9	0.066	0.026
Acenaphthylene	0.00013 J	ND	ND	ND
Acenaphthene	ND	0.061	0.0025 J	0.0033 J
Biphenyl	0.0033	0.082	0.00076 JB	0.00098 JB
Fluorene	0.0011	0.17	0.0029 JB	0.0033 J
C1-Fluorenes	0.0018	0.25	0.014	0.0083
C2-Fluorenes	0.0036	0.41	0.053	0.032
C3-Fluorenes	0.0055	0.32	0.066	0.028
Anthracene	0.00036 J	0.44	ND	ND
Phenanthrene	0.008	0.56	0.0092 B	0.03
C1-Phenanthrenes/anthracenes	0.012	2.7	0.053	0.082
C2-Phenanthrenes/anthracenes	0.014	4.8	0.16	0.12
C3-Phenanthrenes/anthracenes	0.0084	6.22	0.083	0.067
C4-Phenanthrenes/anthracenes	0.005	8.4	0.11	0.086
Dibenzothiophene	0.00077	0.058	0.0033 J	0.003 J
C1-Dibenzothiophenes	0.0013	0.16	0.0084	0.0092
C2-Dibenzothiophenes	0.0013	0.33	0.02	0.015
C3-Dibenzothiophenes	0.00077	0.22	0.016	0.015
Fluoranthene	0.001	0.066	0.037	0.027
Pyrene	0.0013	0.11	0.065	0.052
C1-Fluoranthenes/pyrenes	0.0035	0.4	0.14	0.039
C2-Fluoranthenes/pyrenes	0.0047	0.79	0.036	0.022
C3-Fluoranthenes/pyrenes	0.0049	0.63	0.01	ND
Benzo[a]anthracene	0.00065	0.14	0.0045 J	0.003 J
Chrysene	0.0017	0.055	0.011	0.0089
C1-Chrysenes	0.0025	0.24	0.0075	0.0075
C2-Chrysenes	0.003	0.51	0.016	0.0087
C3-Chrysenes	0.0015	0.36	ND	ND
C4-Chrysenes	0.0017	0.27	ND	ND
Benzo[b]fluoranthene	0.0013	0.025	0.0024 J	0.0076
Benzo[k]fluoranthene	0.00013 J	0.0039 J	0.0012 J	0.002 J
Benzo[e]pyrene	0.0013	0.031	ND	ND
Benzo[a]pyrene	0.0005	0.063	ND	ND
Perylene	0.0025	0.2	3.6 L	3.4 L
Indeno[1,2,3,-c,d]pyrene	0.00024 J	0.0044 J	ND	ND
Dibenzo[a,h]anthracene	0.00023 J	0.0044 J	ND	ND
Benzo[g,h,i]perylene	0.0009	0.0098	0.00066 J	0.012
Total PAH	0.18	59	4.7	4.2
d8-Naphthalene	71	98	53	74
d10-Acenaphthene	75	106	69	82
d10-Phenanthrene	92	111	83	96
d12-Benzo[a]pyrene	64	91	74	80

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1997 Final Data (Surrogate Corrected) - Source Samples - PAH

Field ID	SSCOAL 5	98-0-WC-01-00-OIL	98-0-WC-02-00-OIL
Lab ID	98D2316	98D2273	98D2274
SDG	SDGO001	SDGO001	SDGO001
File	DX1404.D	DX1398.D	DX1399.D
Sample Type	SAMP	SAMP	SAMP
Matrix	Coal	Oil	Oil
Sample Size	3.64 g	5.01 mg	5.07 mg
Weight Basis	DRY	OIL	OIL
Associated Blank	BX-S-29PB	BX-S-29PB	BX-S-29PB
Field Date	6/22/1998	7/7/1998	7/7/1998
Extract Date	10/21/1998	10/21/1998	10/21/1998
Analysis Date	4/22/1999	4/22/1999	4/22/1999
Min Reporting Limit	6.9	5	4.9
Units	ug/g	mg/Kg	mg/Kg
PAH			
Naphthalene	0.0097 B	1.9 JB	2 JB
C1-Naphthalenes	0.0056 JB	0.88 JB	0.89 JB
C2-Naphthalenes	0.013	3.6 J	15
C3-Naphthalenes	0.017	35	380
C4-Naphthalenes	0.049	77	380
Acenaphthylene	ND	ND	ND
Acenaphthene	0.0042 J	2.7 J	17
Biphenyl	0.0053 J	ND	0.35 JB
Fluorene	0.003 JB	0.56 JB	3.9 J
C1-Fluorenes	0.014	15	120
C2-Fluorenes	0.03	210	580
C3-Fluorenes	0.023	390	640
Anthracene	ND	ND	ND
Phenanthrene	0.016	4.6 JB	60
C1-Phenanthrenes/anthracenes	0.077	110	400
C2-Phenanthrenes/anthracenes	0.12	430	780
C3-Phenanthrenes/anthracenes	0.075	470	630
C4-Phenanthrenes/anthracenes	0.095	310	430
Dibenzothiophene	0.0034 J	0.84 J	2 J
C1-Dibenzothiophenes	0.01	4.5 J	10
C2-Dibenzothiophenes	0.012	19	37
C3-Dibenzothiophenes	0.014	39	65
Fluoranthene	0.019	ND	7.2
Pyrene	0.026	24	36
C1-Fluoranthenes/pyrenes	0.04	77	150
C2-Fluoranthenes/pyrenes	0.013	160	220
C3-Fluoranthenes/pyrenes	0.0064 J	190	270
Benzo[a]anthracene	0.0028 J	9.9	14
Chrysene	0.0087	18	28
C1-Chrysenes	0.0075	59	86
C2-Chrysenes	0.01	100	140
C3-Chrysenes	ND	89	110
C4-Chrysenes	ND	91	110
Benzo[b]fluoranthene	0.0096	5.5	6.7
Benzo[k]fluoranthene	0.0015 J	0.92 J	1.1 J
Benzo[e]pyrene	0.0058 J	9.6	3.8 J
Benzo[a]pyrene	ND	3.4 J	4.4 J
Perylene	4 L	6.9	3.2 J
Indeno[1,2,3,-c,d]pyrene	ND	ND	ND
Dibenzo[a,h]anthracene	ND	2.1 J	2 J
Benzo[g,h,i]perylene	0.0054 J	1.9 J	7.6
Total PAH	4.8	3000	5800
d8-Naphthalene	71	89	82
d10-Acenaphthene	81	101	88
d10-Phenanthrene	91	114	95
d12-Benzo[a]pyrene	77	99	83