

Arthur D. Little, Inc.

Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - NSC - PAH

Field ID	North Slope Crude				North Slope Crude			
Lab ID	BI53				BI53			
SDG	SDGS004				SDGS004			
File	DX4798.D				DX4751.D			
Sample Type	NSC				NSC			
Matrix	Oil				Oil			
Sample Size	5.08 mg				5.08 mg			
Weight Basis	OIL				OIL			
Associated Blank	NA				NA			
Field Date	NA				NA			
Extract Date	NA				NA			
Analysis Date	8/25/1997				8/21/1997			
Min Reporting Limit	4.9				4.9			
Units	ug/g	T	%D	Q	ug/g	T	%D	Q
PAH								
Naphthalene	760	750	1.3		750	750	0	
C1-Naphthalenes	1900	1700	12		1900	1700	12	
C2-Naphthalenes	2700	2400	12		2700	2400	12	
C3-Naphthalenes	2100	2000	5		2400	2000	20	
C4-Naphthalenes	1400	1200	17		1500	1200	25	
Acenaphthylene	ND				ND			
Acenaphthene	ND				ND			
Biphenyl	230	220	4.5		230	220	4.5	
Fluorene	97	94	3.2		97	94	3.2	
C1-Fluorenes	240	240	0		250	240	4.2	
C2-Fluorenes	370	350	5.7		390	350	11	
C3-Fluorenes	410	400	2.5		470	400	18	
Anthracene	ND				ND			
Phenanthrene	290	260	12		290	260	12	
C1-Phenanthrenes/anthracenes	640	600	6.7		700	600	17	
C2-Phenanthrenes/anthracenes	780	740	5.4		880	740	19	
C3-Phenanthrenes/anthracenes	600	540	11		690	540	28	
C4-Phenanthrenes/anthracenes	370	330	12		410	330	24	
Dibenzothiophene	240	240	0		240	240	0	
C1-Dibenzothiophenes	510	500	2		570	500	14	
C2-Dibenzothiophenes	730	740	-1.4		810	740	9.4	
C3-Dibenzothiophenes	640	660	-3		730	660	11	
Fluoranthene	ND				ND			
Pyrene	14	14	0		15	14	7.1	
C1-Fluoranthenes/pyrenes	87	83	4.8		88	83	6	
C2-Fluoranthenes/pyrenes	160	150	6.7		160	150	6.7	
C3-Fluoranthenes/pyrenes	190	170	12		200	170	18	
Benzo[a]anthracene	ND				ND			
Chrysene	48	49	-2		49	49	0	
C1-Chrysenes	81	84	-3.6		87	84	3.6	
C2-Chrysenes	120	110	9.1		100	110	-9.1	
C3-Chrysenes	96	92	4.3		100	92	8.7	
C4-Chrysenes	85	75	13		91	75	21	
Benzo[b]fluoranthene	5.7	6.6	-14		5.6	6.6	-15	
Benzo[k]fluoranthene	ND				ND			
Benzo[e]pyrene	11	12	-8.3		12	12	0	
Benzo[a]pyrene	ND				ND			
Perylene	ND				ND			
Indeno[1,2,3,-c,d]pyrene	ND				ND			
Dibenzo[a,h]anthracene	ND				ND			
Benzo[g,h,i]perylene	3 J				ND			
Total PAH	16000				17000			
d8-Naphthalene	100				102			
d10-Acenaphthene	96				98			
d10-Phenanthrene	92				91			
d12-Benzo[a]pyrene	107				109			

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Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - NSC - PAH

Field ID	North Slope Crude				North Slope Crude			
Lab ID	BI53				BI53			
SDG	SDGS005				SDGS005			
File	DX5076.D				W1227.D			
Sample Type	NSC				NSC			
Matrix	Oil				Oil			
Sample Size	5.08 mg				5.08 mg			
Weight Basis	OIL				OIL			
Associated Blank	NA				NA			
Field Date	NA				NA			
Extract Date	NA				NA			
Analysis Date	9/18/1997				8/28/1997			
Min Reporting Limit	4.9				4.9			
Units	ug/g	T	%D	Q	ug/g	T	%D	Q
PAH								
Naphthalene	770	750	2.7		760	750	1.3	
C1-Naphthalenes	1700	1700	0		1400	1700	-18	
C2-Naphthalenes	2400	2400	0		1800	2400	-25	
C3-Naphthalenes	1900	2000	-5		1400	2000	-30	
C4-Naphthalenes	1400	1200	17		810	1200	-32	
Acenaphthylene	ND				ND			
Acenaphthene	ND				ND			
Biphenyl	230	220	4.5		220	220	0	
Fluorene	100	94	6.4		100	94	6.4	
C1-Fluorenes	270	240	12		250	240	4.2	
C2-Fluorenes	440	350	26		340	350	-2.9	
C3-Fluorenes	530	400	32		350	400	-12	
Anthracene	ND				ND			
Phenanthrene	270	260	3.8		280	260	7.7	
C1-Phenanthrenes/anthracenes	680	600	13		610	600	1.7	
C2-Phenanthrenes/anthracenes	930	740	26		730	740	-1.4	
C3-Phenanthrenes/anthracenes	680	540	26		520	540	-3.7	
C4-Phenanthrenes/anthracenes	430	330	30		300	330	-9.1	
Dibenzothiophene	230	340	-32		240	340	-30	
C1-Dibenzothiophenes	560	500	12		470	500	-6	
C2-Dibenzothiophenes	850	740	15		560	740	-24	
C3-Dibenzothiophenes	790	660	20		580	660	-12	
Fluoranthene	ND				ND			
Pyrene	13	14	-7.2		13	14	-7.2	
C1-Fluoranthenes/pyrenes	86	83	3.6		80	83	-3.6	
C2-Fluoranthenes/pyrenes	170	150	13		150	150	0	
C3-Fluoranthenes/pyrenes	200	170	18		170	170	0	
Benzo[a]anthracene	ND				ND			
Chrysene	54	49	10		49	49	0	
C1-Chrysenes	95	84	13		87	84	3.6	
C2-Chrysenes	120	110	9.1		110	110	0	
C3-Chrysenes	120	92	30		99	92	7.6	
C4-Chrysenes	92	75	23		89	75	19	
Benzo[b]fluoranthene	5	6.6	-24		6.8	6.6	3	
Benzo[k]fluoranthene	ND				ND			
Benzo[e]pyrene	12	12	0		12	12	0	
Benzo[a]pyrene	ND				ND			
Perylene	ND				ND			
Indeno[1,2,3,-c,d]pyrene	ND				ND			
Dibenzo[a,h]anthracene	ND				ND			
Benzo[g,h,i]perylene	ND				4.5 J			
Total PAH	16000				13000			
d8-Naphthalene	91				92			
d10-Acenaphthene	91				98			
d10-Phenanthrene	93				102			
d12-Benzo[a]pyrene	108				100			

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Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - NSC - PAH

Field ID	North Slope Crude			
Lab ID	BI53			
SDG	SDGS005			
File	W1284.D			
Sample Type	NSC			
Matrix	Oil			
Sample Size	5.08 mg			
Weight Basis	OIL			
Associated Blank	NA			
Field Date	NA			
Extract Date	NA			
Analysis Date	9/2/1997			
Min Reporting Limit	4.9			
Units	ug/g	T	%D	Q

PAH				
Naphthalene	750	750	0	
C1-Naphthalenes	1500	1700	-12	
C2-Naphthalenes	1900	2400	-21	
C3-Naphthalenes	1300	2000	-35	
C4-Naphthalenes	830	1200	-31	
Acenaphthylene	ND			
Acenaphthene	ND			
Biphenyl	220	220	0	
Fluorene	97	94	3.2	
C1-Fluorenes	240	240	0	
C2-Fluorenes	340	350	-2.9	
C3-Fluorenes	360	400	-10	
Anthracene	ND			
Phenanthrene	280	260	7.7	
C1-Phenanthrenes/anthracenes	630	600	5	
C2-Phenanthrenes/anthracenes	760	740	2.7	
C3-Phenanthrenes/anthracenes	540	540	0	
C4-Phenanthrenes/anthracenes	280	330	-15	
Dibenzothiophene	240	340	-30	
C1-Dibenzothiophenes	520	500	4	
C2-Dibenzothiophenes	620	740	-16	
C3-Dibenzothiophenes	650	660	-1.5	
Fluoranthene	ND			
Pyrene	15	14	7.1	
C1-Fluoranthenes/pyrenes	82	83	-1.2	
C2-Fluoranthenes/pyrenes	160	150	6.7	
C3-Fluoranthenes/pyrenes	180	170	5.9	
Benzo[a]anthracene	ND			
Chrysene	52	49	6.1	
C1-Chrysenes	90	84	7.1	
C2-Chrysenes	130	110	18	
C3-Chrysenes	100	92	8.7	
C4-Chrysenes	100	75	33	
Benzo[b]fluoranthene	6.6	6.6	0	
Benzo[k]fluoranthene	ND			
Benzo[e]pyrene	14	12	17	
Benzo[a]pyrene	ND			
Perylene	ND			
Indeno[1,2,3,-c,d]pyrene	ND			
Dibenzo[a,h]anthracene	ND			
Benzo[g,h,i]perylene	3.7 J			

Total PAH 13000

d8-Naphthalene	94
d10-Acenaphthene	97
d10-Phenanthrene	95
d12-Benzo[a]pyrene	99

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Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - NSC - PAH

Field ID	North Slope Crude				North Slope Crude			
Lab ID	BI53				BI53			
SDG	SDGS005				SDGS006			
File	W1365.D				DX6413.D			
Sample Type	NSC				NSC			
Matrix	Oil				Oil			
Sample Size	5.08 mg				5.08 mg			
Weight Basis	OIL				OIL			
Associated Blank	NA				NA			
Field Date	NA				NA			
Extract Date	NA				NA			
Analysis Date	9/8/1997				12/30/1997			
Min Reporting Limit	4.9				4.9			
Units	ug/g	T	%D	Q	ug/g	T	%D	Q
PAH								
Naphthalene	760	750	1.3		750	750	0	
C1-Naphthalenes	1400	1700	-18		1700	1700	0	
C2-Naphthalenes	1700	2400	-29		2700	2400	12	
C3-Naphthalenes	1300	2000	-35		2200	2000	10	
C4-Naphthalenes	780	1200	-35		1400	1200	17	
Acenaphthylene	ND				ND			
Acenaphthene	ND				ND			
Biphenyl	220	220	0		220	220	0	
Fluorene	100	94	6.4		92	94	-2.1	
C1-Fluorenes	240	240	0		260	240	8.3	
C2-Fluorenes	330	350	-5.7		390	350	11	
C3-Fluorenes	350	400	-12		450	400	12	
Anthracene	ND				ND			
Phenanthrene	270	260	3.8		280	260	7.7	
C1-Phenanthrenes/anthracenes	600	600	0		670	600	12	
C2-Phenanthrenes/anthracenes	670	740	-9.5		890	740	20	
C3-Phenanthrenes/anthracenes	490	540	-9.3		620	540	15	
C4-Phenanthrenes/anthracenes	280	330	-15		360	330	9.1	
Dibenzothiophene	230	340	-32		230	240	-4.2	
C1-Dibenzothiophenes	460	500	-8		510	500	2	
C2-Dibenzothiophenes	610	740	-18		730	740	-1.4	
C3-Dibenzothiophenes	550	660	-17		720	660	9.1	
Fluoranthene	ND				ND			
Pyrene	15	14	7.1		14	14	0	
C1-Fluoranthenes/pyrenes	84	83	1.2		82	83	-1.2	
C2-Fluoranthenes/pyrenes	140	150	-6.7		160	150	6.7	
C3-Fluoranthenes/pyrenes	160	170	-5.9		190	170	12	
Benzo[a]anthracene	ND				ND			
Chrysene	44	49	-10		46	49	-6.1	
C1-Chrysenes	78	84	-7.2		83	84	-1.2	
C2-Chrysenes	99	110	-10		110	110	0	
C3-Chrysenes	90	92	-2.2		80	92	-13	
C4-Chrysenes	77	75	2.7		78	75	4	
Benzo[b]fluoranthene	6.6	6.6	0		6	6.6	-9.1	
Benzo[k]fluoranthene	ND				ND			
Benzo[e]pyrene	12	12	0		11	12	-8.3	
Benzo[a]pyrene	ND				ND			
Perylene	ND				ND			
Indeno[1,2,3,-c,d]pyrene	ND				ND			
Dibenzo[a,h]anthracene	ND				ND			
Benzo[g,h,i]perylene	ND				2.9 J			
Total PAH	12000				16000			
d8-Naphthalene	92				103			
d10-Acenaphthene	99				102			
d10-Phenanthrene	106				95			
d12-Benzo[a]pyrene	108				106			

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Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - NSC - PAH

Field ID	North Slope Crude			
Lab ID	BI53			
SDG	SDGS009			
File	DX5039.D			
Sample Type	NSC			
Matrix	Oil			
Sample Size	5.08 mg			
Weight Basis	OIL			
Associated Blank	NA			
Field Date	NA			
Extract Date	NA			
Analysis Date	9/17/1997			
Min Reporting Limit	4.9			
Units	ug/g	T	%D	Q

PAH				
Naphthalene	760	750	1.3	
C1-Naphthalenes	1700	1700	0	
C2-Naphthalenes	2400	2400	0	
C3-Naphthalenes	1900	2000	-5	
C4-Naphthalenes	1300	1200	8.3	
Acenaphthylene	ND			
Acenaphthene	ND			
Biphenyl	230	220	4.5	
Fluorene	100	94	6.4	
C1-Fluorenes	280	240	17	
C2-Fluorenes	430	350	23	
C3-Fluorenes	540	400	35	
Anthracene	11			
Phenanthrene	280	260	7.7	
C1-Phenanthrenes/anthracenes	700	600	17	
C2-Phenanthrenes/anthracenes	950	740	28	
C3-Phenanthrenes/anthracenes	700	540	30	
C4-Phenanthrenes/anthracenes	410	330	24	
Dibenzothiophene	230	240	-4.2	
C1-Dibenzothiophenes	560	500	12	
C2-Dibenzothiophenes	860	740	16	
C3-Dibenzothiophenes	890	660	35	
Fluoranthene	ND			
Pyrene	14	14	0	
C1-Fluoranthenes/pyrenes	84	83	1.2	
C2-Fluoranthenes/pyrenes	180	150	20	
C3-Fluoranthenes/pyrenes	210	170	24	
Benzo[a]anthracene	ND			
Chrysene	52	49	6.1	
C1-Chrysenes	96	84	14	
C2-Chrysenes	140	110	27	
C3-Chrysenes	120	92	30	
C4-Chrysenes	98	75	31	
Benzo[b]fluoranthene	5	6.6	-24	
Benzo[k]fluoranthene	ND			
Benzo[e]pyrene	10	12	-17	
Benzo[a]pyrene	ND			
Perylene	ND			
Indeno[1,2,3,-c,d]pyrene	ND			
Dibenzo[a,h]anthracene	ND			
Benzo[g,h,i]perylene	2.8	J		

Total PAH 16000

d8-Naphthalene	100
d10-Acenaphthene	95
d10-Phenanthrene	93
d12-Benzo[a]pyrene	106

Arthur D. Little, Inc.

Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - NSC - PAH

Field ID	North Slope Crude				North Slope Crude			
Lab ID	BI53				BG28			
SDG	SDGS010				SDGS001			
File	DX5076.D				DZ9896.D			
Sample Type	NSC				NSC			
Matrix	Oil				Oil			
Sample Size	5.08 mg				5.01 mg			
Weight Basis	OIL				OIL			
Associated Blank	NA				NA			
Field Date	NA				NA			
Extract Date	NA				NA			
Analysis Date	9/18/1997				7/29/1997			
Min Reporting Limit	4.9				5			
Units	ug/g	T	%D	Q	ug/g	T	%D	Q
PAH								
Naphthalene	770	750	2.7		700	750	-6.7	
C1-Naphthalenes	1700	1700	0		1600	1700	-5.9	
C2-Naphthalenes	2400	2400	0		2100	2400	-12	
C3-Naphthalenes	1900	2000	-5		2000	2000	0	
C4-Naphthalenes	1400	1200	17		1300	1200	8.3	
Acenaphthylene	ND				ND			
Acenaphthene	ND				ND			
Biphenyl	230	220	4.5		210	220	-4.6	
Fluorene	100	94	6.4		91	94	-3.2	
C1-Fluorenes	270	240	12		220	240	-8.3	
C2-Fluorenes	440	350	26		350	350	0	
C3-Fluorenes	530	400	32		420	400	5	
Anthracene	ND				ND			
Phenanthrene	270	260	3.8		280	260	7.7	
C1-Phenanthrenes/anthracenes	680	600	13		620	600	3.3	
C2-Phenanthrenes/anthracenes	930	740	26		710	740	-4.1	
C3-Phenanthrenes/anthracenes	680	540	26		560	540	3.7	
C4-Phenanthrenes/anthracenes	430	330	30		340	330	3	
Dibenzothiophene	230	240	-4.2		220	240	-8.3	
C1-Dibenzothiophenes	560	500	12		470	500	-6	
C2-Dibenzothiophenes	850	740	15		650	740	-12	
C3-Dibenzothiophenes	790	660	20		640	660	-3	
Fluoranthene	ND				ND			
Pyrene	13	14	-7.2		13	14	-7.2	
C1-Fluoranthenes/pyrenes	86	83	3.6		76	83	-8.4	
C2-Fluoranthenes/pyrenes	170	150	13		130	150	-13	
C3-Fluoranthenes/pyrenes	200	170	18		160	170	-5.9	
Benzo[a]anthracene	ND				ND			
Chrysene	54	49	10		48	49	-2	
C1-Chrysenes	95	84	13		86	84	2.4	
C2-Chrysenes	120	110	9.1		110	110	0	
C3-Chrysenes	120	92	30		92	92	0	
C4-Chrysenes	92	75	23		67	75	-11	
Benzo[b]fluoranthene	5	6.6	-24		7.7	6.6	17	
Benzo[k]fluoranthene	ND				ND			
Benzo[e]pyrene	12	12	0		14	12	17	
Benzo[a]pyrene	ND				ND			
Perylene	ND				ND			
Indeno[1,2,3,-c,d]pyrene	ND				ND			
Dibenzo[a,h]anthracene	ND				ND			
Benzo[g,h,i]perylene	ND				ND			
Total PAH	16000				14000			
d8-Naphthalene	91				96			
d10-Acenaphthene	91				98			
d10-Phenanthrene	93				96			
d12-Benzo[a]pyrene	108				91			

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Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - NSC - PAH

Field ID North Slope Crude				
Lab ID	BG28			
SDG	SDGS002			
File	DZ9932.D			
Sample Type	NSC			
Matrix	Oil			
Sample Size	5.01 mg			
Weight Basis	OIL			
Associated Blank	NA			
Field Date	NA			
Extract Date	NA			
Analysis Date	7/31/1997			
Min Reporting Limit	5			
Units	ug/g	T	%D	Q
PAH				
Naphthalene	760	750	1.3	
C1-Naphthalenes	1700	1700	0	
C2-Naphthalenes	2300	2400	-4.2	
C3-Naphthalenes	2200	2000	10	
C4-Naphthalenes	1300	1200	8.3	
Acenaphthylene	ND			
Acenaphthene	ND			
Biphenyl	200	220	-9.1	
Fluorene	90	94	-4.3	
C1-Fluorenes	230	240	-4.2	
C2-Fluorenes	350	350	0	
C3-Fluorenes	440	400	10	
Anthracene	ND			
Phenanthrene	270	260	3.8	
C1-Phenanthrenes/anthracenes	600	600	0	
C2-Phenanthrenes/anthracenes	720	740	-2.7	
C3-Phenanthrenes/anthracenes	560	540	3.7	
C4-Phenanthrenes/anthracenes	350	330	6.1	
Dibenzothiophene	220	240	-8.3	
C1-Dibenzothiophenes	460	500	-8	
C2-Dibenzothiophenes	640	740	-14	
C3-Dibenzothiophenes	620	660	-6.1	
Fluoranthene	ND			
Pyrene	13	14	-7.2	
C1-Fluoranthenes/pyrenes	76	83	-8.4	
C2-Fluoranthenes/pyrenes	130	150	-13	
C3-Fluoranthenes/pyrenes	160	170	-5.9	
Benzo[a]anthracene	ND			
Chrysene	49	49	0	
C1-Chrysenes	84	84	0	
C2-Chrysenes	110	110	0	
C3-Chrysenes	91	92	-1.1	
C4-Chrysenes	67	75	-11	
Benzo[b]fluoranthene	7.2	6.6	9.1	
Benzo[k]fluoranthene	ND			
Benzo[e]pyrene	12	12	0	
Benzo[a]pyrene	ND			
Perylene	ND			
Indeno[1,2,3,-c,d]pyrene	ND			
Dibenzo[a,h]anthracene	ND			
Benzo[g,h,i]perylene	ND			
Total PAH	15000			
d8-Naphthalene	94			
d10-Acenaphthene	98			
d10-Phenanthrene	97			
d12-Benzo[a]pyrene	93			

Arthur D. Little, Inc.

Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - NSC - PAH

Field ID	North Slope Crude				North Slope Crude			
Lab ID	BG28				BG28			
SDG	SDGS002				SDGS003			
File	DZ0123.D				DZ0041.D			
Sample Type	NSC				NSC			
Matrix	Oil				Oil			
Sample Size	5.01 mg				5.01 mg			
Weight Basis	OIL				OIL			
Associated Blank	NA				NA			
Field Date	NA				NA			
Extract Date	NA				NA			
Analysis Date	8/14/1997				8/8/1997			
Min Reporting Limit	5				5			
Units	ug/g	T	%D	Q	ug/g	T	%D	Q
PAH								
Naphthalene	750	750	0		740	750	-1.3	
C1-Naphthalenes	1700	1700	0		1700	1700	0	
C2-Naphthalenes	2200	2400	-8.3		2300	2400	-4.2	
C3-Naphthalenes	1900	2000	-5		2000	2000	0	
C4-Naphthalenes	1100	1200	-8.3		1100	1200	-8.3	
Acenaphthylene	ND				ND			
Acenaphthene	ND				ND			
Biphenyl	210	220	-4.6		210	220	-4.6	
Fluorene	92	94	-2.1		89	94	-5.3	
C1-Fluorenes	230	240	-4.2		220	240	-8.3	
C2-Fluorenes	340	350	-2.9		330	350	-5.7	
C3-Fluorenes	410	400	2.5		400	400	0	
Anthracene	ND				ND			
Phenanthrene	260	260	0		260	260	0	
C1-Phenanthrenes/anthracenes	590	600	-1.7		580	600	-3.3	
C2-Phenanthrenes/anthracenes	680	740	-8.1		680	740	-8.1	
C3-Phenanthrenes/anthracenes	520	540	-3.7		510	540	-5.6	
C4-Phenanthrenes/anthracenes	320	330	-3		320	330	-3	
Dibenzothiophene	220	240	-8.3		220	240	-8.3	
C1-Dibenzothiophenes	440	500	-12		460	500	-8	
C2-Dibenzothiophenes	610	740	-18		640	740	-14	
C3-Dibenzothiophenes	590	660	-11		600	660	-9.1	
Fluoranthene	ND				ND			
Pyrene	13	14	-7.2		13	14	-7.2	
C1-Fluoranthenes/pyrenes	80	83	-3.6		83	83	0	
C2-Fluoranthenes/pyrenes	120	150	-20		140	150	-6.7	
C3-Fluoranthenes/pyrenes	160	170	-5.9		170	170	0	
Benzo[a]anthracene	ND				ND			
Chrysene	49	49	0		48	49	-2	
C1-Chrysenes	83	84	-1.2		81	84	-3.6	
C2-Chrysenes	100	110	-9.1		100	110	-9.1	
C3-Chrysenes	87	92	-5.4		83	92	-9.8	
C4-Chrysenes	66	75	-12		75	75	0	
Benzo[b]fluoranthene	7.1	6.6	7.6		7.6	6.6	15	
Benzo[k]fluoranthene	ND				ND			
Benzo[e]pyrene	13	12	8.3		12	12	0	
Benzo[a]pyrene	ND				ND			
Perylene	ND				ND			
Indeno[1,2,3,-c,d]pyrene	ND				ND			
Dibenzo[a,h]anthracene	ND				ND			
Benzo[g,h,i]perylene	ND				ND			
Total PAH	14000				14000			
d8-Naphthalene	96				100			
d10-Acenaphthene	99				101			
d10-Phenanthrene	99				99			
d12-Benzo[a]pyrene	95				94			

Arthur D. Little, Inc.

Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - NSC - PAH

Field ID	North Slope Crude			
Lab ID	BI53			
SDG	SDGS007			
File	DZ2139.D			
Sample Type	NSC			
Matrix	Oil			
Sample Size	5.08 mg			
Weight Basis	OIL			
Associated Blank	NA			
Field Date	NA			
Extract Date	NA			
Analysis Date	8/29/1997			
Min Reporting Limit	4.9			
Units	ug/g	T	%D	Q

PAH				
Naphthalene	740	750	-1.3	
C1-Naphthalenes	1800	1700	5.9	
C2-Naphthalenes	2400	2400	0	
C3-Naphthalenes	2000	2000	0	
C4-Naphthalenes	1200	1200	0	
Acenaphthylene	ND			
Acenaphthene	ND			
Biphenyl	220	220	0	
Fluorene	100	94	6.4	
C1-Fluorenes	240	240	0	
C2-Fluorenes	360	350	2.8	
C3-Fluorenes	440	400	10	
Anthracene	ND			
Phenanthrene	280	260	7.7	
C1-Phenanthrenes/anthracenes	670	600	12	
C2-Phenanthrenes/anthracenes	790	740	6.8	
C3-Phenanthrenes/anthracenes	640	540	18	
C4-Phenanthrenes/anthracenes	400	330	21	
Dibenzothiophene	240	240	0	
C1-Dibenzothiophenes	530	500	6	
C2-Dibenzothiophenes	760	740	2.7	
C3-Dibenzothiophenes	720	660	9.1	
Fluoranthene	ND			
Pyrene	14	14	0	
C1-Fluoranthenes/pyrenes	90	83	8.4	
C2-Fluoranthenes/pyrenes	150	150	0	
C3-Fluoranthenes/pyrenes	180	170	5.9	
Benzo[a]anthracene	ND			
Chrysene	50	49	2	
C1-Chrysenes	92	84	9.5	
C2-Chrysenes	120	110	9.1	
C3-Chrysenes	100	92	8.7	
C4-Chrysenes	72	75	-4	
Benzo[b]fluoranthene	7	6.6	6.1	
Benzo[k]fluoranthene	ND			
Benzo[e]pyrene	13	12	8.3	
Benzo[a]pyrene	ND			
Perylene	ND			
Indeno[1,2,3,-c,d]pyrene	ND			
Dibenzo[a,h]anthracene	ND			
Benzo[g,h,i]perylene	ND			

Total PAH 15000

d8-Naphthalene	109
d10-Acenaphthene	103
d10-Phenanthrene	100
d12-Benzo[a]pyrene	110

Arthur D. Little, Inc.

Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - NSC - PAH

Field ID	North Slope Crude				North Slope Crude			
Lab ID	BI53				BI53			
SDG	SDGS008				SDGSOD			
File	DZ2174.D				DY7189.D			
Sample Type	NSC				NSC			
Matrix	Oil				Oil			
Sample Size	5.08 mg				5.08 mg			
Weight Basis	OIL				OIL			
Associated Blank	NA				NA			
Field Date	NA				NA			
Extract Date	NA				NA			
Analysis Date	8/31/1997				1/3/1998			
Min Reporting Limit	4.9				4.9			
Units	ug/g	T	%D	Q	ug/g	T	%D	Q
PAH								
Naphthalene	760	750	1.3		740	750	2.7	
C1-Naphthalenes	1700	1700	0		1800	1700	5.9	
C2-Naphthalenes	2300	2400	-4.2		2500	2400	4.2	
C3-Naphthalenes	1700	2000	-15		1900	2000	-5	
C4-Naphthalenes	1200	1200	0		1200	1200	0	
Acenaphthylene	ND				ND			
Acenaphthene	ND				ND			
Biphenyl	220	220	0		220	220	0	
Fluorene	97	94	3.2		97	94	5.3	
C1-Fluorenes	240	240	0		250	240	4.2	
C2-Fluorenes	350	350	0		330	350	-2.9	
C3-Fluorenes	440	400	10		360	400	-7.5	
Anthracene	ND				ND			
Phenanthrene	290	260	12		300	260	12	
C1-Phenanthrenes/anthracenes	630	600	5		650	600	6.7	
C2-Phenanthrenes/anthracenes	780	740	5.4		780	740	2.7	
C3-Phenanthrenes/anthracenes	600	540	11		500	540	-9.3	
C4-Phenanthrenes/anthracenes	400	330	21		280	330	-18	
Dibenzothiophene	240	240	0		260	240	4.2	
C1-Dibenzothiophenes	480	500	-4		490	500	-4	
C2-Dibenzothiophenes	690	740	-6.8		680	740	-9.5	
C3-Dibenzothiophenes	660	660	0		540	660	-20	
Fluoranthene	ND				ND			
Pyrene	14	14	0		15	14	7.1	
C1-Fluoranthenes/pyrenes	92	83	11		98	83	16	
C2-Fluoranthenes/pyrenes	160	150	6.7		140	150	-6.7	
C3-Fluoranthenes/pyrenes	210	170	24		140	170	-18	
Benzo[a]anthracene	ND				ND			
Chrysene	53	49	8.2		51	49	2	
C1-Chrysenes	100	84	19		78	84	-8.3	
C2-Chrysenes	140	110	27		93	110	-17	
C3-Chrysenes	120	92	30		66	92	-29	
C4-Chrysenes	90	75	20		65	75	-15	
Benzo[b]fluoranthene	5.6	6.6	-15		5.7	6.6	-15	
Benzo[k]fluoranthene	ND				ND			
Benzo[e]pyrene	12	12	0		10	12	-8.3	
Benzo[a]pyrene	ND				ND			
Perylene	ND				ND			
Indeno[1,2,3,-c,d]pyrene	ND				NA			
Dibenzo[a,h]anthracene	ND				NA			
Benzo[g,h,i]perylene	3.7 J				NA			
Total PAH	15000				15000			
d8-Naphthalene	99				104			
d10-Acenaphthene	99				102			
d10-Phenanthrene	98				98			
d12-Benzo[a]pyrene	105				104			

Arthur D. Little, Inc.

Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - NSC - PAH

Field ID	North Slope Crude			
Lab ID	BI53			
SDG	SDGSOD			
File	DY7249.D			
Sample Type	NSC			
Matrix	Oil			
Sample Size	5.08 mg			
Weight Basis	OIL			
Associated Blank	NA			
Field Date	NA			
Extract Date	NA			
Analysis Date	1/14/1998			
Min Reporting Limit	4.9			
Units	ug/g	T	%D	Q

PAH				
Naphthalene	820	750	4	
C1-Naphthalenes	1800	1700	0	
C2-Naphthalenes	2400	2400	-4.2	
C3-Naphthalenes	1900	2000	-10	
C4-Naphthalenes	1000	1200	-17	
Acenaphthylene	ND			
Acenaphthene	ND			
Biphenyl	230	220	0	
Fluorene	100	94	6.4	
C1-Fluorenes	260	240	4.2	
C2-Fluorenes	370	350	2.8	
C3-Fluorenes	400	400	-2.5	
Anthracene	ND			
Phenanthrene	300	260	7.7	
C1-Phenanthrenes/anthracenes	680	600	5	
C2-Phenanthrenes/anthracenes	810	740	1.4	
C3-Phenanthrenes/anthracenes	570	540	-1.9	
C4-Phenanthrenes/anthracenes	350	330	0	
Dibenzothiophene	250	240	-4.2	
C1-Dibenzothiophenes	490	500	-8	
C2-Dibenzothiophenes	690	740	-14	
C3-Dibenzothiophenes	600	660	-15	
Fluoranthene	ND			
Pyrene	14	14	-7.2	
C1-Fluoranthenes/pyrenes	98	83	9.6	
C2-Fluoranthenes/pyrenes	160	150	0	
C3-Fluoranthenes/pyrenes	160	170	-12	
Benzo[a]anthracene	ND			
Chrysene	54	49	2	
C1-Chrysenes	92	84	2.4	
C2-Chrysenes	130	110	9.1	
C3-Chrysenes	100	92	3.3	
C4-Chrysenes	78	75	-2.7	
Benzo[b]fluoranthene	5.7	6.6	-20	
Benzo[k]fluoranthene	ND			
Benzo[e]pyrene	8.3	12	-22	
Benzo[a]pyrene	ND			
Perylene	ND			
Indeno[1,2,3,-c,d]pyrene	NA			
Dibenzo[a,h]anthracene	NA			
Benzo[g,h,i]perylene	NA			

Total PAH 15000

d8-Naphthalene	95
d10-Acenaphthene	97
d10-Phenanthrene	93
d12-Benzo[a]pyrene	113

Arthur D. Little, Inc.

Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - NSC - PAH

Field ID	North Slope Crude				North Slope Crude			
Lab ID	BK53				BI53			
SDG	SDGT001REX				SDGT001			
File	DZ4128.D				DZ3358.D			
Sample Type	NSC				NSC			
Matrix	Oil				Oil			
Sample Size	5.01 mg				5.08 mg			
Weight Basis	OIL				OIL			
Associated Blank	NA				NA			
Field Date	NA				NA			
Extract Date	NA				NA			
Analysis Date	2/20/1998				11/25/1997			
Min Reporting Limit	5				4.9			
Units	ug/g	T	%D	Q	ug/g	T	%D	Q
PAH								
Naphthalene	760	750	4		660	750	-1.3	
C1-Naphthalenes	2000	1700	12		1900	1700	12	
C2-Naphthalenes	2800	2400	8.3		2400	2400	0	
C3-Naphthalenes	2400	2000	10		2000	2000	0	
C4-Naphthalenes	1400	1200	8.3		1200	1200	0	
Acenaphthylene	ND				ND			
Acenaphthene	ND				ND			
Biphenyl	260	220	9.1		230	220	4.5	
Fluorene	100	94	2.1		100	94	6.4	
C1-Fluorenes	250	240	-4.2		240	240	0	
C2-Fluorenes	420	350	11		400	350	11	
C3-Fluorenes	470	400	10		430	400	5	
Anthracene	ND				ND			
Phenanthrene	320	260	7.7		290	260	7.7	
C1-Phenanthrenes/anthracenes	720	600	5		650	600	3.3	
C2-Phenanthrenes/anthracenes	930	740	11		810	740	5.4	
C3-Phenanthrenes/anthracenes	740	540	20		610	540	9.2	
C4-Phenanthrenes/anthracenes	450	330	21		450	330	30	
Dibenzothiophene	250	240	-8.3		250	240	0	
C1-Dibenzothiophenes	560	500	-2		510	500	-2	
C2-Dibenzothiophenes	810	740	-4.1		740	740	-4.1	
C3-Dibenzothiophenes	840	660	12		710	660	3	
Fluoranthene	ND				ND			
Pyrene	12	14	-22		12	14	-14	
C1-Fluoranthenes/pyrenes	100	83	11		91	83	4.8	
C2-Fluoranthenes/pyrenes	180	150	6.7		170	150	6.7	
C3-Fluoranthenes/pyrenes	230	170	18		180	170	0	
Benzo[a]anthracene	ND				ND			
Chrysene	59	49	6.1		49	49	-4.1	
C1-Chrysenes	110	84	19		96	84	9.5	
C2-Chrysenes	150	110	18		130	110	9.1	
C3-Chrysenes	140	92	30		100	92	8.7	
C4-Chrysenes	88	75	2.7		95	75	21	
Benzo[b]fluoranthene	7.2	6.6	-4.6		5.7	6.6	-17	
Benzo[k]fluoranthene	ND				ND			
Benzo[e]pyrene	10	12	-8.3		12	12	0	
Benzo[a]pyrene	ND				ND			
Perylene	ND				ND			
Indeno[1,2,3,-c,d]pyrene	ND				ND			
Dibenzo[a,h]anthracene	ND				ND			
Benzo[g,h,i]perylene	ND				ND			
Total PAH	18000				16000			
d8-Naphthalene	103				112			
d10-Acenaphthene	93				98			
d10-Phenanthrene	88				96			
d12-Benzo[a]pyrene	106				101			

Arthur D. Little, Inc.

Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Surrogate Corrected) - NSC - PAH

Field ID	North Slope Crude			
Lab ID	BI53			
SDG	SDGW001			
File	DZ2507.D			
Sample Type	NSC			
Matrix	Oil			
Sample Size	5.08 mg			
Weight Basis	OIL			
Associated Blank	NA			
Field Date	NA			
Extract Date	NA			
Analysis Date	9/24/1997			
Min Reporting Limit	4.9			
Units	ug/g	T	%D	Q

PAH				
Naphthalene	760	750	4	
C1-Naphthalenes	1600	1700	0	
C2-Naphthalenes	2200	2400	-4.2	
C3-Naphthalenes	1800	2000	-5	
C4-Naphthalenes	1100	1200	0	
Acenaphthylene	ND			
Acenaphthene	ND			
Biphenyl	210	220	0	
Fluorene	95	94	6.4	
C1-Fluorenes	240	240	4.2	
C2-Fluorenes	360	350	8.6	
C3-Fluorenes	410	400	7.5	
Anthracene	ND			
Phenanthrene	270	260	7.7	
C1-Phenanthrenes/anthracenes	630	600	10	
C2-Phenanthrenes/anthracenes	800	740	12	
C3-Phenanthrenes/anthracenes	600	540	15	
C4-Phenanthrenes/anthracenes	380	330	18	
Dibenzothiophene	240	240	4.2	
C1-Dibenzothiophenes	500	500	4	
C2-Dibenzothiophenes	730	740	2.7	
C3-Dibenzothiophenes	660	660	4.5	
Fluoranthene	ND			
Pyrene	13	14	0	
C1-Fluoranthenes/pyrenes	89	83	12	
C2-Fluoranthenes/pyrenes	150	150	6.7	
C3-Fluoranthenes/pyrenes	180	170	12	
Benzo[a]anthracene	ND			
Chrysene	46	49	-2	
C1-Chrysenes	86	84	6	
C2-Chrysenes	110	110	0	
C3-Chrysenes	96	92	8.7	
C4-Chrysenes	60	75	-16	
Benzo[b]fluoranthene	6.2	6.6	-1.5	
Benzo[k]fluoranthene	ND			
Benzo[e]pyrene	12	12	0	
Benzo[a]pyrene	ND			
Perylene	ND			
Indeno[1,2,3,-c,d]pyrene	NA			
Dibenzo[a,h]anthracene	NA			
Benzo[g,h,i]perylene	NA			

Total PAH 14000

d8-Naphthalene	102
d10-Acenaphthene	105
d10-Phenanthrene	104
d12-Benzo[a]pyrene	104