

**Arthur D. Little, Inc.**

Environmental Monitoring and Analysis

**Minerals Management Service - Shelikof Strait and Outermost Cook Inlet**

1997 Final Data (Surrogate Corrected) - NSC - BIOMARKER

Field ID	North Slope Crude				North Slope Crude			
Lab ID	BK81				BK81			
SDG	SDGS002				SDGS001			
File	DZ6321.D				DZ6183.D			
Sample Type	NSC				NSC			
Matrix	Oil				Oil			
Sample Size	5.04 mg				5.04 mg			
Weight Basis	OIL				OIL			
Associated Blank	NA				NA			
Field Date	NA				NA			
Extract Date	NA				NA			
Analysis Date	10/1/1998				9/21/1998			
Min Reporting Limit	5				5			
Units	mg/Kg	T	%D	Q	mg/Kg	T	%D	Q
<b>BIOMARKER</b>								
T4-C23Diterpane	31	38	-18		34	46	-26	
S4-Diacholestane	40	45	-11		46	50	-8	
S5-Diacholestane	23	26	-12		28	29	-3.4	
T9-C29Tricyclitriterpane	15	16	-6.2		14	16	-12	
T10-C29Tricyclitriterpane	15	16	-6.2		14	18	-22	
T11-Trisnorhopane(TS)	23	24	-4.2		21	26	-19	
T12-Trisnorhopane(TM)	24	28	-14		24	32	-25	
S24-Methylcholestane	30	30	0		30			
S25-Ethylcholestane	48	50	-4		50	53	-5.7	
S28-Ethylcholestane	39	38	2.6		35	40	-12	
T15-Norhopane	86	86	0		82	96	-14	
T18-Oleanane	ND				ND			
T19-Hopane	120	120	0		120	128	-6.2	
T21-Homohopane	51	50	2		48	53	-9.4	
T22-Homohopane	35	35	0		35	38	-7.9	
Total S/T	580				580			
5B(H)-Cholane	111				0	NA		
D66-Dotriacontane	NA				NA			

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Field ID	North Slope Crude				North Slope Crude			
Lab ID	BK81				BK81			
SDG	SDGS001				SDGS003			
File	DZ6404.D				DZ7128.D			
Sample Type	NSC				NSC			
Matrix	Oil				Oil			
Sample Size	5.04 mg				5.04 mg			
Weight Basis	OIL				OIL			
Associated Blank	NA				NA			
Field Date	NA				NA			
Extract Date	NA				NA			
Analysis Date	10/5/1998				11/22/1998			
Min Reporting Limit	5				5			
Units	mg/Kg	T	%D	Q	mg/Kg	T	%D	Q
<b>BIOMARKER</b>								
T4-C23Diterpane	34	46	-26		44	46	-4.3	
S4-Diacholestane	42	50	-16		50	50	0	
S5-Diacholestane	28	29	-3.4		30	29	3.4	
T9-C29Tricyclitriterpane	15	16	-6.2		17	16	6.2	
T10-C29Tricyclitriterpane	15	18	-17		20	18	11	
T11-Trisnorhopane(TS)	22	26	-15		25			
T12-Trisnorhopane(TM)	26	32	-19		28	26	7.7	
S24-Methylcholestane	39				34	32	6.2	
S25-Ethylcholestane	47	53	-11		68	53	28	
S28-Ethylcholestane	40	40	0		43	40	7.5	
T15-Norhopane	85	96	-11		92	96	-4.2	
T18-Oleanane	ND				ND			
T19-Hopane	120	128	-6.2		130	128	1.6	
T21-Homohopane	50	53	-5.7		56	53	5.7	
T22-Homohopane	35	38	-7.9		39	38	2.6	
Total S/T	600				680			
5B(H)-Cholane	110				92			
D66-Dotriacontane	NA				NA			

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Field ID	North Slope Crude			
Lab ID	BK81			
SDG	SDGS003			
File	DZ6527.D			
Sample Type	NSC			
Matrix	Oil			
Sample Size	5.04 mg			
Weight Basis	OIL			
Associated Blank	NA			
Field Date	NA			
Extract Date	NA			
Analysis Date	10/14/1998			
Min Reporting Limit	5			
Units	mg/Kg	T	%D	Q

BIOMARKER				
T4-C23Diterpane	36	46	-22	
S4-Diacholestane	41	50	-18	
S5-Diacholestane	28	29	-3.4	
T9-C29Tricyclitriterpane	16	16	0	
T10-C29Tricyclitriterpane	16	18	-11	
T11-Trisnorhopane(TS)	23			
T12-Trisnorhopane(TM)	28	26	7.7	
S24-Methylcholestane	30	32	-6.2	
S25-Ethylcholestane	59	53	11	
S28-Ethylcholestane	44	40	10	
T15-Norhopane	85	96	-11	
T18-Oleanane	ND			
T19-Hopane	116	128	-9.4	
T21-Homohopane	51	53	-3.8	
T22-Homohopane	38	38	0	

Total S/T 610

5B(H)-Cholane	113			
D66-Dotriacontane	NA			

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Field ID	North Slope Crude				North Slope Crude			
Lab ID	BK81				BK81			
SDG	SDGS004				SDGS005			
File	DY6129.D				DZ6564.D			
Sample Type	NSC				NSC			
Matrix	Oil				Oil			
Sample Size	5.04 mg				5.04 mg			
Weight Basis	OIL				OIL			
Associated Blank	NA				NA			
Field Date	NA				NA			
Extract Date	NA				NA			
Analysis Date	10/13/1998				10/17/1998			
Min Reporting Limit	5				5			
Units	mg/Kg	T	%D	Q	mg/Kg	T	%D	Q
<b>BIOMARKER</b>								
T4-C23Diterpane	32	46	-30		35	46	-24	
S4-Diacholestane	42	50	-16		56	50	12	
S5-Diacholestane	23	29	-21		32	29	10	
T9-C29Tricyclitriterpane	15	16	-6.2		17	16	6.2	
T10-C29Tricyclitriterpane	15	18	-17		18	18	0	
T11-Trisnorhopane(TS)	26	26	0		22	26	-15	
T12-Trisnorhopane(TM)	26	32	-19		27	32	-16	
S24-Methylcholestane	28				33			
S25-Ethylcholestane	60	53	13		60	53	13	
S28-Ethylcholestane	41	40	2.5		47	40	18	
T15-Norhopane	89	96	-7.3		94	96	-2.1	
T18-Oleanane	ND				ND			
T19-Hopane	120	128	-6.2		140	128	9.4	
T21-Homohopane	51	53	-3.8		60	53	13	
T22-Homohopane	36	38	-5.3		41	38	7.9	
Total S/T	600				680			
5B(H)-Cholane	104				105			
D66-Dotriacontane	NA				NA			

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Field ID	North Slope Crude				North Slope Crude			
Lab ID	BK81				BK81			
SDG	SDGS006				SDGW001			
File	DZ6597.D				DZ6736.D			
Sample Type	NSC				NSC			
Matrix	Oil				Oil			
Sample Size	5.04 mg				5.04 mg			
Weight Basis	OIL				OIL			
Associated Blank	NA				NA			
Field Date	NA				NA			
Extract Date	NA				NA			
Analysis Date	10/20/1998				10/27/1998			
Min Reporting Limit	5				5			
Units	mg/Kg	T	%D	Q	mg/Kg	T	%D	Q
<b>BIOMARKER</b>								
T4-C23Diterpane	32	46	-30		38	46	-17	
S4-Diacholestane	43	50	-14		46	50	-8	
S5-Diacholestane	25	29	-14		32	29	10	
T9-C29Tricyclitriterpane	15	16	-6.2		16	16	0	
T10-C29Tricyclitriterpane	16	18	-11		17	18	-5.6	
T11-Trisnorhopane(TS)	23	26	-12		20	26	-23	
T12-Trisnorhopane(TM)	26	32	-19		27	32	-16	
S24-Methylcholestane	34				30			
S25-Ethylcholestane	49	53	-7.5		55	53	3.8	
S28-Ethylcholestane	41	40	2.5		43	40	7.5	
T15-Norhopane	84	96	-12		92	96	-4.2	
T18-Oleanane	ND				ND			
T19-Hopane	120	128	-6.2		130	128	1.6	
T21-Homohopane	50	53	-5.7		51	53	-3.8	
T22-Homohopane	36	38	-5.3		36	38	-5.3	
Total S/T	590				630			
5B(H)-Cholane	118				116			
D66-Dotriacontane	NA				NA			

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Field ID		North Slope Crude			
Lab ID		BK81			
SDG		SDGO001			
File		DZ7128.D			
Sample Type		NSC			
Matrix		Oil			
Sample Size		5.04 mg			
Weight Basis		OIL			
Associated Blank		NA			
Field Date		NA			
Extract Date		NA			
Analysis Date		11/22/1998			
Min Reporting Limit		5			
Units		mg/Kg	T	%D	Q
BIOMARKER					
T4-C23Diterpane		41	38	7.9	
S4-Diacholestane		46	45	2.2	
S5-Diacholestane		28	26	7.7	
T9-C29Tricyclitriterpane		16	16	0	
T10-C29Tricyclitriterpane		18	16	12	
T11-Trisnorhopane(TS)		23	24	-4.2	
T12-Trisnorhopane(TM)		26	28	-7.1	
S24-Methylcholestane		31	30	3.3	
S25-Ethylcholestane		63	50	26	
S28-Ethylcholestane		40	38	5.3	
T15-Norhopane		85	86	-1.2	
T18-Oleanane		ND			
T19-Hopane		120	120	0	
T21-Homohopane		52	50	4	
T22-Homohopane		36	35	2.8	
Total S/T		630			
5B(H)-Cholane		92			
D66-Dotriacontane		NA			