

Peak#	Rt min.	Ion m/z	Compound	Height	Amount ng/mg
Int.Std.(if added):					
4	46.15	217.00	24baa	961	25
DITERPANES:					
5	33.96	191.00	19/3	417	9
6	35.91	191.00	20/3	298	6
7	37.92	191.00	21/3	443	10
11	41.86	191.00	23/3	744	16
13	42.96	191.00	24/3	586	13
14	45.22	191.00	25/3	338	7
16	46.84	191.00	26/3R	199	4
17	46.96	191.00	26/3S	218	5
20	50.45	191.00	28/3R	301	6
21	50.70	191.00	28/3S	299	6
23	51.47	191.00	29/3R	367	8
25	51.77	191.00	29/3S	378	8
15	46.73	191.00	24/4	589	13
TRITERPANES:					
26	52.60	191.00	27Ts	1857	40
28	52.83	177.00	25nor28ab	1216	26
29	53.27	191.00	27Tm	1613	35
33	53.76	191.00	27b	404	9
32	53.64	177.00	25nor29ab	705	15
34	54.81	191.00	28ab	2307	50
36	55.03	177.00	25nor30ab	600	13
39	55.52	191.00	29ab	4498	97
40	55.63	191.00	29Ts	1666	36
43	56.30	191.00	29ba	858	18
42	55.86	191.00	30D	1061	23
46	56.87	191.00	30ab	10271	154
47	57.22	191.00	30D13	673	14
48	57.48	191.00	30ba	757	11
51	58.96	191.00	30G	479	10
49	58.44	191.00	31abS	3830	82
50	58.64	191.00	31abR	2749	59
52	59.16	191.00	31ba	434	9
53	59.66	191.00	32abS	2581	56
54	59.93	191.00	32abR	1964	42
55	61.09	191.00	33abS	2271	49
56	61.45	191.00	33abR	1476	32
57	62.57	191.00	34abS	1486	32
58	63.06	191.00	34abR	867	19
59	64.25	191.00	35abS	1104	24
60	64.91	191.00	35abR	737	16

SATURATE BIOMARKERS

File name (sample): BIOM_B2.D
File path: C:\HPCHEM\1\DATA\SAT\A3009OIL\
Misc information:
Sample name:
Operator: jkb
Method: MSD_S_C
Date analyzed: #####

Peak#	Rt min.	Ion m/z	Compound	Height	Amount ng/mg
STERANES:					
8	38.42	217.00	21aa	945	24
9	40.07	217.00	21bb	1269	34
10	40.19	217.00	22aa	876	24
12	42.39	217.00	22bb	753	20
18	48.66	217.00	27dbS	2344	63
19	49.29	217.00	27dbR	1478	40
22	51.61	218.00	27bbR	1929	52
24	51.75	218.00	27bbS	1179	32
27	52.14	217.00	27aaR	691	19
30	53.34	218.00	28bbR	1093	30
31	53.46	218.00	28bbS	1298	35
35	54.44	217.00	29aaS	789	21
37	54.73	218.00	29bbR	1490	40
38	54.84	218.00	29bbS	1357	37
41	55.44	217.00	29aaR	804	21
44	55.90	218.00	30bbR	577	16
45	55.96	218.00	30bbS	491	13

TERPANE ratios			SATURATE BIOMARKERS		
100*(20/3+21/3+23/3+24/3+25/3+26/3(R+S)) (191)	%Tri	7	File name (sample):		
((20+21+23+24+25)/3+26/3(R+S)+27(Ts+Tm)+28ab+SUM 29-30(ab+ba)+SUM 31-35ab(S+R)) (191)			BIOM_B2.D		
100*20/3 (191)	%20/3	11	File path:		
20/3+21/3+23/3+24/3+25/3+26/3(R+S) (191)			C:\HPCHEM\1\DATA\SAT\A3009OIL\		
100*23/3 (191)	%23/3	45	Misc information:		
23/3+24/3+25/3 (191)			Sample name:		
100*24/4 (191)	%24/4	39	Operator:		
24/4+24/3+25/3 (191)			jkb		
100*27Ts (191)	%27Ts	54	Method:		
27Ts+27Tm (191)			MSD_S_C		
100*28ab (191)	%28ab	24	Date analyzed:		
28ab+30ab (191)			06-Apr-94		
100*29Ts (191)	%29Ts	27			
29Ts+29ab (191)					
100*25nor30ab (191)	%25nor30ab	8			
25nor30ab+30ab (191)					
100*29ab (191)	%29ab	39			
29ab+30ab (191)					
100*30ba (191)	%30ba	7			
30ba+30ab (191)					
100*30D (191)	%30D	13			
30D+30ab (191)					
100*30G (191)	%30G	6			
30G+30ab (191)					
100*32abS (191)	%32abS	57			
32abS+32abR (191)					
100*35ab(S+R) (191)	%35ab	44			
SUM 34-35ab(S+R) (191)					
100*(27Ts+27Tm) (191)	%27HOP	9			
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
100*28ab (191)	%28HOP	6			
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
100*(29ab+29ba) (191)	%29HOP	14			
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
100*(30ab+30ba) (191)	%30HOP	20			
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
100*(31ab(S+R)) (191)	%31HOP	17			
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
100*(32ab(S+R)) (191)	%32HOP	12			
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
100*(33ab(S+R)) (191)	%33HOP	10			
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
100*(34ab(S+R)) (191)	%34HOP	6			
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
100*(35ab(S+R)) (191)	%35HOP	5			
27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)					
			STERANE ratios		
			100*(21+22)bb (217)	%Preg	18
			(21+22)bb (217) + (27+28+29+30)bb(S+R) (218)		
			100*29aaS (217)	%29aaS	50
			(29aa(S+R) (217)		
			100*29bb(S+R) (218)	%29bb	64
			(29bb(S+R) (218) + 29aa(S+R) (217))		
			100*27db(S+R) (217)	%27dia	55
			27ds(S+R) (217) + 27bb(R+S) (218)		
			100*27bb(S+R) (218)	%27STER	33
			(27+28+29+30)bb(S+R) (218)		
			100*28bb(S+R) (218)	%28STER	25
			(27+28+29+30)bb(S+R) (218)		
			100*29bb(S+R) (218)	%29STER	30
			(27+28+29+30)bb(S+R) (218)		
			100*30bb(S+R) (218)	%30STER	11
			(27+28+29+30)bb(S+R) (218)		
			TERPANE-STERANE ratio		
			27(Ts+Tm)+28ab+SUM29-30(ab+ba)+SUM31-35ab(S+R)(191)	Ho/St2	3.2
			(27+28+29+30)bb(S+R) (218)		

Peak#	Rt min.	Ion m/z	Compound	Height	Amount
Int.Std.(if added):					ng/mg
4	46.11	217.00	24baa	639	25

DITERPANES:					
5	33.93	191.00	19/3	299	10
6	35.88	191.00	20/3	216	7
7	37.89	191.00	21/3	286	9
11	41.81	191.00	23/3	495	16
13	42.93	191.00	24/3	402	13
14	45.20	191.00	25/3	220	7
16	46.79	191.00	26/3R	132	4
17	46.91	191.00	26/3S	148	5
20	50.42	191.00	28/3R	150	5
21	50.65	191.00	28/3S	183	6
23	51.44	191.00	29/3R	202	7
25	51.70	191.00	29/3S	199	6
15	46.68	191.00	24/4	360	12

TRITERPANES:					
26	52.55	191.00	27Ts	1194	39
28	52.79	177.00	25nor28ab	817	26
29	53.21	191.00	27Tm	960	31
33	53.70	191.00	27b	317	11
32	53.59	177.00	25nor29ab	510	17
34	54.77	191.00	28ab	1469	48
36	54.97	177.00	25nor30ab	405	13
39	55.46	191.00	29ab	3031	98
40	55.57	191.00	29Ts	1122	36
43	56.24	191.00	29ba	557	18
42	55.82	191.00	30D	627	20
46	56.82	191.00	30ab	6958	157
47	57.15	191.00	30D13	469	15
48	57.43	191.00	30ba	696	16
51	58.91	191.00	30G	358	12
49	58.39	191.00	31abS	2726	88
50	58.58	191.00	31abR	1907	62
52	59.10	191.00	31ba	345	11
53	59.62	191.00	32abS	1857	60
54	59.88	191.00	32abR	1341	43
55	61.03	191.00	33abS	1701	55
56	61.39	191.00	33abR	1038	34
57	62.52	191.00	34abS	958	31
58	62.99	191.00	34abR	594	19
59	64.19	191.00	35abS	771	25
60	64.86	191.00	35abR	483	16

SATURATE BIOMARKERS

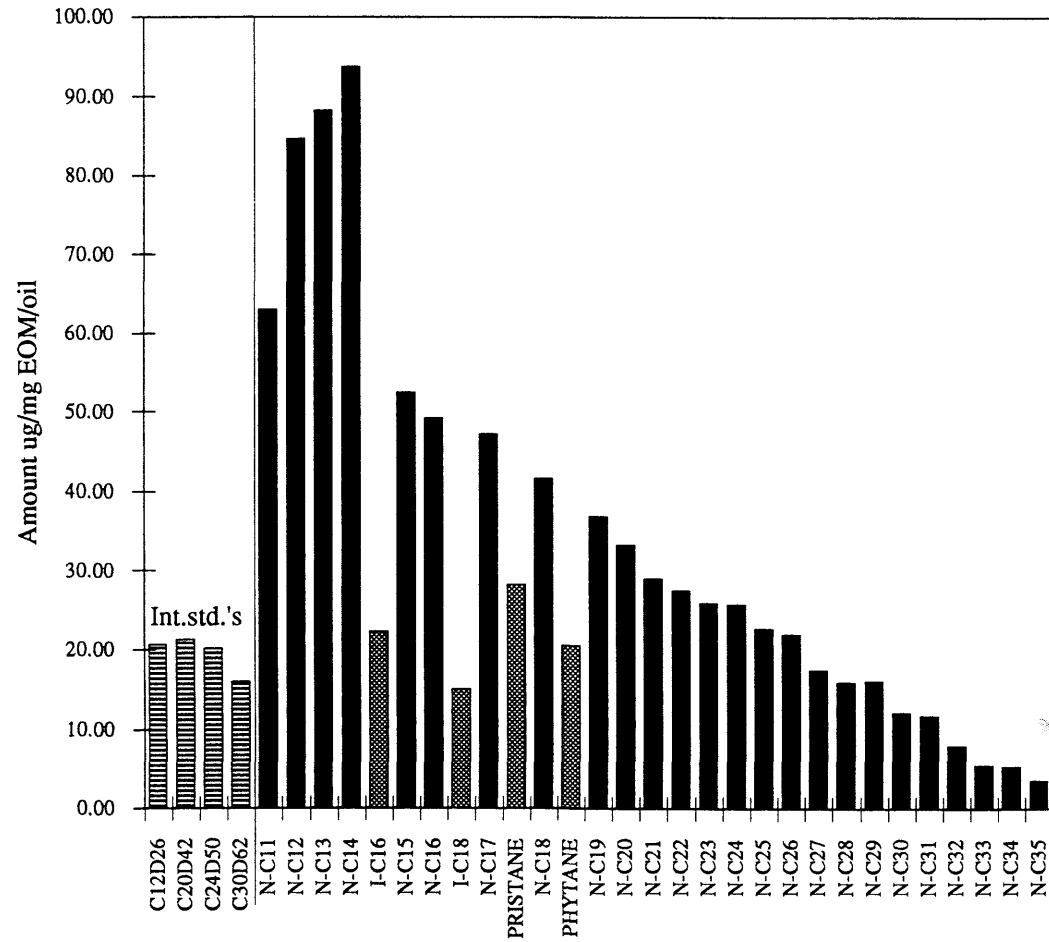
File name (sample):	BIOM_B1.D
File path:	C:\HPCHEM\1\DATA\SAT\A3009OIL\
Misc information:	
Sample name:	
Operator:	jkb
Method:	MSD_S_C
Date analyzed:	#####

Peak#	Rt min.	Ion m/z	Compound	Height	Amount
STERANES:					ng/mg
8	38.39	217.00	21aa	717	23
9	40.04	217.00	21bb	808	33
10	40.15	217.00	22aa	559	23
12	42.35	217.00	22bb	522	21
18	48.59	217.00	27dbS	1610	65
19	49.24	217.00	27dbR	988	40
22	51.55	218.00	27bbR	1150	47
24	51.69	218.00	27bbS	777	32
27	52.10	217.00	27aaR	441	18
30	53.27	218.00	28bbR	647	26
31	53.42	218.00	28bbS	925	38
35	54.39	217.00	29aaS	515	21
37	54.69	218.00	29bbR	1056	43
38	54.80	218.00	29bbS	890	36
41	55.38	217.00	29aaR	491	20
44	55.86	218.00	30bbR	371	15
45	55.90	218.00	30bbS	321	13

Appendix I

Gas chromatograms and summary sheets of
saturated hydrocarbons

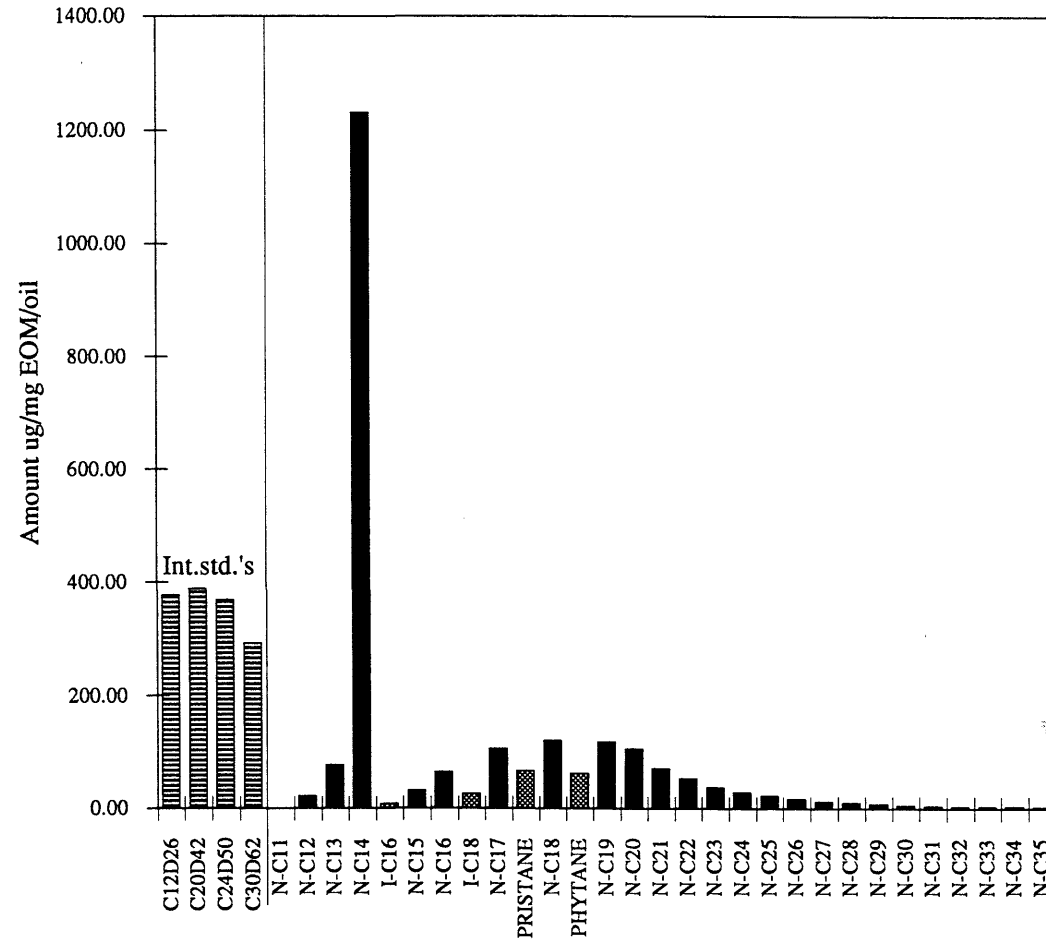
**Absolute amounts of saturated hydrocarbons,
based on peak area from GC/FID detection**



		Name	ug/mg	Area
Sample:	biom_b1	C12D26	20.66	24.94
Name:	0	C20D42	21.27	45.25
NH proj.:	0	C24D50	20.19	45.05
Instrument:	sat	C30D62	15.99	36.13
Analysis:	a3009oil	N-C11	63.06	76.12
Seq.# :	0	N-C12	84.65	102.19
		N-C13	88.29	106.58
		N-C14	93.80	113.23
		I-C16	22.27	47.39
		N-C15	52.44	111.58
		N-C16	49.15	104.57
		I-C18	15.05	32.01
		N-C17	47.13	100.27
		PRISTANE	28.20	60.01
		N-C18	41.58	88.45
		PHYTANE	20.48	43.56
		N-C19	36.83	78.36
		N-C20	33.29	70.83
		N-C21	28.95	64.58
		N-C22	27.50	61.34
		N-C23	25.85	57.68
		N-C24	25.71	57.35
		N-C25	22.64	50.51
		N-C26	21.93	48.92
		N-C27	17.43	38.88
		N-C28	15.89	35.89
		N-C29	16.04	36.22
		N-C30	12.10	27.33
		N-C31	11.71	26.45
		N-C32	7.93	17.91
		N-C33	5.45	12.31
		N-C34	5.30	11.96
		N-C35	3.58	8.08

Peak ratios:	
Pr/nC17	0.60
Ph/nC18	0.49
(Pr/nC17)/(Ph/nC18)	1.21
Pr/Ph	1.38
nC17/(nC17+nC27)	0.73
CPI-1	1.03
CPI-2 (nC26:nC27)	0.89

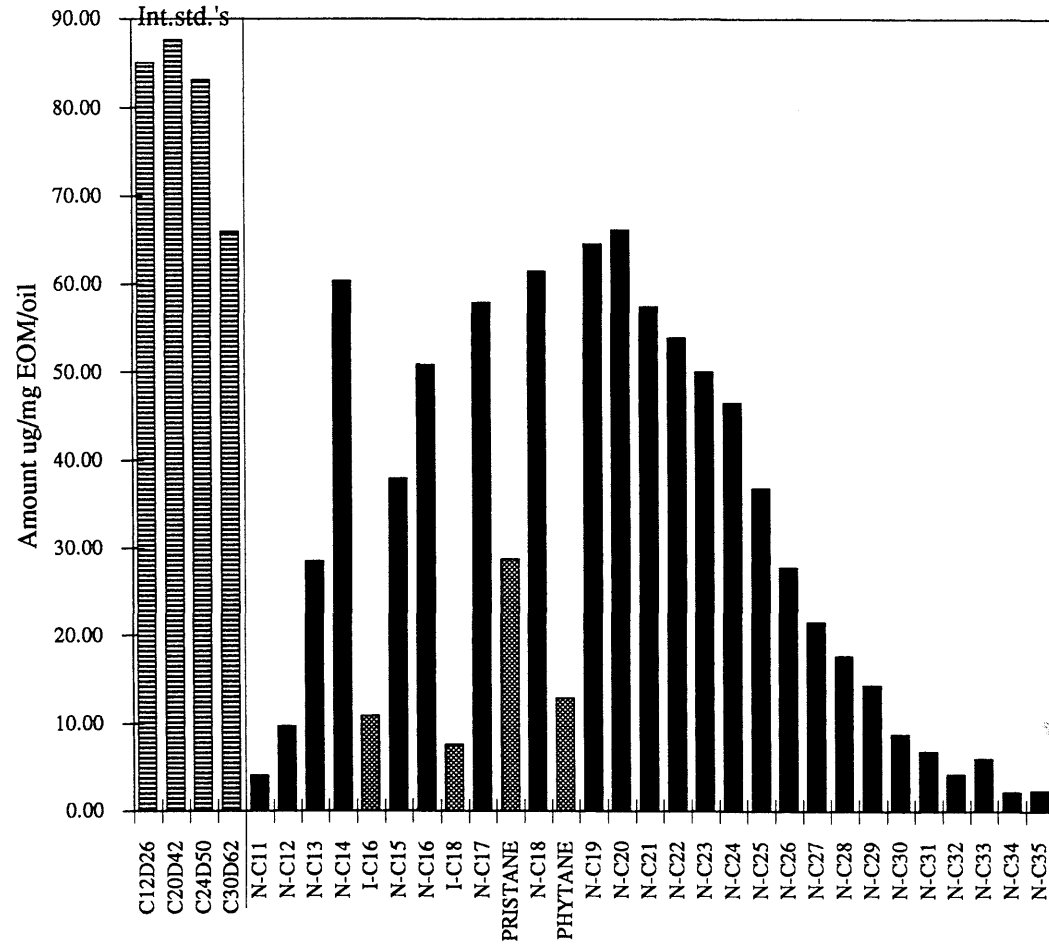
**Absolute amounts of saturated hydrocarbons,
based on peak area from GC/FID detection**



		Name	ug/mg	Area
Sample:	2237_s	C12D26	376.52	9.65
Name:	0	C20D42	387.68	696.20
NH proj.:	0	C24D50	368.06	715.14
Instrument:	sat	C30D62	291.53	560.04
Analysis:	satgnar	N-C11	0.00	0.00
Seq.# :	0	N-C12	21.23	0.54
30/9-5		N-C13	76.51	1.96
		N-C14	1230.96	31.54
		I-C16	8.37	15.03
		N-C15	31.79	57.09
		N-C16	63.89	114.74
		I-C18	26.34	47.31
		N-C17	105.76	189.92
		PRISTANE	66.12	118.74
		N-C18	119.98	215.46
		PHYTANE	61.57	110.56
		N-C19	117.60	211.19
		N-C20	105.39	189.26
		N-C21	71.07	138.08
		N-C22	52.88	102.74
		N-C23	37.10	72.08
N-C24	27.82	54.06		
N-C25	22.33	43.38		
N-C26	16.93	32.89		
N-C27	11.72	22.77		
N-C28	9.69	18.61		
N-C29	8.17	15.69		
N-C30	5.94	11.40		
N-C31	4.15	7.97		
N-C32	3.09	5.94		
N-C33	3.11	5.97		
N-C34	2.88	5.54		
N-C35	2.51	4.83		

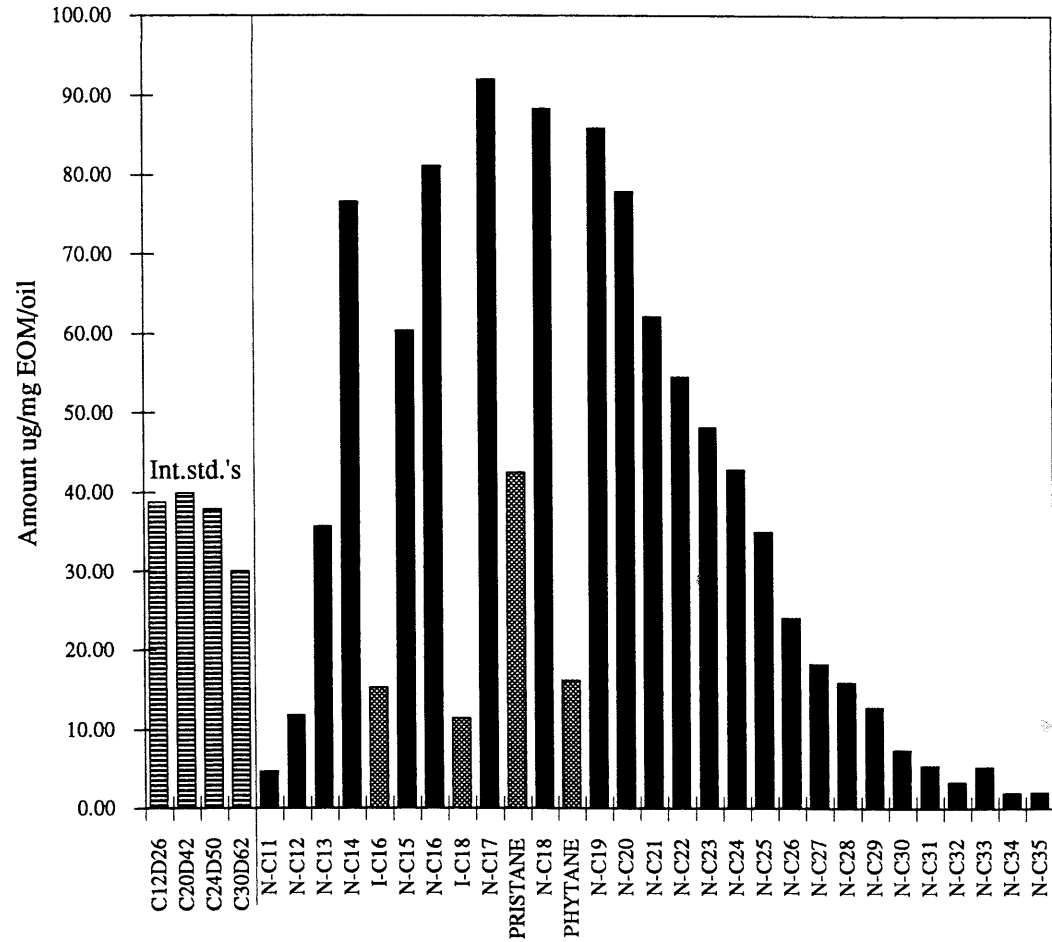
Peak ratios:	
Pr/nC17	0.63
Ph/nC18	0.51
(Pr/nC17)/(Ph/nC18)	1.22
Pr/Ph	1.07
nC17/(nC17+nC27)	0.90
CPI-1	1.03
CPI-2 (nC26:nC27)	0.82

**Absolute amounts of saturated hydrocarbons,
based on peak area from GC/FID detection**



		Name	ug/mg	Area
Sample:	2455.30	C12D26	85.13	192.89
Name:	0	C20D42	87.66	483.60
NH proj.:	0	C24D50	83.22	508.53
Instrument:	sat	C30D62	65.92	384.95
Analysis:	a3009oil	N-C11	4.04	9.16
Seq.# :	0	N-C12	9.70	21.98
30/9-5		N-C13	28.50	64.57
		N-C14	60.33	136.69
		I-C16	10.84	59.83
		N-C15	37.85	208.81
		N-C16	50.83	280.45
		I-C18	7.57	41.76
		N-C17	57.87	319.29
		PRISTANE	28.69	158.29
		N-C18	61.44	338.96
		PHYTANE	12.88	71.08
		N-C19	64.58	356.28
		N-C20	66.15	364.95
		N-C21	57.45	351.03
		N-C22	53.91	329.44
		N-C23	50.01	305.61
N-C24	46.44	283.80		
N-C25	36.79	224.79		
Peak ratios:		N-C26	27.75	169.58
Pr/nC17	0.50	N-C27	21.43	130.98
Ph/nC18	0.21	N-C28	17.63	102.93
(Pr/nC17)/(Ph/nC18)	2.36	N-C29	14.35	83.78
Pr/Ph	2.23	N-C30	8.75	51.09
nC17/(nC17+nC27)	0.73	N-C31	6.81	39.79
CPI-1	1.08	N-C32	4.18	24.42
CPI-2 (nC26:nC27)	0.87	N-C33	6.02	35.17
		N-C34	2.16	12.62
		N-C35	2.32	13.55

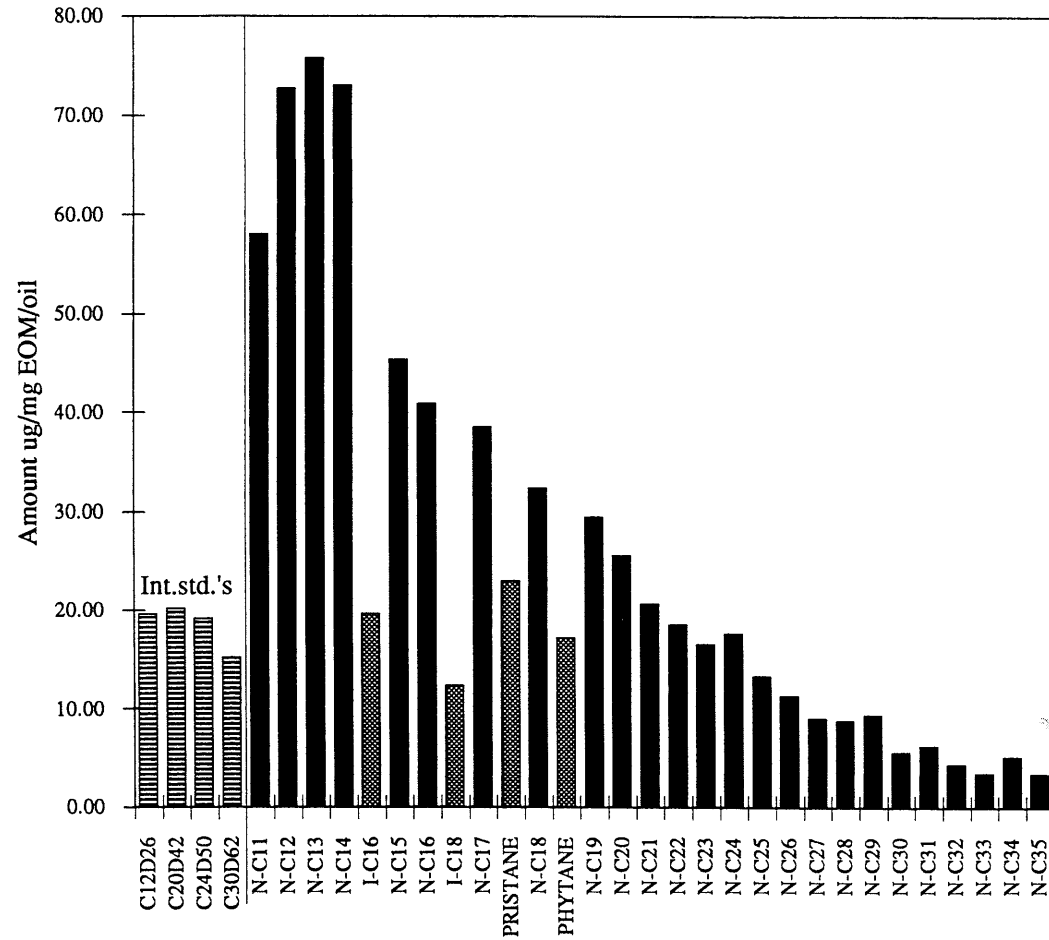
**Absolute amounts of saturated hydrocarbons,
based on peak area from GC/FID detection**



	Sample:	2455.80	Name	ug/mg	Area
	Name:	0	C12D26	38.77	222.43
	NH proj.:	0	C20D42	39.92	451.55
	Instrument:	sat	C24D50	37.90	476.70
	Analysis:	a3009oil	C30D62	30.02	338.35
	Seq.# :	0	N-C11	4.66	26.72
30/9-5					
			N-C12	11.81	67.77
			N-C13	35.73	204.99
			N-C14	76.63	439.66
			I-C16	15.24	172.44
			N-C15	60.35	682.66
			N-C16	81.12	917.70
			I-C18	11.39	128.80
			N-C17	92.03	1041.04
			PRISTANE	42.49	480.60
			N-C18	88.31	998.96
			PHYTANE	16.16	182.79
			N-C19	85.86	971.28
			N-C20	77.88	881.01
			N-C21	62.18	782.10
			N-C22	54.56	686.32
			N-C23	48.12	605.25
			N-C24	42.84	538.91
			N-C25	35.02	440.46
			N-C26	24.03	302.25
			N-C27	18.26	229.63
			N-C28	15.94	179.67
			N-C29	12.76	143.82
			N-C30	7.41	83.56
			N-C31	5.34	60.24
			N-C32	3.31	37.36
			N-C33	5.22	58.82
			N-C34	1.91	21.56
			N-C35	1.98	22.27

Peak ratios:		
Pr/nC17	0.46	
Ph/nC18	0.18	
(Pr/nC17)/(Ph/nC18)	2.52	
Pr/Ph	2.63	
nC17/(nC17+nC27)	0.83	
CPI-1	1.10	
CPI-2 (nC26:nC27)	0.86	

**Absolute amounts of saturated hydrocarbons,
based on peak area from GC/FID detection**



	Name	ug/mg	Area
Sample:	2645.50	C12D26	19.58 291.54
Name:	0	C20D42	20.16 518.20
NH proj.:	0	C24D50	19.14 557.20
Instrument:	sat	C30D62	15.16 420.07
Analysis:	a3009oil	N-C11	57.99 863.45
Seq.# :	0	N-C12	72.70 1082.52
30/9-6			
		N-C13	75.80 1128.59
		N-C14	73.04 1087.59
		I-C16	19.62 504.42
		N-C15	45.35 1165.65
		N-C16	40.86 1050.18
		I-C18	12.34 317.31
		N-C17	38.52 990.09
		PRISTANE	22.95 589.95
		N-C18	32.39 832.58
		PHYTANE	17.15 440.78
		N-C19	29.50 758.27
		N-C20	25.59 657.84
		N-C21	20.62 600.20
		N-C22	18.53 539.35
		N-C23	16.54 481.46
		N-C24	17.58 511.76
		N-C25	13.29 386.81
		N-C26	11.33 329.79
Peak ratios:		N-C27	9.08 264.44
		N-C28	8.83 244.62
		N-C29	9.39 260.07
		N-C30	5.60 155.04
		N-C31	6.24 173.01
		N-C32	4.35 120.56
		N-C33	3.49 96.69
		N-C34	5.15 142.82
		N-C35	3.40 94.23