

COMPANY: NORSK AGIP

WELL: 16/10-3

LOCATION: OFFSHORE NORWAY

General data				Pyrolysis GC data			
Depth, m	Sample type	TOC, %	HI	C1, %	C2-C5, %	C6-C14, %	C15+, %
2510	Cuttings	3.89	462	3.8	16.7	37.1	42.4
2515	Cuttings	5.07	512	6.8	19.3	50.5	23.4
2516	Cuttings	7.00	545	6.8	20.3	51.9	21.0
2519	Cuttings	6.01	523	4.7	8.9	68.5	17.9
2525	Cuttings	1.20	288	8.1	25.9	45.4	20.6
2528	Cuttings	1.22	297	6.4	23.7	52.5	17.4
2534	Cuttings	1.51	364	6.1	32.6	48.3	13.0
2572	Cuttings	1.39	336	10.0	40.1	41.7	8.3

TABLE 4 Pyrolysis (S2) gas chromatography data

COMPANY: NORSK AGIP

WELL: 16/10-3

LOCATION: OFFSHORE NORWAY

General data				Column chromatography data			
Depth, m	Sample type	TOC, %	Extract, ppm	Alkanes, %	Aromatics, %	Polars, %	Non-eluted, %
2515	Cuttings	5.07	3785	11.6	20.1	51.7	16.6
2516	Cuttings	7.00	6220	10.7	22.1	51.1	16.1
2519	Cuttings	6.01	7235	8.8	15.3	55.5	20.4

TABLE 5 Column chromatography data

SAMPLE DATA						
SAMPLE DEPTH (Mtrs)	2515	2516	2519			
SAMPLE TYPE	Ctgs	Ctgs	Ctgs			

COMPONENTS	QUANTIFIED NORMAL AND ISOPRENOID ALKANE ABUNDANCES ( % )					
	2515	2516	2519			
n-C10						
n-C11						
n-C12						
n-C13	.82	1.17	.54			
n-C14	3.24	2.36	1.82			
n-C15	5.20	4.65	3.84			
n-C16	4.72	4.21	3.47			
n-C17	5.52	5.97	5.24			
n-C18	4.22	4.35	3.82			
n-C19	4.99	5.56	4.93			
n-C20	3.79	4.18	3.78			
n-C21	4.16	4.25	3.84			
n-C22	3.36	3.41	3.25			
n-C23	3.59	3.50	3.57			
n-C24	3.55	3.44	3.52			
n-C25	4.57	3.70	4.99			
n-C26	3.98	3.34	3.80			
n-C27	3.75	3.16	4.53			
n-C28	2.59	2.30	1.71			
n-C29	3.40	2.78	4.81			
n-C30	1.38	1.36	2.13			
n-C31	1.51	1.53	2.20			
n-C32	.77	.99	1.12			
n-C33	1.29	1.66	1.59			
n-C34	.98	1.52	1.38			
n-C35	1.93	2.40	2.45			
n-C36	.92	1.12	1.06			
i-C15 (Farnesane)	.99	1.22	.68			
i-C16	2.39	2.61	2.02			
i-C18 (Norpristane)	2.83	3.07	2.75			
i-C19 (Pristane)	10.87	11.43	11.08			
i-C20 (Phytane)	8.70	8.77	10.10			

GENERAL DATA						
Total Abundance( % )	100	100	100			
TOC ( % of Rock)	5.07	7.00	6.01			
Extract (ppm)	3785	6220	7235			
Hydrocarbons (ppm)						
Hydrocarbon(mg/gTOC)						
Alks(% Hydrocarbons)						
Rock-Eval HI	512	545	523			
Rock-Eval PI	.01	.06	.06			

RATIOS						
CPI-1	1.34	1.23	1.63			
CPI-2	1.33	1.23	1.68			
CPI-3	1.14	1.12	1.65			
Bias	1.01	1.15	.83			
i-C19 / n-C17	1.97	1.91	2.11			
i-C20 / n-C18	2.06	2.02	2.64			
i-C19 / i-C20	1.25	1.30	1.10			

LEGEND						
i - isoprenoid	n - normal	For definition of Ratios CPI-1,-2,-3 and Bias - see Appendix 2				

## ALKANE GAS CHROMATOGRAPHY DATA

TABLE : 6

GENERAL DATA			GG-MS BIOMARKER RATIOS													
WELL/SAMPLE	SAMPLE DEPTH	SAMPLE TYPE	BIOMARKER RATIO No.													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14
16/10-3	2515m	Cuttings	0.18	0.42	0.85	0.55	0.42	0.61	1.93	0.31	0.08	0.17	0.11	0.06	0.08	0.45
16/10-3	2516m	Cuttings	0.15	0.38	0.91	0.61	0.49	0.67	1.98	0.30	0.12	0.05	0.13	0.11	0.05	0.57
16/10-3	2519m	Cuttings	0.18	0.42	0.74	0.62	0.54	0.54	1.78	0.29	0.05	0.05	0.23	0.08	0.10	0.59

KEY TO GC-MS BIOMARKER RATIOS
1: h27s/h27m (Ts/Tm), m/z 191
2: m30/h30, m/z 191
3: m29/h29, m/z 191
4: h31S/h31R, m/z 191
5: h32S/h32R, m/z 191
6: (h35S+h35R)/(h31S+h31R), m/z 191
7: (h35S+h35R)/(h34S+h34R), m/z 191
8: h29/(h29+h30), m/z 191
9: B/h30, m/z 191
10: G/h30, m/z 191
11: d30/h30 (X/h30), m/z 191
12: t23/h30, m/z 191
13: T24/h30, m/z 191
14: h30/(s29c+s29d+s29e+s29b), m/z 191,217

TABLE 7.1

Alkane GC-MS biomarker ratios: terpanes

GENERAL DATA			GG-MS BIOMARKER RATIOS													
WELL/SAMPLE	SAMPLE DEPTH	SAMPLE TYPE	BIOMARKER RATIO No.													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14
16/10-3	2515m	Cuttings	0.16	0.35	39.4	25.6	35.0	33.5	30.7	35.8	34.2	38.7	27.1	46.8	26.1	27.1
16/10-3	2516m	Cuttings	0.14	0.40	39.8	26.1	34.1	35.1	29.1	35.8	35.6	36.0	28.3	41.0	28.3	30.8
16/10-3	2519m	Cuttings	0.13	0.39	39.0	26.6	34.4	30.1	33.5	36.4	31.3	40.0	28.7	42.7	26.0	31.3

**KEY TO GC-MS BIOMARKER RATIOS**

- 1:  $s_{29c}/(s_{29c}+c_{29b})$ , m/z 217
- 2:  $(s_{29d}+d_{29e})/(s_{29c}+s_{29d}+s_{29e}+s_{29b})$ , m/z 217
- 3:  $\% s_{27b}/(s_{27b}+s_{28b}+s_{29b})$ , m/z 217
- 4:  $\% s_{28b}/(s_{27b}+s_{28b}+s_{29b})$ , m/z 217
- 5:  $\% s_{29b}/(s_{27b}+s_{28b}+s_{29b})$ , m/z 217
- 6:  $\% (s_{27d}+s_{27e})/(s_{27d}+s_{27e}+s_{28d}+s_{28e}+s_{29d}+s_{29e})$ , m/z 218
- 7:  $\% (s_{28d}+s_{28e})/(s_{27d}+s_{27e}+s_{28d}+s_{28e}+s_{29d}+s_{29e})$ , m/z 218
- 8:  $\% (s_{29d}+s_{29e})/(s_{27d}+s_{27e}+s_{28d}+s_{28e}+s_{29d}+s_{29e})$ , m/z 218
- 9:  $\% (r_{27d}+r_{27c})/(r_{27d}+r_{27c}+r_{28d}+r_{28c}+r_{29d}+r_{29c})$ , m/z 259
- 10:  $\% (r_{28d}+r_{28c})/(r_{27d}+r_{27c}+r_{28d}+r_{28c}+r_{29d}+r_{29c})$ , m/z 259
- 11:  $\% (r_{29d}+r_{29c})/(r_{27d}+r_{27c}+r_{28d}+r_{28c}+r_{29d}+r_{29c})$ , m/z 259
- 12:  $\% (s_{29c}+s_{29b})/(s_{29c}+s_{29b}+s_{29d}+s_{29e}+r_{29d}+r_{29c})$ , m/z 217,218,259
- 13:  $\% (s_{29d}+s_{29e})/(s_{29c}+s_{29b}+s_{29d}+s_{29e}+r_{29d}+r_{29c})$ , m/z 217,218,259
- 14:  $\% (r_{29d}+r_{29c})/(s_{29c}+s_{29b}+s_{29d}+s_{29e}+r_{29d}+r_{29c})$ , m/z 217,218,259

TABLE 7.2

Alkane GC-MS biomarker ratios: steranes

COMPANY: NORSK AGIP

WELL: 16/10-3

LOCATION: OFFSHORE NORWAY

General data		Carbon isotope data				
Depth, m	Sample type	Alkanes, ‰ rel. PDB	Aromatics, ‰ rel. PDB	Polars, ‰ rel. PDB	Asphaltenes, ‰ rel. PDB	Whole extract, ‰ rel. PDB
2515	Cuttings	-31.3	-31.6	-30.0	-29.4	-29.7
2516	Cuttings	-31.8	-31.7	-29.8	-29.6	-28.9
2519	Cuttings	-32.3	-31.8	-29.8	-29.1	-29.5

TABLE 8 Carbon isotope data

<b>DEPTH:</b>	1230m
<b>SAMPLE TYPE:</b>	Mud
<b>DESCRIPTION:</b>	Fluid on settled solids
<b>COMMENTS:</b>	Casing p 17½"

DISSOLVED SOLIDS CONCENTRATION				
Species			mg/l	me/l
<b>Cations</b>	Sodium	Na	16300	709
	Calcium	Ca	2435	122
	Magnesium	Mg	709	58
	Barium	Ba	5.1	-
	Potassium	K	76572	1958
<b>Anions</b>	Chloride	Cl	99772	2814
	Sulphate	SO <sub>4</sub>	1097	23
	Carbonate	CO <sub>3</sub>	<5	-
	Bicarbonate	HCO <sub>3</sub>	645	11
<b>Other species</b>	Iron (total)	Fe	3.62	-
	Sulphide as H <sub>2</sub> S		0.2	-
<b>Total dissolved solids</b>			197535	-

OTHER PROPERTIES	
Measurement	
pH	7.5

**WATER PATTERNS, me/l**

STANDARD

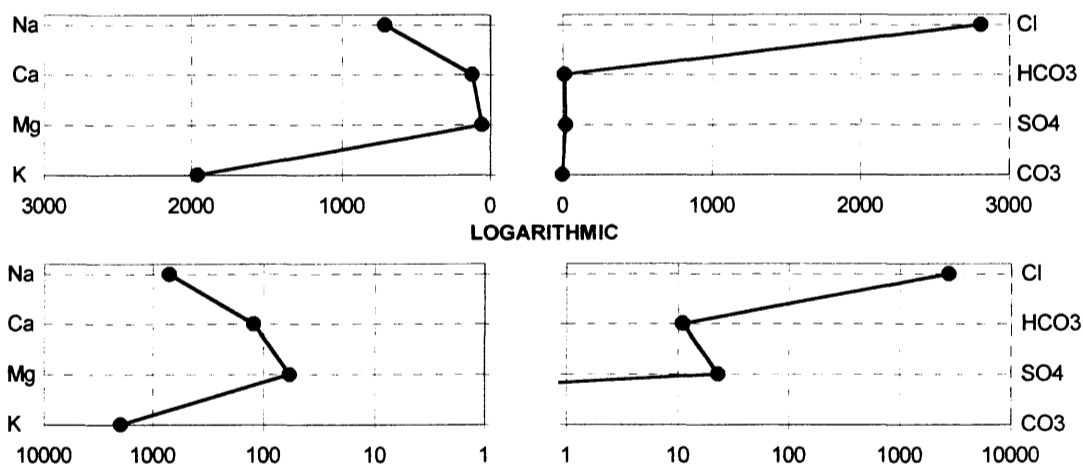


TABLE 9.1 API water analysis report form

<b>DEPTH:</b>	2522m
<b>SAMPLE TYPE:</b>	FMT sample
<b>DESCRIPTION:</b>	Brown fluid, no mud
<b>COMMENTS:</b>	-

DISSOLVED SOLIDS CONCENTRATION				
Species			mg/l	me/l
<b>Cations</b>	Sodium	Na	12300	535
	Calcium	Ca	251	13
	Magnesium	Mg	574	47
	Barium	Ba	0.8	-
	Potassium	K	79272	2027
<b>Anions</b>	Chloride	Cl	91953	2594
	Sulphate	SO <sub>4</sub>	1000	21
	Carbonate	CO <sub>3</sub>	<5	-
	Bicarbonate	HCO <sub>3</sub>	440	7
<b>Other species</b>	Iron (total)	Fe	0.08	-
	Sulphide as H <sub>2</sub> S		0.05	-
<b>Total dissolved solids</b>			185791	-

OTHER PROPERTIES	
Measurement	
pH	7.8

WATER PATTERNS, me/l

STANDARD

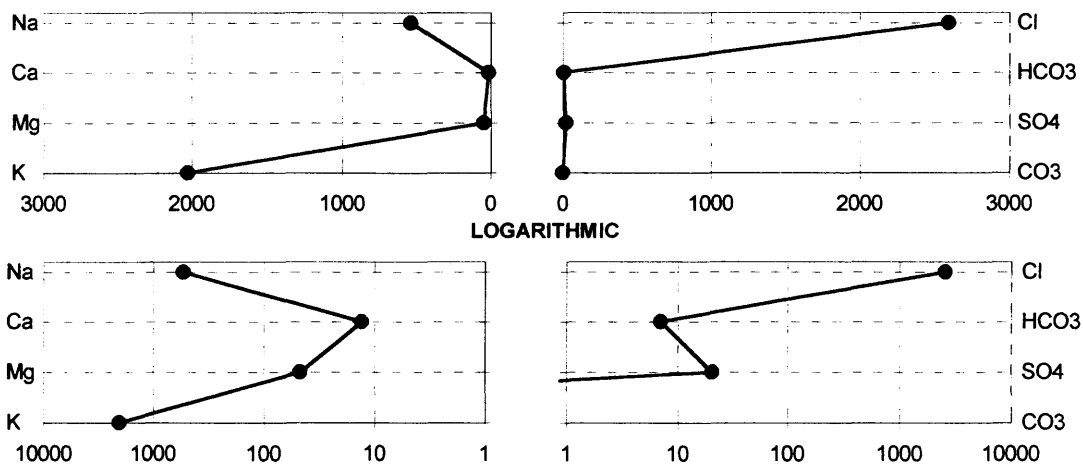


TABLE 9.2 API water analysis report form



<b>DEPTH:</b>	-
<b>SAMPLE TYPE:</b>	Seawater
<b>DESCRIPTION:</b>	-
<b>COMMENTS:</b>	Analysis from Mason and Moore (1982) and Krauskopf (1983)

DISSOLVED SOLIDS CONCENTRATION				
Species			mg/l	me/l
<b>Cations</b>	Sodium	Na	11000	478
	Calcium	Ca	410	21
	Magnesium	Mg	1300	107
	Barium	Ba	0.02	-
	Potassium	K	390	10
<b>Anions</b>	Chloride	Cl	19000	536
	Sulphate	SO <sub>4</sub>	2710	56
	Carbonate	CO <sub>3</sub>	-	-
	Bicarbonate	HCO <sub>3</sub>	140	2.3
<b>Other species</b>	Iron (total)	Fe	0.003	-
	Sulphide as H <sub>2</sub> S		-	-
<b>Total dissolved solids</b>			<b>34950</b>	<b>-</b>

OTHER PROPERTIES	
Measurement	
pH	8.2

**WATER PATTERNS, me/l**

STANDARD

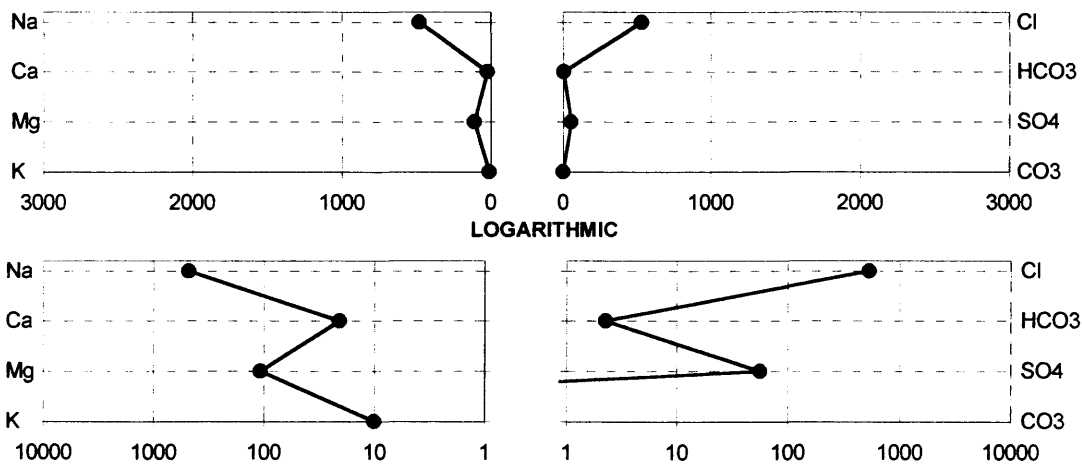


TABLE 9.3 API water analysis report form

GENERAL DATA			CHEMICAL ANALYSIS DATA								
SAMPLE DEPTH (Metres)	SAMPLE TYPE	ANALYSED LITHOLOGY	TOC % OF ROCK	P Y R O L Y S I S							
				S1 (ppm)	S2 (ppm)	S3 (ppm)	HI	OI	PI	Tmax °C	S2/S3
947											
1018											
1829											
1829											
1889											
1895											
2012											
2029											
2029											
2076											
2250											
2351											
2351											
2355	Ctgs	LST, wht+ 20% LST, gy-red+ 10% LST, lt gy	.21	90	460	1190	219	567	.16	*	.39
2361											
2365	Ctgs	LST, med-dk gy+ 20% LST, lt gy + 10% LST, wht+ tr LST, dk gy + tr LST, gy-red	.45	140	920	1200	204	267	.13	*	.77
2375	Ctgs	LST, med-dk gy+ 20% LST, lt gy + 10% LST, wht+ mnr LST, dk gy	.61	270	1330	1060	218	174	.17	*	1.25
2378											
2385	Ctgs	LST, med-dk gy+ 20% LST, gy-red+ 20% LST, lt gy+ mnr LST, wht+ tr LST, dk gy	.49	280	830	1460	169	298	.25	*	.57
2395	Ctgs	LST, mod red-brn+ 20% LST, gy-red+ 20% LST, med-dk gy+ 10% LST, lt gy+ mnr LST, wht	.26	170	570	1780	219	685	.23	*	.32
2405	Ctgs	LST, gy-red+ 20% LST, mod red-brn+ 20% LST, lt gy+ 10% LST, med-dk gy+ mnr LST, dk gy	.47	440	1350	2680	287	570	.25	*	.50
2411 ?											
2415	Ctgs	LST, pal red+ 20% LST, gy-red + 10% LST, med-dk gy+ 10% LST, wht+ tr LST, dk gy	.45	290	1150	2430	256	540	.20	*	.47
2425	Ctgs	LST, med-lt gy+ 20% LST, lt gy + 10% LST, v dsk red+ 10% LST, dk gy+ tr LST, wht	.55	210	1010	2240	184	407	.17	*	.45

ORGANIC CARBON AND ROCK-EVAL PYROLYSIS DATA

TABLE : A6.1A

GENERAL DATA			CHEMICAL ANALYSIS DATA								
SAMPLE DEPTH (Metres)	SAMPLE TYPE	ANALYSED LITHOLOGY	TOC % OF ROCK	P Y R O L Y S I S							
				S1 (ppm)	S2 (ppm)	S3 (ppm)	HI	OI	PI	Tmax °C	S2/S3
2435	Ctgs	LST, lt ol-gy+ 20% LST, med-dk gy+ 10% LST, v dsk red + tr LST, wht	.45	220	880	2250	196	500	.20	*	.39
2445	Ctgs	LST, lt ol-gy+ 20% LST, med-dk gy+ 10% LST, v dsk red + tr LST, wht+ tr LST, gy-red	.52	960	2380	240	458	46	.29	*	9.92
2455	Ctgs	LST, lt gy+ 20% LST, med-dk gy + 10% LST, dk gy+ 10% LST, wht + mnr LST, v dsk red	.52	370	1250	2540	240	488	.23	*	.49
2465	Ctgs	LST, lt gy+ 20% LST, med-dk gy + 10% SH, dk gy, calc+ 10% LST wht+ mnr LST, v dsk red	.53	240	910	2280	172	430	.21	*	.40
2475	Ctgs	LST, med-dk gy+ 20% LST, lt gy + 10% SH, dk gy, calc+ 10% LST v dsk red+ mnr LST, wht	.52	260	1030	2180	198	419	.20	*	.47
2480	Ctgs	SH, med-dk gy, calc+ 20% SH, dk gy, calc+ 20% SH, v dsk red + 10% LST, wht+ tr LST, lt gy	.52	340	650	1550	125	298	.34	*	.42
2485	Ctgs	SH, med-dk gy, calc+ 20% SH, dk gy, calc+ 20% SH, v dsk red + 10% LST, wht+ mnr SH, gy-red	.51	240	620	1620	122	318	.28	*	.38
2490	Ctgs	SH, med-dk gy, calc+ 20% SH, dk gy, calc+ 20% SH, v dsk red + mnr SH, lt gy+ tr LST, wht	.53	430	830	1660	157	313	.34	*	.50
2495	Ctgs	SH, med-dk gy, calc+ 20% SH, v dsk red+ 20% SH, dk gy, calc + 10% SH, brn-gy+ tr LST, wht	.46	260	770	1410	167	307	.25	*	.55
2500	Ctgs	SH, med-dk gy, calc+ 20% SH, dk gy+ 20% SH, v dsk red+ 10% SH, lt gy+ mnr LST, wht	.42	340	820	1520	195	362	.29	*	.54
2501											
2505	Ctgs	SH, med-dk gy, calc+ 20% SH, dk gy+ 20% SH, v dsk red+ 10% SH, lt gy+ mnr LST, wht	.78	380	1860	1700	238	218	.17	*	1.09
2510	Ctgs	SH, dk gy+ 20% SH, med-dk gy+ 20% SH, v dsk red+ 10% SH, lt ol-gy+ mnr LST, wht	3.89	1190	17960	1490	462	38	.06	422	12.05
2515	Ctgs	SH, dk gy+ 20% SH, med-dk gy+ 20% SH, lt gy+ 10% SH, v dsk red+ mnr LST, wht	5.07	160	25960	1500	512	30	.01	423	17.31
2516	Ctgs	SH, brn-blk+ 20% SH, med-dk gy + 10% SH, lt gy+ 10% SH, v dsk red+ mnr SH, gy-red	7.00	2370	38140	1890	545	27	.06	420	20.18
2519	Ctgs	SH, brn-blk+ 20% SH, med-dk gy + 10% SH, lt gy+ mnr SH, v dsk red+ tr LST, wht	6.01	2140	31460	1830	523	30	.06	420	17.19
2521											

## ORGANIC CARBON AND ROCK-EVAL PYROLYSIS DATA

TABLE : A6.1B

GENERAL DATA			CHEMICAL ANALYSIS DATA								
SAMPLE DEPTH (Metres)	SAMPLE TYPE	ANALYSED LITHOLOGY	TOC % OF ROCK	P Y R O L Y S I S							
				S1 (ppm)	S2 (ppm)	S3 (ppm)	HI	OI	PI	Tmax °C	S2/S3
2525	Ctgs	SH, brn-blk+ 20% SH, med-dk gy + 20% SST, wht+ 10% SH, v dsk red+ tr LST, wht	1.20	390	3450	1090	288	91	.10	425	3.17
2528	Ctgs	SH, brn-blk+ 20% SH, v dsk red + 20% SST, wht+ 10% SH, med-dk gy+ tr LST, wht	1.22	380	3620	1190	297	98	.09	427	3.04
2530	Ctgs	SST, mod red-brn+ 20% SST, wht + 20% SH, med-dk gy+ 10% SH, dk gy+ tr LST, wht	.43	310	1180	1510	274	351	.21	*	.78
2532.4		Skagerrak Fm									
2534	Ctgs	SH, med-lt gy+ 20% SH, med-dk gy+ 20% SH, brn-gy+ 10% SH, v dsk red+ mnr LST, wht	1.51	1220	5500	2300	364	152	.18	424	2.39
2540	Ctgs	SST, wht+ 20% SH, med-dk gy+ 20% SST, v dsk red+ 10% SH, brn-blk+ mnr SH, med-lt gy	.35	320	1130	1260	323	360	.22	*	.90
2546	Ctgs	SST, wht+ 20% SST, v dsk red+ 20% SH, med-dk gy+ 10% SH, brn-blk+ tr LST, wht	.40	290	1250	1100	313	275	.19	*	1.14
2549	Ctgs	SST, wht+ 30% SST, mod red-brn + 20% SH, med-dk gy+ mnr SH, brn-blk+ tr LST, wht	.25	440	1180	1000	472	400	.27	*	1.18
2555	Ctgs	SST, wht+ 20% SH, med-dk gy+ 10% SH, lt gy+ 10% SH, v dsk red+ mnr SH, brn-blk	.42	310	710	1060	169	252	.30	*	.67
2561	Ctgs	SST, wht+ 20% SST, gy-red+ 20% SH, v dsk red+ 10% SH, med-dk gy+ mnr SH, brn-blk	.31	400	990	1090	319	352	.29	*	.91
2567	Ctgs	SST, mod red-brn+ 20% SST, gy-red+ 20% SST, wht+ mnr SH, med-dk gy+ tr LST, wht	.25	240	1000	980	400	392	.19	*	1.02
2572	Ctgs	SH, brn-blk+ 20% SST, wht+ 20% SH, med-dk gy+ 10% SH, v dsk red+ tr LST, wht	1.39	560	4670	1580	336	114	.11	426	2.96
2576	Ctgs	SST, gy-red+ 20% SH, v dsk red + 20% SH, med-dk gy+ mnr SST, wht+ tr LST, wht	.28	540	1470	1380	525	493	.27	*	1.07
2585	Ctgs	SST, gy-red+ 20% SH, v dsk red + 20% SH, med-dk gy+ 10% SST, wht+ tr LST, wht	.30	520	1000	1230	333	410	.34	*	.81
2594	Ctgs	SST, gy-red+ 20% SH, med-dk gy + 10% SH, v dsk red+ mnr SH, dk gy+ mnr SST, wht	.37	460	810	1230	219	332	.36	*	.66
2600	Ctgs	SST, gy-red+ 20% SH, med-dk gy + 10% SH, v dsk red+ 10% SST, wht+ mnr SH, dk gy	.38	360	1090	1740	287	458	.25	*	.63
2606	Ctgs	SST, gy-red+ 20% SH, med-dk gy + 10% MDST, mod red-brn+ mnr SST, wht+ tr SH, dk gy	.31	310	1030	1260	332	406	.23	*	.82

## ORGANIC CARBON AND ROCK-EVAL PYROLYSIS DATA

TABLE : A6.1C

GENERAL DATA			CHEMICAL ANALYSIS DATA								
SAMPLE DEPTH (Metres)	SAMPLE TYPE	ANALYSED LITHOLOGY	TOC % OF ROCK	P Y R O L Y S I S							
				S1 (ppm)	S2 (ppm)	S3 (ppm)	HI	OI	PI	Tmax °C	S2/S3
2618	Ctgs	SST, gy-red+ 20% SH, med-dk gy + 20% MDST, mod red-brn+ mnr SST, wht+ tr LST, wht	.46	590	1090	1920	237	417	.35	*	.57
2626											

ORGANIC CARBON AND ROCK-EVAL PYROLYSIS DATA

TABLE : A6.1D

16/10-3 Well, Geochemistry

## APPENDIX 7

### Alkane GC-MS Data and Calculated GC-MS Ratios (Tables A7.1[1-3] and A7.2[1-3])

	COMPOUND	PEAK HEIGHT	PEAK AREA
m/z 123	1	β-C	
m/z 177	2	T	1424
	3	BL	
	4	dh29	
m/z 191	5	t19	
	6	P20	
	7	t20	349
	8	t21	789
	9	t22	
	10	t23	633
	11	t24	498
	12	T24O	
	13	t25	355
	14	T24	736
	15	t26(1)	
	16	t26(2)	288
	17	t28(1)	
	18	t28(2)	
	19	t29(1)	
	20	t29(2)	
	21	t30(1)	
	22	t30(2)	
	23	h27s	988
	24	h27m	5053
	25	B	383
	26	h29	4330
	27	h29s	1468
	28	d30 (X)	1180
	29	m29	3310
	30	O	
	31	h30	10541
	32	m30	3509
	33	d31S	
	34	d31R	
35	h31S	5118	
36	h31R	9762	
37	G	799	
38	h32S	1401	
39	h32R	3571	
40	h33S	1530	

	COMPOUND	PEAK HEIGHT	PEAK AREA
m/z 191	41	h33R	4450
	42	h34S	1162
	43	h34R	2884
	44	h35S	2086
	45	h35R	5879
m/z 217	46	s27b	14400
	47	r29c	5600
	48	s28b	6895
	49	s29c	1443
	50	s29d	3900
	51	s29e	1879
	52	s29b	10505
	53	s27d	3786
m/z 218	54	s27e	3221
	55	s28d	3973
	56	s28e	2436
	57	s29d	3867
	58	s29e	2799
	59	4ms30c	3207
m/z 231 m/z 232	60	3ms28e	1056
	61	3ms28f	897
	62	4ms28e	5926
	63	4ms28f	4172
	64	3ms29e	340
	65	3ms29f	725
	66	4ms29e	1257
	67	4ms29f	1126
	68	3ms30e	1518
	69	3ms30f	509
	70	4ms30e	1605
	71	4ms30f	1422
m/z 259	72	r27d	5976
	73	r27c	5376
	74	r28d(1)	2843
	75	r28d(2)	2849
	76	r28c(1)	2377
	77	r28c(2)	2930
	78	r29d	3505
	79	r29c	2848

SAMPLE DETAILS
WELL/SAMPLE: 16/10-3
DEPTH: 2515m
SAMPLE No: 96M0055 SA
SAMPLE TYPE: Cuttings
COMMENTS: -

DEUTERATED STANDARD
COMPOUND:
ION:
CONC, ppm:
PEAK HEIGHT:
PEAK AREA:

TABLE: A7.1.1 Alkane GC-MS data

COMPANY: NORSK AGIP

WELL/SAMPLE: 16/10-3

LOCATION: OFFSHORE NORWAY

	COMPOUND	PEAK HEIGHT	PEAK AREA		COMPOUND	PEAK HEIGHT	PEAK AREA
m/z 123	1	β-C		m/z 191	41	h33R	2339
m/z 177	2	T	577		42	h34S	750
	3	BL			43	h34R	1524
	4	dh29			44	h35S	1201
m/z 191	5	t19			45	h35R	3405
	6	P20		m/z 217	46	s27b	6108
	7	t20			47	r29c	2500
	8	t21	486		48	s28b	2902
	9	t22			49	s29c	575
	10	t23	492		50	s29d	1732
	11	t24	291		51	s29e	908
	12	T24O			52	s29b	4397
	13	t25	256	m/z 218	53	s27d	1828
	14	T24	348		54	s27e	1500
	15	t26(1)			55	s28d	1722
	16	t26(2)			56	s28e	1188
	17	t28(1)			57	s29d	1706
	18	t28(2)			58	s29e	1386
	19	t29(1)		m/z 231	59	4ms30c	1204
	20	t29(2)		m/z 232	60	3ms28e	525
	21	t30(1)			61	3ms28f	463
	22	t30(2)			62	4ms28e	2409
	23	h27s	421		63	4ms28f	1694
	24	h27m	2779		64	3ms29e	
	25	B	396		65	3ms29f	315
	26	h29	2181		66	4ms29e	581
	27	h29s	714		67	4ms29f	473
	28	d30 (X)	760		68	3ms30e	815
	29	m29	1642		69	3ms30f	270
	30	O			70	4ms30e	712
	31	h30	5481		71	4ms30f	691
	32	m30	1703	m/z 259	72	r27d	2584
	33	d31S			73	r27c	2607
	34	d31R			74	r28d(1)	1375
	35	h31S	2846		75	r28d(2)	1496
	36	h31R	4698		76	r28c(1)	1191
	37	G	341		77	r28c(2)	1459
	38	h32S	818		78	r29d	1708
	39	h32R	1777		79	r29c	1414
	40	h33S	933				9480

SAMPLE DETAILS
WELL/SAMPLE: 16/10-3
DEPTH: 2516m
SAMPLE No: 96M0056 SA
SAMPLE TYPE: Cuttings
COMMENTS: -

DEUTERATED STANDARD
COMPOUND:
ION:
CONC, ppm:
PEAK HEIGHT:
PEAK AREA:

TABLE: A7.1.2 Alkane GC-MS data



COMPANY: NORSK AGIP

WELL/SAMPLE: 16/10-3

LOCATION: OFFSHORE NORWAY

	COMPOUND	PEAK HEIGHT	PEAK AREA
m/z 123	1	β-C	
m/z 177	2	T	916
	3	BL	
	4	dh29	
	5	t19	
m/z 191	6	P20	
	7	t20	
	8	t21	438
	9	t22	
	10	t23	461
	11	t24	377
	12	T24O	
	13	t25	264
	14	T24	481
	15	t26(1)	
	16	t26(2)	
	17	t28(1)	
	18	t28(2)	
	19	t29(1)	
	20	t29(2)	
	21	t30(1)	
	22	t30(2)	
	23	h27s	592
	24	h27m	2897
	25	B	370
	26	h29	2274
	27	h29s	932
	28	d30 (X)	952
	29	m29	1570
	30	O	
	31	h30	6708
	32	m30	2537
	33	d31S	
	34	d31R	
	35	h31S	3312
	36	h31R	5622
	37	G	327
38	h32S	805	
39	h32R	1915	
40	h33S	836	

	COMPOUND	PEAK HEIGHT	PEAK AREA
m/z 191	41	h33R	2407
	42	h34S	725
	43	h34R	1626
	44	h35S	1162
	45	h35R	3248
m/z 217	46	s27b	7384
	47	r29c	3112
	48	s28b	3521
	49	s29c	725
	50	s29d	1799
	51	s29e	1264
	52	s29b	5316
	53	s27d	1825
m/z 218	54	s27e	1582
	55	s28d	2001
	56	s28e	1548
	57	s29d	1825
	58	s29e	1422
m/z 231	59	4ms30c	1167
m/z 232	60	3ms28e	620
	61	3ms28f	596
	62	4ms28e	2330
	63	4ms28f	1679
	64	3ms29e	
	65	3ms29f	296
	66	4ms29e	592
	67	4ms29f	544
	68	3ms30e	745
	69	3ms30f	
	70	4ms30e	609
	71	4ms30f	580
	m/z 259	72	r27d
73		r27c	2996
74		r28d(1)	1566
75		r28d(2)	1576
76		r28c(1)	1385
77		r28c(2)	1699
78		r29d	2178
79		r29c	1594

SAMPLE DETAILS
WELL/SAMPLE: 16/10-3
DEPTH: 2519m
SAMPLE No: 96M0057 SA
SAMPLE TYPE: Cuttings
COMMENTS: -

DEUTERATED STANDARD
COMPOUND:
ION:
CONC, ppm:
PEAK HEIGHT:
PEAK AREA:

TABLE: A7.1.3 Alkane GC-MS data

COMPANY: NORSK AGIP

WELL/SAMPLE: 16/10-3

LOCATION: OFFSHORE NORWAY

TERPANE RATIOS (based on peak areas)	
1: h27s/h27m (Ts/Tm) m/z 191	0.18
2: m30/h30 m/z 191	0.42
3: m29/h29 m/z 191	0.85
4: h31S/h31R m/z 191	0.55
5: h32S/h32R m/z 191	0.42
6: (h35S+h35R)/(h31S+h31R) m/z 191	0.61
7: (h35S+h35R)/(h34S+h34R) m/z 191	1.93
8: h29/(h29+h30) m/z 191	0.31
9: B/h30 m/z 191	0.08
10: G/h30 m/z 191	0.17
11: O/h30 m/z 191	*
12: BL/h30 m/z 191	*
13: dh29/h30 m/z 191	*
14: d30/h30 (X/h30) m/z 191	0.11
15: (t28+t29)/h30 m/z 191	*
16: t23/h30 m/z 191	0.06
17: T24/t26 m/z 191	*
18: T24/h30 m/z 191	0.08
19: T24O/t24 m/z 191	*
20: h30/(s29c+s29d+s29e+s29b) m/z 191,217	0.45

STERANE RATIOS (based on peak areas)	
1: s29c/(s29c+s29b) m/z 217	0.16
2: (s29d+s29e)/(s29c+s29d+s29e+s29b) m/z 217	0.35
3: s27b/(s27b+s28b+s29b), %	39.4
4: s28b/(s27b+s28b+s29b), %	25.6
5: s29b/(s27b+s28b+s29b), % m/z 217	35.0
6: (s27d,e)/(s27d,e+s28d,e+s29d,e), %	33.5
7: (s28d,e)/(s27d,e+s28d,e+s29d,e), %	30.7
8: (s29d,e)/(s27d,e+s28d,e+s29d,e), % m/z 218	35.8
9: (r27d,c)/(r27d,c+r28d,c+r29d,c), %	34.2
10: (r28d,c)/(r27d,c+r28d,c+r29d,c), %	38.7
11: (r29d,c)/(r27d,c+r28d,c+r29d,c), % m/z 259	27.1
12: (s29c,b)/(s29c,b+s29d,e+r29d,c), %	46.8
13: (s29d,e)/(s29c,b+s29d,e+r29d,c), %	26.1
14: (r29d,c)/(s29c,b+s29d,e+r29d,c), % m/z 217,218,259	27.1
15: 4ms30c/s29b m/z 231,217	0.33
16: (4ms30e+4ms30f)/(s29d+s29e) m/z 232,218	0.58
17: (3ms30e+3ms30f)/(s29d+s29e) m/z 232,218	0.34

RELATIVE COMPOUND ABUNDANCES, ppm	
s27b (m/z 217)	
s28b (m/z 217)	
s29b (m/z 217)	
(s27c,d,e,b) (m/z 217)	
h29 (m/z 191)	
h30 (m/z 191)	
P (m/z 178)	
DBT (m/z 184)	
4MDBT (m/z 198)	

AROMATIC RATIOS (based on peak areas)	
1: 2MN/1MN m/z 142	*
2: 26,27DMN/15DMN m/z 156	*
3: 236TMN/146,135TMN m/z 170	*
4: 125TMN/136TMN m/z 170	*
5: 3MBP/2MBP m/z 168	*
6: MPI-1: 1.5*(3MP+2MP)/(P+9MP+1MP) m/z 192,178	*
7: MPI-2: 3*2MP/(P+9MP+1MP) m/z 192,178	*
8: (3MP+2MP)/(3MP+2MP+9MP+1MP) m/z 192	*
9: 2MP/(3MP+2MP+9MP+1MP) m/z 192	*
10: (TA20+TA21)/(TA20+TA21+TA26+TA27+TA28) m/z 231	*
11: TA21/(TA21+TA28R) m/z 231	*
12: TA26S/TA28S m/z 231	*
13: TA27R/TA28R m/z 231	*
14: 4MDBT/1MDBT m/z 198	*
15: 4MDBT/DBT m/z 198,184	*
16: DBT/P m/z 184,178	*

GENERAL SAMPLE DATA	
WELL/SAMPLE: 16/10-3	
DEPTH: 2515m	
SAMPLE No: 96M0055 SA	
SAMPLE TYPE: Cuttings	

TABLE: A7.2.1 Calculated GC-MS ratios

COMPANY: NORSK AGIP

WELL/SAMPLE: 16/10-3

LOCATION: OFFSHORE NORWAY

TERPANE RATIOS (based on peak areas)	
1: h27s/h27m (Ts/Tm) m/z 191	0.15
2: m30/h30 m/z 191	0.38
3: m29/h29 m/z 191	0.91
4: h31S/h31R m/z 191	0.61
5: h32S/h32R m/z 191	0.49
6: (h35S+h35R)/(h31S+h31R) m/z 191	0.67
7: (h35S+h35R)/(h34S+h34R) m/z 191	1.98
8: h29/(h29+h30) m/z 191	0.30
9: B/h30 m/z 191	0.12
10: G/h30 m/z 191	0.05
11: O/h30 m/z 191	*
12: BL/h30 m/z 191	*
13: dh29/h30 m/z 191	*
14: d30/h30 (X/h30) m/z 191	0.13
15: (t28+t29)/h30 m/z 191	*
16: t23/h30 m/z 191	0.11
17: T24/t26 m/z 191	*
18: T24/h30 m/z 191	0.05
19: T24O/t24 m/z 191	*
20: h30/(s29c+s29d+s29e+s29b) m/z 191,217	0.57

STERANE RATIOS (based on peak areas)	
1: s29c/(s29c+s29b) m/z 217	0.14
2: (s29d+s29e)/(s29c+s29d+s29e+s29b) m/z 217	0.40
3: s27b/(s27b+s28b+s29b), %	39.8
4: s28b/(s27b+s28b+s29b), %	26.1
5: s29b/(s27b+s28b+s29b), % m/z 217	34.1
6: (s27d,e)/(s27d,e+s28d,e+s29d,e), %	35.1
7: (s28d,e)/(s27d,e+s28d,e+s29d,e), %	29.1
8: (s29d,e)/(s27d,e+s28d,e+s29d,e), % m/z 218	35.8
9: (r27d,c)/(r27d,c+r28d,c+r29d,c), %	35.6
10: (r28d,c)/(r27d,c+r28d,c+r29d,c), %	36.0
11: (r29d,c)/(r27d,c+r28d,c+r29d,c), % m/z 259	28.3
12: (s29c,b)/(s29c,b+s29d,e+r29d,c), %	41.0
13: (s29d,e)/(s29c,b+s29d,e+r29d,c), %	28.3
14: (r29d,c)/(s29c,b+s29d,e+r29d,c), % m/z 217,218,259	30.8
15: 4ms30c/s29b m/z 231,217	0.30
16: (4ms30e+4ms30f)/(s29d+s29e) m/z 232,218	0.48
17: (3ms30e+3ms30f)/(s29d+s29e) m/z 232,218	0.44

RELATIVE COMPOUND ABUNDANCES, ppm	
s27b (m/z 217)	
s28b (m/z 217)	
s29b (m/z 217)	
(s27c,d,e,b) (m/z 217)	
h29 (m/z 191)	
h30 (m/z 191)	
P (m/z 178)	
DBT (m/z 184)	
4MDBT (m/z 198)	

AROMATIC RATIOS (based on peak areas)	
1: 2MN/1MN m/z 142	*
2: 26,27DMN/15DMN m/z 156	*
3: 236TMN/146,135TMN m/z 170	*
4: 125TMN/136TMN m/z 170	*
5: 3MBP/2MBP m/z 168	*
6: MPI-1: 1.5*(3MP+2MP)/(P+9MP+1MP) m/z 192,178	*
7: MPI-2: 3*2MP/(P+9MP+1MP) m/z 192,178	*
8: (3MP+2MP)/(3MP+2MP+9MP+1MP) m/z 192	*
9: 2MP/(3MP+2MP+9MP+1MP) m/z 192	*
10: (TA20+TA21)/(TA20+TA21+TA26+TA27+TA28) m/z 231	*
11: TA21/(TA21+TA28R) m/z 231	*
12: TA26S/TA28S m/z 231	*
13: TA27R/TA28R m/z 231	*
14: 4MDBT/1MDBT m/z 198	*
15: 4MDBT/DBT m/z 198,184	*
16: DBT/P m/z 184,178	*

GENERAL SAMPLE DATA	
WELL/SAMPLE: 16/10-3	
DEPTH: 2516m	
SAMPLE No: 96M0056 SA	
SAMPLE TYPE: Cuttings	

TABLE: A7.2.2 Calculated GC-MS ratios

COMPANY: NORSK AGIP

WELL/SAMPLE: 16/10-3

LOCATION: OFFSHORE NORWAY

TERPANE RATIOS (based on peak areas)	
1: h27s/h27m (Ts/Tm) m/z 191	0.18
2: m30/h30 m/z 191	0.42
3: m29/h29 m/z 191	0.74
4: h31S/h31R m/z 191	0.62
5: h32S/h32R m/z 191	0.54
6: (h35S+h35R)/(h31S+h31R) m/z 191	0.54
7: (h35S+h35R)/(h34S+h34R) m/z 191	1.78
8: h29/(h29+h30) m/z 191	0.29
9: B/h30 m/z 191	0.05
10: G/h30 m/z 191	0.05
11: O/h30 m/z 191	*
12: BL/h30 m/z 191	*
13: dh29/h30 m/z 191	*
14: d30/h30 (X/h30) m/z 191	0.23
15: (t28+t29)/h30 m/z 191	*
16: t23/h30 m/z 191	0.08
17: T24/t26 m/z 191	*
18: T24/h30 m/z 191	0.10
19: T24O/t24 m/z 191	*
20: h30/(s29c+s29d+s29e+s29b) m/z 191,217	0.59

STERANE RATIOS (based on peak areas)	
1: s29c/(s29c+s29b) m/z 217	0.13
2: (s29d+s29e)/(s29c+s29d+s29e+s29b) m/z 217	0.39
3: s27b/(s27b+s28b+s29b), %	39.0
4: s28b/(s27b+s28b+s29b), %	26.6
5: s29b/(s27b+s28b+s29b), % m/z 217	34.4
6: (s27d,e)/(s27d,e+s28d,e+s29d,e), %	30.1
7: (s28d,e)/(s27d,e+s28d,e+s29d,e), %	33.5
8: (s29d,e)/(s27d,e+s28d,e+s29d,e), % m/z 218	36.4
9: (r27d,c)/(r27d,c+r28d,c+r29d,c), %	31.3
10: (r28d,c)/(r27d,c+r28d,c+r29d,c), %	40.0
11: (r29d,c)/(r27d,c+r28d,c+r29d,c), % m/z 259	28.7
12: (s29c,b)/(s29c,b+s29d,e+r29d,c), %	42.7
13: (s29d,e)/(s29c,b+s29d,e+r29d,c), %	26.0
14: (r29d,c)/(s29c,b+s29d,e+r29d,c), % m/z 217,218,259	31.3
15: 4ms30c/s29b m/z 231,217	0.27
16: (4ms30e+4ms30f)/(s29d+s29e) m/z 232,218	0.42
17: (3ms30e+3ms30f)/(s29d+s29e) m/z 232,218	*

RELATIVE COMPOUND ABUNDANCES, ppm	
s27b (m/z 217)	
s28b (m/z 217)	
s29b (m/z 217)	
(s27c,d,e,b) (m/z 217)	
h29 (m/z 191)	
h30 (m/z 191)	
P (m/z 178)	
DBT (m/z 184)	
4MDBT (m/z 198)	

AROMATIC RATIOS (based on peak areas)	
1: 2MN/1MN m/z 142	*
2: 26,27DMN/15DMN m/z 156	*
3: 236TMN/146,135TMN m/z 170	*
4: 125TMN/136TMN m/z 170	*
5: 3MBP/2MBP m/z 168	*
6: MPI-1: 1.5*(3MP+2MP)/(P+9MP+1MP) m/z 192,178	*
7: MPI-2: 3*2MP/(P+9MP+1MP) m/z 192,178	*
8: (3MP+2MP)/(3MP+2MP+9MP+1MP) m/z 192	*
9: 2MP/(3MP+2MP+9MP+1MP) m/z 192	*
10: (TA20+TA21)/(TA20+TA21+TA26+TA27+TA28) m/z 231	*
11: TA21/(TA21+TA28R) m/z 231	*
12: TA26S/TA28S m/z 231	*
13: TA27R/TA28R m/z 231	*
14: 4MDBT/1MDBT m/z 198	*
15: 4MDBT/DBT m/z 198,184	*
16: DBT/P m/z 184,178	*

GENERAL SAMPLE DATA	
WELL/SAMPLE: 16/10-3	
DEPTH: 2519m	
SAMPLE No: 96M0057 SA	
SAMPLE TYPE: Cuttings	

TABLE: A7.2.3 Calculated GC-MS ratios